South Coast Renewables, LLC

(Successor In Interest To: PARALLEL PRODUCTS OF NEW ENGLAND, INC.)

Notice of Project Change and Supplemental Final Environmental Impact Report

EEA # 15990

100 Duchaine Boulevard
New Bedford, Massachusetts 02745

July 2022

Prepared For:

South Coast Renewables, LLC
(FKA: Parallel Products of New England, Inc)
100 Duchaine Boulevard
New Bedford, Massachusetts 02745

Green Seal Environmental, LLC

114 State Road, Building B, Sagamore Beach, MA 02562 | Tel: (508) 888-6034 | Fax: (508) 888-1506 | www.gseenv.com

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EXHIBITS

1.0 Project Description

1.1 Project Summary

South Coast Renewables "Proponent" (successor in interest formerly referred to as Parallel Products of New England, Inc.)[1] through an affiliate company, owns the properties located at 100 Duchaine Boulevard, New Bedford, MA. The 71-acre site was previously developed by Polaroid Corporation.

Proponent is proposing to redevelop the site in a manner which seeks to avoid, minimize and mitigate potential damage to the environment to the maximum extent feasible. Specific measures considered and those included in the design and operation of the proposed expanded facility are described throughout this report.

The proposed project is being developed in two phases and consist of the project elements listed below:

Phase 1

1. Construction of a glass processing facility
2. Construction of approximately 1.9 megawatts (final number is 1.842 megawatts) of roof top and canopy solar power installation
3. Construction of a new rail sidetrack to provide rail service to the site

Phase 2

1. Construction of a municipal solid waste (MSW) handling and processing facility
2. Expansion of the rail sidetrack constructed in Phase 1 to allow for handling additional rail cars
3. Construction of an additional 1.35 megawatts of solar (note in the previous communications only 400 Kw of additional solar was planned.)

**Note that the formerly proposed on-site biosolids facility is no longer being proposed.*

1.2 MEPA Project Review

Massachusetts Environmental Policy Act (MEPA) review is required as the project will require state permits and the proposed project includes elements that trigger mandatory MEPA review. The proposed MSW handling and processing facility requires MEPA review as the solid waste review thresholds established at 301 CMR 11.03 (9)(a) are exceeded. Also, the wastewater review thresholds established at 301 CMR 11.03 (5)(b) were originally exceeded for the proposed biosolids drying facility, which is no longer being proposed. The required MEPA review consists of the submission of an Environmental Notification Form (ENF) followed by a Draft Environmental Impact Report (DEIR) to be followed by a Final Environmental Impact Report (FEIR).

[1] Note that in April 2021, South Coast Renewables LLC, a successor in interest and company affiliated with PPNE & Parallel Products assumed all development/permitting efforts for this project, and will continue to be the project Proponent/Operator for the foreseeable future.

The Proponent prepared an Expanded Environmental Notification Form (EENF) which was noticed in the Environmental Monitor on February 20, 2019. The EENF can be viewed on the Proponent web site at www.parallelproductssustainability.com. After a review and comment period, on April 12, 2019, a Certificate (EEA# 15990) was issued by the Secretary of the Executive Office of Energy and Environmental Affairs. The Secretaries Certificate determined that the Proponent must prepare a Draft Environmental Impact Report. The Secretaries Certificate included the scope to be addressed in the DEIR. Also, following the submission and subsequent review of the DEIR, the Proponent was required to prepare and submit a Final EIR (FEIR). A copy of the Secretaries Certificate for the EENF is included as Exhibit 1.

The EENF submitted by the Proponent included a Phase 1 waiver request. A Phase 1 waiver allowed Phase 1 of the project to proceed prior to completion of the DEIR and FEIR. The Secretary of the Executive Office of Energy and Environmental Affairs issued a Final Record of Decision (FROD) on May 15, 2019. The FROD granted the Phase 1 waiver, allowing Phase 1 of the project to proceed. The FROD is included as Exhibit 2.

The Proponent prepared the DEIR, which was noticed in the Environmental Monitor on November 22, 2019 (Project #15990). The DEIR can be viewed on the Proponent web site at www.parallelproductssustainability.com . After an extended public review and comment period and following several public information meetings, the Secretary of the Executive Office of Energy and Environmental Affairs, on January 30, 2020, issued the Secretaries Certificate for the DEIR. The Certificate required the preparation of a FEIR for the project. The Secretaries Certificate for the DEIR is included as Exhibit 3**.**

1.3 Final Environmental Impact Report

The Secretaries Certificate for the DEIR required that the Proponent prepare a FEIR for the proposed project. The FEIR required the Proponent to "include additional analyses in the FEIR documenting the project's impacts and proposed mitigation measures and a response to all comments received on the DEIR." The Secretaries Certificate included the scope of the required FEIR.

The FEIR included the additional information required by the Secretaries DEIR Certificate. The FEIR did not include all the information included in the DEIR. However, based on scoping meetings with MEPA, the Proponent agreed to include a detailed project description in the FEIR.

MEPA regulations required a 30-day review and public comment period of the FEIR. , the Proponent agreed to extend the review and comment period an additional 30 days.

After an extended public review and comment period and following several public information meetings, the Secretary of the Executive Office of Energy and Environmental Affairs, on April 2, 2021, issued the Secretaries Certificate for the FEIR. The Certificate required the preparation of a Supplemental FEIR for the project. The Secretaries Certificate for the FEIR is included as Exhibit 4**.**

1.4 Notice of Project Change Supplemental Final Environmental Impact Report

The Secretaries Certificate for the FEIR required that, the Proponent prepare a Supplemental FEIR (S-FEIR) for the proposed project. The S-FEIR scope stated that the proponent… "should address, in a detailed and comprehensive manner, issues raised in comment letters submitted by MassDEP and DOER, which are incorporated by reference herein. In general, information and analyses provided in response to these comment letters should be incorporated into the main body of the S-FEIR rather than provided solely in the Response to Comments section." Additionally, the Scope of the S-FEIR must also address other comments raised by the public in the response to comments section of the report. The Secretaries Certificate for the FEIR is included as Exhibit 4**.**

Furthermore, this S-FEIR identifies measures the Proponent will adopt to further reduce the impacts of the project since the filing of the FEIR; and, where applicable, describes certain measures deemed infeasible with explanation why these measures will not be adopted.

Subsequent to the above, a meeting was held on February 9, 2022 between EOEEA/MEPA officials and the Proponent's, consultant, Green Seal Environmental, LLC (GSE) whereupon it was determined the appropriate mechanism by which to submit this S-FEIR is as a Notice of Project Change (NPC), given the "material change to a project prior to the taking of all Agency Actions..."[2] Therefore, this document, along with the appropriate Notice of Project Change Form included as Exhibit 5, has been submitted to satisfy the MEPA Office request. This document shall hereafter be referred to as a Notice of Project Change (NPC) Supplemental Final Environmental Impact Report (SFEIR) or **NPC-SFEIR**.

Please see Section 2.3.3 for a list of proposed changes to the project.

[2] https://www.mass.gov/guides/notice-of-project-change-preparation-and-filing

2.0 Project Description

2.1 Existing Site Conditions

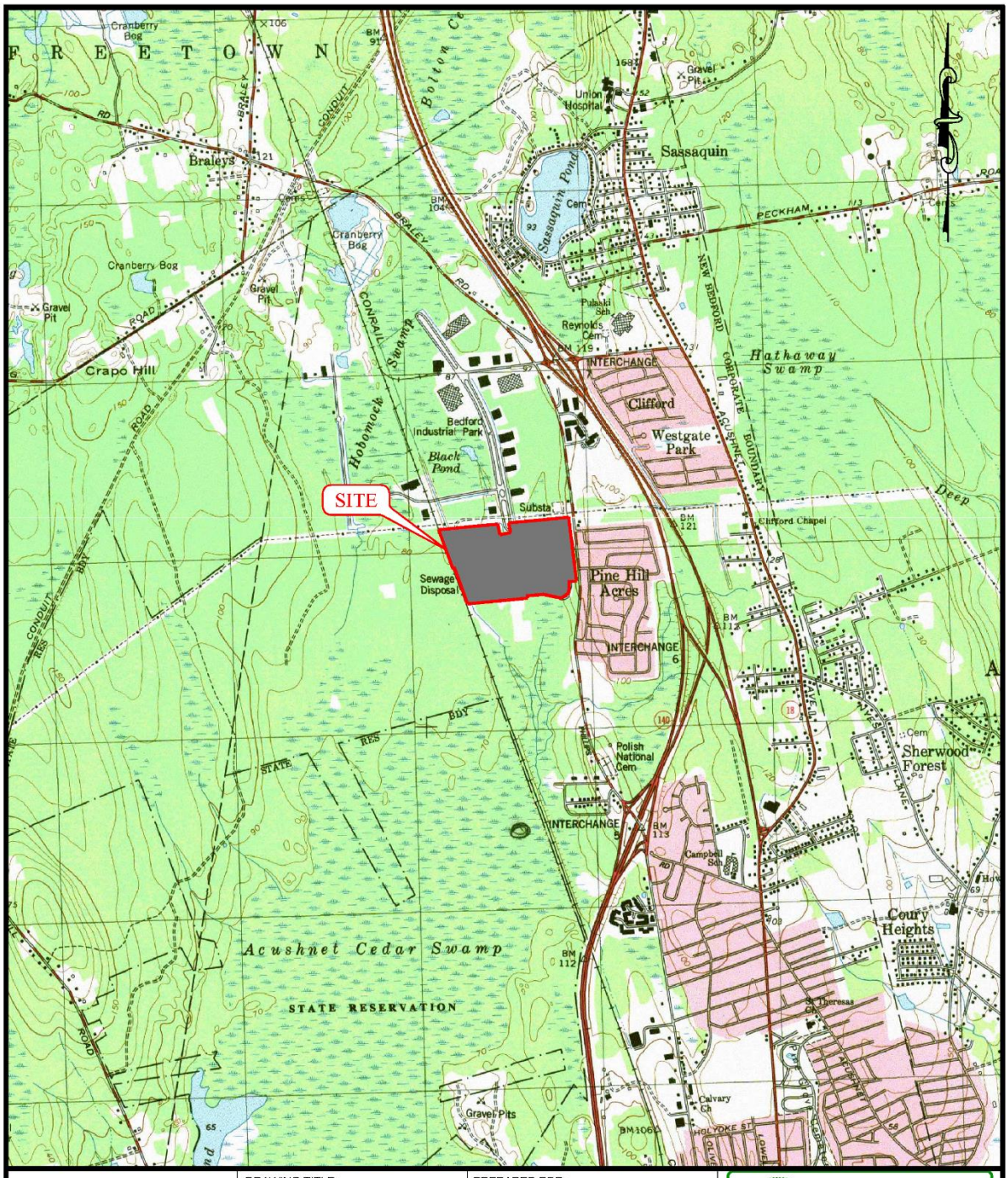
An Affiliate of the Proponent, SMRE 100 LLC owns the properties located at 100 Duchaine Boulevard, New Bedford, MA. Prior to the purchase of the 100 Duchaine Boulevard site, the Proponent operations were located at 969 Shawmut Avenue, New Bedford. Subsequent to the purchase of the site, the Proponent has relocated its operations from Shawmut Avenue to 100 Duchaine Boulevard, New Bedford.

Selected sheets of the plan set that depict design features that are addressed as required by the FEIR Certificate, including revised Phase 2 design plans, are included in this NPC-SFEIR when the specific design features are discussed in the text. Full-sized drawings with revisions to the Phase 2 design plans are included as Exhibit 6. For reference, full-sized versions of the Phase 2 design plans previously submitted with the FEIR are included as Exhibit 7 for ease of reference.

The proposed project (Phase 1 and Phase 2) is to be located at 100 Duchaine Boulevard, New Bedford. The site is an approximate 71-acre parcel identified by the New Bedford Tax Assessor as Lot 5 on Assessor's Plat 134. The site to be developed is located within a zoned Industrial C area. A locus plan of the site is included as Figure 2-1, presented on the following page. The site is located within the New Bedford Business Park. The site was previously owned by Multilayer Coating Technologies, and before that by the Polaroid Corporation. The site was used by both previous owners to manufacture film. The site as developed by Polaroid included access roads, parking areas, stormwater management features and numerous buildings. Existing conditions of the site are presented in Figure 2-2, Figure 2-3, and Figure 2-4 on the following pages. The Site Plans include dimensions of existing and proposed buildings as requested in the Secretaries DEIR Certificate. Additional plans have been added to the plan set to delineate wetland areas and impervious surfaces for the existing site. The Proponent intends to utilize the existing infrastructure to the fullest extent possible in developing the proposed project.

The site, as purchased by the Proponent affiliates included a 92,220 square foot building. A 27,500 square foot glass processing building has been constructed as part of the Phase 1 project development. This building was completed in January of 2020, and the Proponent moved their operations over to the facility in February of 2020. With the construction of the glass processing building, the two buildings have a combined total of 119,720 square feet. Existing wetland areas and areas of impervious surfaces are shown on Figure 2-2 presented on the following pages. Under pre-development existing conditions, the site has 876,331 square feet of wetlands and 771,119 square feet of impervious surfaces. The total area of the site is 71 acres (3,092,760 square feet). Impervious lot coverage is approximately 25%.

Figure 2-1, Site Locus Map



NOTE: USGS TOPOGRAPHIC MAP WAS PROVIDED BY THE OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (MassGIS), COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS CURRENT TO MARCH 2017.	DRAWING TITLE: SITE LOCUS MAP	PREPARED FOR: PARALLEL PRODUCTS OF NEW ENGLAND, INC. 100 DUCHAINE BOULEVARD NEW BEDFORD, MA	Green Seal Environmental, Inc. 114 State Road, Building B Sagamore Beach, MA 02562 Tel: (508) 888-6031 Fax: (508) 888-1506 www.gseenv.com
REVISIONS NO./ DATE / COMMENT	CAD TECH: T. JANICKI; CHECKED BY: G. WIRSEN; ENGINEER: W. HALL; DATE: 12/17/2018	LOCUS: NEW BEDFORD INDUSTRIAL PARK 100 DUCHAINE BOULEVARD NEW BEDFORD, MA 02745	SCALE: 1" = 2,500'
			SHEET: FIG. 2-1

EXISTING CONDITIONS

WETLAND TOTAL AREA: 876,331± S.F.

IMPERVIOUS COVERAGE TOTAL AREA: 771,119± S.F.

IMPERVIOUS LOT COVERAGE = 25.1%

0' 100' 200' 300'
1" = 100'

FIGURE 2-2, Existing Conditions Overall Site

EXISTING CONDITIONS

REVISIONS

1	9/13/19	CONSERVATION COMMENTS
2	10/15/19	PHASE I AND II
3	1/10/20	CONSERVATION COMMENTS
4	6/8/20	CONSERVATION COMMENTS
5	12/16/20	GREEN SEAL COMMENTS

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DRAWN BY: MJW
DESIGNED BY: CAF
CHECKED BY: CAF

PROPOSED PROJECT DEVELOPMENT
— 100 DUCHAINE BOULEVARD —
ASSESSORS MAP 133 LOT 67
ASSESSORS MAP 134 LOTS 5 & 462
NEW BEDFORD, MASSACHUSETTS

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LOUISVILLE, KY 40208

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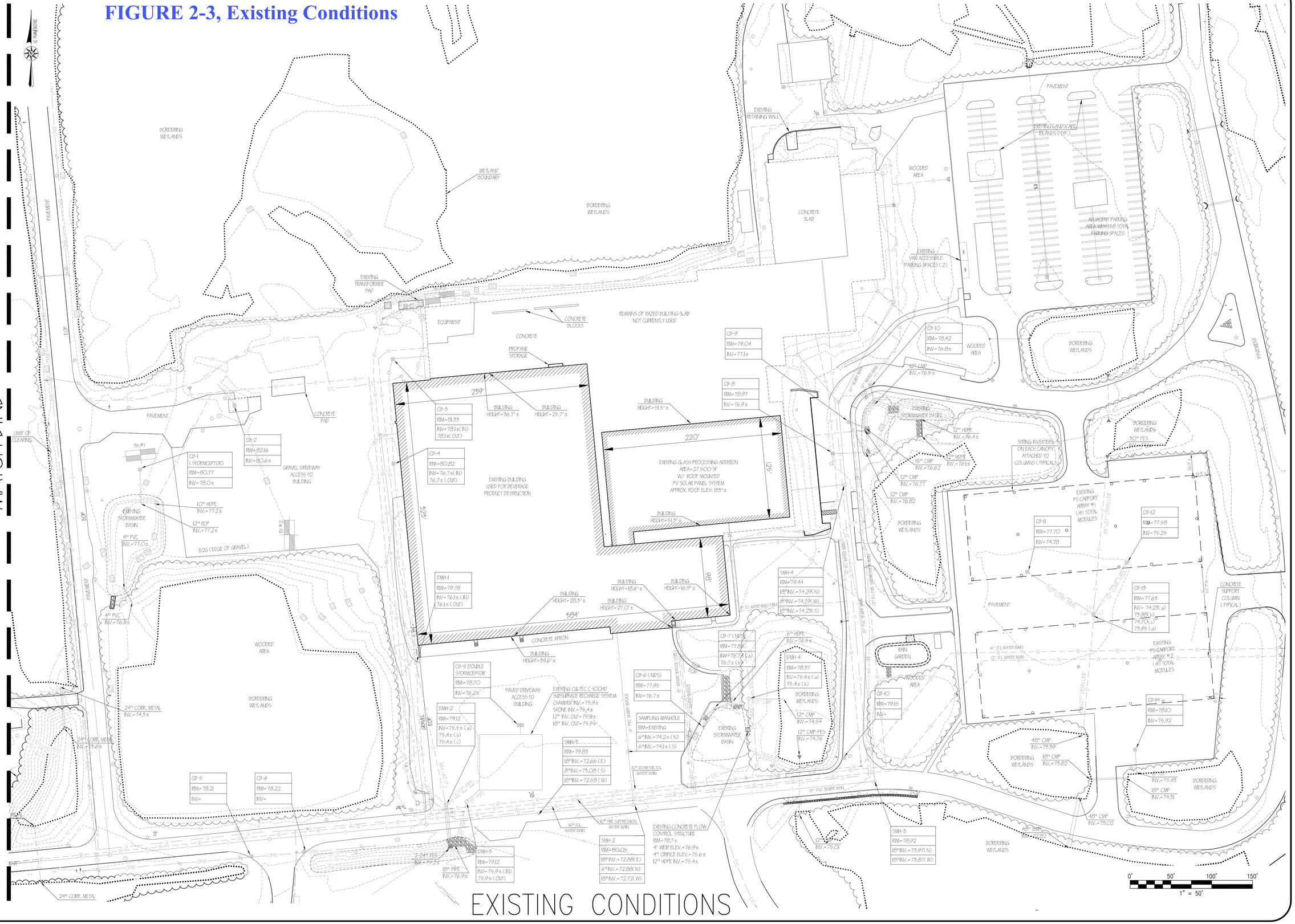
JOB NO. 15-500.2
LATEST REVISION:
DECEMBER 16, 2020

EXISTING CONDITIONS OVERALL SITE
SHEET 2 OF 22

FIGURE 2-3, Existing Conditions



EXISTING CONDITIONS

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EXISTING CONDITIONS

SHEET 3 OF 22

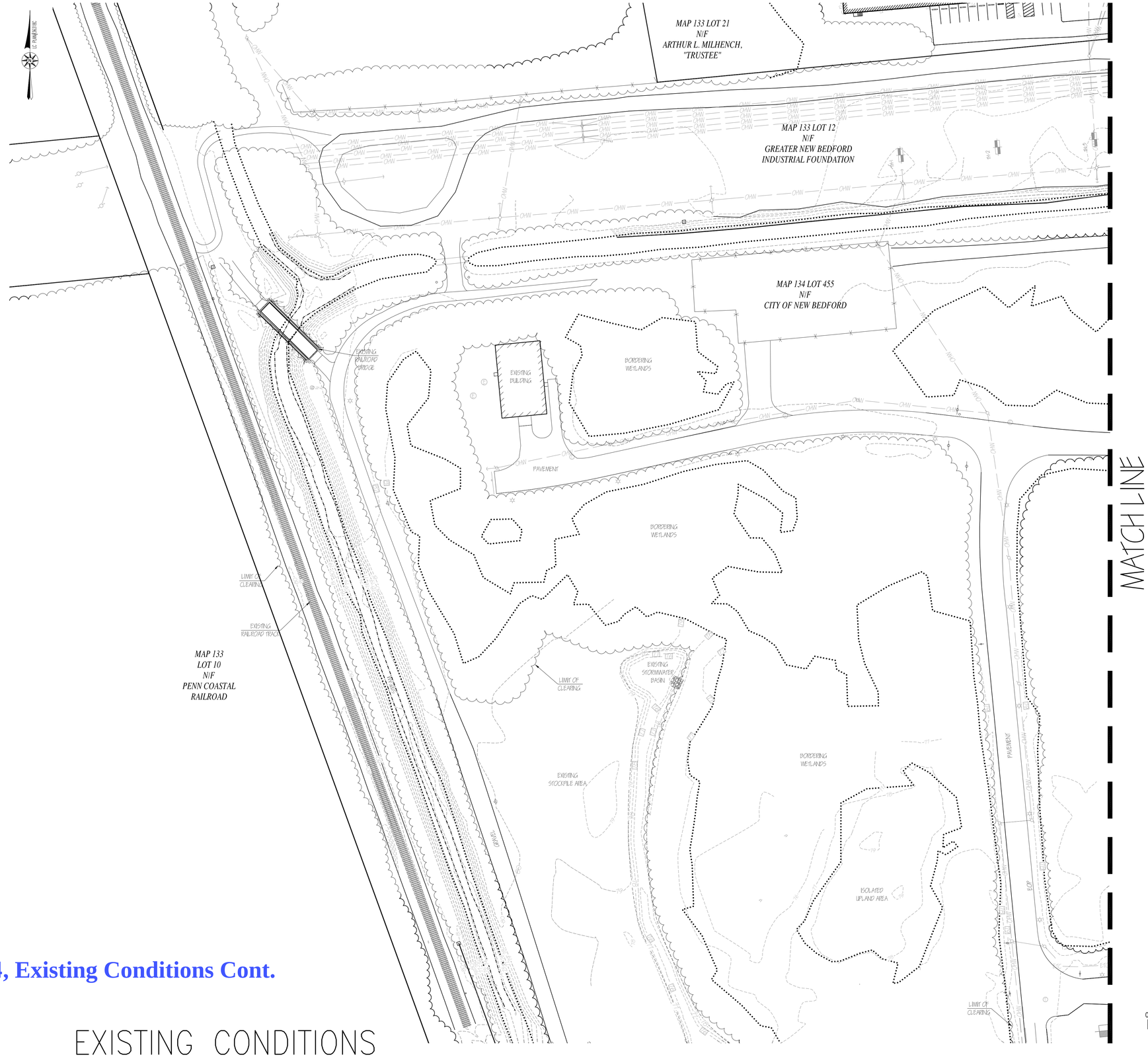

FIGURE 2-4, Existing Conditions Cont.

EXISTING CONDITIONS

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EXISTING CONDITIONS CONT.
SHEET 4 OF 22

Since acquiring the site on March 10, 2017, the Proponent has removed unused buildings and other unused site infrastructure such as concrete pads that remained from the site's previous owners. Prior to submitting the EENF for the proposed project, the Proponent installed approximately 1.567 MW solar power on the site. Solar power has been installed on the roof of the 92,220 square foot existing building and on two canopy structures constructed in an existing parking lot as shown on the existing conditions plan. Figure 2-12 has been prepared as part of this submission to depict the existing solar arrays as well as the originally proposed Phase 1 arrays and the additional arrays now proposed as part of Phase 2.

Based on the historical use of the subject property, a Phase I Environmental Site Assessment, and a Limited Subsurface Investigation (LSI) were conducted at the subject site in 2014 and 2016 respectively. As part of the LSI tasks, the collected data (soil and groundwater) was reviewed and compared with current MCP standards for other compounds outside. These investigations concluded that "Based on the results of this LSI, SAGE has not identified the presence of subsurface impacts at the site that would require reporting to MassDEP. As such, SAGE is of the opinion that further actions are not warranted at this time." Lastly, based on current regulations and as recommended by Sage, the proponent may need to characterize soils during the construction phases of the project if there is offsite disposal of soils.

The Proponent relocated its existing ongoing operations located at 969 Shawmut Avenue, New Bedford to the 100 Duchaine Boulevard site in February of 2020. The relocated operations include receiving and processing containers (PET, glass and aluminum) under the Massachusetts bottle redemption program and processing full beverage containers that distributors want destroyed.

These operations are now located within existing buildings at the site.

2.2 Phase 1 Project

Phase 1 development consists of building a glass Beneficiation (processing) operation at the 100 Duchaine Boulevard site and the construction of approximately 1.9 MW (actual final size is 1.842 MW) of solar power energy generation (in addition to the 1.567 MW currently installed). The Phase 1 operation recycles glass containers that are collected through the Massachusetts bottle deposit system. Phase 1 construction also includes the construction of a rail sidetrack onto the site to service the glass processing operation. Bottles collected will be processed such that the glass can be reused to produce new glass containers and other glass products.

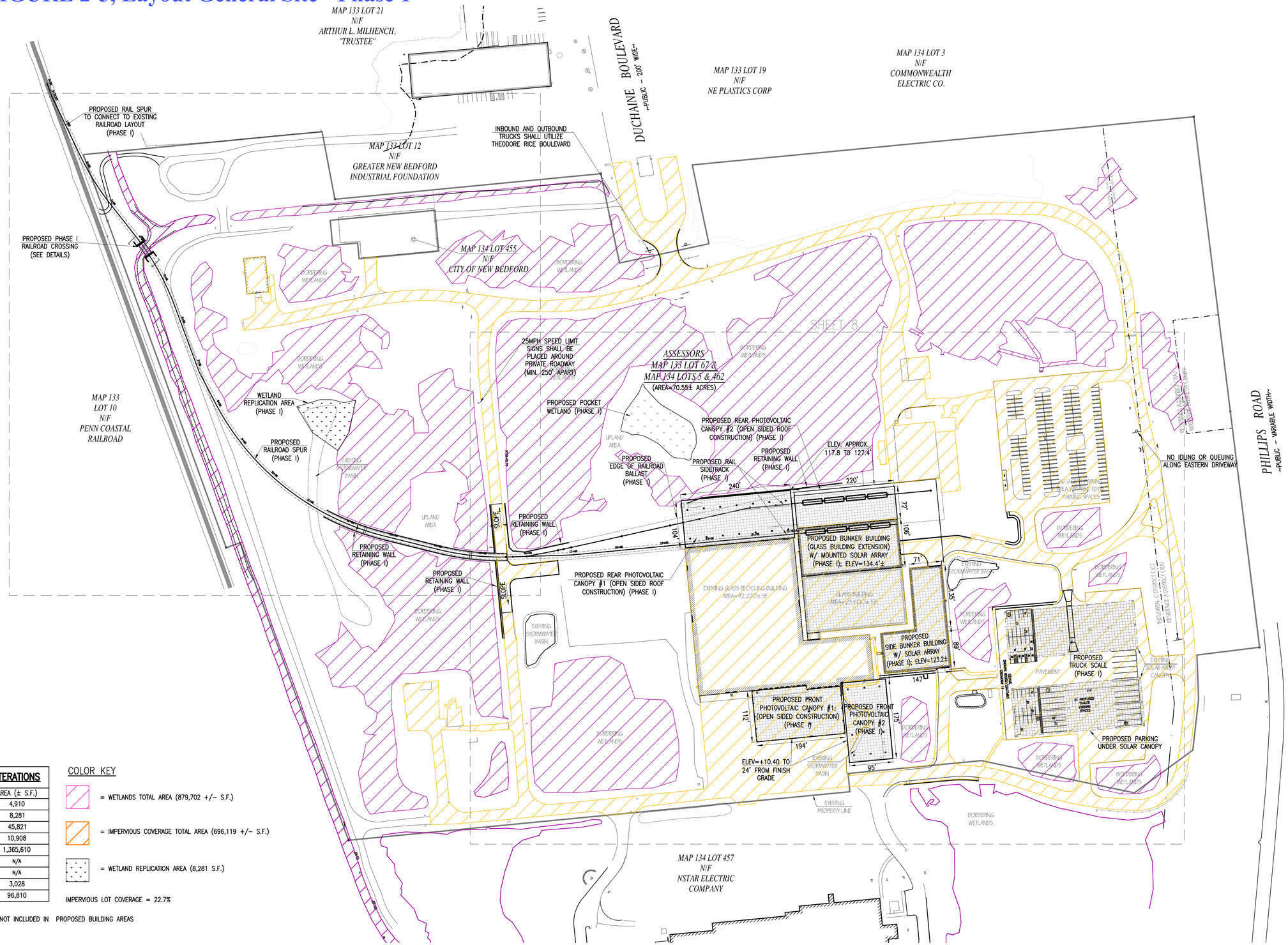
The Phase 1 project development is presented on Figures 2-5 through 2-8 on the following pages. Figure 2-5 depicts the Phase 1 general site layout, Figures 2-6 and 2-7 provide a zoomed-in view of the site, and Figure 2-8 is a rendering of the Phase 2 project.

Phase 1 land alterations are shown and tabulated on Figure 2-5, Layout General Site – Phase 1. Phase 1 construction adds 45,821 sf of buildings to the site, in addition to the glass processing building which is shown on Figure 2-2, Existing Conditions Overall Site and Figure 2-3, Existing Conditions. Presently, construction activities associated with the additional buildings and canopy structures on the

front (south) of the existing building are nearing completion. The rail sidetrack switch has been installed and additional focus on the rail line construction will resume in the near future.

Processing at the site includes crushing, sizing and separation of the glass by color. The glass cullet produced is subsequently sold to glass manufacturers for the production of new products including glass containers. The closure of the Ardagh Group glass bottle plant in Milford, MA and the subsequent closing of the Strategic Materials Beneficiating plant in Franklin, Massachusetts in 2018 has resulted in glass being disposed of in landfills, stored in various locations, and shipped to other glass bottle recycling facilities throughout the country. The rail infrastructure on-site allows for effective long-haul transport.

FIGURE 2-5, Layout General Site - Phase 1



PHASE 1 LAND ALTERATIONS	
	AREA (± S.F.)
DISTURBED WETLANDS	4,910
WETLANDS REPLICATION	8,281
PROPOSED BUILDINGS	45,821
PROP. ROADWAY/PARKING	10,908
GREEN SPACE	1,365,610
WASTEWATER	N/A
WATER	N/A
LANDSCAPING	3,028
RAIL SPUR	96,810

COLOR KEY

= WETLANDS TOTAL AREA (879,702 +/- S.F.)

= IMPERVIOUS COVERAGE TOTAL AREA (696,119 +/- S.F.)

= WETLAND REPLICATION AREA (8,281 S.F.)

IMPERVIOUS LOT COVERAGE = 22.7%

NOTE: SOLAR CANOPIES ARE NOT INCLUDED IN PROPOSED BUILDING AREAS

PHASE 1

0' 100' 200' 300'
1" = 100'

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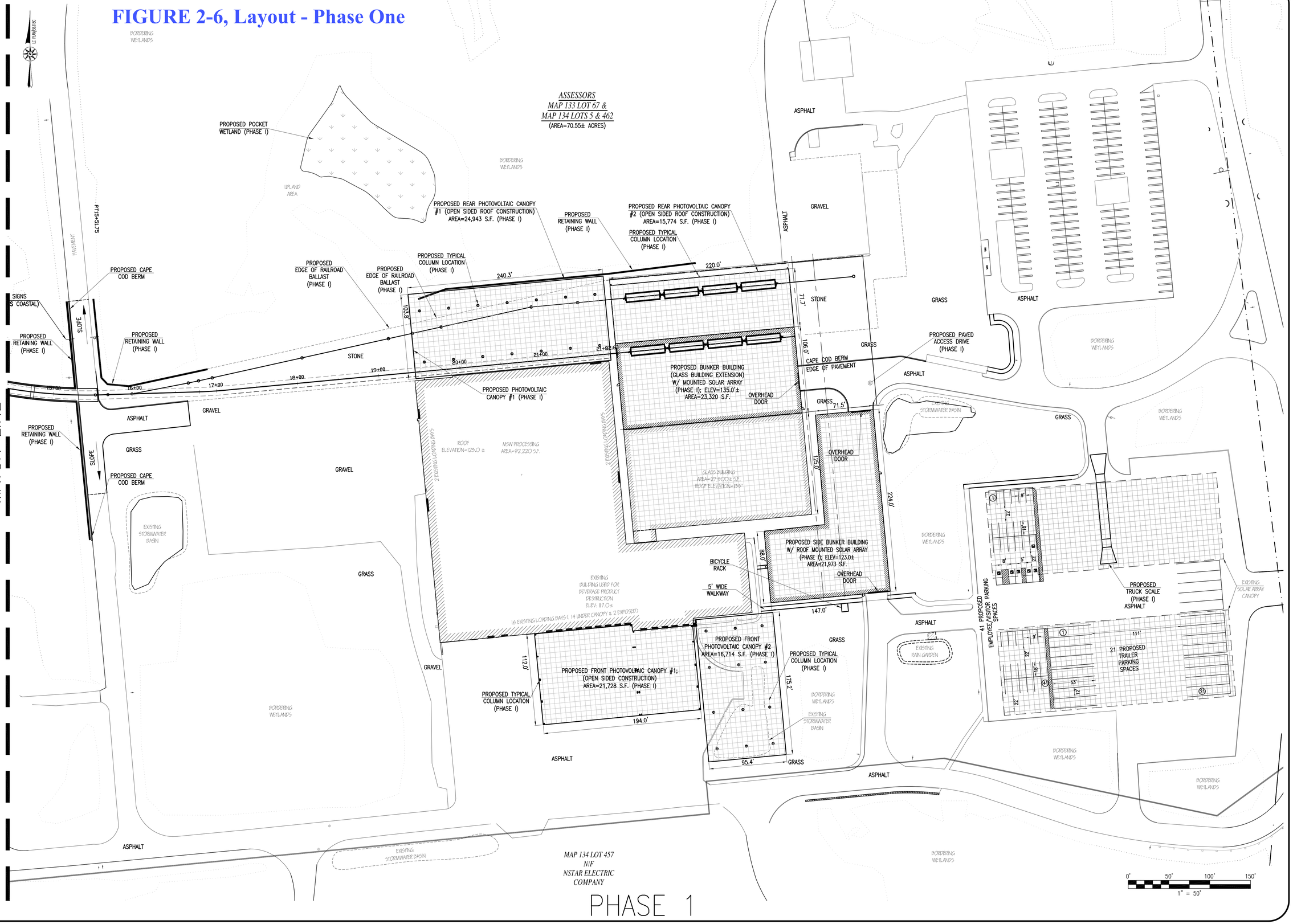
LAYOUT
OVERALL SITE - PHASE 1
SHEET 5 OF 22

FIGURE 2-6, Layout - Phase One



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LAYOUT – PHASE 1

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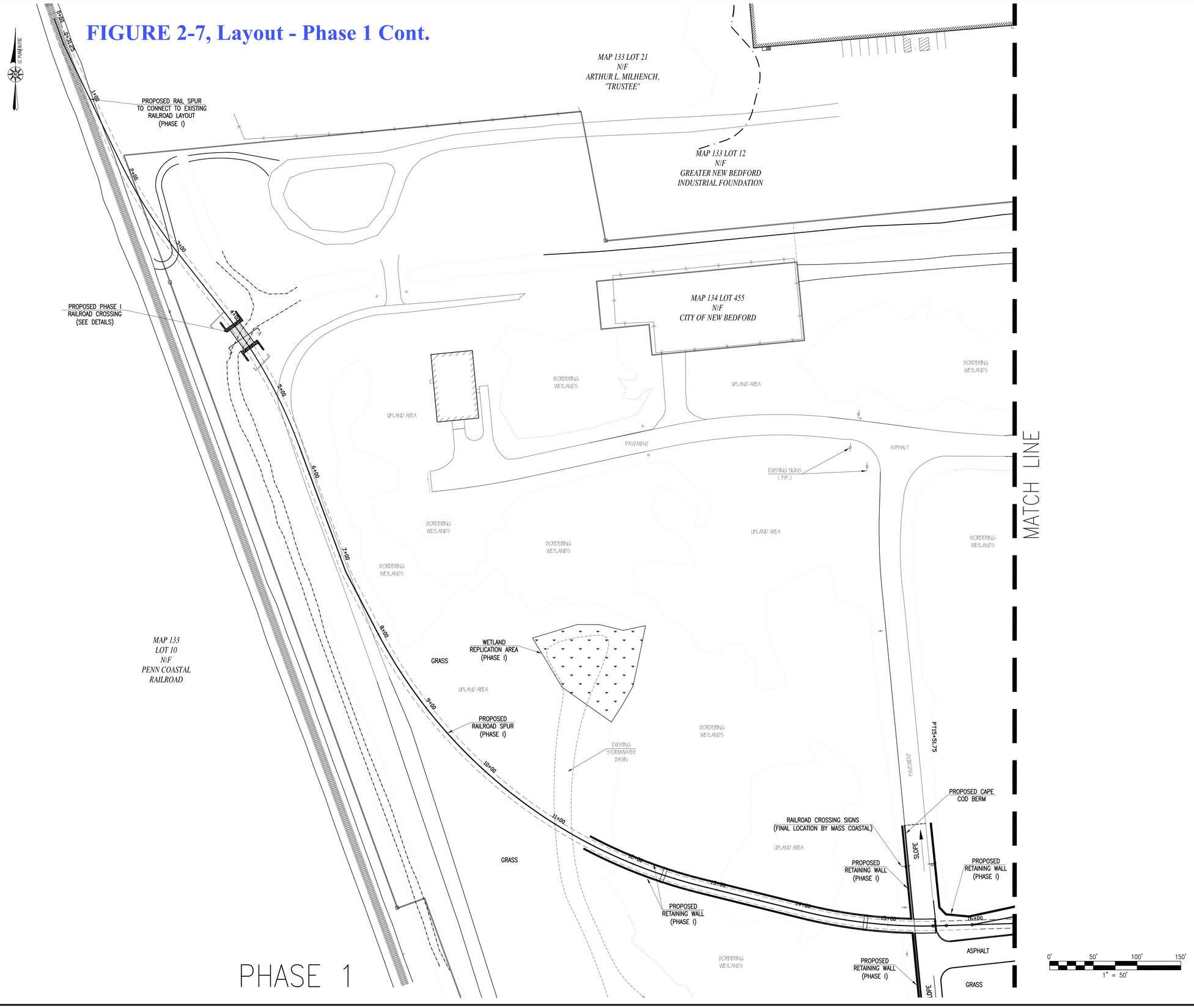
FIGURE 2-7, Layout - Phase 1 Cont.



PHASE 1

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LAYOUT – PHASE 1 CONT.
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Figure 2-8, Phase 1 Rendering (from the DEIR)

2.2.1 Changes to Phase 1 Project Design Since FROD Approval

Subsequent to the submission of the DEIR, the design of the proposed Glass Building Extension had been revised to allow rail cars to enter the Glass Building Extension such that rail cars can be loaded inside the Glass Bunker Building to minimize the potential for noise impacts associated with loading rail cars with processed glass. The Proponent is similarly proposing to extend the rail enclosure to enclose rail cars undergoing loading in both the existing and proposed MSW buildings to minimize the potential for noise and odor impacts. See Section 2.3.1 for more information.

Otherwise, no additional substantial changes are proposed with this NPC-SFEIR with respect to building footprints and/or operational modification(s).

2.3 Phase 2 Project Development

Phase 2 of the project includes the construction of a municipal solid waste (MSW) processing/handling facility (MSW processing and handling building). As noted in the Project Description, construction of the formerly proposed biosolids building and associated biosolids drying operations are no longer being proposed.

Post processed C&D residuals that comply with the MassDEP's "minimum performance standards" (e.g. accepted from C&D processors that comply with said standard to remove waste ban items prior to disposal) will be accepted for disposal (via rail) at the facility. Currently, significant quantities of MSW and C&D are being trucked out of state for treatment and disposal. The Proponent will construct a facility to collect and process this MSW in Massachusetts in an effort to increase recycling and reduce disposal. The remainder, post processed material and/or previously baled material, will then be shipped out of state by rail for disposal. The infrastructure proposed will significantly increase transportation efficiencies and reduce greenhouse gas emissions. Additionally, this facility will be the only facility in Massachusetts that is reprocessing MSW to reduce disposal and increase recycling.

The Phase 2 project development is presented on Figures 2-9 through 2-11 on the following pages. Figure 2-9 and 2-10 depict the revised NPC-FEIR Phase 2 layout compared with the Original FEIR. Figure 2-11 presents a color-coded plan that depicts the existing, Phase 1 and Phase 2 solar arrays. These plans also present changes in impervious surfaces and changes to impacts to wetland buffer zones. Note that no new BVW impacts are proposed in the revised Phase 2 layout. Figure 2-12 presents a rendering of the Phase 2 project.

Figures 2-9 and 2-10 depict the land alteration resulting from Phase 2 construction. The proposed project (Phases 1 and 2 combined) will add an additional 138,110 square feet of buildings. Additional canopy structures built to support solar panels (Phase 1 and 2) will occupy an additional 128,238 square feet. The site currently has 17.7 acres of impervious surfaces (25.1% lot coverage) consisting of access roads, buildings, parking lots, driveways and concrete slabs on grade in areas where buildings were previously demolished. Buildings planned for the proposed project are being constructed in areas of the site that are currently impervious when possible. Project construction will partially remove an

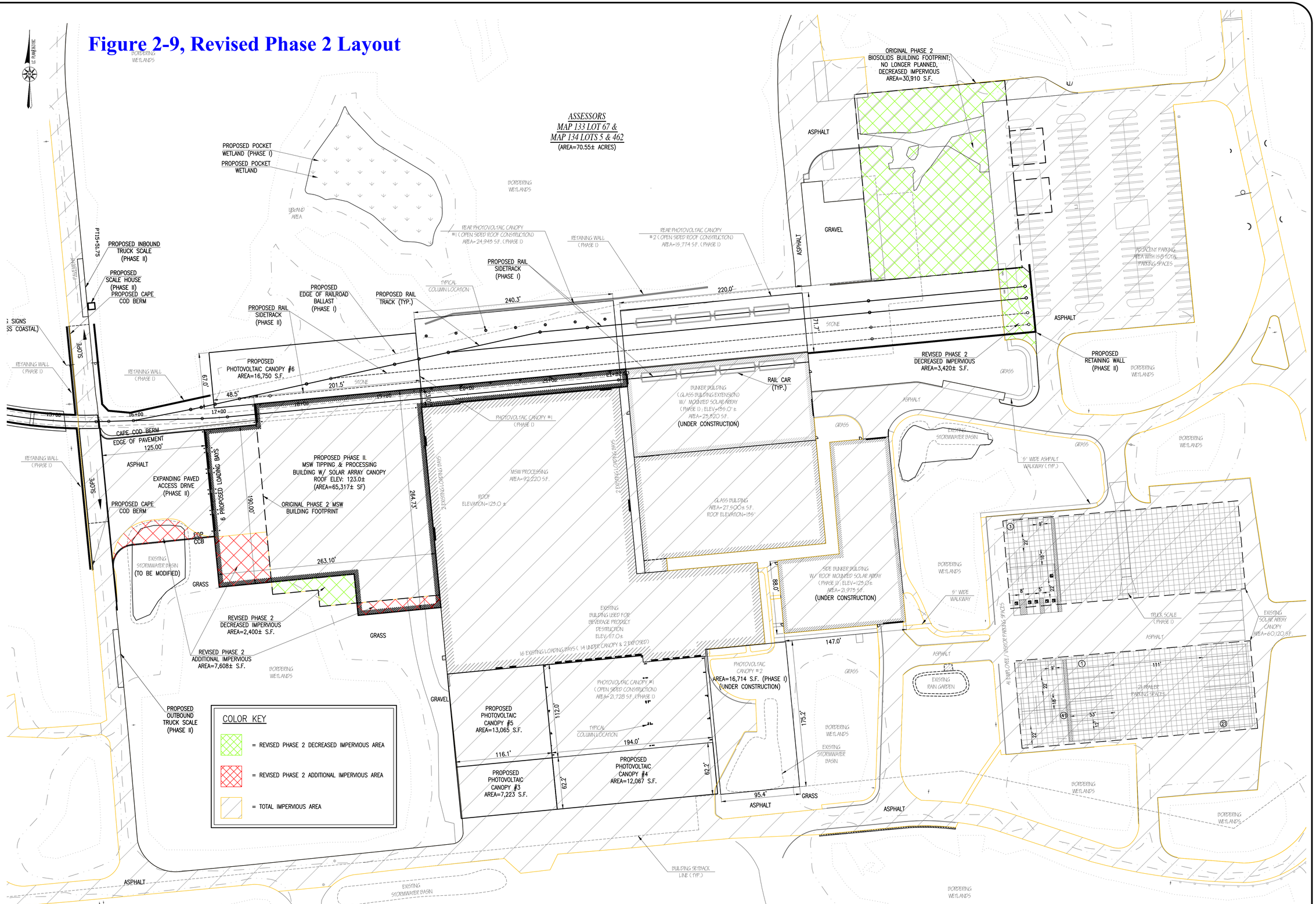
existing concrete slab on grade in order to construct the rail sidetrack, converting surfaces that are currently impervious to pervious surfaces. The net impact of the proposed project (Phase 1 and Phase 2 combined with the proposed Phase 2 revisions) is now a **decrease** in impervious surfaces of 0.67 acres compared to pre-existing conditions. This will decrease the impervious surface lot coverage to 24.4% from 25.1%.

- Existing Impervious Surfaces - 771,119 sq/ft (17.7 acres). See Figure 2-2.
- Post Phase 1 Construction Activities - Impervious surfaces reduced to 696,119 sq/ft. This is due to the removal of concrete slabs associated with the development of the rail. See Figure 2-5.
- Post Phase II – Originally impervious areas were to increase in the previously submitted FEIR to 785,571 sq/ft (18.03 acres). This equated to an increase of 0.33 acres of impervious surfaces compared to pre-existing conditions. However, with the removal of the biosolids portion of the proposed development, impervious surfaces decrease by 29,112 sq/ft (0.67 acres) to 756,449 sq/ft. As such impervious surfaces will actually decrease when compared to pre-development existing conditions. See Figure 2-9 that depicts where impervious surfaces have increased and/or decreased based on the proposed changes.

Project construction will include wetlands replication in areas that are currently upland areas as approved by the New Bedford Conservation Commission. Presently, as approved in the New Bedford Conservation Commission – Order of Conditions (Exhibit 8), there are 4,095 sq/ft of wetland alterations (permanent and temporary combined). As a result, there will be 6,700 sq/ft of wetland replication. The associated wetland activities (based on size and the intermittent stream) will not require Army Corps or additional MassDEP Waterways permitting. Presently, the construction activities associated with installing the rail switch have been completed. Furter construction activities associated with the rail sidetrack will resume sometime in the Fall of 2022.

The Proponent will provide a financial assurance mechanism (FAM) to MassDEP prior to the receipt of an Authorization to Operate permit from MassDEP. The amount of the FAM will have an amount sufficient to clean up the site and remove any stored solid waste on-site in the event of a default by the Proponent.

Figure 2-9, Revised Phase 2 Layout



REVISED PHASE 2 LAYOUT vs. ORIGINAL PHASE 2 LAYOUT

REVISIONS

1	3/2/22	CANOPY 4 & 5 REVISION
2	3/3/22	GREEN SEAL COMMENTS
3	4/8/22	REMOVE CANOPY, ADD BUILDING
4	4/18/22	MODIFY # OF PROP. CANOPIES
5	6/8/22	GREEN SEAL COMMENTS

COMMONWEALTH OF MASSACHUSETTS
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SITEWORK
LAND SURVEYING
DEVELOPMENT

DRAWN BY: JT
DESIGNED BY: CAF
CHECKED BY: CAF

PROPOSED PROJECT DEVELOPMENT
— 100 DUCHAINE BOULEVARD —
ASSESSORS MAP 133 LOT 67
ASSESSORS MAP 134 LOTS 5 & 462
NEW BEDFORD, MASSACHUSETTS

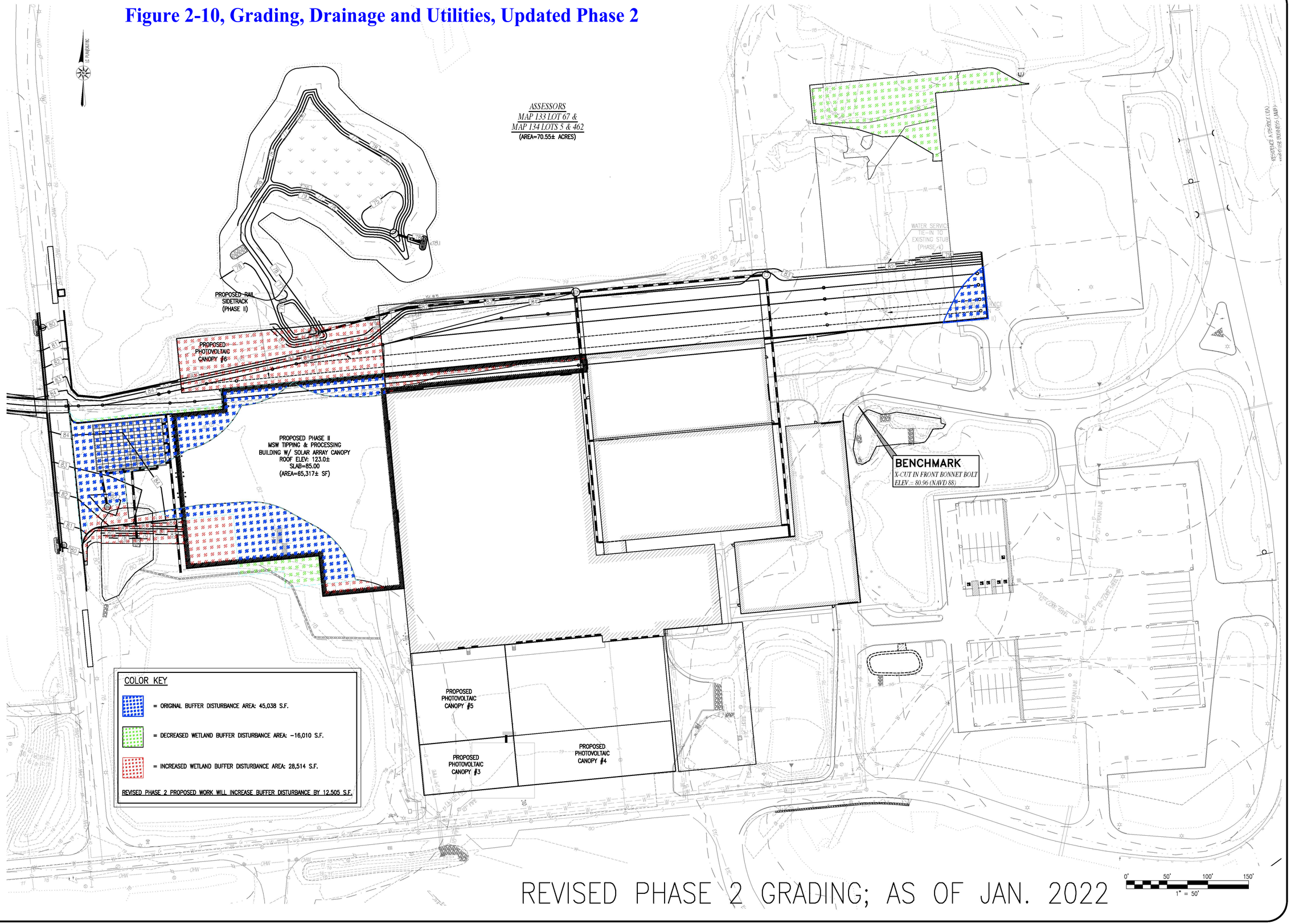
PREPARED FOR: PARALLEL PRODUCTS OF NEW ENGLAND
401 INDUSTRY ROAD
LOUISVILLE, KY 40208

FEBRUARY 18, 2022
SCALE: 1"=50'
JOB NO. 15-500.2
LATEST REVISION:
JUNE 8, 2022

LAYOUT

SHEET 3 OF 5

Figure 2-10, Grading, Drainage and Utilities, Updated Phase 2



REVISED PHASE 2 GRADING; AS OF JAN. 2022

REVISIONS

1	3/2/22	CANOPY 4 & 5 REVISION
2	3/3/22	GREEN SEAL COMMENTS
3	4/8/22	REMOVE CANOPY, ADD BUILDING
4	4/18/22	MODIFY # OF PROP. CANOPIES
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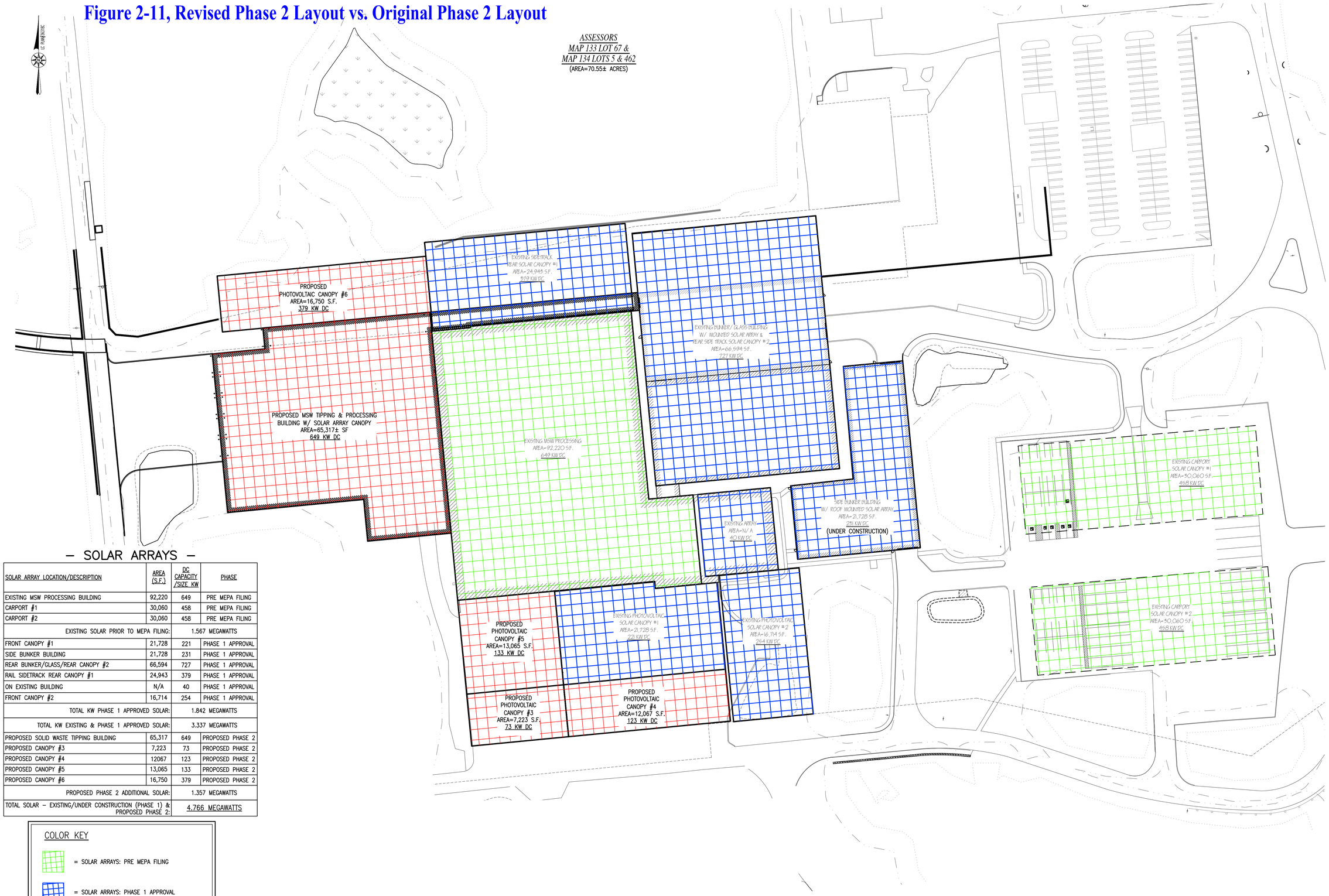
JUNE 8, 2022

GRADING, DRAINAGE & UTILITIES - UPDATED PH. 2
SHEET 4 OF 5

Figure 2-11, Revised Phase 2 Layout vs. Original Phase 2 Layout



– SOLAR ARRAYS –

SOLAR ARRAY LOCATION/DESCRIPTION	AREA (S.F.)	DC CAPACITY /SIZE KW	PHASE
EXISTING MSW PROCESSING BUILDING	92,220	649	PRE MEPA FILING
CARPORT #1	30,060	458	PRE MEPA FILING
CARPORT #2	30,060	458	PRE MEPA FILING
EXISTING SOLAR PRIOR TO MEPA FILING:		1.567 MEGAWATTS	
FRONT CANOPY #1	21,728	221	PHASE 1 APPROVAL
SIDE BUNKER BUILDING	21,728	231	PHASE 1 APPROVAL
REAR BUNKER/GLASS/REAR CANOPY #2	66,594	727	PHASE 1 APPROVAL
RAIL SIDETRACK REAR CANOPY #1	24,943	379	PHASE 1 APPROVAL
ON EXISTING BUILDING	N/A	40	PHASE 1 APPROVAL
FRONT CANOPY #2	16,714	254	PHASE 1 APPROVAL
TOTAL KW PHASE 1 APPROVED SOLAR:		1.842 MEGAWATTS	
TOTAL KW EXISTING & PHASE 1 APPROVED SOLAR:		3.337 MEGAWATTS	
PROPOSED SOLID WASTE TIPPING BUILDING	65,317	649	PROPOSED PHASE 2
PROPOSED CANOPY #3	7,223	73	PROPOSED PHASE 2
PROPOSED CANOPY #4	12067	123	PROPOSED PHASE 2
PROPOSED CANOPY #5	13,065	133	PROPOSED PHASE 2
PROPOSED CANOPY #6	16,750	379	PROPOSED PHASE 2
PROPOSED PHASE 2 ADDITIONAL SOLAR:		1.357 MEGAWATTS	
TOTAL SOLAR – EXISTING/UNDER CONSTRUCTION (PHASE 1) & PROPOSED PHASE 2:		4.766 MEGAWATTS	

COLOR KEY

= SOLAR ARRAYS: PRE MEPA FILING

= SOLAR ARRAYS: PHASE 1 APPROVAL

= SOLAR ARRAYS: PROPOSED POST PERMITTING

REVISED PHASE 2 SOLAR LAYOUT

REVISIONS

1	3/2/22	CANOPY 4 & 5 REVISION
2	3/3/22	GREEN SEAL COMMENTS
3	4/8/22	REMOVE CANOPY, ADD BUILDING
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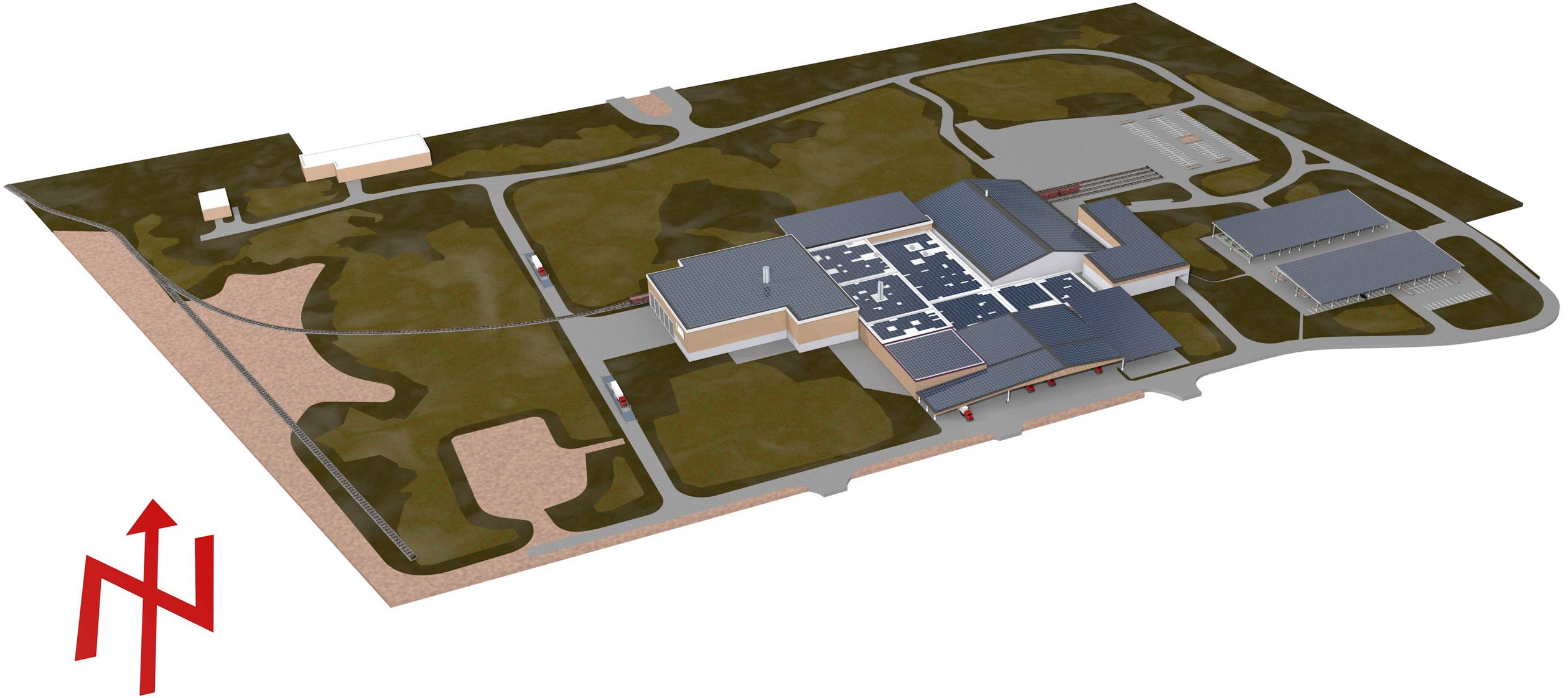
SOLAR ARRAY LAYOUT

SHEET 5 OF 5

Figure 2-12, Phase 2 Rendering

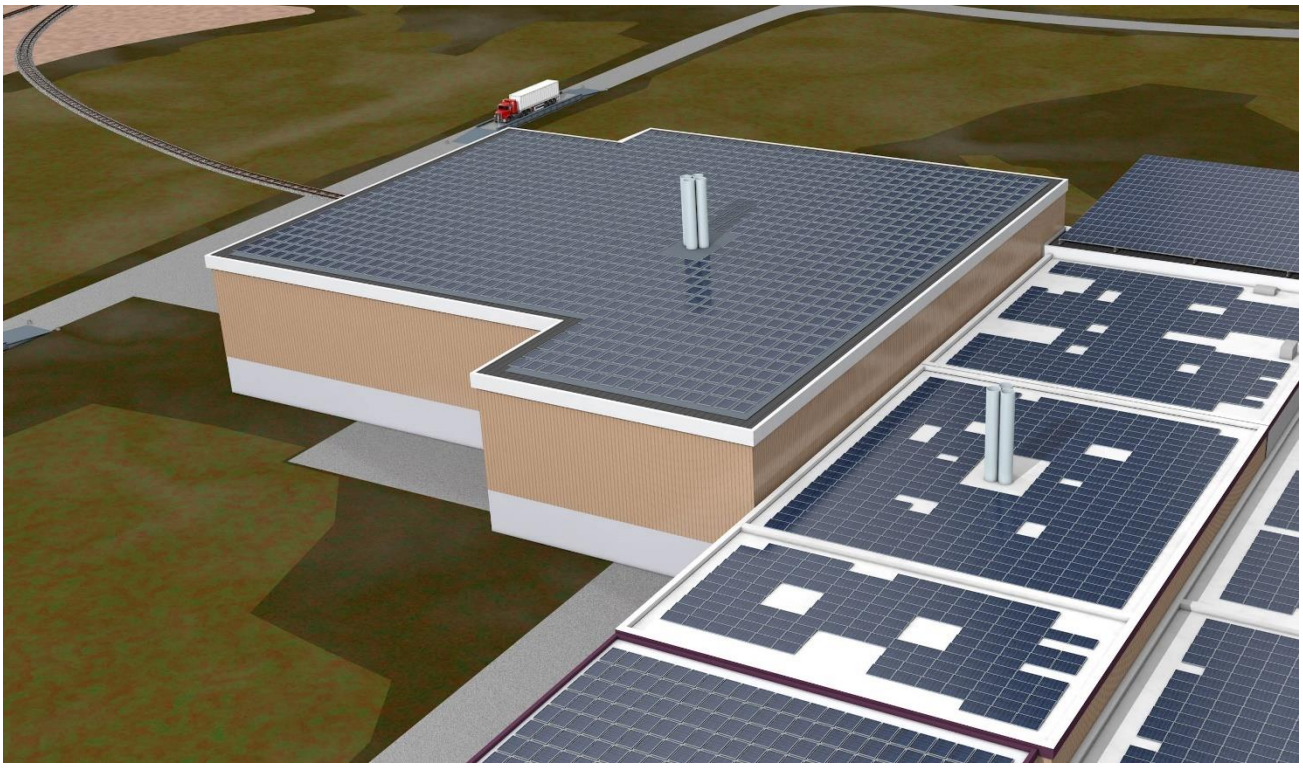


2.3.1 MSW Processing/Handling Facility

Phase 2 construction will include the construction of a MSW processing/handling facility. The project is being constructed in two phases due to the difference in the expected duration of obtaining the required permits. The Phase 2 project development, as presently proposed, is presented on Figures 2-9 through 2-12 as previously shown.

A new waste handling/tipping building will be constructed. The building is expected to be approximately 63,317 square feet in gross floor area and will connect with the existing site building. This building addition has increased in size from the formerly proposed 48,900 square foot building to better facilitate the installation of the MSW processing line and create better operation and tipping space. The tipping building will be designed to allow waste delivery trucks to drive into the building to dump/tip their loads of waste material for subsequent processing, handling, and transfer for offsite disposal. After tipping, front-end loaders will stage the material for subsequent processing/handling. If the MSW is delivered baled, an excavator with a grapple will unload the delivery truck and place the bale on the tipping building floor in the rail car loading area. These bales will then be placed in rail cars for offsite shipment/disposal. It should be noted that all tipping, processing and loading of solid waste will be performed indoors.

Figure 2-13, New Waste Handling Building Rendering



To further mitigate potential nuisance conditions, Proponent is proposing to enclose the rail loadout tunnel adjacent to the existing MSW Processing and the proposed MSW Tipping & Process buildings as depicted below in Figure 2-14. The enclosed rail structure will extend to enclose the rail section servicing the glass processing building as well.

Figure 2-14, Railroad Enclosure Rendering

A portion (approximately 40 to 50%) of the existing 92,200 square foot building on-site adjacent to the proposed tipping building will be used for the processing of MSW to extract recyclable commodities prior to disposal. The existing building will be modified as required to house the MSW processing equipment used to extract various recyclable material from MSW. Specifications for the MSW processing equipment are included in Exhibit 9. The existing building will also include a baler to bale and shrink wrap (or bag) MSW after processing if deemed appropriate and/or as required to meet CSX transportation requirements. Baled and shrink wrapped (or bagged) MSW and Category 2 C&D will be loaded in rail cars for shipment to disposal sites. At this point in time, the facility does not intend to process C&D on-site.

The Proponent facility will receive MSW that has had recyclable materials (e.g. cans, bottles, glass containers, etc.) removed by the waste generator as required under the Solid Waste Regulations [310 CMR 19.017]. This is material, such as curbside household MSW, that currently goes to combustion facilities or to landfills for disposal. The processing equipment will be utilized by the Proponent to extract additional recyclable materials from the MSW that was not removed by the waste generator. The Proponent is not advocating for recyclables to be combined with the MSW and supports the existing MA Waste Ban requirements. This facility is the first facility that will help the Commonwealth reduce MSW that has been collected and destined for landfills and/or incineration by

processing and separating additional recoverable recyclables. The on-site processing proposed by the Proponent will allow for further extraction of recyclable materials in addition to traditional recycling/separation activities that are performed by the waste generator. This is different from a typical "dirty MRF" which accepts MSW without the removal of recyclable material and then removes recyclables from the MSW.

The facility will accept both baled MSW and MSW delivered loose in transfer trailers and packer trucks. Baled MSW may be delivered to the facility from other transfer stations to meet existing railroad requirements for shipping MSW in rail cars. Baled MSW, if accepted at the facility, will be loaded into rail cars for shipment to out-of-state disposal sites such as a landfill or waste to energy facility upon meeting CSX transportation requirements. Baled waste received at the facility will not be processed to extract additional recyclable material prior to loading into rail cars as de-baling waste is not a supported technology and previously baled waste cannot be run through the on-site processing line. The facility will also accept C&D defined as Category 2 (C&D processing residuals) that meets the MassDEP minimum performance standards. These materials are generally material that have little or no recyclable value and will be loaded into railcars and sent offsite for subsequent disposal.

In addition to baled MSW that may be delivered, the facility will predominantly accept loose MSW delivered in transfer trailers and packer trucks. Transfer trailers will consist of 100 cubic yard (cy) live floor trailers. The average 100 cy transfer trailer capacity is 28 tons. Transfer trailers will originate primarily from regional transfer stations. Packer trucks such as the trucks that provide curbside pickup of MSW will also deliver MSW to the facility. The average capacity of a packer truck is 9 tons.

Transfer trailers arriving at the facility will be weighed on a truck scale at the facility and then the truck will back into the tipping building and will discharge the waste onto the interior tipping floor. It is expected that Category 2 C&D waste will be delivered in 100 cy live floor trailers. No roll-off container delivery is anticipated at this facility.

Non baled MSW received by the facility will be processed to extract recyclable materials prior to shipment to disposal facilities. Processing will consist of a processing line that includes both mechanized separation equipment and a manual picking line. Materials extracted will include metals, cardboard, aluminum, wood, glass, PET, paper and plastic based on market conditions. The facility will include two processing lines with each line capable of processing 40 tons per hour of MSW. The processing lines will operate two to three shifts per day depending on the inbound volume accepted. An updated processing line flow diagram, plans and equipment specifications are included in Exhibit 9. Further refinement of the processing line will occur as the project progresses through the design phases. The processing line is anticipated to extract +/- 20% recyclables from the MSW. After the recycled material has been extracted, the remaining waste may be baled and shrink wrapped/bagged for subsequent transport to a disposal facility or containerized following acceptable CSX transportation requirements. The primary means of transport for disposal will be by rail. Trucks could also be used to transport waste, if necessary, but given the lack of disposal outlets in and/or around Massachusetts, rail is the most cost-effective means of transportation. Meanwhile, recyclable

materials extracted from MSW will be sent to recycling markets by either rail or truck depending upon market conditions and outlet locations.

The facility may also accept C&D residuals (e.g., material that has been previously processed to remove recyclables following the MassDEP's minimum performance standards). This waste is classified as Category 2. It should be noted that in previous submittals, the C&D was referred to as both Category 2 and Category 3 C&D, which is identified as "residuals" and "bulky" waste respectively. For clarification, all the inbound C&D material to be accepted are "post-processed" and as such is considered a Category 2 material by MassDEP as long as it meets the minimum performance standards for recycling. The processing facilities shipping material to the Proponent will have already removed waste ban material and other recyclable material from the C&D material as deemed appropriate. The Category 2 materials accepted at the facility will be used as cover for baled MSW in the rail cars if it is deemed an approved means of transportation by CSX. It is expected that Category 2 and waste will be delivered to the site in live floor trailers weighing approximately 28 tons per load. All of this material will be received, handled and loaded within the proposed solid waste handling building (existing and proposed).

Baled and shrink wrapped MSW may be loaded into gondola rail cars for shipment to disposal sites. The Proponent will work with CSX to develop procedures for loading rail cars with baled MSW. It is expected that baled MSW will be loaded with Category 2 C&D residuals. Additionally, THE PROPONENT may elect to ship MSW in CSX approved intermodal containers or covered gondolas as approved and prescribed by CSX at the time of operation. It should be noted that CSX is presently assessing several means/modes of transportation and the Proponent will abide by CSX's requirements as they exist when the facility is commissioned.

Generally, each rail car can carry up to 90 tons of solid waste for disposal (either gondola or in intermodal containers placed onto flatbed railcars). It is expected that at full capacity that the facility will produce 1,300 tons per day of residual waste that will be sent for disposal. Previously, it was estimated that up to 50 tons per day of dried biosolids would be produced and sent for disposal combined with the MSW. However, the biosolids facility is no longer being proposed. Based on the weight per full railcar, on average 15 rail cars could be filled each day. The rail sidetrack will also be used for transportation of processed glass to recycling markets. Up to 250 tons per day of glass will be shipped by rail from the site (3 rail cars).

The rail sidetrack will be modified in Phase 2 to allow the storage of more rail cars than can be accommodated by the sidetrack construction in Phase 1. The plans included in Exhibit 6 depict the extent of the rail sidetrack construction for Phase 2. With the completion of track construction in Phase 2, the sidetrack will allow for the receipt of 18 empty rail cars and the removal of 18 full rail cars. The site will be serviced by Mass Coastal Railroad. The Proponent will purchase an electric rail car mover for the movement of rail cars on-site.

The Facility will be developed using state-of-the-art Best Management Practices (BMPs) to minimize potential impacts to the Site and surrounding environment. A partial list of BMPs that will be incorporated into the Facility are as follows:

- All tipping, handling, and loading will be performed within a fully enclosed processing and handling building.
- The building floor is designed as impervious[3] concrete that will prevent any potential contamination of groundwater, stormwater or the surrounding environment. Any liquids released from the waste will be collected in a floor drain system. The liquid collected in this system will be gravity fed into the City's sanitary sewer system or stored in a wastewater holding tank to be periodically pumped out and trucked offsite for disposal at a wastewater treatment plant. Sewer is available on-site and permits will be sought through the City to allow this discharge to enter the New Bedford Sanitary Sewer.
- Use of a fine atomized misting system within the MSW Transfer Building and processing building will effectively control fugitive dust and odor in the building. This system can also introduce odor counteractants.
- Regular daily cleanup and sweeping will occur on the external paved surfaces. Environmental Monitoring and Operation and Maintenance Plans will be developed and staff will be trained on these operational procedures.
- Following first in/first out waste handling procedures
- The use tipping doors that can be opened and closed to reduce the potential for nuisance conditions when deemed appropriate
- Ventilation stacks that promote dispersion
- Location of doorways farthest from the location of offsite receptors
- Limiting doors that would promote the channeling of air through the facility

It should be noted that as the facility progresses through the permitting phases (e.g. MassDEP and City of New Bedford), controls, BMP's etc. may be modified or enhanced.

2.3.2 Biosolids Processing

In Phase 2, the biosolids drying facility was previously proposed within the ENF, DEIR and FEIR. As noted in the Project Description, the construction, operation and infrastructure associated with the formerly proposed biosolids building and associated biosolids drying operations are no longer being proposed. As such, no further detail is being presented based on this decision by the Proponent.

2.3.3 Changes to Phase 2 Project Design Since FEIR Submission

The following are mitigation measures the Proponent will adopt to further reduce the impacts of the project since the filing of the FEIR:

[3] Please see Section 9, Response to Comment 9.15F for additional details on the impervious nature of the proposed building floor.

- The formerly proposed biosolids building and associated biosolids drying operations are no longer being proposed. The removal of the biosolids drying operation is being formerly removed from the proposed development based on negotiations between the Proponent (South Coast Renewables) and the City of New Bedford.
- The formerly proposed sound attenuation wall is no longer being proposed (rationale is discussed in Sections 6 & 8)
- Rail enclosure (in between the MSW handling and processing facility and the glass processing facility)
- Additional energy reducing adders (e.g. heat pumps)
- Insulation within glass building
- Traffic mitigation (commitment to fund the installation of a traffic light)
- 1.35 megawatts of additional solar
- Overall reduction of impervious areas
- Increase in tipping building size
- Reconfiguration of SW controls
- Revision to hours of operation

Section 8.0 includes description of additional mitigation measures considered and explanation why these measures were deemed infeasible.

2.4 Water/Wastewater

2.4.1 Introduction

The site is currently connected to the New Bedford water and sewer system. These connections were completed by the previous site owner(s). The Proponent has recently been upgrading and rehabilitating the on-site infrastructure for the site, including the site sewer system. The Proponent intends to utilize City water and wastewater for the proposed project. The Proponent will pay the City for the use of these services.

2.5 Water Use

The Proponent expects to have 150 employees at the site. This includes the 75 employees previously relocated to 100 Duchaine Boulevard from the Proponent's former location at 969 Shawmut Avenue. Water use for employees is estimated at 15 gallons per day (gpd) per employee based on 310 CMR 15.00 (2,250 gpd). Water will also be required for the misting system proposed for the MSW tipping building. Water use for the misting system is estimated to be 10 gpm or 14,400 gpd. No significant quantities of wastewater will be generated from the misting system. The water will either be evaporated and/or absorbed by the waste. Hose bibs will be provided in the tipping building and MSW processing building as part of facility cleanup and maintenance activities. Washdown water use is estimated at 500 gallons per day. All water usage previously associated with the biosolids building will not be necessary, reducing the Proponent's proposed water use by approximately 50,500 gpd. With the elimination of the previously proposed biosolids building, total water use is expected to be less than 19,650 gpd.

2.6 Wastewater Generation

Wastewater from employee sanitary and washing use is estimated at 15 gpd per employee per 310 CMR 15.00 (2,250 gpd). As construction of the formerly proposed biosolids building and associated biosolids drying operations are no longer being proposed, all wastewater generation associated with the biosolids facility has been removed. As such, wastewater generated at the facility will be reduced from a previously estimated 113,750 gpd to 2,750 gpd (2,250 gpd employee use and less than 500 gpd of washdown water). Water use for the misting system is estimated to be 10 gpm or 14,400 gpd but will not result in significant quantities of wastewater generation as the water associated with the misting system evaporates and/or is absorbed by the waste.

The existing site buildings are presently connected to the City sewer system. Wastewater generated in the proposed structure will either be connected to the City sewer system or to a storage tank for periodic transport by tanker truck to a properly permitted wastewater facility for disposal. Modifications to the wastewater piping will be constructed to properly manage wastewater from the proposed building.

As noted above, the wastewater collection system on-site currently directs wastewater to the Industrial Park Pumping Station located in the northwest corner of the site. The pumping station is owned by the City of New Bedford and is located on a City owned parcel that is located within the property line

of the 100 Duchaine Boulevard parcel. CDM Smith completed an assessment of the capacity of the Industrial Park Pumping Station on January 23, 2020. This assessment determined that the Industrial Park Pumping Station had the capacity to handle the additional wastewater generated by the proposed the Proponent project when the biosolids facility was previously proposed. The CDM Smith assessment was included with the FEIR. Due to the fact that the Proponent is no longer proposing to develop the previously proposed biosolids portion of the facility, the biosolids-related infrastructure upgrades/mitigation items identified by CDM as those items are no longer applicable and have been withdrawn from this MEPA review as the projected wastewater flows from the FEIR have been reduced from an estimated 113,750 gpd to 2,750 gpd with changes presented in this NPC-SFEIR.

It should be noted that "All sewer system authorities shall include provisions in their I/I plan for mitigating impacts from any new connections or extensions where the proposed flows exceed 15,000 gallons per day. Such mitigation shall require that four gallons of infiltration and/or inflow be removed for each gallon of new flow to be generated by the new sewer connection or extension, unless otherwise approved by the Department." The Proponent's wastewater generation estimates are well below this threshold.

2.7 Wetlands

2.7.1 Introduction

The proposed project development design has utilized existing infrastructure to the maximum extent feasible. The project will use existing access roads and paved surfaces and will use existing buildings to the extent feasible. The project development includes the construction of a new rail sidetrack to service the site. Construction of the rail sidetrack will impact wetlands on-site. The rail sidetrack is presently under construction as part of Phase 1 of the project. Additional rail sidetracks will be expanded in Phase 2.

The "Final Record of Decision of the Secretary of the EOEEA" dated May 15, 2019 allowed the Phase 1 project to proceed prior to the completion of the Environmental Impact Report. Phase 1 engineering, permitting and construction are currently in progress.

2.7.2 Phase 1 Wetlands Impacts

The proposed rail sidetrack must cross a drainage swale and a bordering vegetated wetland to access the site. The variations on rail alignment are limited by the design restrictions (radius of curves, slope, etc.) associated with rail development. The rail sidetrack has been designed to minimize the impacts to wetlands to the greatest extent feasible.

At the crossing of the drainage swale, the crossing point selected is an area where the track is approximately perpendicular to the swale, minimizing the area of the swale and riverfront area that is impacted. Also, the crossing point selected is the location of an existing abandoned bridge over the swale. The existing bridge will be removed as part of the development activities.

Alternatives evaluated included a three-sided box culvert, a four-sided box culvert and a bridge. Initially, the Proponent selected a three-sided box culvert as the preferred alternative for the swale

crossing. The box culvert alternative was presented in the Notice of Intent filed with the Conservation Commission. During review of the Notice of Intent, the Conservation Commission preferred a bridge for the swale crossing. The project plans have been revised to include a bridge for this crossing.

The project is not located within Estimated Habitats of Rare Wildlife or Priority Habitat. The EENF included correspondence from the Natural Heritage and Endangered Species Program of the Massachusetts Division of Fisheries and Wildlife stating that the project is not located within Estimated Habitats of Rare Wildlife or Priority Habitats and therefore is not subject to compliance with the rare wildlife species section of the Massachusetts Wetlands Protection Act.

The route chosen for the rail sidetrack was selected to minimize the impact to bordering vegetated wetlands. The size of the area impacted was further minimized by using block retaining walls on each side of the track to minimize the width of the sidetrack cross section, thereby minimizing the extent of wetland impacts.

The Proponent filed a Notice of Intent, dated October 2, 2019, with the New Bedford Conservation Commission. The Commission issued an Order of Conditions on July 30, 2020. The Order of Conditions is included as Exhibit 8. This Order of Conditions is applicable to all construction proposed in Phase 1 and includes a stormwater management plan that complies with the Massachusetts Stormwater Policy. Based on the engineered plans, there will be approximately 4,095 sq/ft of wetland impacts (based on holding a 1-foot disturbance line from the bottom of the wall). Should the contractors hold a 3-foot disturbance line from the bottom of the wall, there could be 4,916 sq/ft of wetland disturbance. In both instances, disturbance is under 5,000 sq/ft and permanent disturbance is 3,696 sq/ft.

2.7.3 Phase 2 Wetlands Impacts

A Notice of Intent will be filed with the New Bedford Conservation Commission as some construction activity will be within the buffer zone and primarily located on previously developed surfaces. Note that Figure 2-10 depicted changes to work within the buffer zone with the largest change being the addition proposed canopy #6 which is depicted on Figure 2-11.

2.7.4 Stormwater Controls

The site as developed by Polaroid included stormwater management features. As noted throughout the report, the Proponent is making every reasonable effort to utilize existing infrastructure. However, the proposed facility modifications will require additional stormwater management features including, but not limited to, the addition of a prefabricated, underground structure to separate oils, grease, and sediment from stormwater runoff and a series of subsurface groundwater recharge chambers. Final determination of stormwater design components will be included in future facility permitting efforts. All on-site stormwater controls will meet or exceed the standards associated with the MA Stormwater Policy.

2.8 Project Alternatives

The proposed project is being developed to fill a need for in the Commonwealth for processing and

economical transfer of generated solid waste materials to out of state disposal sites. Massachusetts solid waste disposal is currently impacted by the closures of in state landfills and the fact that no new landfills are being constructed. The Fall River landfill has recently closed, the Bourne landfill has become an ash landfill for ash generated at SEMASS and Crapo Hill Landfill is largely limited to member towns. The Taunton Landfill closed in 2020, the Southbridge Landfill closed at the end of 2018 and the Chicopee Landfill is presently closed.

The Massachusetts 2030 Solid Waste Master Plan reports…

- Landfill capacity for municipal solid waste and construction and demolition debris (C&D) is projected to decline to virtually zero by the end of the next decade.
- Massachusetts has extensive waste transfer capacity; however, most waste transfer facilities do not increase overall waste management capacity because they are not able to deliver waste beyond Massachusetts and our neighboring states, where disposal capacity is also limited. Some facilities are investing in capacity to transfer waste out of the region by rail, though those facilities face logistical challenges arranging rail shipments and ensuring an adequate supply of the right type of railcars

The Proponent acknowledges in the hierarchy of solid waste that diversion and recycling is of the utmost importance. The Proponent's investment of well over $25M in MSW processing infrastructure is a sign of their commitment to these objectives.

An evaluation of alternative sites for the project was performed. There are limited alternatives for locating a truck to rail solid waste handling facility in Southeastern Massachusetts that would be considered adequate from both a user and regulatory perspective. A necessary factor is that any suitable site must be located adjacent to an existing active rail line. Rail service to the selected site area runs from Taunton to New Bedford. Suitable sites are limited to the lands abutting these rail lines.

A suitable site for the proposed use must be zoned industrial with solid waste handling as an acceptable use. Additionally, a suitable site must comply with the Massachusetts solid waste siting regulations at 310 CMR 16.00. This regulation stipulates restrictive siting criteria that must be met in order to operate a solid waste handling facility that includes at a minimum the following:

1. The waste handling area of a transfer station cannot be located within a Zone II of a public water supply, within an Interim Wellhead Protection Area of a public water supply, within a Zone I of a public water supply or within 250 feet of an existing well.
2. The waste handling area of the facility cannot be within 500 feet of an occupied residential dwelling.
3. The waste handling area of a facility cannot be within a Riverfront Area
4. A facility cannot be located on land classified as Prime, Unique or of State and Local Importance

5. A facility cannot be located where traffic impacts will constitute a danger to the public health, safety or the environment
6. A facility cannot be located where siting would have an adverse impact on Endangered, Threatened or Special Concern species, on Ecologically Significant Natural Communities or on any state Wildlife Management Area
7. A facility cannot be located within an Area of Critical Environmental Concern or would fail to protect the outstanding resources of an ACEC
8. A facility cannot be located where the facility would have an adverse impact on state forests or municipal parklands.
9. A facility cannot be located where operation of the facility would result in nuisance conditions which would constitute a danger to the public health, safety or the environment considering noise, litter, vermin, odors, bird hazards to air traffic and other nuisance problems.

Three sites have been evaluated as potential sites for use as a solid waste handling facility. These sites are located at 100 Duchaine Boulevard, New Bedford, 1080 Shawmut Avenue, New Bedford and 781 Church Street, New Bedford. All three sites are located adjacent to the rail line. An evaluation of each site follows. The potential to purchase the sites other than the selected site has not been investigated.

Site 1-100 Duchaine Boulevard, New Bedford:

This is the site that was selected for development. The site is approximately 71 acres zoned Industrial C with assessor's parcel ID 133-15. The site meets all of the siting criteria established by the MassDEP for siting a solid waste facility. The site has the space and buffer space necessary to meet the solid waste handling facility permitting requirements and has the space necessary to construct a rail sidetrack of sufficient length to provide the rail service required.

The site is located in the Industrial Park and traffic to the site has good access via Route 140. This is the selected site.

Site 2-1080 Shawmut Avenue, New Bedford:

This is a 3.6-acre site zoned Industrial B with assessor's parcel ID 123-20. A cursory review of this site indicates that the site meets all of the siting criteria established by MassDEP for siting a solid waste facility. The site abuts the existing rail line. It is expected that the project, when operating at full capacity, would fill 15 rail cars per day. Preliminary layouts for the facility at this location indicate that the site size is insufficient to include a 60,000-sf building and a rail sidetrack sufficient to fill 15 rail cars per day. As such, this site is deemed insufficient in size for the project proposed by the Proponent.

Site 3-781 Church Street, New Bedford:

This site is a 21.86-acre site zoned Industrial C with assessor's parcel ID 129-41. The site abuts the existing rail line. A cursory review of this site indicates that the site meets all of the siting criteria

established by MassDEP for siting a solid waste facility. The project is somewhat constrained by wetlands but sufficient land is available for an enclosed handling building and a sidetrack capable of handling and filling 15 rail cars per day.

Access to the site requires truck traffic to pass numerous residential homes and the New Bedford Vocational Technical High School. This traffic situation is likely to be considered a nuisance and/or public safety condition and as such may not meet the MassDEP criterial for a solid waste facility. As such, this site was not considered a viable site for the proposed project.

The following rationale was taken into consideration while selecting the subject site.

1. The project is being constructed on a previously disturbed and largely abandoned site in an industrial zone.
2. Project is maximizing the use of existing infrastructure, including access roads and buildings.
3. The project is filling a need for recycling of deposit system glass bottles.
4. The project is providing a solution for the lack of landfill disposal options within the state by providing a rail alternative that will provide access to out of state disposal options.
5. Reduction in greenhouse gas emissions based on the use of rail for out bound waste shipment
6. Compliance with Massachusetts Stormwater Management Policy
7. Compliance with Solid Waste Management Regulations including waste ban regulations
8. Potential nuisance conditions (odor, noise, traffic, emissions) have been evaluated in detail and mitigation measures have been incorporated, as necessary.
9. The site was of sufficient size to allow the development of solar power to offset the proposed project's greenhouse gas emissions.
10. The facility location allowed for development with limited visibility from residential areas.
11. Note that the Proponent has not accounted for the GHG offsets associated with the on-site recycling activities. As such, all calculations associated with GHG reduction measures are very conservative.

Solid waste projects must comply with regulations at 310 CMR 16.00. These regulations establish criteria for siting solid waste facilities. The regulations were established for the protection of public health, safety and the environment. The sites have been evaluated based on these solid waste regulations. The preferred alternative best meets the siting requirements.

2.9 Planning Consistency

The project is designed to utilize existing site infrastructure to the greatest extent possible. This includes using existing access roads, existing parking areas, existing stormwater management features and existing water and sewer connections. Proposed project elements have been located in areas that

are currently impervious, where possible. Depictions of existing project features and areas of land alteration are included in the site plans presented within this section and within Exhibits 6 and 7.

The proposed project meets the goals of the Massachusetts Solid Waste Master Plan in several ways. The Master Plan states that Massachusetts landfill capacity is declining as landfills are closed and are not replaced. Waste disposal in Massachusetts landfills was approximately two million tons in 2010. This has decreased to approximately 600,000 tons in 2020. The Master Plan identifies increasing export of waste to disposal facilities in other states as a means of making up for the loss of landfill capacity, although waste reduction and recycling is the primary goal. Construction of a rail component for the MSW/C&D make out of state disposal a viable option, especially for a state that will rely significantly on out of state exportation as a means to satisfy the Commonwealth's disposal needs.

One of the 2030 Solid Master Plan goals for 2030 is to reduce disposal by 1.7 million tons annually from a 2018 baseline of 5.7 million tons to 4.0 million tons by 2030, a 30 percent reduction in tons disposed. It is expected that this reduction will eventually happen through a combination of source reduction, material reuse, recycling, composting and using source separated materials as fuels or other beneficial uses. Construction of a state-of-the-art MSW processing facility will increase recycling by allowing the removal of recyclable material from MSW that would otherwise be sent out for disposal to be managed here. This is one of the first facilities to attempt this in Massachusetts.

The project complies with the New Bedford Master Plan in at least two areas. One of the goals and objectives in the transportation section of the Master Plan is to enhance the city's freight service by utilization of rail infrastructure. The addition of a rail sidetrack off of the existing main rail line allows this rail line to be used for local freight loading and unloading.

The New Bedford Master Plan encourages development of business park sites to increase and stabilize the commercial tax base and create jobs.

The Southeast Regional Planning and Economic Development District (SRPEDD) issued the Regional Land Use: Roles, Policies and Plan Outline for Southeastern Massachusetts in June 1996. New Bedford is within the area included in the report. The document includes a number of policies related to development in the study area. The policy that relates to the proposed project states that "SRPEDD prefers development in areas supported by underutilized infrastructure including land and buildings, transportation facilities, water and sewer and drainage facilities, etc. (For example, redevelopment of an existing site for an industrial use is preferred land use to conversion of farmland for industrial use.)" As described in this DEIR, the proposed project is located at the former Polaroid Manufacturing facility and the proposed project is utilizing the existing infrastructure to the maximum extent feasible.

2.10 Statutory and Regulatory Standards

The project will require state and local permits and approvals for construction and operation of the proposed facility. A listing of the required permits and the permit status for each project phase follows.

2.10.1 Phase 1 Permitting

The Final Record of Decision issued by MEPA allowed Phase 1 of the proposed project to proceed prior to the acceptance of the NPC-SFEIR. Construction of the glass processing building was completed in February 2020. Permitting for the other elements of the Phase 1 project has been completed as indicated in the Phase 1 Permit Status Table 2-1 shown below.

Table 2-1, Phase 1 Permit Status

Permitting Agency	Permit Required	Status
State Agency		
MEPA	EENF	Secretaries Certificate issued April 12, 2019
MEPA	Phase 1 Waiver	Final Record of Decision May 15, 2019
New Bedford Agency		
Planning Board	Amended Site Plan	Issued December 23, 2020
Conservation Commission	Order of Conditions	Issued July 30, 2020 (Included as Exhibit 8)

2.10.2 Phase 2 Permitting

Phase 2 of the project development will require permits in addition to the permits received for the Phase 1 project. Phase 2 permit applications for MassDEP permits will be submitted after the MEPA process has been completed associated with the acceptance of the NPC-SFEIR. City of New Bedford permit applications will be submitted after receipt of Site Suitability approval from MassDEP. The permit requirements for Phase 2 are listed on the following page.

Table 2-1, Phase 2 Permit Status

Permitting Agency	Permit Required	Status
State Agency		
MEPA	EENF	Secretaries Certificate issued April 12, 2019
MEPA	DEIR	Secretaries Certificate issued Jan. 20, 2020
MEPA	FEIR	Secretaries Certificate issued April 2, 2020
MEPA	NPC-SFEIR	Public review and comment in progress
MassDEP, Solid Waste	Site Suitability	Permit application after a Certificate is received for the NPC-SFEIR
MassDEP, Solid Waste	Auth. to Construct	Permit application after Site Assignment
MassDEP, Solid Waste	Auth. to Operate	Permit after completion of construction
MassDEP, Air Section	Limited Plan Approval	Originally anticipated but not necessarily due to the removal of the biosolids facility
New Bedford Agency		
Board of Health	Site Assignment	Application/hearing after MassDEP Site Suitability
Planning Board	Site Plan Approval	Application after Site Assignment (concurrent with MassDEP ATC)
Conservation Commission	Order of Conditions	Application after Site Assignment (concurrent with MassDEP ATC)

2.11 Assessment of Impacts

The project has been sited and designed to meet the requirements of 310 CMR 16.00. These regulations were promulgated to minimize impacts to the environment and the public from solid waste projects. Potential impacts from the proposed facility have been addressed in the EENF, DEIR, FEIR and in this NPC-SFEIR. Potential impacts due to traffic, noise, and greenhouse gas emissions are addressed in separate sections of this document pursuant to the "S-FEIR" scope.

2.12 Mitigation Measures

The Secretary's Certificate on the FEIR requires additional analysis of the project's impacts and mitigation measures to satisfy the MEPA requirements that the project's environmental impacts are clearly described and fully analyzed and that the Proponent has incorporated all feasible means to avoid damage to the environment. Potential nuisance conditions including traffic, noise, emissions and wetland impacts have been evaluated in further detail and both administrative and engineering mitigation measures have been incorporated, as necessary.

Pursuant to the FEIR Certificate, this NPC-SFEIR contains a draft Section 61 Findings in Section 8.0 that include a detailed list of all mitigation commitments. The Section 61 Findings have been included to provide State Agencies assistance in the permitting process and issuance of final Section 61

Findings. The sections that follow include additional analysis where required to support the Draft 61 Findings presented in Section 8.0.

3.0 Environmental Justice (EJ)

3.1 MEPA EJ Scope

This section of the NPC-SFEIR addresses the scope set forth in the FEIR Certificate. The scope is listed below:

The Proponent should continue its public outreach efforts prior to filing the Supplemental FEIR. The Supplemental FEIR should include a draft of the Public Involvement Plan (PIP) that will be required by MassDEP in its solid waste permitting process. The PIP should address recommendations for public outreach and information efforts identified in MassDEP's comment letter and the measures listed below:

- Distribution of fact sheets and comment cards with pre-paid postage;
- Public meetings within the community with interpreter services;
- Advertisement of public meetings on radio, social media, and newspapers including The Standard Times, Portuguese Times, and New Bedford Guide;
- Outreach to EJ leaders, community leaders and municipal officials; and,
- Distribution of project-related air pollution and environmental impact information written in clear, non-technical language and translated as necessary.

The Supplemental FEIR should address how the Proponent will encourage the public to submit complaints in a confidential manner and how the complaint log and air quality data will be made available to the public in a convenient manner. It should provide a review of the analysis of the project's air emissions and baseline public health data written in non-technical language. Additionally, as noted above in the Solid Waste section, the Supplemental FEIR should include information and analyses that addresses impacts from other solid waste facilities in the area in order to provide context for the analyses in this Scope. This is addressed in Section 4.0 of this NPC-SFEIR

Please note that the Scope requested that a PIP be prepared as part of this filing. Subsequent to the issuance of the FEIR Certificate, MassDEP clarified with EOEEA that the PIP is a plan and course of action that the MassDEP will undertake during future permitting endeavors such as the Site Suitability Application (BWP SW-01). As such, GSE will address the measure that will be taken by the Proponent identified in the scope above and as identified by MassDEP but not prepare a draft PIP as was stated in the FEIR Certificate.

3.2 Public Outreach Overview

The Proponent submitted a Final Environmental Impact Report (FEIR) on January 21, 2021, notice of which was published in *The Standard Times*, *El Planeta*, and the *Portuguese Times*. On April 2, 2021. As identified in the NPC-SFEIR, the Secretary of Energy and Environmental Affairs issued a FEIR Certificate, which requested the preparation of a NPC-SFEIR.

To date, the Proponent has worked diligently to educate the community on plans for the Proponent's proposed solid waste handling facility, a 71-acre site at 100 Duchaine Boulevard in the New Bedford Business Park. The Proponent has conducted an extensive community outreach campaign that is ongoing. The Proponent's community outreach team has knocked on 1,390 doors, providing residents with fact sheets and comment cards and promoted the public to ask questions and provide feedback on the project. Additionally, the Proponent representatives have made 21,571 personal phone calls to identify potential concerns and share details with the community; organized and held 24 meetings with key business stakeholders in the community and local vendors; and hosted three open houses, two public meetings, as well as virtual meetings.

As part of the notification and outreach process, the Proponent has notified the following agencies during the ENF, DEIR and FEIR process:

- Executive Office of Energy and Environmental Affairs
- Massachusetts Department of Environmental Protection
- DEP / Southeast Regional Office
- Massachusetts Department of Transportation
- Massachusetts DOT District #5 Office
- Massachusetts Historical Commission
- Southeastern Regional Planning and Economic Development District
- City of New Bedford
- New Bedford City Council
- New Bedford Department of Planning, Housing and Community Development
- New Bedford Conservation Commission
- City of New Bedford Health Department
- Natural Heritage and Endangered Species Program
- Department of Public Health
- Energy Facilities Sitting Board
- Department of Energy Resources
- Massachusetts Bay Transit Authority
- Superintendent of Wastewater
- The Proponent also notified the following representatives of environmental justice groups as recommended by MEPA and/or as required based on the fact that comments were received during the MEPA processes:
- Coalition for Social Justice, Deb Faustino
- Coalition for Social Justice, Marlene Pollock
- Hands Across the River Coalition, Karen Vilandry
- Old Bedford Village, John "Buddy" Andrade
- Alternative for Community & Environment, Dwaign Tyndal
- Toxics Action Center, Sylvia Broude, executive director

- Environment Massachusetts, Ben Hellerstein
- Clean Water Action, Cindy Luppi
- Sierra Club MA, Deb Pasternak
- Neighbor to Neighbor, Elvis Mendez
- Appalachian Mountain Club, Heather Clish
- Mass Audubon, Heidi Ricci
- Mass Rivers Alliance, Julia Blatt
- The Trust for Public Land, Kelly Boling
- Browning the Green Space, Kerry Bowie
- Environmental League of MA, Nancy Goodman
- E4TheFuture, Pat Stanton
- Ocean River Institute, Rob Moir
- Mass Land Trust Coalition, Robb Johnson
- Mass Climate Action Network (MCAN), Sarah Dooling
- Conservation Law Foundation, Amy Laura Cahn, senior attorney
- Conservation Law Foundation, Staci Rubin, senior attorney
- Community Action Works, Sylvia Broude
- Unitarian Universalist Mass Action Network, Tali Smookler
- Healthcare without Harm, Winston Vaughan

The Proponent prioritizes being a good neighbor and has gone door-to-door with fact sheets and comment cards with pre-paid postage to receive community input on the proposed site. The Proponent's community outreach team has personally knocked on a total of 1,390 doors. Residents were offered/provided a comment card and a project fact sheet - and have been given opportunities to learn more about the project. The Pine Hill Acres neighborhood, which consists of 360 homes, received a second visit from the Proponent representatives, as it is closest to the new site. The Proponent representatives also have visited the 75 closest homes to their former site at 969 Shawmut Avenue and an additional 54 homes throughout New Bedford to educate the community about their plans for 100 Duchaine Boulevard and assess if the neighbors have had any complaints over the past 11 years at their former location.

To this date, the Proponent has received 14 comment cards concerning the project and responded to all that had an address listed for return.

The Proponent works diligently with residents who have doubts or concerns about the project by providing educational materials and making representatives available to discuss any questions. The Proponent's community outreach team met many residents at their door and addressed misinformation and technical questions about the project. The Proponentalso updates the project website to provide additional information, including PowerPoint presentations, site renderings, site plans, state filings, and contact information to learn more.

Community Meetings

Since the inception of the permitting phases, the Proponent has offered multiple meeting opportunities to discuss plans for the New Bedford Facility and address community members' questions and concerns. The goal from the beginning was to be transparent with everyone in the community.

In the initial outreach efforts, the Proponent determined that roughly 57% of New Bedford residents were either undecided or had not heard about the project, 24% of residents were in favor of the project, and 19% were opposed to the project. The Proponent sought to educate as many members of the public as possible through direct mail, phone calls, and community meetings.

On March 18, 2019, the Proponent presented a development overview for the mayor's office. The mayor and city council were notified of upcoming meetings and critical dates throughout the project.

The Proponent has conducted over 24 visits to or meetings with business stakeholders in the community and local vendors. The meetings were a way for the Proponent to create an open dialog with neighbors and concerned resident and discuss the project facts with other members of the New Bedford Business Park.

On April 29, 2019, the Proponent held a public meeting at the Pulaski School. Approximately 150 people attended. This meeting was advertised on radio, Facebook, and in The Standard Times on multiple publication dates. The Proponent presented a detailed power point that addressed misinformation, the project history and the relocation to the new facility, the proposed site layout, MSW processing, glass processing, biosolid processing, the facility's use of solar energy, MassDEP siting criteria, and information on nearby facilities.

On July 24, 2019, the Proponent hosted its future neighbors in the New Bedford Business Park for a community meeting. Every company received notices via email in advance of the meeting and five individuals attended. Greg Wirsen, the Proponent's lead project manager, was present to answer any questions attendees may have had about the project. In attendance were Tim Cusson, vice president of business development for the Proponent; Chris Koczela, principal, Fort Point Strategies; Chris Farland, Farland Corp.; Derek Santos, executive director of the New Bedford Economic Development Council; and representatives from companies in New Bedford Business Park.

On October 13, 2019, the Proponent helped sponsor New Bedford Seaport Chowder Fest and connected with hundreds of community members. Chowder Fest was an opportunity to educate other areas of New Bedford about the Proponent, and the Proponent found little resistance to the project. The Proponent also had a full-page ad in the event brochure and a banner in front of the stage.

The Proponent's community outreach efforts hosted open houses on January 2 and 3, 2020 at 100 Duchaine Boulevard. Approximately six residents attended each open house and shared the same concerns: odor, noise, and traffic. Paul Pacheco, vice chairman of the Conservation Commission, attended the second open house.

The Proponent hosted two public meetings on January 6 and 7, 2020. Attendees who RSVP'd for the meetings were asked if they needed a translator to ensure everyone could understand the topics

discussed in the meeting. In advance, the community outreach team reached out to key environmental justice community groups and group leaders identified by MEPA to find a convenient location and time, including Coalition for Social Justice, Hands Across the River Coalition, Old Bedford Village, Alternative for Community & Environment, the executive director of the Toxics Action Center, Conservation Law Foundation, Conservation Law Foundation, and Coalition for Social Justice.

Public meetings were advertised on the website, www.parallelproductssustainability.com ; social media; *The Standard Times*, *Portuguese Times*, *New Bedford Guide*, and WBSM 1420. At the meetings, attendees listened to the Proponent's engineers and experts present their plans and results from their various studies. The Proponent has continually committed to answering all questions from the community.

Public meetings were held at the Vocational Technical High School, 1121 Ashley Blvd. The Proponent presented on all aspects of the project, including: the site location, site zoning, the phases of the proposed project development, the MEPA process, visuals of the proposed facility, permitting, its use of solar energy, MSW processing, biosolid processing, MassDEP siting criteria, and studies conducted. Turnout for the meetings was minimal with roughly 12 people attending each meeting. The Proponent answered questions written on comment cards that were handed out at the beginning of the meeting and took live questions from audience members. A microphone was provided to ensure questions and answers could be heard by other audience members. The questions were typical - mostly regarding noise, odor, and traffic. Representative Christopher Hendricks, 11th Bristol District; Representative Paul Schmid's legislative aide, 8th Bristol District; Councilman William Markey, Ward 1; the New Bedford Planning Director Jennifer Carloni, and MEPA Assistant Director Page Czepiga were in attendance.

Questions and answers during the community meetings were posted on the parallelproductsustainability.com website.

On Jan 7, 2020, the Proponent held a public outreach event at the Vocational Technical High School. The event was televised on a local cable network.

On March 18, 2020, the Proponent scheduled a meeting with David Slutz and the Chamber of Commerce. The meeting was cancelled due to the growing emergency of COVID-19. Subsequent community outreach activities and plans had to be changed to stay compliant with CDC guidelines on COVID-19 protocols.

The Proponent hosted two virtual Community Meetings on December 14 and 16, 2020. The meetings were advertised on the website, social media, and in *The Standard Time*s, *Portuguese Times*, *New Bedford Guide*, and WBSM 1420 for the two weeks leading up to the meetings. Roughly 3 to 7 people attended the virtual meetings. At the meetings, the Proponent provided attendees with an update on the South Coast Green Energy Center and allowed attendees to ask questions.

The Proponent's community outreach also met with the former manager of the business park, Liz Isherwood, and Tony Sapienza, President of the New Bedford Regeneration Committee. The meetings

were insightful, identifying additional individuals and local stakeholders the Proponent outreach could meet with to discuss the project.

When COVID-19 impacted the opportunity to discuss the project in person, the Proponent began hosting virtual meetings with the other companies in the business park on April 7, 2021. Roughly twenty people attended the meeting. The meeting was structured similarly to the community meetings, with the Proponent providing a presentation and update on the project and the approval process, and then opening it up for a roundtable discussion and answering questions from business park neighbors. The Proponent also sent a letter to the Mayor and City Council of New Bedford requesting a meeting to update the city on project plans and work together to ensure the project benefitted everyone.

Additional community meetings were held on May 5 and 6, 2021. At the May 5 meeting, 30 people attended, including three council members and representatives from Rep. Hendrick's and Rep. Schmid's offices. At the meeting, the Proponent presented and answered questions from residents who were strongly opposed to the project.

The Proponent hosted another community meeting on June 17 and 18, 2021, with 12 attendees. The meeting lasted roughly one hour and the Proponent answered questions from Councilman Markey and a local resident. Many in attendance online were MassDEP or MEPA representatives.

Next Steps - Addressing Public Concerns

The Proponent plans to host additional public meetings with interpreter services over the next several months into the new year. Everyone in attendance at community meetings will receive information sheets and comment cards with pre-paid postage, and the meetings will be advertised on the radio, social media, and in multiple newspapers, including *The Standard Times* and *Portuguese Times*. Contact information will be given to all in attendance so that residents may look through the Proponent's project website or call or mail the Proponent's office with concerns. Comments from residents will be included in a summary along with associated responses to comments. These summaries will be made available to MEPA and MassDEP.

The Proponent plans to continue outreach to the recommended environmental justice leaders, community leaders, and municipal officials. Project-related information, including air pollution and environmental impact information, will be available to anyone who requests it and is summarized in this section of the NPC-SFEIR as well.

As future meetings are scheduled, the Proponent will follow CDC guidance on COVID-19 protocols and will weigh how a virtual format could impact public participation with additional consideration to residents who may not have access to a computer or broadband internet. While COVID-19 makes communicating face to face more difficult, the Proponent has outlined a strategy to continue to provide regular project updates and information about the site.

The next two community outreach meeting will be held on August 3 and September 21, 2022 at 6:30 PM. These meetings are presently planned to be remote (e.g. Zoom)

Direct Mail

In the future, the Proponent will engage with residents via direct mail. Additionally, all past respondents (primarily form letters) with be notified as part of the NPC-SFEIR MEPA process. Based on studies conducted during COVID-19, individuals are paying more attention to their mail and consider it the most reliable source of information. The Proponent may send photographs, the website, information sheets, and other key details to keep neighbors informed of project updates.

Phone Program

The Proponent will also utilize a phone program to stay in touch with and educate the community. Calls can include providing information about upcoming virtual, or in-person community meetings, or to answer questions individuals may have about the project after receiving an informational mail piece. Residents may also call 1 (508)-884-5100 to ask questions about the project.

3.3 Complaint Logs and Data Availability

The Proponent will encourage the public to submit complaints in a confidential manner and will provide the complaint log and air quality data to the public in an easily accessible manner (the complaint log and air quality data will be updated and made available on the Proponent's website - https://parallelproductssustainability.com/

The Proponent has prepared a system to log potential odor, noise, and dust complaints associated with operation of the facility which will be provided to MassDEP and the New Bedford Board of Health. A draft of the complaint log is provided at the end of this section. Response measures and mitigation actions that will be implemented will be as follows:

1. Log complaint and concurrent weather and operating conditions
2. Independently confirm complaint by on-site and/or offsite observation, to the extent possible
3. Identify any immediate mitigation measures available and implement them
4. Conduct a root-cause analysis and review Best Management Practice (BMP), Standard Operating Procedure (SOP), and Preventative Maintenance (PM) documentation to determine if modifications are needed
5. Respond to complainant with a report of actions taken

Once Phase 2 construction begins, the Proponent will have a complaint log system set up on their website. This system will:

1. Allow individuals to lodge a complaint (by name or anomalously)
2. Allow the public to view past complaints, if any.
3. Allow public to review any mitigative measures that the Proponent has and/or will take with respect to any particular complaint.

Parallel Products - Complaint Logging Sheet

Date: _____ Time: _____

Complainant Name: _____

Complainant Address: _____

Logged by (PPNE Staff Initials): _____ Complaint Type: ☐Dust ☐Noise ☐Odor

Wind Speed (MPH): _____ Wind Direction: _____

Temperature (F): _____ Relative Humidity: _____

Complaint Details:

Concurrent Operations Information:

Follow-Up:

3.4 Air Emissions Monitoring & Documentation

Regarding details of air quality parameters to be monitored, the Proponent will track monthly mass rates of air emissions for the preceding month, by the 15th of each month, by populating a 12-month rolling tracking Excel workbook with the operational activity rates (tons per month of glass processed, MSW, and Category 2 – C&D tipped and handled. The operational activity rates will be tracked for the non-exempt stationary sources. The tracking workbook will multiply the activity rates by the air emission factors (mass per unit processed) to obtain the tons per month of the following regulated pollutants: Volatile Organic Compounds (VOCs) and Particulate Matter of 10 microns or less (PM10).

It should be noted that VOCs are representative of process emissions from the biosolids processing, which is no longer proposed; and PM10 is representative of process emissions from MSW tipping and processing and from glass recycling. PM10 emissions are conservative and are inclusive of PM2.5 emissions, such that PM2.5 emissions will not need to be additionally tracked. MassDEP does not require tracking of de minimis combustion sources, mobile sources, and exempt sources at any facility, and accordingly as appropriate for the Proponent emission sources, tracking of the emissions of the small combustion sources and mobile sources is not included.

The tracking workbook will be retained on-site for inspection by MassDEP. If MassDEP requests a copy of the up-to-date workbook at any time, the Proponent will provide a copy to the MassDEP. The Proponent will also make the tracking workbook available to the public on the Proponent's website.

Because air dispersion modeling for the project was conducted with worst-case, maximum activity rates and because actual activity rates will be at or below those already modeled, there is no value in or requirement for ongoing modeling of cumulative concentrations of contaminants. Furthermore, air quality concentration thresholds (both federal for criteria pollutants and state for air toxics) used in the modeling analyses are developed to protect the most sensitive populations (receptors). The combination of the concentration thresholds and the modeling methodologies (i.e., use of ambient background conditions for criteria pollutant modeling and use of safety factors for air toxics thresholds) account also for cumulative effects of exposure to criteria and air toxics pollutants.

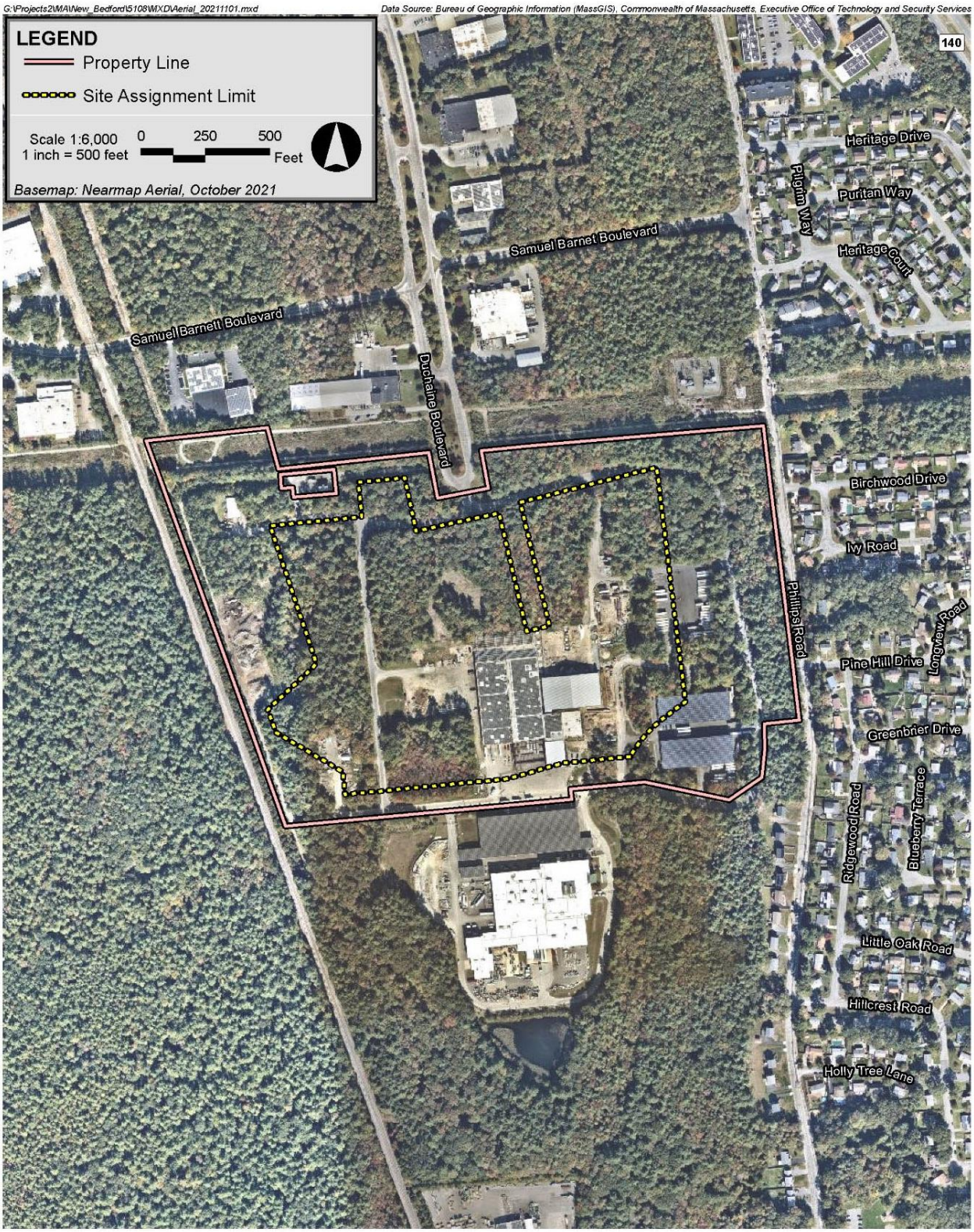
Regarding analysis of air quality impacts under future climate conditions, potential project impacts are within the bounds of the results of the air and odor analysis presented as Attachment 14 to the DEIR. This analysis describes the computer air dispersion modeling that was used to predict ambient air concentrations, stating that the model uses five years of hourly weather data to predict ambient air concentrations in all weather conditions. The use of five years of hourly weather data follows the EPA-prescribed methods "to ensure that worst-case meteorological conditions are adequately represented in the model results" (40 CFR 51 Appendix W 8.4.2.e.).

3.5 Air Emissions Summary

As part of the NPC-SFEIR Scope, the Proponent was to prepare a review of the potential air emissions impacts written in non-technical language. Note that a "fact sheet" has been prepared and this section provides an overall summary of the prepared fact sheet. Please refer to Exhibit 11 for a copy of the fact sheet.

The Proponent is proposing a project that is subject to Massachusetts Environmental Policy Act (MEPA) review for a new solid waste handling facility located in an environmental justice community. This fact sheet describes the Proponent project, the baseline health assessment of the communities surrounding the Project as well as air quality impacts from the Proponent project

The 71-acre Proponent project is located within the New Bedford Industrial Park at 100 Duchaine Boulevard (see Figure 3-1 below). The Project site was previously developed by Polaroid. The figure depicts the entire parcel [red] and the areas to be site assigned/developed as a solid waste handing facility [yellow]. The site contains access roads, parking areas, and numerous buildings. As noted, the Proponent project is located within an Environmental Justice area and is required to prepare an enhanced analysis of impacts and facilitate enhanced public participation. The Proponent no longer proposes any biosolids drying operations. The removal of this portion of the project reduces on-site emissions by 50%.



Parallel Products **New Bedford, Massachusetts**

As part of the Proponent MEPA filing for the Project an enhanced analysis of impacts was prepared and submitted during past MEPA submittals (specifically within the DEIR).

What is an enhanced analysis of impacts?

An enhanced analysis of impacts requires the Project to describe the existing baseline health of areas within one mile of the Project and requires an analysis of multiple air pollutants and a description of measures to reduce impacts proposed by the Project.

The existing baseline health of areas within one mile of the Project was described in MEPA filings for the following diseases:

- Pediatric Asthma (by school)
- Asthma Emergency Room (ER) visits
- Asthma Hospitalizations
- Cancer
- Chronic Obstructive Pulmonary Disease (COPD) ER Visits
- COPD Hospitalizations
- Acute Myocardial Infarctions Hospitalizations

The rate of disease in areas within 1 mile of the Proponent project were compared to statewide rates to assess whether these areas experience a higher rate of disease. Broadly, the baseline health analysis in the MEPA filings indicate that New Bedford has a higher rate of disease when compared to statewide rates.

How could the Proponent project impact me?

Operation of the Proponent project will release some limited amounts of air pollution from its proposed operations (primarily dust and exhaust emissions). Traffic traveling to and from the proposed facility will generate air pollution. The glass processing releases dust during the processing of the glass and air pollution from heating the building.

The processing of MSW and handling of C&D can release dust, odor, and air pollution from the equipment used to process the material. An example would be the use of equipment such as front-end loaders.

Emissions from stationary sources are below permitting thresholds, and total emissions are less than one-tenth of one percent of county-wide emissions.

The Proponent MEPA filings includes an analysis of the potential impacts of the air emissions. Emissions from the Proponent project were analyzed using an Environmental Protection Agency (EPA)-approved computer model to show what the air impacts could be from the Project under any weather condition and taking into consideration the surrounding topography.

Air modeling results are compared to EPA and Massachusetts Department of Environmental Protection (MassDEP) health-protective standards. For odor, model results are compared to a threshold/concentration that is unlikely to cause an off-site nuisance odor condition. The predicted air

pollutant and odor concentrations have been shown to comply with the EPA and Massachusetts standards, and to comply with the protective odor dilution threshold at the off-site residential receptors.

As a comparison for perspective, the additional particulate matter (dust) from year-long exposure to the worst-case impact would be equivalent to spending an additional 90 minutes in highway traffic, or 30 minutes in a kitchen cooking with a gas stove. Impacts at the nearest home will be much lower and would be equivalent to spending 20 minutes in highway traffic or 7 minutes in a kitchen cooking with a gas stove.

What is the Proponent doing to mitigate its impacts?

The Proponent will control air emissions, including odor, using best available technology and procedures, as follows:

- Dust will be minimized by indoor tipping, processing and handling practices.
- Dust will be mitigated using a high-pressure water misting system, and exhaust vents controlled with fabric filters.
- Exhaust from heaters and handling equipment will be minimized by using cleaner burning fuels (natural gas for heaters, electricity and ultra-low sulfur diesel for handling equipment).
- MSW odor will be minimized through best management practices to minimize decomposition on-site, including handling inside buildings, daily cleanup and sweeping, and following first in/first out procedures to minimize the time MSW spends on-site.

4.0 Solid Waste and PFAS

4.1 Introduction and Scope

The following section has been prepared to address the "MEPA Scope" as it is related to solid waste. The MEPA scope is presented below:

"The Solid Waste Site Assignment Regulations (310 CMR 16.00) require MassDEP to determine whether the site is suitable for the proposed facility based on Site Suitability Criteria listed at 310 CMR 16.40. The regulations specify that a determination that the site is suitable for the proposed solid waste management facility include an evaluation of whether the impacts of the facility "by itself, or in combination with impacts from other sources within the affected area, constitute a danger to public health or safety or the environment." The information and analyses related to MassDEP's evaluation of site suitability provided in the Supplemental FEIR, including those addressing noise and traffic, should address this standard to the extent possible. To assist in characterizing impacts from other sources, the Supplemental FEIR should identify existing solid waste facilities, including those identified in the City's comment letter, describe how they are clustered geographically, and summarize the authorized operation and capacity of the facilities. The Supplemental FEIR should evaluate on-site and offsite measures to adequately mitigate environmental impacts. I encourage the Proponent to consult with MassDEP and the MEPA Office prior to completing these analyses.

The Supplemental FEIR should provide a comprehensive review of potential pathways for discharges of PFAS into air, soil and water resources associated with the biosolids drying process and as a result of any potential uses of the dried biosolids. It should provide a detailed analysis of direct and indirect impacts that may result from emissions of PFAS into the air. According to MassDEP, the solid waste permits may require that the Proponent reduce and monitor PFAS impacts to the environment. The Supplemental FEIR should review potential PFAS reduction measures and monitoring procedures. It should review potential permitting requirements related to the discharge of wastewater into the City's sewer system, including any pre-treatment for removal of PFAS and other pollutants."

A draft of the site suitability permit application was included in the EENF. Also, all of the site suitability criteria as it relates to the proposed project was addressed in detail in the DEIR. This information was provided in the various MEPA documents such that comments by MassDEP and other agency/individuals could be included in the MEPA process. A determination on the suitability of the proposed project at the 100 Duchaine Boulevard site will be determined by MassDEP and the New Bedford Board of Health in permit applications that will be submitted following the conclusion of the MEPA review process.

It should be noted that the MassDEP Solid Waste Section prepared 12 statements/comments as part of their response to the FEIR. Comments 1 through 8 were statements with respect to future permitting processes requirements, public outreach suggestions, and acceptable materials (e.g. Category 2 residuals). GSE and the Proponent acknowledge these future processes (please refer to Exhibit 10 for a copy of the MassDEP letter). MassDEP's comments (Comment 9 and 10) regarding sound/noise

will be addressed in Section 5. MassDEP's comments regarding traffic (Comment 11) will be addressed in Section 6. The last solid waste comment (Comment 12) will be covered within this section and was involving PFAS. Additionally, GSE's responses with respect to public outreach and Environmental justice issues raised by the MassDEP and EOEEA are covered within Section 3 of this NPC-SFEIR.

4.2 Solid Waste Facility Cumulative Impacts

In order to characterize impacts from other sources, as requested in the FEIR Certificate, the following Table 4-1 presents the other identified solid waste facilities in proximity to the Site. The Facilities listed are those referenced in the City of Bedford's comment letter (facilities 1-3) as well as the nearby active Crapo Hill Landfill.

Note that the City of New Bedford comment letter makes reference to closed facilities: the BFI-Allied Waste Landfill in Fall River 14 miles away, the Hanford Demolition Dump, the New Bedford Landfill and the Liberty Street Dump as well as Superfund Sites, Sullivans Ledge and New Bedford Harbor (PCB discharge). As these facilities are closed and not operational, cumulative impacts of these facilities and the proposed transfer station cannot be compared and assessed for truck traffic, noise, dust, diesel emissions, safety concerns, or odors. The landfills and superfund sites where waste is actually buried on-site cannot be compared to a transfer station where waste is handled inside and removed from the site (no waste deposition occurs) in terms of landfill gas and contaminant migration.

Table 4-1, Summary of Facilities in Proximity to the Site

Facility	Facility 1	Facility 2	Facility 3	Facility 4
	New Bedford City Transfer Station	*New Bedford Waste Services*	*New Bedford Landfill*	*Crapo Landfill Dartmouth*
Address	1103 Shawmut Avenue	1245 Shawmut Avenue	1103 Shawmut Avenue	300 Samuel Barnet Blvd
Distance to Site	~3.6 miles to S	~3.4 miles to S	~3.6 miles to S	~1.5 miles to NW
Capacity (TPD)	274	1,500	Closed	425
Property Size (acres)	6 [1]	6.55[2]	37.35 [1]	152[3]
Hours of Operation	M,W,F 12pm-5pm; Sa 7:30am-3pm	M-Sa 8am-6pm with allowed 24-hour/day	N/A- Closed	M-F 7:15am-3:15pm; Sa 8am-11am
Annual Days Open[4]	312	281	0	287
Materials Accepted	Recyclables	C&D/MSW	N/A- Closed	MSW and C&D residuals

Notes:

1. Per New Bedford Assessors, Parcel ID's 123-90 and 123-24
2. Per Authorization to Operate (ATO) Permit, July 3, 2012.
3. Per: http://gnbrrmdistrict.org/crapo-hill-landfill/
4. As reported in MassDEPs Master Facility List, updated Jan 2021.

Overview of Other Solid Waste Facilities

New Bedford City Transfer Station

The New Bedford City Transfer Station is a residents-only drop-off recycling center. Materials accepted are general recyclables such as metal, textiles, white goods, bottles, cans, paper, etc. Construction and Demolition (C&D) debris is NOT accepted. MSW is collected curbside by ABC Disposal, which is an affiliate of New Bedford Waste Services (Facility 2). Commercial trucks (roll-offs, packers) do not access this facility to drop-off, but only to pick up consolidated waste for transfer to another larger transfer or processing facility, or for disposal. Only residential vehicles (cars, SUVs, pick-ups) drop-off at this facility. This facility is permitted for 274 tons per day, and 11,622 tons per year.

New Bedford Waste Services

New Bedford Waste Services is a private construction and demolition debris (C&D) processing and handling facility as well as a Municipal Solid Waste (MSW) transfer station. Tipping, consolidation, and processing all occurs inside a building that is equipped with mechanical controls including a misting system to prevent nuisance conditions such as dust and odor, and improve air quality emissions from the building. Operational procedures and other physical controls are also in place to complement mechanical controls and to further control dust, odor, noise, and other nuisance conditions. This facility is permitted for 1,500 tons per day.

Crapo Hill Landfill

The Crapo Hill Landfill is an active landfill permitted for 425 tons per day (TPD) and accepts approximately 100,000 tons per year. The landfill is equipped with an active gas-to-energy methane recovery system operated by Commonwealth New Bedford Energy, LLC, reducing emissions and greenhouse gas. This system creates 3.4 MW of electricity annually. The landfill is operated by the Greater New Bedford Regional Refuse Management District (the District) which is made up of delegates from both New Bedford and Dartmouth as the facility accepts waste from both Towns. The landfill property consists of a 152-acre parcel of land located in Dartmouth abutting the Freetown municipal boundary and in close proximity to the New Bedford City boundary as well. Based upon the District's website[4] the landfill is currently 39 acres in size with 22 acres capped and an expected 70 acres total when at capacity in 2027 (note that MassDEP Master List of Solid Waste Facilities indicates anticipated closure in 2029). The landfills waste stream is approximated to consist of 50% residential MSW from Dartmouth and New Bedford and 50% commercial waste.

The Crapo Hill Landfill also has a permitted anaerobic digestion (AD) facility on-site that is used to manage and divert food waste from landfill disposal in accordance with Massachusetts Waste Bans, 310 CMR 19.017. This AD facility produces biogas which combines with the gas-to-energy recovery system used to manage landfill gas to produce electricity.

[4] www.gnbrrmdistrict.org/crapo-hill-landfill/

The active gas-to-energy methane recovery system provides many benefits related to emissions[5]:

- Efficiently collects, and effectively destroys methane from the landfill and the food waste thereby preventing its emission to the atmosphere; methane has approximately 28 times more impact on global warming than an equal amount of carbon dioxide.
- Controls landfill odors.
- Creates energy that would otherwise be generated from fossil fuels.

New Bedford Landfill

The New Bedford Landfill is a capped and closed landfill located adjacent to the New Bedford City Transfer Station. Based upon MassDEP records, the landfill operated from 1921 to 2000 and was closed in 2006. When last open, the landfill was permitted to accept 500 TPD with the last two years reported at 24,466 tpy and 14,690 tpy. It is unknown if the landfill has an active or passive gas collection system.

Cumulative Impact Assessment

Traffic

Trucks accessing Crapo Hill and the Proponent (the Facility) will use the same Exit 7 off Rt. 140 and Phillips Road. As the Crapo Hill Landfill is expected to close in 2027, and the Proponent may not be fully operational until at least 2023, only a short overlap will occur when both facilities are operational. Traffic studies conducted as part of the MEPA process use traffic counts and real data which factors in the cumulative impacts to traffic with both facilities operating. Projected traffic counts include trucks associated with the Crapo Landfill and therefore overestimate traffic impacts once Crapo Hill Landfill closes. As the report states, mitigation measures are recommended to alleviate impacts from additional traffic. These mitigation measures will effectively negate cumulative impacts.

Vehicles accessing the New Bedford City Transfer Station and New Bedford Waste Services Transfer Station will likely use Rt. 140 but will not use the same exit off Route 140. Additionally, the vast majority of vehicles accessing the City transfer station will be local residents and not trucks.

Noise

The Facility sound assessment indicated that projected sounds from the Facility would raise sound levels at the nearest residential locations by 2-3 decibels (day) and 6-8 decibels (night), at a distance of between 525 and 800-feet between the nearest facility building and the residential modeling receptor location (RES-1 through RES-4, as modeled in August 27, 2019 Sound Level Assessment Report). Updates to the sound assessment performed following removal of the biosolids building and operations from the proposed project, show sounds from the Facility would raise sound levels at the nearest residential locations by 1-3 decibels (day) and 3-7 decibels (night), which is a decrease from previously projected sound level impacts. If this distance and sound impact is applied from other solid waste facilities towards this facility, there are no cumulative impacts as the Crapo Hill Landfill is over 1.5

[5] https://crmcx.com/projects/

miles away, and the other transfer stations are 3.4 miles away and greater. The landfill does not operate overnight, therefore there are no cumulative night sound impacts from the landfill, which is the closest comparison facility. Additionally, the sound study conducted included a real baseline assessment which would detect noise from these additional solid waste sources as well as other sources in the area and factors in cumulative impacts by design. As the modeling results show, sound from the Facility is in compliance with standards and no cumulative sound impacts from other facilities occur due to distance.

Air: Dust, Odor, Emissions

Dust is controlled on-site by both physical measures and best management practices. Physical measures include paved surfaces, atomized misting system in the building to control fugitive dust, handling building enclosure and doors as deemed necessary/appropriate. Best Management Practices (BMPs) include sweeping paved surfaces, handling (unloading, consolidating, baling, and loading) materials inside the enclosed building, and covering trucks and rail cars following appropriate BMPs. The same measures are used at the NBWS transfer station 3.4-miles away. Similarly, dust from the one nearby open landfill, Crapo Hill, is controlled with good housekeeping of paved surfaces, and using a water truck during dusty conditions to keep dust generation down. Generally, nuisance dust is a localized condition if and when not controlled by on-site controls. There are no cumulative impacts from nuisance dust.

Odor is controlled on-site by the Facility misting system (with odor control) and operational best management practices (enclosed building, use of doors, moving materials in a timely manner). Transfer stations are in the business of moving waste in and out quickly such that odors will not accumulate through the process of degradation. The New Bedford City Transfer Station is only permitted to accept recyclables, therefore odors are not a significant concern. The NBWS transfer station is permitted to accept C&D and MSW. The facility appears to have proper environmental controls in place that will not contribute to cumulative impacts. The New Bedford Landfill is closed and capped and not accepting waste. Any landfill gas emitted from passive gas vents will disperse quickly and dilution will eliminate any potential associated odors from carrying far beyond the site. Through dissipation and dilution any emitted odors are highly unlikely to reach the Facility or its immediate receptors over 3+ miles away, and therefore will not contribute to cumulative impacts. Odor is also a localized condition if and when not controlled by on-site measures. The Crapo Hill Landfill is an active landfill that accepts MSW for final disposal and therefore can emit odors. The landfill maintains a 24/7 odor hotline, has numerous operational practices and mechanical treatment in place, and has taken additional measures to reduce and control odors. The active landfill is located 1.5 miles away from the Facility, and is projected to close in 2027[6]. Prevailing winds are generally from the south (as reported by the New Bedford Airport weather station), therefore potential odors emitted from the landfill will be carried by prevailing winds away from the Facility, and since any odors from the Facility will be controlled locally, there are no cumulative impacts from odor.

[6] Per the Greater New Bedford Management District website (http://gnbrrmdistrict.org/crapo-hill-landfill/)

Emissions are reduced from this Facility with the use of rail, as rail is 400% more efficient than trucking. Trucks picking up and dropping off waste are already in the waste shed and attainment area (air-shed). The attainment area, per the December 31, 2021 map (found at: https://www3.epa.gov/airquality/greenbook/map/mapnmpoll.pdf), shows all of Plymouth, Bristol, and Barnstable counties with the same attainment status. This corresponds to the waste shed that is likely to use this Facility. By using rail and reducing the number of miles on the road, the total emissions generated by the trucks in the area are reduced, and therefore does not create cumulative impacts and could be considered an overall reduction in emission impacts in the area. It should also be noted that the biosolids portion of the originally proposed project has since been eliminated. The biosolids project had the most calculated emissions and potential for nuisance odors.

Air quality calculations performed for the Facility equates the annual addition of emissions at the nearest household to spending an additional 7 minutes (annually) in a kitchen cooking with a gas stove. Calculations show air emissions of particulate matter will be less than 0.1 percent of county-wide emissions, which is insignificant even if coupled with the same (although not calculated) emissions from other facilities in the region, using the assumption that similar facilities will have similar emissions.

Conclusions

There are no significant cumulative impacts to air quality, noise, or traffic with the proposed Facility as compared to the other solid waste facilities in the Greater New Bedford Area. Traffic at the Rt. 140 exit and Phillips Road will be mitigated for the period of overlap in which the Proponent will open to full permitted tonnage and the Crapo Hill Landfill will still be in operation and/or in closure construction.

4.3 PFAS

The following statement presents the MassDEP's comment regarding PFAS discharges associated with the proposed biosolids facility. It should be noted that this statement was also paraphrased on the MEPA Scope for this NPC-SFEIR. *"MassDEP has recently promulgated regulations pertaining to the presence of per- and poly-fluoroalkyl substances (PFAS). Other regulations are under development in all programs to minimize human and ecological exposure to PFAS. As part of the Solid Waste permitting process, PPNE will be required to describe what, if any, pathways exist for discharges of PFAS into air, soil and water resources* ***as a result of the biosolids drying process*** *and as a result of any potential uses of the dried biosolids. The permits may require the reduction and monitoring of PFAS impacts to the environment. associated to the proposed biosolids operations."*

Based on the change to the Proponent's project, which eliminates all activities associated with the biosolids drying operations, potential pathways of discharge, exposure, etc. have essentially been eliminated. As such, further assessment of potential exposure pathways and the presentation of defined PFAS reduction measures (air, soil and wastewater) is presently not warranted.

On October 2, 2020, the MassDEP published its PFAS public drinking water standard. The MassDEP, like many State-level regulatory bodies, has yet to promulgate PFAS wastewater standards at the time

of this NPC-SFEIR submission. Please note that the Proponent shall maintain compliance with all current MassDEP industrial wastewater regulations and the promulgation of future PFAS regulations specific to wastewater disposal. It should also be noted that the MSW handling and processing building is enclosed and will have an impervious monolithic slab. The slab will be sloped to capture any wastewater for conveyance into an industrial holding tank or into the City's wastewater system. The Proponent will comply with any monitoring and/or sampling requirements associated with PFAS.

GSE has not identified any air emission concerns associated with PFAS as it relates to the solid waste handling facility since there is no heating or drying of the waste.

5.0 Updated Traffic Impact Study

5.1 Introduction

McMahon Associates, Inc. has reviewed the existing traffic operations and potential traffic impacts associated with the proposed solid waste facility at 100 Duchaine Boulevard in New Bedford, Massachusetts, as shown in Figure 5-1. The purpose of this Updated Traffic Impact Study (Updated TIS) was to re-evaluate existing and projected traffic operational and safety conditions in the vicinity of the site and identify mitigating measures to offset potential project-related traffic impacts on the surrounding roadways, if determined to be necessary based on safety and/or operational conditions. In summary, this study has determined that the proposed project, when developed and operational, will allow for safe and efficient access to and from the facility. A copy of the full report is included as Exhibit 12.

The assessment is based on a review of current traffic volumes and crash data collected for this study, a review of readily accessible traffic analyses, and the anticipated traffic generating characteristics of the proposed development. This study examines existing and projected traffic operations (both with and without the proposed project) at key intersections in the vicinity of the project site. The study area was chosen based on a review of the surrounding roadway network and anticipated traffic generating characteristics of the proposed project. It provides a detailed analysis of traffic operations during the weekday morning, weekday afternoon school dismissal, and weekday afternoon commuter peak hours, when the combination of adjacent roadway volumes and potential traffic increases associated with the project would be greatest.

Based on the analysis presented in this study, McMahon Associates concludes that the projected traffic increases associated with both the background traffic growth and the project-related traffic generated by the proposed facility do not result in a significant impact to the operations of the surrounding roadway network. To mitigate existing congestion at the all-way stop sign controlled Braley Road at Phillips Road/Theodore Rice Boulevard intersection, which meets traffic signal warrants under existing conditions, the Proponent proposes to provide funding for a fully actuated traffic signal subject to approval by the City of New Bedford. In addition, the Proponent proposes to contribute up to $5,000 toward a Heavy Commercial Vehicle Exclusion (HCVE) study should the City of New Bedford choose to pursue a HCVE along Phillips Road between Route 140 and Braley Road.

This report documents the findings and recommendations. It should be noted that these conclusions conservatively assume all inbound and outbound materials will be transported via truck without incorporating alternative modes or methods of waste disposal such as the use of rail and backhauls and does not account for reduction in vehicular trips due to the Transportation Demand Management (TDM) measures proposed by the Proponent described in this study. Additionally, the traffic associated with the biosolids facility has remained in this study although the biosolids component is no longer being proposed. These trips have been moved to the solid waste handling activities so that the trips are similar to what was accounted for in the previous Draft and Final Environmental Impact Reports (DEIR & FEIR) filing.

5.2 Project Description

The project site is bounded by a rail line to the west, Phillips Road to the east with residential neighbourhoods beyond, industrial properties to the north and property owned by Eversource to the south. The project is expected to be completed in two phases. Phase 1 includes the construction of glass processing facilities, construction of 1.9MW of rooftop and canopy solar power installation and the construction of a rail sidetrack to service the site. This portion of the project is partially completed and final completion will occur in early 2022. Phase 2 includes the constructing of a solid waste handling and processing facility that will accept municipal solid waste (MSW) and construction and demolition (C&D) materials for handling at a proposed maximum of 1,500 tons per day (tpd). As noted in the DEIR and FEIR for the proposed project, the site previously proposed to process an additional 400 tpd (wet tons) of biosolids. As mentioned in the introduction above, the biosolids component has since been removed from the proposed expansion. However, the trip generation estimates in this study include vehicle trips associated with the biosolids operation and no use of backhauls or use of rail, consistent with the DEIR and FEIR, in an effort to evaluate impacts with a highly conservative approach.

Access to the proposed site would be provided by one full-access driveway from Duchaine Boulevard, which leads to an internal one-way loop roadway surrounding the proposed facility which also provides access to Eversource, Farland Construction, and the City's wastewater pumping station. To date, Phase 1 of the project is partially completed, with glass processing operations currently taking place at the site, in accordance with a waiver issued on February 20, 2019 as part of the Massachusetts Environmental Policy Act (MEPA) review for this project. Glass beneficiating and the installation of the rail spur is allowed in Phase 1 under the MEPA waiver. All solid waste handling operations (e.g. handling of MSW and C&D) will be implemented in Phase 2.

5.3 Study Methodology

This study re-evaluates existing and projected traffic operations at study area intersections for the weekday morning, weekday afternoon school dismissal, and weekday afternoon commuter peak hour traffic conditions when the combination of adjacent roadway volumes and potential traffic increases associated with the project would be greatest.

The study was conducted in three steps. The first step involved an inventory of existing traffic conditions in the vicinity of the site. As part of this inventory, traffic counts were collected at key intersections during the weekday morning and weekday afternoon peak periods and adjusted to reflect the Base 2021 conditions prior to the completion of Phase 1 of the project, and to reflect the Existing 2021 conditions with Phase 1 included. Crash data was obtained from the Massachusetts Department of Transportation (MassDOT) to evaluate existing safety conditions within the study area.

The second step of the study builds upon data collected in the first phase and establishes the basis for evaluating the transportation impacts associated with future conditions. In this step, the Existing 2021 traffic volumes were projected to 2028 No Build (without Phase 2 of the project) conditions and 2028 Build (with Phase 2 of the project) conditions. In this phase, the projected traffic demands of other

future developments that could influence traffic volumes at the study area intersections were also assessed.

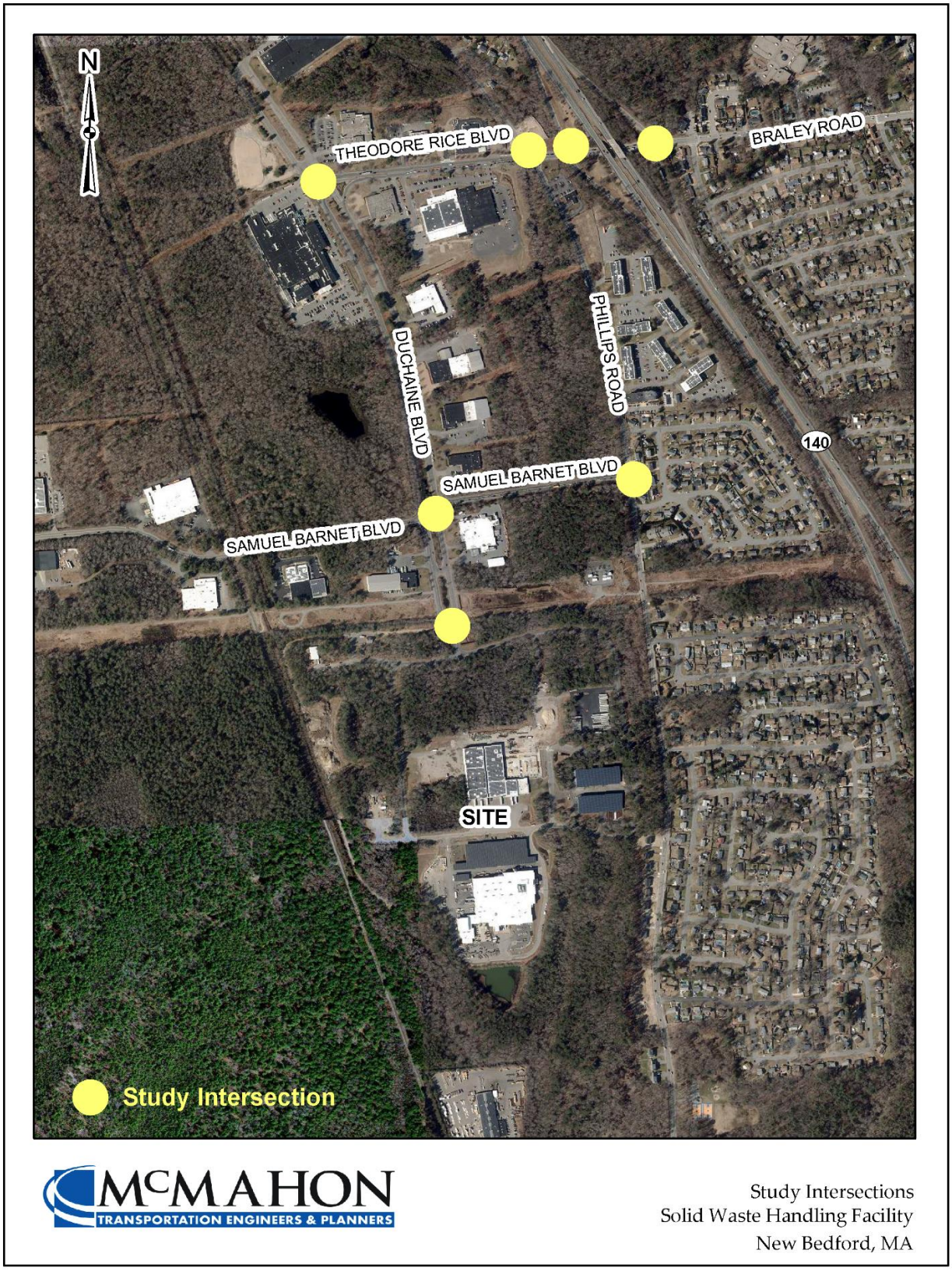
The final step identifies measures, if necessary, to improve existing and future traffic operations and safety, minimize potential traffic impacts, and provide safe and efficient access to the project site.

Study Area Intersections

The area identified for detailed analysis in this study was determined based on a review of the anticipated traffic generating characteristics of the proposed project and a review of the surrounding roadway network serving the project site. The study area intersections include the following:

- Route 140 Northbound on/off-ramp at Braley Road
- Route 140 Southbound on/off-ramp at Braley Road
- Braley Road/Theodore Rice Boulevard at Phillips Road
- Theodore Rice Boulevard at Duchaine Boulevard
- Duchaine Boulevard at Samuel Barnet Boulevard
- Phillips Road at Samuel Barnet Boulevard
- Duchaine Boulevard at Site Driveway

Figure 5-1, Study Area



5.4 Existing Conditions

Effective evaluation of potential traffic impacts associated with the proposed development requires a thorough understanding of the existing traffic conditions on the roadways and intersections serving the project site. The assessment of existing conditions consists of an inventory of the roadway and intersection geometries including off-ramps and traffic control devices, collection of peak-period traffic volumes, and a review of recent crash history. A discussion of this information is presented below.

Roadway Network

The project site benefits from access via the local and regional roadway systems. A brief description of the principal roadways serving or surrounding the project site is presented below.

Alfred Bessette Memorial Highway (Route 140)

Alfred Bessette Memorial Highway (Route 140) is a limited access roadway that is classified as an urban principal arterial under MassDOT jurisdiction. Route 140 runs in the north-south direction throughout Southeastern Massachusetts, providing two lanes of travel in each direction separated by a grass median. Route 140 has exits adjacent to the study area at Philips Road (Exit 5) and Braley Road (Exit 7). Route 140 northbound and southbound ramps are under two-way stop sign control with both Philips Road and Braley Road.

Braley Road

Braley Road is classified as an urban minor arterial under City of New Bedford jurisdiction within the study area, and primarily provides access to residential and industrial properties, Casimir Pulaski Elementary School, and to Route 140 via a diamond interchange. Braley Road generally runs in the east-west direction between Acushnet Avenue to the east and Phillips Road to the west, providing a single travel lane measuring 12 feet in width and a bicycle lane measuring 6.5 feet in width in each direction. At its intersection with Phillips Road and Theodore Rice Boulevard, Braley Road continues to the north toward the Freetown Town Line. North of the Phillips Road/Theodore Rice Boulevard intersection, Braley Road is approximately 40 feet in width with a double yellow center line and no striped travel lanes or shoulders. A cement concrete sidewalk is provided along the south side of Braley Road east of the Phillips Road/Theodore Rice Boulevard intersection.

Theodore Rice Boulevard

Theodore Rice Boulevard continues west from the intersection of Braley Road and Phillips Road as the east-west connection between Route 140 and Philips Road to the east and Duchaine Boulevard to the west, which provides access to industrial and commercial land uses within the New Bedford Business Park. Theodore Rice Boulevard is classified as a local roadway under City of New Bedford jurisdiction and provides a 20-foot-wide travel lane in each direction, separated by a 12-foot wide raised, grass median. There are no sidewalks provided on either side of the roadway. The posted speed limit on Theodore Rice Boulevard is 30 mph, which does not appear to be supported by an approved Special Speed Regulation

Phillips Road

Phillips Road is classified as an urban collector under City of New Bedford jurisdiction and runs in the north-south direction between Braley Road/Theodore Rice Boulevard to the north and Church Street to the south. Phillips Road is a two lane, two-way roadway, providing a 15-foot-wide travel lane and 5-foot-wide bicycle lane in each direction. Within the study area, a four-foot-wide cement concrete sidewalk is provided on the east side of the roadway. The posted speed limit on Phillips Road is 30 mph; however, according to MassDOT Special Speed Regulation No. 4044, the approved speed limit is 25 mph northbound approaching the Braley Road/Theodore Rice Boulevard intersection, and otherwise 40 mph between Braley Road and Church Street.

Duchaine Boulevard

Duchaine Boulevard is classified as a local roadway under City of New Bedford jurisdiction and provides access to industrial and commercial land uses within the New Bedford Business Park. Duchaine Boulevard runs in the north-south direction and provides two 14-foot-wide travel lanes in each direction separated by a grass median. Shoulders measuring 11 feet in width are provided on both sides of the roadway. Since the roadway is median divided, there are multiple u-turn locations along the corridor. The posted speed limit on Duchaine Boulevard is 30 mph, which does not appear to be supported by an approved Special Speed Regulation.

Samuel Barnet Boulevard

Samuel Barnet Boulevard is a local roadway under City of New Bedford jurisdiction and runs in the east-west direction, providing a connection between Phillips Road to the east and Duchaine Boulevard to the west. Samuel Barnet Boulevard provides access to industrial and commercial land uses and serves the New Bedford Business Park. Samuel Barnet Boulevard is a two-way, two-lane roadway generally providing a 13-foot-wide travel lane in each direction, with seven-foot-wide shoulders on either side of the roadway. The posted speed limit on Samuel Barnet Boulevard is 30 mph, which does not appear to be supported by an approved Special Speed Regulation

Existing Traffic Volumes

Existing Peak Hour Traffic Volumes

Manual turning movement counts (MTMC) were collected at the study area intersections on Saturday, April 10 and Tuesday, April 13, 2021. The MTMCs were collected while public schools, including the nearby Casimir Pulaski School, were in session and had returned to full in-person learning following the COVID-19 pandemic guidelines. The MTMCs were conducted from 6:00 AM to 7:00 PM. The traffic counts are summarized in 15-minute intervals and are provided in Exhibit 12, Appendix A of this report.

The four highest consecutive 15-minute intervals of combined traffic within the study area during the peak periods constitutes as the peak hour for the study area network. Based on the count data, the weekday morning peak hour was identified to occur from 6:30 AM to 7:30 AM. Due to a high volume of traffic activity at the Casimir Pulaski Elementary School following dismissal at 3:00 PM, separate

weekday afternoon school dismissal peak (3:15 PM to 4:15 PM) and commuter peak (4:00 PM to 5:00 PM) hours were identified.

Saturday Traffic Volumes

To determine if Saturday traffic analysis was warranted, peak hour traffic volumes collected on Saturday, April 10, 2021 were compared with traffic volumes collected on Tuesday, April 13, 2021. The peak hour of Saturday traffic was determined to occur between 10:15 a.m. and 11:15 a.m. Based on the April 2021 MTMCs, the Saturday midday peak hour and daily volumes were found to be significantly lower than weekday peak hour volumes. To illustrate this comparison, the two-way peak hour and daily traffic volumes collected along Braley Road between Phillips Road and the Route 140 Southbound Ramps on Saturday, April 10 and Tuesday, April 13, 2021 are shown in Table 5-1 below:

Table 5-1, Weekday vs. Saturday Traffic Volumes

`	**Saturday, April 10, 2021**	**Tuesday, April 13, 2021**		
Peak Hour	Midday	Morning	Afternoon School	Afternoon Commuter
Peak Hour Traffic Volume	658	886	1,066	969
Daily Traffic Volume	5,543	10,082		

As shown in Table 5-1 above, Saturday midday peak hour and daily volumes are significantly lower than the weekday morning peak hour and daily volumes. As the weekday peak hour analysis presents an assessment of traffic conditions under more conservative baseline volumes, a Saturday midday peak hour analysis is not required.

Seasonal Variation

In order to determine seasonal variation in the area of the project, 2019 MassDOT weekday seasonal adjustment factors were referenced in accordance with the April 2020 MassDOT Guidance on Traffic Count Data. Based on the published seasonal adjustment factors, traffic volumes in the month of April on urban principal arterials such as Route 140, urban minor arterials such as Braley Road, urban collectors such as Phillips Road, and local roadways such as Theodore Rice Boulevard, Duchaine Boulevard, and Samuel Barnet Boulevard are higher than an average month. To present a conservative analysis, traffic volumes were not adjusted downward to represent an average month

COVID Traffic Volume Adjustment

Due to COVID-19 conditions traffic volumes are not considered to be normal at this time. To adjust the April 2021 traffic volume counts previously collected to pre-COVID conditions, MTMCs were supplemented with MassDOT permanent count station data obtained from the MassDOT Mobility Dashboard[7], which continuously monitors the impacts of the COVID-19 pandemic on the State's transportation network. The Mobility Dashboard presents average weekly traffic volumes in 2019, 2020, and 2021, as well as percent change from 2019 to 2020, 2020 to 2021, and 2019 to 2021.

[7] https://mobility-massdot.hub.arcgis.com/

For this study, the percent change in traffic volumes on an average weekday during April 2019 and April 2021 at MassDOT Count Station #38 I-195 in New Bedford, the closest count station to the project site, were referenced to determine an adjustment factor to estimate traffic volumes prior to the COVID-19 pandemic using the April 2021 MTMCs. The 2019 traffic counts were selected as it is considered to represent Existing pre-COVID conditions without additional adjustment, per the April 2020 MassDOT Guidance on Traffic Count Data. MTMCs were collected on April 13, 2021. Traffic volumes for the same week in 2019 were not available on the Mobility Dashboard. Data from the week prior indicate that 2021 weekday traffic volumes are 4.83 percent higher than the same week in 2019, while data from the following week indicate that traffic volumes in 2021 are 4.31 percent lower than the same week in 2019. To conservatively estimate the impact of the COVID-19 pandemic, the April 2021 MTMCs were increased by 5 percent to account for possible reduced volume in the study area network in April 2021 compared with pre-COVID conditions.

The MassDOT Mobility Dashboard data sets are included in Appendix B (within Exhibit 12).

Automatic Traffic Recorder Data

A 48-hour automatic traffic recorder (ATR) count including speed and vehicle classification was conducted on Duchaine Boulevard on Wednesday, June 13, 2018 and Thursday, June 14, 2018. The results of the counts are tabulated in 15-minute periods and are provided in Appendix C of this report (Exhibit 12). The four highest consecutive 15-minute intervals during the weekday morning and weekday afternoon peak periods constitutes as the peak hours for Duchaine Boulevard.

In accordance with the April 2020 MassDOT Guidance on Traffic Count Data, historic traffic data may be adjusted based on published yearly adjustment factors to 2019 to represent pre-COVID baseline conditions. However, as the MassDOT adjustment factors indicate that traffic on local roadways such as Duchaine Boulevard decreased 0.4% from 2018 to 2019, no adjustment was applied to present a conservative analysis. The resulting 2018 ATR data on Duchaine Boulevard are summarized in Table 5-2 below.

Table 5-2, Duchaine Boulevard 2018 ATR Summary

	ADT[1]	HV%[2]	85th Percentile Speed[3] (mph)
Duchaine Boulevard			
North of Samuel Barnet Boulevard			
Northbound	2010	25.0	37
Southbound	2130	24.0	36
TOTAL	**4,140**	**24.5**	**37**

1 ADT - Average Daily Traffic (Vehicles per Day)

2 HV% - Percentage of Heavy Vehicles based on TMC completed on June 13, 2018

3 Based on Field Speed Study completed July 13, 2018

4 Based on 2018 data, the AM peak hour occurred between 7:00 AM and 8:00 AM

5 Based on 2018 data, the PM peak hour occurred between 3:00 PM and 4:00 PM

2021 Base Traffic Volumes

To reflect the 2021 Base conditions prior to the glass operations currently occupying the site under the Phase 1 waiver, the traffic associated with the glass operations was removed from the 2021 Existing traffic volumes to calculate the 2021 Base traffic conditions. The 2021 Base traffic volumes would reflect the operations of the site prior to the Phase 1 waiver, which includes the removal of the trips associated with the trucking facility previously on site, and the addition of the glass operations previously operating at the former facility at 969 Shawmut Avenue in New Bedford. MTMCs collected at the site driveway were utilized to determine the trips associated with the existing glass operations. These trips were then removed from the 2020 Existing traffic volumes to determine the 2021 Base traffic volumes. Employee trips associated with the glass operations were also removed. The facility currently employs 75 daily employees, operating in three 8-hour shifts each consisting of 25 employees. The shifts are scheduled to run from 6:00 AM to 2:30 PM, 2:00 PM to 10:30PM, and 10:00PM to 6:30AM. Based on these shifts, it is expected that all employees will be arriving to the site outside of the peak hour. However, as employees may not depart the site precisely at the end of the assigned shifts, to present a conservative analysis it was assumed that the employees from 10:00 AM to 6:30 AM shift would leave the site during the weekday morning peak hour, and employees from the 6:00 AM to 2:30 PM shift would leave the site during the weekday afternoon school peak hour.

Although the Phase 1 waiver permits expanded glass operations with additional employees, the expansion was assumed to occur with Phase 2 of the project. The data collected at the facility used to determine the trips associated with Phase 1 of the project are provided in Table 5-3 below.

Table 5-3, Vehicular Trip Generation, Existing Site Operations

Description	Weekday			Weekday AM Peak Hour			Weekday PM School Peak Hour			Weekday PM Commuter Peak Hour		
	In	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Existing Truck Trips	45	45	90	4	4	8	4	4	8	4	4	8
NWD Trucking	-38	-38	-76	-3	-3	-6	-3	-3	-6	-3	-3	-6
Net Change vs Baseline	**7**	**7**	**14**	**1**	**1**	**2**	**1**	**1**	**2**	**1**	**1**	**2**
Existing Employee Trips	75	75	150	0	25	25	0	25	25	0	0	0

The resulting 2021 Base traffic conditions for the weekday morning peak hour, weekday afternoon school peak hour, and weekday afternoon commuter peak hour are presented in Figures 5-2, 5-3, and 5-4, respectively. The 2021 Existing traffic peak hour traffic volumes are presented in Figures 5-5, 5-6, and 5-7 for the weekday morning peak hour, weekday afternoon school peak hour, and weekday afternoon commuter peak hour, respectively.

Figure 5-2, 2021 Base Weekday Morning Peak Hour Traffic

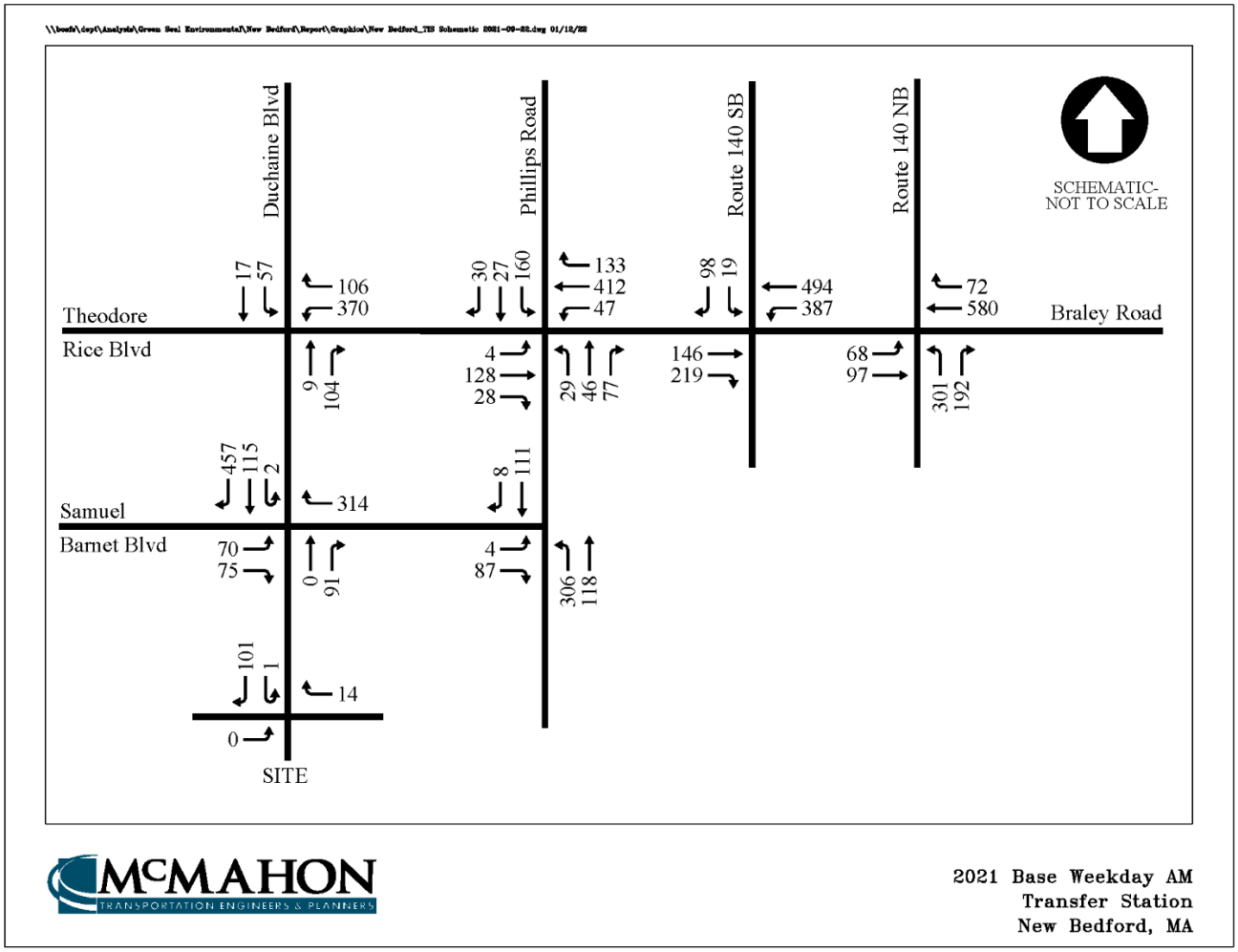


Figure 5-3, 2021 Base Weekday Afternoon School Peak Hour Traffic

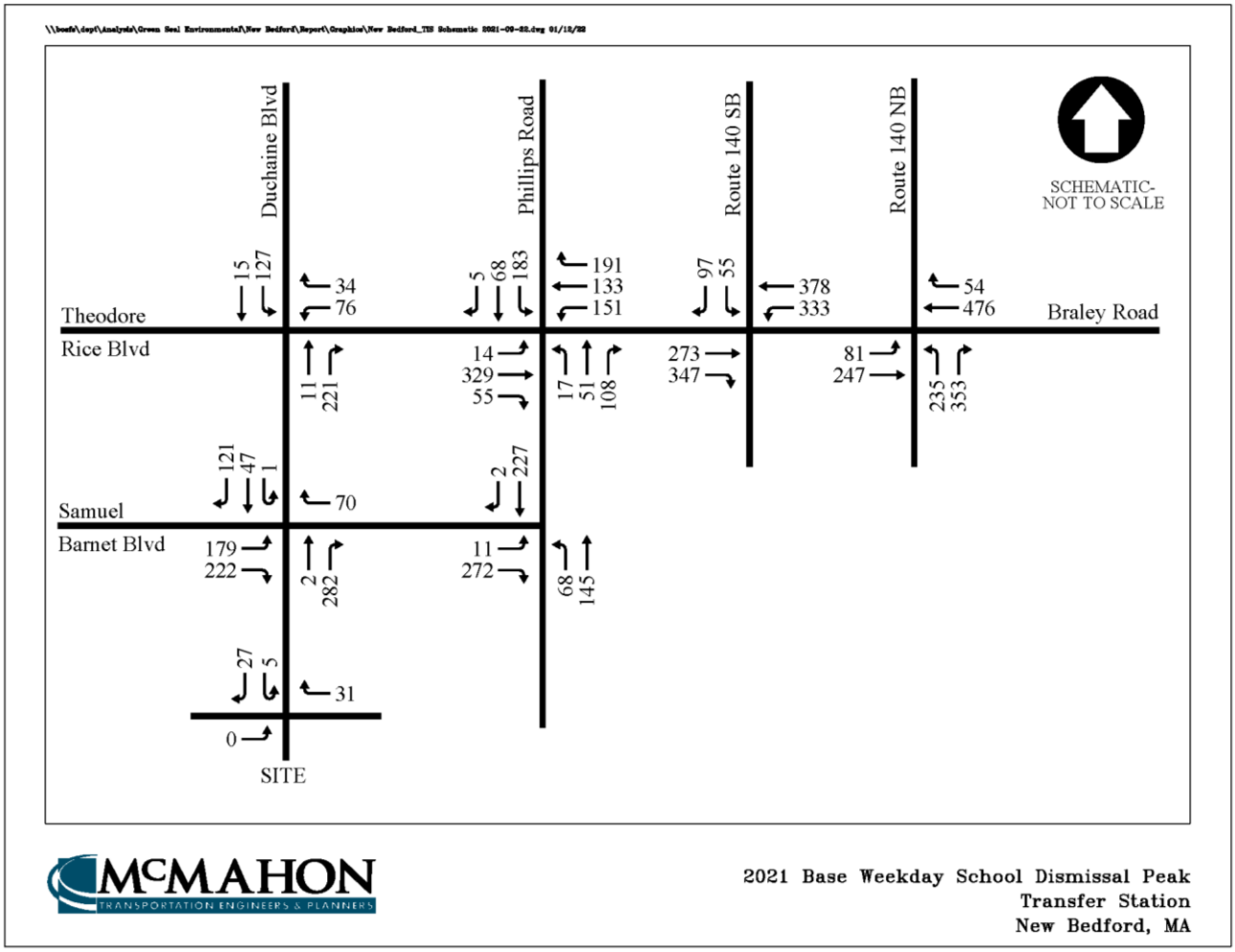


Figure 5-4, 2021 Base Weekday Afternoon Commuter Peak Hour Traffic

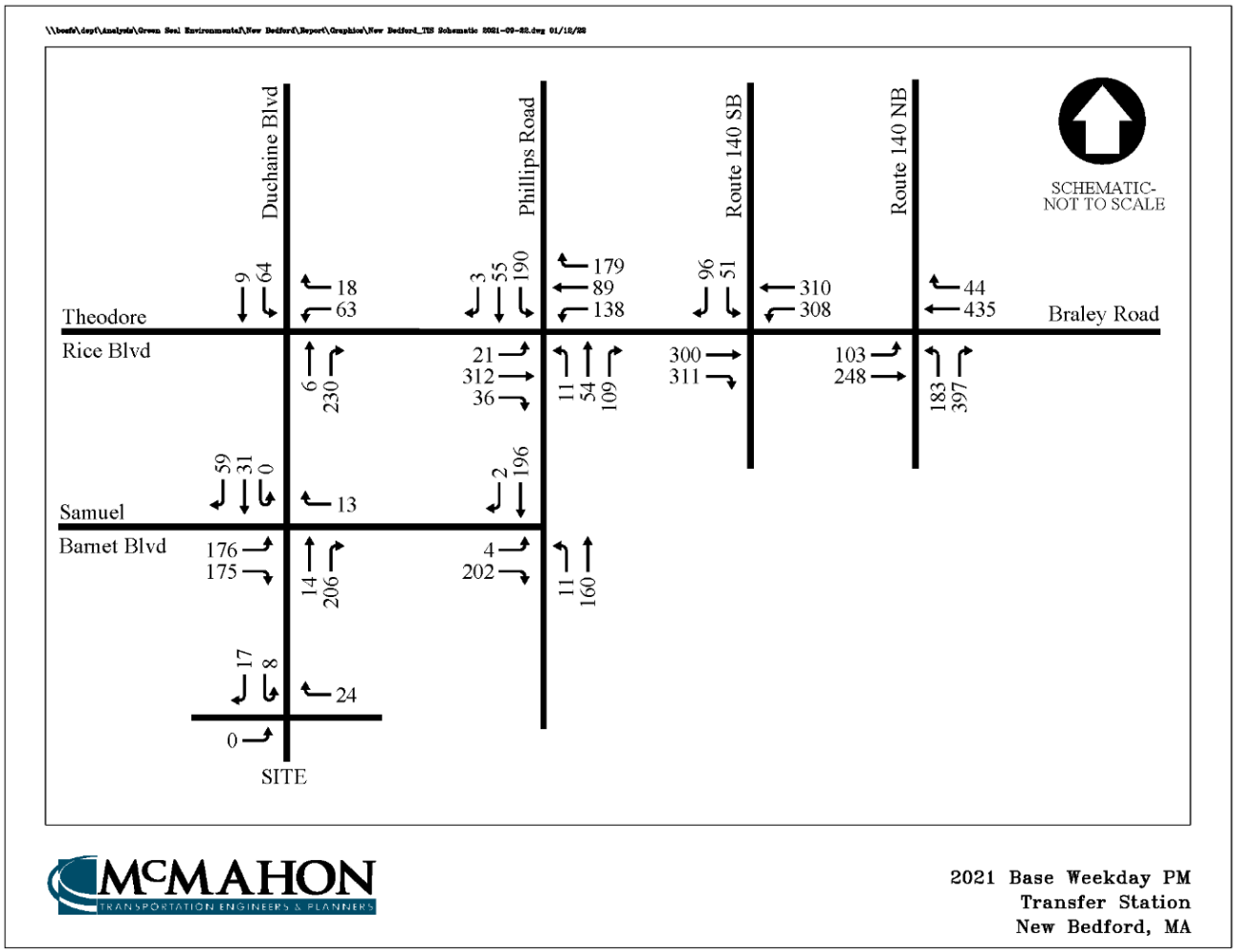


Figure 5-5, 2021 Existing Weekday Morning Peak Hour Traffic

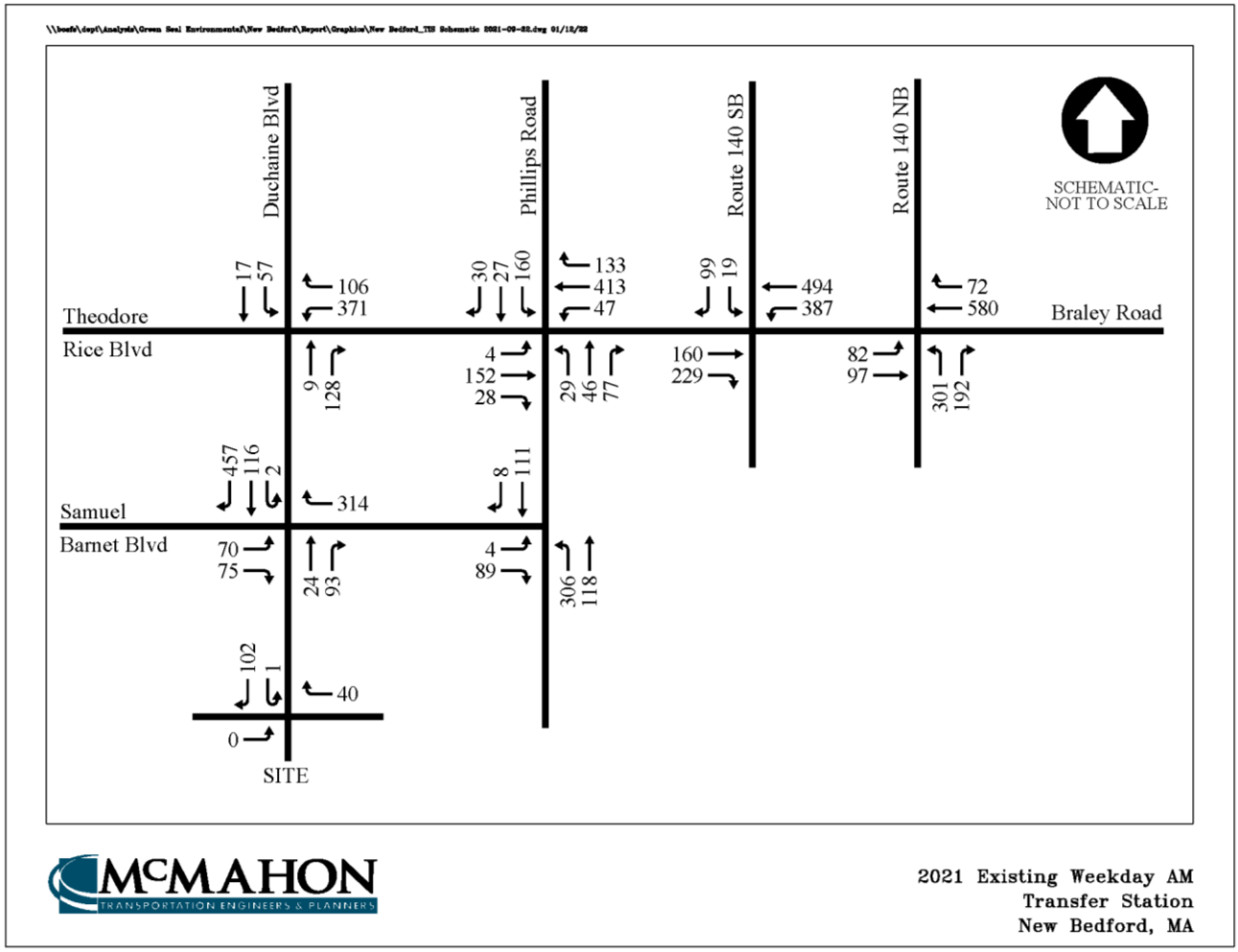


Figure 5-6, 2021 Existing Weekday Afternoon School Peak Hour Traffic

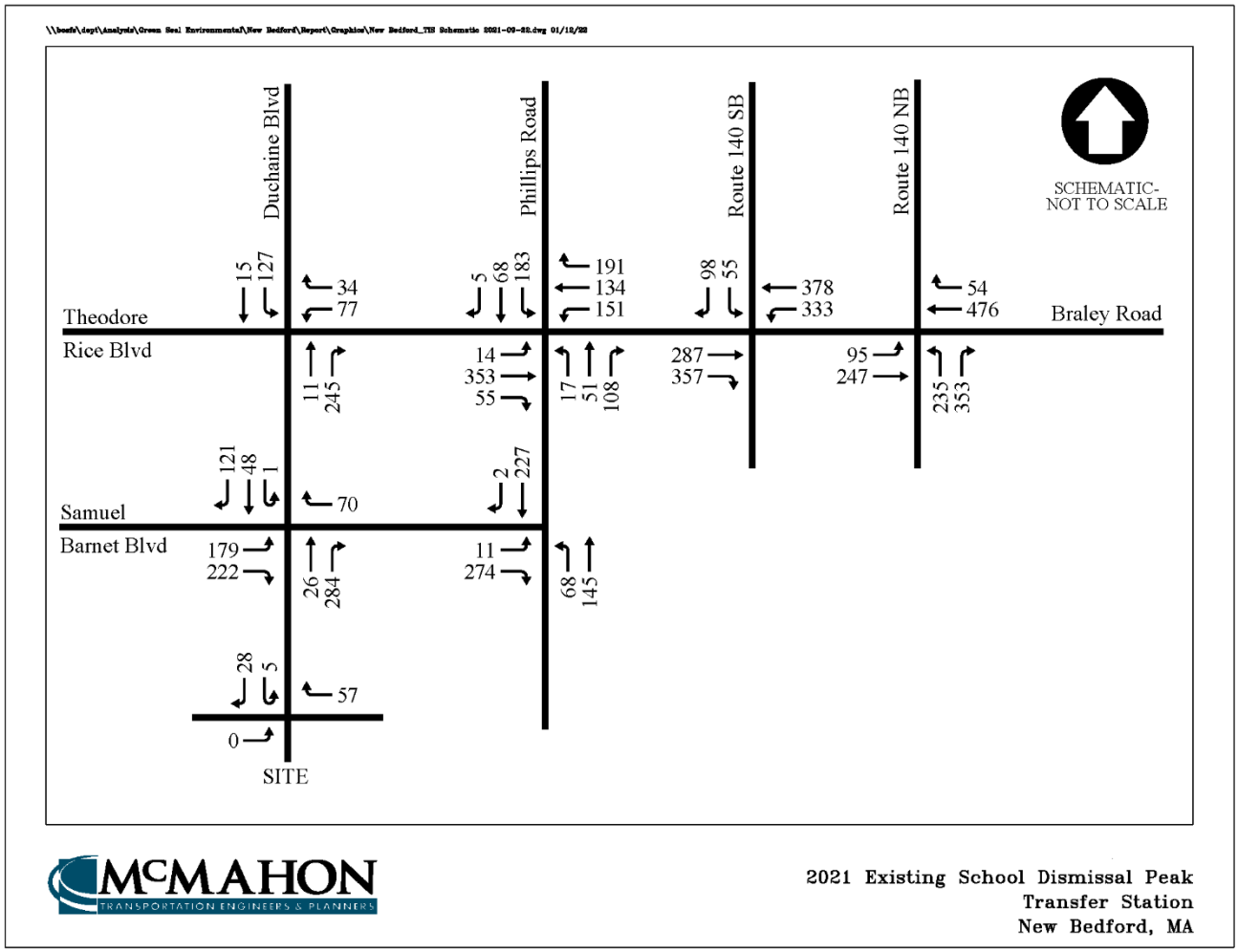
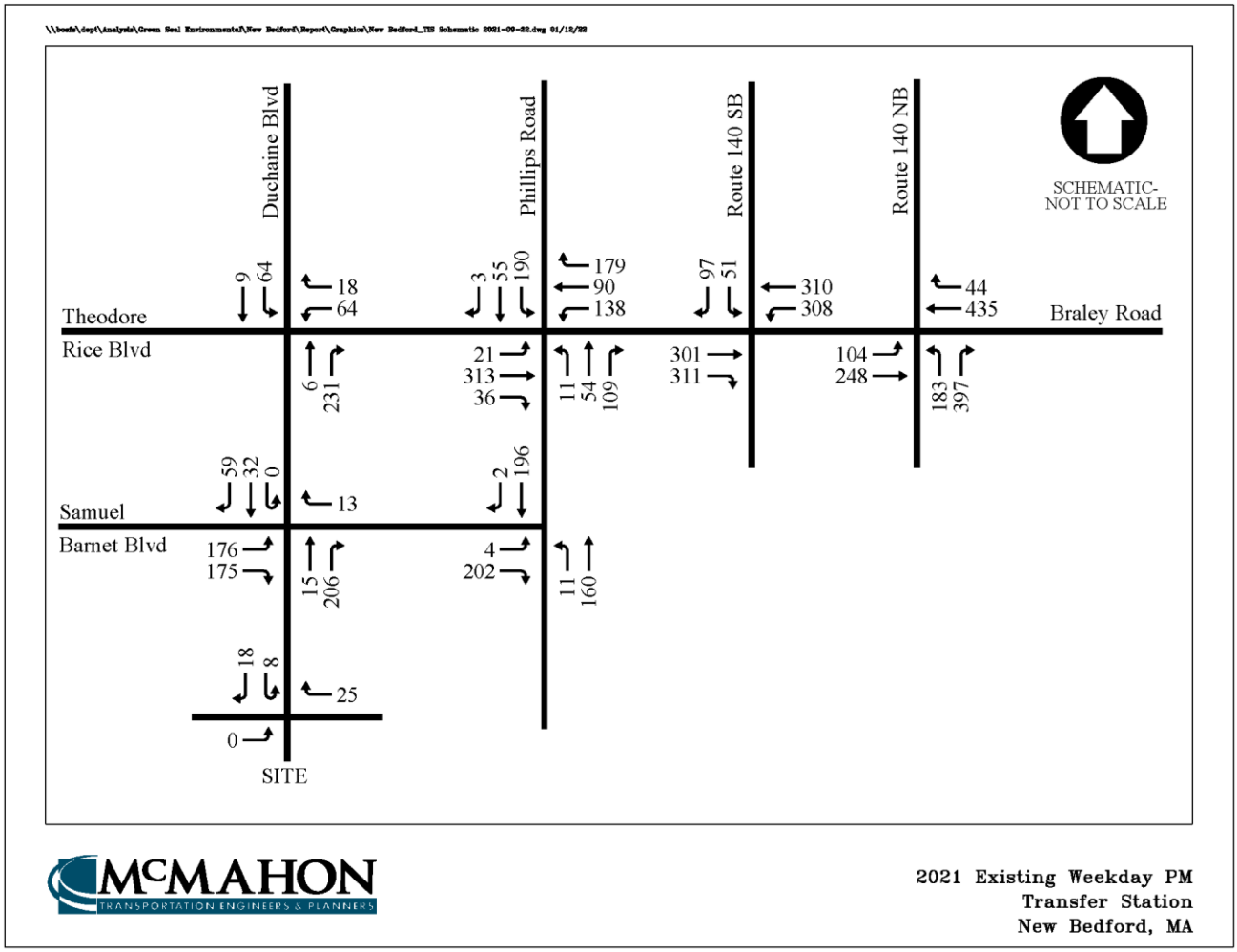


Figure 5-7, 2021 Existing Weekday Afternoon Commuter Peak Hour Traffic

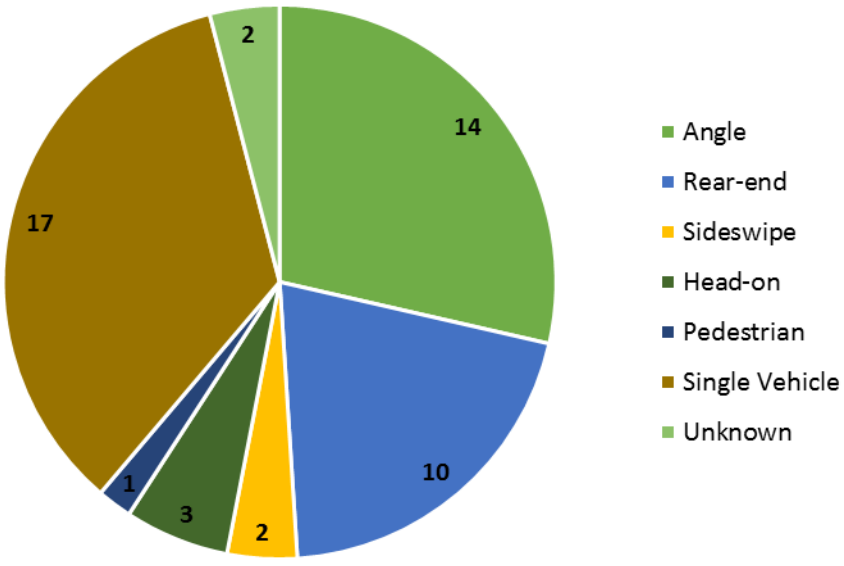


Crash Summary

Crash data for the study area intersections was obtained from MassDOT for the most recent five-year period available. This data includes complete yearly crash summaries for 2013, 2014, 2015, 2016, and 2017. The MassDOT Crash Rate Worksheet was used to determine whether the crash frequencies at the study area intersections were unusually high given the travel demands at each location. The MassDOT Crash Rate Worksheet calculates a crash rate expressed in crashes per million entering vehicles. The calculated rate was then compared to the average rate for unsignalized intersections statewide and within MassDOT District 5. For unsignalized intersections, the statewide and MassDOT District 5 average crash rates are 0.57 crashes per million entering vehicles.

The crash data is summarized in Figure 5-8 below by crash type and a detailed summary is provided in Exhibit 12, Appendix D.

Figure 5-8, Crash Summary



Over the five-year period analyzed, the unsignalized intersection of the Route 140 Northbound on/off ramps at Braley Road had a total of 15 reported crashes, resulting in a crash rate of 0.49 crashes per million vehicles entering which is lower than both the Statewide and District 5 average crash rate. The reported crashes were angle, rear-end, and single vehicle collisions with six of the reported crashes resulting in personal injury.

The unsignalized intersection of the Route 140 Southbound on/off ramps at Braley Road had a total of two reported crashes, resulting in a crash rate of 0.06 crashes per million vehicles entering which is lower than both the District 5 and Statewide average. One of the reported crashes was a single vehicle collision and one was a sideswipe collision. Both of the reported crashes resulted in property damage only.

The unsignalized intersection of Braley Road/Theodore Rice Boulevard at Phillips Road had a total of 14 reported crashes over the five-year period analyzed, resulting in a crash rate of 0.48 crashes per million vehicles entering, which is lower than the Statewide and District 5 average crash rate. The majority of the 14 reported crashes were single vehicle collisions and rear-end collisions, and five crashes resulted in personal injury.

The unsignalized intersection of Theodore Rice Boulevard at Duchaine Boulevard had a total of ten crashes over the five-year period analyzed resulting in a crash rate of 1.01 crashes per million vehicles entering, which is higher than the Statewide and District 5 average crash rate. Four of the 11 reported crashes were single vehicle collisions, one of which, in 2014, resulted in a fatality. Based on reports, speed was a prominent factor in this fatal crash and it is suspected that the operator of the vehicle was street racing and the fatal crash was believed to be an isolated incident.

The intersection of Duchaine Boulevard at Samuel Barnet Boulevard had a total of five reported crashes, resulting in a crash rate of 0.24 crashes per million vehicles entering which is lower than both the Statewide and District 5 average crash rate. All five reported crashes were single vehicle collisions resulting. One of the reported crashes resulted in personal injury, three resulted in property damage only, and the severity of one of the crashes was not reported.

The intersection of Phillips Road at Samuel Barnet Boulevard had a total of three reported crashes which resulted in a crash rate of 0.18 crashes per million vehicles entering, two of which resulted in personal injury with the third crash involving property damage only. The resulting crash rate is lower than both the Statewide and District 5 average crash rate.

Public Transportation

The Southeastern Regional Transit Agency (SRTA) operates two routes within the study area. An extension of Route 4-Ashley Boulevard operates three weekday inbound trips within the New Bedford Business Park, at 6:24 AM, 6:49 AM, and 4:15 PM. The North End Shuttle operates via westbound Braley Road and southbound Phillips Road every 40 minutes from approximately 9:30 AM to 4:45 PM Monday through Saturday. The SRTA New Bedford system map and schedules for Route 4 and the North End Shuttle are included in Appendix E of this report.

5.5 Future Conditions

To analyze the traffic impacts associated with the proposed project, MassDOT standards state that future year traffic volumes should be projected based on a seven-year project horizon. The 2021 Existing traffic volumes were projected to the future year 2028, when both phases of the development are expected to be fully built and occupied. Independent of the proposed project, traffic volumes on the roadways in 2028 are assumed to include existing traffic, as well as new traffic resulting from general growth in the study area and from other planned development projects. The potential background traffic growth unrelated to the proposed project was considered in the development of the 2028 No Build (without project) peak hour traffic volumes. The anticipated traffic increases associated with the proposed development were then added to the 2028 No Build volumes to reflect

the 2028 Build (with project) traffic conditions. A more detailed description of the development of the 2028 No Build and 2028 Build traffic volume networks follows.

Future Roadway Improvements

Planned roadway improvement projects can affect area travel patterns and future traffic operations. There are no planned roadway improvements that would impact traffic on the study area roadways.

Background Traffic Growth

Traffic growth is primarily a function of changes in motor vehicle use and expected land redevelopment in the region. To predict a rate at which traffic on the roadways in the vicinity of the site can be expected to grow during the seven-year forecast period (2021 to 2028), both historic traffic growth and planned area redevelopments were examined.

Historic Traffic Growth

A background growth rate of one percent per year was confirmed with the Southeastern Regional Planning and Economic Development District (SPREDD) in order to forecast increases in general traffic volumes on the study area roadways and intersections for our future analysis. This rate captures growth associated with general changes in population and accounts for other small developments in the vicinity of the study area.

Site-Specific Growth

There are no known planned/permitted developments adjacent to the project study area to be added as site specific growth.

2028 No Build Traffic Volumes

The 2021 Existing peak hour traffic volumes were grown by one percent per year over the seven-year study horizon (2021 to 2028) to establish the 2028 base future traffic volumes. The 2028 No Build weekday morning peak hour, weekday afternoon school peak hour, and weekday afternoon commuter peak hour traffic volume networks are illustrated in Figures 5-9 through 5-11, and are documented in the traffic projection model presented in Exhibit 12, Appendix F.

Figure 5-9, 2028 No Build Weekday Morning Peak Hour Traffic

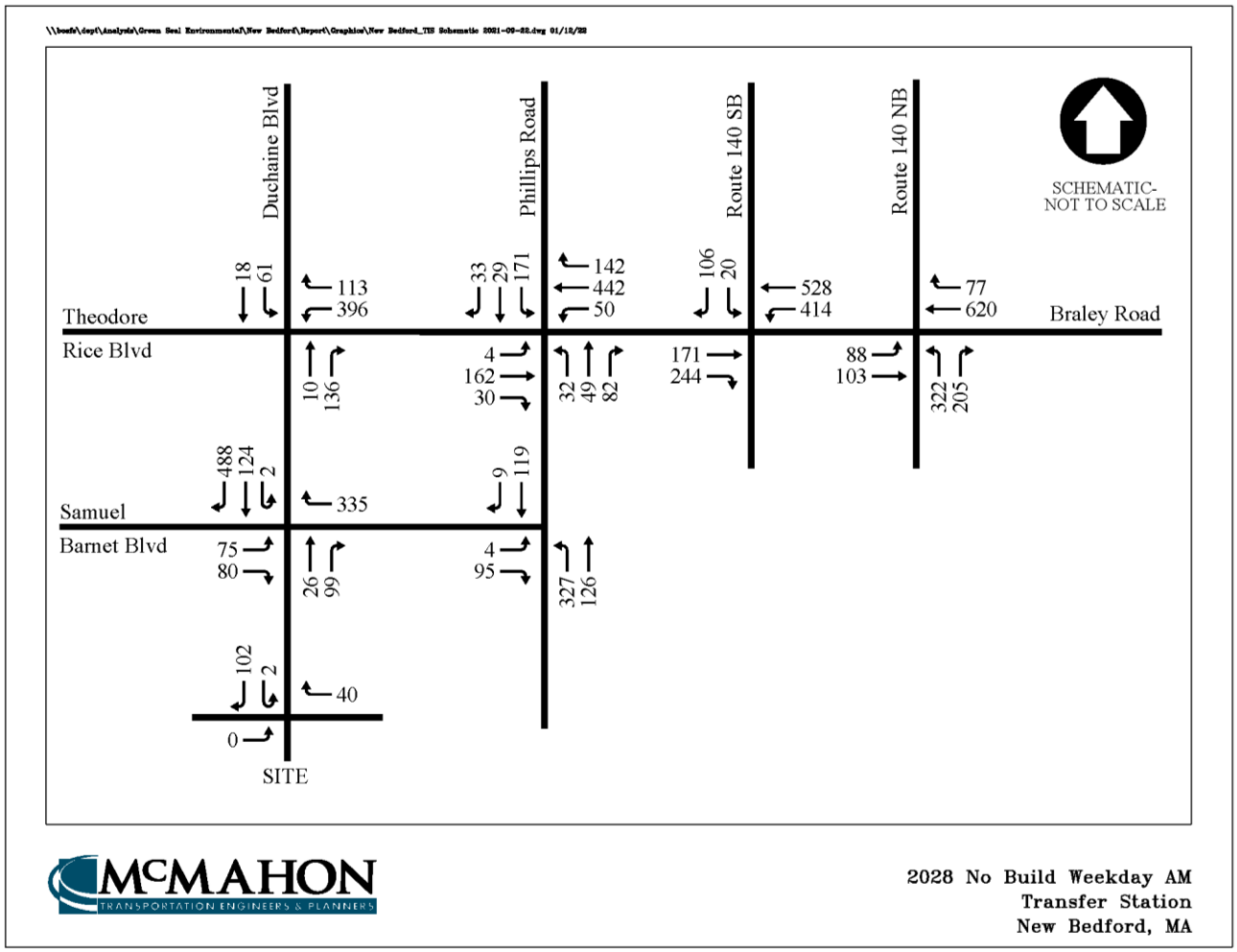


Figure 5-10, 2028 No Build Weekday Afternoon School Peak Hour Traffic

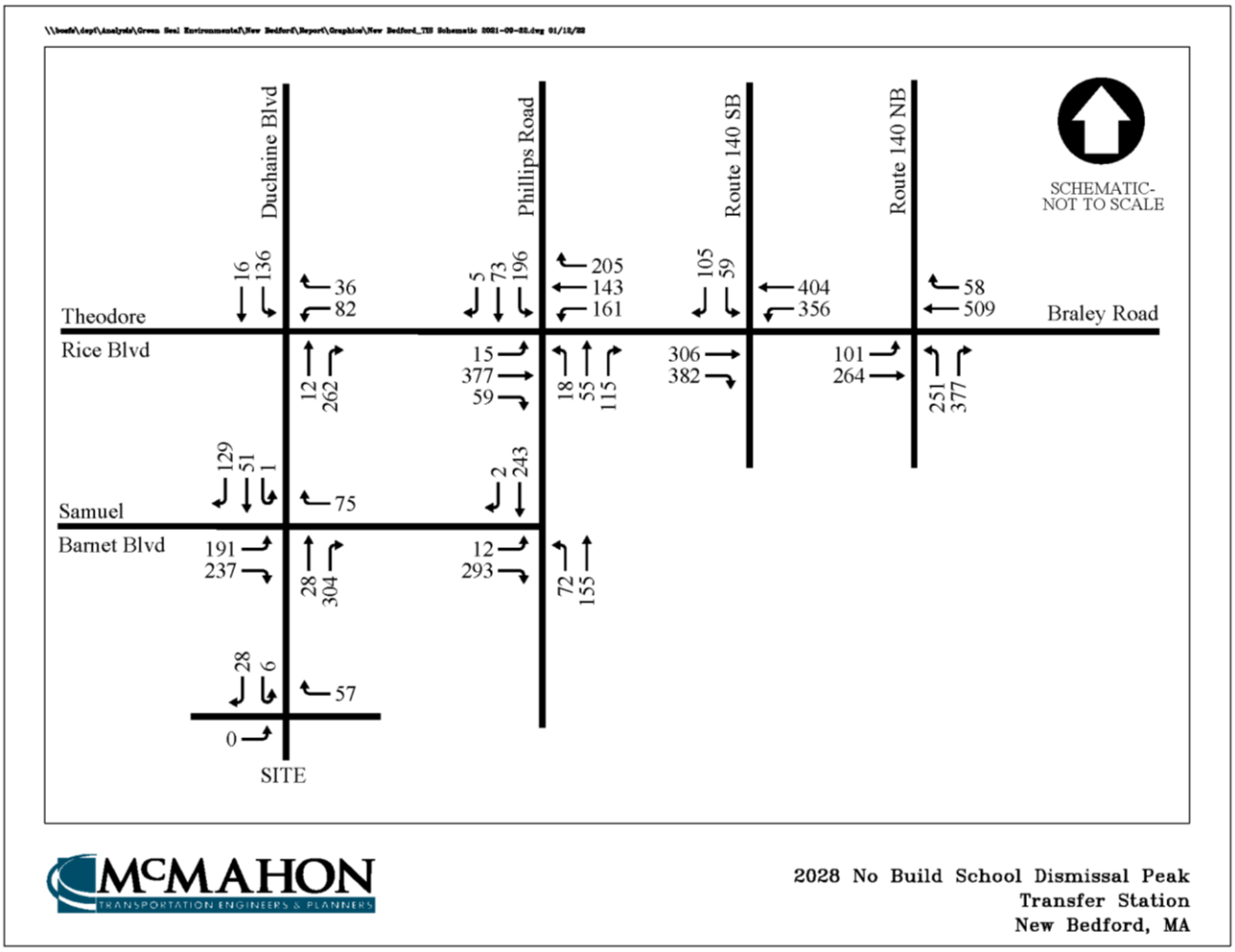
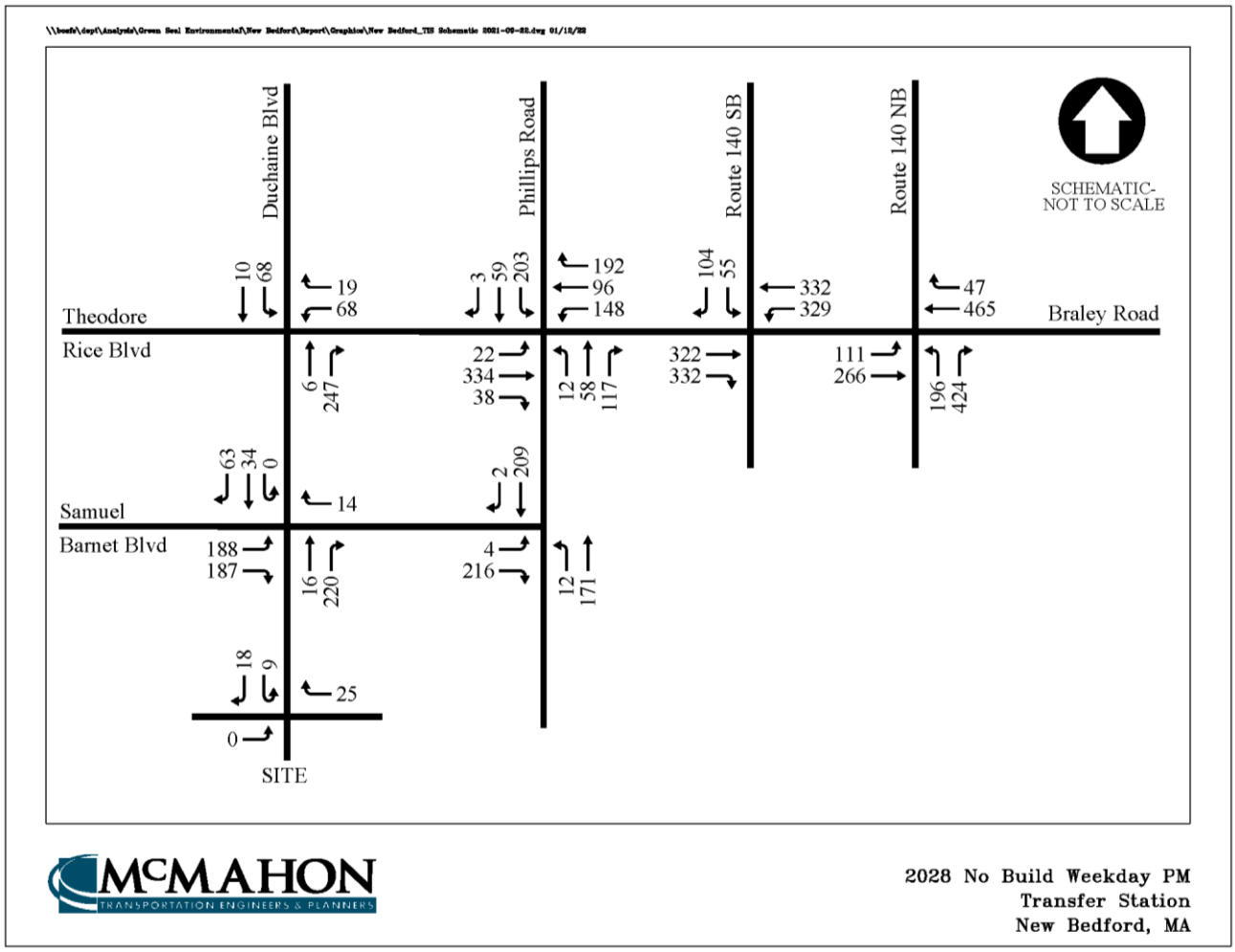


Figure 5-11, 2028 No Build Weekday Afternoon Commuter Peak Hour Traffic



Site-Generated Traffic

The site proposes to receive a maximum of 1,500 tpd of solid waste (MSW and C&D) as part of Phase 2 of the project. To estimate the trip generation for the proposed site, data provided by the Proponent on the allowable material tonnage and the maximum capacities of delivery vehicles were utilized. Based on information received, the inbound MSW to the proposed site includes approximately 1,065 tons per day in transfer trailers (approximately 28 tons per load), and 295 tons per day in packer trucks (approximately 9 tons per load). Inbound C&D to the proposed site includes approximately 140 tons per day, all of which will be transported in transfer trailers (approximately 28 tons per load). Inbound MSW and C&D is expected to add 152 daily truck trips (76 entering and 76 exiting).

In addition to the 1,500 tpd of solid waste (MSW and C&D), the analysis presented in the FEIR includes processing of up to 400 tpd of biosolids, expected to consist of 280 wet tons per day of biosolids slurry and 120 wet tons per day of biosolids cake. This material would be processed into approximately 50 dry tons per day, which would subsequently be mixed with processed MSW and C&D. The traffic associated with the biosolids facility has remained in this study although the biosolids component is no longer being proposed. These trips have been moved to solid waste handling activities so that the trips are similar to what was accounted for in the previous Draft and Final Environmental Impact Reports (DEIR & FEIR) filing.

The inbound biosolids slurry would have been expected to be transported primarily in large tanker trucks (approximately 28 tons per truck), although smaller tanker trucks with an average capacity of 3,000 gallons (approximately 12 tons per truck) would have also been used. Trip generation for inbound biosolids slurry is based on 9 large tanker trucks and 2 smaller tanker trucks. Biosolids cake would have been transported to the facility in roll-off containers with an average weight of 10-12 tons per truck load. Twelve trucks per day would have been required to deliver 120 wet tons per day of biosolids cake. The total number of trucks delivering biosolids slurry and biosolids cake would be 23 trucks per day. After processing, the weight of biosolids would have been reduced to approximately 50 dry tons per day, which would then be sent for disposal.

It is expected that the majority of outbound transportation of materials from the site will be done via rail. In addition, when outbound materials are transported by truck, it is standard industry practice to use backhauls, where a truck delivering inbound materials reloads and removes material from the site rather than departing empty. To present a conservative analysis, it was assumed that all outbound materials would be transported by truck, and outbound materials would not use backhauls; i.e., all trucks transporting inbound materials were assumed to leave the site empty, and all trucks transporting outbound material were assumed to arrive at the site empty. Trip generation for outbound material is based on 1,550 tons of material (1,500 tpd of MSW and C&D, and 50 tpd of dry biosolids) transported in transfer trailers (approximately 28 tons per truck). Based on these assumptions, the transportation of outbound materials would generate 112 truck trips per day (56 entering, 56 exiting).

As previously noted, the proposed facility expansion also includes expanded glass recycling operations already approved under the Phase 1 waiver for the project. The expansion would allow for an

additional 20,000 tons of glass processing annually, or approximately 80 tons per day based on an annual operating schedule of 250 operating days. This additional glass would be transported to the site in dump trailers typically carrying 13 to 15 tons per truck. Based on an average capacity of 13.5 tons per truck, the expanded glass operations would result in an additional 6 daily inbound truck trips, which would then depart the site empty. Processed glass would typically depart the site via rail; however, as a conservative measure, it can be assumed that material may depart the site via 28-ton dump trailers. This results in an additional 3 daily outbound truckloads, which would arrive at the site empty. In total, the expanded glass processing operation would result in an additional 18 daily truck trips (9 entering, 9 exiting).

Employment at the facility is proposed to increase from 75 to approximately 150 daily employees, operating in three 8-hour shifts each consisting of 50 employees. The shifts are scheduled to run from 6:00 AM to 2:30 PM, 2:00 PM to 10:30PM, and 10:00PM to 6:30AM. Based on these shifts, it is expected that all employees will be arriving to the site outside of the peak hour. However, as employees may not depart the site precisely at the end of the assigned shifts, to present a conservative analysis it was assumed that the employees from the 10:00 PM to 6:30 AM shift would leave the site during the weekday morning peak hour, and employees from the 6:00 AM to 2:30 PM shift would leave the site during the weekday afternoon school peak hour. No employee trips are anticipated during the weekday commuter peak hour. Although the removal of biosolids processing is expected to reduce the number of employee trips to the facility, the 2028 Build analysis assumes the biosolids operation would be in place to present a highly conservative analysis.

The facility has revised their operating hours and is now proposing to accept truck deliveries between 6:00 AM and 7:00 PM on weekdays and between 7:00 AM and 4:00 PM on Saturday. The facility will not accept waste on Sundays. Data from two comparable sites, one in Rochester, MA and one in Taunton, MA were utilized to determine the hourly distribution of truck traffic entering the site and the estimated number of trips expected to access the site during both the weekday morning and weekday afternoon peak hours. The hourly distribution data is provided in Table 5-4 below. To account for shorter tipping hours, truck trips which would otherwise arrive prior to 6:00 AM or later than 7:00 PM were combined with the 6:00 to 7:00 AM and 6:00 to 7:00 PM hours, respectively. Additional data used to develop the hourly distribution is provided in Appendix G.

Table 5-4, Hourly Distribution of Truck Trips

Time	Hourly distribution of truck trips (%)	Inbound MSW/C&D (Truck Round Trips)	Total One-Way Truck Trips - Inbound MSW/C&D	Inbound Biosolids (Truck Round Trips)	Total One-Way Truck Trips – Biosolids	Outbound Materials (Truck Round Trips)	Total One-Way Truck Trips - Outbound Material	Total One-Way Truck Trips
6-7 AM	10%	8	16	2	4	6	12	**32**
7-8 AM	8%	6	12	2	4	4	8	**24**
8-9 AM	8%	6	12	2	4	4	8	**24**
9-10 AM	9%	7	14	2	4	5	10	**28**
10-11 AM	10%	8	16	2	4	6	12	**32**
11-12 AM	10%	8	16	2	4	6	12	**32**
12-1 PM	11%	8	16	2	4	6	12	**32**
1-2 PM	10%	8	16	2	4	6	12	**32**
2-3 PM	10%	8	16	2	4	6	12	**32**
3-4 PM	7%	5	10	2	4	4	8	**22**
4-5 PM	3%	2	4	1	2	1	2	**8**
5-6 PM	2%	1	2	1	2	1	2	**6**
6-7 PM	2%	1	2	1	2	1	2	**6**
	100%	**76**	**152**	**23**	**46**	**56**	**112**	**310**

As previously noted, the peak hours of traffic volume along the study area roadway network occur from 6:30 AM to 7:30 AM (weekday morning peak hour), 3:15 PM to 4:15 PM (weekday afternoon school peak hour), and 4:00 PM to 5:00 PM (weekday afternoon commuter peak hour). Therefore, it is estimated that 8% to 10% of daily truck trips accessing the site would occur during the weekday morning peak hour, 3% to 7% of daily truck trips accessing the site would occur during the weekday afternoon school peak hour, and 3% of daily truck trips accessing the site would occur during the weekday afternoon commuter peak hour. However, to present a conservative analysis and account for hourly fluctuation in deliveries throughout a given day, it was assumed that the peak hour of site generated truck traffic, 11%, which is projected to typically occur between 12:00 PM and 1:00 PM, would occur during all three surrounding roadway network peak hours. Details on the trip generation calculations for Phases 1 and 2 of the project are provided in Appendix H.

A summary of the expected peak hour trip generation for Phase 2 is shown in Table 5-5 below.

Table 5-5, Vehicular Trip Generation

Description	Weekday Daily			Weekday AM Peak Hour			Weekday PM School Peak			Weekday PM Commuter Peak		
	In	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Inbound MSW/C&D Trips												
Packer	33	33	66	4	4	8	4	4	8	4	4	8
Transfer Trailer	43	43	86	4	4	8	4	4	8	4	4	8
Inbound Biosolid Trips[1]	23	23	46	2	2	4	2	2	2	4	2	4
Outbound MSW/C&D/Biosolids[1]	56	56	112	6	6	12	6	6	12	6	6	12
Truck Trip Total (MSW, C&D, and Biosolids)	***155***	***155***	***310***	***16***	***16***	***32***	***16***	***16***	***32***	***16***	***16***	***32***
Expanded Glass Trips (Approved under Phase 1)	9	9	18	1	1	2	1	1	2	1	1	2
Truck Trip Total	***164***	***164***	***328***	***17***	***17***	***34***	***17***	***17***	***34***	***17***	***17***	***34***
Facility Employees	75	75	150	0	25	25	0	25	25	0	0	0
Total	**239**	**239**	**478**	**17**	**42**	**59**	**17**	**42**	**59**	**17**	**17**	**34**

[1] Although the facility no longer proposed to process biosolids, the trips associated with biosolids operations have been included in 2028 Build conditions to present a conservative analysis consistent with the DEIR and FEIR filings.

As shown in Table 5-5, Phase 2 of the proposed facility, including trips associated with expanded glass operations previously approved under the Phase 1 waiver, is expected to generate a total of 59 vehicle trips (17 entering and 42 exiting) during the weekday morning peak hour, 59 vehicle trips (17 entering and 42 exiting) during the weekday afternoon school peak hour, and 34 vehicle trips (17 entering and 17 exiting) during the weekday afternoon commuter peak hour. Over the course of an average weekday, the proposed project is estimated to result in approximately 478 vehicle trips (239 entering and 239 exiting). The total number of daily vehicle trips projected to be generated by the proposed project does not exceed the MEPA threshold for transportation review.

As stated in Table 5-6, the existing facility generates up to 90 truck trips per day. With an addition of up to 18 one-way daily truck trips related to the expansion of Phase 1 glass operations and the addition of up to 310 one-way daily truck trips related to MSW, C&D, and biosolids processing under Phase 2, the facility is estimated to generate a maximum of up to 418 one-way daily truck trips. As such, the maximum daily truck trip generation of the facility will not exceed 418 one-way trips. The total number of maximum daily one-way truck trips is summarized in Table 5-6 below.

Table 5-6, Maximum Daily One-Way Truck Trips

	Existing Operations	Phase 1 Glass Processing	Phase 2 Expansion	Total One-Way Truck Trips
One-Way Truck Trips	90	18	310	**418**

Project Trip Distribution and Assignment

The traffic expected to be generated by the proposed development was distributed onto the study area roadways and intersections based on expected access to/from Route 140. It was assumed that all of the truck traffic entering the site will utilize Route 140 to Braley Road. A small portion of the employee trips are assumed to access the site from the south, utilizing Phillips Road. The resulting arrival and departure patterns are presented in Figure 5-12. The resulting distributed new project trips during the weekday morning peak hour, school dismissal peak hour, and weekday afternoon commute peak hour are shown in Figures 5-13, 5-14, and 5-15, respectively.

2028 Future Build Peak Hour Traffic Volumes

To establish the 2028 Build peak hour traffic volumes, the project-related traffic was assigned to the surrounding roadway network based on the project distribution patterns discussed above. These project trips were then added to the 2028 No Build peak hour traffic volumes to reflect the 2028 Build peak hour traffic volumes. The resulting 2028 build weekday morning peak hour, weekday afternoon school dismissal peak hour, and weekday afternoon commuter peak hour traffic volumes for the proposed project are presented in Figures 5-16, 5-17, and 5-18, respectively.

Figure 5-12, Directions of Arrivals and Departures

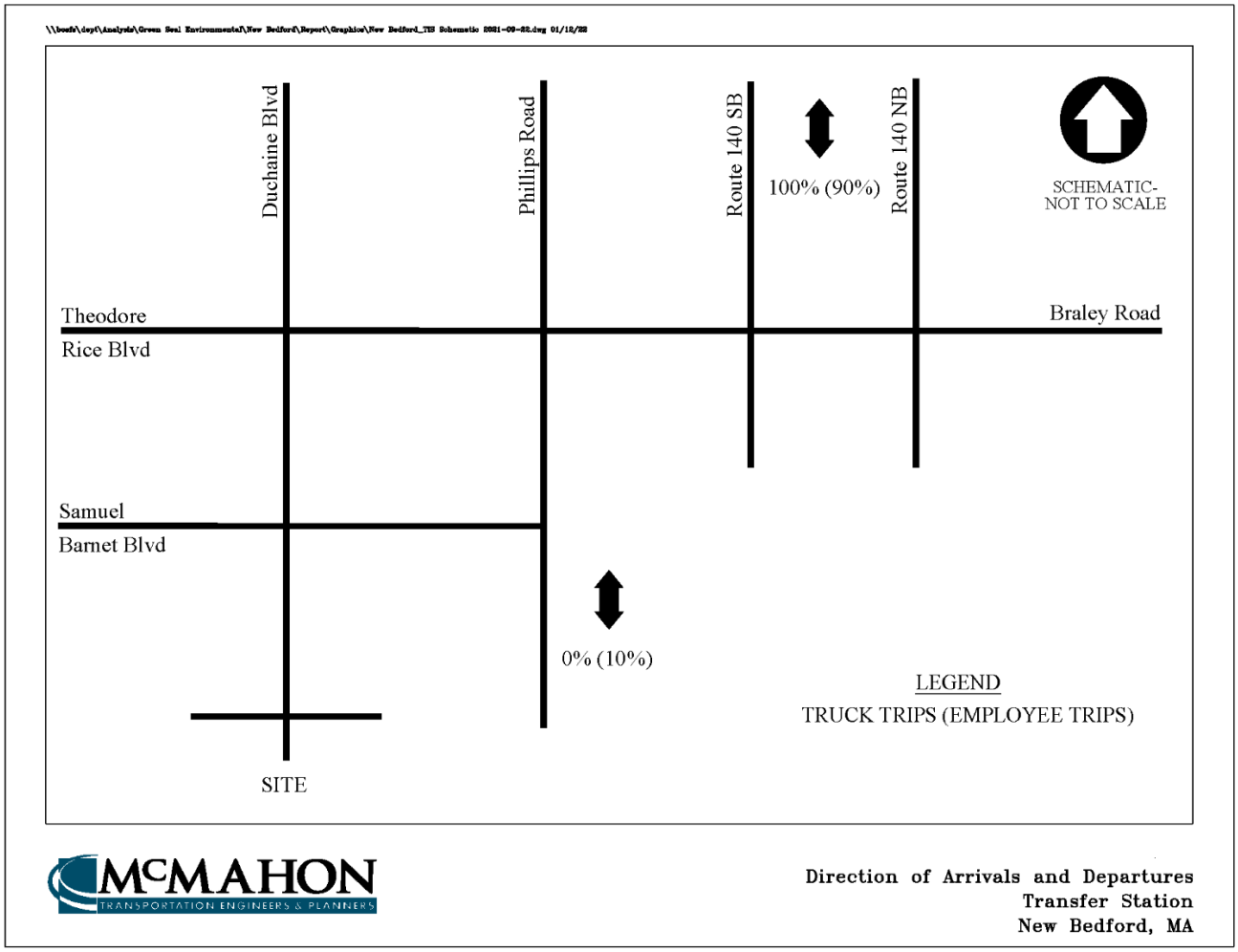


Figure 5-13, Weekday Morning Project Generated Trips

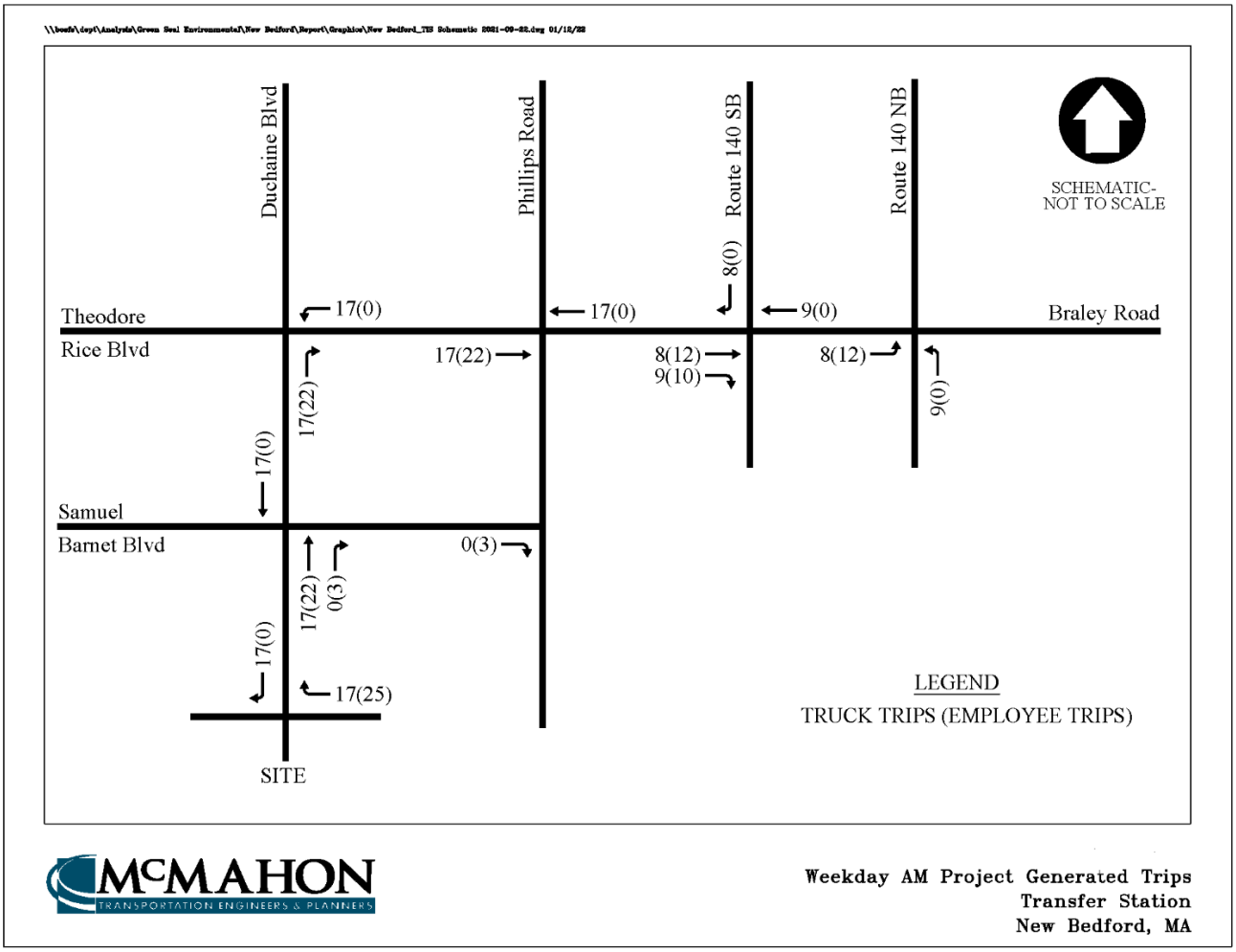


Figure 5-14, Weekday Morning New Project Trips

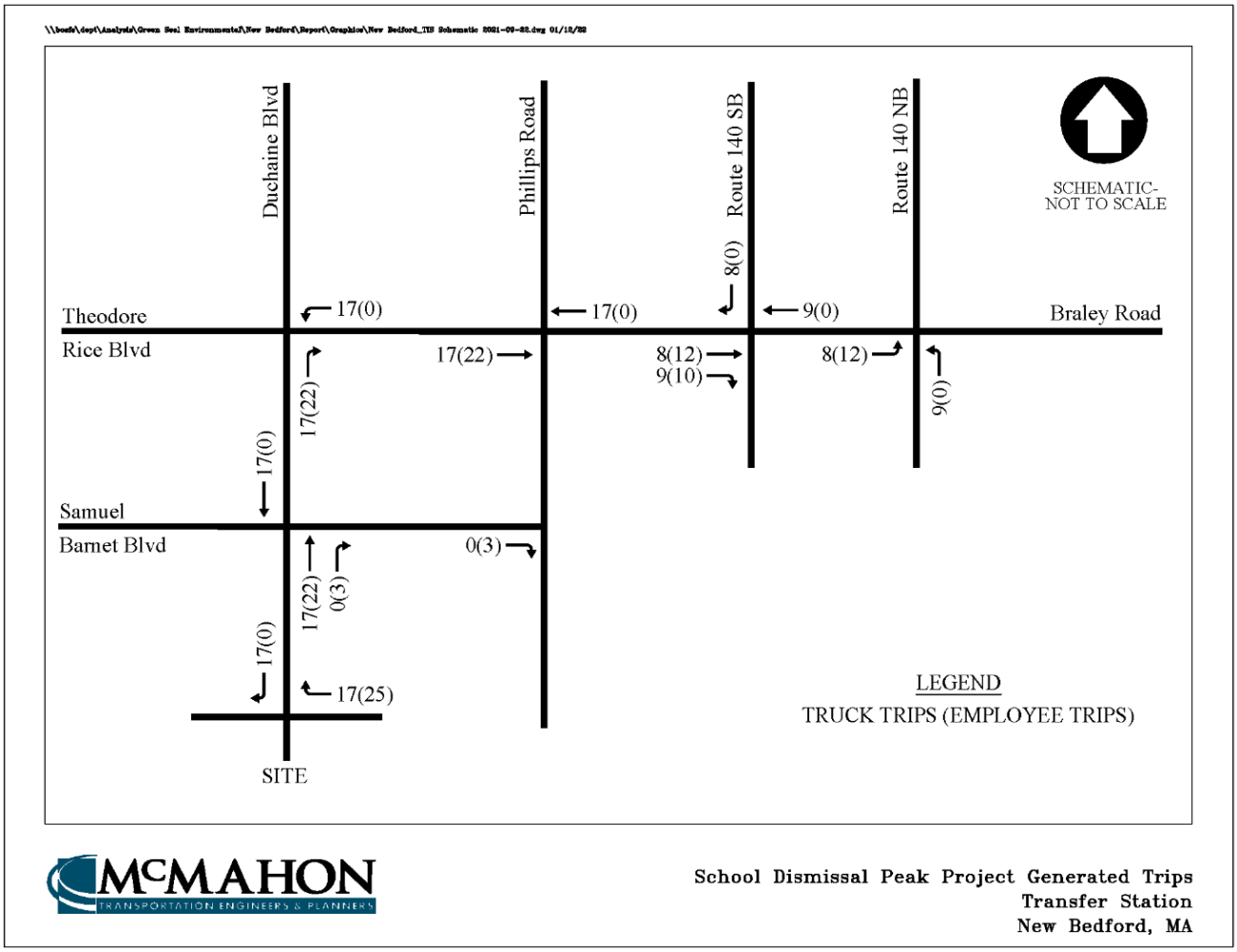


Figure 5-15, Weekday Afternoon Commuter Peak Hour New Project Trips

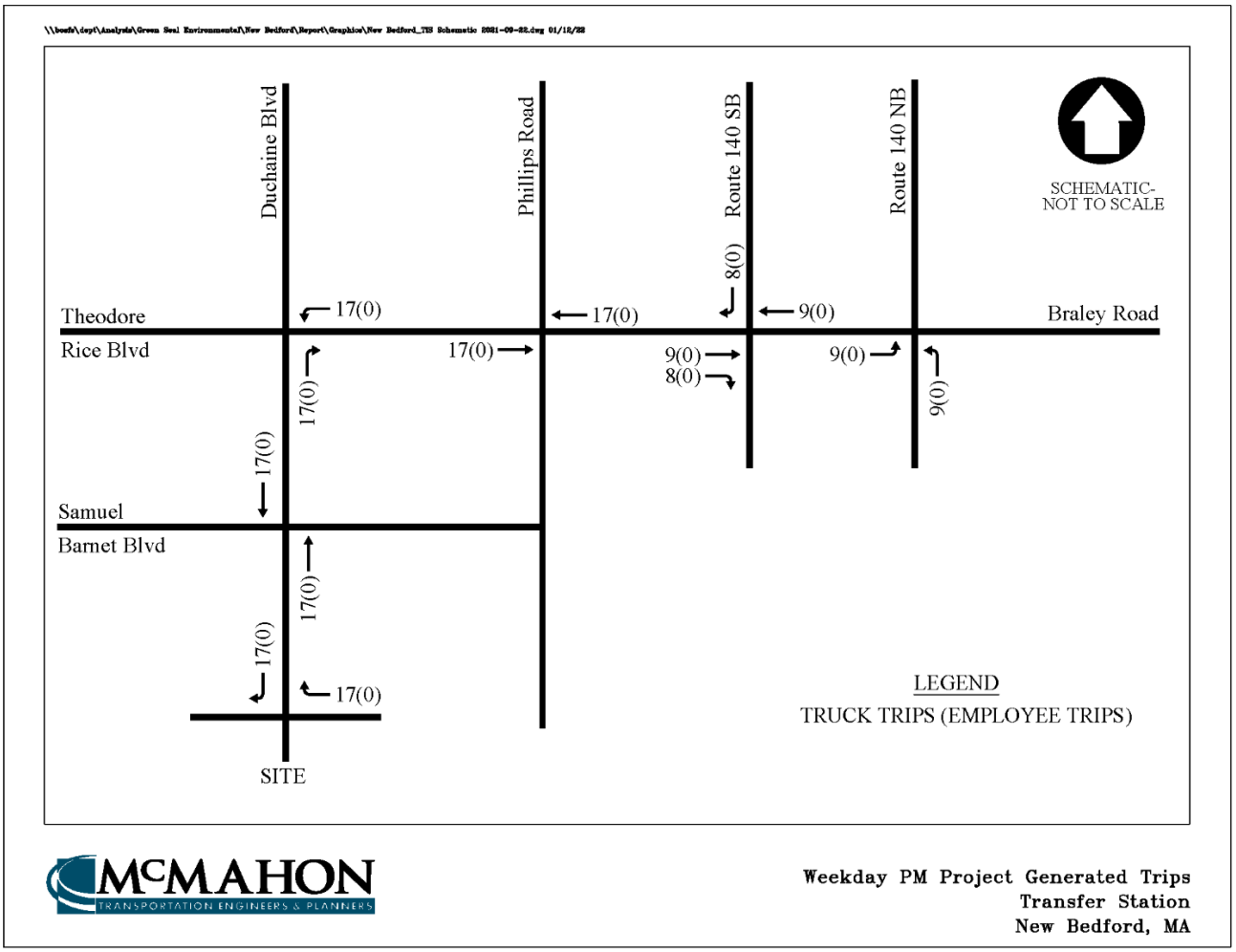


Figure 5-16, 2028 Build Weekday Morning Peak Hour Traffic

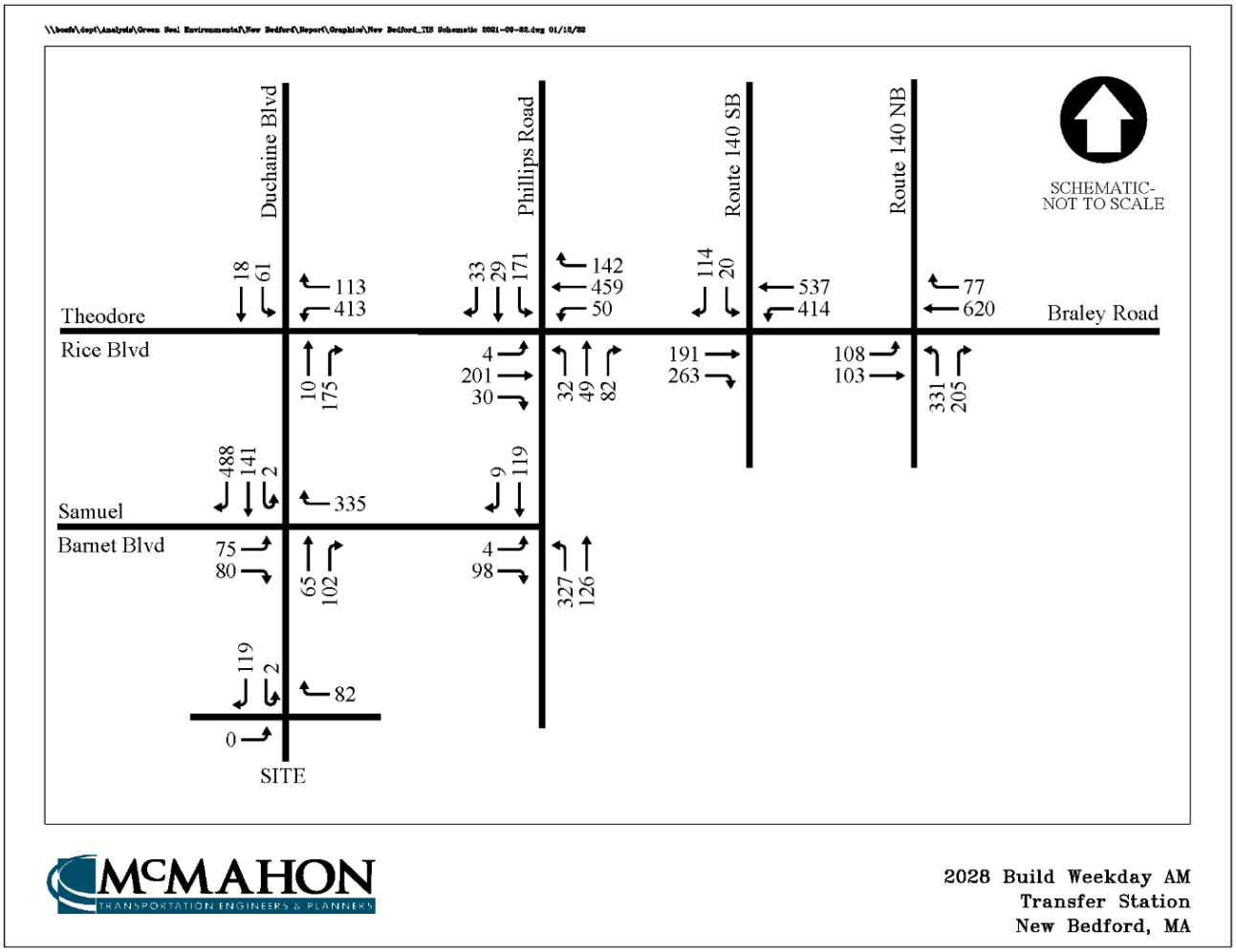


Figure 5-17, 2028 Build Weekday Afternoon School Peak Hour Traffic

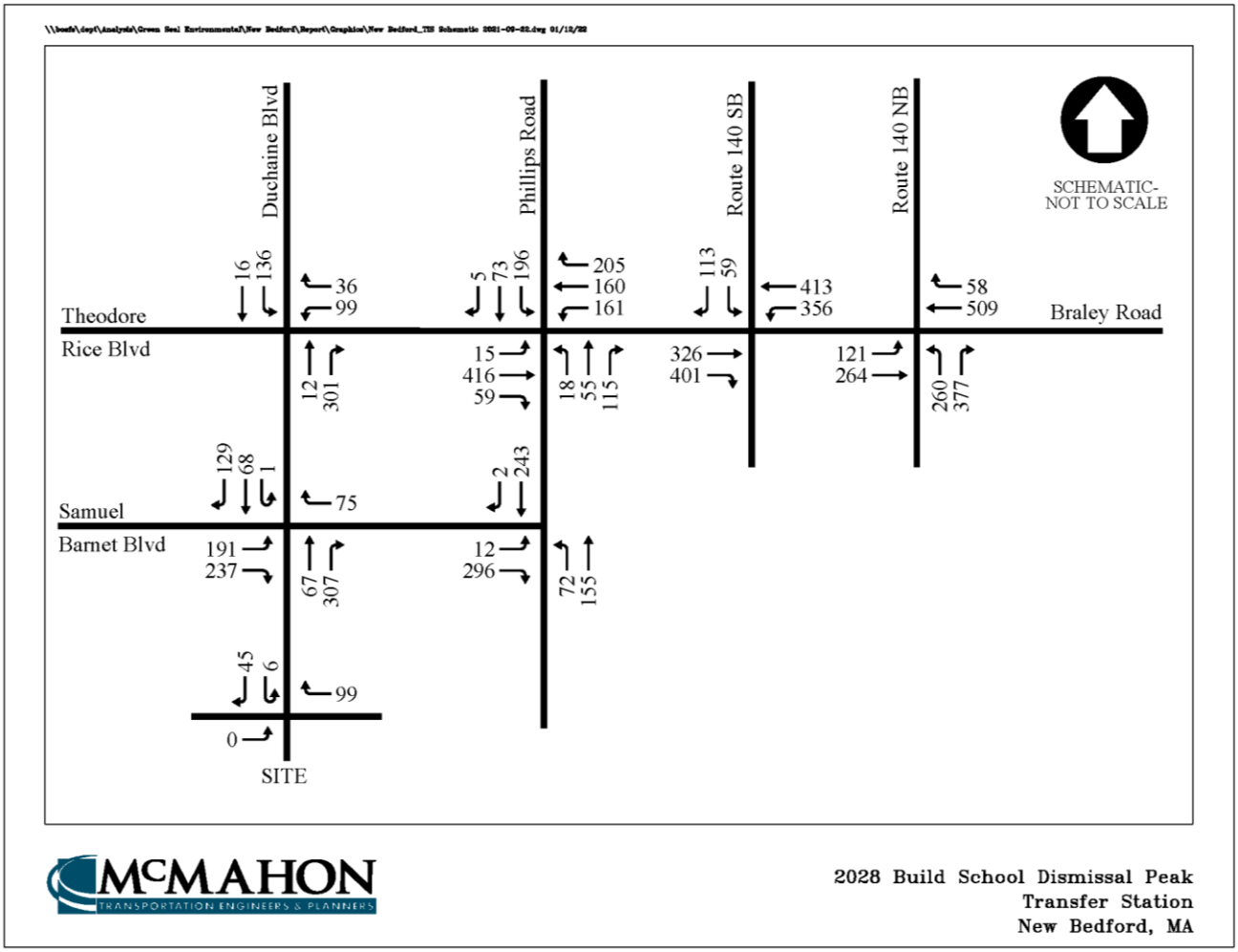
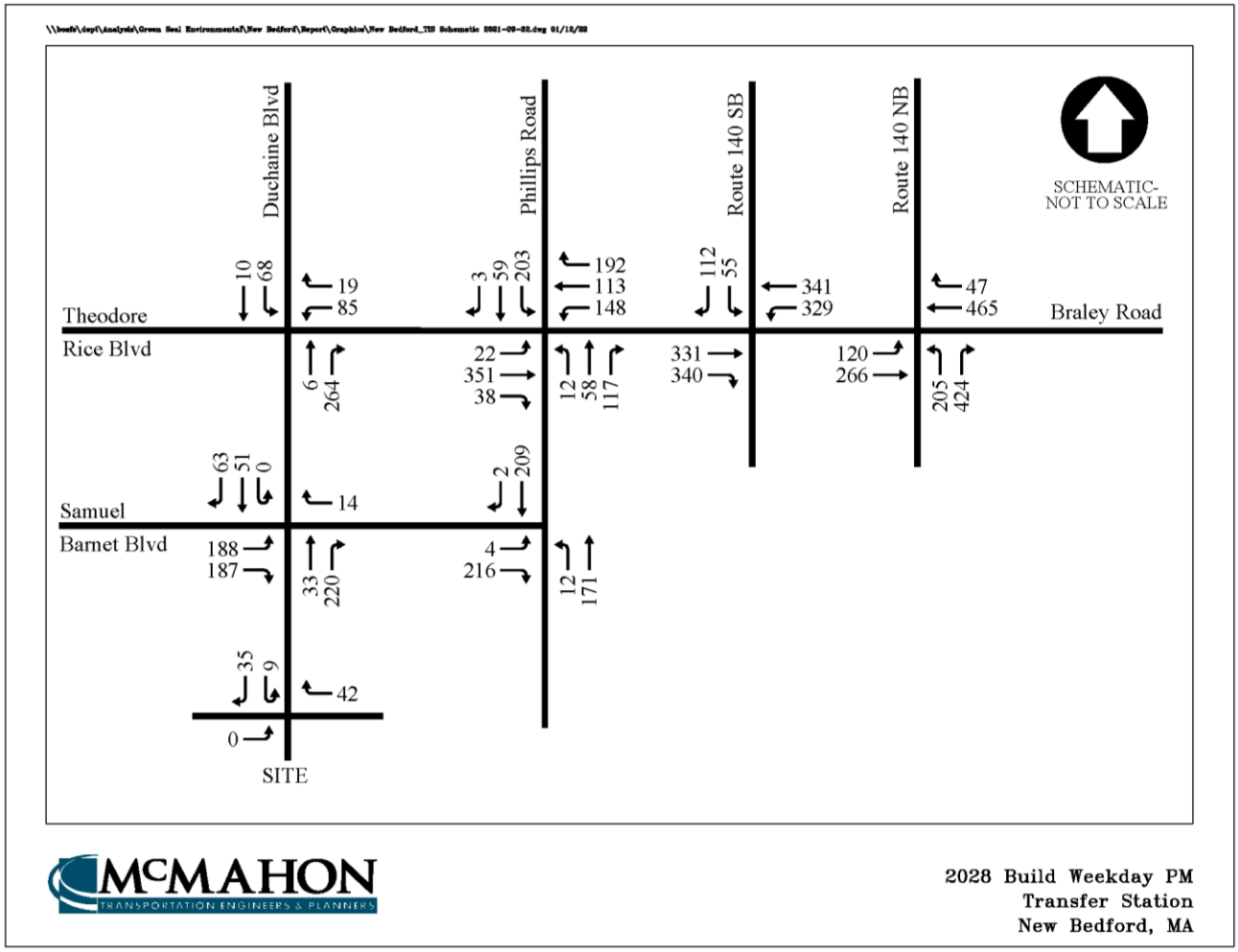


Figure 5-18, 2028 Build Weekday Afternoon Commuter Peak Hour Traffic



5.6 Traffic Operations Analysis

To analyze the traffic impacts associated with the proposed project, MassDOT standards state that future year traffic volumes should be projected based on a seven-year project horizon. The 2021 Existing traffic volumes were projected to the future year 2028, when both phases of the development are expected to be fully built and occupied. Independent of the proposed project, traffic volumes on the roadways in 2028 are assumed to include existing traffic, as well as new traffic resulting from general growth in the study area and from other planned development projects. The potential background traffic growth unrelated to the proposed project was considered in the development of the 2028 No Build (without project) peak hour traffic volumes. The anticipated traffic increases associated with the proposed development were then added to the 2028 No Build volumes to reflect the 2028 Build (with project) traffic conditions. A more detailed description of the development of the 2028 No Build and 2028 Build traffic volume networks follows.

Level-of-Service Criteria

Operating levels of service (LOS) are reported on a scale of A to F with A representing the best conditions (with little or no delay) and F representing the worst operating conditions (long delays).

Capacity Analysis

Intersection capacity analyses were conducted for the study area intersections to evaluate the 2021 Base, 2021 Existing, 2028 No Build, and 2028 Build peak hour traffic conditions. Based on the analysis, the network peak hour of the adjacent street traffic occurs between 6:30 AM and 7:30 AM for the weekday morning peak, between 3:15 PM and 4:15 PM for the weekday afternoon school dismissal peak, and between 4:00 PM and 5:00 PM for the weekday afternoon commuter peak.

As previously noted, the 2028 Build conditions analysis assumes all inbound and outbound material will be transported by truck, and that the proposed facility expansion will include processing of up to 400 tpd of biosolids. In practice, the proposed expansion no longer includes biosolids processing, and the majority of outbound MSW and C&D will be transported from the site by rail. As a result, the 2028 Build analysis presented conservatively estimates the effect of project generated trips on the surrounding roadway network.

Traffic Model Calibration

The traffic analysis model was calibrated to reflect observed field conditions under raw counted 2021 traffic volumes. Critical gap times for the unsignalized approaches at the intersections of Braley Road at the Route 140 Northbound Ramps, Braley Road at the Route 140 Southbound Ramps, and Braley Road at Phillips Road/Theodore Rice Boulevard intersections were adjusted based on measured accepted gap times and observed vehicle queues. Traffic volumes were then adjusted to estimated pre-COVID conditions based on the methodology previously discussed in this report.

Peak hour factors (PHFs)8 were applied to all hourly traffic volumes to account for traffic flow during the peak 15 minutes of the hour. Due to uses with concentrated activity such as arrival and dismissal at Casmir Pulaski elementary school and shift changes in the New Bedford Business Park, very low PHFs were calculated on several intersection approaches in the study area. As a result, applying PHFs on an approach-by-approach basis in accordance with typical MassDOT practice would result in peak flow rates on intersecting approaches that do not normally occur simultaneously. Therefore, PHFs for 2021 Base and 2021 Existing conditions were calculated on an overall intersection basis rather than on an approach-by-approach basis to more accurately reflect typical peak hour conditions in the study area. In accordance with MassDOT Traffic and Safety Engineering 25% Design Submission Guidelines, all PHFs were assumed to be 0.92 under 2028 No-Build and 2028 Build conditions. As a result of increases in PHF under future conditions at selected locations, there may be movements which show a reduction in delay under 2028 No-Build conditions when compared with 2021 Existing conditions.

Capacity Analysis Results

The capacity analysis results for the 2021 Base, 2021 Existing, 2028 No Build, and 2028 Build conditions are presented in Exhibit 12, Appendix J, Appendix K, Appendix L, and Appendix M, respectively. The results of the unsignalized intersection capacity analyses for the critical approaches are presented in Table 5-7 below and in Exhibit 12, Appendix N. The projected queue lengths at the intersections of Braley Road at the Route 140 Northbound Ramps, Braley Road at the Route 140 Southbound Ramps, Braley Road/Theodore Rice Boulevard at Phillips Road, and Theodore Rice Boulevard at Duchaine Boulevard are presented graphically in Figures 5-19A through 5-19L. The specific capacity analysis results of the study area intersections are discussed following Figure 5-19L.

[8] PHF = Total hourly volume / (4 x Peak 15-minute volume). The hourly volume is divided by the PHF to express the flow rate during the peak 15 minutes as an hourly flow rate.

Table 5-7, Capacity Analysis Results

Intersection	Movement		Peak Period	2021 Base LOS[1]	2021 Base Delay[2]	2021 Base V/C[3]	2021 Existing LOS	2021 Existing Delay	2021 Existing V/C	2028 No Build LOS	2028 No Build Delay	2028 No Build V/C	2028 Build LOS	2028 Build Delay	2028 Build V/C
Route 140 Northbound	NB	L	AM	D	28.7	0.69	D	32.1	0.72	F	61.3	0.92	F	89.0	1.02
Ramps at Braley Road			School	F	69.8	0.90	F	83.2	0.95	F	147.3	1.15	F	214.6	1.31
			PM	E	45.7	0.73	E	46.5	0.73	F	59.8	0.82	F	76.6	0.90
		R	AM	A	9.8	0.21	A	9.8	0.21	B	10.1	0.24	B	10.1	0.24
			School	B	14.1	0.49	B	14.1	0.49	C	15.4	0.55	C	15.4	0.55
			PM	C	16.1	0.58	C	16.1	0.58	C	17.2	0.62	C	17.2	0.62
Route 140 Southbound	SB	L	AM	F	56.8	0.24	F	60.8	0.26	F	60.5	0.25	F	68.1	0.28
Ramps at Braley Road			School	F	213.5	0.97	F	235.1	1.02	F	381.0	1.34	F	460.8	1.49
			PM	F	205.4	0.96	F	211.9	0.97	F	135.3	0.77	F	150.3	0.81
		R	AM	B	14.3	0.23	B	14.3	0.23	B	14.3	0.23	C	15.0	0.26
			School	B	12.0	0.17	B	12.0	0.18	B	12.3	0.19	B	12.8	0.21
			PM	B	11.8	0.18	B	11.8	0.18	B	11.5	0.17	B	11.9	0.19
Braley Road/	EB	LT	AM	B	14.1	0.33	C	15.2	0.39	C	15.2	0.39	C	17.4	0.49
Theodore Rice Boulevard			School	E	39.4	0.85	E	48.8	0.92	F	59.0	0.98	F	82.6	1.09
at Phillips Road			PM	F	57.4	0.95	F	58.3	0.96	E	40.5	0.83	E	46.9	0.88
		R	AM	A	10.0	0.06	A	10.0	0.06	A	10.0	0.06	B	10.3	0.07
			School	B	10.9	0.13	B	11.0	0.13	B	11.4	0.13	B	11.6	0.14
			PM	B	11.2	0.10	B	11.2	0.10	B	10.5	0.08	B	10.8	0.08
	WB	LTR	AM	F	108.7	1.14	F	116.5	1.16	F	116.5	1.16	F	141.7	1.22
			School	F	85.3	1.05	F	92.5	1.06	F	113.9	1.14	F	128.5	1.20
			PM	F	93.3	1.07	F	95.0	1.08	F	55.5	0.94	F	68.0	0.99
	NB	LTR	AM	B	13.9	0.36	B	14.2	0.36	B	14.2	0.36	B	14.8	0.38
			School	C	17.8	0.46	C	18.4	0.47	C	19.7	0.50	C	20.5	0.52
			PM	C	21.7	0.55	C	21.8	0.55	C	18.7	0.47	C	19.3	0.48
	SB	LTR	AM	C	16.8	0.51	C	17.3	0.52	C	17.3	0.52	C	18.2	0.54
			School	C	25.0	0.66	D	26.0	0.68	D	28.9	0.72	D	30.3	0.74
			PM	D	31.9	0.75	D	32.2	0.75	D	25.4	0.65	D	26.5	0.67

Intersection	Movement		Peak Period	2021 Base			2021 Existing			2028 No Build			2028 Build		
				LOS[1]	Delay[2]	V/C[3]	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C
Theodore Rice Boulevard	NB	TR	AM	A	0.0	0.04	A	0.0	0.04	A	0.0	0.03	A	0.0	0.03
at Duchaine Boulevard			School	A	0.0	0.01	A	0.0	0.01	A	0.0	0.01	A	0.0	0.01
			PM	A	0.0	0.01	A	0.0	0.01	A	0.0	0.01	A	0.0	0.01
	SB	L	AM	E	44.4	0.49	E	44.8	0.50	D	31.6	0.36	D	34.6	0.39
			School	B	12.1	0.26	B	12.1	0.26	B	11.5	0.22	B	12.1	0.24
			PM	B	10.9	0.14	B	10.9	0.14	B	10.3	0.11	B	10.7	0.11
		T	AM	D	26.7	0.06	D	26.8	0.06	C	22.8	0.05	C	24.1	0.05
			School	B	11.3	0.02	B	11.4	0.02	B	11.1	0.02	B	11.6	0.02
			PM	B	10.7	0.01	B	10.7	0.01	B	10.4	0.01	B	10.7	0.01
Duchaine Boulevard at	EB	L	AM	C	21.4	0.29	C	23.1	0.31	C	20.0	0.25	C	23.1	0.29
Samuel Barnet Boulevard			School	B	13.3	0.38	B	14.2	0.41	B	11.9	0.29	B	13.0	0.32
			PM	B	11.7	0.35	B	11.8	0.35	B	10.4	0.24	B	10.9	0.25
		R	AM	B	11.7	0.15	B	11.7	0.15	B	11.3	0.13	B	11.4	0.13
			School	B	11.3	0.37	B	11.3	0.37	B	10.3	0.27	B	10.4	0.28
			PM	B	10.2	0.29	B	10.2	0.29	A	9.5	0.20	A	9.6	0.21
Phillips Road at	EB	LR	AM	B	10.2	0.13	B	10.2	0.13	B	10.2	0.14	B	10.2	0.14
Samuel Barnet Boulevard			School	C	15.2	0.51	C	15.2	0.52	B	13.5	0.44	B	13.6	0.45
			PM	B	12.6	0.38	B	13.3	0.46	B	11.3	0.30	B	11.3	0.30
Duchaine Boulevard at	WB	R	AM	A	8.6	0.02	A	8.7	0.05	A	8.8	0.08	A	9.3	0.16
Site Driveway			School	A	8.5	0.04	A	8.6	0.08	A	8.6	0.06	A	8.9	0.10
			PM	A	8.5	0.03	A	8.5	0.03	A	8.5	0.03	A	8.9	0.05

1 Level-of-Service

2 Average vehicle delay in seconds

3 Volume to capacity ratio

Figure 5-19A: Weekday Morning Peak Hour Queue Lengths
BRALEY ROAD AT ROUTE 140 NORTH OFF-RAMP

NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

Figure 5-19B: Weekday Morning Peak Hour Queue Lengths
BRALEY ROAD AT ROUTE 140 SOUTH OFF-RAMP

NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

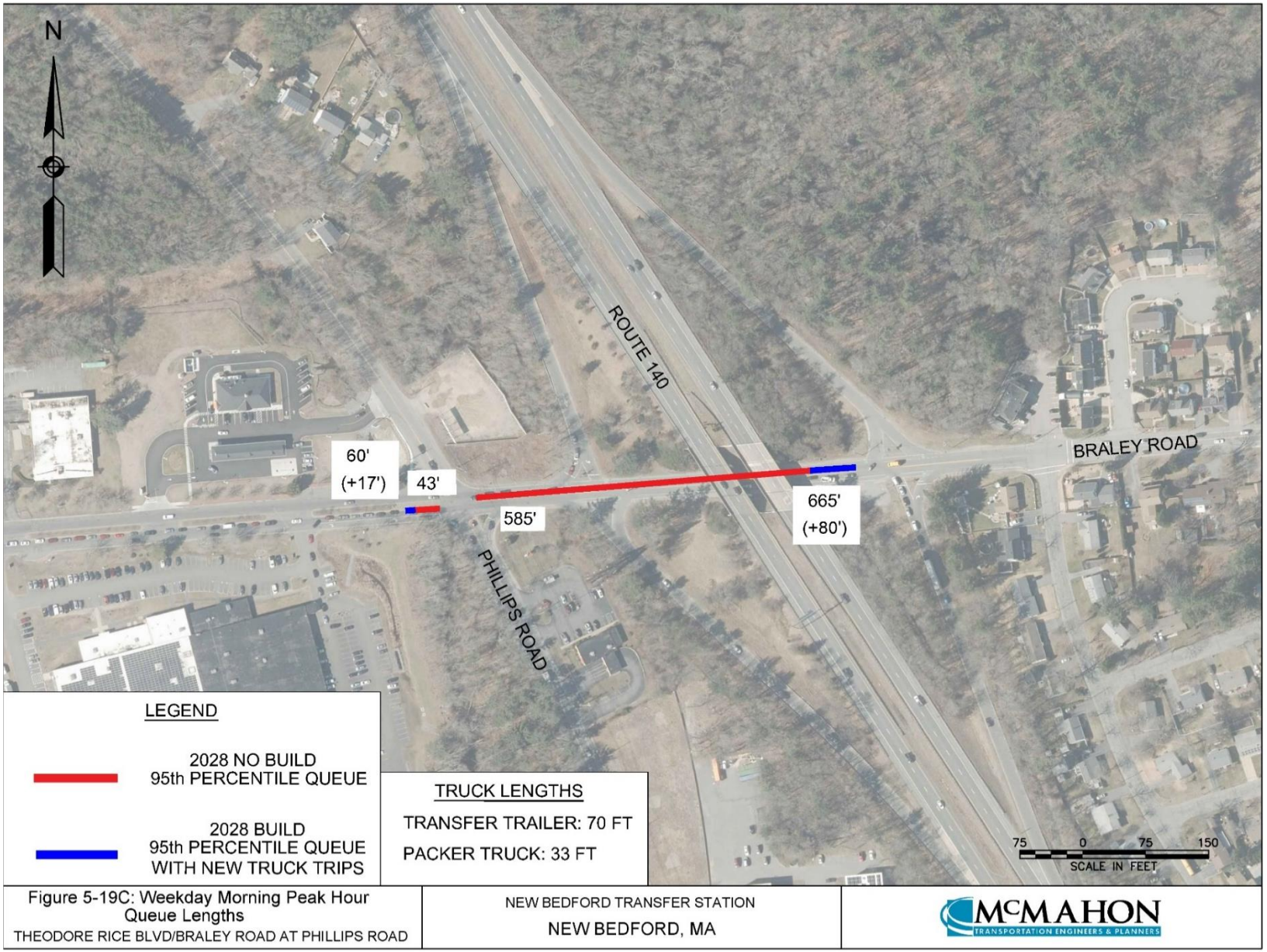


Figure 5-19C: Weekday Morning Peak Hour Queue Lengths
THEODORE RICE BLVD/BRALEY ROAD AT PHILLIPS ROAD

NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

Figure 5-19D: Weekday Morning Peak Hour Queue Lengths
THEODORE RICE BOULEVARD AT DUCHAINE BOULEVARD

NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

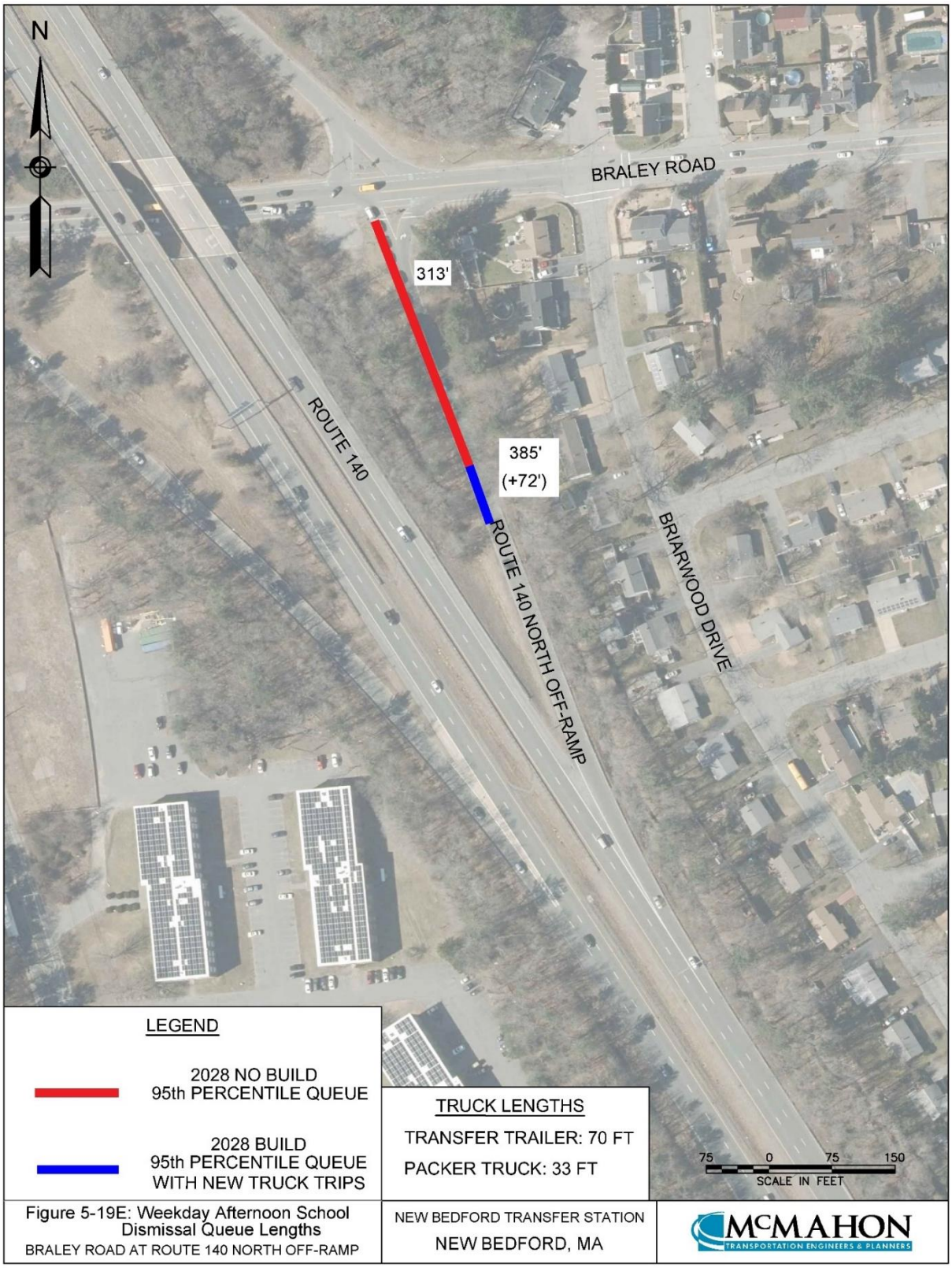


Figure 5-19E: Weekday Afternoon School Dismissal Queue Lengths
BRALEY ROAD AT ROUTE 140 NORTH OFF-RAMP

NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS


N
ROUTE 140 SOUTH OFF-RAMP
ROUTE 140
18'
20' (+2)
BRALEY ROAD
PHILLIPS ROAD
LEGEND
2028 NO BUILD
95th PERCENTILE QUEUE
2028 BUILD
95th PERCENTILE QUEUE
WITH NEW TRUCK TRIPS
TRUCK LENGTHS
TRANSFER TRAILER: 70 FT
PACKER TRUCK: 33 FT
75 0 75 150
SCALE IN FEET
Figure 5-19F: Weekday Afternoon School Dismissal Queue Lengths
BRALEY ROAD AT ROUTE 140 SOUTH OFF-RAMP
NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA
McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

Figure 5-19G: Weekday Afternoon School Dismissal Queue Lengths
THEODORE RICE BLVD/BRALEY ROAD AT PHILLIPS ROAD

NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

Figure 5-19H: Weekday Afternoon School Dismissal Queue Lengths
THEODORE RICE BOULEVARD AT DUCHAINE BOULEVARD

NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

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Figure 5-19I: Weekday Afternoon Commuter Peak Hour Queue Lengths
BRALEY ROAD AT ROUTE 140 NORTH OFF-RAMP

NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

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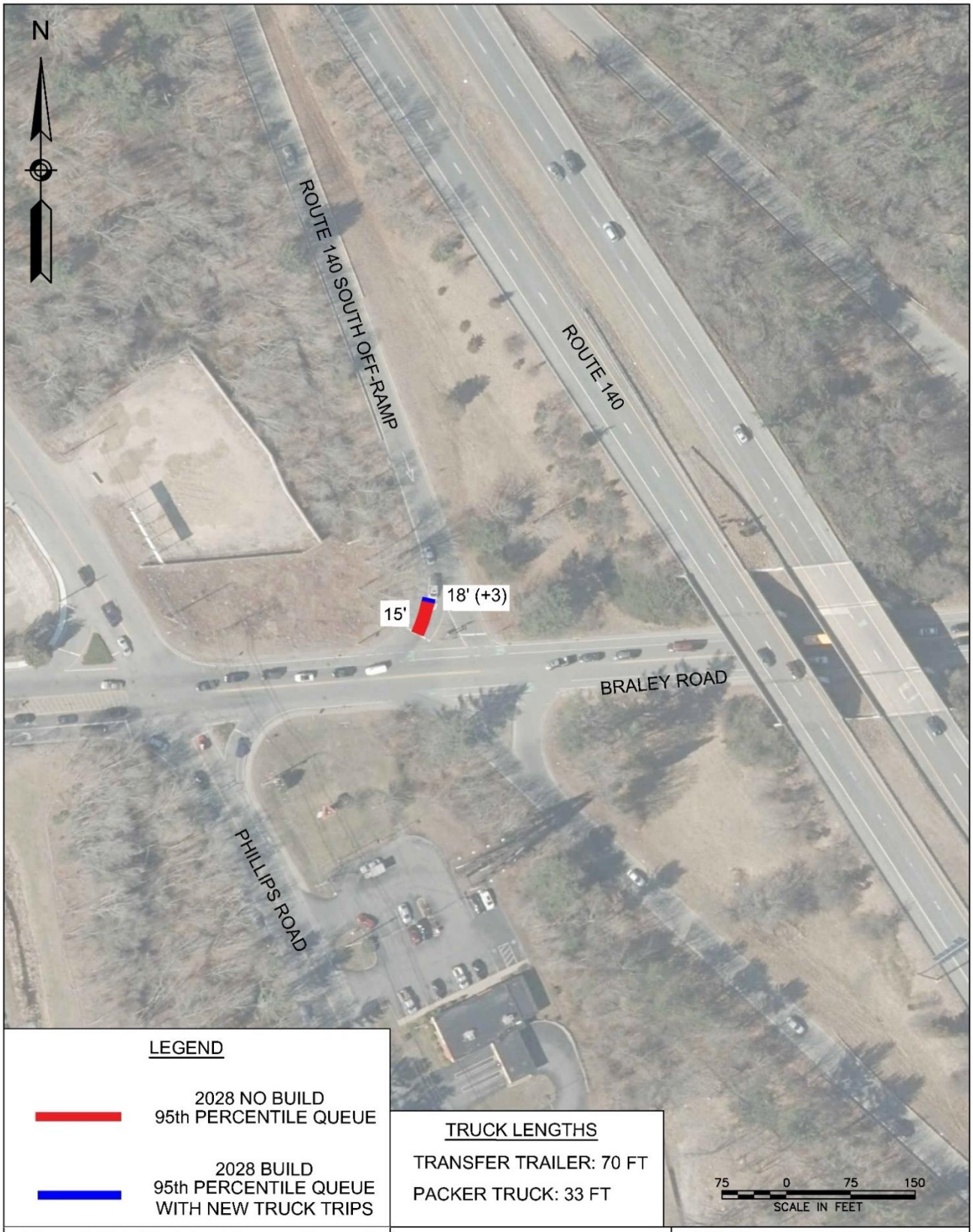

Figure 5-19J: Weekday Afternoon Commuter Peak Hour Queue Lengths
BRALEY ROAD AT ROUTE 140 SOUTH OFF-RAMP

NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

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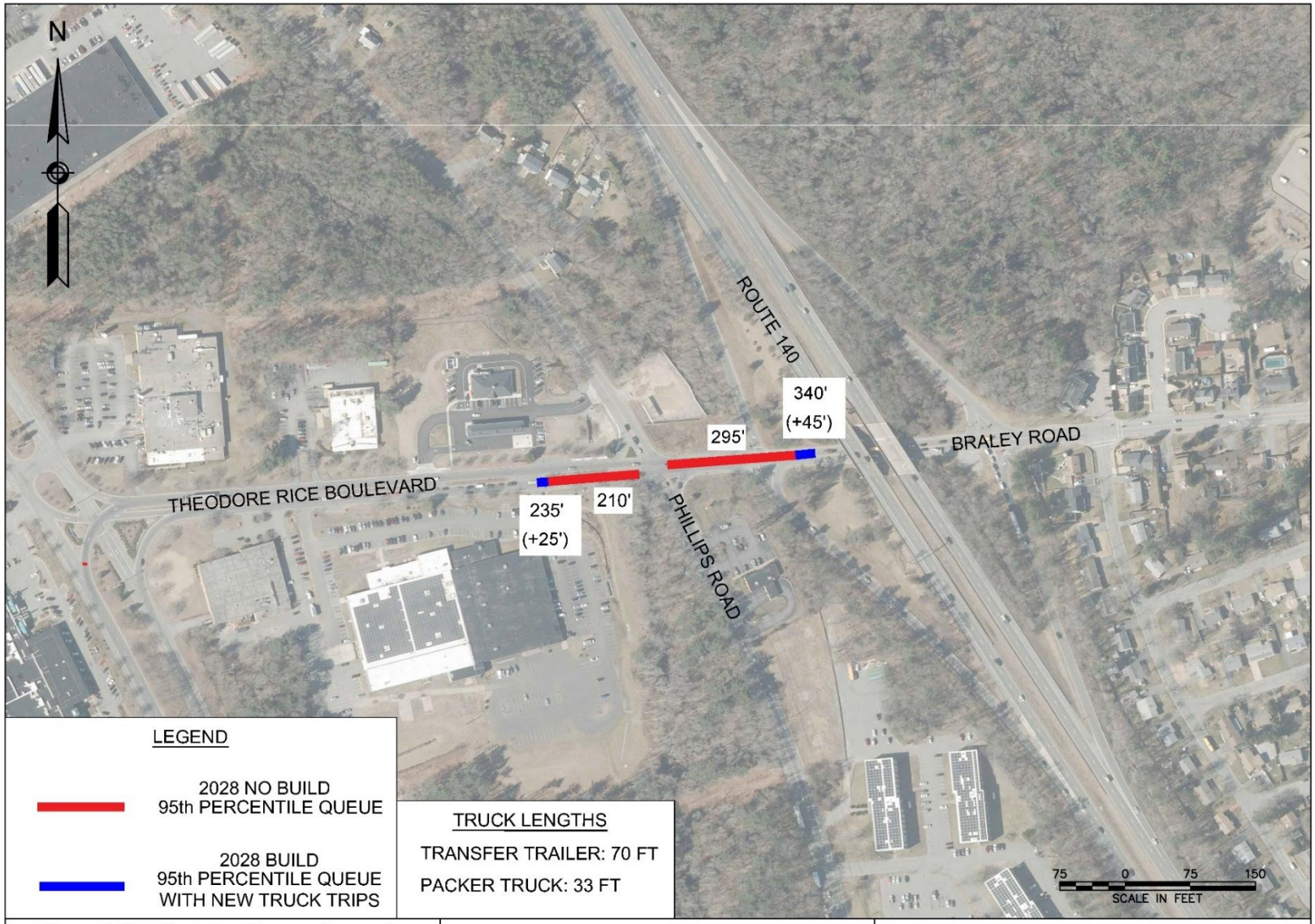


Figure 5-19K: Weekday Afternoon Commuter Peak Hour Queue Lengths
THEODORE RICE BLVD/BRALEY ROAD AT PHILLIPS ROAD

NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

McMAHON TRANSPORTATION ENGINEERS & PLANNERS

Figure 5-19L: Weekday Afternoon Commuter Peak Hour Queue Lengths
THEODORE RICE BOULEVARD AT DUCHAINE BOULEVARD

NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

Route 140 Northbound on/off-ramp at Braley Road

As shown in Table 5-7, the stop-controlled northbound left turn movement at the Route 140 Northbound off-ramp operates at LOS D during the weekday morning peak hour, LOS F during the weekday afternoon school dismissal peak hour, and LOS E during the weekday afternoon commuter peak hour under 2021 Base and Existing conditions. The stop-controlled northbound right -turn movement operates at LOS C or better during all three peak periods reviewed.

Under 2028 No-Build conditions the northbound left-turn movement is projected to operate at LOS F during all three peak periods reviewed, indicating congestion would be present for this movement due to background growth in traffic volumes, independent of the proposed project. The northbound right-turn movement is projected to operate at LOS B during the weekday morning peak hour and LOS C during the weekday afternoon school dismissal and commuter peak hours.

Under 2028 Build conditions, the northbound left-turn movement is projected to continue to operate at LOS F under all three peak periods analyzed with incremental increases in average delay. The northbound right-turn movement is projected to continue to operate at LOS B during the weekday morning peak hour and LOS C during the weekday afternoon school and commuter peak hours. The 95th percentile queue length along the Route 140 northbound off-ramp is projected to increase by 60 feet (approximately two packer trucks or one transfer trailer) during the weekday morning peak hour as shown in Figure 19A, by 72 feet (approximately two packer trucks or one transfer trailer) during the weekday afternoon school dismissal peak hour as shown in Figure 5-19E, and by 33 feet (approximately one packer truck) during the weekday afternoon commuter peak hour as shown in Figure 5-19I.

Route 140 Southbound on/off-ramp at Braley Road

The capacity analysis results show that under the 2021 Base and Existing conditions, the stop-controlled southbound left-turn movement at the Route 140 southbound off-ramp operates at LOS F during all three peak hours analyzed, indicating congestion is present for this movement independent of the proposed project. The southbound right-turn movement is shown to operate at LOS B during all three peak hours reviewed under 2021 Existing and Base conditions.

Under 2028 No-Build conditions, the southbound left-turn movement is projected to continue to operate at LOS F during all three peak periods reviewed due to background growth in traffic volumes, independent of the proposed project. The southbound right-turn movement is projected to operate at LOS B during all three peak hours reviewed under 2028 No-Build conditions.

Under 2028 Build conditions, left-turn movement is projected to continue to operate at LOS F under all three peak period analyzed with incremental increases in average delay. The southbound right-turn movement is projected to operate at LOS C during the weekday morning peak hour due to an increase in average delay of 0.7 seconds per vehicle. During the weekday afternoon school dismissal and commuter peak hours, the southbound right-turn movement is projected to continue to operate at LOS B. The Route 140 southbound off-ramp is projected to experience a negligible increase in queues as a result of project generated trips. The 95th percentile queue length is projected to increase by 2 feet

during the weekday morning peak hour and weekday afternoon school dismissal peak hour as shown in Figures 5-19B and 5-19F, respectively, and by 3 feet during the weekday afternoon commuter peak hour as shown in Figure 5-19I.

Braley Road/Theodore Rice Boulevard at Phillips Road

The intersection of Braley Road/Theodore Rice Boulevard at Phillips Road operates under all-way stop sign control. Under 2021 Base and Existing conditions, congestion is experienced on the eastbound Theodore Rice Boulevard and westbound Braley Road approaches during one or more of the peak periods analyzed. The left-turn/through lane on the eastbound approach is shown to operate at acceptable LOS B during the weekday morning peak hour under 2021 Base conditions and LOS C under Existing conditions, but experiences delays during the weekday afternoon school and commuter peaks, operating at LOS E during the weekday afternoon school peak under both 2021 Base and Existing conditions, and LOS F during the weekday afternoon commuter peak hour under both 2021 Base and Existing conditions. The eastbound Theodore Rice Boulevard right-turn movement operates at LOS B or better under both 2021 Base and Existing conditions during all three peak hours reviewed. The westbound Braley Road approach is shown to operate at LOS F during all three peak hours reviewed under both 2021 Base and Existing conditions, indicating existing congestion independent of the proposed project. The northbound Phillips Road and southbound Braley Road approaches operate at LOS D or better during all three peak hours reviewed under both 2021 Base and Existing conditions, indicating operations with acceptable levels of delay.

Under 2028 No Build conditions, the eastbound Theodore Rice Boulevard left-turn/through movement operates at LOS C during the weekday morning peak hour as under 2021 Existing conditions, but experiences congestion in the afternoon. During the weekday afternoon school dismissal peak hour, the eastbound left-turn/through movement degrades from LOS E under 2021 Existing conditions to LOS F under 2028 No-Build conditions. During the weekday afternoon commuter peak hour, the eastbound left-turn/through movement shows a minor improvement from LOS F under 2021 Existing conditions to LOS E under 2028 No-Build conditions due to the increase in peak hour factor (PHF) used in the analysis of forecasted conditions discussed previously. The westbound Braley Road approach is shown to continue to operate at LOS F during all three peak hours reviewed. Similarly, the northbound Phillips Road and southbound Braley Road approaches and the eastbound Theodore Rice Boulevard right-turn movement are expected to continue to operate at the same LOS as 2021 Existing conditions with acceptable levels of delay (LOS D or better).

Under 2028 Build conditions, the left-turn/through movement along the eastbound Theodore Rice Boulevard approach is projected to continue to operate at LOS F during the weekday afternoon school dismissal peak hour and LOS E during the weekday afternoon commuter peak hour due to existing congestion independent of the proposed project, with incremental increases in delay due the addition of project-generated trips. Similarly, the westbound Braley Road approach is projected to continue to operate at LOS F during all three peak hours reviewed. All other movements at the Braley Road/Theodore Rice Boulevard at Phillips Road intersection are projected to operate at LOS D or better with acceptable levels of delay under 2028 Build conditions during all three peak hours

reviewed. The 95th percentile queue lengths are projected to increase by 17 feet (less than one packer truck) along the eastbound Theodore Rice Boulevard approach and by 80 feet (approximately three packer trucks or one transfer trailer) along the westbound Braley Road approach during the weekday morning peak hour as shown in Figure 5-19C; by 72 feet (approximately two packer trucks or one transfer trailer) along the eastbound Theodore Rice Boulevard approach and by 35 feet (approximately one packer truck) along the westbound Braley Road approach during the weekday afternoon school dismissal peak hour as shown in Figure 5-19G; and by 25 feet (approximately one packer truck) along the eastbound Theodore Rice Boulevard approach and by 45 feet (approximately one packer truck) along the westbound Braley Road approach during the weekday afternoon commuter peak hour as shown in Figure 5-19K.

Theodore Rice Boulevard at Duchaine Boulevard

The stop-controlled northbound approach at the intersection of Theodore Rice Boulevard at Duchaine Boulevard is shown to operate at LOS A during all three peak hours analyzed under the 2021 Base and Existing conditions. The southbound left-turn movement is shown to operate at LOS E during the weekday morning peak hour and LOS B during the weekday afternoon school dismissal and commuter peak hours during both 2021 Base and Existing conditions, while the southbound through movement is shown to operate at LOS D during the weekday morning peak hour and LOS B during the weekday afternoon school and commuter peak hours. LOS B during the weekday afternoon school dismissal and commuter peak hours during both 2021 Base and Existing conditions, while the southbound through movement is shown to operate at LOS D during the weekday morning peak hour and LOS B during both the weekday afternoon school dismissal and commuter peak hours under 2021 Base and Existing conditions.

Under the 2028 No Build conditions, the stop-controlled northbound approach is projected to continue to operate at LOS A during all three peak hours reviewed. The southbound left-turn movement is shown to operate at LOS D during the weekday morning peak hour, with reduced delay compared with 2021 Existing conditions due to the increase in PHF used in the analysis of forecasted conditions discussed previously. During the weekday afternoon school dismissal and commuter peak hours, the southbound left-turn movement is projected to continue to operate at LOS B. Similarly, the southbound through movement is projected to operate at LOS C during the weekday morning peak hour with a reduction in delay compared with 2021 Existing conditions due to the increase in PHF assumed under forecasted conditions, and is projected to continue to operate at LOS B during the weekday afternoon school dismissal and commuter peak hours.

Under 2028 Build conditions, all movements are projected to operate at equivalent LOS with minor incremental increases in delay of 3 seconds or less compared with 2028 No Build conditions during all three peak hours reviewed. Similarly, 95th percentile queue lengths are projected to remain largely unchanged from No-Build conditions during the weekday morning, weekday afternoon school dismissal, and weekday afternoon commuter peak hours, as shown in Figures 5-19D, 5-19H, and 5-19L, respectively.

Duchaine Boulevard at Samuel Barnet Boulevard

Under the 2021 Base and Existing conditions, the left-turn and right-turn movements along the stop-controlled eastbound Samuel Barnet Boulevard approach are shown to operate at LOS C or better during all three peak hours reviewed, and are projected to continue to operate at LOS C or better under both 2028 No Build and 2028 Build conditions.

Phillips Road at Samuel Barnet Boulevard

The stop-controlled eastbound Samuel Barnet Boulevard approach is shown to operate at LOS C or better during all three peak hours reviewed under 2021 Base and Existing conditions.

Under the 2028 No Build conditions, the stop controlled eastbound approach is expected to operate at LOS B during all three peak hours reviewed, with slight reductions in delay compared with 2021 Existing conditions due to the increase in PHF assumed under forecasted conditions. With the addition of project-generated trips under 2028 Build conditions, all movement are projected to continue to operate at LOS B during all three peak hours reviewed.

Duchaine Boulevard at Site Driveway

The stop-controlled westbound approach is shown to operate at LOS A during all three peak hours reviewed under 2021 Base and Existing conditions, and is projected to continue to operate at LOS A under both 2028 No Build and Build conditions.

5.7 Mitigation

Potential measures were analyzed to evaluate mitigation to the study area intersections. Mitigation alternatives analyzed included signalizing the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard if approved by the City. To determine if signalization is appropriate, a signal warrant analysis was completed for this intersection. In addition, the Proponent will consider Transportation Demand Management (TDM) measures and will allocate up to $5,000 toward a Heavy Commercial Vehicle Exclusion study for Phillips Road from Route 140 to Braley Road should the City of New Bedford choose to pursue a HCVE through MassDOT.

MassDOT has been contacted to request a meeting, but the meeting has not yet been scheduled. Although the proposed project does not meet the MEPA threshold for transportation review, MassDOT provided a comment letter to the Expanded Environmental Notification Form (EENF) dated March 19, 2019. The MassDOT comment letter noted that "The additional traffic volumes associated with the project is not expected to significantly impact safety" and "2025 Build conditions experience slightly increased delays compared to the 2025 No-Build conditions, but the delays were not significant enough to impact LOS in most cases." Mitigation recommended in the MassDOT comment letter was limited to providing a Transportation Demand Management program, which is discussed below. The MassDOT EENF comment letter is included in Exhibit 12, Appendix O of this report.

All mitigation elements proposed within this NPC-SFEIR can be found in Section 8.0 Mitigation and Draft Section 61 Findings.

Traffic Signal Warrant Analysis

A traffic signal warrant analysis was performed for the study area intersection of Braley Road at Phillips Road/Theodore Rice Boulevard analysis was based on procedures outlined in the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD) as amended. The MUTCD establishes nine criteria, referred to as warrants, for the installation of traffic signals. The warrants are based upon traffic volumes, existing roadway conditions, crash history, pedestrian volumes, and proximity to schools. The manual states that satisfaction of these warrants does not in itself require the installation of a traffic signal. However, a traffic signal should not be installed unless one or more of the warrants is met.

The analyses performed are based on the criteria for Warrant 1 (Eight-Hour), Warrant 2 (Four-Hour) and Warrant 3 (Peak Hour) volume warrants. The following warrants were not applicable to this project: Warrant 4 (Pedestrian Volumes), Warrant 5 (School Crossing), Warrant 6 (Coordinated Signal System), Warrant 7 (Crash Experience), Warrant 8 (Roadway Network), and Warrant 9 (Intersection Near a Grade Crossing).

The Warrant 1 (Eight-Hour) and Warrant 2 (Four-Hour) vehicular volume signal warrants are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing traffic signal control at an intersection. Warrant 1 is separated into Conditions A and B. According to the MUTCD, "the Minimum Vehicular Volume, Condition A, is intended for application at locations where a large volume of intersection traffic is the principal reason to consider installing a traffic control signal." The MUTCD also sets forth guidelines for Condition B, stating "the Interruption of Continuous Traffic, Condition B is intended for application at locations where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street. In order for this warrant to be met, minimum vehicular volumes for the major street and minor street, found in Table 4C-1 of the MUTCD, must be exceeded. If any one condition is satisfied, Warrant 1 is met.

To satisfy Warrant 2, the plotted points representing the hourly volumes on the major street and minor street intersection approaches during any four hours of an average weekday must fall above the applicable curve in Figure 4C-2 of the MUTCD.

The Warrant 3 (Peak Hour) vehicular volume signal warrant is intended for use at a location where traffic conditions are such that for a minimum of one hour of an average day, the minor-street traffic experiences undue delay when entering or crossing the major street. Warrant 3 is satisfied when the plotted point representing the total hourly traffic volume of both approaches on the major street and the corresponding hourly volume of the higher-volume minor street approach for one hour of an average day falls above the applicable curve in Figure 4C-4 of the MUTCD.

Analyses for Warrants 1, 2, and 3 were performed using the adjusted 2021 Existing, 2028 No Build, and 2028 Build traffic volumes at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard. The results of the signal warrant analysis are provided in Exhibit 12, Appendix P, and a summary of the results of the signal warrant analysis is shown in Table 5-8.

Table 5-8, Traffic Signal Warrant Summary

Braley Road at Phillips Road/Theodore Rice Boulevard	Warrant 1: Eight-Hour	Warrant 2: Four-Hour	Warrant 3: Peak Hour
2021 Existing	☑		
2028 No Build	☑	☑	
2028 Build	☑	☑	

According to the warrant analysis results, the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard warrants the installation of a traffic signal based on Warrants 1 and 2 under 2028 No Build conditions, *independent of the proposed project*.

Subject to approval by the City of New Bedford, the Proponent proposes to fund the construction of a fully actuated traffic signal at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard to mitigate congestion. It is anticipated that the signal will operate with three phases: one vehicle phase for eastbound Theodore Rice Boulevard and westbound Braley Road, one vehicle phase for northbound Phillips Road and southbound Braley Road, and an exclusive pedestrian phase. It is anticipated that marked crosswalks will be provided across the northern and eastern Braley Road legs of the intersection, as there is no sidewalk on the southwest corner of the intersection. The results of the signalized intersection capacity analyses for the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard are presented in Table 5-9 below and in Exhibit 12, Appendix Q.

Table 5-9, Capacity Analysis Results with Mitigation

Intersection	Movement		Peak Period	2028 Build LOS[1]	2028 Build Delay[2]	2028 Build V/C[3]	2028 Build with Mitigation LOS	2028 Build with Mitigation Delay	2028 Build with Mitigation V/C
Braley Road/	EB	LT	AM	C	17.4	0.49	A	8.2	0.27
Theodore Rice Boulevard at			School	F	82.6	1.09	B	14.0	0.49
Phillips Road			PM	E	46.9	0.88	B	13.1	0.44
		R	AM	B	10.3	0.07	A	1.1	0.04
			School	B	11.6	0.14	A	3.8	0.07
			PM	B	10.8	0.08	A	2.4	0.05
	WB	LTR	AM	F	141.7	1.22	B	19.0	0.81
			School	F	128.5	1.20	E	58.0	1.00
			PM	F	68.0	0.99	C	24.1	0.78
	NB	LTR	AM	B	14.8	0.38	C	22.0	0.42
			School	C	20.5	0.52	B	17.0	0.41
			PM	C	19.3	0.48	B	15.9	0.38
	SB	LTR	AM	C	18.2	0.38	D	50.4	0.84
			School	D	30.3	0.74	E	78.4	0.98
			PM	D	26.5	0.67	E	78.7	0.98
	Overall		*AM*	*F*	*80.2*	*n/a*	*C*	*23.0*	*0.82*
			School	*F*	*78.5*	*n/a*	*D*	*41.5*	*0.92*
			PM	*E*	*45.1*	*n/a*	*C*	*30.2*	*0.84*

1 Level-of-Service

2 Average vehicle delay in seconds

3 Volume to capacity ratio (Intersection capacity utilization reported for overall)

The intersection of Braley Road/Theodore Rice Boulevard at Phillips Road is currently unsignalized but is proposed to be signalized as potential mitigation for the proposed project. As shown in Table 5-9, operations for the eastbound Theodore Rice Boulevard left-turn/through movement are projected to improve from LOS F to LOS B during the weekday school dismissal peak hour and from LOS E to LOS B during the weekday afternoon commuter peak hour. The westbound Braley Road approach is projected to improve from LOS F during all three peak hours reviewed to LOS B during the weekday morning peak hour, LOS E during the weekday afternoon school dismissal peak hour, and LOS C during the weekday afternoon commuter peak hour. Operations along the northbound Phillips Road approach are projected to operate at LOS C or better during all three peak hours reviewed. Operations along the southbound Braley Road approach are projected to worsen compared with unsignalized conditions, operating at LOS D during the weekday morning peak hour and LOS E during the weekday afternoon school dismissal and commuter peak hours. The degradation in LOS for the southbound

approach is primarily due to the change from all-way STOP control, where each approach is given equal priority, to traffic signal control, where the higher-volume eastbound and westbound approaches are given more green time. Overall intersection operations are projected to improve from LOS F during the weekday morning and afternoon school dismissal peak hours and LOS E during the weekday afternoon commuter peak hour under unsignalized conditions to LOS C during the weekday morning peak hour, LOS D during the weekday afternoon school dismissal peak hour, and LOS C during the weekday afternoon commuter peak hour under signalized conditions. Based on the analyses presented, signalization mitigates project generated impacts to the greatest extent feasible and satisfies the MassDOT Traffic Impact Assessment Guidelines.

Braley Road at Route 140 Ramps

As indicated in the Traffic Operations Analysis section above, the addition of project generated trips at the intersections of Braley Road at the Route 140 Northbound and Southbound Ramps increases average vehicle delay and v/c ratios on the STOP-controlled ramp movements, which already operate at LOS F under existing conditions. 95th percentile queues on the ramps are projected to increase by a maximum of 72 feet (approximately two packer trucks or one transfer trailer) on the Route 140 northbound ramp, and a maximum of 3 feet on the Route 140 southbound ramp with the addition of project generated trips. As the incremental impact on the Route 140 ramps due to the proposed project is minimal and the installation of traffic signals at the intersections of Braley Road with the Route 140 ramps would adversely impact currently uncontrolled traffic on the eastbound and westbound Braley Road approaches, there is no feasible mitigation to reduce project generated impacts at the Route 140 ramp intersections.

Transportation Demand Management

A Transportation Demand management (TDM) plan is proposed to further mitigate the project's traffic impacts to the surrounding roadway network. These measures are anticipated to reduce single occupancy vehicle (SOV) trips among employees, and to encourage the use of alternative modes of transportation to the site, the project Proponent is proposing to apply the following TDM measures:

- Providing opportunities for employees to participate in transit subsidy or reimbursement programs.
- Informing employees of nearby transit stops and bicycle and pedestrian amenities.
- Coordinate with SRTA to consider revising existing transit service to better service the project site.
- Implementing a carpool system among employees.
- Direct deposit offered to employees.
- Providing preferential parking for carpools and vanpools.
- Providing incentives to encourage bicycle ridership to the site, such as bike racks and other storage facilities on site.
- Subject to request and subsequent approval by the City of New Bedford and New Bedford Business Park, providing striped bicycle lanes along Duchaine Boulevard and shared bicycle

markings along Theodore Rice Boulevard to provide connectivity to the existing bicycle amenities along Braley Road.

5.8 Conclusions and Recommendations

Phase 2 of the proposed project consists of expanding the existing facility at 100 Duchaine Boulevard to accommodate a receiving capacity of approximately 1,500 tons per day (tpd) of solid waste. The site is currently utilizing the existing buildings on the site to process plastic, aluminium, and recyclable glass as part of Phase 1 of the project. The site is proposed to be accessed via the existing site driveway on Duchaine Boulevard, which leads to an internal one-way loop roadway surrounding the proposed facility.

The estimated trip generation for Phase 2 incorporated several assumptions to present a conservative analysis, including no reduction in trips for backhauls or outbound material being transported by rail. In addition, the traffic associated with the previously proposed biosolids facility has remained in this study although the biosolids component is no longer being proposed. Based on these assumptions, Phase 2 of the proposed project is expected to generate a total of 59 vehicle trips (17 entering and 42 exiting) during the weekday morning peak hour, 59 vehicle trips (17 entering and 42 exiting) during the school dismissal peak hour, and 59 vehicle trips (17 entering and 42 exiting) during the weekday afternoon peak hour. Over the course of a typical weekday, Phase 2 of the proposed project is estimated to result in approximately 478 total vehicle trips, including facility employee commuting (239 entering and 239 exiting).

Based on the capacity analysis results, the approaches under stop control at the Route 140 off-ramps onto Braley Road and at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard operate over capacity and with high delays under the 2021 Base conditions. These movements carry a majority of the traffic accessing the industrial park on Duchaine Boulevard during the peak hours. The proposed project would result in minor increases in delay on these over-capacity movements within the study area.

Based on the MUTCD traffic signal warrant analysis, the installation of a traffic signal at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard is warranted under 2021 Existing traffic volumes independent of the project, as a result of existing development in the area. Subject to approval by the City of New Bedford, the Proponent proposes to fund the construction of a fully actuated traffic signal at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard to mitigate congestion experienced under existing conditions. With the installation of a traffic signal, overall intersection operations are projected to improve from LOS F to LOS C during the weekday morning peak hour, from LOS F to LOS D during the weekday afternoon school dismissal peak hour, and from LOS E to LOS C during the weekday afternoon commuter peak hour. In addition, the Proponent will consider Transportation Demand Management (TDM) measures and will allocate up to $5,000 toward a Heavy Commercial Vehicle Exclusion study for Phillips Road from Route 140 to Braley Road should the City of New Bedford choose to pursue a HCVE through MassDOT.

Based on the analyses presented, the proposed mitigation measures mitigate project generated impacts to the greatest extent feasible and satisfies the MassDOT Traffic Impact Assessment Guidelines. Additionally, it is our opinion that the traffic impacts of the proposed development of this solid waste facility located at 100 Duchaine Boulevard do not constitute a danger to the public health, safety, or the environment with consideration to traffic congestion, pedestrian, and vehicular safety, and roadway configuration.

6.0 Revised Noise Analysis

This revised noise analysis documents how the project's noise impacts will be mitigated to the maximum extent practical. It evaluates a full set of potential noise control measures, and provides greater detail as to how the Proponent will adopt all mitigation measures that are technologically and economically feasible. This revised analysis summarizes and updates information provided in prior MEPA filings[9] and addresses the noise level impacts associated with project changes since the FEIR. In order to evaluate the effectiveness of each measure, computer noise modeling was used to present impacts with and without mitigation measures.

6.1 Project Description

Project operations as described in prior filings can generate sound from multiple sources, including noise from trucks, rail related operations, front-end loaders, material tipping, processing and loading, and building ventilation fans. The most notable change since the FEIR is the removal of the biosolids facility from the project, and the associated revisions to the site plans, as described in Section 2.2.1 of this NPC-SFEIR.

6.2 Sound Metrics

As described in prior filings, sound levels are measured using the logarithmic decibel (dB) scale, and the A-weighting network is used to convert sounds of different frequencies to an overall sound level as perceived by the human ear. The L90 is the sound level exceeded 90 percent of the time during the measurement period, and the Leq is the equivalent level – the level of a hypothetical steady sound that would have the same energy as the actual fluctuating sound observed. Day-night average noise level (DNL) is the energy average of A-weighted decibels (dBA) sound level over a 24-hour period. DNL includes an adjustment factor for noise between 10 p.m. and 7 a.m. to account for the greater sensitivity of most people to noise during the night. The effect of nighttime adjustment is that one nighttime event is equivalent to 10 similar events during the daytime.

6.3 Noise Regulations

MassDEP regulates noise through 310 CMR 7.10, which requires facility owners/operators to take necessary precautions to prevent emissions from the source of sound that may cause noise, and through 310 CMR 7.11, which states that motor vehicles must comply with pertinent regulations of the Registry of Motor Vehicles relative to sound emissions. The February 1, 1990 policy document from the Department of Environmental Quality Engineering (the predecessor to MassDEP) states that a source of sound will be considered to be violating 310 CMR 7.10 if the source increases the broadband sound level by more than 10 dB(A) above ambient or produces a "pure tone" condition. The 1990 policy document states that ambient is the A-weighted L90 during equipment operating

[9] Noise is described in EENF Feb 2019 Appendix D; DEIR Nov 2019 Page 90 et. seq. and Attachment 13; and FEIR Jan 2021 Section 6.

hours, but may also be established by other means with the consent of the Department. This 1990 policy applies to enforcement of compliance with 310 CMR 7.10.

During the future permitting tasks such as the MassDEP site suitability permitting process (310 CMR 16.00) and design phase (MassDEP Authorization to Construct [ATC] – 310 CMR 19.000), the Proponent will provide relevant information and plans including environmental controls that will be used and/or procedures to be followed that will prevent public nuisances including noise. The site suitability criteria prohibit the establishment or operation of any facility which would result in nuisance conditions which would constitute a danger to the public health, safety or the environment taking into consideration noise.

Federal law preempts state and local governments from regulating the sound of trucks making deliveries to a commercial site under the Noise Control Act of 1972 and the Surface Transportation Assistance Act of 1982. USEPA regulates railroad emissions in standards published at 40 CFR 201: Noise Emission Standards for Transportation Equipment: Interstate Rail Carriers.

6.4 Existing Sound Levels

As described in prior filings, an existing sound level survey was conducted, with short-term readings taken at two offsite locations and long-term readings taken at two on-site locations. Only the long-term location (CM-1) that was most conservative and most representative of residential receptors was used to establish the ambient sound level. Insect noise was filtered out.

In order to accurately represent the data when activities at the Facility could have time restrictions, the ambient data was processed hourly to allow for ease of comparison to Project related sound levels. For each hour the lowest hourly L90 data point across 7 days of readings was determined.

6.5 Sound Modeling Methodology

The noise impacts associated with the proposed Project were predicted using the CadnaA noise calculation software developed by DataKustik GmbH. This software uses the ISO 9613-2 international standard for sound propagation (Acoustics - Attenuation of sound during propagation outdoors - Part 2: General method of calculation). This software provides a refined set of computations that takes into consideration topography, ground attenuation, building reflections, drop-off with distance, and atmospheric absorption. The CadnaA software allows for octave-band calculation of sound from multiple sources as well as computation of diffraction.

Inputs and significant parameters employed in the model are described below:

- Site Plan: The Project Site Plan provided the locations and dimensions of key inputs into the model such as site buildings, and rail spur locations.
- Modeling Locations: Sound level modeling was conducted at five residential locations RES-1 through RES-5. Residential modeling locations 1 through 4 are representative of the closest residential property lines to the northeast, east, and southeast of the Project. The Proponent has purchased two of the newly built houses located on the west side of Phillips Road to the southeast of the site, and therefore Receptor RES-4 has been placed at the closest residential

property line not owned by the Project to the southeast. The five residential modeling locations are shown in Figure 6-1. All receptors were modeled with a height of 5 feet above ground level (AGL) to mimic the ears of a typical standing observer

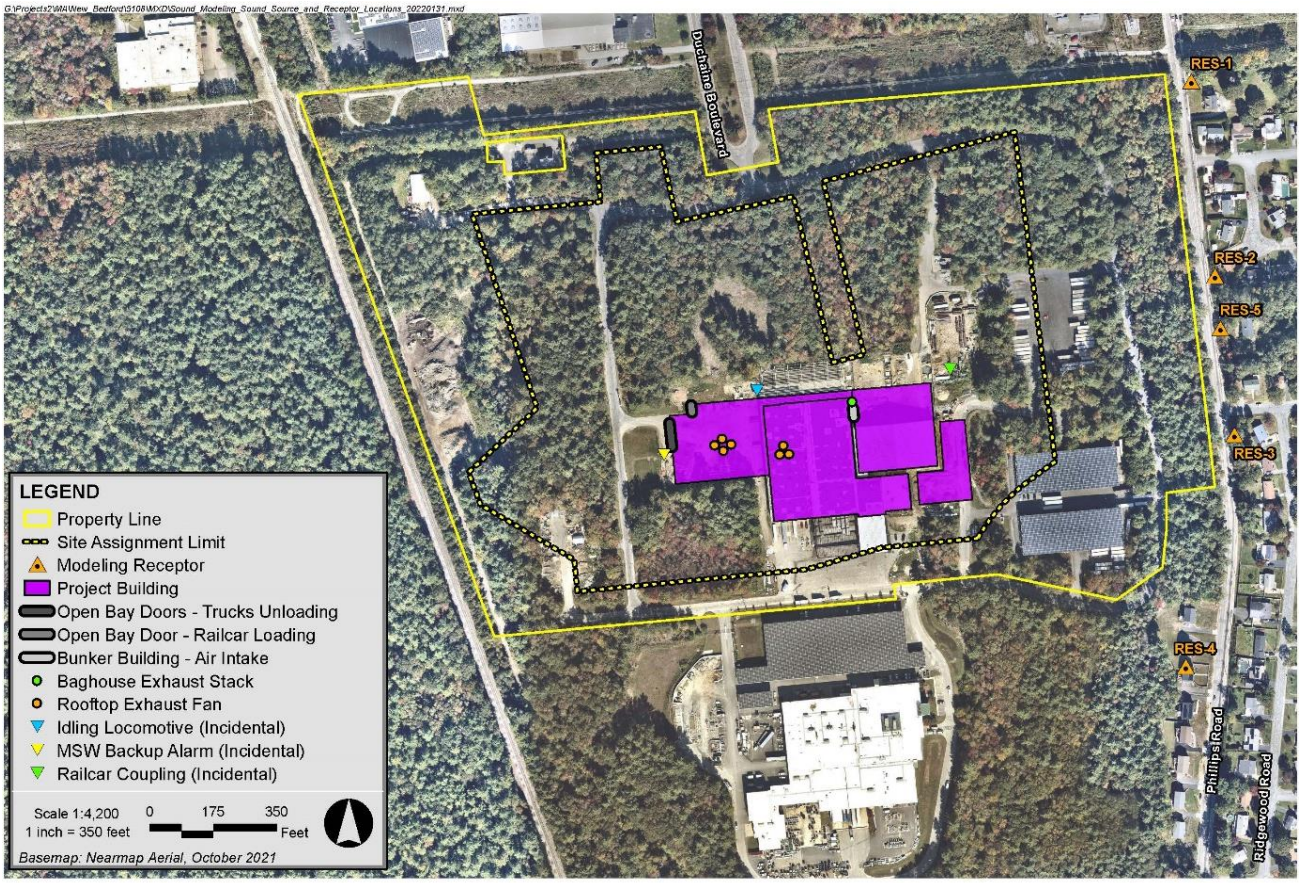
- Terrain Elevation: Elevation contours for the modeling domain were directly imported into CadnaA which allowed for consideration of terrain shielding where appropriate. The terrain height contours for the modeling domain were generated from elevation information derived from the National Elevation Dataset (NED) developed by the U.S. Geological Survey.
- Source Sound Levels: Broadband and octave-band sound power levels (when available) for the potential noise sources for the Project were input in the model.
- Meteorological Conditions: A temperature of 10°C (50°F) and a relative humidity of 70% was assumed in the model.
- Ground Attenuation: Spectral ground absorption was calculated using a G-factor of 0 for the Project site which corresponds to "hard ground". For all other offsite areas, a G-factor of 0.5 was used which corresponds to "mixed ground".
- *Directivity:* A directivity correction was applied to the baghouse exhaust stack serving the glass building.

6.6 Sound Source Inputs

Modeled sound sources are shown on Figure 6-1. Each source of sound is described below, along with the type of source, sound levels with and without proposed mitigation, and an identification of the controls that were considered but deemed infeasible.

Since the FEIR, the following noise sources were eliminated from the Project analysis: biosolids rooftop fans; biofilter fan; biofilter stack; cooling towers (all no longer proposed).

Figure 6-1, Sound Modeling - Source and Receptor Locations



Parallel Products New Bedford, Massachusetts

Epsilon Associates Inc.

Figure 6-1
Sound Modeling – Source and Receptor Locations

1. Sound Source: Rooftop Exhaust Fans – The model includes seven (7) rooftop exhaust fans with four on the MSW tipping building, and three (3) on the MSW processing building.

   Type of Sound Source: Continuous

   Sound Power Level without source reduction: 94 dBA per fan

   Proposed noise mitigation: Final design will achieve a 5 dBA sound level reduction. These sound levels could be achieved by using quieter fans, rooftop barriers, or fan silencers. Quieter fans would use low-noise motors; decreased fan tip speed; vibration controls; and low-noise fan blade design. Rooftop barriers would direct sound away from residences. Silencers would baffle the exhaust to reduce the exhaust sound.

   Sound Power Level with source reduction: 89 dBA per fan

   Other controls that were considered but deemed infeasible: Because of diminishing returns associated with layered, incremental sound mitigation measures, reductions beyond 5 dBA per fan are unlikely using low-sound fans, barriers, or silencers. Further reductions are not feasible without reducing the ability of the fans to perform the required air exchanges. Larger or more numerous fans would be required. The overall sound produced by the larger or more numerous fans would not have sound pressure levels significantly lower than the proposed configuration, because there would be larger/more numerous sound generating sources. To a large extent, the amount of sound generated is a function of the amount of air that must be moved, and that amount of air cannot be reduced without impacting worker safety, worker comfort, and proper facility operation. Additionally, space constraints may prevent the use of larger or more numerous fans, and having larger openings or more openings may create a situation where in-building noise can escape in amounts that could contribute to overall Project sound impacts. As discussed below, further reductions would need to be made to each continuous source to have a noticeable effect at residences.

   Diagnostic modeling was performed to confirm that the use of more numerous, quieter fans would not significantly decrease Project sound impacts at the residential receptors.

2. Sound Source: Loading Bay Doors – The model includes three (3) open loading bays on the west side of the MSW building. These bay doors are input into the model as vertical area sources to represent sound being emitted through the openings. These loading bay doors represent the sounds from a front end loader (MSW tipping/dumping/moving) that is occurring inside the building.

   Sound Power Level without source reduction: 110 dBA

   Proposed Sound Mitigation: Use of an industrial-zoned site, location of the buildings away from receptors, orientation of the door openings to face away from receptors.

   Sound Level with source reduction: No numeric reduction, but modeled impacts account for building location & orientation.

Other controls that were considered but deemed infeasible: Closing doors is a feasible and effective mitigation strategy that the Proponent will use whenever possible. The sound level assessment is conducted assuming the doors are open because the Proponent cannot commit to keeping the doors closed in all conditions. Movement of material and equipment into and out of the buildings will require use of the doors. As such, this analysis takes the most conservative approach.

3. Sound Source: Baghouse intake – One (1) ventilation opening is included in the model on the west side of the glass building. This source represents the ventilation intake for the baghouse system on the glass building.

   Type of Sound Source: Continuous

   Sound Power Level without source reduction: 110 dBA

   Proposed Sound Mitigation: Use of an acoustic louvered intake to provide baffling for noise reduction while still allowing needed airflow.

   Sound Power Level with source reduction: 95 dBA

   Other controls that were considered but deemed infeasible: While a larger, more extensive acoustic louver could be used (with a larger associated building opening to allow sufficient airflow), its use would not be a feasible noise mitigation measure because reducing baghouse intake noise would not significantly reduce overall Project sound levels at residences. Diagnostic modeling was used to confirm that a larger baffled louver would not significantly decrease overall Project sound levels at residences.

4. Sound Source: Baghouse exhaust – The baghouse exhaust is modeled as two (2) fans fed into the same stack. This source represents the ventilation exhaust for the baghouse system on the glass building.

   Sound Power Level without source reduction: 90 dBA

   Proposed Sound Mitigation: The model assumes minimal duct losses as well as an additional 2 dBA reduction from noise controls such as a stack silencer.

   Sound Power Level with source reduction: 88 dBA

   Other controls that were considered but deemed infeasible: While a larger silencer could be used (possibly with a larger blower to overcome the increased pressure drop), its use would not be a feasible noise mitigation measure because reducing baghouse exhaust noise would not significantly reduce overall Project sound levels at residences. Diagnostic modeling was used to confirm that a larger silencer would not significantly decrease overall Project sound levels at residences.

5. Sound Source: Idling locomotive – A rail locomotive is modeled at the closest location to the residences along the rail line where a locomotive engine could travel for the pickup and drop off of railcars.

Type of Sound Source: Intermittent. The locomotive will idle for a few minutes during delivery and pickup of railcars. Note that the facility has committed to the use of an electric railcar mover. By using the railcar mover to properly stage railcars prior to pick-up, the locomotive on-site residency time will be reduced to the minimum amount feasible.

Sound Power Level without source reduction: 107 dBA

Proposed Sound Mitigation: The locomotive equipment has been sited to the west side of the project to minimize sound related impacts on residence to the east. Avoiding at-grade crossings eliminates the need for bells at the crossing, and the need for bell, horn, or whistle use on the locomotive. Mass Coastal Railroad has indicated that it expects to service the site once per day typically between 10:00 AM and 11:00 AM, up to 6 days per week depending on demand. Idling locomotive operation will be restricted to the hours of 5:00 AM to 9:00 PM.

Sound Power Level with source reduction: No numeric reduction, but modeled impacts account for the locomotive location on-site, and the placement of buildings.

Other controls that were considered but deemed infeasible: Locomotive engine noise is regulated federally by 40 CFR 201. The Proponent will not own the locomotives, and by the nature of interstate rail operations different locomotives will deliver and pick up from the Proponent facility. It is therefore not feasible to install additional noise controls on the locomotives, beyond what is required by federal regulation. Additionally, the Proponent's proposed electric railcar mover has the ability to:

1. Couple railcars at a very slow speed to reduce coupling sound impacts
2. Stage and couple railcars together to reduce on-site locomotive time
3. Stage and couple railcars together to increase the distance between the locomotive and the residential receptors.

The potential use of noise barriers (sound walls) was reviewed in detail. Noise barriers are most effective when placed close to the source of sound, or close to the receptor. Noise barriers closer to the locomotive are infeasible because they would impede safe access to operations, and because actual locomotive location will vary from delivery to delivery. Noise barriers near the residences (discussed in more detail below) would not be viable, as they would reflect existing Phillip's Road noise back at the residences.

The remaining noise barrier option would be a wall at the end of the rail spur, extending to the north at approximately the location of the formerly-proposed biosolids building. To be effective at reducing locomotive noise, a barrier would need to be at least 30 feet tall (diagnostic modeling confirmed a 25-foot barrier would not significantly reduce impacts). To reduce noise along the length of the Phillips Road, the barrier would need to be at least 650 feet long. Based on diagnostic modeling such a noise barrier would reduce locomotive impacts at residential receptors by up to 7 dBA. The option is not a feasible noise reduction

measure because, while it would reduce rail yard noise during the brief periods when the locomotive is on-site (by reflecting locomotive noise away from the residences) it would increase truck traffic noise from the industrial roads surrounding the facility (by reflecting truck noise towards the residences). Locomotive activity is expected once per day, during daytime hours, for between five and twenty minutes. In contrast the road is used by Eversource trucks at all hours. Since truck traffic (including existing Eversource traffic) is more common than locomotive traffic, the noise barrier would likely serve to increase overall noise impacts at the residences.

6. Sound Source: Backup alarm – Truck backup alarm operating at the west side of the MSW building.

   Type of Sound Source: Intermittent

   Sound Power Level without source reduction: 109 dBA

   Proposed Sound Mitigation: The MSW truck unloading has been sited to the west side of the project to minimize sound related impacts on residences to the east. The site is oriented so that buildings form a noise barrier between the location of the reversing MSW truck and the residences. The glass unloading was designed as a "drive forward" delivery system, eliminating backup alarms as a noise source at that location.

   Sound Level with source reduction: No numeric reduction, but modeled impacts account for the location on-site, and the placement of buildings.

   Other controls that were considered but deemed infeasible: Site and operational constraints prevent the arrangement of the MSW unloading to avoid having trucks reverse direction (and avoid using backup beepers). This in commonplace in almost all solid waste handling facilities in the Commonwealth. The Proponent will not own the MSW trucks, and cannot mandate installation of "white noise" or similar technologies to reduce beeper noise. While there are limited situations where it is legal to disable the backup beeper on a truck, the beepers are serving an important on-site safety function (to avoid accidents), and trucks are typically not equipped with the ability to defeat the beeper alarm. The use of more or larger barriers is infeasible because they would not significantly reduce sound impacts at the residences – sound would travel over the top or around the barriers. Note that the Proponent will commit to white noise or squawking back-up alarms for their on-site heavy equipment including the railcar mover.

7. Sound Source: Railcar pusher –the Proponent will operate a rail car mover to move rail cars along the on-site rail side tracks to facilitate loading and shipment.

   Type of Sound Source: Intermittent

   Sound Power Level without source reduction: 116 dBA (diesel-powered)

   Proposed Sound Mitigation: the Proponent proposed to use an electric railcar pusher, eliminating engine noise.

Sound Level with source reduction: Insignificant, that is, remaining sound from the electric railcar pusher is ten decibels or more quieter than other on-site sources. Because the decibel scale is logarithmic, a sound source that is more than 10 decibels quieter than other sources will not contribute to overall total project sound levels.

Other controls that were considered but deemed infeasible: No additional controls are feasible, as the source already has no contribution to offsite sound levels.

8. Sound Source: Railcar coupling – Connecting two railcars together creates an instantaneous sound as the mechanical connection is established. Acoustic modeling of railcar coupling was included in the analysis in order to provide context of the sound level impacts experienced in the surrounding areas during these events. The Surface Transportation Board (STB) presents acoustic modeling parameters and thresholds[10] for rail facility noise projections and analysis. The equations presented in this STB document were used to calculate DNL sound level of railcar coupling, which was then converted to a sound power level and input to the acoustic model.

   Type of Sound Source: Intermittent

   Sound Power Level without source reduction: 105 dBA

   Proposed Sound Mitigation: Reduced-speed coupling, facilitated by the use of an electric railcar pusher instead of a diesel pusher.

   Sound Power Level with source reduction: 95 dBA

   Other controls that were considered but deemed infeasible: Further reductions in coupling speed are infeasible because there is a minimum speed that will allow the railcar coupler system to function. If coupling occurs too slowly the knuckle elements will not push past each other to create the connection. The Proponent will use existing railcar rolling stock, will not own the railcars used, and will have no opportunity to engineer or implement any alternative railcar connection system.

   For the same reasons as discussed for locomotive noise above, the use of noise barriers is not feasible. Barriers would not be safe if placed close to the rail operation, and barriers placed further away would reflect existing truck noise towards the residences.

9. Sound Source: Truck traffic – As described in Attachment 13, Section 8 of the DEIR, the noise impacts associated with on-site truck activity of the proposed Project were predicted using the Federal Highway Administration (FHWA) Traffic Noise Model (TNM), Version 2.5. The peak traffic hour (worst-case) of proposed on-site trucking activity was compared to the existing peak traffic hour sound level due to current trucking activity at the Project Site, with sound levels calculated by the model.

[10] Surface Transportation Board Environmental Assessment, Norfolk Southern Railway Company, Pan Am Railways, Inc., et al. – Joint Control and Operating/Pooling Agreements-Pan Am Southern, LLC In NY, NH, VT, MA and CT. Appendix D, November 2008.

Type of sound source: Mobile

Proposed Sound Mitigation: Use of an existing industrially-zoned site, routing of truck traffic away from residential areas, use of rail transport to reduce total truck trips. Use of a speed limit and location of weigh scales on the west side of the property to minimize sound from trucking operations. The proposed Project is expected to accept truck deliveries from 6 AM until 7 PM Monday through Friday and from 7AM to 4PM on Saturdays.

Other controls that were considered but deemed infeasible: Further speed restrictions were determined to be infeasible because they would prevent the efficient movement of material into and out of the site, and would increase the chances of unnecessary queuing and idling. There is insufficient room for roadside barrier walls at key locations, and the use of barrier walls at some locations would create sightline-related safety issues. The Proponent will not own or operate the trucks, and cannot mandate sound mitigation retrofits beyond compliance with federal and state transportation requirements.

10. Sound Source: Other facility noise – Other facility noise will include indoor material handling, HVAC for conditioned spaces, worker commutes, and general employee activity on-site.

    Proposed mitigations: Use of an existing industrially-zoned site, routing of traffic away from residential areas, use a speed limit, use of buildings to mitigate material handling noise, specification of low-noise ancillary equipment where needed to ensure that sound will not contribute to total facility sound. The Proponent expects no tailgate "slamming" activity (as deliveries will use roll-off, packer, and live-floor trailers).

    Sound Level with source reduction: Insignificant, that is, remaining sound from other facility noise is ten decibels or more quieter than other on-site sources. Because the decibel scale is logarithmic, a sound source that is more than 10 decibels quieter than other sources will not contribute to overall total project sound levels.

    Other controls that were considered but deemed infeasible: No additional controls are feasible, as the sources already have no contribution to offsite sound levels.

6.7 Opportunities to Mitigate Overall Facility Noise

During this sound assessment, the Proponent had already identified and mitigated a number of sources that had "stand-out" contributions to overall modeled sound levels at nearby receptors. The resulting sound impacts are now from a cumulative contribution of many sources. Because sound source contributions are added logarithmically and not arithmetically, reducing total sound impacts any further to achieve an overall net reduction would require a significant reduction in the sound impacts of each and every continuous contributing source. In addition to addressing noise mitigation source-by-source, the Proponent reviewed opportunities to reduce overall sound levels.

- Placing the entire operation in a very large enclosure is not feasible, because entrance/egress requirements (including fire access/emergency vehicle access) would require multiple large openings where sound would escape, and the very large building ventilation requirements

would require the use of very large fans, which would create their own noise impacts. Building a very large building would also have its own environmental and community impacts, and would likely be impermissible based on zoning, wetland, and stormwater regulations.

- A continuous barrier wall along the residential property line would not benefit surrounding receptors. A barrier along Phillip's Road would likely increase noise at the residences by reflecting existing Phillips Road traffic noise back at the residences.

6.8 Sound Modeling Results

As requested by MassDEP, the table below provides cumulative noise impacts including intermittent and continuous noise sources, and evaluates sound impacts both with and without mitigation to demonstrate the effectiveness of proposed sound mitigation controls. Note that for the "without mitigation" cases some mitigation (such as building orientation) cannot reasonably be removed from the model.

	Modeling Receptor ID				
	RES-1	RES-2	RES-3	RES-4	Property Line
Project sound without mitigation - continuous sources	39	43	41	40	44
Project sound without mitigation - continuous sources plus backup beepers	39	43	41	40	44
Project sound without mitigation - continuous sources plus idling locomotive	47	48	43	40	49
Project sound without mitigation - continuous sources plus diesel pusher & railcar coupling	57	58	58	56	59
Project sound with mitigation - continuous sources	34	36	35	31	36
Project sound with mitigation - continuous sources plus backup beepers	34	36	35	31	36
Project sound with mitigation - continuous sources plus idling locomotive	47	47	41	32	47
Project sound with mitigation - continuous sources plus railcar coupling	38	40	40	37	40

Section 8.0 of Attachment 13 to the DEIR presented the results of truck activity modeling using the Federal Highway Administration (FHWA) Traffic Noise Model (TNM), Version 2.5. The peak traffic hour (worst-case) of proposed on-site trucking activity was compared to the existing peak traffic hour sound level due to current trucking activity at the Project Site. All predicted sound levels are below the 66 dBA FHWA criteria for residences at the residential receptors. Incremental increases at all receptors are all below the MassDOT 10-dBA significance threshold.

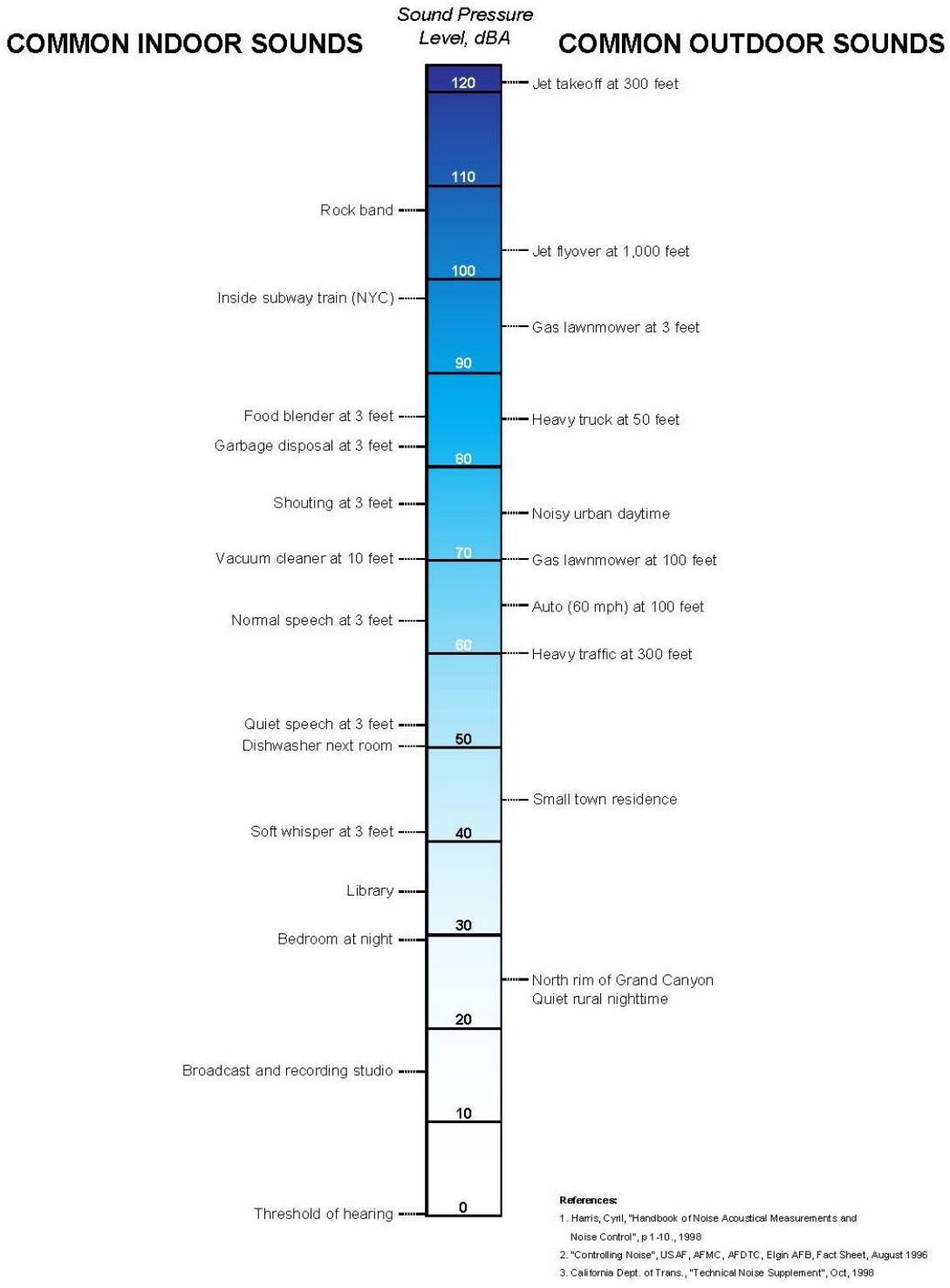
Predicted Existing and Future Truck Traffic Sound Levels at Residential Receptors

Modelling Location ID	Existing Peak-Hour Sound Level (dBA)	Future Peak-Hour Sound Level (dBA)	Incremental Increase Over Existing (dBA)	FHWA Residential Noise Abatement Criterion (dBA)
RES-1	46	48	2	66
RES-2	49	52	3	66
RES-3	50	52	2	66
RES-4	49	52	3	66

The form of the mobile source modeling is not compatible with the form of the stationary source modeling and it is inappropriate to add the two different results.

For context Figure 6-2 provides common indoor and outdoor sound levels.

Figure 6-2, Common Indoor and Outdoor Sound Levels



Epsilon Associates Inc.

Figure 6-2

Common Indoor and Outdoor Sound Levels

7.0 Greenhouse Gas Emissions

The Proponent is taking strong, practical steps to reduce fossil fuel usage while achieving Project objectives to provide a vital glass and solid waste recycling facility. It should be noted that the Proponent's goal is to preserve natural resources through recycling. As part of the design, the facility will create a positive impact with respect to greenhouse gas (GHG) reductions, not only through mitigation measures, but also through consolidation, recycling, and transportation efficiencies which have not been calculated as part of our analysis. As such our calculations are conservative. As described in this Section and in the Final Environmental Impact Report (FEIR) GHG Section, the Project's building envelope and mechanical systems are being designed to minimize energy use to the maximum extent practicable, and with an understanding of the need to reduce carbon emissions.

7.1 Introduction

The FEIR Greenhouse Gas (GHG) analysis quantified the GHG emissions that would be generated by the operation of the Project, and options that may reduce those emissions in accordance with the Massachusetts Environmental Policy Act (MEPA) GHG Policy.

The GHG analysis focused on emissions of carbon dioxide (CO2). As noted in the GHG Policy, although there are other GHGs, CO2 is the predominant contributor to global warming. Furthermore, CO2 is by far the predominant GHG emitted from the types of sources related to this Project, and CO2 emissions can be calculated for these source types with readily available data.

GHG emissions sources can be categorized into two groups: (1) stationary sources, or emissions related to structures and equipment that are stationary on the site; and (2) mobile sources, or emissions related to transportation. Stationary sources can be further broken down into direct sources and indirect sources; direct sources include GHG emissions from on-site fuel combustion, and indirect sources include GHG emissions associated with electricity and other forms of energy that are imported from off-site power plants via the regional electrical grid for use on-site.

The FEIR Certificate included comments from the MEPA Office and the Department of Energy Resources (DOER). In this continuation of the GHG analysis, these comments are addressed.

7.2 Project Update

The FEIR Project included three conditioned spaces: the Glass Processing Building - Glass Processing Section (27,500 sf), the Glass Processing Building - Bunker Building Section (23,320), and the Biosolids Building (30,000). The Biosolids Building has been removed from the Project. There are two remaining conditioned buildings. They are:

1. The Glass Processing Building, Glass Processing Section (27,500 sf)
2. The Glass Processing Building, Bunker Building Section (23,320 sf)

The Glass Processing Section of the Glass Processing Building (27,500 sf) was initially granted a Phase 1 waiver by the MEPA office. This building was completed 2 years ago. Please refer to

Attachment 7-1 for a copy of the Certificate of Occupancy dated 1/15/20. The Bunker Building Section of the Glass Processing Building has recently broken ground.

7.3 Code Compliance

7.3.1 C406 Energy Enhancements

The Glass Processing Section was completed prior to the new code taking effect. As such, it only requires two C406 efficiency measures. As detailed in the FEIR submittal, these are lighting power density reduction and on-site PV. These measures were incorporated into both the baseline and proposed calculations. Energy calculations for this Section remain unchanged from the FEIR.

The Bunker Building Section is presently under construction. In addition to the lighting power density reduction and on-site PV measures, a third C406 efficiency measure is required by code. The bunker Building Section will be constructed with R-30 metal panels and no windows. It surpasses a code envelope by 45%. As such, the envelop performance will satisfy the third C406 measure. Please refer to Attachments 7-2 and 7-3 for a Bunker Building wall section and backstop calculation.

7.3.2 Glass Processing Section Roof

The Glass Processing Section was constructed without the code-required R-11 liner system. The Proponent has committed to adding the liner system to the completed roof. The Bunker Building Section will also include this liner system.

7.4 Mechanical Systems Update

7.4.1 Electric Space Heating

The FEIR contained a detailed study of air-source heat pumps (ASHP) for space heating. After careful consideration of the added costs and energy benefits, the Proponent has decided to employ ASHP heating for the Bunker Building Section. This will reduce the Bunker Building GHG emissions by approximately 14 tons annually.

As described above, the Glass Processing Section was completed close to two years ago. This building has been built utilizing high efficiency gas heaters. This building is 27,000 sf and is only heated to 50 degrees. As indicated in the FEIR ASHP study, minimal GHG reduction is associated with ASHPs in this space. The cost to replace this relatively new system would be financially infeasible. The Proponent will evaluate the option of installing ASHP heat when the current system is due for replacement.

For reference, the heat pump analysis has been included as Exhibit 13.

7.4.2 Energy Recovery Ventilation

The Project team has evaluated options for incorporating energy recovery ventilation (ERV) into the Project. These scenarios have been studied. The proposed case (heat pump heating without ERV) and the alternative (heat pump with ERV) models were adjusted to account for the 2,800 CFM of ventilation included in the proposed design. Because the building is only conditioned to 50 degrees, the energy savings are estimated to be only 6.5 MWh annually.

Constructability and operational issues arise when an ERV system is designed in an unducted space. In order to achieve adequate air changes, the preheated outside air would need to be run in a duct across the ceiling to the opposite side of the bunker. Ductwork in this particular environment becomes an operational hazard in a space where recyclables are being moved around by machinery such as loaders and excavators. In addition to logistical limitations, a system such as this is costly.

The energy savings and simple payback for the ERV system is shown in the table below. The added cost of the ERV system is estimated to be $14,210 plus $60,000 for ductwork. This results in a payback of 51 years, which would generally far exceed the life of the component.

Annual Energy Savings (kWh)	Annual Energy Cost Savings	Incremental First Cost	Simple Payback (years)
6,547	$1,440	$74,210	51

While the Proponent recognizes the benefit this system provides, the proponent cannot commit to this technology at this time based on cost and operational considerations.

7.4.3 Electric Hot Water

While there are existing bathrooms at the site, there are no new bathrooms being constructed as part of this project. Note that the Proponent anticipates replacing these existing hot water heaters with high efficiency electric heaters when they are replaced at a future date.

7.5 Project GHG Summary

Table 7-1 below presents a composite of project GHG emissions profiles of the Baseline and Proposed cases as presented in the FEIR.

Table 7-1, FEIR Project GHG Emissions Summary

	Baseline	Proposed	Difference	
	tons/yr			%
Glass Handling (Processing and handling)	547	523	24	-4.4
MSW	502	473	30	-6.0
Biosolids	10,784	10,758	25	-0.2
Total Buildings	11,833	11,754	79	-0.7
Mobile Sources	1,721	1,721	-	-
On-site renewable energy		-907		

Table 7-2 below presents an updated composite of project GHG emissions profiles of the Baseline and Proposed cases as detailed in this NPC-SFEIR. The PV estimate has been adjusted to reflect the falling rate of carbon attributed to grid electricity. This update reflects the removal of the Biosolids building and the reduction in the Glass Handling building due to the adoption of ASHP systems in the Glass Handling Bunker section (a decrease of 14 tons of GHG annually). The removal of the

Biosolids operations from the proposed development brings the projected building GHG emissions from 11,754 tons down to 982 tons. Please see the table below.

Table 7-2, NPC-SFEIR Project GHG Emissions Summary

	Baseline	Proposed	Difference	
	tons/yr			%
Glass Handling (Processing and handling)	547	509	38	-6.9
MSW	502	473	30	-6.0
Total Buildings	1,049	982	67	-6.4
Mobile Sources	1,721	1,721	-	-
On-site renewable energy		-745*		

*PW Watts estimates this number to be closer to -822

In this narrative, the Proponent has detailed their commitments to mitigate project GHG emissions. As design develops further, additional technologies may be adopted.

7.6 Proponent's Commitments to GHG Reduction

The Proponent has detailed their commitments to mitigate project GHG emissions. The Proponent is committed to environmental stewardship. As design develops further, additional technologies may be adopted that will further decrease GHG emissions, but these are not yet ripe for selection. The Proponent will encourage the continued evaluation of energy efficiency and renewable energy measures throughout the life of the project.

The Proponent is committed to the following mitigation elements for the project:

1. The installation of 1.9 MW of canopy solar PV to increase the site's overall PV capacity to 3.5 MW; Please note that this has now increased to a total of 4.7+ megawatts. Refer to Figure 2.11 for further detail.
2. A 20% reduction over ASHRAE in lighting power density in the new buildings (glass handling, MSW tipping) and in the MSW processing area of the existing building;
3. Air source heating (ASHP) for the Glass Bunker Building;
4. High-efficiency mechanical equipment with variable frequency drives (VFDs) where appropriate;
5. High-performance building envelopes;
6. PV-Ready new construction; and
7. Construction waste recycling.

The proponent has included in the design of the project, all feasible GHG emissions mitigation to avoid, reduce, minimize, or mitigate damage to the environment.

The proponent is committed to implementing the energy efficiency and GHG emission reduction measures presented in this analysis but must retain an amount of design flexibility to allow for changes that will inevitably occur as design progresses. If, during project design, a specific combination of design strategies proves more advantageous from an engineering, economic, or space utilization perspective, the design of the project may vary from what has been described herein. Energy performance minima and associated GHG emission reductions will be adhered to.

As previously mentioned, the Proponent 's goal is to preserve natural resources through recycling. As part of the design, the facility will create a positive impact with respect to GHG reductions, not only through mitigation measures, but also through consolidation, recycling and transportation efficiencies. It should be noted that the materials being handled at this facility are already generated within the region and without this facility, materials would travel greater distances to be properly handled/recycled.

Upon completion of the project, the Proponent will submit a self-certification to the MEPA Office, prepared in accordance with the GHG Policy. This certification will identify the GHG mitigation measures incorporated into the project and will illustrate the degree of GHG reductions from a baseline case, as baseline is defined herein, and how such reductions are achieved.

8.0 Mitigation and Draft Section 61 Findings

Pursuant to the FEIR Certificate, this section of the NPC-SFEIR contains a comprehensive list of all mitigation measures and draft Section 61 Findings for Phase 2, followed by detailed list summarizing all mitigation commitments being made by the Proponent. The sections that precede this one include additional analysis where required to support the draft Section 61 Findings. The draft Section 61 Findings have been included to provide State Agencies assistance in the permitting process and issuance of final Section 61 Findings.

8.1 Intent of Section 61 Findings

This section was prepared to present the information required in Massachusetts General Law (MGL) Chapter 30, Section 61, the Massachusetts Environmental Policy Act (MEPA) regulations (301 CMR 11.00, section 11.12), and scope of the Final Environmental Impact Report required by the Secretary of Energy and Environmental Affairs.

8.2 Regulatory Overview

In accordance with M.G.L. c. 30, section 61, any Agency, that takes Agency Action on a Project for which the Secretary required an EIR, shall determine whether the Project is likely to, directly or indirectly, cause any Damage to the Environment and make a finding describing the Damage to the Environment and confirming that all feasible measures have been taken to avoid and minimize the Damage to the Environment.

8.2.1 Contents of Section 61 Findings

In all cases, the Agency shall base its Section 61 Findings on the EIR and shall specify in detail: all feasible measures to be taken by the Proponent, or any other Agency or Person, to avoid Damage to the Environment or, to the extent Damage to the Environment cannot be avoided, to minimize and mitigate Damage to the Environment to the maximum extent practicable. The NPC-SFEIR is required as part of the Certificate of the Secretary of Energy and Environmental Affairs to include a separate section on mitigation measures associated with NPC-SFEIR and that this section also includes Draft Section 61 Findings for all state agency actions. The Draft Section 61 Findings shall contain a clear commitment to implement mitigation, an estimate of the individual costs of the proposed mitigation, identification of the parties responsible for implementing the mitigation, and a schedule for the implementation of mitigation. In accordance with M.G.L. c. 30, section 61, the reasonably foreseeable climate change impacts of a project, including its additional GHG emissions, and effects, such as predicted sea level rise shall be taken into consideration.

8.2.2 Section 61 Findings and Agency Action

Provided that mitigation measures are specified as conditions to or restrictions on the Agency Action, the Agency shall:

1. Make its Section 61 Findings part of the Permit, contract or other document allowing or approving the Agency Action, which may include additional conditions to or restrictions on the Project in accordance with other applicable statutes and regulations; or
2. Refer in its Section 61 Findings to applicable sections of the relevant Permit, contract or other document approving or allowing the Agency Action.

8.2.3 Proposed Section 61 Findings

Proposed Section 61 Findings prepared by a Proponent in accordance with 301 CMR 11.07(6)(k) are intended to assist a Participating Agency in fulfilling its obligations in accordance with M.G.L. c. 30, section 61. The Proponent's preparation of Proposed Section 61 Findings shall not mean that a Participating Agency has made its own Section 61 Findings. Except in accordance with 301 CMR 11.06(4) and 11.08(7), the Proponent's Proposed Section 61 Findings shall not limit an Agency's discretion in making its own Section 61 Findings.

8.2.4 Filing and Distribution of Section 61 Findings

The Proponent and a Participating Agency shall each file a copy of the Section 61 Findings with the Secretary, who shall publish notice of the availability of the Section 61 Findings in the next Environmental Monitor in accordance with 301 CMR 11.15(2), and shall each circulate copies of the Section 61 Findings to any Agency or Person upon request.

8.2.5 Subject Matter Jurisdiction Limitations on Section 61 Findings:

In the case of a Project undertaken by a Person that requires one or more Permits or a Land Transfer but does not involve Financial Assistance, any Participating Agency shall limit its Section 61 Findings, or any mitigation measures specified as conditions to or restrictions on the Agency Action, to those aspects of the Project that are within the subject matter of any required Permit or within the area subject to a Land Transfer.

8.3 FEIR Section 61 Findings Requirements

As stipulated by EOEEA, “The Supplemental FEIR should include a comprehensive list of all mitigation measures and draft Section 61 Findings that include a detailed list of all mitigation commitments…The Section 61 Findings should be provided to State Agencies to assist in the permitting process and issuance of final Section 61 Findings. The Proponent will provide a GHG self-certification to the MEPA Office that is signed by an appropriate professional (e.g., engineer, architect, transportation planner, general contractor) indicating that all of the GHG mitigation measures, or equivalent measures that are designed to collectively achieve identified reductions in stationary source GHG emission and transportation-related measures, have been incorporated into the project. To the extent the project will take equivalent measures to achieve the identified reductions.”

8.4 MA DEP Proposed Section 61 Findings (Draft Certification)

Project Name: South Coast Renewables, LLC– Solid Waste Handling Facility

Project Location: New Bedford, Massachusetts

Project Proponent: South Coast Renewables, LLC [SCR]

EEA #: 15990

Date Noticed in Environmental Monitor: _____

The Proposed Section 61 Findings below and the subsequent sections contain commitments that the Proponent has made and will serve as a basis for the MassDEP's Section 61 Findings. The mitigation measures include commitment to reduce impacts associated with:

- Stormwater
- Wetlands and riverfront areas
- Transportation
- Nuisance conditions (air, sound, etc.)
- Greenhouse gas emissions
- Endangered, Historic and Archaeological resources
- Consistency with Regulations and Policy

These Findings are for the SCR– Facility (EEA #15990) and have been prepared in accordance with the provisions of M.G.L. c. 30, Section 61 and 301 CMR 11.00. On [insert date] the Secretary of Energy and Environmental Affairs issued a Certificate stating that the Project's Notice of Project Change Supplemental Final Environmental Impact Report (NPC-SFEIR), dated [insert date] adequately and properly complied with the MEPA statute and regulations.

The facility will accept MSW for handling and/or processing and C&D for handling. MSW will be processed in state-of-the-art separation equipment to extract recyclable material. After processing, the non-recyclable fraction of the MSW will be loaded in to rail cars for shipment to out of state disposal facilities. The facility will also accept C&D. This waste is presently classified as Category 2 waste by MassDEP. Category 2 waste is C&D waste that has been processed by a C&D processing facility that has little or no recyclable value. The processing facility will have removed all waste ban material and other recyclable material from the C&D material as deemed appropriate. C&D accepted at the facility will likely be used as cover for baled MSW in the rail cars. The Proponent will be required to comply with existing Waste Ban requirements set forth in 310 CMR 19.017 as part of their operational requirements. The facility will maintain and report all of their inbound and outbound statistics to the MassDEP on a quarterly and annual basis.

Based upon its review of the MEPA documents, the permit applications submitted to date, and the Department's regulations, the Department finds that the terms and conditions to be incorporated into the permit required for this Project will constitute all feasible measures to avoid damage to the environment, including consideration of the potential effects of climate change, and will minimize and mitigate such damage to the maximum extent practicable for those impacts subject to the Department's authority (see Sections 8.6 and 8.7 for a comprehensive list of mitigation measures, associated costs, implementation schedules and identification of responsible parties). Implementation

of the mitigation measures will occur in accordance with the terms and conditions set forth in the permits.

Department of Environmental Protection	By	Date
South Coast Renewables, LLC	By	Date

8.5 State Agency Permitting Actions – MassDEP

Pursuant to the FEIR Certificate Scope, the following is a list of the state permits/permitting actions that will be triggered as part of the proposed development:

- 310 CMR 16.00 - Site Assignment for Solid Waste Facilities (BWP SW-01). Application is in a "draft' form and will be finalized and submitted to MassDEP upon acceptance of the Final EIR.
- 310 CMR 19.000 – Solid Waste Regulations – Authorization to Construct (BWP SW-05). Anticipated to be submitted to MassDEP upon completion of the Site Assignment Hearings.
- 310 CMR 19.000 – Solid Waste Regulations – Authorization to Operate (BWP SW-06) Anticipated to be submitted to MassDEP upon completion of project construction.
- 310 CMR 10.00 – Wetlands Protection Act Regulations – Order of Conditions. Notice of Intent in accordance with the wetlands protection act prior to submission of an Authorization to Construct (ATC) application.
- 310 CMR 27.00 - Underground Injection Control. A permit application will be submitted prior to construction to infiltrate the stormwater from the associated roof runoff. Will be submitted to MassDEP prior to submission of an ATO application.
- 310 CMR 7.00 – Air Quality Control - Limited Plan Approval – ***At this point in time it is anticipated that emissions will be considered de minimus with no permit requirement(s).***

8.6 Area of Concern, Mitigation, Cost, Implementation Schedule and Responsibilities

The following is a comprehensive synopsis of mitigation measures the Proponent is committing to, a schedule for implementation, estimated cost associated with the mitigation, and identification of the responsible party to ensure the mitigation measures are implemented.

The FEIR Certificate identified the following as areas of concern.

8.6.1 Greenhouse Gas

Potential Impact: The Facility could yield adverse impacts to the atmosphere through the use of energy, fossil fuels and during construction if it is not properly planned and operated in such a way so as to minimize GHG emissions.

Mitigation Measures:

- Conditioned spaces will meet or exceed mandatory and prescriptive requirements of the energy code;
- PV-ready new construction with installation of 3.2 MW of solar PV (canopy and roof mounted) to increase the site's overall PV capacity to 4.7+ MW;
- A 20% reduction over ASHRAE in lighting power density in the new buildings (glass handling, MSW tipping) and in the MSW processing area of the existing building;
- High efficiency air source heat pumps (ASHP) for the Glass Bunker Building;
- High-efficiency mechanical equipment with variable frequency drives (VFDs) for greater energy efficiency, where appropriate;
- High-performance building envelopes;
- Electrically powered processing line (MSW & Baler);
- Construction waste recycling;
- Utilization of rail transport to reduce GHG by 60% when compared with transportation by truck; and
- Utilization of an electrically powered rail car mover to eliminate emissions.
- Note that the Proponent has not accounted for the GHG offsets associated with the on-site recycling activities. As such, all calculations associated with GHG reduction measures are very conservative.

Schedule: Mitigation measures will be incorporated into final project design and specifications. Design including mitigation measures will be included in ATC application and once installed and/or instituted will occur throughout the life of the project.

Cost: $2,000,000+

Responsible Party/Parties for Implementation: Project Architect / The Proponent

Additional Information: The Proponent has included in the design of the project, all feasible GHG emissions mitigation to avoid, reduce, minimize, or mitigate damage to the environment. As part of the design, the Facility will create a positive impact with respect to GHG reductions not only through mitigation measures listed above but also through consolidation, recycling, and transportation efficiencies, all of which are proposed by the Proponent with an understanding of the need to reduce carbon emissions. Please see *Section 7.0 Greenhouse Gas Emissions* for more information.

8.6.2 Wetlands & Riverfront Areas

Potential Impact: The Facility could yield adverse impacts to wetlands & riverfront areas given the Facility is located in close proximity to both.

Mitigation Measures:

- The facility has been designed to minimize impacts to wetlands and riverfront areas by maximizing the use of preexisting infrastructure on-site;
- Impacts to wetlands and riverfront areas are limited to 4,095 ft^2. Those 4,095 ft^2 of impacted wetlands will be replicated with 6,700 ft^2 of new wetlands at a ratio of 4,095 ft^2 impacted to 6,700 ft^2 replicated (1:1.64);
- Phase 2 construction is designed to require minimal activity within the wetland buffer zone. A *Notice of Intent* will be filed prior to this activity;
- MSW processing will be performed on impervious concrete floors within proposed buildings with trench drains at all truck door entrances to prevent contact water on the handling floors from leaving the buildings;
- Conduct regular sweeping of outdoor paved surfaces to minimize potential sediment migration during storm events;
- Utilize stormwater controls and BMPs throughout construction and ongoing operations;
- Development and implement a Stormwater Pollution Prevention Plan (SWPPP);
- Install a bridge for the rail crossing over an existing drainage swale to minimize any impact on the drainage swale;
- Install rail crossing retaining walls to minimize wetlands disturbance to provide additional wetlands protection
- Modify the existing stormwater management system on-site as required to maintain compliance with the Massachusetts Stormwater Management Policy.

Schedule: Mitigation measures for Phase 1 activity have been included in the NOI submitted to the Conservation Commission. Phase 2 designs will be included in the MassDEP ATC application.

Cost: $3.2MM+ (including bridge)

Responsible Party/Parties for Implementation:

Phase 1: Site Design Engineer/Contractor/The Proponent

Phase 2: Site Design Engineer /Contractor/The Proponent

8.6.3 Air Quality

Potential Impact: The Facility could yield adverse impacts to air quality.

Mitigation Measures:

- Performing solid waste processing and handling operations indoors:

- Locating doorways to the west, away from the easterly abutters to minimize potential noise, dust, or odor nuisance conditions;
- Construction of an addition to the glass building to enclose the rail where railcars are being loaded;
- Design and reduction of openings of the solid waste handling facility to reduce wind tunnel effects and potential for dust and odors;
- Design of ventilation systems to exhaust through elevated stacks to promote dispersion of exhaust air;
- Use of electrically powered equipment;
- Use of an atomized water mist at multiple locations and a water spray when necessary to control dust and odor for MSW operations;
- Installation of pavement on all surfaces that are associated with facility operations;
- Regularly sweeping outdoor paved surfaces;
- Use of an electrically powered rail car mover; and
- Implementation of a complaint log for the Proponent to respond to public comments regarding any nuisance condition generated by the facility.

Schedule: Design mitigation measures will be included in ATC application. Mitigation measures will commence once controls are installed and/or instituted throughout the life of the project.

Cost: $250,000

Responsible Party/Parties for Implementation:

Mitigation measures design by architect/engineers and the Proponent

Operational requirements will be followed by the Proponent

Additional Information: The predicted air pollutant and odor concentrations are shown to comply with the applicable national and Massachusetts standards, and protective odor concentration criteria at residences, using the USEPA AERMOD model. This modeling demonstrates that the proposed project as designed does not cause or contribute to a condition of air pollution.

The design features identified above were included in an odor modeling study conducted to ensure that odor will not present a nuisance condition for abutters to the project. The odor study is described in more detail in the DEIR. The odor study is not included in the NPC-SFEIR as the Secretaries Certificate on the DEIR and FEIR did not include any requirements for revisions to the odor study presented in the DEIR.

8.6.4 Nuisance Conditions – Sound, Litter, Dust

Potential Impact: The Facility could present nuisance conditions if not properly planned and/or operated, specifically sound, litter, and/or dust.

Mitigation Measures:

Sound [11]

- All waste handling to be conducted within enclosed buildings;
- Addition to the glass building to enclose the rail where railcars are being loaded;
- Rail track constructed to the west side of the building, opposite side of the building from residents to the east for noise attenuation;
- Rail track constructed without at-grade crossings, eliminating the need for the use of bells, horns, or whistles on locomotives;
- Tipping / delivery doors away from surrounding receptors;
- Glass unloading designed as a "drive forward" delivery system, eliminating backup alarms as a noise source at that location;
- Use of an Electric rail car mover;
- Air handling units and fans to be low noise units, fitted with silencers, or be placed within rooftop barriers for sound attenuation;
- Acoustic louvered air intakes to provide baffling for noise attenuation; and

Litter

- All waste handling to be conducted within enclosed buildings;
- Tractor trailer entrance and exit doors in the closed position when not in use;
- Covering the all trailers and containers after bulk loading and before leaving the building; and
- Implementing a daily inspection program as a part of the Operations & Maintenance Program.

Dust [12]

- All waste handling to be conducted within enclosed buildings;
- Minimizing door openings within the proposed buildings;
- Minimizing cross-ventilation of air through the building by having the tipping door openings all on one side of the building;
- Maintaining equipment on-site that will remove the materials from the tipping floor for subsequent processing;
- Requiring all waste delivery vehicles to be covered;
- Regular sweeping of the paved areas outside and inside;
- Use of an atomized water mist at multiple locations and a water spray when necessary to control dust and odor for MSW operations; and
- Implementation of a complaint log for Proponent to respond to public comments regarding any nuisance condition generated by the facility.

[11] Please refer to the Revised Noise Analysis in Section 6.0 and the noise section of the DEIR for more information.

[12] Mitigation measures to be taken for potential fugitive dust emissions are also included in Section 8.6.3.

Schedule: Mitigation measures will be included as part of ATC application. Operation of mitigation measures during the project will commence once installed and/or instituted throughout the life of the project.

Cost: $250,000 (Sound and Litter Mitigation)

$100,000 (Dust Mitigation)

Responsible Party/Parties for Implementation:

Mitigation measures design by architect/engineers and the Proponent

Operational requirements will be followed by the Proponent

Additional Information: A revised noise analysis documenting how the project's noise impacts will be mitigated to the maximum extent practical is included in Section 6.0. The revised noise analysis addresses the specific points addressed in the Secretaries Certificate on the FEIR (Exhibit 4) and is consistent with MassDEP's comment letter (Exhibit 10).

In addition to summarizing and updating information provided in prior MEPA filings, the revised noise analysis addresses the noise level impacts associated with project changes since submittal of the FEIR. The evaluation includes a full set of potential noise control measures and provides greater detail as to how the Proponent will adopt all mitigation measures that are technologically and economically feasible.

8.6.5 Traffic Generation

Potential Impact: Potential adverse impact to roadways due to the additional traffic to and from the Facility.

Mitigation Measures:

- Proposed installation of traffic signal at intersection of Braley Road at Phillips Road/Theodore Rice Boulevard (City approval pending)
- Donation of $5,000 for a truck exclusion zone study
- Opportunities for employees to participate in transit subsidy or reimbursement programs
- Coordination with SRTA to request revising existing transit service to better service the project site
- Informing employees of nearby transit stops and bicycle and pedestrian amenities
- Provide incentives to encourage bicycle ridership to the site, such as bike racks and other storage facilities onsite
- Implementation of a carpool system among employees
- Provide preferential parking for carpools and vanpools
- Paperless, direct deposit offered to employees
- Provide striped bicycle lanes along Duchaine Boulevard and shared bicycle markings along Theodore Rice Boulevard to provide connectivity to the existing bicycle amenities along Braley Road. This is contingent upon City approval.

Schedule: Mitigation measures will be instituted during construction and will be on-going throughout the life of the facility.

Cost: $300,000

Responsible Party/Parties for Implementation:

Mitigation measure through design or coordinated by architect/engineers and the Proponent

Ongoing mitigation efforts are the responsibility of the Proponent

Additional Information: Additional traffic analysis to support the Proponent's conclusion that the traffic impacts associated with the facility will not constitute a danger to public health or safety or the environment with consideration to traffic congestion, pedestrian and vehicular safety, and roadway configuration. The NPC-SFEIR provides additional traffic analysis that addresses MassDEP's comments (Exhibit 10) pursuant to the Secretaries Certificate on the FEIR (Exhibit 4).

The traffic studies performed to date conclude that the traffic impacts of the proposed development of the proposed solid waste facility at 100 Duchaine Boulevard do not constitute a danger to public health, safety or the environment with consideration to traffic congestion, pedestrian and vehicular safety, and roadway configuration.

However, based on the traffic signal warrant analysis, the installation of a traffic signal at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard is warranted under 2021 Existing traffic volumes independent of the project, as a result of existing development in the area. Subject to approval by the City of New Bedford, the Proponent proposes to fund the construction of a fully actuated traffic signal at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard to mitigate congestion experienced under existing conditions. With the installation of a traffic signal, overall intersection operations are projected to improve from LOS F to LOS C during the weekday morning peak hour, from LOS F to LOS D during the weekday afternoon school dismissal peak hour, and from LOS E to LOS C during the weekday afternoon commuter peak hour.

In addition, the Proponent will consider Transportation Demand Management (TDM) measures and will allocate up to $5,000 toward a Heavy Commercial Vehicle Exclusion study for Phillips Road from Route 140 to Braley Road should the City of New Bedford choose to pursue a HCVE through MassDOT.

The additional traffic analysis discussion is included in Section 5.0 of the NPC-SFEIR.

8.6.6 Threatened or Endangered Species

Potential Impact: The facility could impact threatened and/or endangered species.

Assessment: According to MassGIS there is Priority Habitat of Rare Species and an Estimated Habitat of Rare Wildlife located approximately 1500 feet south of the site. These areas are separated from the site by the existing rail line. The siting of the Facility will not have an adverse impact on Endangered, Threatened or Special Concern Species listed by the NHESP; therefore, this is not applicable.

8.6.7 Areas of Critical Environmental Concern

Potential Impact: The facility could impact an Area of Critical Environmental Concern; however, no Areas of Critical Environmental Concern (ACECs) were identified within one half mile of the site.

Assessment: According to MassGIS there is Priority Habitat of Rare Species and an Estimated Habitat of Rare Wildlife located approximately 1500 feet south of the site. These areas are separated from the site by the existing rail line. The siting of the Facility will not have an adverse impact on Endangered, Threatened or Special Concern Species listed by the NHESP; therefore, this is not applicable.

8.6.8 Historic or Archaeological Resources

Potential Impact: The facility could be sited in an area of historical or archaeological significance.

Assessment: No historical or archaeological sites of significance were identified on-site or in close proximity to the site; therefore, this is not applicable.

8.6.9 Build & Alternatives

A project alternatives analysis was prepared to provide an overview as to why the proposed site was the optimal choice for the proposed project. A suitable site for the proposed project must be located adjacent to an active rail line and must meet all of the siting requirements of 310 CMR 16.00. This criteria limits the number of sites that are suitable for the proposed project.

Three sites were selected for comparison. Two of the sites were rejected due to the size of the site in one instance and traffic considerations for the other site. The selected site satisfied all the required site selection criteria.

The project alternatives analysis is included in the FEIR in Section 2.6 and in this NPC-SFEIR in Section 2.8.

8.6.10 No Build Alternatives

Not building the proposed facility could result in greater environmental benefits. Should the facility "NOT" be constructed, it is estimated that the following impacts could occur:

- Increased regional traffic counts (total mileage driven)
- Increased emissions associated vehicular emissions (more distant facilities)
- Potentially less recycling
- Increased greenhouse gas (GHG) emissions

The project alternatives analysis is included in the FEIR in Section 2.6 and in this NPC-SFEIR in Section 2.8.

8.6.11 Construction Mitigation Measures

Potential Impact: During construction, the site could present impacts to the surrounding receptors and/or roadway networks.

Mitigation Measures: The facility will be developed following controlled "construction" requirements and oversight. The facility shall take the following steps to mitigate impacts:

- Develop a SWPPP in association with the Order of Conditions.
- Make sure inbound and outbound vehicles utilize the major roadway networks surrounding the facility.
- Park all vehicles on-site during construction phases.
- Wet surfaces that may create nuisance dust conditions.
- Perform construction activities following local zoning ordinances and MA State Building code.
- Maintain proper on-site safety measures compliant with OSHA.

Schedule: Phase 1 construction is in progress, and Phase 2 construction will follow the receipt of the ATC permit.

Cost: $40,000

Responsible Party/Parties for Implementation: Construction Contractor/ The Proponent

8.7 Mitigation Summary

Pursuant to the FEIR Certificate Scope, the following is a comprehensive list of all mitigation measures the Proponent has committed to as part of the Project:

- Development of an industrially-zoned site utilizing pre-existing impermeable surfaces to the maximum extent possible to minimize environmental impacts related to land development
- PV-ready new construction with installation of 3.2 MW of solar PV to increase the site's overall PV capacity to 4.7+ MW. Note this is an increase from the originally proposed 3.5 MW
- A 20% reduction over ASHRAE in lighting power density in the new buildings (glass handling, MSW tipping) and in the MSW processing area of the existing building
- High efficiency air source heat pumps (ASHP) for the Glass Bunker Building
- High-efficiency mechanical equipment with variable frequency drives (VFDs) for greater energy efficiency, where appropriate
- High-performance building envelopes
- Electrically powered processing line (MSW & Baler)
- Air handling units and fans to be low noise units, fitted with silencers, or be placed within rooftop barriers for sound attenuation
- Acoustic louvered air intakes to provide baffling for noise attenuation
- Glass unloading designed as a "drive forward" delivery system, eliminating backup alarms as a noise source at that location
- All waste handling activities to be conducted within the confines of the buildings
- Doorways are located west, away from the easterly abutters to minimize potential noise, dust, or odor nuisance conditions
- Doorway openings of the solid waste handling facility are on one side to reduce wind tunnel effects and potential for dust and odors
- MSW processing to be performed on impervious concrete floors within proposed buildings with trench drains at all truck door entrances to prevent water on the handling floors from leaving the buildings
- Building addition (the enclosure for the rail to connect to the glass building)
- Indoor controls such as an atomizing dust and odor suppression system
- Impervious pavement on all surfaces that are associated with facility operations to control dust and capture floor washdown wastewater for proper disposal
- Regular sweeping of outdoor paved surfaces to control dust and minimize potential sediment migration during storm events
- Utilize stormwater controls and BMPs throughout construction and ongoing operations
- Development and implementation of a Stormwater Pollution Prevention Plan (SWPPP)
- Implementation of on-going operations & maintenance (O&M) and inspection procedures
- Implementation of a complaint log for Proponent to respond to public comments regarding any nuisance condition generated by the facility (ex: noise, odor, dust)

- Proposed installation of traffic signal at intersection of Braley Road at Phillips Road/Theodore Rice Boulevard (City approval pending)
- Donation of $5,000 for a truck exclusion zone study
- Rail transport to reduce GHG by 60% when compared with transportation by truck
- Expansion of the rail sidetrack constructed in Phase 1 to allow for handling additional rail cars
- Rail track constructed to the west side of the building, opposite side of the building from residents to the east for noise attenuation
- Rail track constructed without at-grade crossings, eliminating the need for the use of bells, horns, or whistles on locomotives
- An electrically powered rail car mover to eliminate emissions and lower noise—operating and railcar coupling
- Bridge for the rail crossing over an existing drainage swale to minimize any impact on the drainage swale
- Rail crossing retaining walls to minimize wetlands disturbance to provide additional wetlands protection
- Impacted wetlands replication
- Opportunities for employees to participate in transit subsidy or reimbursement programs
- Coordination with SRTA to request revising existing transit service to better service the project site
- Informing employees of nearby transit stops and bicycle and pedestrian amenities
- Provide incentives to encourage bicycle ridership to the site, such as bike racks and other storage facilities onsite
- Provide striped bicycle lanes along Duchaine Boulevard and shared bicycle markings along Theodore Rice Boulevard to provide connectivity to the existing bicycle amenities along Braley Road. This is contingent upon City approval
- Implementation of a carpool system among employees
- Provide preferential parking for carpools and vanpools
- Paperless, direct deposit offered to employees

Please note that while Section 8.6 includes cost estimates associated with mitigation measures for the proposed project, the project is expected to cost approximately $50,000,000 +/- to design and develop.

9.0 Response to Comments

Introduction

This section of the NPC-SFEIR provides individual and grouped responses to comment letters submitted during the comment period for the FEIR. Comment letters from individuals, municipalities, organizations and regulatory agencies are addressed within this section.

Based on the fact that many of the comments received address similar issues, a response to each individual letter at times would be redundant. Therefore, each section below includes a brief synopsis of each person's and/or group's similar comments followed by a response. Comment responses are intended to directly address Commentor comments. Each section includes an index identifying the comment letter, the page where the comment is located, the Commenter's name, and the location where the comment is addressed in each subpart of this section of the NPC-SFEIR.

A copy of each comment letter is included in Exhibit 10. Please note that a large number of form letters were received commenting on the project. One copy of each form letter that was received has also been included in Exhibit 10, where all the form letters are identical to one of the three presented.

In addition, individual responses are provided for four (4) of the letters received. These are letters numbered 26 through 29 and consist of letters from the Conservation Law Foundation (Letter no. 26), KP Law on behalf of the City of New Bedford (Letter no. 27), MassDEP - Southeast Regional Office (Letter no. 28), and the Massachusetts Department of Energy Resources (Letter no. 29). Individual responses are provided for these letters within this section. It should be noted that a matrix has been prepared directing the reader to the sections within the main body of the NPC-SFEIR for responses to the MassDEP and MassDOER comment letters. According to the Scope ***"The Supplemental FEIR should address, in a detailed and comprehensive manner, issues raised in comment letters submitted by MassDEP and DOER, which are incorporated by reference herein. In general, information and analyses provided in response to these comment letters should be incorporated into the main body of the Supplemental FEIR rather than provided solely in the Response to Comments section."***

Letter #	Letter Submitted by (Commenter)
1	Form Letter Opposed (335)
2	Form Letter in Support (74)
3	Form Letter Opposed (9)
4	Ron Cabral (email)
5	Robert H. and Judith B. Ladino
6	Sherry Hanlon (email)
7	Robert Michael Pittsley (email)
8	Diane Fine (email)
9	Sabine Von Mering (email)
10	John Dufresne (email)
11	Representative Paul Schmid
12	Carol Strupczewski
13	Andrea Stone (email)
14	Representative Christopher Hendricks
15	Senator Mark Montigny
16	Elizabeth Saulnier (email)
17	Jacob Chin (email)
18	Karen Chin (email)
19	Linda Morad
20	Brad Markey
21	Wendy Graca
22	Zeb Arruda (email)
23	Tracy Wallace (email)
24	Elizabeth Swible (EEA Public Comments Portal)
25	Irene Duprey-Gutierrez (email)
26	Conservation Law Foundation
27	KP Law – City of New Bedford
28	Massachusetts Department of Environmental Protection
29	Massachusetts Department of Energy Resources

*A summary of the comments included in the comment letters and responses to the comments follows.

9.1 Traffic

Please see the following summary table for information regarding comments that have been received related to traffic. The table includes the location of the responses to the comments.

Letter #	Commenter	Comment and Response to Comment
4	Ron Cabral	9.1A
6	Sherry Hanlon	9.1A, 9.1C
7	Robert Michael Pittsley	9.1A, 9.1C
8	Diane Fine	9.1A, 9.1C
9	Sabine Von Mering	9.1A, 9.1C
11	Representative Paul Schmid	9.1A
12	Carol Strupczewski	9.1A
13	Andrea Stone	9.1C
14	Representative Christopher Hendricks	9.1A, 9.1B
16	Elizabeth Saulnier	9.1A, (9.1E)
17	Jacob Chin	9.1A, 9.1C, 9.1D
18	Karen Chin	9.1A, 9.1C, 9.1D, 9.1E
19	Linda Morad	9.1A
20	Brad Markey	9.1A
21	Wendy Graca	9.1A, 9.1C
22	Zeb Arruda	9.1A
23	Tracy Wallace	9.1A, 9.1B, 9.1F, 9.1G, 9.1H
24	Elizabeth Swible	9.1A
25	Irene Duprey-Gutierrez	9.1A

Comment 9.1A – Several Commenters noted ongoing traffic congestion, and related safety concerns. Specifically mentioned was a concern with increased traffic congestion at the Route 140 off-ramps as they're heading into the Industrial Park. These comments include a concern regarding the dangers associated with both nearby Route 140 exits, general concerns regarding truck routes and concern regarding possible diversions in areas where schools and other vulnerable populations dwell at various times of the day coupled with a general concern over the increased truck traffic and how the increased truck traffic will affect ongoing traffic congestion. [Please note truck noise comments are included in Section 9.3 Noise.]

Response to Comment 9.1A – The truck route to and from the proposed facility is the most direct route between the New Bedford Business Park and Route 140, which is typically used by businesses within the Business Park. No project trips are generated adjacent to the Casimir Pulaski Elementary School, which is located east of Braley Road at Route 140 interchange, and the school zone for Casimir Pulaski Elementary School begins approximately 650 feet east of the Route 140 northbound on- and off-ramps. Projected future No-Build and Build queue lengths along the truck route are depicted in Figures 5-19A through 5-19L of the January 2022 Updated Traffic Impact Study (Updated TIS) presented in Section 5.0 of this report. The 95th percentile queue length along the Route 140

northbound off-ramp is projected to increase by 60 feet (approximately two packer trucks or one transfer trailer) during the weekday morning peak hour as shown in Figure 5-19A, by 72 feet (approximately two packer trucks or one transfer trailer) during the weekday afternoon school dismissal peak hour as shown in Figure 5-19E, and by 33 feet (approximately one packer truck) during the weekday afternoon commuter peak hour as shown in Figure 5-19I. The 95th percentile queue length is projected to increase by 2 feet during the weekday morning peak hour and weekday afternoon school dismissal peak hour as shown in Figures 5-19B and 5-19F, respectively, and by 3 feet during the weekday afternoon commuter peak hour as shown in Figure 5-19I.

Comment 9.1B – Commenters requested a plan mitigating / minimizing traffic congestion specifically related to the Route 140 ramp congestion issue discussed in Comment 9.1A above.

Response to Comment 9.1B – Based on the MUTCD traffic signal warrant analysis presented in Section 5.7, the installation of a traffic signal at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard is warranted under 2021 Existing traffic volumes independent of the project, as a result of existing development in the area. Subject to approval by the City of New Bedford, the Proponent proposes to construct a fully actuated traffic signal at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard to mitigate congestion experienced under existing conditions. As the incremental impact on the Route 140 ramps due to the proposed project is minimal and the installation of traffic signals at the intersections of Braley Road with the Route 140 ramps would adversely impact currently uncontrolled traffic on the eastbound and westbound Braley Road approaches, there is no feasible mitigation to reduce project generated impacts at the Route 140 ramp intersections.

Comment 9.1C – Several Commenters noted concern that increased truck traffic will further damage roadways already in poor condition.

Response to Comment 9.1C – The estimated trip generation for Phase 2 incorporated several assumptions to present a conservative analysis, including no reduction in trips for backhauls or outbound material being transported by rail. In addition, the traffic associated with the previously proposed biosolids facility has remained in this study although the biosolids component is no longer being proposed. While these conservative assumptions are incorporated into the traffic analysis, the planned use of backhauls and rail service and the removal of the biosolids facility will mitigate the project's trip generation and subsequent impacts on roadway conditions.

Comment 9.1D – Commenters asked, "Has MEPA conducted an independent traffic study?" and "Does MEPA plan to have an independent traffic study?"

Response to Comment 9.1D – The Updated Traffic Impact Study for the proposed project will be reviewed by MEPA and MassDEP. The Updated TIS, included within the body of this report in Section 5.0 and as Exhibit 12, will also be reviewed by the City of New Bedford and its peer review consultant as the process moves forward.

Comment 9.1E – A Commenter asked, "What is the impact on the residential community with the trucks (400 per day) and traffic (also being in a school district)?"

Response to Comment 9.1E – The assigned truck route for project-generated truck trips is the most direct route from the New Bedford Business Park and the Route 140 at Braley Road interchange, via Duchaine Boulevard, Theodore Rice Boulevard, and Braley Road. The truck route does not pass through residential neighborhoods along Braley Road east of Route 140 or along Phillips Road south of Braley Road, and the School Zone for the Casimir Pulaski Elementary School begins approximately 650 feet east of the Braley Road at Route 140 Northbound Ramps intersection. To reduce the impact of existing truck traffic along Phillips Road generated by other businesses in the New Bedford Business Park, the Proponent will allocate up to $5,000 toward a Heavy Commercial Vehicle Exclusion study for Phillips Road from Route 140 to Braley Road should the City of New Bedford choose to pursue a HCVE through MassDOT, as discussed in Section 5.7.

Comment 9.1F – A Commenter noted, "The certificate of the DEIR stated that the FEIR 'should include revised mobile-source estimate as necessary if estimate of truck trips increase.' The company does not address a possible increase... Further explanation of how an increase in truck trips is requested."

Response to Comment 9.1F – The project net increase in daily truck trips increased by 5 round trips, from 150 round trips in the DEIR (Table 2, p. 18 of the September 2019 TIS) to 155 under the revised estimate in this NPC-SFEIR (Table 5-5, Section 5.5). However, as noted in the January 2022 TIS, the traffic study includes the net increase in trucks due to the previously proposed biosolids operation, which has been removed from the proposed project, to conservatively assess traffic operations with the proposed project. The removal of biosolids from the proposed project would result in a reduction in the estimated trip generation of 25 daily truck round trips (23 inbound and 2 outbound). The total truck trip generation with biosolids removed under the FEIR trip generation assumptions would be 130 round trips per day, compared with 150 round trips in the DEIR analysis. As a result, the mobile-source estimate in the DEIR is overly conservative and a revised estimate is not required.

Comment 9.1G – A Commenter requested the traffic study provided in the FEIR include a complete breakdown of weekend traffic counts in this NPC-SFEIR.

Response to Comment 9.1G – New manual turning movement counts were collected for the Updated TIS on Saturday, April 10, 2021 and Tuesday, April 13, 2021. As shown in the table below and in Table 5-5, Section 5.4, Saturday traffic volumes on Braley Road between Phillips Road and Route 140 were found to be significantly lower than weekday peak hour and daily traffic volumes. As the weekday peak hour analysis presents an assessment of traffic conditions under more conservative baseline volumes, a Saturday peak hour traffic analysis is not required.

Weekday vs. Saturday Traffic Volumes

	Saturday, April 10, 2021	Tuesday, April 13, 2021		
Peak Hour	Midday	Morning	Afternoon School	Afternoon Commuter
Peak Hour Traffic Volume	658	886	1,066	969
Daily Traffic Volume	5,543	10,082		

Comment 9.1H – A Commenter requested confirmation the traffic study provided in the FEIR included truck traffic data related to all operations on-site, current and proposed.

Response to Comment 9.1H – The trip generation estimates in the FEIR include existing operations on-site under Existing and future No Build conditions, and both existing operations and the additional trips estimated to be generated by the proposed facility expansion under future Build conditions. Daily and weekday peak hour employee and truck trip generation for the existing facility is summarized in Table 5-3, Section 5.4. Estimated future daily and peak hour employee and truck trip generation for the proposed facility expansion is summarized in Table 5-5, Section 5.5, and the estimated maximum total daily one-way truck trips with existing and proposed operations are summarized in Table 5-6, Section 5.5.

9.2 Odor

Please see the following summary table for information regarding comments that have been received related to odor. The table includes the location of the responses to the comments. Please note the Proponent has withdrawn the previously proposed biosolids drying facility. As a result, odor concerns specific to biosolids processing are no longer applicable.

Letter #	Commenter	Comment and Response to Comment
4	Ron Cabral	9.2A
5	Robert H. and Judith B. Ladino	9.2A
6	Sherry Hanlon	9.2A
7	Robert Michael Pittsley	9.2A
8	Diane Fine	9.2A
9	Sabine Von Mering	9.2A
11	Representative Paul Schmid	9.2A
14	Representative Christopher Hendricks	9.2A
15	Senator Mark Montigny	9.2A
17	Jacob Chin	9.2A
19	Linda Morad	9.2A
21	Wendy Graca	9.2A
23	Tracy Wallace	9.2B, 9.2C
24	Elizabeth Swible	9.2D

Comment 9.2A – Several Commenters noted concerns with potential odor issues resulting from the proposed expansion. As noted above, the Proponent has withdrawn the proposed biosolids drying facility, which could yield the greatest potential for nuisance odor conditions. The following response specifically addresses general concerns related to the proposed municipal solid waste (MSW) handling and processing facility.

Response to Comment 9.2A – As stated in Section 2.11.2 of the DEIR, the facility has been designed to include multiple features to ensure that the facility operation doesn't result in nuisance odors to abutters. It should be noted that all odor modeling was conservative and results were below the 5 dilution to threshold (D/T), 5 minute average draft MassDEP policy. The design features identified were included in an odor modeling study conducted to ensure that facility odor will not present a nuisance condition for abutters to the project. The odor study is described in more detail in the DEIR (Attachment 14, Section 6.4).

For MSW handling and processing: all tipping, processing and loading into rail cars operations are conducted within an enclosed building; the tipping and loadout building will be equipped with a misting system with the ability to introduce odor counteractants; building ventilation systems exhaust through elevated stacks to promote dispersion of exhaust air; doorways are located west and away from the easterly abutters and doorway openings are on one side to reduce wind tunnel effects; and the facility will establish Operation & Maintenance/Best Management Practices (O&M/BMPs) such as first in/first out procedures, routine sweeping and cleaning, and door opening and closing protocols as part of the operational procedures that will be prepared during the MassDEP permitting phases.

Comment 9.2B – A Commenter noted a concern regarding C&D Waste producing Hydrogen Sulfide and a resulting rotten egg smell.

Response to Comment 9.2B – It is the opinion of GSE and the Proponent that the production of hydrogen sulfide gas (H_2S) will not be a cause of concern. H_2S is produced in instances when sulphur compounds decompose in the presence of moisture and absence of oxygen (anaerobic conditions). A principal source of H_2S at this facility would be gypsum, the primary component of drywall materials in C&D debris. However, there are three protocols that will mitigate the creation of H_2S at the facility. They are:

1. Following a first in/first out protocol that will decrease residency time on-site (the shorter the residency, the lower the ability for a stockpile to become anaerobic)
2. Keeping the material under cover. By keeping the material under cover, precipitation or other contact water will not infiltrate the material. Note that the misting system used to control dust and odor does not saturate the waste materials.
3. The Proponent will have the ability to perform pile management activities, which can include turning any of the on-site stockpiles over. By turning the stockpiles over, it will oxygenate the pile, thus significantly reducing the potential for anaerobic conditions to occur.

Comment 9.2C – A Commenter noted biosolids are capable of producing methane and that the potential for methane production was not properly addressed in the FEIR. As noted above, the Proponent has withdrawn the proposed biosolids drying facility.

Response to Comment 9.2C – Following the Proponent's withdrawal of the previously proposed biosolids drying facility, concern of methane production from biosolids processing is no longer applicable.

Comment 9.2D – A Commenter asked, "Will the Proponent pay for a thorough odor audit?"

Response to Comment 9.2D – It is assumed that both the MassDEP as well as the New Bedford Board of Heath will both require unannounced periodic inspections by a 3rd party inspector (note the BOH and MassDEP will also have conditions that allow for rights of entry at any given time). As part of these inspections, the facility will be inspected for nuisance conditions to include odors.

9.3 Noise

Please see the following summary table for information regarding comments that have been received related to noise. The table includes the location of the responses to the comments.

Letter #	Commenter	Comment and Response to Comment
6	Sherry Hanlon	9.3A
7	Robert Michael Pittsley	9.3A
8	Diane Fine	9.3A
9	Sabine Von Mering	9.3A
11	Representative Paul Schmid	9.3D, 9.3E
12	Carol Strupczewski	9.3B, 9.3C
14	Representative Christopher Hendricks	9.3D, 9.3E
15	Senator Mark Montigny	9.3A
19	Linda Morad	9.3A
20	Brad Markey	9.3A
21	Wendy Graca	9.3A
22	Zeb Arruda	9.3F
23	Tracy Wallace	9.3G, 9.3H
24	Elizabeth Swible	9.3I
25	Irene Duprey-Gutierrez	9.3A

Comment 9.3A – Several Commenters noted a general concern with noise related to operations at the facility.

Response to Comment 9.3A – As stated in Section 6.0 of this NPC-SFEIR, the resulting noise from operation of the proposed project has the potential to cause a nuisance sound conditions. Therefore, a thorough noise modeling study was conducted to determine what the noise levels might be and what mitigation steps would be necessary to reduce on-site related noise impacts. Details of the sound

modeling methodology are described in Section 6.5 of the NPC-SFEIR. In consideration of commenters' concerns about noise, multiple noise sources have since been withdrawn from the FEIR including the biosolids rooftop fans, biofilter fan, biofilter stack, and cooling towers. As a result of the study, the following design elements will be included in the final project: an electronic rail car mover as opposed to diesel-powered, an acoustic louvre for the ventilation opening for the baghouse system, and building enclosures around facility operations that can cause noise (tipping, loading, handling), and electrically powered processing equipment. Additionally, "tipping hours" have been reduced so that the proposed Project would accept truck deliveries between 6 AM until 7 PM Monday through Friday and from 7 AM to 4 PM on Saturdays. Very little to no outdoor activity will occur during the nighttime.

Comment 9.3B – A Commenter noted, "Parallel is operating 24/7 daily and noise is occurring throughout the evening."

Response to Comment 9.3B –The Proponent has incorporated the following changes with respect to the hours of operation (this will hold true for both the glass operation as well as the solid waste handling facility):

1. Reduce tipping hours to 6AM to 7PM Monday through Friday
2. Reduce tipping hours to 7AM to 4PM on Saturdays
3. Remove tipping operations entirely on Sundays

In addition to the proposed changes with respect to tipping hours, the Proponent also proposes to enclose all areas where solid waste unloading, processing, and loading operations will occur in order to minimize the possibility for several potential nuisance conditions including noise. The Proponent specifically proposes to perform these activities inside the enclosed buildings 24/7, while limiting truck traffic to the tipping hours noted above.

Should any receptors experience nuisance noise conditions in the future, our neighbors are encouraged to notify the Proponent through the complaint reporting system described in Section 3.3 of this report. Complaints may be submitted anonymously and all complaints will be investigated and taken seriously.

Comment 9.3C – A Commenter noted, "Presently, Parallel Products is making loud noise with trucks backing up after 11 p.m."

Response to Comment 9.3C –Please see Response to Comment 9.3B (above) for more information on steps the Proponent is proposing to address this concern.

Comment 9.3D – A Commenter noted, "As I'm sure you know, additional sound and noise is of great concern with the neighbors. According to the certificate, there will be an expected increase of 2 to 3 decibels (dB) for the four residential areas in the daytime; while nighttime sound levels, unfortunately, will be increased 6 to 8 dB. Given the inadequate sound analysis conducted by Parallel Products, these figures, in reality, will be much higher. As such, it is imperative that the Final Environmental Impact Report (FEIR) reflect accurate noise data/measurements."

Response to Comment 9.3D – The analysis reflects the removal of the biosolids facility from the project, and the associated revisions to the site plans. The increase in ambient sound was modeled to be between 3-7 dBA at night and 1-3 dBA during daytime. At night, the total ambient noise (including the proposed project) will be between 35-37 dBA while daytime levels will be 39-40 dBA. As observed in the Figure 6-2 of the SFEIR, the ambient nighttime level of 35-37 dBA is about equivalent to the level of noise heard in a library.

Please see Section 6.0 and the Response to Comment 9.3B (above) for more information.

Comment 9.3E – a Commenter noted, "The certificate issued by Secretary Theoharides noted that the delivering of waste and biosolids will occur from 5 AM to 9 PM, Monday through Saturday, and 6 AM to 6 PM on Sundays. The certificate also states that the sound analysis conducted by Parallel Products "did not analyze all noise sources," noting the research did not consider "waste delivery trucks, processing equipment, tipping and loading of biosolids and gas, loading and movement of rail cars and short duration sounds like back up alarms." If parallel products did not consider these noise factors, what did they analyze?"

Response to Comment 9.3E – Since submittal of the NPC-FEIR, all biosolids processes have been removed from the project proposal. As seen in Section 6.0 of the NPC-SFEIR, the modeled noise components are the seven (7) rooftop exhaust fans, three (3) open loading bays on the west side of the MSW building, one (1) baghouse intake ventilation opening, two (2) fans of the baghouse exhaust, idling rail locomotive at a location closest to residences, truck backup alarm at the west side of the MSW building, railcar pusher, railcar coupling, truck traffic, and other facility noise. The MSW unloading site has been located to the west side of the project to minimize impact on residences on the eastern side. The glass unloading was designed as a "drive forward" delivery system, eliminating backup alarms as a noise source at that location. An electric railcar pusher will replace the traditional diesel-powered pusher, eliminating engine noise. Additionally, the Proponent's proposed electric railcar mover has the ability to:

1. Couple railcars at a very slow speed to reduce coupling sound impacts
2. Stage and couple railcars together to reduce on-site locomotive time
3. Stage and couple railcars together to increase the distance between the locomotive and the residential receptors

Presently, locomotives will have restricted idling hours between 5:00 AM and 9:00 PM. Tipping hours will be restricted as detailed below:

1. Reduce tipping hours to 6AM to 7PM M-F
2. Reduce tipping hours on Saturdays from 7AM to 4PM on Saturdays
3. Remove tipping operations entirely on Sundays
4. Allow for indoor operations (e.g., processing, loading, maintenance, etc.) to occur 24/7

Please see Section 6.0 and the Response to Comment 9.3B (above) for more information.

Comment 9.3F – A Commenter noted that truck sounds could be clearly heard from their residence.

Response to Comment 9.3F – Section 8.0 of Attachment 13 to the DEIR presented the results of truck activity modeling and concluded that the project-related truck impacts would not exceed relevant standards using the Federal Highway Administration (FHWA) Traffic Noise Model (TNM). To minimize impacts, the Proponent is proposing a reduction in "tipping hours" to accept truck deliveries only from 6AM until 7PM Monday through Friday and from 7AM to 4PM on Saturdays. The Proponent is no longer proposing truck delivers on Sundays.

Please see Section 6.0 and the Response to Comment 9.3B (above) for more information.

Comment 9.3G – A Commenter noted, "Within the FEIR, it states there are no local quantitative noise regulations applicable to this project. However, there is a city noise ordinance that addresses noises at commercial establishments. It states 'all noises at commercial establishments located in principally residential neighborhoods that menace the health, interrupt or disturb sleep of residents between the hours of 10:00pm and 7:00am are hereby prohibited; and, without limiting the generality of the foregoing, it is hereby intended that 'noises' as used in this section, shall include the loading or unloading of motor vehicles, those sounds emitted by all types of mechanical devices, including motor vehicles, and those by animals and birds.'" "...The company also intends to operate 24 hours a day 7 days a week, and the city ordinance would prohibit those intended operations between 10pm and 7am."

Response to Comment 9.3G – The proposed project is located in an industrial park zoned for industrial use and regulated by the applicable City ordinance. That noted, the Proponent is seeking to minimize any inadvertent detrimental impacts to our neighbors as they relate to our operations. As evidence, the proposed hours of tipping have been reduced as noted in Section 6.0 and in the Response to Comment 9.3B (above). Tipping is only proposed to occur between 6AM to 7PM Monday thru Friday, 7AM to 4PM on Saturdays, and not on Sundays. Indoor operations will continue 24/7, but all solid waste operations are proposed to occur within enclosed buildings. Please see Section 6.0 and the Response to Comment 9.3B (above) for more information.

Comment 9.3H – A Commenter noted, "A full revision of the revised noise analysis required for the FEIR is requested. Public commenter stated the revised noise analysis, 'is insufficient and incomplete.' The noise analysis was conducted between June 26th and July 3rd, 2018, a course of one week over the summer and inclusive of a holiday. This is not representative of a normal week where peak activity would be occurring. It is also two years out of date and prior to the movement of their current operations from Shawmut Ave. Figure 6.3 only indicates two continuous measurement locations, one completely opposite of any residential area, and the other on the border of the property and the two residential houses the Proponent bought. Figure 6.3 also only indicate two short-term measurement locations. No sound monitoring was done within the neighborhood directly across the street from the facility. Sound travels and effects could be reached further outside their locus of measurement." Commenter requests "A comprehensive new analysis of overall noise levels ... for an accurate depiction to be addressed and continuous measurement needs to be analyzed within local neighborhoods."

Response to Comment 9.3H – The background (ambient) noise monitoring was conducted between June 26th and July 3rd in 2018. The purpose of this monitoring was to establish existing background (ambient) sound levels in the vicinity of the Project. The MassDEP Noise Policy presents sound level limits based upon the existing sound levels (10 dBA over ambient). The comment suggests that the monitoring was not representative of peak activity, however, the intent of these measurements was to determine the quietest time periods, and therefore by avoiding peak conditions they are conservative. A one-week long monitoring program goes beyond standard practice used to determine background sound levels for comparison to the MassDEP Noise Policy. For the analysis, only data from the long-term locations has been utilized. The data from the short-term locations was used to confirm that sound levels are similar at other nearby offsite locations.

The monitoring locations were chosen to be representative of the "worst case" areas – i.e., the residences closest to the project, but furthest from the highway (Route 140). Impacts further from the project will be lower than what has been presented in the noise analysis.

Comment 9.3I – A Commenter asked, "Noise has been an issue since the Proponent has moved into the business park. This is a proposed 24-hour, 7-day functioning facility. Will the Proponent provide this community with a thorough noise study?"

Response to Comment 9.3I – Section 6.0 of the NPC-SFEIR and the Noise Impacts section of the DEIR on page 93 describes the sound modeling study to document sound levels and identify feasible mitigation measures. While operations inside enclosed buildings will continue 24/7, the trucks, railcars, and tipping activity will have limited operating schedules. Locomotives will have restricted idling hours between 5AM and 9PM, and, following a proposed reduction in operating hours, the Facility is now only expected to accept truck deliveries from 6AM until 7PM Monday through Friday and from 7AM to 4PM on Saturdays, and not on Sundays. Please see Section 6.0 and the Response to Comment 9.3B (above) for more information.

9.4 Emissions / Air Quality

Please see the following summary table for information regarding comments that have been received related to emissions / air quality. The table includes the location of the responses to the comments.

Letter #	Commenter	Comment and Response to Comment
12	Carol Strupczewski	9.4A
15	Senator Mark Montigny	9.4B
17	Jacob Chin	9.4B, 9.4C, 9.4D
18	Karen Chin	9.4E
20	Brad Markey	9.4B
21	Wendy Graca	9.4B, 9.4F
23	Tracy Wallace	9.4G, 9.4H
24	Elizabeth Swible	9.4B, 9.4I

Comment 9.4A – A Commenter wrote: "Parallel proposes erecting, I believe, 19 stacks 70 feet high for, I believe, the processing of bio-solids. What toxins will be emitted into the air from this process? How will that impact our air quality? What testing will be done and when?"

Response to Comment 9.4A – Please note the Proponent has withdrawn the previously proposed biosolids drying facility. As a result, the questions related to biosolids processing, wastewater generation, and related are no longer applicable to this application.

Currently proposed air emissions sources will not create conditions of unhealthy air. As described in Table 12 on page 113 of the DEIR, the four (4) stacks on the tipping building will release at 70 ft, the one (1) glass processing boiler stack will release at 40 ft, three (3) processing building vents will release at 70 ft. An Air analysis was conducted by Epsilon Associates using a USEPA approved air dispersion modeling program called AERMOD. The model generates estimates of pollutant concentrations using stack data, terrain data, and building dimensions. Epsilon created a grid of thousands of receptor locations, with the most receptors nearest the facility. The model uses emission rates, exhaust parameters (release height, velocity, and temperature) and five years of hourly weather data to predict ambient air concentrations under a large comprehensive sample of weather conditions. Model results are compared to USEPA and Massachusetts Department of Environmental Protection (MassDEP) health protective criteria. The proposed project would emit sulfur dioxide, particular matter, nitrogen dioxide, and carbon monoxide. Table 13 on page 117 of the DEIR summarizes the pollutants and chemicals and compliance with standards that will not cause a hazard to health. In summary, the condition of air quality created by the proposed project will comply with all applicable air quality standards. These include the USEPA National Ambient Air Quality Standards (NAAQS), the Massachusetts Ambient Air Quality Standards (MAAQS), and the health-based Ambient Air Limits (AALs) and Threshold Exposure Limits (TELs).

The proposed project falls below the 1 ton per year (TPY) emissions threshold for stationary sources to trigger the need to apply for an air permit. The Proponent does plan to record its air emissions using a tracking workbook that will calculate emissions based on emission factors (mass pollutant emitted per unit processed) and activity rates (tons of material processed) for Particulate Matter of 10 microns or less. The tracking workbook will be retained on-site for inspection by MassDEP. If MassDEP requests a copy of the up-to-date workbook at any time, the Proponent will provide a copy to the MassDEP. The Proponent will also make the tracking workbook available to the public on the Proponent's website. For more details about the air emissions tracking, please refer to section 3.4 of the NPC-SFEIR on page 50.

Comment 9.4B – General concern expansion of the facility could create increased air pollution for people living and working in the vicinity of the Proponent facility as a result of expanded operations and increased truck traffic.

Response to Comment 9.4B – As documented in the Air and Odor Impacts section of the DEIR (Attachment 14), the proposed project impacts, which include stationary sources, mobile diesel equipment, and dust from material handling, will not create conditions of unhealthy air. Air pollutants were modeled using a USEPA approved air dispersion modeling program called AERMOD. The

condition of air quality created by the proposed project will comply with all applicable air quality standards. These include the USEPA National Ambient Air Quality Standards (NAAQS), the Massachusetts Ambient Air Quality Standards (MAAQS), and the health-based Ambient Air Limits (AALs) and Threshold Exposure Limits (TELs).

Comment 9.4C – A Commenter wrote the following: "The proposed project is planned to have 19 stacks. How far will the smoke from the stacks reach? What is the impact on the quality of air? Does MEPA know the height of all stacks (factoring in the levels of the project site)? What is the height relationship to the stacks and the nearby homes and businesses?"

Response to Comment 9.4C – The proposed project after removal of the biosolids processes now proposes 8 of the 19 stacks, used to disperse combustion products and controlled ventilation exhaust (no smoke will be generated). As described in Table 12 on page 113 of the DEIR, the four (4) stacks on the tipping building will release at 70 ft, the one (1) glass processing boiler stack will release at 40 ft, three (3) processing building stacks will release at 70 ft. Emissions from all the sources mentioned here (and the rest shown in Table 12) were modeled using a USEPA recommended air dispersion modeling program called AERMOD. AERMOD takes into account the surrounding terrain, elevation, and height of each of the stacks and receptors in the modeling process. The model results document that all pollutants emitted by the proposed project are in compliance with all relevant health-based standards.

Comment 9.4D – A Commenter wrote the following: "What will be the impact to the other businesses in the park, and surrounding neighborhood? Will they have to install air filtration systems? If so, who will pay? What will be the impact to Pulaski school and any other childcare centers? Will schools and child centers need to install/upgrade air filtration systems? If so, who will pay?"

Response to Comment 9.4D – Ambient air standards are set by the USEPA and Massachusetts Department of Environmental Protection to provide public health protection, including protection of sensitive populations. As described in the Air Quality section of the DEIR, the proposed facility complies with these air standards for all pollutants emitted when taking into consideration existing air quality. Surrounding terrain is taken into consideration in the air quality model. Also, as described in the Air Quality section of the DEIR (Attachment 14), air emissions are controlled at the source using clean fuels, filters, and combustion controls.

Comment 9.4E – Similar to Comment 9.4B, a Commenter wrote, "The Proponent has planned for 19 stacks (with some being 70 feet high) to service their facility. How will the smoke from these stacks affect the community, how far will the smoke reach, has wind direction been taken in consideration? What is the impact on the quality of air? Has MEPA done a study on what these 19 stacks will affect the residential homes and businesses it borders?"

Response to Comment 9.4E – Please refer to responses to Comments 9.4D and 9.4C. The USEPA-approved air dispersion modeling program AERMOD was used to model emissions from the stacks and their impact on ambient air quality. This model uses the most recent five years of meteorological data, which includes wind speeds. The condition of air quality created by the proposed project will

comply with all applicable air quality standards that are protective of health. These include the USEPA National Ambient Air Quality Standards (NAAQS), the Massachusetts Ambient Air Quality Standards (MAAQS), and the health-based Ambient Air Limits (AALs) and Threshold Exposure Limits (TELs). It should be noted that these stacks are not "smoke stacks" that would emit fugitive emission due to an on-site combustion process.

Comment 9.4F – A Commenter wrote, "Construction of this facility would entail the excavation of a site that is contaminated (and not remediated) by the previous occupant, Polariod. This will undoubtedly stir, kick up and circulate toxics from the contaminated soil, exposing people to dangerous chemicals, all of which will cause health issues for citizens living and working nearby and children attending the local elementary school."

Response to Comment 9.4F – GSE and the Proponent are not aware that there is any residual contamination on-site in concentrations above present regulatory standards. In addition to Phase 1 investigation that was performed on-site, additional environmental investigation/reporting was performed by Sage Environmental in 2014 and 2016 (two Phase I reports and a Limited Subsurface Investigation [LSI]). Presently there is no evidence that would indicate on-site contamination or a release of PFAS related compounds to the environment. It should also be noted that LSI reviewed the collected data (soil and groundwater) with comparison to current Massachusetts Contingency Plan (MCP) standards for other compounds outside of PFAS. Lastly, based on current regulation and as recommended by Sage & MassDEP, the Proponent may need to characterize soils during the construction phases of the project and manage soils appropriately. Below is an excerpt from the MassDEP FEIR comment letter.

"The Project Proponent is advised that if oil and/or hazardous material are identified during the implementation of this Project, notification pursuant to the Massachusetts Contingency Plan (310 CMR 40.0000) must be made to MassDEP, if necessary. A Licensed Site Professional (LSP) should be retained to determine if notification is required and, if need be, to render appropriate opinions. The LSP may evaluate whether risk reduction measures are necessary if contamination is present. The BWSC may be contacted for guidance if questions arise regarding cleanup"

Comment 9.4G – A Commenter wrote, "Idling locomotives, deliveries of live load trucks... Several locomotives will be loaded and moved throughout the facility what emissions will that create? Trucks take two hours to live load drop, are these trucks idling while they deliver their live loads?

Response to Comment 9.4G – Truck emissions include products of fuel combustion; a complete list of the project's anticipated emissions can be found in Table 13 on pages 117 & 118 of the DEIR. Dust emissions from trucks driving on paved roads are calculated using USEPA emission factors; please refer to Section 4.7.1 of the Air Quality report in Attachment 14 of the DEIR. All emissions from trucks were modeled in the AERMOD dispersion analysis as volume and line sources. Contrary to what this Commenter wrote, a live truck will take 10 minutes or less to discharge its load, not two hours. Idling trucks will be turned off and the Proponent plans to strictly enforce the state mandated 5-minute idling limitation. The electric railcar mover also eliminates diesel emissions from a traditional diesel railcar mover. A single locomotive will be briefly on site daily and during that time

will contribute minimal emissions. The condition of air quality created by truck traffic in the proposed project will comply with all applicable air quality standards that are protective of health.

A single locomotive will be on site briefly once per day to drop empty cars and pick up loaded cars. Locomotive emissions from this transient daily site visit will be minimal.

Comment 9.4H – A Commenter wrote: "The methodology of recording and tracking 'monthly mass rates of air emissions for the preceding month, by the 15th of each month, by populating a 12-month rolling tracking Excel workbook with the operational activity rates (tons per month of glass processed, MSW tipped and processed, and biosolids processed)' is impractical."

Response to Comment 9.4H – The practice of recording 12-month rolling averages of operational activity is a standard industry practice and frequently used by regulators and developers to document ongoing compliance with annual thresholds. Monthly tracking and automated 12-month calculations are standard practice.

Comment 9.4I – A Commenter wrote: "Odor emitted from this facility is a serious concern along with the chemicals that will be added and dispersed into the environment in any attempt to mask foul odors. How is this company going to mitigate air quality and odor as many factors including wind and temperature impact the air quality?"

Response to Comment 9.4I – MSW operations have the potential to emit odors which could result in a nuisance condition. The facility has been designed to include multiple design features to ensure that the facility operation doesn't result in nuisance odors to abutters. It should be noted that all odor modeling was conservative and below the 5 dilution to threshold (D/T) policy. The design features identified below were included in an odor modeling study conducted to ensure that odor will not present a nuisance condition for abutters to the project. The odor study is described in more detail in the DEIR. The odor study is not included in the NPC-SFEIR as the Secretaries Certificate on the DEIR and FEIR did not include any requirements for revisions to the odor study presented in the DEIR. The design features related to odor mitigation for the MSW processing and transfer are listed below.

MSW Processing and Transfer

- All tipping, processing and loading into rail cars operations are done within an enclosed building.
- The tipping and loadout building will be equipped with a misting system with the ability to introduce odor counteractants.
- Building ventilation systems exhaust through elevated stacks to promote dispersion of exhaust air.
- Doorways are located west and away from the easterly abutters and doorway opening are on one side to reduce wind tunnel effects.

- The facility will establish O&M/BMPs such as first in/first out procedures, routine sweeping and cleaning, and door opening and closing protocols as part of the operational procedures that will be prepared during the MassDEP permitting phases.
- Added rail connection from MSW to the proposed Glass Building Extension to allow rail cars to be loaded inside the Glass Bunker Building.

Additionally, the misting system that will be used to control dust inside the building will be fitted with a venturi pump that will allow the facility to meter in odor controlling counteractants. This material is non-hazardous and non-toxic and can be properly used as a means to further control nuisance odors. A copy of a sample odor neutralizing agent product literature is presented in Exhibit 14.

9.5 Vectors

Please see the following summary table for information regarding comments that have been received related to vectors. The table includes the location of the responses to the comments. Note that a "vector" is defined in 310 CMR 19.006 as "an organism that is capable of transmitting a pathogen from one organism to another including, but not limited to, flies and other insects, rodents, birds, and vermin."

Letter #	Commenter	Comment and Response to Comment
4	Ron Cabral	9A
17	Jacob Chin	9A
18	Karen Chin	9A, 9B
21	Wendy Graca	9A

Comment 9.5A – A general concern regarding the potential vectors was noted by all listed Commenters. A Commenter asked the Proponent to address what they would be doing in preventing vectors, specifically noting rodents, from affecting the surrounding community?

Response to Comment 9.5A –The Proponent will implement mitigation measures to ensure that vectors do not pose a nuisance condition. The following measures will be incorporated into the Proponent's Operation and Maintenance Plan that will be developed as part of the Authorization to Construct phase to further describe and illustrate the processes and procedures for the control of nuisance conditions. Proposed measures include, but are not limited to, the following, subject to revision as operations are finalized and during subsequent operational permitting with MassDEP:

- Removing waste following a first in/first out procedure
- Contracting with a vector control management firm.
- Installing rodent traps/bait stations within and around the interior and exterior of the buildings.
- Minimizing door openings within the proposed building.
- Conducting all waste handling activities indoors.

- Maintaining equipment on-site that will remove the materials from the tipping floor for subsequent handling.
- Covering the containers and trailers prior to leaving the waste handling building.
- Sweeping the paved areas and the interior of the building (as needed) at regular intervals.
- Instituting a daily inspection program for vectors following the Operations and Maintenance Plan that will be prepared for the proposed Facility.

Comment 9.5B – A Commentator asked if the Proponent would be responsible for pest control?

Response to Comment 9.5B –The Proponent will be responsible for pest control. A 3rd party pest control management firm will be retained throughout the life of this facility. The 3rd party management firm will be responsible for inspections, pest management and providing written reports of their findings and recommendations.

9.6 Hours of Operation

Please see the following summary table for information regarding comments that have been received related to hours of operation. The table includes the location of the responses to the comments.

Letter #	Commenter	Comment and Response to Comment
6	Sherry Hanlon	9.6A
7	Robert Michael Pittsley	9.6A
8	Diane Fine	9.6A
9	Sabine Von Mering	9.6A
19	Linda Morad	9.6B
22	Zeb Arruda	9.6C

Comment 9.6A – Several commenters noted the hours of operation present, "A disruption to our quality of life from the planned 24/7 hours and nature of the operations."

Response to Comment 9.6A – Based on public input and Proponent's decision to remove of the biosolids operations from the proposed development, the following changes are being proposed with respect to hours of operation:

1. Reduce tipping hours to 6AM to 7PM Monday through Friday
2. Reduce tipping hours to 7AM to 4PM on Saturdays
3. Remove tipping operations entirely on Sundays

In addition to the proposed changes with respect to hours of tipping operation, the Proponent is also proposing to enclose all areas where solid waste processing operations will occur in order to minimize the possibility for several potential nuisance conditions, noise being one. The Proponent proposes to perform processing, loading, maintenance, etc. inside the enclosed buildings 24/7, while truck traffic will be limited to the tipping hours noted above.

Comment 9.6B – A commenter wrote, "Several years ago the area residents supported the development of the New Bedford Business Park, which provided manufacturing and service-related businesses the opportunity to expand and offer good paying jobs to residents of the City and the surrounding communities. None of these companies are engaged in the type of industry that is currently under consideration with this permit, nor do they operate on a twenty-four hour / seven day a week schedule that is certain to be totally disruptive to the peacefulness of the surrounding community." The same Commenter later added, "I can assure you that no one who purchased a property in this area assumed that their home life would be subjected to an industrial project operating twenty-four hours a day / seven days a week."

Response to Comment 9.6B – The proposed hours of operation have been changed as identified in the response to comment 9.6.A. Additionally, the Proponent is proposing a facility design that encloses all areas where solid waste processing operations will occur including the portion of railway where loading takes place, a separation from the closest residence (a.k.a. "receptor") that is

significantly greater than the regulatory requirement, and several additional environmental controls proposed to reduce and mitigate impacts to surrounding receptors such as dust and odor suppression, ventilation, use of an electric railcar mover, etc. Please note that the closest tipping door as currently proposed is greater than 1,400 feet from nearest residential receptor.

Comment 9.6C – A Commenter noted a concern over 24/7 operations stating that, "The city has a Wastewater Treatment Plant that does not allow truck trucks before 7:00 am nor after 7:00 pm. Why are we being treated differently in our neighborhood?"

Response to Comment 9.6C – The proposed hours have been changed as described above in comment 9.6A. The 6AM start time is important for this industry so that the first deliveries are outside of morning peak hour traffic.

9.7 Environmental Justice

Please see the following summary table for information regarding comments that have been received related to environmental justice. The table includes the location of the responses to the comments.

Letter #	Commenter	Comment and Response to Comment
6	Sherry Hanlon	9.6A
7	Robert Michael Pittsley	9.6A
8	Diane Fine	9.6A
9	Sabine Von Mering	9.6A
13	Andrea Stone	9.6B, 9.6C, 9.6D, 9.6E
15	Senator Mark Montigny	9.6A
17	Jacob Chin	9.6B
18	Karen Chin	9.6C
21	Wendy Graca	9.6A
23	Tracy Wallace	9.6A
24	Elizabeth Swible	9.6A

Comment 9.7A – Several Commenters noted that the site is located in an environmental justice community with an unfortunate history of environmental damage. Commenters noted concern that Proponent is seeking to further exploit an environmental justice community.

Response to Comment 9.7A –The Proponent is not only committed to be an excellent environmental steward but has also taken a considerable amount of time to educate the community about their proposed plans. It should be noted that this site has been a “heavy” industrial property for many years and the Proponent’s plans are to repurpose the site. As a brief history, the Proponent submitted a Final Environmental Impact Report (FEIR) on January 21, 2021, notice of which was published in *The Standard Times*, *El Planeta*, and the *Portuguese Times*. On April 2, 2021. As identified in the NPC-SFEIR, the Secretary of Energy and Environmental Affairs issued a FEIR Certificate, which requested the preparation of an NPC-SFEIR.

To date, the Proponent has worked diligently to educate the community on plans for the Proponent's proposed solid waste handling facility, a 71-acre site at 100 Duchaine Boulevard in the New Bedford Business Park. The Proponent has conducted an extensive community outreach campaign that is ongoing. The Proponent's community outreach team has knocked on 1,390 doors, providing residents with fact sheets and comment cards and promoted the public to ask questions and provide feedback on the project. Additionally, the Proponent representatives have made 21,571 personal phone calls to identify potential concerns and share details with the community; organized and held 24 meetings with key business stakeholders in the community and local vendors; and hosted three open houses, two public meetings, as well as virtual meetings.

As part of the notification and outreach process, the Proponent has notified the following agencies during the ENF, DEIR and FEIR process:

- Executive Office of Energy and Environmental Affairs
- Massachusetts Department of Environmental Protection
- DEP / Southeast Regional Office
- Massachusetts Department of Transportation
- Massachusetts DOT District #5 Office
- Massachusetts Historical Commission
- Southeastern Regional Planning and Economic Development District
- City of New Bedford
- New Bedford City Council
- New Bedford Department of Planning, Housing and Community Development
- New Bedford Conservation Commission
- City of New Bedford Health Department
- Natural Heritage and Endangered Species Program
- Department of Public Health
- Energy Facilities Sitting Board
- Department of Energy Resources
- Massachusetts Bay Transit Authority
- Superintendent of Wastewater

The Proponentlso notified the following representatives of environmental justice groups as recommended by MEPA and/or as required based on the fact that comments were received during the MEPA processes:

- Coalition for Social Justice, Deb Faustino
- Coalition for Social Justice, Marlene Pollock
- Hands Across the River Coalition, Karen Vilandry
- Old Bedford Village, John "Buddy" Andrade
- Alternative for Community & Environment, Dwaign Tyndal
- Toxics Action Center, Sylvia Broude, executive director

- Environment Massachusetts, Ben Hellerstein
- Clean Water Action, Cindy Luppi
- Sierra Club MA, Deb Pasternak
- Neighbor to Neighbor, Elvis Mendez
- Appalachian Mountain Club, Heather Clish
- Mass Audubon, Heidi Ricci
- Mass Rivers Alliance, Julia Blatt
- The Trust for Public Land, Kelly Boling
- Browning the Green Space, Kerry Bowie
- Environmental League of MA, Nancy Goodman
- E4TheFuture, Pat Stanton
- Ocean River Institute, Rob Moir
- Mass Land Trust Coalition, Robb Johnson
- Mass Climate Action Network (MCAN), Sarah Dooling
- Conservation Law Foundation, Amy Laura Cahn, senior attorney
- Conservation Law Foundation, Staci Rubin, senior attorney
- Community Action Works, Sylvia Broude
- Unitarian Universalist Mass Action Network, Tali Smookler
- Healthcare without Harm, Winston Vaughan

The Proponent prioritizes being a good neighbor and has gone door-to-door with fact sheets and comment cards with pre-paid postage to receive community input on the proposed site. The Proponent's community outreach team has personally knocked on a total of 1,390 doors. Residents were offered/provided a comment card and a project fact sheet - and have been given opportunities to learn more about the project. The Pine Hill Acres neighborhood, which consists of 360 homes, received a second visit from the Proponent representatives, as it is closest to the new site. The Proponent representatives also have visited the 75 closest homes to their former site at 969 Shawmut Avenue and an additional 54 homes throughout New Bedford to educate the community about their plans for 100 Duchaine Boulevard and assess if the neighbors have had any complaints over the past 11 years at their former location.

Comment 9.7B – Several Commenters shared concern that the proposed facility expansion will be located in proximity to a predominantly minority community, noting specifically Lord Phillips; Satellite Village; and Dottin place. Directly related comments include, "What outreach has been done by MEPA or the Proponent to these communities?" and, "What studies has MEPA done to ensure the safety and wellbeing of poor and communities of color?"

Response to Comment 9.7B – It is the Proponent's and GSE's opinion that this has been answered in Comment 9.7A. As for studies, the Proponent and their experts have performed multiple studies on air (greenhouse gasses and emission), sound, odor, traffic, etc. From these studies and

recommendations by the experts, the site, its environmental controls, and layout has been developed to ensure the safety of the surrounding receptors.

Comment 9.7C – Related to Comment 9.6B, Commenters asked, "Does MEPA consider environmental racism when making decisions?" and, "Does MEPA have to use explicit consideration of disproportionate impact on low-income communities and communities of color?"

Response to Comment 9.7C – Although this question is directed to MEPA, the Proponent has taken considerable steps to work with the community on this project.

To date, the Proponent has worked diligently to educate the community on plans for the Proponent's proposed solid waste handling facility, a 71-acre site at 100 Duchaine Boulevard in the New Bedford Business Park. The Proponent has conducted an extensive community outreach campaign that is ongoing.

As part of the notification and outreach process, the Proponent has notified the following agencies during the ENF, DEIR and FEIR process:

- Executive Office of Energy and Environmental Affairs
- Massachusetts Department of Environmental Protection
- DEP / Southeast Regional Office
- Massachusetts Department of Transportation
- Massachusetts DOT District #5 Office
- Massachusetts Historical Commission
- Southeastern Regional Planning and Economic Development District
- City of New Bedford
- New Bedford City Council
- New Bedford Department of Planning, Housing and Community Development
- New Bedford Conservation Commission
- City of New Bedford Health Department
- Natural Heritage and Endangered Species Program
- Department of Public Health
- Energy Facilities Sitting Board
- Department of Energy Resources
- Massachusetts Bay Transit Authority
- Superintendent of Wastewater

The Proponent also notified the following representatives of environmental justice groups as recommended by MEPA and/or as required based on the fact that comments were received during the MEPA processes:

- Coalition for Social Justice, Deb Faustino
- Coalition for Social Justice, Marlene Pollock
- Hands Across the River Coalition, Karen Vilandry

- Old Bedford Village, John “Buddy” Andrade
- Alternative for Community & Environment, Dwaign Tyndal
- Toxics Action Center, Sylvia Broude, executive director
- Environment Massachusetts, Ben Hellerstein
- Clean Water Action, Cindy Luppi
- Sierra Club MA, Deb Pasternak
- Neighbor to Neighbor, Elvis Mendez
- Appalachian Mountain Club, Heather Clish
- Mass Audubon, Heidi Ricci
- Mass Rivers Alliance, Julia Blatt
- The Trust for Public Land, Kelly Boling
- Browning the Green Space, Kerry Bowie
- Environmental League of MA, Nancy Goodman
- E4TheFuture, Pat Stanton
- Ocean River Institute, Rob Moir
- Mass Land Trust Coalition, Robb Johnson
- Mass Climate Action Network (MCAN), Sarah Dooling
- Conservation Law Foundation, Amy Laura Cahn, senior attorney
- Conservation Law Foundation, Staci Rubin, senior attorney
- Community Action Works, Sylvia Broude
- Unitarian Universalist Mass Action Network, Tali Smookler
- Healthcare without Harm, Winston Vaughan

The Proponent prioritizes being a good neighbor and has gone door-to-door with fact sheets and comment cards with pre-paid postage to receive community input on the proposed site. The Proponent’s community outreach team has personally knocked on a total of 1,390 doors. Residents were offered/provided a comment card and a project fact sheet - and have been given opportunities to learn more about the project. The Pine Hill Acres neighborhood, which consists of 360 homes, received a second visit from the Proponent representatives, as it is closest to the new site. The Proponent representatives also have visited the 75 closest homes to their former site at 969 Shawmut Avenue and an additional 54 homes throughout New Bedford to educate the community about their plans for 100 Duchaine Boulevard and assess if the neighbors have had any complaints over the past 11 years at their former location.

To this date, the Proponent has received 14 comment cards concerning the project and responded to all that had an address listed for return.

The Proponent works diligently with residents who have doubts or concerns about the project by providing educational materials and making representatives available to discuss any questions. The Proponent’s community outreach team met many residents at their door and addressed misinformation and technical questions about the project. The Proponent also updates the project

website to provide additional information, including PowerPoint presentations, site renderings, site plans, state filings, and contact information to learn more.

Comment 9.7D – A Commenter noted, "The City of New Bedford is rated the 6th most overburdened city in the state of Massachusetts in consideration of ecological hazards." Same Commenter asked, "Does MEPA decline projects that will contribute more pollution to already overburdened towns and cities?" and, "Does MEPA offer increased protections to overburdened communities?"

Response to Comment 9.7D – The project team has thoroughly investigated all potential environmental impacts including wetlands, stormwater, noise, air, odor, and water/wastewater, as required by MassDEP and MEPA. A full list of mitigation measures, designed to minimize adverse environmental impacts to the community, is included in Section 8.0 of this NPC-FEIR, –Mitigation and Draft Section 61 Findings. Epsilon notes that the mitigation measures listed here must be included in the final Permit or approval of Agency Action. In other words, these actions are nonoptional and the Proponent commits to taking these steps.

While not comprehensive, key mitigation measures are listed below:

- Greenhouse gas emissions
    - Air-conditioned spaces will meet mandatory and prescriptive requirements of the energy code
    - PV-ready new construction with installation of solar PV arrays
    - High-efficiency mechanical equipment
    - Construction waste recycling
    - Use of rail
    - Electrically powered equipment
- Water:
    - Permitting for Phase 1 construction to minimize impacts on wetlands and riverfront areas
    - Update of the existing stormwater management system to maintain compliance with the MA Stormwater Management Policy
- Air quality:
    - Use electrically powered processing equipment (minimal local air emissions)
    - Control of dust with an atomized water mist and water spray at multiple locations
    - Regular sweeping outdoors to minimize dust.
    - Paving all surfaces associated with facility operations to minimize dust
    - Use of an electrically powered rail car mover and equipment
- Noise:
    - Operations (waste handling) conducted within enclosed building.
    - Tipping/delivery doors located away from receptors.
    - Electric rail car mover, which creates less noise than a diesel mover
    - On-site truck noise was modeled and determined to be below FHWA criteria for residences

- Traffic:
    - Educate employees of public transit, bicycle, and pedestrian transportation routes
    - Provide opportunities for employees to engage in transit subsidy or reimbursement programs
    - Incentivize alternative transport with reimbursements, direct deposit, bicycle parking, storage racks, and preferential parking for carpools and vanpools
    - Provide striped bicycle lanes along Duchaine Boulevard for connectivity (contingent upon City approval)
    - Funding a new traffic signal

Comment 9.7E – A Commenter asked, "Does MEPA use the 'precautionary principle' when addressing and analyzing potential environmental issues in overburdened communities?" (The "precautionary principle" was explained in the letter to include consideration of precautions when a strong possibility of harm (instead of a scientifically proven certainty of harm) to human health or the environment from a substance or activity is possible.)

Response to Comment 9.7E – Although this question is directed to MEPA, the Proponent believe that many of the expert studies have taken into consideration conservative "precautionary principals" when assessing and designing this proposed Facility. Please note that traffic, noise, air quality, and odor modeling use conservative assumptions whenever possible.

9.8 Environmental Justice – Greenhouse Gas

Please see the following summary table for information regarding comments that have been received related to environmental justice – greenhouse gas. The table includes the location of the responses to the comments.

Letter #	Commenter	Comment and Response to Comment
23	Tracy Wallace	9.8A, 9.8B

Comment 9.8A – A Commenter noted the FEIR did not address Greenhouse Gases sufficiently. The Commenter also noted the facility will have 19 stacks all emitting substances, specifically identifying methane. The concern shared includes a description of the immediate topography, indicating the facility is located at an elevation below that of nearby residences sharing the concern the stacks are not of sufficient height for emissions to clear residential neighborhoods.

Response to Comment 9.8A – The proposed project, after removal of the biosolids processes, now proposes 8 of the 19 stacks. Emissions from the stack were modeled using an EPA recommended air dispersion modeling program called AERMOD. This program takes into account the surrounding terrain, elevation, and height of each of the stacks in the modeling process. In other words, the different ground level elevations of the stacks and the elevation of the receptors (residential neighborhoods) is factored into the model. All pollutants emitted by the proposed project are in compliance with the NAAQS, MAAQS, TELs and AALs and will not create a health hazard.

Comment 9.8B – Another Commenter wrote, “Trucks will be taking the processed biosolids to the MSW building for loading onto rail cars, how is that factored into GHG emissions?”

Response to Comment 9.8B – As noted in the response to Comment 9.8A, the Proponent has withdrawn the previously proposed biosolids drying facility.

9.9 Biosolids Processing and Wastewater Generation

Please note the Proponent has withdrawn the previously proposed biosolids drying facility. As a result, the questions and comments related to biosolids processing and associated wastewater generation are no longer applicable to this application. However, out of courtesy, Commenters with related comments are listed below. Please see the referenced letters for the actual comments, as this section is no longer applicable to the NPC-SFEIR.

Letter #	Commenter
12	Carol Strupczewski
14	Representative Christopher Hendricks
16	Elizabeth Saulnier
17	Jacob Chin
18	Karen Chin
23	Tracy Wallace
24	Elizabeth Swible

9.10 PFAS

For background, the US EPA describes PFAS as, *"Per- and polyfluoroalkyl substances (PFAS) … manufactured and used in a variety of industries around the globe, including in the United States since the 1940s.* [PFAS compounds] *are very persistent in the environment and in the human body – meaning they don't break down and they can accumulate over time. There is evidence that exposure to PFAS can lead to adverse human health effects."* Additional information on PFAS can be obtained from the US EPA at the following web address: https://www.epa.gov/pfas/basic-information-pfas.

Please see the following summary table for information regarding comments that have been received related to PFAS concerns. The table includes the location of the responses to the comments.

Letter #	Commenter	Comment and Response to Comment
14	Representative Christopher Hendricks	9.10A
21	Wendy Graca	9.10A

Comment 9.10A – A Commenter noted the release of PFAS in this proposed expansion would be unavoidable and that the Proponent has done little to explain how the Proponent will mitigate the levels of PFAS into New Bedford's sewers and water supplies, noting the estimated 113,750 gallons of wastewater produced per day need safeguards to ensure no unsafe levels of PFAS.

Response to Comment 9.10A – Please note the Proponent has withdrawn the previously proposed biosolids drying facility. As a result, the questions related to biosolids processing, wastewater generation, and related are no longer applicable to this application.

9.11 Siting Concerns

Please see the following summary table for information regarding comments that have been received related to siting concerns. The table includes the location of the responses to the comments.

Letter #	Commenter	Comment and Response to Comment
5	Robert H. and Judith B. Ladino	9.11A
6	Sherry Hanlon	9.11B
7	Robert Michael Pittsley	9.11B
8	Diane Fine	9.11B
9	Sabine Von Mering	9.11B
12	Carol Strupczewski	9.11C
13	Andrea Stone	9.11B
15	Senator Mark Montigny	9.11B
19	Linda Morad	9.11B
20	Brad Markey	9.11B
23	Tracy Wallace	9.11B, 9.11D
24	Elizabeth Swible	9.11B

Comment 9.11A – a Commenter wrote, "...setback from residences has been subverted: 310 CMR 16.40 requires 500 feet. To date the owner and the reviewing agencies have not documented a property boundary of their site to the property boundary to the adjacent residences as evidence in their filings of meeting this requirement. When this criteria is applied it is clear that about 2 dozen houses are within the 500'"

Response to Comment 9.11A – Current regulations require that the "waste handling area" of a large solid waste handling facility cannot be within 500-feet of an occupied residential dwelling, a prison, health care facility, elementary school, middle school or high school, children's preschool, licensed day care center, or senior center or youth center, excluding equipment storage or maintenance structures. A "waste handling area" is defined as "an area used for the processing, storage, transfer or treatment of solid waste, excluding weigh stations or access roads". The facility has been designed so that solid waste processing areas will be over 1,000 feet from the closest receptors and railcar storage, at its closest point, will be greater than 500 feet away from the closest receptors. These proposed distances, based on the design, proposed controls, nature or operation, etc. provide for the proper distancing to protect surrounding receptors.

Comment 9.11B – Several Commenters noted that the proposed facility expansion is located too close to a residential neighborhood to be an appropriate location for the proposed facility operations. A couple of commenters further added concern over the location of the proposed facility in proximity to area daycare facilities and elementary schools.

Response to Comment 9.11B – Current regulations require that the "waste handling area" of a large solid waste handling facility cannot be withing 500-feet of an occupied residential dwelling, a prison,

health care facility, elementary school, middle school or high school, children's preschool, licensed day care center, or senior center or youth center, excluding equipment storage or maintenance structures. A "waste handling area" is defined as "an area used for the processing, storage, transfer or treatment of solid waste, excluding weigh stations or access roads". The facility has been designed to so that solid waste processing areas will be over 1,000 feet from the closest receptors and railcar storage, at its closest point, will be greater than 500 feet away from the closest receptors. These proposed distances, based on the design, proposed controls, nature or operation, etc. provide for the proper distancing to protect surrounding receptors.

Comment 9.11C – A Commenter noted, "Parallel is located close to hundreds of residential homes, more than 200 in Pine Hill and at least 12 homes bordering its own property with just a split rail fence and bales of hay separating Parallel's land from those 12 homeowners land."

Response to Comment 9.11C – As mentioned in the two preceding responses, the facility location relative to the distances from the residential receptors provide for the proper distancing to protect surrounding receptors. The facility has committed to an enhanced design and environmental controls to mitigate the potential for off-site nuisance conditions and/or other impacts.

Comment 9.11D – A Commenter noted, "Within the Project description, the FEIR only indicates that the property is zoned industrial C. That statement is false as the property is zoned mixed business B and residential A as well as industrial C…It has been the company's argument that the facility will not be using any of the property zoned mixed business or residential, however within Appendix 4 on page 331 it shows the road within the property going through the mixed business and residential portion of the facility. Utilization of the portion puts the company in violation of the 500 ft buffer zone. Figure 2.1 is out of date; it does not include the newly built homes on the same side of Philips Rd." Commenter requests the above be addressed in the NPC-SFEIR.

Response to Comment 9.11D – GSE and the Proponent acknowledge the statement that the existing "ring road" which is utilized by all business within the property traverses through the Business B zoned portion of the parcel. However, the subject development, including the glass processing facility that is presently in operation, and the area to be "site assigned" is entirely within the Industrial C zone. The 500-foot setback requirement is related to the correlation between the proposed "waste handling areas" and setback to receptors, which has been achieved by great margin.

9.12 Health & Safety Concerns (General)

Please see the following summary table for information regarding comments that have been received related to health & safety concerns (general). The table includes the location of the responses to the comments.

Letter #	Commenter	Comment and Response to Comment
5	Robert H. and Judith B. Ladino	9.12A
6	Sherry Hanlon	9.12B
7	Robert Michael Pittsley	9.12B
8	Diane Fine	9.12B

9	Sabine Von Mering	9.12B
10	John Dufresne	9.12C
17	Jacob Chin	9.12D, 9.12E
19	Linda Morad	9.12F
20	Brad Markey	9.12F

Comment 9.12A – A Commenter noted a concern that potential toxic compounds in the residuals and emissions from processing operations have the potential to enter the sanitary sewer system, the air, and area wetlands.

Response to Comment 9.12A – GSE is unsure specifically if this comment was referring solely to the biosolids operations, which has been eliminated from the proposed design plans. Additionally, there are controls in place at the proposed solid waste handling facility to protect the surrounding environment. Controls include a fully enclosed building for handling waste from initial receipt to outbound loading. Other controls also include odor and dust suppression systems, handling on impervious surfaces, wastewater collection, use of renewable energy, and use of electrically powered equipment

Comment 9.12B – Several Commenters noted, "We will be exposed to chemical pollutants from waste, volatile organic compounds and PFAS associated with the operation."

Response to Comment 9.12B – Emissions from stationary sources are below permitting thresholds, and total emissions are less than one-tenth of one percent of county-wide emissions.

The Proponent MEPA filings included an analysis of the potential impacts of the air emissions. Emissions from the Proponent project were analyzed using an Environmental Protection Agency (EPA)-approved computer model to show what the air impacts could be from the Project under any weather condition and taking into consideration the surrounding topography.

Air modeling results are compared to EPA and Massachusetts Department of Environmental Protection (MassDEP) health-protective standards. For odor, model results are compared to a threshold/concentration that is unlikely to cause an off-site nuisance odor condition. The predicted air pollutant and odor concentrations have been shown to comply with the EPA and Massachusetts standards, and to comply with the protective odor dilution threshold at the off-site residential receptors.

As a comparison for perspective, the additional particulate matter (dust) from year-long exposure to the worst-case impact would be equivalent to spending an additional 90 minutes in highway traffic, or 30 minutes in a kitchen cooking with a gas stove. Impacts at the nearest home will be much lower and would be equivalent to spending 20 minutes in highway traffic or 7 minutes in a kitchen cooking with a gas stove.

Comment 9.12C – A Commenter wrote the following: "Is it safe for the air and water quality of the citizens of New Bedford and the area around it? Is there a report by experts that confirms that the proposed facility will not harm the air and water quality of the citizens of New Bedford and the area

around it - by comparison with this type of facility somewhere else in the United States? Is this report accessible to the public? If so, then where can I obtain this?"

Response to Comment 9.12C – This NPC-SFEIR as well as the past MEPA submittals (ENF, D-EIR and F-EIR) all provided data and documentation prepared by experts, that show that the impacts associated with the facility are de minimus in nature. GSE and the Proponent are not sure what other reports for similar facilities exist outside of Massachusetts. However, the EOEEA has a significant repository of past submittals for many solid waste facilities that have received their final MEPA certificates. The facility as presently proposed, is not significantly different than other large solid waste handling facilities in the Commonwealth that are either fully operational and have satisfied the MEPA requirements (e.g., Wilbraham, Taunton, Millbury, Leominster, etc.). Additionally, the Proponent's setbacks to receptors are greater than the facilities presented above.

Comment 9.12D – A Commenter asked, "The nearest hospital is St. Luke's in New Bedford about 15 minutes away without traffic. What studies have been conducted to assess the impact of the Proponent on emergency needs of the community?"

Response to Comment 9.12D – St. Luke's Hospital is most directly accessed from the Braley Road corridor via Route 140 southbound. The traffic analysis presented in the Updated TIS in Section 5.0 shows insignificant project-related impacts on the uncontrolled eastbound and westbound Braley Road approaches at the ramp intersections with Route 140 northbound and southbound, which would be used by emergency vehicles in route to St. Luke's Hospital from the neighborhood.

Comment 9.12E – A Commenter asked, "What impact will the Proponent have on vulnerable populations like elderly, medically fragile, and people without transportation?"

Response to Comment 9.12E – Subject to approval by the City of New Bedford, the Proponent proposes to construct a fully-actuated traffic signal at the intersection of Braley Road with Phillips Road/Theodore Rice Boulevard, which would reduce existing congestion at that intersection and reduce delays along the eastbound Theodore Rice Boulevard and westbound Braley Road approaches used by Southeastern Regional Transit Authority (SRTA) buses. In addition, the proposed signal would include a pedestrian phase, crosswalks, and reconstructed wheelchair ramps, improving pedestrian access to the New Bedford Business Park, including the New England Farms convenience store at the northwest corner of the intersection.

Comment 9.12F – One Commenter noted concern regarding a potential increase in danger for elementary school students who walk to school in this already high traffic area, and another noted general overall concern for neighborhood safety in proximity to the facility. *(Comment not included in Section 9.1 Traffic as specifically noting a health and safety concern.)*

Response to Comment 9.12F – The assigned truck route for project-generated truck trips, via Duchaine Boulevard, Theodore Rice Boulevard, and Braley Road to the Route 140 at Braley Road interchange, is the most direct route from the project site to the regional roadway network. The truck route does not travel through residential neighborhoods along Braley Road east of Route 140 or along Phillips Road south of Braley Road, and the School Zone for the Casimir Pulaski Elementary School

begins approximately 650 feet east of the Braley Road at Route 140 Northbound Ramps intersection. Although project-generated traffic will have minimal impact on pedestrians in the study area and will provide improved pedestrian facilities at the Braley Road at Phillips Road/Theodore Rice Boulevard intersection, students in residential areas west of Route 140 typically travel to and from Casimir Pulaski Elementary School via school bus routes #20 and #26. No project-generated trips are anticipated east of Route 140, where school walk trips would occur.

9.13 Health Issues (Biosolids Specific)

Please note the Proponent has withdrawn the previously proposed biosolids drying facility. As a result, the questions and comments related to health issues (biosolids specific) are no longer applicable to this application. However, out of courtesy, Commenters with related comments are listed below. Please see the referenced letters for the actual comments, as this section is no longer applicable to the NPC-SFEIR.

Letter #	Commenter
5	Robert H. and Judith B. Ladino
13	Andrea Stone

9.14 Impacts to the Environment and Wildlife

Please see the following summary table for information regarding comments that have been received related to potential impacts to the environment and wildlife. The table includes the location of the responses to the comments. Please note several Commenters noted general concerns related to potential impacts to the environment and/or wildlife, but where no specific comment or question accompanied the noted concern, no response has been provided.

Letter #	Commenter	Comment and Response to Comment
5	Robert H. and Judith B. Ladino	9.14A
6	Sherry Hanlon	9.14B
7	Robert Michael Pittsley	9.14B
8	Diane Fine	9.14B
9	Sabine Von Mering	9.14B
12	Carol Strupczewski	9.14C
13	Andrea Stone	9.14D
17	Jacob Chin	9.14E, 9.14F
20	Brad Markey	9.14G
21	Wendy Graca	9.14H
23	Tracy Wallace	9.14I

Comment 9.14A – A Commenter noted, "…consider the gravity and impact of a decision to allow a nuisance waste processing facility, adjacent to a multi-hundred residential community, located in a swampy wetland to proceed."

Response to Comment 9.14A – The facility will be designed and permitted to meet and/or exceed all state, local and federal standards as it relates to the protection of the environment. This will include designs to meet stringent stormwater, wetlands, and air quality regulations. It should also be noted that a majority of the project is being developed in areas that were previously developed in the past.

With respect to wetland impacts, the proposed rail sidetrack must cross a drainage swale and a bordering vegetated wetland to access the site. The variations on rail alignment are limited by the design restrictions (radius of curves, slope, etc.) associated with rail development. The design of the rail sidetrack has been designed to minimize the impacts to wetlands to the greatest extent feasible.

At the crossing of the drainage swale, the crossing point selected is an area where the track is approximately perpendicular to the swale, minimizing the area of the swale and riverfront area that is impacted. Also, the crossing point selected is the location of an existing abandoned bridge over the swale. The existing bridge will be removed as part of the development activities.

Alternatives evaluated included a three-sided box culvert, a four-sided box culvert and a bridge. Initially, the Proponent selected a three-sided box culvert as the preferred alternative for the swale crossing. The box culvert alternative was presented in the Notice of Intent filed with the Conservation Commission. During review of the Notice of Intent, the Conservation Commission preferred a bridge for the swale crossing. The project plans have been revised to include a bridge for this crossing.

The project is not located within Estimated Habitats of Rare Wildlife or Priority Habitat. The EENF included correspondence from the Natural Heritage and Endangered Species Program of the Massachusetts Division of Fisheries and Wildlife stating that the project is not located within Estimated Habitats of Rare Wildlife or Priority Habitats and therefore is not subject to compliance with the rare wildlife species section of the Massachusetts Wetlands Protection Act.

The route chosen for the rail sidetrack was selected to minimize the impact to bordering vegetated wetlands. The size of the area impacted was further minimized by using block retaining walls on each side of the track to minimize the width of the sidetrack cross section, thereby minimizing the extent of wetland impacts.

The Proponent filed a Notice of Intent, dated October 2, 2019, with the New Bedford Conservation Commission. The Commission issued an Order of Conditions on July 30, 2020. The Order of Conditions is included as Exhibit 9. This Order of Conditions is applicable to all construction proposed in Phase 1 and includes a stormwater management plan that complies with the Massachusetts Stormwater Policy. Based on the engineered plans, there will be approximately 4,095 sq/ft of wetland impacts (based on holding a 1-foot disturbance line from the bottom of the wall). Should the contractors hold a 3-foot disturbance line from the bottom of the wall, there could be 4,916 sq/ft of wetland disturbance. In both instances, disturbance in under 5,000 sq/ft and permanent disturbance is 3,696 sq/ft. It should also be noted that the Order of Conditions requires the Proponent to construct a 6,700 sq/ft wetland replication area.

Phase 2 construction will not impact any wetlands. A Notice of Intent will be filed with the New Bedford Conservation Commission as some construction activity will be within the buffer zone and primarily on previously developed surfaces

Comment 9.14B – Several Commenters noted, "The proposed facility will place further burden on a city already impacted by pollution. New Bedford has been working for years to remediate the environmental damage created in its industrial past."

Response to Comment 9.14B – The facility will be designed and permitted to meet and/or exceed all state, local and federal standards as it relates to the protection of the environment. The Proponent is designed to meet stringent stormwater, wetland, air quality regulations.

Comment 9.14C – A Commenter asked what would happen if a rail car or rail cars overturned and spilled materials into the wetlands? Same Commenter also asked what would happen if there were a trucking accident and materials spilled onto streets and impacted homeowners' property and public lands? Commenter further asked who would be responsible for the cleanup, regardless of the volume or severity of the possible spill?

Response to Comment 9.14C – With respect to liabilities, there are several variables associated with these particular scenarios. The primary variables have to do with "control" and "proximate cause". Control (e.g., who has control of the material at the time of the event) and proximate cause (what the factor is that caused the event) are both be driving factors as the where clean-up and liability related responsibilities lie. As such, liabilities could be the Proponent's responsibility, the waste carrier's (either trucking company and/or rail) or some other 3rd party depending upon the event. Although there could be multiple liable parties, the Proponent will be committed to gather the facts and coordinate getting information to the general public (likely through the Proponent's website).

Comment 9.14D – A Commenter asked, "What research has been done (and if so, what were the results) to determine the effects that municipal solid waste (MSW- that can contain dangerous substances, such as volatile organic compounds, polychlorinated biphenyls, heavy metals, radioactive materials, and pharmaceuticals) will have on Sassaquin Pond, located one mile from this proposed site?"

Response to Comment 9.14D – The facility is proposing to accept municipal solid (everyday household and commercially generated) waste and post processed C&D waste. Although limited quantities of household hazards wastes could arrive within the MSW, the facility will take the following precautions.

1. Having trained staff on-site
2. Have an on-site tipping floor inspector that watches the waste being tipped
3. Allow for manned qa/qc stations located on the MSW processing line.
4. Handling all materials (tipping, processing, outbound loading) indoors.

5. Allowing liquid waste to be collected into a tight tank (also could be connected to the New Bedford sewer pending perming/approval

It should be noted that "solid waste" does not include hazardous waste, radioactive materials, PCB's or heavy metal in hazardous concentrations. Based on the design of the facility (e.g., separation from the outdoor environment such as stormwater contact), an internal inspection/reject protocols, ensuring that the facility has properly trained staff, the facility will be able to operate in a safe and effective manner.

Comment 9.14E – A Commenter asked, "What studies have been conducted to the current land of the business park to test for the environmental impact already existing?"

Response to Comment 9.14E – GSE and the Proponent are not aware that there is any residual contamination on-site in concentrations above present regulatory standards. In addition to Phase 1 investigation that was performed on-site, additional environmental investigation/reporting was performed by Sage Environmental in 2014 and 2016 (two Phase I reports and a Limited Subsurface Investigation [LSI]). Presently there is no evidence that would indicate on-site contamination or a release of PFAS related compounds to the environment. It should also be noted that LSI reviewed the collected data (soil and groundwater) with comparison to current Massachusetts Contingency Plan (MCP) standards for other compounds outside of PFAS. Lastly, based on current regulation and as recommended by Sage & MassDEP, the Proponent may need to characterize soils during the construction phases of the project and manage soils appropriately. Below is an excerpt from the MassDEP FEIR comment letter.

"The Project Proponent is advised that if oil and/or hazardous material are identified during the implementation of this Project, notification pursuant to the Massachusetts Contingency Plan (310 CMR 40.0000) must be made to MassDEP, if necessary. A Licensed Site Professional (LSP) should be retained to determine if notification is required and, if need be, to render appropriate opinions. The LSP may evaluate whether risk reduction measures are necessary if contamination is present. The BWSC may be contacted for guidance if questions arise regarding cleanup"

Comment 9.14F – A Commenter asked, "What studies have been done to test the impact of the Proponent to the proposed site and surrounding wetlands and environmentally protected lands?"

Response to Comment 9.14F – The site has been designed to create a separation between the "facility" and the surrounding environment. All of the proposed stormwater controls will meet or exceed the MA Stormwater Policy for proper treatment. The proposed design of the facility allows for all solid waste handling activities to be conducted indoors (from initial tipping to final railcar loading). The design of the facility provides the highest amount of protection to the surrounding environment.

Comment 9.14G – A Commenter noted, "There are many concerns with the processing of MSW and biosolids at this facility, health concerns of toxins being emitted into the air and ground, odor, as well as issues with the proximity to wetlands causing environmental concerns."

Response to Comment 9.14G – The site has been designed to create a separation between the "facility" and the surrounding environment. All of the proposed stormwater controls will meet or exceed the MA Stormwater Policy for proper treatment. The proposed design of the facility allows for all solid waste handling activities to be conducted indoors (from initial tipping to final railcar loading). The design of the facility provides the highest amount of protection to the surrounding environment include the control of odors, protection of ground and surface waters and other emissions.

Operation of the Proponent project will release some limited amounts of air pollution from its proposed operations (primarily dust and exhaust emissions).

The processing of MSW and handling of C&D can release dust, odor, and air pollution from the equipment used to process the material. An example would be the use of equipment such as front-end loaders.

Emissions from stationary sources are below permitting thresholds, and total emissions are less than one-tenth of one percent of county-wide emissions.

The Proponent MEPA filings includes an analysis of the potential impacts of the air emissions. Emissions from the Proponent project were analyzed using an Environmental Protection Agency (EPA)-approved computer model to show what the air impacts could be from the Project under any weather condition and taking into consideration the surrounding topography.

Air modeling results are compared to EPA and Massachusetts Department of Environmental Protection (MassDEP) health-protective standards. For odor, model results are compared to a threshold/concentration that is unlikely to cause an off-site nuisance odor condition. The predicted air pollutant and odor concentrations have been shown to comply with the EPA and Massachusetts standards, and to comply with the protective odor dilution threshold at the off-site residential receptors.

As a comparison for perspective, the additional particulate matter (dust) from year-long exposure to the worst-case impact would be equivalent to spending an additional 90 minutes in highway traffic, or 30 minutes in a kitchen cooking with a gas stove. Impacts at the nearest home will be much lower and would be equivalent to spending 20 minutes in highway traffic or 7 minutes in a kitchen cooking with a gas stove.

Comment 9.14H – A Commenter noted, "As I understand it, as part of the daily business operations, this facility will produce wastewater that will be discharged into the City of New Bedford's sewage system, which already has problems with overflow during certain times of year and weather. This places the local water ways and resources at risk."

Response to Comment 9.14H – Wastewater from employee sanitary and washing use is estimated at 15 gpd per employee per 310 CMR 15.00 (2,250 gpd). As construction of the formerly proposed biosolids building and associated biosolids drying operations are no longer being proposed, all wastewater generation associated with the biosolids facility has been removed. As such, wastewater generated at the facility will be reduced from a previously estimated 113,750 gpd to 2,250 gpd, and

500 gpd of washdown water. Based on the changes to the facility design, specifically removing the proposed biosolids facility, wastewater generation is fairly low.

Comment 9.14I – A Commenter noted, "Within the FEIR it is stated that 'a Phase 1 Environmental Site Assessment and Limited Subsurface Investigation was conducted at the subject site .... As such SAGE is of the opinion that further actions are not warranted at this time.' However, in analysis of the site by Weston & Sampson, who specialize in engineering and environmental services, it has been noted that 'the latest data associated with the site petroleum release was collected during the 1990s.['] Based on the continued industrial nature of the site, use as a recycling facility, and duration of time (i.e. approximately 20 years) without a comprehensive subsurface investigation or collection of additional information, the possibility exists that additional undocumented releases of oil or hazardous materials have occurred at the site. This lack of current soil and groundwater information represents a data gap with respect to existing site conditions…" Commenter requests assessment to establish a current baseline and to evaluate emerging contaminants of concern, specifically noting PFAS.

Response to Comment 9.14I – GSE and the Proponent acknowledge the Weston and Sampson's comments in their 2020 memorandum. However, what was not mentioned by Weston and Sampson is that additional environmental reports were prepared by Sage Environmental in 2014 and 2016 (two Phase I reports and a Limited Subsurface Investigation [LSI]). We make note of this as the City's letter only refers to a Phase I prepared by Sage and not the additional Phase I and LSI. Presently there is no evidence that would indicate a release of PFAS related compounds to the environment. It should also be noted that LSI reviewed the collected data (soil and groundwater) and compared the results to current MCP standards for other compounds outside of PFAS. Lastly, based on current regulation, MassDEP comments and as recommended by Sage, the Proponent may need to characterize soils during the construction phases of the project if there is off-site disposal of soils.

9.15 Compliance Concerns

Please see the following summary table for information regarding comments that have been received related to compliance concerns. The table includes the location of the responses to the comments.

Letter #	Commenter	Comment and Response to Comment
5	Robert H. and Judith B. Ladino	9.15A
6	Sherry Hanlon	9.15B, 9.15C
7	Robert Michael Pittsley	9.15B, 9.15C
8	Diane Fine	9.15B, 9.15C
9	Sabine Von Mering	9.15B, 9.15C
13	Andrea Stone	9.15D, 9.15E
16	Elizabeth Saulnier	9.15B
23	Tracy Wallace	9.15F

Comment 9.15A – A Commenter asked the following questions: "Are the nuisance residual unprocessed waste streams and emissions produced at the site, going to be continuously monitored at the adjacent residences to insure compliance? With enforcement provisions to allow stoppage of processing operations upon noncompliance until the occurrence has been remedied that caused it?"

Response to Comment 9.15A – It is the opinion of GSE and the Proponent that the facility will not only need to self-monitor, but 3rd party MassDEP approved inspectors will need to perform periodic inspections. Additionally, the MassDEP and New Bedford Board of Health will have the ability to perform unannounced inspections and have full rights of entry/access. On-site personnel and 3rd party inspectors will observe the facility for nuisances such as sound, dust, odor; stormwater controls; volumes of waste within the buildings; building integrity; etc. Both the MassDEP and local BOH have the ability to enforce and control the facility with respect to preventing off-site nuisance conditions. As such, these regulatory bodies have the ability to take and/or require measures, including having the facility cease operations, until nuisance conditions as mitigated.

Comment 9.15B – Several Commenters stated, "The Proponent has a poor track record of being a "good neighbor" and already has been caught dumping materials in a protected area on the site." In a related Comment, someone noted, "Order of Conditions approved plans specifically state the area is to be used for the parking of tractor trailers. The glass covers two of the catch basins which discharge into Bordering Vegetated wetland. It is unknown if these catch basins are covered to prevent glass from entering them". This occurred during the time that Parallel Products was trying to get permitted." Commenter indicated information regarding the citation could be found at: "the City of New Bedford website, environmental Stewardship, Conservation Commission, then Conservation Commission Notes 5-21-19 notes."

Response to Comment 9.15B – Although GSE cannot attest to past actions by the facility, it appears that any previous matters and/or complaint associated with the aforementioned statements have been resolved.

Comment 9.15C – Several Commenters noted, "The proposed facility is in direct contradiction to the goals of the Climate Action and Resilience Plan recently adopted by the City of New Bedford."

Response to Comment 9.15C – It is GSE's and the Proponent's opinions that this facility complements the Climate Action and Resilience Plan in a number of areas and include the following:

1. Using renewable resources (the facility will ultimately have of 4.7+ MW of solar pending utility approvals)
2. Reduction of greenhouse gases through consolidation of waste, use of rail and recycling. Note this will be the first facility in MA to process MSW to extract further recyclables.
3. Protection of natural resources by developing a previously developed industrial property and developing stormwater controls that meet or exceed current policy.

Comment 9.15D – A Commenter asked, "Does MEPA have to consider protected lands, wetlands, and designated sensitive areas when making the ultimate decision on whether to approve this proposed project?"

Response to Comment 9.15D – Both EOEEA and, during future permitting phases, the MassDEP, take into consideration the protection of natural resources. Since this property was previously developed by the Polaroid Corporation, almost all of the proposed development will occur on previously developed land. The facility has taken into consideration, based on the design, proposed layout and engineered controls the surrounding environment including wetland and protected lands. As noted elsewhere in this report, project construction will include wetlands replication in areas approved by the New Bedford Conservation Commission. Presently, as approved in the New Bedford Conservation Commission – Order of Conditions (Exhibit 8), there are 4,095 sq/ft of wetland alterations (permanent and temporary combined). As a result, there will be 6,700 sq/ft of wetland replication.

Comment 9.15E – A Commenter noted the following: "How can this project get pushed through different phases during a global pandemic? The mailings we received were nondescript and vague, definitely not something your average citizen would understand. We were also supposed to attend in-person meetings to voice our opinions? This entire process has felt predatory and lacking any sort of due-diligence. So, while the MEPA office is working from home, we are supposed to expose ourselves to gain information? How are the citizens supposed to effectively organize our efforts to spread knowledge about this facility when people are afraid to leave their homes?"

Response to Comment 9.15E – Section 3.0 provides an outline of what the Proponent had done to date to reach out to the public including residents, local and state agencies, EJ groups and other stakeholders.

The Proponent plans to host additional public meetings with interpreter services over the next several months into the new year. Everyone in attendance at community meetings will receive information sheets and comment cards with pre-paid postage, and the meetings will be advertised on the radio, social media, and in multiple newspapers, including *The Standard Times* and *Portuguese Times*. Contact information will be given to all in attendance so that residents may look through the Proponent's project website or call or mail the Proponent's office with concerns. Comments from residents will be included in a summary along with associated responses to comments. These summaries will be made available to MEPA and MassDEP.

The Proponent plans to continue outreach to the recommended environmental justice leaders, community leaders, and municipal officials. Project-related information, including air pollution and environmental impact information, will be available to anyone who requests it and is summarized in this section of the NPC-SFEIR as well.

As future meetings are scheduled, the Proponent will follow CDC guidance on COVID-19 protocols and will weigh how a virtual format could impact public participation with additional consideration to residents who may not have access to a computer or broadband internet. While COVID-19 makes

communicating face to face more difficult, the Proponent has outlined a strategy to continue to provide regular project updates and information about the site.

In the future, the Proponent will engage with residents via direct mail. Additionally, all past respondents (primarily form letters) with be notified as part of the NPC-SFEIR MEPA process. Based on studies conducted during COVID-19, individuals are paying more attention to their mail and consider it the most reliable source of information. The Proponent may send photographs, the website, information sheets, and other key details to keep neighbors informed of project updates.

The Proponent will also utilize a phone program to stay in touch with and educate the community. Calls can include providing information about upcoming virtual, or in-person community meetings, or to answer questions individuals may have about the project after receiving an informational mail piece. ***Residents may also call 1 (508)-884-5100 to ask questions about the project.***

Comment 9.15F – A Commenter noted, "With respect to impervious concrete, concrete is inherently porous, although a sealer can be added to the concrete surface to prevent water penetration." Commenter requested the Proponent address how the concrete within their buildings will be impervious, what sealant will be used, the potential toxicity of sealant during installation, and how run off (i.e. leachate) will be handled and processed? Commenter also asked, "Will that [leachate] be directed to the city sewer system and what would those affects be?"

Response to Comment 9.15F – The permeability of cured, good-quality concrete is estimated to be approximately $1x10^{-10}$ centimeters per second (cm/sec, where industry publications range from $1.7x10^{-9}$ to $3.5x10^{-13}$ cm/sec). While thickness of the floor may increase in portions of the facility during future design phases, the Proponent is proposing a <u>minimum</u> 6-inch-thick, high quality, high compressive strength (4,000 to 5,000 pounds per square inch) concrete floor. Given an industry accepted standard permeability of $1x10^{-10}$ cm/sec and the thickness of the proposed concrete floor being a minimum of 15.24 cm (converted from inches), water in contact with solid waste (i.e. "leachate") on the tipping floor, <u>*if constantly present*</u>, would take an estimated $1.52x10^{11}$ seconds or 4,829 years to permeate a standard 6-inch-thick concrete floor. Porosity or permeability will be further reduced by sloped drainage to floor drains, thus reducing contact time, and the use of a Portland cement mix which contains a higher percentage of slag cement in order to increase the strength of the proposed concrete floor. The additional slag cement mixture further reduces the permeability of concrete, making the above calculation a highly conservative estimate on the permeability of the proposed concrete floor. Thus, despite a correct assumption by the Commentor that concrete is technically porous in nature, cured, good-quality concrete is commonly considered impervious.

Regarding the suggestion of a sealant, no sealant is proposed for the reasons the Commentor noted and others.

As noted above, management of leachate on the concrete floor will be achieved by having the floors sloped toward floor drains. Once captured in the floor drains, the leachate will be containerized in a

tank that can be routinely pumped out and hauled to a permitted wastewater treatment plant for processing/treatment.

9.16 Operational Concerns

Please see the following summary table for information regarding comments that have been received related to operational concerns. The table includes the location of the responses to the comments.

Letter #	Commenter	Comment and Response to Comment
5	Robert H. and Judith B. Ladino	9.16A
10	John Dufresne	9.16B
12	Carol Strupczewski	9.16C
14	Representative Christopher Hendricks	9.16C
21	Wendy Graca	9.16D

Comment 9.16A – A Commenter noted the following: "I have not seen a requirement imposed on the unnamed suppliers of the waste streams that specify what will or will not be accepted. Will PPL accept any and all of it? If not, will any inspections be done before it is discharged into the processing facility? And how can you predict or calculate what the output waste and nuisance streams will be? And how can you be in compliance with the environmental requirements should egregious toxic PFAS or industrial wastes be mixed in with the expected waste streams supplied?"

Response to Comment 9.16A – The facility is proposing to accept municipal solid (everyday household and commercially generated) waste and post processed C&D waste. All suppliers will need to comply with the Proponent's standards without deviation. Although limited quantities of household hazards wastes could arrive within the MSW, the facility will take the following precautions.

1. Having trained staff on-site
2. Have an on-site tipping floor inspector that watches the waste being tipped
3. Allow for manned qa/qc stations located on the MSW processing line.
4. Handling all materials (tipping, processing, outbound loading) indoors.
5. Allowing and liquid waste to be collected into a tight tank (also could be connected to the New Bedford sewer pending perming/approval

Comment 9.16B – A Commenter asked, "Can you explain where the products of this facility are stored, sent and delivered?"

Response to Comment 9.16B – The solid waste (MSW and C&D residuals) will be delivered to the site and tipped/dumped within the building by utilizing the westernmost doors (refer to plan), the closest of which is approximately 1,450 feet from the closest residential receptor. The materials will be inspected as they are being discharged from the vehicles by the tipping floor inspector(s). Once inspected, the MSW pushed to an indoor consolidation point where the material can be loaded into

the infeed of the MSW processing line. The waste will travel through the MSW processing line where recyclable fractions will be removed. At the end of the line, the materials will be discharged (north central portion of the building). From there, the material will be baled and/or loaded loose into CSX approved railcars. The materials loaded within the railcars will be serviced daily and shipped to a landfill for disposal. The recyclables that were extracted will either be transported via rail or truck to an off-site recycler. Under all operating conditions (from initial tipping to rail car or truck loading) the waste materials will be handled under cover within the on-site building(s).

Comment 9.16C – A couple Commenters asked about water usage, one of whom specifically asked, "How much water is the company consuming? How will this impact the pressure in the fire hydrants?"

Response to Comment 9.16C –Proponent expects to have 150 employees at the site. This includes the 75 employees previously relocated to 100 Duchaine Boulevard from the Proponent's former location at 969 Shawmut Avenue. Water use for employees is estimated at 15 gallons per day (gpd) per employee based on 310 CMR 15.00 (2,250 gpd). Water will also be required for the misting system proposed for the MSW tipping building. Water use for the misting system is estimated to be 10 gpm or 14,400 gpd. No wastewater will be generated from the misting system. The water will either be evaporated and/or absorbed by the waste. Hose bibs will be provided in the tipping building and MSW processing building as part of facility cleanup and maintenance activities. Washdown water use is estimated at 500 gallons per day. All water usage previously associated with the biosolids building will not be necessary, reducing the Proponent's proposed water use by approximately 50,500 gpd. With the elimination of the previously proposed biosolids building, total water use is expected to be approximately 19,650 gpd. Based on the described waste consumption, there will be no impacts to the City's potable water system, including fire hydrants.

Comment 9.16D – A Commenter noted, "The company was also asked what "cutting edge" technology will they be utilizing to remove the toxins from their byproduct, but they had no answer for that question."

Response to Comment 9.16D – The proposed technology at the facility is a MSW processing line that will allow recyclable material to be extracted from the waste stream. There recyclables can consist of cellulous based materials (paper, press and cardboard), glass, ferrous and non-ferrous materials, plastics, etc. The remaining material will be sent off site for disposal. The Proponent will have to meet secondary market specifications for their extracted recyclables, which will be dictated by the end user(s). This could include cleanliness, off-spec contamination, etc., The material being accepted at the facility is "household" waste (MSW). The Proponent does not purport to have or use a technology that removes toxins but rather extracts materials that can be reused.

9.17 Recycling Efficiency

Please see the following summary table for information regarding comments that have been received related to recycling efficiency. The table includes the location of the responses to the comments.

Letter #	Commenter	Comment and Response to Comment
18	Karen Chin	9.17A

23	Tracy Wallace	9.17B, 9.17C

Comment 9.17A – A Commenter asked, "Is Parallel Products capable of doing more recycling and if so how is MEPA going to ensure the best outcomes?"

Response to Comment 9.17A – One of the 2030 Solid Master Plan goals for 2030 is to reduce disposal by 1.7 million tons annually from a 2018 baseline of 5.7 million tons to 4.0 million tons by 2030, a 30 percent reduction in tons disposed. It is expected that this reduction will eventually happen through a combination of source reduction, material reuse, recycling, composting and using source separated materials as fuels or other beneficial uses. Construction of a state-of-the-art MSW processing facility will increase recycling by allowing the removal of recyclable material from MSW that would otherwise be sent out for disposal to be managed here. This is one of the first facilities to attempt this in Massachusetts. The percentage of recyclable that can be extracted from the MSW will likely be proportional to the amount of recycles that are left in the waste by the generator. That is to say, if the generator does a poor job of recycling, then the Proponent's recycling rate will be higher. Since this is the first facility of its kind in MA, the Proponent can only estimate the percentages to be extracted.

Comment 9.17B – A Commenter noted, "Diagrams and specifics of BHS equipment is included within Exhibit 5 [*resubmitted as Exhibit 9 in this document*], yet there is no explanation of how this will yield them a 20% return, nor an explanation of how this is more efficient than current technology being used."

Response to Comment 9.17B – Given that the facility is investing 25MM+ on the processing line alone, there are considerable expectations by the Proponent that the processing line will yield a 20%+ extraction rate. It must also be noted that the MEPA process is a very preliminary step in the overall facility design (+/- 25%). During other permitting phases (e.g. MassDEP permitting), these designs will be further refined. The Proponent also acknowledges that as the design progresses, there may be more efficient technologies that can be incorporated into the overall design.

Comment 9.17C – A Commenter noted, "The MSW processing section of the FEIR states that the facility is not a "dirty MRF" yet when questioned at the company's open house, the vice president of the Proponent did confirm that the facility is a "dirty MRF" and would be operating as such. However, their practices would guarantee 20% recyclable materials from their MSW processing. The FEIR indicates that this 20% will be sold to recycling markets. What are those markets? Does the company have contracts in place?"

Response to Comment 9.17C – The Proponent facility will receive MSW that has had recyclable materials (e.g. cans, bottles, glass containers, etc.) removed by the waste generator as required under the Solid Waste Regulations [310 CMR 19.017]. This is material, such as curbside household MSW, that currently goes to combustion facilities or to landfills for disposal. The processing equipment will be utilized by the Proponent to extract additional recyclable materials from the MSW that was not removed by the waste generator. The Proponent is not advocating for recyclables to be combined with the MSW and supports the existing MA Waste Ban requirements. This facility is the first facility

that will help the Commonwealth reduce MSW that has been collected and destined for landfills and/or incineration by processing and separating additional recoverable recyclables. The on-site processing proposed by the Proponent will allow for further extraction of recyclable materials in addition to traditional recycling/separation activities that are performed by the waste generator. This is different from a typical "dirty MRF" which accepts MSW without the removal of recyclable material and then removes recyclables from the MSW. As for market for these materials, they do exist. The economics for these extracted recyclables will vary based on volume, off-spec contamination, economic conditions, etc. Presently no contracts have been executed. However, the Proponent has strong ties with many recyclers/end users and will be able to secure outlet well before they are actually needed.

9.18 Energy Efficiency

Please see the following summary table for information regarding comments that have been received related to energy efficiency. The table includes the location of the responses to the comments.

Letter #	Commenter	Comment and Response to Comment
23	Tracy Wallace	9.18A

Comment 9.18A – A Commenter noted the following: "The company calls this project its "green energy project" and its "sustainability project", yet is requesting a waiver of building code for its glass processing building, via not having to install r-11 insulation for that building, a direct violation of building code compliance. The Proponent is justifying that waiver and noncompliance by stating the emissions savings is minimal. Yet wouldn't any decrease in emissions be advantageous especially if it were green energy and sustainable? The company states that the buildings are less than 100,000 square feet and therefore not subject to the Stretch Energy Code. For new buildings between 5,001 and 99,999 square feet there is an option to follow a prescriptive base code, however it is unclear to whether that option is available to the builder or the municipality. The option to follow base code does not mean they are not subject to follow stretch code, clarification needs to be submitted as to whether the city needs to allow them that option. The City of New Bedford has adopted that appendix to the Massachusetts Building Code, therefore the company should address this especially if it is a green energy center. Compliance with the stretch energy code provides energy efficiency and long term savings in energy costs that will offset initial compliance costs."

Response to Comment 9.18A – The Glass Processing Section was constructed without the code-required R-11 liner system. The Proponent has committed to adding the liner system to the completed roof. The request for a waiver has been dropped. The Bunker Building Section will also include this liner system. All buildings will be constructed to comply with applicable building codes.

Buildings less than 100,000 sf are not subject to the Stretch Energy Code. In other words, Buildings less than 100,000 sf are not required to achieve a 10% improvement in energy performance over an ASHRAE 2013 baseline. The buildings are still subject to the State Building Code and the State Energy Code. All of these applicable code requirements are being met. Including the energy offset due to on-site solar panels, the proposed project will achieve an 84% improvement in energy performance over baseline.

9.19 Imported Waste

Please see the following summary table for information regarding comments that have been received related to imported waste. The table includes the location of the responses to the comments.

Letter #	Commenter	Comment and Response to Comment
5	Robert H. and Judith B. Ladino	9.19A
6	Sherry Hanlon	9.19B
7	Robert Michael Pittsley	9.19B
8	Diane Fine	9.19B
9	Sabine Von Mering	9.19B
12	Carol Strupczewski	9.19C
16	Elizabeth Saulnier	9.19D

Comment 9.19A – A Commenter noted, "to accept these waste streams from outside the area from unnamed sources and locations, and to then rail or truck them offsite. ...The proposed facility has now become a regional waste processor...The City of New Bedford has no plans to utilize this proposed now regional facility"

Response to Comment 9.19A – The facility plans to accept waste from the "region". It should also be noted that the Crapo Hill Landfill operated by the Greater New Bedford Regional Refuse Management District has a potential closing date of 2027 (based ed on their website). At some point in time, the City of New Bedford will need to find a new outlet for waste, which could potentially mean the Proponent.

Comment 9.19B – Four Commenters commented, "The Proponent is claiming that they are helping to solve the city's "waste problems" although they will be accepting waste from OTHER cities."

Response to Comment 9.19B – The facility plans to accept waste from the "region". It should also be noted that the Crapo Hill Landfill operated by the Greater New Bedford Regional Refuse Management District has a potential closing date of 2027 (based ed on their website). At some point in time, the City of New Bedford will need to find a new outlet for waste, which could potentially mean the Proponent.

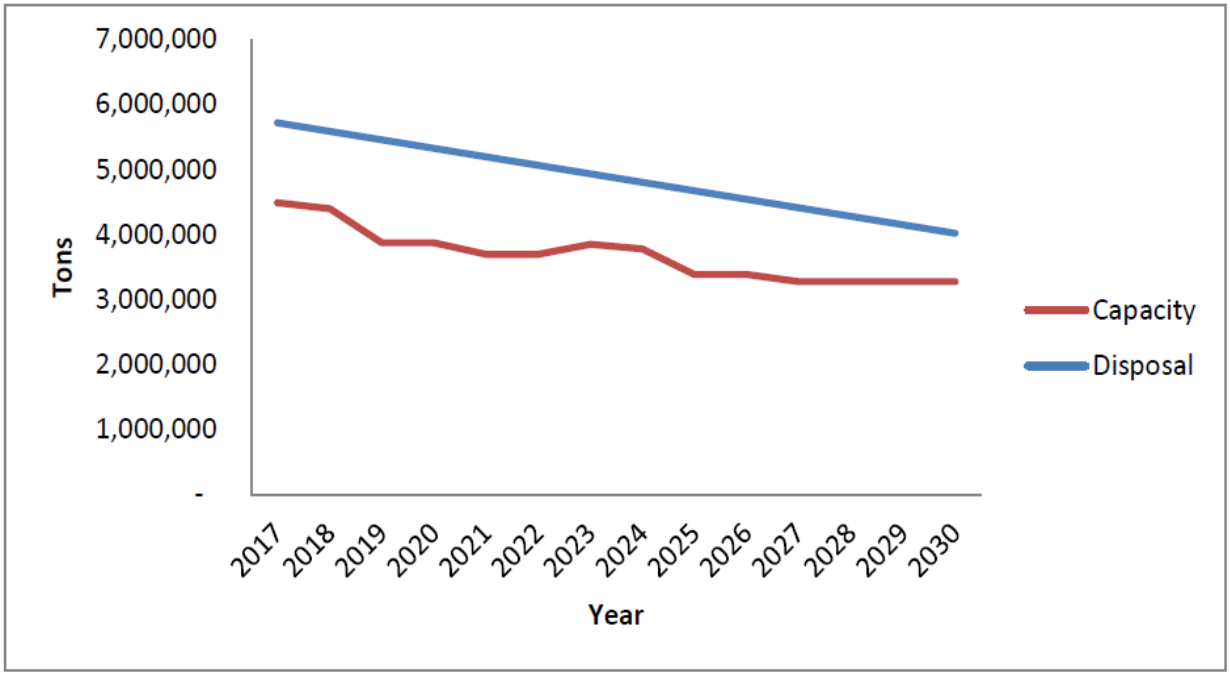
Comment 9.19C – A Commenter asked, "Will the rail cars be bringing in raw materials to be processed and from where?"

Response to Comment 9.19C – The facility will not import waste or materials via railcar. The use of railcars is to create a significant transportation efficiency that will allow waste to be economically shipped to outlets at greater distances.

Comment 9.19D – A Commenter noted the following: "They [The Proponent] plan to accept 1/10 of the state's waste, estimated to be about 5 million tons of trash per year. That trash and the biosolids will arrive in trucks estimated to be at least 75 trucks in and 75 trucks out for a total of 150 daily trips. The estimates range from a low of 150 truck trips per day to as many as 400 trips per day."

Response to Comment 9.19D – The table presented below was taken from the 2030 Massachusetts Solid Waste Master Plan (page 30). This table identifies the disposal capacity shortfall that exists and will exist in the Commonwealth. The Proponent will not only reduce the disposal capacity needs through recycling, but will also allow for waste to effectively be transferred out of state to disposal

outlet. The Proponent and GSE are presently unaware of any plans in Massachusetts to increase or expand either landfill or incinerator capacities. It should also be noted that many transfer facilities do not meet their capacity on a daily basis. That is to say, if a facility has a 1,500 ton per day capacity and only accepts 1,000 tons, the remaining ton capacity is lost.



9.20 Miscellaneous Comments

Please see the following summary table for information regarding miscellaneous comments that have been received. The table includes the location of the responses to the comments.

Letter #	Commenter	Comment and Response to Comment
14	Representative Christopher Hendricks	9.20A
16	Elizabeth Saulnier	9.20A
21	Wendy Graca	9.20B
23	Tracy Wallace	9.20C

Comment 9.20A – A Commenter noted, "Yet another piece of the certificate we found troubling was that it acknowledges there will be a total of 19 new smoke stacks due to this expansion (7 seventy-foot smoke stacks on the MSW tipping and processing buildings and 12 forty-foot smoke stacks on the biosolids building). In every single one of the renderings we have seen, none of them include depictions of these smoke stacks. While we understand that this has no impact on the air quality analysis itself, we feel it is an unfortunate reflection on how unforthcoming Parallel Products has been with the community." A second Commenter noted, "Parallel Products plans to build 19 smokestacks for their expansion ranging in height from 70 feet to 40 feet. I don't think there are 19 smokestacks in the whole greater New Bedford area."

Response to Comment 9.20A – The proposed project, after removal of the biosolids processes, now proposes 8 of the 19 stacks. As described in Table 12 on page 113 of the DEIR, the four (4) stacks on the tipping building will release at 70 ft, the one (1) glass processing boiler stack will release at 40 ft, three (3) processing building vents will release at 70 ft. The vent locations and dimensions are described in DEIR at Attachment A of Attachment 14, and are in-keeping with the industrially zoned site. The air dispersion modeling completed for this proposed project shows that the worst case, or maximum concentrations of pollutants during 5 years of modeled weather data at 6,500 receptors, are protective of national and state air quality standards.

Comment 9.20B – A Commenter noted, "During previous public information sessions, the Proponent representatives were asked questions by the community about this project, including whether or not they had an emergency evacuation plan. When asked this question, the representative for Parallel said that they did not have an emergency evacuation plan in place."

Response to Comment 9.20B – As required by OSHA, the facility "does" have an emergency evacuation plan, which includes a common on-site meeting point for all on-site employees. All employees are trained with respect to on-site emergency procedures/protocols.

Comment 9.20C – A Commenter noted, "While doing a better job than in the DEIR, the FEIR still does not fully comply with the SCOPE. The SCOPE states "supporting information should not be presented only in the appendices." Yet, in several areas of the FEIR that is the case, still only referring to the corresponding appendix, as well as some sections referring to appendices in the DEIR.

Response to Comment 9.20C – The Supplemental FEIR / NPC-SFEIR follows the scope as prescribed in the FEIR certificate.

9.21 Conservation Law Foundation (Letter No. 26)

Please see the following summary table for information regarding the Conservation Law Foundation comments that have been received. The table includes the location of the comments in the letter and the location of comments and responses to the comments within this Section.

Comment Location (in Letter)	Comment and Response to Comment Location (in S FEIR)
Page 5	9.21A
Pages 6 and 7	9.21B
Page 8	9.21C
Page 9	9.21D
Page 10	9.21E
Pages 10 and 11	9.21F
Page 12	9.21G

Comment 9.21A – The Proponent failed to address any of these concerns in the FEIR. The Proposed Facility would not enable or encourage the Commonwealth to reduce, reuse, recycle or compost our trash, obviating the need for disposal.

Response to Comment 9.21A – This facility is the first and ONLY facility that will help the Commonwealth reduce MSW that has been collected and destined for landfills and/or incineration by processing and separating recoverable recyclables. This facility fully supports the Massachusetts Solid Waste Master Plan and will operate in accordance with the Solid Waste minimum performance standards, and likely will exceed minimum performance standards when deemed applicable. It should be noted that CLF's comments are flawed based on the fact that there will always be solid waste generation regardless of the final locations of disposal. Zero Waste is a great concept that we should strive for, but to reduce waste, we need to reduce production and consumption and disposal products that become waste. Additionally, we are a small state and interstate commerce regulations will play a role in how waste is handled. Having a higher tipping fee in MA will only make generators seek outlets that are farther away based on economics. As such, a MSW recycling facility coupled with the use of rail is an acceptable approach for resolving a disposal issue in an environmentally sound manner. According to the Massachusetts 2030 Solid Waste Master Plan reports:

- Landfill capacity for municipal solid waste and construction and demolition debris (C&D) is projected to decline to virtually zero by the end of the next decade.
- Massachusetts has extensive waste transfer capacity; however, most waste transfer facilities do not increase overall waste management capacity because they are not able to deliver waste beyond Massachusetts and our neighboring states, where disposal capacity is also limited. Some facilities are investing in capacity to transfer waste out of 4 the region by rail, though those facilities face logistical challenges arranging rail shipments and ensuring an adequate supply of the right type of railcars.

Comment 9.21B – Against this backdrop, the idea that Proponent will be able to extract usable recyclables with any value from a Dirty MRF is ludicrous.

The Proposed Facility would do nothing but ensure that the Commonwealth of Massachusetts continued shipping trash, at least 450,000 tons a year, out of state for the indefinite future.

Response to Comment 9.21B – The Proponent is very optimistic about the probability of success of the proposed endeavor. Their optimism is further solidified with the significant investment they are making for the MSW recycling component that will cost upwards of $25M.

It is estimated that the facility will recover/recycle 20% of the inbound MSW. This 20% is based on what has always been stated in the MEPA filings, which is 20% of the inbound MSW less baled MSW and C&D. The Facility will provide infrastructure to receive, separate, and rail- haul marketable materials in addition to remaining waste to any outlet, whether in state or out-of-state.

Comment 9.21C – The Proposed Dirty MRF is a highly optimistic, inefficient, misguided, and polluting concept.

Response to Comment 9.21C –The Proponent agrees with CLF that if generators performed more recycling and separation, we would garner more and potentially cleaner recyclable commodities. Maybe someday, many years from now, every Massachusetts resident will be separating out more

recyclables, which would make this Facility's processing system obsolete. However, this is presently not the case and even then, all those future recyclables would still need to be collected, consolidated, and sent to market for recycling via a transfer station.

MassDEP understands that there is presently and likely will continue to be a disposal capacity shortage in the Commonwealth regardless of the goals to reduce, reuse, and recycle. The Proponent is not the "generator" of the MSW. Additionally, if MSW generated in the Commonwealth is shipped for disposal other than to the Proponent's facility, it will not realize the benefits of "reduction" and "recycling" which is a key component to this facility.

The Proponent facility will receive MSW that has had recyclable materials (e.g. cans, bottles, glass containers, etc.) removed by the waste generator as required under the Solid Waste Regulations [310 CMR 19.017]. This is material, such as curbside household MSW, that currently goes to combustion facilities or to landfills for disposal. The processing equipment will be utilized by the Proponent to extract additional recyclable materials from the MSW that was not removed by the waste generator. The Proponent is not advocating for recyclables to be combined with the MSW and supports the existing MA Waste Ban requirements. This facility is the first facility that will help the Commonwealth reduce MSW that has been collected and destined for landfills and/or incineration by processing and separating additional recoverable recyclables. The on-site processing proposed by the Proponent will allow for further extraction of recyclable materials in addition to traditional recycling/separation activities that are performed by the waste generator. This is different from a typical "dirty MRF" which accepts MSW without the removal of recyclable material and then removes recyclables from the MSW.

Comment 9.21D – The undersigned request that the Secretary require the Proponent submit a supplemental EIR to address this what marketable materials they will remove from the trash to achieve 20%, especially considering that much of the waste they accept will be transferred without extracting any recyclables.

Response to Comment 9.21D – As previously mentioned, the Proponent is committing $25M towards recycling infrastructure. A business plan for the marketability of their extracted commodities should not be a key component of MEPA's review as this report focuses on addressing "environmental consequences." Additionally, as we have seen with China several years ago, markets, quality, and economics will ebb and flow. It is the Proponent's opinion that the commitment of $25M+ towards recycling infrastructure presents the confidence that this technology will work as intended and that there will be markets for the extracted commodities. To achieve a suitable return on the capital investment for this processing capability, marketable recyclables need to be recovered. The project must accomplish this to achieve sustainable economic returns.

Comment 9.21E – Today, the Governor of Massachusetts is signing An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy, which includes significant environmental justice provisions, specifically the consideration of "cumulative impacts" from new projects. For communities like New Bedford, this new standard is, as it should be, a game changer.

Response to Comment 9.21E – Based on the extended/enhanced public participation that has been ongoing over the past two years coupled with the extensive technical reports prepared and committed mitigation as part of the MEPA process, the Proponent has satisfied the spirit and intent of this new policy. However, this policy should not be a factor in MEPA's current review. It should also be noted the Proponent is committed to continued outreach through future permitting processes as outlined within this NPC-SFEIR.

Comment 9.21F – Given this, the leachate at the Proposed Facility should be tested and treated prior to sending it into a wastewater treatment plant, and the Secretary should require that a supplemental Environmental Impact Report detail how the leachate would be tested and handled.

Response to Comment 9.21F –The Proponent's agrees that characterization of "leachate" will occur although an in-depth analysis and/or description was not part of the scope. This type of characterization is commonplace and performed by many solid waste facilities presently. Generally, POTW's regulate any industrial discharge via a wastewater discharge permit which typically requires pre-characterization or on-going periodic sampling or using automated composite sampler methodologies. If the leachate is collected in a tight tank, a similar pre-disposal sampling program is implemented (e.g., baler and/or low flow sampling pump). To request supplemental information at this point in time is not warranted as it will be completely addressed during future permitting phases and dictated in permit approvals associate with this project.

Comment 9.21G – Within the report, CLF referred to a report that was prepared by Weston and Sampson. CLF stated and/or paraphrased that there were data gaps in the environmental history of the site.

Response to Comment 9.21G – GSE and the Proponent acknowledge the Weston and Sampson Report. However, what was not mentioned by Weston and Sampson is that additional environmental assessments were conducted by Sage Environmental in 2014 and 2016 (two Phase I reports and a Limited Subsurface Investigation [LSI]). Presently there is no evidence that would indicate a release of PFAS-related compounds to the environment. It should also be noted that Sage reviewed the collected data against current standards for other compounds outside of PFAS. Lastly, based on current regulations, if excess soils are generated during construction and require off-site disposal, the proponent would need to characterize soils prior to removal which will provide additional environmental control during construction. Additionally, in the MassDEP response letter to the FEIR, stated the following (page 2 of MassDEP letter)… *"The Project Proponent is advised that if oil and/or hazardous material are identified during the implementation of this Project, notification pursuant to the Massachusetts Contingency Plan (310 CMR 40.0000) must be made to MassDEP, if necessary. A Licensed Site Professional (LSP) should be retained to determine if notification is required and, if need be, to render appropriate opinions. The LSP may evaluate whether risk reduction measures are necessary if contamination is present. The BWSC may be contacted for guidance if questions arise regarding cleanup"*

9.22 K P Law - City of New Bedford (Letter No. 27)

Please see the following summary table for information regarding the K P Law - City of New Bedford comments that have been received. The table includes the location of the comments in the letter and the location of comments and responses to the comments within this Section.

Comment Location (in Letter)	Comment and Response to Comment Location (in S FEIR)
Page 1	9.22A
Page 1	9.22B
Pages 2 & 3	9.22C
Page 6	9.22D
Page 5	9.22E
Page 5	9.22F
Pages 6 & 7	9.22G
Page 8	9.22H
Page 8	9.22I
Page 8	9.22J
Page 8	9.22K
Page 9	9.22L
Page 9	9.22M
Page 9	9.22N
Page 10	9.22O
Page 10	9.22P
Page 10	9.22Q
Page 11	9.22R
Page 11	9.22S
Page 12	9.22T
Page 12	9.22U
Page 13	9.22V
Page 13	9.22W
Page 13	9.22X
Page 13	9.22Y
Page 14	9.22Z
Page 14	9.22AA
Page 14	9.22BB
Page 15	9.22CC
Page 15	9.22DD
Page 15	9.22EE
Page 15	9.22FF
Page 15	9.22GG
Page 15	9.22HH
Page 15	9.22II

Comment 9.22A – To date, the Proponent has not conducted meaningful outreach with the City or its residents to address how the Proponent's proposed regional services will address local concerns, specifically how the burden the project will impose on the local community will be satisfactorily mitigated.

Response to Comment 9.22A – To date, the Proponent has worked diligently to educate the community on plans for the Proponent's proposed solid waste handling facility, a 71-acre site at 100 Duchaine Boulevard in the New Bedford Business Park. The Proponent has conducted an extensive community outreach campaign that is ongoing. The Proponent's community outreach team has knocked on 1,390 doors, providing residents with fact sheets and comment cards and promoted the public to ask questions and provide feedback on the project. Additionally, the Proponent representatives have made 21,571 personal phone calls to identify potential concerns and share details with the community; organized and held 24 meetings with key business stakeholders in the community and local vendors; and hosted three open houses, two public meetings, as well as virtual meetings.

As part of the notification and outreach process, the Proponent has notified the following agencies during the ENF, DEIR and FEIR process:

- Executive Office of Energy and Environmental Affairs
- Massachusetts Department of Environmental Protection
- DEP / Southeast Regional Office
- Massachusetts Department of Transportation
- Massachusetts DOT District #5 Office
- Massachusetts Historical Commission
- Southeastern Regional Planning and Economic Development District
- City of New Bedford
- New Bedford City Council
- New Bedford Department of Planning, Housing and Community Development
- New Bedford Conservation Commission
- City of New Bedford Health Department
- Natural Heritage and Endangered Species Program
- Department of Public Health
- Energy Facilities Sitting Board
- Department of Energy Resources
- Massachusetts Bay Transit Authority
- Superintendent of Wastewater

The Proponent also notified the following representatives of environmental justice groups as recommended by MEPA and/or as required based on the fact that comments were received during the MEPA processes:

- Coalition for Social Justice, Deb Faustino

- Coalition for Social Justice, Marlene Pollock
- Hands Across the River Coalition, Karen Vilandry
- Old Bedford Village, John "Buddy" Andrade
- Alternative for Community & Environment, Dwaign Tyndal
- Toxics Action Center, Sylvia Broude, executive director
- Environment Massachusetts, Ben Hellerstein
- Clean Water Action, Cindy Luppi
- Sierra Club MA, Deb Pasternak
- Neighbor to Neighbor, Elvis Mendez
- Appalachian Mountain Club, Heather Clish
- Mass Audubon, Heidi Ricci
- Mass Rivers Alliance, Julia Blatt
- The Trust for Public Land, Kelly Boling
- Browning the Green Space, Kerry Bowie
- Environmental League of MA, Nancy Goodman
- E4TheFuture, Pat Stanton
- Ocean River Institute, Rob Moir
- Mass Land Trust Coalition, Robb Johnson
- Mass Climate Action Network (MCAN), Sarah Dooling
- Conservation Law Foundation, Amy Laura Cahn, senior attorney
- Conservation Law Foundation, Staci Rubin, senior attorney
- Community Action Works, Sylvia Broude
- Unitarian Universalist Mass Action Network, Tali Smookler
- Healthcare without Harm, Winston Vaughan

The Proponent prioritizes being a good neighbor and has gone door-to-door with fact sheets and comment cards with pre-paid postage to receive community input on the proposed site. The Proponent's community outreach team has personally knocked on a total of 1,390 doors. Residents were offered/provided a comment card and a project fact sheet - and have been given opportunities to learn more about the project. The Pine Hill Acres neighborhood, which consists of 360 homes, received a second visit from the Proponent representatives, as it is closest to the new site. The Proponent representatives also have visited the 75 closest homes to their former site at 969 Shawmut Avenue and an additional 54 homes throughout New Bedford to educate the community about their plans for 100 Duchaine Boulevard and assess if the neighbors have had any complaints over the past 11 years at their former location.

To this date, the Proponent has received 14 comment cards concerning the project and responded to all that had an address listed for return.

The Proponent works diligently with residents who have doubts or concerns about the project by providing educational materials and making representatives available to discuss any questions. The

Proponent's community outreach team met many residents at their door and addressed misinformation and technical questions about the project. The Proponent also updates the project website to provide additional information, including PowerPoint presentations, site renderings, site plans, state filings, and contact information to learn more.

Comment 9.22B – The studies segregate and thus underrepresent combined potential impacts related to air quality, noise, dust, and odor within each portion of the site from the dryer, the transfer station, the loading and unloading of materials, or mobile sources coming to and from the facility.

Response to Comment 9.22B – Cumulative impacts have been assessed as part of the MEPA process and are described in detail in Section 4.2 page 56 of the FEIR. Cumulative impacts were assessed where possible. However, the Proponent notes that the BFI-Allied Waste Landfill in Fall River 14 miles away, the Hanford Demolition Dump, the New Bedford Landfill and the Liberty Street Dump as well as Superfund Sites, Sullivans Ledge and New Bedford Harbor (PCB discharge) are all closed. As these facilities are closed and not operational, cumulative impacts of these facilities and the proposed transfer station cannot be compared and assessed for truck traffic, noise, dust, diesel emissions, safety concerns, or odors. The landfills and superfund sites where waste is actually buried on-site cannot be compared to a transfer station where waste is handled inside and removed from the site (no waste deposition occurs) in terms of landfill gas and contaminant migration. Impacts assessed are summarized below and are described in more detail in Section 4.2 of this NPC-SFEIR.

Traffic

Traffic studies conducted as part of the MEPA process use traffic counts and real data which factors in the cumulative impacts to traffic with both facilities operating. Projected traffic counts include trucks associated with the Crapo Hill Landfill and therefore overestimate traffic impacts once Crapo Hill Landfill closes. As the report states, mitigation measures are recommended to alleviate impacts from additional traffic. These mitigation measures will effectively negate cumulative impacts.

Vehicles accessing the New Bedford City Transfer Station and New Bedford Waste Services Transfer Station will likely use similarly Rt. 140 but will not use the same exit off Route 140. Additionally, the vast majority of vehicles accessing the City transfer station will be local residents and not trucks.

Noise

Updates to the sound assessment performed following removal of the biosolids building and operations from the proposed project, show sounds from the Facility would raise sound levels at the nearest residential locations by 1-3 decibels (day) and 3-7 decibels (night), which is a decrease from previously projected sound level impacts. The Crapo Hill Landfill is over 1.5 miles away and the other transfer stations are 3.4 miles away and greater. If this distance and sound impact is applied from other solid waste facilities towards this facility, there are no cumulative impacts. Additionally, the sound study conducted included a real baseline assessment which would detect noise from these additional solid waste sources as well as other sources in the area and factors in cumulative impacts by design. As the modeling results show, sound from the Facility is in compliance with standards and no cumulative sound impacts from other facilities occur due to distance.

Air, Dust, Odor Emissions

Generally, nuisance dust is a localized condition if and when not controlled by on-site controls. Dust is controlled on-site by both physical measures and best management practices at the proposed project location. Such practices include sweeping paved surfaces, handling (unloading, consolidating, baling, and loading) materials inside the enclosed building, and covering trucks and rail cars following appropriate BMPs. The same measures are used at the NBWS transfer station 3.4-miles away and at the Crapo Hill Landfill 1.5 miles away.

Odors are controlled on-site by the Facility misting system (with odor control) and operational best management practices (enclosed building, use of doors, moving materials in a timely manner). Of the nearby waste facilities and landfills (New Bedford City Transfer Station and The New Bedford Landfill), only the Crapo Hill Landfill is an active landfill nearby that accepts MSW and therefore can emit odors. The landfill maintains a 24/7 odor hotline, has numerous operational practices and mechanical treatment in place, and has taken additional measures to reduce and control odors. The landfill is 1.5 miles away and upwind of the proposed project. Potential odors emitted from the landfill will be carried by prevailing winds away from the Facility, and since any odors from the Facility will be controlled locally, there are no cumulative impacts from odor.

Emissions from the Facility are reduced with the use of rail, as rail is 400% more efficient than trucking. By using rail and reducing the number of miles on the road, the total emissions generated by the trucks in the area are reduced, and therefore does not create cumulative impacts and could be considered an overall reduction in emission impacts in the area. It should also be noted that the biosolids portion of the originally proposed project has since been eliminated. The biosolids project had the most calculated emissions and potential for nuisance odors.

Air quality calculations performed for the Facility equates the annual addition of emissions at the nearest household to spending an additional 7 minutes (annually) in a kitchen cooking with a gas stove. Calculations show air emissions of particulate matter will be less than 0.1 percent of county-wide emissions, which is insignificant even if coupled with the same (although not calculated) emissions from other facilities in the region, using the assumption that similar facilities will have similar emissions.

There are no cumulative impacts to air quality, noise, or traffic with the proposed Facility as compared to the other solid waste facilities in the Greater New Bedford Area. Traffic at the Rt. 140 exit and Phillips Road will be mitigated for the period of overlap in which the Proponent will open to full permitted tonnage and the Crapo Hill Landfill will still be in operation and/or in closure construction.

Comment 9.22C –Comments pertained to "need" and regional locations for siting such a facility.

Response to Comment 9.22C – Alternatives to this location were evaluated and addressed. The Proponent acknowledges that under the solid waste regulations that "preferential treatment" is not being sought due to existing facilities within the City. However, "regionally", it is the Proponent's opinion that this location is optimal based on factors such as "waste shed generation", availability of rail, industrial zoning, and parcel size so that appropriate buffers can be achieved and maintained.

Comment 9.22D – The MEPA Environmental Justice Policy Requires an Enhanced Analysis of Impacts.

Response to Comment 9.22D – As required by the 2017 MEPA Environmental Justice policy, the Project did prepare an enhanced analysis of impacts. An enhanced analysis of impacts and mitigation: *may include analysis of multiple air impacts; data on baseline public health conditions within the affected EJ population; analysis of technological, site planning, and operational alternatives to reduce impacts; and proposed on-site and off-site mitigation measures to reduce multiple impacts and increase environmental and energy benefits for the affected EJ population.* The Environmental Justice Analysis report met the policy by including an analysis of air impacts, data on baseline public health conditions within the affected EJ population, and proposed on-site and off-site mitigation measures.

The specific evaluations described by the City are not required or appropriate for an Environmental Justice enhanced analysis of impacts. That being said, the Proponent has made commitments to Infiltration/Inflow reductions (FEIR Page 192) and to consult with the City during the design process to ensure the design complies with all existing and new design requirements (FEIR Page 216), meeting all applicable industrial pretreatment standards to avoid minimize and mitigate indirect harm to the environment. It should also be noted that since the preparation of the KP Law letter, the biosolids portion of the proposed development has been eliminated.

Comment 9.22E – The FEIR review must be predicated upon the assumption there is contamination at the site given the known historical chemical usage by any camera and film producer.

While a Phase I Environmental Site Assessment was conducted by Sage Environmental, no favorable data or results were provided.

Response to Comment 9.22E – GSE and the Proponent acknowledge the Weston and Sampson's comments in their 2020 memorandum. However, what was not mentioned by Weston and Sampson is that additional environmental reports were prepared by Sage Environmental in 2014 and 2016 (two Phase I reports and a Limited Subsurface Investigation [LSI]).

GSE and the Proponent are not aware that there is any residual contamination on-site in concentrations above present regulatory standards. Presently there is no evidence that would indicate on-site contamination or a release of PFAS related compounds to the environment. It should also be noted that LSI reviewed the collected data (soil and groundwater) with comparison to current Massachusetts Contingency Plan (MCP) standards for other compounds outside of PFAS. Lastly, based on current regulation and as recommended by Sage & MassDEP, the Proponent may need to characterize soils during the construction phases of the project and manage soils appropriately. Below is an excerpt from the MassDEP FEIR comment letter.

"The Project Proponent is advised that if oil and/or hazardous material are identified during the implementation of this Project, notification pursuant to the Massachusetts Contingency Plan (310 CMR 40.0000) must be made to MassDEP, if necessary. A Licensed Site Professional (LSP) should be retained to determine if notification is required and, if need be, to render appropriate opinions.

The LSP may evaluate whether risk reduction measures are necessary if contamination is present. The BWSC may be contacted for guidance if questions arise regarding cleanup"

Comment 9.22F – Particularly, the Proponent will need to properly explore the combined impacts upon health, safety, and the environment from existing facilities throughout the City and these two new co-located facilities proposed on the project site.

Response to Comment 9.22F – It is the opinion of the Proponent and the project team that the studies included within the ENF, DEIR, FEIR and NPC-SFEIR properly explored the impacts on health, safety, and the environment. Additional analysis is also provided within the body of this NPC-SFEIR.

These analyses address the Project and its alternatives, and have assessed its potential environmental impacts and mitigation measures, in the context of other human activity, including existing background levels and cumulative effects where appropriate to the specific analysis.

Comment 9.22G – PFAS comments (multiple)

Response to Comment 9.22G –Please note the Proponent has withdrawn the previously proposed biosolids drying facility. As a result, the questions related to biosolids processing, wastewater generation, PFAS emissions are no longer applicable to this submittal.

Comment 9.22H – Without inclusion of loading and composition data or assumptions, and analyses of how this wastewater stream will not adversely impact the existing wastewater plant, the Proponent cannot assume that it can discharge into the City's wastewater treatment plant. Further, since the traffic studies do not consider this waste stream being shipped elsewhere for treatment, this project cannot be approved as proposed.

Response to Comment 9.22H – Please note the Proponent has withdrawn the previously proposed biosolids drying facility. As a result, wastewater generation will be limited to sanitary facilities for employees and limited leachate if connected to the City's wastewater treatment plant.

With respect to leachate, POTW's regulate any industrial discharge via a wastewater discharge permit which typically requires pre-characterization or on-going periodic sampling or using automated composite sampler methodologies. If the leachate is collected in a tight tank, a similar pre-disposal sampling program is implemented (e.g., baler and/or low flow sampling pump).

Comment 9.22I –The Proponent would be required to pay for the facility discharge into the City's wastewater treatment plant in the same manner as any industrial operator. However, the project cannot be deemed viable, and therefore cannot be approved or conditioned, without the proper wastewater treatment plant loading and impact assessment. With little loading information provided to determine whether the Proponent would create EPA "Interference" or "Pass Through" concerns, it is impossible to know whether its discharge would create violations at the treatment plant.

Response to Comment 9.22I – Please note the Proponent has withdrawn the previously proposed biosolids drying facility. As a result, wastewater generation will be limited to sanitary facilities for employees and limited leachate.

Comment 9.22J – The City remains very concerned that the City and MEPA cannot fully understand the full scope and magnitude of the number of trucks, size of facility, and overall impacts with analyses and studies based upon dry tonnage.

Response to Comment 9.22J – Please note the Proponent has withdrawn the previously proposed biosolids drying facility. The removal of biosolids from the proposed project would result in a reduction in the estimated trip generation shown in Table 5-5, Section 5.5 of 25 daily truck round trips (23 inbound and 2 outbound), or 50 total one-way truck trips. However, to present a conservative analysis, traffic associated with the previously proposed biosolids facility has remained in this study despite the biosolids component no longer being proposed. As detailed in Appendix H of the Updated TIS (Exhibit 12), trip generation for inbound wet biosolids is based on 400 tons per day (tpd), transported in a mixture of 8 large 28-ton trucks (220 tpd), 10 small 12-ton roll-off trucks (120 tpd), and 5 small 12-ton trucks (60 tpd), totaling 23 truck round trips (46 one-way truck trips) transporting inbound biosolids as shown in Table 5-5. For outbound biosolids, 50 tpd tons of dry material would be transported from the site daily, combined with 1,500 tpd of MSW and C&D, which would be transported in 28-ton transfer trailers. The amount of dry biosolids departing the site would account for 2 of the 56 daily truck round trips (4 of the 112 daily one-way truck trips) transporting outbound material shown in Table 5-5. The estimation of outbound truck trips is overly conservative, as it includes assumes that all trucks delivering inbound material would depart the facility empty, and all trucks transporting outbound material would arrive at the site empty, with no reduction in trips for backhauls. In addition, or the trip generation estimate assumes all outbound material would be transported by truck, with no reduction for outbound material being transported by rail.

Comment 9.22K – The Default Traffic Impact Must be Considered Significant, Meaning Typical "Screening Thresholds" for Level of Service, Accidents, and Traffic Noises Cannot be Applied to Two Co-located Facilities of These Sizes.

Response to Comment 9.22K –The Proponent currently restricts its truck deliveries to the truck route identified in previous submittals, via Theodore Rice Boulevard, Braley Road, and Route 140, and will continue to do so under the Phase 2 expansion. The newly prepared NPC-SFEIR Traffic Study analyzes all local roadway intersections between the facility and the Route 140 at Braley Road interchange, consistent with MassDOT's Traffic Impact Assessment (TIA) Guidelines which are standard guidelines for assessing traffic impacts within an EIR.

Comment 9.22L – Available Accident Data Indicating that the Baseline Accident Rate is Above Average is Ignored.

Response to Comment 9.22L – In accordance with the MassDOT Traffic and Safety Engineering 25% Design Submission Guidelines, the NPC-SFEIR analyzes the most recent 5 full years of crash data available from MassDOT at the time of filing (2013 to 2017). Detailed discussion of the crash data is included in Section 5.4. The only study area location where the crash rate exceeded the Statewide and MassDOT District 5 average of 0.57 crashes per million entering vehicles (C/MEV) was the intersection of Duchaine Boulevard at Theodore Rice Boulevard, with a crash rate of 1.01 C/MEV. Eleven crashes were reported at this intersection over the five-year study period, or an

average of 2.2 crashes per year. Four of the eleven reported crashes were single vehicle collisions, one of which, in 2014, resulted in a fatality. Based on reports, speed was a prominent factor in this fatal crash. It is suspected that the operator of the vehicle was street racing, and the fatal crash was believed to be an isolated incident. Crash rates at all other locations in the study area were found to be below the Statewide and District 5 averages.

Based on a March 30, 2021 review of the MassDOT Interactive Mapping Portal for Analysis and Crash Tracking (IMPACT) database, which is now current through 2018, two crashes were reported at the intersection of Theodore Rice Boulevard at Duchaine Boulevard in 2018, both in December: a truck struck a fixed object due to icy roadway conditions with no injury reported, and a passenger car struck a tree resulting a non-fatal injury. Updating the crash analysis for the most recent five years of data now available, seven crashes occurred at the intersection from 2014 to 2018. No pedestrian crashes were reported in the IMPACT database. The resulting crash rate of 0.71 C/MEV is lower than the previously reported crash rate of 1.01 C/MEV using 2013 to 2017 crash data, but is higher than the Statewide and District 5 average of 0.57 C/MEV for unsignalized intersections. The intersection is not a Highway Safety Improvement Program (HSIP)-eligible location (i.e., is not identified as a High Crash Location, High Pedestrian Crash Cluster, or High Bicycle Crash Cluster by MassDOT).

Comment 9.22M – Previously Expressed City Concerns and Readily Available Accident Data from Individual Crashes Are Ignored.

Response to Comment 9.22M – In accordance with the MassDOT Traffic and Safety Engineering 25% Design Submission Guidelines, the crash data analyzed in the FEIR was obtained from the MassDOT Traffic and Safety Engineering Section for each study area intersection, via its online Interactive Mapping Portal for Analysis and Crash Tracking (IMPACT) database. The City of New Bedford previously expressed concern with the crash rate at the intersection of Duchaine Boulevard at Theodore Rice Boulevard (comment letter from KP Law dated January 23, 2020). As noted in the response to Comment 9.22L above, the crash rate at the intersection of Duchaine Boulevard at Theodore Rice Boulevard was 1.01 C/MEV based on 2013 through 2017 crash data. Eleven crashes were reported at the intersection over the five-year study period, or an average of 2.2 crashes per year. Four of the eleven reported crashes were single vehicle collisions, one of which, in 2014, resulted in a fatality. Based on reports, speed was a prominent factor in this fatal crash. It is suspected that the operator of the vehicle was street racing, and the fatal crash was believed to be an isolated incident.

Based on a March 30, 2021 review of the MassDOT Interactive Mapping Portal for Analysis and Crash Tracking (IMPACT) database, which is now current through 2018, two crashes were reported at the intersection of Theodore Rice Boulevard at Duchaine Boulevard in 2018, both in December: a truck struck a fixed object due to icy roadway conditions with no injury reported, and a passenger car struck a tree resulting a non-fatal injury. Updating the crash analysis for the most recent five years of data now available, seven crashes occurred at the intersection from 2014 to 2018. No pedestrian crashes were reported in the IMPACT database. The resulting crash rate of 0.71 C/MEV is lower than the previously reported crash rate of 1.01 C/MEV using 2013 to 2017 crash data, but is higher than the Statewide and District 5 average of 0.57 C/MEV for unsignalized intersections. The intersection

is not an HSIP-eligible location (i.e., is not identified as a High Crash Location, High Pedestrian Crash Cluster, or High Bicycle Crash Cluster by MassDOT).

Comment 9.22N – Existing Traffic Assessment Demonstrates a Level of Service Fatal Flaw.

Response to Comment 9.22N – As indicated in Table 5-7 of the Updated TIS presented in Section 5.0 , several movements in the study area operate at LOS F under 2021 Existing conditions during one or more peak periods analyzed, including the northbound left-turn movement at the intersection of Braley Road at the Route 140 Northbound ramps during the weekday afternoon school dismissal peak hour; the southbound left-turn movement at the intersection of Braley Road at the Route 140 Southbound ramps during the weekday morning, weekday afternoon school dismissal, and weekday afternoon commuter peak hours; the eastbound shared left-turn/through movement at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard during the weekday afternoon commuter peak hour; and the westbound shared left-turn/through/right-turn movement at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard during the weekday morning, weekday afternoon school dismissal, and weekday afternoon commuter peak hours.

Subject to approval by the City of New Bedford, the Proponent proposes to fund a fully-actuated traffic signal to reduce congestion and improve operations at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard, which meets MUTCD traffic volume warrants under existing conditions due to activity from existing businesses in the New Bedford Business Park and the surrounding area. As shown in Table 5-9 of the Updated TIS, operations at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard would improve from an overall LOS F to LOS C during the weekday morning peak hour, from LOS F to LOS D during the weekday afternoon school dismissal peak hour, and from LOS E to LOS C during the weekday afternoon commuter peak hour with the addition of a fully-actuated traffic signal.

As indicated in the Traffic Operations Analysis in Section 5.7, the addition of project generated trips at the intersections of Braley Road at the Route 140 Northbound and Southbound Ramps increases average vehicle delay and v/c ratios on the STOP-controlled ramp movements, which already operate at LOS F under existing conditions. The HCM unsignalized intersection analysis presents an overly conservative estimate of delay, which becomes unrealistically high during oversaturated conditions. The movements which are projected to experience unrealistically high delay under future No-Build and Build conditions are the left-turn movements from the Route 140 off-ramps. As the calculated delays are not reliable indicators of performance for these oversaturated movements, graphic queue figures are provided in Section 5.6 to compare operations under No-Build and Build conditions. 95th percentile queues on the Route 140 Northbound off-ramp during the weekday morning peak hour, weekday afternoon school dismissal peak hour, and weekday afternoon commuter peak hour are shown in Section 5.6 on Figures 5-19A, 5-19E, and 5-19I, respectively, while 95th percentile queues on the Route 140 Southbound off-ramp during the weekday morning peak hour, weekday afternoon school dismissal peak hour, and weekday afternoon commuter peak hour are shown on Figures 5-19B, 5-19F, and 5-19J, respectively. As shown in the queue figures, 95th percentile queues on the ramps are projected to increase by a maximum of 72 feet (approximately two packer trucks or one

transfer trailer) on the Route 140 northbound ramp, and a maximum of 3 feet on the Route 140 southbound ramp during peak periods with the addition of project generated trips. As the incremental impact on the Route 140 ramps due to the proposed project is minimal and the installation of traffic signals at the intersections of Braley Road with the Route 140 ramps would adversely impact currently uncontrolled traffic on the eastbound and westbound Braley Road approaches, there is no feasible mitigation to reduce project generated impacts at the Route 140 ramp intersections.

Additionally, it should be noted that the estimated trip generation for Phase 2 used to develop the 2028 Build conditions analysis in the Updated TIS incorporated several assumptions to present a conservative analysis, including no reduction in trips for backhauls or outbound material being transported by rail. In addition, the traffic associated with the previously proposed biosolids facility has remained in this study although the biosolids component is no longer being proposed. While these conservative assumptions are incorporated into the traffic analysis, the planned use of backhauls and rail service and the removal of the biosolids facility will mitigate the project's trip generation and subsequent impacts on roadway conditions.

Comment 9.22O – Current Roadway Layout, Markings, and Signage is not Adequate for any Increased Traffic.

Response to Comment 9.22O – Subject to approval by the City of New Bedford and New Bedford Business Park, the Proponent will provide improved pavement markings to better delineate travel paths at the intersection of Duchaine Boulevard with the site driveway.

Comment 9.22P – Proposed Truck Routes and Actual Truck Routes May Differ; Combined Traffic Impacts Must be Properly Assessed.

Response to Comment 9.22P – As stated in previous traffic reports and the traffic report proved in this NPC-SFEIR, the Proponent currently restricts its truck deliveries to the identified truck route via Theodore Rice Boulevard, Braley Road, and Route 140, and will continue to do so under the Phase 2 expansion.

It should be noted that all traffic impacts from the facility are were presented within the historically prepared traffic reports. Existing traffic is part of the baseline.

Comment 9.22Q – No Rational Basis has been Provided for Trucking Hours outside of Normal Weekday Business Hours, Which Operations Will Have a Disproportionate Impact on Local Residents.

Response to Comment 9.22Q –The Proponent is reducing tipping hours at the facility. The proposed hours for tipping waste will be from 6AM to 7PM Monday through Friday and from 7AM to 4PM on Saturdays. No tipping will occur on Sundays.

Comment 9.22R – Waste Handling Operations and Storage Quantities are not Adequately Defined to Prevent Adverse Operating Conditions.

Response to Comment 9.22R – As committed to in the FEIR, all tipping, handling/processing, baling, loading, etc. will occur indoors. Trucks arriving to or leaving the facility will be properly

covered/contained. As part of the Site Suitability application narrative, interior layout/handling plans will be prepared. Additionally, it is anticipated that the following will be addressed in the site Suitability/Site Assignment permitting process:

1. Maximum storage volumes (in various stages such as on the tipping floor, baled, in railcars, etc.)
2. Maximum storage hold times
3. Putrescible waste protocols and mitigation
4. Tipping door operations

Comment 9.22S – The MEPA Process is Not the Proper Venue to Review the Complex Air Quality Impact Potential from a Combined Sludge Drier and Solid Waste Transfer Station.

Response to Comment 9.22S – Stationary sources are below air plan approval thresholds, and MassDEP will regulate the sources either as de-minimis sources or by MassDEP exercising its authority to require a plan approval (DEIR, Attachment 14). Furthermore, MassDEP will evaluate air emissions as part of the site assignment process, documenting that the anticipated emissions will meet state and federal air quality standards and criteria and will not constitute a danger to the public health. The Air & Odor study that was submitted as part of the DEIR (Attachment 14) holistically assesses the Project's potential environmental impacts and mitigation measures, and provides MassDEP with information to assist in using all feasible means to avoid, minimize, and mitigate impacts to the maximum extent practicable. It should also be noted that the biosolids components of the proposed project has been eliminated.

Comment 9.22T – All Studies or Evaluations Need to Consider Both Facilities, Stationary and Mobile Sources, and Non-Road and On-Road Sources.

Response to Comment 9.22T – The Air & Odor Study in the DEIR, Attachment 14, holistically assesses the Project's potential environmental impacts and mitigation measures. DEIR Attachment 14, pages 5-1 through 5-7, document that the Project is below each MassDEP air plan approval applicability threshold. The air analyses supplied throughout the MEPA process, particularly DEIR Attachment 18, will serve to inform MassDEP to facilitate coordination of the environmental review and permitting processes. Table 12 in the DEIR on page 110 also describes each point, non-point, line, and area sources that are stationary, mobile, road, and non-road.

Comment 9.22U – The Odor Control Technology Discussion Does Not Justify the Atypically High Percentage Removals Provided.

Response to Comment 9.22U – The odor study performed identifies the proposed odor control methodology and the data sources used. The Proponent is proposing substantial odor control to minimize offsite impacts. A comprehensive list of mitigation measures the Proponent is proposing can be found in Sec 8.7 of this report. However, as stated in the Draft Section 61 Findings (FEIR, Page 149), final design mitigation measures will be included in the MassDEP Authorization to

Construct (ATC) application (BWP SW-06). Please note that the biosolids facility is no longer proposed, which had the highest potential for odor.

Comment 9.22V – All Potential Waste Odor Sources are not included.

Response to Comment 9.22V – The biosolids operations are no longer part of the proposed project and thus eliminate one potential source of odor. The remaining potential odor sources are from MSW processing and transfer. Design features related to odor mitigation for MSW processing and transfer are listed below:

- All tipping, processing and loading into rail cars operations are done within an enclosed building
- The tipping and loadout building will be equipped with a misting system with odor counteractant.
- Building ventilation systems exhaust through elevated stacks to promote dispersion of exhaust air

Odor modeling uses the most conservative industry standard approach 5*D/T. D/T is a dimensionless ratio defined as the volume of dilution air divided by the volume of odorous air, or commonly described as the number of equivalent volumes of clean air which must be added to an odorous volume such that the odor is undetectable to the average person. In addition, the facility was assumed to operate 8,750 hours per year for the odor modeling. The results of the odor analysis demonstrate that no predicted nuisance odor events occur at any of the 6,500 receptors in the 5 years of modeled weather data.

The MSW odor will be managed by use of high dilution air flows and by stack designs and locations that enhance odor dispersion (clustered, tall stacks 30-feet above the MSW buildings). The proposed project has been specifically designed to avoid causation of odor "nuisance" conditions in the residential neighborhoods.

Comment 9.22W – Improper Capture Assumptions Result in Underestimating Fugitive Odor and Dust Emissions.

Response to Comment 9.22W – The biosolids operations are no longer part of the proposed project and thus eliminate the most significant potential source of odor. The capture calculations are provided in Attachment B to DEIR, Attachment 14. As stated in the DEIR, the inflowing air velocity is sufficient to capture more than 90% of the PM and odor emissions originating inside the building. The calculations conservatively do not include the use of a fine atomized misting system within the MSW transfer building and processing building to effectively provide additional control of fugitive dust and odor in the building (FEIR Page 25). A comprehensive list of mitigation measures the Proponent is proposing can be found in Sec 8.7 of this report. However, as stated in the Draft Section 61 Findings (FEIR, Page 149), design mitigation measures will be included in the MassDEP Authorization to Construct (ATC) application (BWP SW-06). Please note that the biosolids facility is no longer proposed, which had the highest potential for odor.

Regarding the possibility of underestimating fugitive odors, odor emissions were modeled conservatively (see Comment 9.22V for full explanation). Odor modeling used the most conservative industry standard approach 5*D/T. D/T is a dimensionless ratio defined as the volume of dilution air divided by the volume of odorous air, or commonly described as the number of equivalent volumes of clean air which must be added to an odorous volume such that the odor is undetectable to the average person. In addition, the facility was assumed to operate 8,750 hours per year for the odor modeling. The results of the odor analysis demonstrate that no predicted nuisance odor events occur at any of the 6,500 receptors in the 5 years of modeled weather data.

Comment 9.22X – A Total Odor Assessment is Intended to Examine Combined Odor from Multiple Facilities.

Response to Comment 9.22X –The Proponent stands by the odor control methodology and reasoning presented in the DEIR, Attachment 14, Pages 6-15 and the FEIR, Section 2.11.2, page 42. The Proponent further notes that the comparison against thresholds is more stringent than available guidance and precedent, and that the evaluation sufficiently informs the MassDEP regarding the Project's potential environmental impacts and mitigation measures specifically related to odor. Please note that in *Section 4.2 Solid Waste Facility Cumulative Impacts* there is an evaluation of area solid waste facilities with discussion of potential nuisance odor conditions and mitigation measures employed by those regional facilities. In addition, MassDEP's site assignment review will include documentation supporting the conclusion that the Project will not result in nuisance odor conditions which would constitute a danger to the public health. In the event a nuisance condition is identified, the Proponent is proposing a complaint reporting system described in greater detail in *Section 3.3 Complaint Logs and Data Availability*.

Comment 9.22Y – Noise is Unwanted Sound and its Nuisance Potential can Only be Assessed by Exploring the Incremental Change in Total Combined Sound for all Sources.

Response to Comment 9.22Y – The FEIR (Section 6.8, page 132) and the DEIR Noise Impacts Section (pages 102-103) both include analysis of the cumulative impacts of steady-state noise sources. Tables 7 and 8 on the referenced pages in the DEIR are shown below and summarize the existing, project only, future total sound, and incremental increase over background. In addition, *Section 6.0 Revised Noise Analysis* includes supplemental information regarding the project, existing sound levels, future sound modeling methodology, sound source input information, and proposed mitigation measures. At all receptors studied, the sound modeled meets the MassDEP Noise Policy.

Please note that the Proponent consulted with MassDEP regarding the topic of noise on February 24, 2020 and June 11, 2020 (FEIR Page 170). The Proponent was informed the noise evaluation presented sufficiently informed the MassDEP regarding the Project's potential environmental impacts and mitigation measures. Subsequently, the Proponent further investigated the potential for noise nuisance conditions, and Section 6.0 of this report includes a *Revised Noise Analysis*. MassDEP's site assignment review will include documentation that the Project is not expected to result in nuisance conditions which would constitute a danger to the public health.

Table 7
Residential Daytime Broadband Sound Level Evaluation of the MassDEP Noise Policy

Modeling Location ID	Description	Existing Daytime Sound Level[1] [L_{90}] (dBA)	Project Only Sound Level[1] (dBA)	Future L_{90} Total Sound Level[1] (dBA)	Increase Over Background (dBA)	Meets MassDEP Noise Policy?[2]
RES-1	Residential property line immediately northeast of the Project	41	39	43	2	Yes
RES-2	Residential property line immediately east of the Project	41	41	44	3	Yes
RES-3	Residential property line immediately east of the Project	41	41	44	3	Yes
RES-4	Residential property line immediately southeast of the Project	41	42	44	3	Yes

Notes:
1. Only whole numbers are shown; calculations performed using values with additional precision.
2. Refers to MassDEP A-weighted criteria of 10 dBA over background.

Table 8
Residential Nighttime Broadband Sound Level Evaluation of the MassDEP Noise Policy

Modeling Location ID	Description	Existing Nighttime Sound Level[1] [L_{90}] (dBA)	Project Only Sound Level[1] (dBA)	Future L_{90} Total Sound Level[1] (dBA)	Increase Over Background (dBA)	Meets MassDEP Noise Policy?[2]
RES-1	Residential property line immediately northeast of the Project	34	39	40	6	Yes
RES-2	Residential property line immediately east of the Project	34	41	42	8	Yes
RES-3	Residential property line immediately east of the Project	34	41	42	8	Yes
RES-4	Residential property line immediately southeast of the Project	34	42	42	8	Yes

Notes:
1. Only whole numbers are shown; calculations performed using values with additional precision.
2. Refers to MassDEP A-weighted criteria of 10 dBA over background.

Comment 9.22Z – The Background Sound Assumption Needs to be Protective of all Potential Time Periods.

Response to Comment 9.22Z – The methodology used for the ambient background was based on a very conservative interpretation of MassDEP's noise policy. The establishment of the appropriate background for analysis was discussed with MassDEP on February 24, 2020 and June 11, 2020, and the established approach is consistent with or more conservative than many approval precedents. Please see *Section 6.0 Revised Noise Analysis* for more information.

Comment 9.22AA – Dust from all Sources Impact Should be Analyzed Cumulatively.

Response to Comment 9.22AA – Generally, nuisance dust is a localized condition if and when not controlled by on-site controls. Dust is controlled on-site by both physical measures and best management practices at the proposed project location. Such practices include sweeping paved surfaces, handling (unloading, consolidating, baling, and loading) materials inside the enclosed building, and covering trucks and rail cars following appropriate BMPs. For further details, please refer to Section 4.2 of the SFEIR where dust cumulative impacts are discussed.

Comment 9.22BB – Increased Rainfall Could Impact Stormwater Management.

Response to Comment 9.22BB – The facility was designed for a 100-year stormwater event versus the 10-year event as prescribed in the MA Stormwater Policy.

Comment 9.22CC – Wetlands Spatial Impact Area Triggers Other Permit Requirements.

Response to Comment 9.22CC – According to Farland Corporation (preparer of the NOI and related construction plans), the final approved plans depict 4,095 sq/ft of disturbance in aggregate. Therefore, the Army Corp and 401 Water Quality certification do not apply. Additionally in the March 26, 2021 MassDEP response letter to the FEIR, MassDEP stated that a Chapter 91 authorization is not required because the intermittent stream crossing is not considered a navigable waterway pursuant to the Waterways Regulations at 310 CMR 9.04(1)(e).

Comment 9.22DD – The New Substantial Wetland Crossing Structure Proposed Requires Public Input.

Response to Comment 9.22DD – This is not a crossing that would require a Chapter 91 license. This particular crossing (non-navigable waterway) was also discussed with Mr. Carlos Fragata at the MassDEP on Monday March 22, 2021. In the MassDEP FEIR comment letter dated March 30, 2021, it was stated *"Chapter 91 authorization is not required because the intermittent stream crossing is not considered a navigable waterway pursuant to the Waterways Regulations at 310 CMR 9.04(1)(e)."*

Comment 9.22EE – Sludge Drying Greenhouse Gases (GHGs) can be Reduced via Heat Recovery.

Response to Comment 9.22EE – Please note the Proponent has withdrawn the previously proposed biosolids drying facility. As a result, the questions related to biosolids processing and associated emissions are no longer applicable to this application.

Comment 9.22FF – Sludge Drying Greenhouse Gases (GHGs) can be Reduced via Gasification.

Response to Comment 9.22FF – Please note the Proponent has withdrawn the previously proposed biosolids drying facility. As a result, the questions related to biosolids processing and associated emissions are no longer applicable to this application.

Comment 9.22GG – Sludge Drying is a Huge Contributor to Greenhouse Gases (GHGs).

Response to Comment 9.22GG – Please note the Proponent has withdrawn the previously proposed biosolids drying facility. As a result, the questions related to biosolids processing and associated emissions are no longer applicable to this application.

Comment 9.22HH – The City's GHG Commitment to its Residents is Contradicted by this Proposed Facility.

Response to Comment 9.22HH –The Proponent respectfully submits that the proposed project can be a key part of the City's GHG reduction strategy, as the project is expected to reduce GHG by using freight rail to haul residuals from the processing of MSW, C&D waste, and glass to various facilities in the Eastern and Midwestern United States. In any event, the GHG analysis addressed the requirements of the MEPA GHG Policy and Protocol, and was developed and refined using feedback from the MEPA Office and DOER.

Comment 9.22II – Construction Impact Assessments are Missing so the Proposed Project Studies and Information Provided are Incomplete.

Response to Comment 9.22II – The facility will be developed following controlled "construction" requirements and oversight. The facility shall take the following steps to mitigate impacts:

- Develop a SWPPP in association with the Order of Conditions.
- Make sure inbound and outbound vehicles utilize the major roadway networks surrounding the facility (e.g., avoid Phillips Road).
- Park all vehicles on-site during construction phases.
- Installation of erosion control devices.
- Wet surfaces that may create nuisance dust conditions.
- Perform construction activities following local zoning ordinances and MA State Building code.
- Maintain proper on-site safety measures compliant with OSHA.
- Compliance with local sound ordinances (to include limitations on working hours).

Although not specifically described this NPC-SFEIR, these are requirements that will be described in a higher detail prescribed in future permit approvals. It should be noted that full design plans are not completed as part of the MEPA process.

9.23 Massachusetts Department of Environmental Protection (Letter No. 28)

Please see the following summary table for information regarding the Massachusetts Department of Environmental Protection comment letter dated March 26, 2021. The table includes the location of the comments in the letter and the location of comments and responses to the comments within this Section.

Comment Location (in Letter)	Comment and Response to Comment Location (in S FEIR)
Page 2	9.23A
Page 4	9.23B
Page 4	9.23C
Page 4	9.23D
Page 4	9.23E
Pages 4 & 5	9.23F
Page 6	9.23G
Page 6	9.23H
Page 6	9.23I
Page 6	9.23J
Page 6	9.23K
Page 6	9.23L
Pages 6 & 7	9.23M
Pages 6 & 7	9.23N
Page 7	9.23O
Page 7	9.23P
Page 7	9.23Q
Page 7	9.23R
Page 7	9.23S
Page 7	9.23T
Page 7	9.23U
Page 8	9.23V
Page 8	9.23W
Page 8	9.23X
Page 8	9.23Y
Page 8	9.23Z
Page 8	9.23AA
Page 8	9.23BB
Page 8	9.23CC
Page 8	9.23DD
Page 9	9.23EE
Page 9	9.23FF

It should be noted, based on the "scope" set forth by MEPA that the *"The Supplemental FEIR should address, in a detailed and comprehensive manner, issues raised in comment letters submitted by*

MassDEP and DOER, which are incorporated by reference herein. In general, information and analyses provided in response to these comment letters should be incorporated into the main body of the Supplemental FEIR rather than provided solely in the Response to Comments section." As such, the section below guides the reader, where appropriate, to the "main body' of the NPC-SFEIR where the information can be found.

Comment 9.23A – The Project Proponent is advised that if oil and/or hazardous material are identified during the implementation of this Project, notification pursuant to the Massachusetts Contingency Plan (310 CMR 40.0000) must be made to MassDEP, if necessary.

Response to Comment 9.23A – The Proponent acknowledges that if oil and/or hazardous material are identified during the implementation of this Project, notification must be made to MassDEP pursuant to the Massachusetts Contingency Plan (310 CMR 40.0000). This requirement is included within the main body of the NPC-SFEIR in Section 2.1 and within several Responses to Comments within this section of this NPC-SFEIR.

Comment 9.23B – MassDEP recommends the Proponent continue the same level of outreach throughout the permitting process.

Response to Comment 9.23B – The Proponent shall continue the same level of outreach throughout the permitting process and "next steps" are outlined in Section 3.2 of this NPC-SFEIR.

Comment 9.23C – MassDEP recommends that Project-related air pollution and environmental impact information be shared with EJ communities in alternative format (translation, interpreter services) if applicable. This information should be provided using terms that are easily understood to ensure the community understands the Project, its potential impacts, and can provide meaningful input.

Response to Comment 9.23C – Section 3.5 of this NPC-SFEIR "Air Emissions Summary" was prepared to outline air impacts in terms that are easily understood. This summary was also sent to all parties that were notified as part of the NPC-SFEIR submission as a standalone summary.

Comment 9.23D – MassDEP will require the Proponent to attend a pre-application meeting prior to submission of the BWP SW 01 application to discuss comments received from the public on the FEIR and to ensure the facility design and operational measures will comply with solid waste regulations and applicable policies with an emphasis on odor, noise, and traffic mitigation.

Response to Comment 9.23D – The Proponent will attend a pre-application meeting with the MassDEP prior to submission of the BWP SW 01 application to discuss comments received from the public on the FEIR and to ensure the facility design and operational measures will comply with solid waste regulations and applicable policies with an emphasis on odor, noise, and traffic mitigation.

Comment 9.23E – The Proponent should be aware that any future solid waste permits will establish a maximum daily tonnage rate based on inbound "wet" tons and not on outbound "dry" tons. The Proponent should propose a biosolid maximum daily tonnage rate before commencing solid waste permitting.

Response to Comment 9.23E – The Proponent is aware that any future solid waste permit(s) will establish a maximum daily tonnage rate based on inbound "wet" tons and not on outbound "dry" tons. As the biosolids portion of the project has been withdrawn subsequent to submittal of the NPC-SFEIR, a maximum daily tonnage rate for biosolids is not applicable.

Comment 9.23F – The Proponent should be aware that MassDEP's Construction & Demolition (C&D) Minimum Performance Standard (MPS) applies to permitted C&D Processors and Large C&D Transfer Stations (together referred to as C&D Handling Facilities) facilities.

Response to Comment 9.23F – The Proponent acknowledges that MassDEP's Construction & Demolition (C&D) Minimum Performance Standard (MPS) applies to permitted C&D Processors and Large C&D Transfer Stations (together referred to as C&D Handling Facilities) facilities. This is acknowledged in Section 2.3 of this NPC-SFEIR.

Comment 9.23G – The Proponent did not provide adequate information to justify the decision to evaluate continuous sound sources and intermittent sound sources separately. During MassDEP permitting, the Proponent must demonstrate that the sound study evaluates the cumulative noise impacts from the proposed Project.

Response to Comment 9.23G – As stated in the FEIR, intermittent sources will have a different character than the continuous sound, and the potential for nuisance is separate. This revised analysis evaluates intermittent sources of sound separately to better characterize and address their impacts and mitigation, to provide consistency for comparison to prior projects reviewed per MassDEP's Noise Policy, and to avoid the mischaracterization of potential impacts through the application of cumulative layers of conservatism. The sound levels presented in this NPC-SFEIR addresses cumulative noise impacts including intermittent and continuous noise sources. Please refer to Section 6.0 of the NPC-SFEIR for further detail.

Comment 9.23H – MassDEP will require the Proponent to evaluate the Project-related sound impacts at both the nearest inhabited building(s) and at the property line.

Response to Comment 9.23H – The analysis provided in this MEPA NPC-SFEIR documents that the sources of project sound subject to MassDEP regulations and policy are in compliance with those regulations and policy at the residential receptor property lines, as follows:

COMPLIANCE EVALUATION - MASSDEP INCREASE OVER NIGHTTIME AMBIENT

Modeling Receptor ID	Project Only Sound Level (dBA)	Nighttime Ambient L90 (dBA)	Total Ambient Plus Project (dBA)	Increase in Ambient Sound Levels (dBA)
RES-1	34	30	35	5
RES-2	36	30	37	7
RES-3	35	30	36	6
RES-4	31	30	33	3
RES-5	36	30	37	7

COMPLIANCE EVALUATION - MASSDEP INCREASE OVER DAYTIME AMBIENT

Modeling Receptor ID	Project Only Sound Level (dBA)	Daytime Ambient L90 (dBA)	Total Ambient Plus Project (dBA)	Increase in Ambient Sound Levels (dBA)
RES-1	34	37	39	2
RES-2	36	37	39	2
RES-3	35	37	39	2
RES-4	31	37	38	1
RES-5	36	37	40	3

Other sources of sound are not subject to MassDEP regulations and policy, as follows:

- Federal law preempts state and local governments from regulating the sound of trucks making deliveries to a commercial site under the Noise Control Act of 1972 and the Surface Transportation Assistance Act of 1982.
- USEPA regulates railroad emissions in standards published at 40 CFR 201: Noise Emission Standards for Transportation Equipment: Interstate Rail Carriers.
- Sound from mobile sources is subject to 310 CMR 7.11, not 310 CMR 7.10 and its implementing guidance.
- MassDEP precedent has excluded transportation sources from compliance with 301 CMR 7.10, as shown in the following examples:
    - MassDEP's letter to Paul McGillis dated November 13, 2008 states "MassDEP's air regulations state that motor vehicles shall comply with the Registry of Motor Vehicles regulations relative to exhaust and sound emissions (310 CMR 7.11(1)a); therefore

MassDEP does not regulate mobile sources of sound from motor vehicles such as trucks entering and leaving the facility."

- MassDEP's response to comments document for the Northeast Energy Center LLC dated November 2, 2021 states "MassDEP's regulations at 310 CMR 7.02(1)(b) and 310 CMR 7.02(5) are applicable only to the permitting of stationary sources and do not provide authority to regulate or permit mobile sources such as trucks. Therefore, MassDEP's review of a non-major comprehensive plan application, including the dispersion and sound modeling, is limited to the emissions and sounds from the proposed stationary source; emissions from mobile sources, such as trucks, are beyond the scope of the permit."

Please refer to Section 6.0 of the NPC-SFEIR for further detail.

Comment 9.23I – The revised sound study predicted Project-related sound impacts using "only whole numbers" and indicated that "calculations were performed using values with additional precision." The Proponent should clarify this statement.

Response to Comment 9.23I – This description of the calculation methods can be clarified. Modeling results are reported to the nearest decibel because reporting with additional precision implies an accuracy that predictive modeling does not warrant. Rounding sometimes means the numbers do not add up in the final report.

Comment 9.23J – The Proponent did not provide adequate justification for why data from July 3rd was excluded and did not demonstrate that the exclusion will not affect the outcomes and conclusions of the sound study.

Response to Comment 9.23J – July 3rd was a Tuesday morning right before a mid-week 4th of July holiday. To establish a background that meets the intent of the Noise Policy, which is to ensure that changes in noise conditions don't create a nuisance condition, a background that occurs during normal conditions is appropriate.

More broadly, the requirement to establish the background as the quietest 10% of the time was established over thirty years ago when noise measurements were based on a small number of short-term readings. Requiring the establishment of the L90 based on the quietest hour of a week's worth of hourly readings is essentially setting the baseline at the quietest 6 minutes in a week, which would be essentially an L99.9, and is counter to the Policy's intent to regulate based on changes to reasonably foreseeable conditions. To establish baseline sound levels, MassDEP has approved both the daily lowest average hourly L90 sound levels and the lowest hourly L90 sound level excluding outliers for other projects (e.g. Exelon West Medway and Braintree Electric). The use of the lowest L90 sound level excluding outliers is appropriate for the MEPA process, because the goal is to describe the Project and assess its potential environmental impacts, and potential sound impacts are changes from reasonably common current conditions. The Proponent looks forward to discussing compliance with MassDEP's Noise Policy during the MassDEP permitting process.

Comment 9.23K – The revised sound study presented in the FEIR did not appear to evaluate waste delivery vehicles as a sound source.

Response to Comment 9.23K – Waste delivery vehicles were analyzed as sound sources in Section 8.0 of the Sound Level Assessment Report supplied in the DEIR, and is repeated in Section 6.6 of this NPC-SFEIR. As stated above, the form of the mobile source modeling is not compatible with the form of the stationary source modeling and it is inappropriate to add the two different results.

Comment 9.23L – The revised sound study presented in the FEIR states that "operations from the Facility will not create any pure tones", however the Proponent did not provide any data to justify their conclusion.

Response to Comment 9.23L – The pure tone evaluation was presented in the Section 7.0 of the Sound Level Assessment Report supplied in the DEIR and did not substantively change. The results are presented below, and show for daytime and nighttime that the Project will not generate any pure tones (squeaking or humming sounds) as defined by MassDEP:

Residential Daytime "Pure Tone" Evaluation of the MassDEP Noise Policy

Modeling Location ID	Description	Sound Level[1] (dB) per Octave-Band Center Frequency (Hz)								
		31.5	63	125	250	500	1k	2k	4k	8k
RES-1	Residential property line immediately northeast of the Project	51	51	44	40	36	34	26	19	19
RES-2	Residential property line immediately east of the Project	51	51	45	40	36	35	27	19	19
RES-3	Residential property line immediately east of the Project	51	51	45	40	36	35	27	19	19
RES-4	Residential property line southeast of the Project	50	49	42	39	35	33	25	19	19

Notes:

1. Sound pressure levels are rounded to the nearest whole decibel.

"Pure Tone" Evaluation of the MassDEP Noise Policy

Modeling Location ID	Description	Sound Level[1] (dB) per Octave-Band Center Frequency (Hz)								
		31.5	63	125	250	500	1k	2k	4k	8k
RES-1	Residential property line immediately northeast of the Project	54	49	42	36	32	31	23	18	19
RES-2	Residential property line immediately east of the Project	54	50	44	37	33	32	25	18	19
RES-3	Residential property line immediately east of the Project	54	50	44	36	33	32	24	18	19
RES-4	Residential property line immediately southeast of the Project	54	47	39	35	31	29	22	18	19

Notes:

1. Sound pressure levels are rounded to the nearest whole decibel.

Comment 9.23M – The Proponent did not provide sufficient information for MassDEP to determine if the proposed facility is designed to mitigate noise to the maximum extent practical using a top-down approach.

Response to Comment 9.23M – As described in Section 6.0 of this NPC-SFEIR, the proposed facility is designed to mitigate noise to the maximum extent practical. Top-case mitigation is proposed, and no feasible mitigation was excluded.

Comment 9.23N – The Proponent did not identify the controls that were considered but deemed infeasible.

Response to Comment 9.23N – Please see Section 6.0 of this NPC-SFEIR for a description of the noise controls that were considered but deemed infeasible.

Comment 9.23O – Project related sound impacts should be evaluated both with and without mitigation to demonstrate the effectiveness of proposed sound mitigation controls.

Response to Comment 9.23O – Please see Section 6.0 of this NPC-SFEIR for an evaluation of sound impacts with and without mitigation to demonstrate the effectiveness of proposed sound mitigation controls.

Comment 9.23P – Impacts to wetlands, abutting landowners, stormwater, etc. should be considered. Safety factors should be considered including fire access and emergency vehicle needs.

Response to Comment 9.23P – As described in Section 6.0 of this NPC-SFEIR, additional noise barrier walls near the facility would not provide effective control, or would preclude safe access to equipment. A noise barrier wall near the residences would reflect existing Phillips Road traffic noise back at residences. A noise barrier wall near the residences could also impact wetlands at some locations, and may not be allowable per zoning requirements.

Comment 9.23Q – For the noise barrier to be technically feasible, it must be able to be constructed given the existing topography. The height of the noise barrier should be evaluated if it could sustain excessive wind loads. Maintenance of the noise barrier must be considered as well.

Response to Comment 9.23Q – For the reasons described in Section 6.0 and above, no further noise barriers are proposed.

Comment 9.23R – The Proponent conducted a traffic signal warrant analysis for the intersection of Braley Road at Phillips Road/Theodore Rice Blvd and concluded "the installation of a traffic signal at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard is warranted under 2020 Existing traffic volumes independent of the Project, as a result of existing development in the area."

Response to Comment 9.23R – As noted in the Updated TIS presented in Section 5.0, the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard meets MUTCD traffic signal warrants under existing conditions. Subject to approval by the City of New Bedford, the Proponent proposes to install a fully-actuated traffic signal at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard as potential mitigation for the proposed project.

Comment 9.23S – The traffic analysis indicates that the intersection of Route 140 SB at Braley Road is expected to degrade in level-of-service ("LOS") for some turning movements under the Build scenarios.

Response to Comment 9.23S – As indicated in Table 5-7 of the Updated TIS presented in Section 5.0, the southbound left-turn movement at the intersection of Braley Road at the Route 140 Southbound ramps operates at LOS F during the weekday morning, weekday afternoon school dismissal, and weekday afternoon commuter peak hours under 2021 Existing conditions and is projected to continue to operate at LOS F during all three peak periods under both 2028 No-Build (future without the proposed project) and 2028 Build (future with the proposed project) conditions. The southbound right-turn movement operates at LOS B during all three peak hours under 2021 Existing and 2028 No-Build conditions. Under 2028 Build conditions, the southbound right-turn movement is projected to operate at LOS C during the weekday morning peak hour due to an increase in average delay of 0.7 seconds, and is projected to continue to operate at LOS B during the weekday afternoon school dismissal and weekday afternoon commuter peak hours. As shown in Figure 5-19B, Figure 5-19F, and Figure 5-19J in the Updated TIS, 95th percentile queues are projected to increase negligibly, by 2 feet during the weekday morning and weekday afternoon school peak hours and by 3 feet during the weekday afternoon commuter peak hour with the addition of project generated traffic.

Comment 9.23T – The traffic analysis indicates that three intersections, Route 140 NB at Braley Road, Route 140 SB at Braley Road, and Braley Road at Phillips Road/Theodore Rice Blvd, operate at LOS F for some turning movements under the 2020 Existing scenario.

Response to Comment 9.23T – Table 5-7 of the Updated TIS presented in Section 5.0 summarizes level-of-service (LOS) for each lane group at the study area intersections. Under 2021 Existing conditions, the northbound left-turn movement from the Route 140 northbound off-ramp to Braley Road operates at LOS F during the weekday afternoon school dismissal peak hour; the southbound left-turn movement from the Route 140 southbound off-ramp to Braley Road operates at LOS F during the weekday morning, weekday afternoon school dismissal, and weekday afternoon commuter peak hours; the eastbound shared left-turn/through movement at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard operates at LOS F during the weekday afternoon commuter peak hour; and the westbound approach at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevards operates at LOS F during the weekday morning, weekday afternoon school dismissal, and weekday afternoon commuter peak hours.

Comment 9.23U – Potential impacts to delay time and queue lengths at some study area intersections under the Build scenario.

Response to Comment 9.23U – As indicated in Table 5-7 of the Updated TIS presented in Section 5.0, several movements in the study area operate at LOS F under 2028 Build conditions during one or more peak periods analyzed, including the northbound left-turn movement at the intersection of Braley Road at the Route 140 Northbound ramps during the weekday morning peak hour, weekday afternoon school dismissal peak hour, and weekday afternoon commuter peak hour; the southbound left-turn movement at the intersection of Braley Road at the Route 140 Southbound ramps during the weekday morning peak hour, weekday afternoon school dismissal peak hour, and weekday afternoon commuter peak hour; the eastbound shared left-turn/through movement at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard during the weekday afternoon school dismissal peak hour; and the westbound shared left-turn/through/right-turn movement at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard during the weekday morning, weekday afternoon school dismissal, and weekday afternoon commuter peak hours.

Subject to approval by the City of New Bedford, the Proponent proposes to construct a fully-actuated traffic signal to reduce congestion and improve operations at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard, which meets MUTCD traffic volume warrants under existing conditions due to activity from existing businesses in the New Bedford Business Park and the surrounding area. As shown in Table 5-9 of the Updated TIS, operations at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard would improve from an overall LOS F to LOS C during the weekday morning peak hour, from LOS F to LOS D during the weekday afternoon school dismissal peak hour, and from LOS E to LOS C during the weekday afternoon commuter peak hour with the addition of a fully-actuated traffic signal.

As indicated in the Traffic Operations Analysis section of the Updated TIS, the addition of project generated trips at the intersections of Braley Road at the Route 140 Northbound and Southbound

ramps increases average vehicle delay on the STOP-controlled ramp movements, which already operate at LOS F under existing conditions. The HCM unsignalized intersection analysis presents an overly conservative estimate of delay, which becomes unrealistically high during oversaturated conditions. The movements which are projected to experience unrealistically high delay under future No-Build and Build conditions are the left-turn movements from the Route 140 off-ramps. As the calculated delays are not reliable indicators of performance for these oversaturated movements, graphic queue figures are provided in the Updated TIS (Section 5.6) to compare operations under No-Build and Build conditions. 95th percentile queues on the Route 140 Northbound off-ramp during the weekday morning peak hour, weekday afternoon school dismissal peak hour, and weekday afternoon commuter peak hour are shown in Figures 5-19A, 5-19E, and 5-19I, respectively, while 95th percentile queues on the Route 140 Southbound off-ramp during the weekday morning peak hour, weekday afternoon school dismissal peak hour, and weekday afternoon commuter peak hour are shown in Figures 5-19B, 5-19F, and 5-19J, respectively. As shown in the queue figures, 95th percentile queues on the ramps are projected to increase by a maximum of 72 feet (approximately two packer trucks or one transfer trailer) on the Route 140 northbound ramp, and a maximum of 3 feet on the Route 140 southbound ramp during peak periods with the addition of project generated trips. As the incremental impact on the Route 140 ramps due to the proposed project is minimal and the installation of traffic signals at the intersections of Braley Road with the Route 140 ramps would adversely impact currently uncontrolled traffic on the eastbound and westbound Braley Road approaches, there is no feasible mitigation to reduce project generated impacts at the Route 140 ramp intersections.

Additionally, it should be noted that the estimated trip generation for Phase 2 used to develop the 2028 Build conditions analysis in the Updated TIS incorporated several assumptions to present a conservative analysis, including no reduction in trips for backhauls or outbound material being transported by rail. In addition, the traffic associated with the previously proposed biosolids facility has remained in this study although the biosolids component is no longer being proposed. While these conservative assumptions are incorporated into the traffic analysis, the planned use of backhauls and rail service and the removal of the biosolids facility will mitigate the project's trip generation and subsequent impacts on roadway conditions.

Comment 9.23V – Potential impacts to volume-to-capacity (v/c) ratio for some study area intersections under the Build scenario.

Response to Comment 9.23V – As indicated in Table 5-7 of the Updated TIS presented in Section 5.0, several movements in the study area operate with v/c ratios greater than 1.0 under 2028 No-Build conditions during one or more peak periods analyzed, including the northbound left-turn movement at the intersection of Braley Road at the Route 140 Northbound ramps during the weekday afternoon school dismissal peak hour; the southbound left-turn movement at the intersection of Braley Road at the Route 140 Southbound ramps during the weekday afternoon school dismissal peak hour; and the westbound shared left-turn/through/right-turn movement at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard during the weekday morning peak hour and weekday afternoon

school dismissal peak hour. In addition, the northbound left-turn movement at the intersection of Braley Road at the Route 140 Northbound ramps is projected to increase from a v/c ratio of 0.92 under 2028 No-Build conditions to 1.02 under 2028 Build conditions during the weekday morning peak hour, and the eastbound shared left-turn/through movement at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard is projected to increase from a v/c ratio of 0.98 under 2028 No-Build conditions to 1.09 under 2028 Build conditions during the weekday afternoon school dismissal peak hour.

Subject to approval by the City of New Bedford, the Proponent proposes to construct a fully-actuated traffic signal to reduce congestion and improve operations at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard, which meets MUTCD traffic volume warrants under existing conditions due to activity from existing businesses in the New Bedford Business Park and the surrounding area. As shown in Table 5-9 of the Updated TIS, no movements at the intersection would operate with a v/c over 1.0 during the three peak periods analyzed with the addition of a fully-actuated traffic signal.

As indicated in the Traffic Operations Analysis section of the Updated TIS, the addition of project generated trips at the intersections of Braley Road at the Route 140 Northbound and Southbound ramps increases v/c ratios on the STOP-controlled ramp movements, which exceeds 1.0 during the weekday afternoon school dismissal peak hour on the Route 140 Northbound off-ramp under 2028 No-Build conditions and exceeds 1.0 on the Route 140 Southbound off-ramp under both 2021 Existing and 2028 No-Build conditions. The HCM unsignalized intersection analysis presents an overly conservative estimate of v/c ratios, which becomes unrealistically high during oversaturated conditions. As the calculated delays are not reliable indicators of performance for these oversaturated movements, graphic queue figures are provided in the Updated TIS to compare operations under No-Build and Build conditions. 95th percentile queues on the Route 140 Northbound off-ramp during the weekday morning peak hour, weekday afternoon school dismissal peak hour, and weekday afternoon commuter peak hour are shown in Figures 5-19A, 5-19E, and 5-19I, respectively, while 95th percentile queues on the Route 140 Southbound off-ramp during the weekday morning peak hour, weekday afternoon school dismissal peak hour, and weekday afternoon commuter peak hour are shown in Figures 5-19B, 5-19F, and 5-19J, respectively. As shown in the queue figures, 95th percentile queues on the ramps are projected to increase by a maximum of 72 feet (approximately two packer trucks or one transfer trailer) on the Route 140 northbound ramp, and a maximum of 3 feet on the Route 140 southbound ramp during peak periods with the addition of project generated trips. As the incremental impact on the Route 140 ramps due to the proposed project is minimal and the installation of traffic signals at the intersections of Braley Road with the Route 140 ramps would adversely impact currently uncontrolled traffic on the eastbound and westbound Braley Road approaches, there is no feasible mitigation to reduce project generated impacts at the Route 140 ramp intersections.

Additionally, it should be noted that the estimated trip generation for Phase 2 used to develop the 2028 Build conditions analysis in the Updated TIS incorporated several assumptions to present a

conservative analysis, including no reduction in trips for backhauls or outbound material being transported by rail. In addition, the traffic associated with the previously proposed biosolids facility has remained in this study although the biosolids component is no longer being proposed. While these conservative assumptions are incorporated into the traffic analysis, the planned use of backhauls and rail service and the removal of the biosolids facility will mitigate the project's trip generation and subsequent impacts on roadway conditions.

Comment 9.23W – Modeling various distribution scenarios that may occur to compensate for uncertainties regarding the normal hourly fluctuation in waste deliveries.

Response to Comment 9.23W – Hourly distribution data used in the Updated TIS presented in Section 5.0 were obtained from two comparable sites, one in Rochester, MA and one in Taunton, MA to determine the hourly distribution of truck traffic entering the site and the estimated number of trips expected to access the site during both the weekday morning, weekday afternoon school dismissal, and weekday afternoon commuter peak hours analyzed. To account for shorter tipping hours, truck trips which would otherwise arrive prior to 6:00 AM or later than 7:00 PM based on the comparable site data were combined with the 6:00 to 7:00 AM and 6:00 to 7:00 PM hours, respectively. The resulting estimated hourly distribution pattern is shown below and in Table 5-4 of the Updated TIS.

Hourly Distribution of Truck Trips

Time	Hourly distribution of truck trips (%)	Inbound MSW/C&D (Truck Round Trips)	Total One-Way Truck Trips - Inbound MSW/C&D	Inbound Biosolids (Truck Round Trips)	Total One-Way Truck Trips – Biosolids	Outbound Materials (Truck Round Trips)	Total One-Way Truck Trips - Outbound Material	Total One-Way Truck Trips
6-7 AM	10%	8	16	2	4	6	12	**32**
7-8 AM	8%	6	12	2	4	4	8	**24**
8-9 AM	8%	6	12	2	4	4	8	**24**
9-10 AM	9%	7	14	2	4	5	10	**28**
10-11 AM	10%	8	16	2	4	6	12	**32**
11-12 AM	10%	8	16	2	4	6	12	**32**
12-1 PM	11%	8	16	2	4	6	12	**32**
1-2 PM	10%	8	16	2	4	6	12	**32**
2-3 PM	10%	8	16	2	4	6	12	**32**
3-4 PM	7%	5	10	2	4	4	8	**22**
4-5 PM	3%	2	4	1	2	1	2	**8**
5-6 PM	2%	1	2	1	2	1	2	**6**
6-7 PM	2%	1	2	1	2	1	2	**6**
	100%	**76**	**152**	**23**	**46**	**56**	**112**	**310**

As noted in the Updated TIS, the peak hours of traffic volume along the study area roadway network occur from 6:30 AM to 7:30 AM (weekday morning peak hour), 3:15 PM to 4:15 PM (weekday

afternoon school peak hour), and 4:00 PM to 5:00 PM (weekday afternoon commuter peak hour). Based on the hourly distribution in the above table, it is estimated that 8% to 10% of daily truck trips accessing the site would occur during the weekday morning peak hour, 3% to 7% of daily truck trips accessing the site would occur during the weekday afternoon school peak hour, and 3% of daily truck trips accessing the site would occur during the weekday afternoon commuter peak hour. To account for hourly fluctuation in deliveries throughout a given day and present a conservative analysis, it was assumed that the highest single hour of site generated truck traffic, 11%, which is projected to typically occur between 12:00 PM and 1:00 PM, would occur during all three surrounding roadway network peak hours.

Comment 9.23X – In accordance with MassDOT's Transportation Impact Assessment Guidelines Project-related impacts must be mitigated to the extent feasible.

Response to Comment 9.23X – Subject to approval by the City of New Bedford, the Proponent proposes to fund a fully-actuated traffic signal to reduce congestion and improve operations at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard, which meets MUTCD traffic volume warrants under existing conditions due to activity from existing businesses in the New Bedford Business Park and the surrounding area. In addition, to reduce the impact of existing truck traffic along Phillips Road, the Proponent will contribute up to $5,000 toward a Heavy Commercial Vehicle Exclusion (HCVE) study along Phillips Road.

As noted in Responses to Comments 9.23U and 9.23V above, and as indicated in the Traffic Operations Analysis section of the Updated TIS presented in Section 5.0, the addition of project generated trips at the intersections of Braley Road at the Route 140 Northbound and Southbound Ramps increases average vehicle delay and v/c ratios on the STOP-controlled ramp movements, which already operate at LOS F under existing conditions. 95th percentile queues on the ramps are projected to increase by a maximum of 72 feet (approximately two packer trucks or one transfer trailer) on the Route 140 northbound ramp, and a maximum of 3 feet on the Route 140 southbound ramp with the addition of project generated trips. As the incremental impact on the Route 140 ramps due to the proposed project is minimal and the installation of traffic signals at the intersections of Braley Road with the Route 140 ramps would adversely impact currently uncontrolled traffic on the eastbound and westbound Braley Road approaches, there is no feasible mitigation to reduce project generated impacts at the Route 140 ramp intersections

Comment 9.23Y – As part of the Solid Waste permitting process, the Proponent will be required to describe what, if any, pathways exist for discharges of PFAS into air, soil and water resources as a result of the biosolids drying process and as a result of any potential uses of the dried biosolids.

Response to Comment 9.23Y – Please note the Proponent has withdrawn the previously proposed biosolids drying facility. As a result, the questions related to biosolids processing, wastewater generation, and related impacts are no longer applicable to this application. As noted in previous responses above, the traffic associated with the previously proposed biosolids facility has remained in this study as a conservative assumption for assessing potential traffic impacts of the project.

Comment 9.23Z – Was air dispersion modeling ever discussed and explained to the EJ Stakeholders for a clear understanding of its technology and use for decision making?

Response to Comment 9.23Z – Air dispersion modeling was discussed and explained at all outreach meetings attended by Epsilon subject matter experts. These included three large public meetings on April 29, 2019 and January 6 and 7, 2020. One of these meetings was recorded and broadcasted and all meetings had opportunity for follow-up.

Comment 9.23AA – The section of the report that discusses "minor significance of the facility on conditions that can lead to air quality alerts" appears to suggest that the Proponent's contribution to air pollution, climate change and air quality is not significant. Is this what the Proponent intended? Please explain the basis of this statement.

Response to Comment 9.23AA – This Comment refers to page 45 of the FEIR narrative in Section 3.0 Environmental Justice and Public Outreach. The full quote is: "A discussion of air quality alerts and the minor significance of the facility on conditions that can lead to air quality alerts." The proposed project will have air quality impacts. As documented in the DEIR, FEIR, and in the responses to comments, the project's impacts are below applicable air quality thresholds that are protective of human and environmental health. The Proponent's contribution to air quality in the region is minimal. As described in Section 5.3 of the DEIR, the Project is not a major source of ozone precursors (nitrogen oxides and VOC). Because the Project's air emission sources are minor (and none of the stationary combustion sources used for building heat will operate on hot days), the Project will not significantly contribute to future air quality alerts.

Comment 9.23BB – Are the residents of the affected EJ community privy to the information that has been logged into the complaints log? If so, please explain how this information will be made known and shared and ultimately understood by New Bedford's diverse lay EJ residents/community members?

Response to Comment 9.23BB –As described in Section 3.3. of the NPC- SFEIR, the Proponent will encourage the public to submit complaints in a confidential manner and will provide the complaint log and air quality data to the public in an easily accessible manner (the complaint log and air quality data will be updated and made available on the Proponent's website - **https://parallelproductssustainability.com**

The Proponent has prepared a system to log potential odor, noise, and dust complaints associated with operation of the facility which will be provided to MassDEP and the New Bedford Board of Health. A draft of the complaint log is provided at the end of this section. Response measures and mitigation actions that will be implemented will be as follows:

1. Log complaint and concurrent weather and operating conditions
2. Independently confirm complaint by on-site and/or offsite observation, to the extent possible
3. Identify any immediate mitigation measures available and implement them

4. Conduct a root-cause analysis and review Best Management Practice (BMP), Standard Operating Procedure (SOP), and Preventative Maintenance (PM) documentation to determine if modifications are needed
5. Respond to complainant with a report of actions taken

Once Phase 2 construction begins, the Proponent will have a complaint log system set up on their website. This system will:

1. Allow individuals to lodge a complaint (by name or anomalously)
2. Allow the public to view past complaints, if any.
3. Allow public to review any mitigative measures that the Proponent has and/or will take with respect to any particular complaint.

Comment 9.23CC – How will all the complaints in the complaints log be handled in addressing everyone's expectations for follow-up?

Response to Comment 9.23CC – Please see response 9.23BB above that explains the protocol. This information is also presented in Section 3.3 of the NPC-SFEIR

Comment 9.23DD – Was consideration made by the Proponent to explain the technical/scientific details of the FEIR? If so, the Proponent should present its findings and recommendations through words that are commonly used and understood by New Bedford's diverse lay EJ residents and community members - not through the FEIR's acronyms or scientific terminology.

Response to Comment 9.23DD – The Proponent has made every attempt to present findings and recommendations herein through words that are commonly used and understood by the diverse population of New Bedford, while providing sufficient technical/scientific support for use by interested parties.

Comment 9.23EE – Connecting with community leaders that the residents trust is helpful in order to obtain input and/or interest from the residents. Was outreach conducted to community leaders, EJ leaders and municipal officials?

Response to Comment 9.23EE – Considerable outreach has taken place within the New Bedford community. Please refer to section 3.2 of the NPC-SFEIR for further detail.

Comment 9.23FF – The Proponent should demonstrate the continuing need to conduct outreach and community engagement throughout the project's duration for each to this area's diverse EJ community.

Response to Comment 9.23FF – Considerable outreach has taken place within the New Bedford community. Please refer to section 3.2 of the NPC-SFEIR for further detail of what has taken place historically and the Proponent's commitments towards future outreach.

9.24 Massachusetts Department of Energy Resources (Letter No. 29)

Please see the following summary table for information regarding the Massachusetts Department of Energy Resources comments that have been received. The table includes the location of the comments in the letter and the location of comments and responses to the comments within this Section.

Comment Location (in Letter)	Comment and Response to Comment Location (in S FEIR)
Pages 1, 2, 3 & 5	9.23A
Page 2	9.23B
Pages 3, 4 & 5	9.23C
Pages 2, 4 & 6	9.23D
Pages 2, 3 & 4	9.23E
Pages 2 & 5	9.23F
Pages 2, 4 & 5	9.23G
Pages 2, 4 & 5	9.23H
Page 4	9.23I
Pages 5 & 6	9.23J

It should be noted, based on the "scope" set forth by MEPA that the *"The Supplemental FEIR should address, in a detailed and comprehensive manner, issues raised in comment letters submitted by MassDEP and DOER, which are incorporated by reference herein. In general, information and analyses provided in response to these comment letters should be incorporated into the main body of the Supplemental FEIR rather than provided solely in the Response to Comments section."* As such, the section below guides the reader to the "main body' of the NPC-SFEIR where the information can be found.

Comment 9.24A – The overall project Mitigation Level1 (ML) is 40%, however the buildings themselves have a ML of less than 3.7%. This value is described as "less than" because the project is using an incorrect baseline (more below). If this baseline were to be corrected, building ML could reduce to 0%.

Response to Comment 9.24A – As noted in Section 7.2, The Biosolids Building has been removed from the Project. There are two remaining conditioned buildings, 1) the Glass Processing Building, Glass Processing Section (27,500 sf), and 2) the Glass Processing Building, Bunker Building Section (23,320 sf). Energy calculations for the Glass Processing Section remain unchanged from the FEIR. Revised calculations for the Bunker Building Section presently under construction are included throughout Section 7.0.

Comment 9.24B – Building mitigation is largely limited to a modest reduction in the lighting power density.

Response to Comment 9.24B – Building mitigation measures include a lighting power density reduction, inclusion of on-site PV, and construction with R30 metal panels and no windows. Please

see Section 7.0 for more information on the mitigation measures proposed for the Glass Processing Building, Bunker Building Section.

Comment 9.24C – Addition of heat pumps for space heating could improve building ML to 21% and overall project (including committed3.2+ MW of new solar) to almost 60%.

Response to Comment 9.24C – After careful consideration of the added costs and energy benefits, the Proponent has decided to employ air-source heat pumps (ASHPs) for space heating in the Glass Processing Building, Bunker Building Section. Additional information regarding the cost benefit analysis of utilizing ASHPs within the Glass Processing Building, Bunker Building Section is included in Sections 7.4 and 7.5.

Comment 9.24D – ML could also improve with addition of ventilation energy recovery which was unevaluated.

Response to Comment 9.24D – Please see Section 7.4.2 for an evaluation of incorporating energy ventilation recovery into the design.

Comment 9.24E – The code requires three efficiency measures be included in the project (out of a list of 10 choices), per section C406 of the code. The project is using only two. Accordingly, one more C406 measure is required for all buildings yet to be constructed, just to meet Code. Because the baseline is based on two, rather than three, C406 measures, the reported ML is overstated.

Response to Comment 9.24E – As noted in Section 7.2, the biosolids building has been removed from the Project. There are two remaining conditioned buildings.

The Glass Processing Section was completed prior to the new code taking effect. As such, it only requires two C406 efficiency measures. As detailed in the FEIR submittal, these are lighting power density reduction and on-site PV. These measures were incorporated into both the baseline and proposed calculations. Energy calculations for this Section remain unchanged from the FEIR.

The Bunker Building Section is presently under construction. In addition to the lighting power density reduction and on-site PV measures, a third C406 efficiency measure is required by code. The bunker Building Section will be constructed with R-30 metal panels and no windows. It surpasses a code envelope by 45%. As such, the envelop performance will satisfy the third C406 measure. Please refer to Attachments 7-2 and 7-3 for a Bunker Building wall section and backstop calculation.

Comment 9.24F – The (partially or fully) built glass processing facility is missing a code-required rooftop liner insulation system for this metal building. The submission contains a request to "be allowed to forgo this design element". This liner system is required by code.

Response to Comment 9.24F – The Glass Processing Section was constructed without the code-required R-11 liner system. The Proponent has committed to adding the liner system to the completed roof. The Bunker Building Section will also include this liner system as noted in Section 7.3.2.

Comment 9.24G – The project is also proposing to install 3.2 MW of new solar PV. This sized solar system would provide significant mitigation. We estimate that a the additional 3.3 MW system would

provide about 3,400 MWhrs per year and would offset about 1,100 tons of emission versus the 745 previously estimated when the facility only proposed an additional 1.9 MW of PV.

Response to Comment 9.24G –The Proponent is committed to environmental stewardship. The installation of an additional 3.2 MW of solar PV (canopy and roof mounted) will increase the site's overall PV capacity and provide even greater offset of overall GHG emissions.

Comment 9.24H – The facility currently has 1.6 MW of solar PV on-site. Accordingly, total on-site solar PV would be 3.5 MW.

Response to Comment 9.24H – Comment 9.24H is correct. As noted above, the Proponent is committed to environmental stewardship. The installation of an additional 3.2 MW of solar PV (canopy and roof mounted) will increase the site's overall PV capacity to 3.5 MW.

Comment 9.24I – It is also important to note that the building Code does not allow a "credit" to offset building code deficiencies. Accordingly, the code issues identified above need to be addressed despite the installation of this PV.

Response to Comment 9.24I – The Proponent will comply with all applicable building codes. Please see the above response for more information how the Proponent will address the acknowledged deficiency in Comment 9.24F.

Comment 9.24J – Recommended additional mitigation measures:

- Electric heat pump for space heating, including office spaces
- Electric heat pump hot water heating
- Ventilation energy recovery would likely provide significant cost and emissions benefits. This measure was unevaluated. We would recommend evaluation and likely implementation.

Response to Comment 9.24J – Regarding usage of electric heat pumps for space heating, the Proponent has decided to employ air-source heat pumps (ASHPs) for space heating in the Glass Processing Building, Bunker Building Section.

Regarding installation of an electric heat pumps for hot water heating, there are existing bathrooms at the site, however there are no new bathrooms being constructed as part of this project. The Proponent anticipates replacing these existing hot water heaters with high efficiency electric heaters when they are replaced at a future date.

Regarding ventilation energy recovery, please see the evaluation in Section 7.4.2.

EXHIBIT 1

MEPA – SECRETARIES CERTIFICATE FOR THE EENF

The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
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April 12, 2019

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
EXPANDED ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME	: Parallel Products of New England
PROJECT MUNICIPALITY	: New Bedford
PROJECT WATERSHED	: Buzzards Bay
EEA NUMBER	: 15990
PROJECT PROPONENT	: Parallel Products of New England, LLC
DATE NOTICED IN MONITOR	: February 20, 2019

Pursuant to the Massachusetts Environmental Policy Act (MEPA; G. L. c. 30, ss. 61-62I) and Section 11.06 of the MEPA regulations (301 CMR 11.00), I have reviewed the Expanded Environmental Notification Form (EENF) and hereby determine that this project **requires** an Environmental Impact Report (EIR). I am declining to allow a Single EIR as requested by the Proponent. The Proponent must submit a Draft EIR (DEIR) in accordance with the Scope provided in this Certificate. In a separate Draft Record of Decision (DROD), also issued today, I **propose to grant** a Waiver that will allow the proponent to proceed with Phase 1 of the project prior to completing the MEPA process for the entire project.

Project Description

As described in the ENF, the project includes the phased construction of a glass recycling/processing facility; a solid waste handling and processing facility that will accept 1,500 tons per day (tpd) of municipal solid waste (MSW) and construction & demolition (C&D) waste; and a biosolids drying facility that will accept 50 dry tpd of biosolids. Phase 1 includes construction of a glass recycling/processing facility within a 27,500-square foot (sf) building,

construction of a railroad (RR) sidetrack from the main RR line to the glass processing facility, and installation of a 1.9 megawatt (MW) solar photovoltaic (PV) array. The glass recycling/processing facility will recycle glass collected through the Massachusetts bottle deposit system. Glass processing will include crushing, sizing and separation of the glass by color. Processed glass will be stored in bunkers until it is loaded into rail cars or trucks to shipment for bottle manufacturers. Phase 1 is proposed to meet an immediate regional need for glass processing in the region by providing an alternative market for glass that would otherwise be disposed.

Phase 2 includes construction of the MSW and C&D transfer station and the biosolids drying facility and extension of the RR sidetrack to service these facilities. Phase 2 will construct a 50,000-sf waste handling building which will be connected to an existing 103,000-sf building. The larger building will house processing equipment which will remove waste ban items and separate out recyclable materials. It also includes construction of a stand-alone 30,000-sf building to house the biosolids processing equipment. Biosolids processing will consist of drying the biosolids to reduce the volume and tonnage of the material prior to off-site disposal. Shipment of all outbound material will primarily occur via rail car.

Project Site

The 71-acre project site is located within the New Bedford Industrial Park at 100 Duchaine Boulevard in New Bedford. The site is generally bounded by industrial properties and Samuel Barnet Boulevard to the north, Phillips Road to the east, undeveloped land to the south, and a rail line and the Acushnet Cedar Swamp State Reservation to the west. The site was previously developed by the Polaroid Corporation and contains access roads, parking areas, stormwater management infrastructure and numerous buildings. The Proponent purchased the site in 2016 and has relocated a portion of its processing and recycling operations from 969 Shawmut Avenue to the project site. The site also contains 1.5 MW of solar PV mounted on a series of carport canopies. Access to the site is provided from Duchaine Boulevard, via an internal one-way loop roadway surrounding the proposed facility. The site has adequate area to support truck movement and access and is easily accessible from Route 140 (Alfred M Bessette Memorial Highway) via Braley Road or Phillips Road.

Wetland resource areas in the vicinity of the project include Bank, Bordering Vegetated Wetlands (BVW), Land under Water (LUW), and Riverfront Area. The project site is not located in Priority and/or Estimated Habitat as mapped by the Division of Fisheries and Wildlife's (DFW) Natural Heritage and Endangered Species Program (NHESP) or an Area of Critical Environmental Concern (ACEC). The site does not contain any structures listed in the State Register of Historic Places or the Massachusetts Historical Commission's (MHC) Inventory of Historic and Archaeological Assets of the Commonwealth.

Environmental Impacts and Mitigation

According to the EENF, potential environmental impacts of Phase 1 include alteration of 4.6 acres of land, creation of 21,780 sf of impervious area, generation of 108 new average daily vehicle trips (adt), consumption of 150 gallons per day (gpd) of potable water, and generation of

150 gpd of wastewater. Phase 1 will impact BVW (4,087 sf), Bank (36 linear feet (lf), and Riverfront Area (900 sf). The EENF describes commitments to avoid, minimize and mitigate environmental impacts associated with Phase 1 including: limiting all glass processing to an enclosed building; designing the RR crossing to reduce impacts to BVW and RFA; wetland replication; constructing the project on a previously altered site; use of rail to ship glass off-site; construction period erosion and sedimentation control measures; and generating renewable energy with solar PV systems.

Potential environmental impacts associated with full-build of the project include alteration of 8.8 acres of land; creation of 3.5 acres of impervious area; generation of 568 new adt (including employee trips), an increase in water demand of 13,000 gpd of potable water, and an increase in wastewater flow of 82,975 gpd of wastewater. The project will also generate GHG emissions associated with the project's energy use and trip generation. Measures to avoid minimize, and mitigate project impacts include constructing the project on a previously altered site; limiting all discharge and handling of solid waste to the enclosed tipping floor; limiting all biosolids processing to an enclosed building; use of rail to transport the majority of material from the site; installation of a floor drain collection system that drains to a holding tank to prevent groundwater contamination; erosion and sedimentation controls; stormwater management controls and implementation of Best Management Practices (BMPs) to minimize odor, dust, noise, and litter impacts.

Jurisdiction and Permitting

The project is undergoing MEPA review and requires the preparation of a mandatory EIR pursuant to Sections 11.03(5)(a)(6) and 11.03(9)(a) of the MEPA regulations because it requires State Agency Actions and will result in: New Capacity for storage, treatment, processing, combustion or disposal of 150 or more wet tpd of sewage sludge and New Capacity of 150 or more tpd for storage, treatment, processing, or disposal of solid waste (respectively). Because it requires an EIR, the project is subject to review in accordance with the MEPA Greenhouse Gas (GHG) Emissions Policy and Protocol. The project is also subject to the Executive Office of Energy and Environmental Affairs' Environmental Justice (EJ) Policy.

Phase 1 of the project will receive Financial Assistance from the Massachusetts Department of Transportation (MassDOT) Industrial Rail Access Program (IRAP) in the amount of $500,000. Phase 1 will require an Order of Conditions from the New Bedford Conservation Commission (or in the case of an appeal, a Superseding Order of Conditions from MassDEP) and a new or amended Site Plan Approval from the New Bedford Planning Board.

The remainder of the project will require a Determination of Site Suitability, Authorization to Construct, and Authorization to Operate and may require a Limited Plan Approval (LPA) from MassDEP and a NPDES General Permit (GP) for Construction and/or Multi-Sector General Permit (MSGP) for Stormwater Discharges Associated with Industrial Activity from the U.S. Environmental Protection Agency (EPA). The project will also require a number of local permits from the City of New Bedford, including: Site Assignment from the Board of Health, a new and/or Amended Order of Conditions from the Conservation Commission, and a new and/or amended.Site Plan Approval from the Planning Board.

Because the Proponent is seeking Financial Assistance, MEPA jurisdiction is broad in scope and extends to all aspects of the project that may cause Damage to the Environment, as defined in the MEPA regulations.

Phase 1 Waiver Request

The Proponent submitted an EENF in support of its request for a Phase 1 Waiver, which would allow Phase 1 of the project to proceed prior to completion of the EIR for the entire project. Consistent with this request, the EENF was subject to an extended 30-day public comment period. At the Proponent's request, the comment period was extended for an additional two-weeks and closed on April 12, 2019.

The MEPA regulations at 301 CMR 11.11(1) state that I may waive any provision or requirement in 301 CMR 11.00 not specifically required by MEPA and may impose appropriate and relevant conditions or restrictions, provided that I find that strict compliance with the provision or requirement would:

(a) result in an undue hardship for the Proponent, unless based on delay in compliance by the Proponent; and
(b) not serve to avoid or minimize Damage to the Environment.

The MEPA regulations at 301 CMR 11.11(4) state that, in the case of a partial waiver of a mandatory EIR review threshold that will allow the Proponent to proceed with Phase 1 of the project prior to preparing an EIR, I shall base the finding required in accordance with 301 CMR 11.11(1)(b) on a determination that:

(a) the potential environmental impacts of Phase 1, taken alone, are insignificant;
(b) ample and unconstrained infrastructure facilities and services exist to support Phase 1;
(c) the project is severable, such that Phase 1 does not require the implementation of any other future phase of the project or restrict the means by which potential environmental impacts from any other phase of the project may be avoided, minimized or mitigated; and
(d) the agency action(s) on Phase 1 will contain terms such as a condition or restriction, so as to ensure due compliance with MEPA and 301 CMR 11.00 prior to commencement of any other phase of the project.

Single EIR Request

The Proponent submitted an EENF and requested that I permit the filing of Single EIR, rather than a Draft and Final EIR. A Single EIR may be allowed, provided I find that the EENF: a) describes and analyzes all aspects of the project and all feasible alternatives, regardless of any jurisdictional or other limitation that may apply to the Scope; b) provides a detailed baseline in relation to which potential environmental impacts and mitigation measures can be assessed; and, c) demonstrates that the planning and design of the Project use all feasible means to avoid potential environmental impacts.

Review of the EENF

The EENF included a detailed project description, an alternatives analysis, existing and proposed conditions plans, and information regarding traffic impacts, noise impacts, air and odor impacts, and GHG emissions. The Proponent provided supplemental information to the MEPA Office regarding Phase 1, existing operations at the project site, and wetland impacts to facilitate MEPA review.[1] For purposes of clarity, references to the EENF in this Certificate include this supplemental information. The comment period was extended for two-weeks at the Proponent's request to provide additional time to review and comment on the EENF.

The project exceeds solid waste and wastewater threshold and is located within one mile of a designated Environmental Justice (EJ) community. The Proponent consulted with MassDEP and the MEPA Office regarding the enhanced outreach requirements of the EJ Policy. The Proponent published Spanish and Portuguese language versions of the MEPA Public Notice in El Planeta and the Portuguese Times (respectively) in addition to the New Bedford Times. The Proponent also notified the following organizations of the project and MEPA scoping session and provided them with a copy of the EENF: Coalition for Social Justice, Alternatives for Community & Environment, Hands Across the River Coalition, and Old Bedford Village. These were identified as EJ leaders based on consultation with MassDEP. The comment period was extended for two-weeks at the Proponent's request to provide additional time to review and comment on the EENF. The comment period commenced on February 20, 2019 and concluded on April 5, 2019. I accepted all late comments as allowed in accordance with 301 CMR 11.06(3). A MEPA site visit and scoping session was held on March 7, 2019. Spanish and Portuguese translation services were provided at the MEPA scoping session. As noted above, the Proponent will hold a public meeting in early May which will provide another opportunity for public participation and outreach.

I have received numerous comment letters that identify concerns regarding the project and public outreach. During the MEPA review period, the Proponent also agreed to hold a public meeting which will provide the community with an additional opportunity to learn about and comment on the project. The meeting is proposed to be held during the evening at the Pulaski School in the north end neighborhood of New Bedford. It is proposed to be held in early May although a final date has not been selected. Once scheduled, the Proponent will publish notice of the meeting in the Standard Times and will notify the above referenced EJ groups. The Proponent has also created a website (http://parallelproductssustainability.com) which provides information on the project and will be updated to include renderings of the proposed project.

Comments from State Agencies generally support the Phase 1 waiver request. In addition, comments from MassDEP note the important role that the Phase 1 project plays in supporting the alternative market for collecting and diverting glass from disposal. I have also received numerous comment letters from the City, abutters, and other stakeholders that express concerns regarding noise, odor, and traffic and identify the need for additional public engagement. I note that MassDEP's Site Assignment Regulations for Solid Waste Facilities (310 CMR 16.00) and Solid Waste Regulations (310 CMR 19.00) require that facilities be designed and constructed to prevent pollution of land, air and water, and to prevent the creation of nuisance conditions. The

[1] Emails from Whitney Hall (Green Seal Environmental Inc.) to Page Czepiga (MEPA Office) sent 3/5/19, 3/11/19, and 4/2/19.

Scope for the DEIR requires additional public outreach and analysis of project impacts to demonstrate that the project will not disproportionately affect EJ communities. It also requires that the Proponent provide information that addresses the applicable Site Assignment and Solid Waste regulatory approval criteria to support MassDEP permitting.

Alternatives Analysis

The EENF identified the criteria the Proponent used to evaluate the following potential sites in New Bedford: Site A- 100 Duchaine Boulevard (71 acres), Site B – 1080 Shawmut Avenue (3.6 acres), and Site C – 781 Church Street. According to the EENF, all three sites are located in industrial zoned areas, are located adjacent to a rail line, and would comply with MassDEP siting criteria established for the waste handling area of solid waste handling facilities. According to the EENF, Site B was not large enough to accommodate a waste handling building and a rail side track of sufficient length necessary for the required rail service. The EENF indicated that Site C could accommodate a waste handling building and sufficient rail side track. According to the EENF, Site C was eliminated as it would require trucks accessing the site to pass numerous residences and the New Bedford Vocation Technical High School. According to the EENF, Site A was selected as the Preferred Alternative as it is located in an existing industrial park, has adequate space to accommodate a waste handling building and rail side track of sufficient length, has good access to high-capacity roads and highways, and will avoid routing trucks through residential areas or past schools.

Solid Waste

The Proponent has been operating a glass, aluminum, and plastics container recycling operation at 969 Shawmut Avenue in New Bedford since 2008. The Proponent intends to relocate all recycling operations from 969 Shawmut Avenue to the project site as part of Phase 1. Comments from MassDEP indicate the Proponent holds a General Permit for its recycling operations and submitted Annual Certification on May 11, 2018, as required by 310 CMR 16.04. I refer the Proponent to MassDEP's comments which provide guidance on the annual certification requirements. Phase 2 will be regulated in accordance with MassDEP Site Assignment Regulations for Solid Waste Facilities (310 CMR 16.00) and Solid Waste Facility Regulations (310 CMR 19.00). The EENF included a detailed description of project operations and a preliminary site suitability application (BWP SW 01) which addresses how the project will meet MassDEP Site Suitability Criteria. The criteria include avoiding handling of waste in areas contributing to ground or surface water supplies or in the Riverfront Area, setbacks from residential areas, minimizing impacts to traffic and air quality and avoiding, or minimizing impacts to other sensitive resources including agricultural land, rare species habitat, Areas of Critical Environmental Concern (ACEC) and open space. According to the draft Site Suitability Application included in the EENF, the project design and location conform with the criteria. I refer the Proponent to comments from MassDEP which identify additional information necessary to demonstrate consistency with the criteria.

As described in the EENF, MSW, C&D, glass, and biosolids will be delivered to the facility by truck between 6:00 AM and 6:00 PM, Monday through Saturday. Biosolids delivery may also occur on Sunday between 6:00 AM and 6:00 PM. The facility will receive C&D, baled

MSW, and loose MSW in live floor trailers, transfer trailers, and packer trucks (respectively). Trucks will be weighed on a truck scale and backed into the 50,000-sf waste handling building to tip their load. Processing equipment and manual picking lines will remove waste ban items from the mixed waste and separate other recyclable materials for recycling or diversionary uses. Extracted recyclables will be sent to recycling markets by rail or truck and residual waste will be baled, shrink-wrapped, and transported via rail to off-site disposal. All biosolids processing will be done within a separate enclosed building with two odor control systems. The facility will accept both dewatered cake biosolids and thickened wet slurry biosolids. Wet slurry biosolids will be stored in tanks until they are dewatered via centrifuge or screw press. The dewatered biosolids cake will be blended with other biosolids cakes and directed to a thermal dryer that utilizes a natural gas burner. The biosolids will be dried to approximately 90% solids and sent for disposal via railcar or truck.

The following BMPs were incorporated into the project design to minimize potential impacts to the site and surrounding environment:

- All tipping, handling, and loading of MSW/C&D and all biosolids processing will occur within fully enclosed buildings;
- Tipping floor will be constructed of impervious concrete and include a floor drain collection system that drains to a holding tank to prevent contamination of groundwater;
- Use of a fine atomized misting system within the MSW handing and processing buildings to control fugitive dust and odor;
- Regular daily clean-up and sweeping to control fugitive dust on external paved surfaces;
- Use of a negative pressure air collection system, wet scrubber, and ionization system to reduce odors from the biosolids facility; and
- Designing building stacks with adequate heights and exit velocities to facilitate air dispersion.

Demolition of existing buildings will generate C&D waste, portions of which may contain asbestos. Removal or abatement of regulated asbestos-containing material must be completed consistent with the requirements of 310 CMR 7.00. I encourage the Proponent to incorporate C&D recycling activities into project plans and refer the Proponent to MassDEP's comment letter which provides regulatory guidance on Asphalt, Brick, and Concrete (ABC) recycling and processing.

Environmental Justice

Because the project exceeds MEPA EIR thresholds for wastewater and solid waste and is located within one mile of an EJ Community, it is subject to the EEA EJ Policy and requirements for enhanced public participation and enhanced analysis of impacts and mitigation. The EJ Policy was designed to improve protection of minority and low income communities from environmental pollution as well as promote community involvement in planning and environmental decision-making to maintain and/or enhance the environmental quality of their neighborhoods. The Proponent's outreach efforts and the enhanced outreach requirements of the

EJ Policy were identified earlier in this Certificate. The EENF identified one census block group designated as an EJ community (i.e. 25% or more of the residents area are minority) that is located within one mile of the project. The EENF included an "Environmental Justice Analysis" (Appendix J) which provided an assessment of baseline public health conditions, analysis of potential air impacts, and measures to avoid, minimize, and mitigate said impacts. It included an evaluation of the baseline health of the EJ communities in the broader area surrounding the project site using data from the Department of Public Health's (DPH) Environmental Public Health Tracking website. The analysis reviewed cancer data (from 2000 to 2013), the incidences of asthma (from 2000 to 2014), acute myocardial infarctions (AMI) (from 2000 to 2014), and Chronic Obstructive Pulmonary Disease (COPD) (from 2000 to 2014).

The analysis found that occurrences of these issues vary in the surrounding area with New Bedford having rates above the statewide average and Acushnet and Dartmouth having rates similar to or lower than the statewide average. Based on the results of the air quality dispersion model, the EENF concluded that the project will comply with all health-protective standards and will not cause or contribute to any health-protective exceedances of air quality concentrations. Specifically, the project will not exceed NAAQS/MAAQS which were established to "provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly" or MassDEP's AALs and TELs which were developed to evaluate potential human health risks from exposures to airborne chemicals. Comments from MassDEP identify concerns regarding adverse impacts to proximate sensitive receptors (two schools and a daycare) and request an expanded discussion of potential project-related impacts to these sensitive receptors.

Wetlands/Stormwater

The Proponent provided supplemental information to the MEPA Office to clarify a slight reduction in wetland impacts based on plan refinements that occurred after the EENF was submitted.[2] According to this supplemental information, Phase 1 will impact BVW (4,087 sf), Bank (36 lf), and Riverfront Area (900 sf). Remaining development, which will be addressed in the DEIR, will not impact wetland resource areas. The New Bedford Conservation Commission will review Phase 1 to determine its consistency with the Wetlands Protection Act (WPA), the Wetlands Regulations (310 CMR 10.00), and associated performance standards, including the Stormwater Management Standards (SMS). According to the EENF, all wetland impacts are associated with construction of the rail spur over a drainage swale and a BVW crossing. The EENF indicated the Proponent will provide wetlands replication to mitigate impacts to BVW. Comments from the City indicate they will require mitigation at a 1.5:1 ratio of mitigation to impacts. I anticipate that the Proponent will coordinate closely with the City Conservation Agent to provide appropriate wetland replication while reducing tree clearing. I refer the Proponent to comments from the City that note an outstanding compliance issue that must be remedied prior to the commencement of site work.

The following measures were incorporated to reduce wetland impacts: crossing perpendicular to the swale and BVW to minimize the impacted area, installation of a box culvert

[2] Emails from Whitney Hall (Green Seal Environmental Inc.) and Christian Farland (Farland Corp.) to Page Czepiga (MEPA Office) sent 4/2/19 and 4/8/19, respectively.

within the alignment of an abandoned bridge to cross the swale, locating the swale crossing within previously disturbed soils, aligning the BVW crossing so a portion of the crossing can be constructed on an isolated area of uplands within the wetland, and use of retaining walls (in-lieu of sloped embankments) to construct the BVW crossing to reduce wetland impacts. Comments from MassDEP request additional consideration of alternative designs that will further reduce impacts to wetland resource areas. In an email dated March 29, 2019, the Proponent prepared a response to MassDEP's comments which elaborated on crossing structures considered for the site and confirmed that the crossings will comply with MA Stream Crossing Standards. Supplemental comments from MassDEP identify additional information that should be provided during permitting, including an expanded analysis to address the applicable Riverfront Area performance standards and information to demonstrate the project's compliance with the MA Stream Crossing Standards and support its designation as a Redevelopment Project per at 310 CMR 10.58(5).

The existing stormwater management system includes a series of catch basins, detention ponds, and subsurface infiltration systems. According to the ENF, the existing stormwater management system will continue to serve the site as the project will not significantly increase impervious area or result in significant changes to site drainage or topography. Comments from MassDEP note that components of the stormwater management system may be subject to the *Underground Injection Control* (UIC) program and provide guidance on NPDES permitting.

Transportation/Traffic

The EENF included a Traffic Impact and Assessment Study (TIAS) which was performed in general conformance with MassDOT/EEA's Guidelines for *EIR/EIS Traffic Impact Assessments.* Comments from MassDOT indicate the study area is adequate for capturing the traffic impacts of the project. The TIAS concluded that Phase 1 of the project will generate approximately 108 new trips per day (54 vehicles entering and 54 vehicles exiting). Full-build of the project will generate 418 new truck trips per day (209 truck trips entering, 209 truck trips existing). In addition, employees will contribute approximately 150 vehicle trips (75 entering, 75 exiting) for a total of 568 vehicle trips accessing the site on an average weekday. Trip generation was calculated based on empirical data collected from a similar solid waste facility in Rochester, MA. The Proponent anticipates shipping all outbound material by rail. To provide a conservative analysis, the trip generation calculations assumed all outbound material would be transported by truck. The planned use of rail for outbound shipment would reduce trip generation by approximately 110 trips per day. I refer the Proponent to comments from MassDOT and the City which request the Proponent commit to and implement a Transportation Demand Management (TDM) program to reduce trip generation. Comments from MassDOT also identify bus stops located in close proximity to the site and encourage the Proponent to design access roads in accordance with Complete Street standards to facilitate opportunities to walk and bike to the site and proximate transit connections.

The TIAS included a summary of study area crash rate data for the five year period of 2011-2015 which identified two unsignalized intersections[3] that exceed the MassDOT-District 5

[3] The two intersection locations are: 1) Braley Road/Theodore Rice Boulevard at Phillips Road and 2) Theodore Rice Boulevard at Duchaine Boulevard.

and state-wide average rates. Comments from MassDOT indicate that the additional traffic volume generated by the project is not expected to significantly impact safety at these intersections. According to the TIAS, there are no Highway Safety Improvement Program (HSIP) high crash cluster intersections within the study area. The TIAS included capacity analyses at study area intersections for the weekday morning (AM) and evening (PM) peak hours for 2018 Existing, 2025 No-Build, and 2025 Build conditions. The addition of project-generated traffic will cause certain turn movements to experience slightly increased delays compared to the 2025 No-Build conditions. The TIAS indicated the delays are generally not significant to impact the LOS and noted that the impacted locations will continue to operate under capacity in 2025 Build Conditions.

Greenhouse Gas Emissions

The EENF included a GHG analysis consistent with the MEPA GHG Policy (the Policy). The Policy requires projects to quantify carbon dioxide (CO_2) emissions and identify measures to avoid, minimize, or mitigate such emissions. The analysis quantified the direct and indirect CO_2 emissions associated with the project's energy use (stationary sources) and transportation-related emissions (mobile sources). I note the City of New Bedford is a designated Green Community under the provisions of the Green Communities Act of 2008. As such, the City has adopted the Commonwealth of Massachusetts' Stretch Code (SC).The project will be required to meet the applicable version of the SC in effect at the time of construction. The SC requires at least a 10-percent reduction in energy use compared to the base Building Code requirements. Stationary sources were evaluated using equipment assumptions and and excel spreadsheets. Mobile GHG emissions were estimated using information from the TIAS, MOVES CO_2 emission factors, and followed the standard methodology outlined in MassDEP's *Guidelines for Performing Mesoscale Analysis of Indirect Sources* (May 1991). Mobile source emissions were calculated for local on-road process truck deliveries, employee vehicle trips, onsite and offsite idling, and the use of front-end loaders for glass and MSW/C&D handling.

The GHG analysis evaluated CO_2 emissions for two alternatives as required by the Policy including: 1) a Base Case compliant with the 9th Edition of the Massachusetts Building Code , and 2) a Preferred Alternative (Mitigation Alternative) that incorporates additional energy saving measures. The 9th Edition of the Building Code references the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1-2013 and the International Energy Conservation Code (IECC) 2015. The EENF indicated that the equipment for processing the glass and MSW/C&D is industry standard and would not differ from the base case scenario. It also indicated that the glass recycling and MSW/C&D processing buildings will be unconditioned spaces. Based on this, the GHG analysis for the glass recycling and MSW/C&D processing facilities was limited to the energy use associated with their buildings, specifically the lighting demands. Similarly, the GHG analysis for the biosolids processing facility was limited to the energy use associated with lighting, ventilation, and heating demands. The EENF identified those measures that will be incorporated into the project design, measures that were dismissed as infeasible or inappropriate, and measures that will be studied further during advanced design stages.

The Proponent has committed to incorporate the following measures to reduce GHG emissions:

- Installation of 1.9 MW of solar PV via canopy (carport and shed) and rooftop arrays during Phase 1 (in addition to existing 1.5 MW on-site PV array);
- Reduced Lighting Power Densities (LPD) to achieve a 10% reduction over Code requirements in all buildings;
- Construction of all new buildings as solar PV-ready with appropriate structural capacity and space allocations for solar PV arrays;
- Energy-Efficient condensing boiler for heating the biosolids processing building; and
- Construction waste recycling.

Because the project is at a conceptual design level, the Proponent has an opportunity to consider incorporation of additional GHG reduction measures. As recommended by DOER, the Proponent should consider a further reduction in LPD and the use of cold-climate heat pumps to provide space heating in the biosolids processing building. I acknowledge and appreciate the Proponent's commitment to renewable energy which will assist the Commonwealth in meeting its overall GHG reduction goals stated in the Global Warming Solutions Act of 2008. The Proponent has installed 1.5 MW of solar PV at the site and will install an additional 1.9 MW of solar PV in Phase 1. Installation of the 1.9 MW solar PV array will generate 2,499 MWh/year and result in a GHG reduction of 907 tpy. The combined 3.5 MW array will generate 4,543 MWh/year for a total GHG reduction of 1,647 tpy.

The EENF evaluated and quantified the GHG reductions that could be achieved by implementing the following measures in the biosolids processing facility: advanced vacuum drying technology (2,393 tpy) and variable frequency drives (VFDs) in the ventilation system (36 tpy) and process motors (211 tpy). The EENF indicated the Proponent cannot guarantee these GHG reductions as they were based on conceptual engineering estimates and/or vendor representations. Based on this, these additional measures were not included as GHG mitigation commitments. It is unclear whether they will be incorporated into the project. This should be addressed in the DEIR. The EENF also indicated that the Proponent is evaluating gasification of dried biosolids for a later stage of the project. Gasification is not proposed at this time. If the Proponent intends to incorporate gasification into the project at a later date, it would be subject to a Notice of Project Change (NPC) to the MEPA Office and additional review, permitting and air quality analysis.

Phase 1 stationary source CO_2 emissions were estimated at 102 tpy in the Base Case. Adoption of energy efficient lighting will reduce stationary source CO_2 emissions by 10 tpy, for a total of 92 tpy or a 10% decrease. Installation of the 1.9 MW solar PV array will reduce GHG emissions by 907 tpy. The EENF indicated the estimated number of new trips associated with the Phase 1 project (108 new trips) is not anticipated to generate a significant level of mobile source GHG emissions. To be conservative, the EENF did not take credit for the reduction in mobile source emissions associated with shipping outbound materials by rail instead of trucks or the reduced travel from trucks transferring materials from their point of origin within the greater New Bedford area to more distant facilities. The GHG emissions (Table 7 of Appendix C) for full-build of the project are summarized below.

	BASECASE	PROPOSED	DIFFERENCE	
			TPY	%
MOBILE SOURCE EMISSIONS	**3,377**	**3,377**	**0**	**0**
STATIONARY SOURCE EMISSIONS	**10,898**	**10,835**	**63**	**-0.58%**
Glass Recycling	*102*	*92*	-	-
MSW/C&D Processing	*314*	*282*	-	-
Biosolids Processing	*10,482*	*10,461*	-	-
1.9 MW SOLAR PV		-907	-	-
TOTAL	**14,275**	**13,305**	**970**	**-6.80%**

Air Quality

The project will require a Limited Plan Approval (LPA) from MassDEP to ensure that the project, and the facility as a whole, conforms to National Ambient Air Quality Standards (NAAQS) and the Massachusetts Ambient Air Quality Standards (MAAQS). MassDEP's permitting process may include a review to demonstrate compliance with the Best Available Control Technology (BACT) review. The EENF included an Air and Odor Analysis (Appendix D) which evaluated emissions associated with stationary combustion sources, mobile diesel equipment, dust from material handling, and potential odor sources. The analysis used the U.S. EPA's AERMOD air dispersion model to determine potential air quality impacts associated with the above emissions on proximate residential receptors. To be conservative, the analysis assumed all outbound shipment of material will occur via truck. The analysis quantified potential emissions from the project for nitrogen dioxide (NO_2), particulate matter up to 2.5 micrometers in size ($PM_{2.5}$), and MassDEP air toxics and compared them to the NAAQS and MassDEP's Ambient Air Levels (AALs) and Threshold Effect Exposure Limits (TELs).

The analysis also evaluated potential odors from MSW tipping and processing and biosolids processing. These were compared against the recommended odor concentration limit in MassDEP's "Draft Odor Policy for Component Facilities". The analysis identified the following measures to reduce air quality and odor impacts: wet scrubbing for air emanating from the biosolids dryers; ionization for oxidation of the air constituents emanating from the biosolids dewatering operations; and designing building stacks to facilitate air dispersion. Based on the results of the air dispersion modeling, predicted air pollutant, and odor concentrations are shown to be below the applicable NAAQS/MAAQS, MassDEP AALs and TELs at residences, and protective odor concentration criterion at residences. Based on this, the analysis concluded that the project as designed, will not cause or contribute to a condition of air pollution in the area.

Noise

The EENF included a Sound Level Assessment Report (Appendix D) which provided a description of the applicable noise regulatory requirements, a brief explanation of noise terminology, a summary of the results of the complete ambient sound level monitoring program, and a discussion of the sound level modeling analysis for the proposed project. The EENF also discussed the project's consistency with the MassDEP Noise Policy. The primary noise sources

of the project include MSW/C&D tipping and handling, ventilation equipment, outdoor front-end loader at the glass handling building, process ventilation equipment at the biosolids building, and four cooling towers. The project and majority of on-site equipment will operate 24 hours/day and 7 days per week, with the exception of the outdoor front-end loader at the glass processing building which will operate from 7:00 AM to 10:00 PM. I refer the Proponent to comments from MassDEP which identify additional sound sources that should be incorporated into the analysis.

The MassDEP Noise Policy limits new noise-generating equipment to a 10-dBA (A-weighted decibel) increase in the ambient sound measured at the property line and at the nearest residences. The EENF provided a summary of the results from sound level modeling measured at four representative locations around the facility and within the community. The locations were selected to represent the closest sensitive receptors (primarily residential) surrounding the project site. The analysis identified the following measures that were incorporated into the project to reduce noise impacts: electric rail car pusher to move rail cars within the site, fan silencers or low noise exhaust fans on the biosolids building, silencer or low noise unit in the scrubber stack and quiet cooling towers or construction of a sound barrier wall (50-ft long by 15-ft tall) along the southern edge of the biosolids building to shield the residential area from the sound generated by cooling towers. With implementation of the proposed mitigation, modeled future daytime and nighttime sound levels from the project are predicted to increase the measured background sound levels by 3 to 8 dBA at all modeled residential receptor locations, thereby demonstrating consistency with the MassDEP Noise Policy limit. Modeling also indicates that the proposed project is not expected to create any "pure tone" conditions, as defined by MassDEP, when combined with existing background sound levels at any modeled receptor locations.

Water/Wastewater

According to the EENF, the project will increase water demand by 13,000 gpd and will increase wastewater flows from the site by 82,975 gpd. Wastewater generation is primarily associated with water removed from biosolids either by dewatering or by drying/condensing. The project will be served by municipal water and sewer infrastructure. Comments from MassDEP indicate the City has an EPA approved Industrial Wastewater Pretreatment Program (IPP). The Proponent should consult with the City to determine measures necessary to comply with the City's IPP. I refer the Proponent to comments from the City which requests analysis to determine whether existing infrastructure can accommodate and treat the wastewater flows. Comments from MassDEP encourage the Proponent to implement measures to reduce water consumption.

Conclusion

Based on review of the EENF, consultation with State Agencies, and a review of comment letters, I hereby require the Proponent to file a Draft EIR and Final EIR. The Scope below identifies additional information and analysis that should be provided in the DEIR to demonstrate that environmental impacts have been minimized, avoided and mitigated to the maximum extent feasible; to demonstrate that the project will not disproportionately an EJ community; and to provide information and analysis for permitting agencies to evaluate consistency with regulatory standards and to make associated Section 61 Findings.

In a separate DROD, also issued today, I propose to grant a Waiver that will allow the Proponent to proceed with Phase 1 of the project prior to completing the MEPA process for the entire project. The Phase 1 waiver is limited to the construction of a glass recycling/processing facility, a RR sidetrack from the main RR line to the glass processing facility, and a 1.9 MW solar PV array. The DROD addresses the project's consistency with the criteria for a Phase 1 Waiver and related conditions.

SCOPE

General

The EIR should follow Section 11.07 of the MEPA regulations for outline and content, as modified by this Scope. The majority of the EENF was comprised of the preliminary site suitability application with appended technical studies. This provided information for review by State Agencies and the public; however, the DEIR must contain a full and self-contained description and analysis of the project. It should provide additional narrative to explain and support the analysis of the project's impacts and mitigation, and extract relevant documentation and tables from technical appendices to supplement the narrative. The DEIR should include a comprehensive narrative with a separate chapter for each of the categories identified herein.

Project Description and Permitting

The DEIR should include a detailed description of the existing and proposed conditions, describe any changes to the project since the filing of the EENF, and should provide an update on Phase 1. The DEIR should include updated site plans for existing and post-development conditions at a legible scale. It should provide a brief description and analysis of applicable statutory and regulatory standards and requirements, and a description of how the project will meet those standards and provide an update on the state, federal, and local permitting process. The DEIR should provide an update that describes all of the enhanced public outreach efforts and meetings that have occurred since the EENF was submitted in accordance with the EJ Policy.

The DEIR should show areas of land alteration for buildings, roadways, parking, wastewater, water and stormwater infrastructure, lawns and landscaping, and other project components. The DEIR should describe the project's consistency with the City's current Master Plan and the Southeast Regional Planning and Economic Development District's (SRPEDD) current Regional Policy Plan. It should also include a discussion of the facility's role in achieving the Commonwealth's goals as outlined in MassDEP's Solid Waste Master Plan.

Solid Waste

The DEIR should include a narrative summary that describes how C&D, baled and loose MSW, and dewatered cake and thickened wet slurry biosolids, will be delivered, transferred from vehicles, processed, and shipped-off site. The DEIR should address the issues identified in the "Suitability Criteria" section of MassDEP's comment letter (dated March 22, 2019). The DEIR

should include a narrative description and supporting figures that describes the movement of empty and full railcars on the site, including the new rail spurs and extended sidetrack. It should provide plans that show the waste handling area and associated 500-foot setback from residential properties, including the newer residences referenced in MassDEP's comments. Plans should also depict wetland resource areas in relation to the proposed waste handling area. The DEIR should address the project's consistency with applicable site suitability criteria. Comments from the City identify concerns regarding the explosion/combustion potential of dried biosolids. The DEIR should address this issue and identify associated mitigation measures, as appropriate. It should also describe contingency plans for processing biosolids if one or more dryer becomes unavailable.

Environmental Justice

In accordance with the EJ Policy, the Proponent must provide enhanced public outreach of the DEIR to EJ populations in New Bedford. Enhanced public outreach should include preparation and distribution of a fact sheet that provides a summary of the project, environmental impacts (including air quality), and public comment opportunities. The fact sheet should include photos of similar facilities (or direct individuals to a website to view renderings). The project fact sheet should be provided to the public library and City Hall; included on the project website; and provided upon request by residents. Prior to submitting the DEIR, the Proponent should contact the Toxics Action Center, EJ groups identified above, and the City's Planning Department for input on alternative media outlets and information repositories in which to provide notice of the DEIR. The Proponent should consult with the MassDEP's and/or EEA's Environmental Justice Director during preparation of the DEIR regarding the proposed circulation and participation plan to ensure compliance with the EJ Policy.

I have received numerous comment letters that identify concerns regarding the project and public outreach. As noted above, the Proponent will be holding a public meeting to discuss the project, its potential environmental impacts, and mitigation measures. The DEIR should provide a detailed update that describes all of the proponent's enhanced public outreach efforts and meetings that have occurred since the EENF was submitted.

Comments from MassDEP identify concerns regarding adverse impacts to proximate sensitive receptors (two schools and a daycare) that are generally located within a one-mile radius of the project. Other comments identify concerns with potential mobile source emissions, air quality, noise, and odor impacts on vulnerable populations (children and the elderly). Because the project is sited within one mile of a designated EJ population, the DEIR should expand on the discussion of air dispersion modeling results provided in the EENF to identify the direction and extent of potential impacts and to inform development of effective mitigation measures. The DEIR should evaluate increased buffers between property lines and sources of noise/air emissions, increased plantings and vegetated buffers or other barriers to reduce potential impacts.

The EENF indicated that New Bedford has statistically higher rates of environmentally-related health outcomes, including asthma and COPD. The DEIR should discuss the current and future impacts that climate change (including extended periods of drought, and extreme temperatures) will have on air quality within the EJ populations. The DEIR should evaluate

development of a plan to reduce air emission and odor impacts that will be implemented on days when the National Oceanic and Atmospheric Administration (NOAA) issues air quality alerts. In addition, the Proponent should consider implementing an air emissions monitoring plan to track the project's air emissions and identify thresholds which would trigger an evaluation of the need to implement additional mitigation to reduce air quality and odor impacts. The Proponent should also consult with MassDEP and the City's Health Agent to develop a system to log and track odor, noise, and dust complaints during the construction and operational phases of the project. The DEIR should describe the plan and how the community will be notified of the system.

Wetlands/Stormwater

During MEPA review of the EENF, the Proponent indicated project plans were refined to eliminate all wetland impacts associated with the remaining development. The DEIR should provide project plans and a supporting narrative that describes how the project was designed to avoid, minimize, and mitigate impacts to wetland resource areas. This narrative should also provide an update on Phase 1, including any design revisions that further reduced wetland impacts and the location and size (sf) of the wetland replication area. The DEIR should also provide plans that clearly identify new impervious areas and should evaluate all feasible methods to reduce impervious surfaces, including reduced parking ratios, narrow driveway widths, etc. The DEIR should describe the project's stormwater management system and provide conceptual plans identifying existing and proposed stormwater infrastructure. It should discuss how the project will comply with the requirements of applicable stormwater programs, including but not limited to MassDEP's SMS and NPDES GP and/or MSGP (as applicable). The DEIR should consider retrofitting the existing stormwater management system and incorporating additional low impact development (LID) measures to improve water quality.

Transportation/Traffic

Traffic accessing the site will travel through the Theodore Rice Boulevard/Braley Road at Phillips Road intersection in the easterly and westerly directions. This intersection operates as a 4-way stop sign-controlled location. The DEIR should provide revised traffic modeling to reflect this condition. It should provide information to demonstrate that vehicle queues will not block the proximate Route 140 off-ramps. Comments from MassDEP note that the Proponent must commit to limiting the maximum number of vehicles utilizing the site to that presented in the traffic study, or revise the traffic study to reflect the maximum proposed site traffic flow rate. The DEIR should address this and provide a revised traffic study, as necessary.

The DEIR should include a thorough evaluation of TDM measures to reduce site trip generation, including the measures identified in comments from MassDOT and the City. All feasible measures should be incorporated into a TDM plan for the project. The DEIR should include the draft TDM plan and a commitment by the Proponent to implement said plan. I encourage the Proponent to improve bicycle and pedestrian connectivity between the site and adjacent land uses, including proximate bus stops.

Greenhouse Gas Emissions

The FEIR should include a revised GHG analysis that includes the additional information and analyses requested in DOER's comment letter. The DEIR should clarify whether VFDs (for ventilation and process motors) and advanced vacuum technology will be incorporated into the biosolids processing building. If not included as mitigation commitments, the DEIR should provide supporting financial analysis or data to support the dismissal of these measures. The DEIR should clarify the planned code pathway and which two measures have been incorporated into the "Base Case" Scenario as required by Section C406.1 of the Building Code and/or should revise the GHG analysis accordingly. The DEIR should provide additional information on the construction type, building envelope, and space heating output of the biosolids processing building. As recommended by DOER, the revised GHG analysis should evaluate reducing LPD to achieve a 20% reduction over Code requirements in all buildings (vs 10% currently proposed) and the use of cold-climate heat pumps to provide space heating in the biosolids buildings. The DEIR should present the results of calculations used to establish the existing/baseline condition(s), the build condition(s), and the impact of proposed emissions-reduction mitigation. If the project does not incorporate additional reductions in LPD or cold-climate heat pumps, the DEIR should explain, in reasonable detail, why the use of these measures which could provide significant GHG reductions, were not selected. The Proponent should consult with DOER to confirm the approach of the GHG analysis prior to preparing the DEIR. The DEIR should also include a mobile source GHG analysis which has been updated to reflect any changes since the DEIR (as appropriate). The mobile source analysis should quantify the GHG reduction that could be achieved by shipping outbound material by rail instead of trucks.

Air Quality/Noise

The DEIR should include a revised sound analysis that incorporates the additional sound sources identified in MassDEP's comment letter. Prior to filing the DEIR, the Proponent should consult with DPH to identify additional measures that can be incorporated into the project to further reduce impacts to air quality and noise. The DEIR should provide an update on this consultation, including a thorough evaluation of the feasibility and benefits of the identified measures. The Proponent should commit to implementing any measures which are determined to be feasible. The DEIR should confirm the air permitting required by the project and provide an update on the air permitting process, including any BACT analysis.

Water/Wastewater

The DEIR should provide an update on consultations with the City regarding monitoring, metering, and pretreatment necessary to comply with the City's IPP. The DEIR should clarify whether the municipal wastewater infrastructure (including piping and pump stations) is adequate to accept and treat the additional flows from the project and/or should identify any necessary improvements. I refer the Proponent to the City's comment letter for additional guidance. The DEIR should include a draft spills contingency plan to address prevention and management of potential releases of oil and/or hazardous material. At a minimum, the spills contingency plan should address refueling of machinery, storage of fuels, and accidental

releases. The DEIR should also identify measures incorporated into the project design to reduce the project's water demand.

Construction Period Impacts

The DEIR should describe construction methodology and sequencing, potential construction period impacts (including but not limited to traffic management, materials management, parking, air quality and noise impacts, and other items as they related to the construction period), and identify feasible measures that can be implemented to eliminate or minimize these impacts. This discussion may be prepared and presented in the DEIR as a draft Construction Management Plan (CMP). The draft CMP should include appropriate erosion and sedimentation control BMPs consistent with applicable NPDES Permit requirements. The project must comply with MassDEP's Solid Waste and Air Pollution Control regulations, pursuant to M.G.L. c.40, §54. The DEIR should discuss the solid waste and air quality regulatory requirements identified in MassDEP's comment letter and identify the specific and aggressive construction recycling and source reduction goals the Proponent will adopt.

Because this project is located in close proximity to a designated EJ population, the Proponent should mitigate the construction period impacts of diesel emissions to the maximum extent feasible. This mitigation may be achieved through the installation of after-engine emission controls such as diesel oxidation catalysts (DOCs) or diesel particulate filters (DPFs), or the use of equipment that meets Tier 3 or Tier 4 emission standards for non-road construction equipment. The DEIR should address how the project will support compliance with the Massachusetts Idling regulation at 310 CMR 7.11.

Mitigation and Draft Section 61 Findings

The DEIR should include a separate chapter summarizing proposed mitigation measures. This chapter should also include draft Section 61 Findings for each State Agency that will issue Permits for the project. The DEIR should contain clear commitments to implement mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation (either funding design and construction or performing actual construction), and contain a schedule for implementation. To ensure that all GHG emissions reduction measures adopted by the Proponent in the Preferred Alternative are actually constructed or performed by the Proponent, I require Proponents to provide a self-certification to the MEPA Office indicating that all of the required mitigation measures, or their equivalent, have been completed. The commitment to provide this self-certification in the manner outlined above should be incorporated into the draft Section 61 Findings.

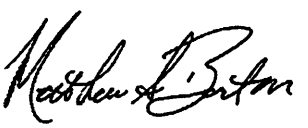
Response to Comments

The DEIR should contain a copy of this Certificate, and a copy of each comment letter received. Based on the large volume of form letters received, copies of form letters may be provided electronically. To ensure that the issues raised by commenters are addressed, the DEIR should include direct responses to comments to the extent that they are within MEPA jurisdiction. A single response to form letters can be provided. This directive is not intended, and

shall not be construed, to enlarge the scope of the DEIR beyond what has been expressly identified in this certificate. I recommend that the Proponent use either an indexed response to comments format, or a direct narrative response. Responses must specifically address each comment letter on the EENF; references to a chapter or extensive section of the DEIR are not adequate.

Circulation

The Proponent should circulate a hard copy of the DEIR to any State and City Agencies from which the Proponent will seek permits or approvals, and to any parties specified in Section 11.16 of the MEPA regulations. The Proponent must circulate a copy of the DEIR to all other parties that submitted individual written comments. In accordance with 301 CMR 11.16(5), the Proponent may circulate copies of the DEIR to these other parties in CD-ROM format or by directing commenters to a project website address. However, the Proponent should make available a reasonable number of hard copies to accommodate those without convenient access to a computer and distribute these upon request on a first-come, first-served basis. The Proponent should send correspondence accompanying the CD-ROM or website address indicating that hard copies are available upon request, noting relevant comment deadlines, and appropriate addresses for submission of comments. In addition, a hard copy of the DEIR should be made available for review at the New Bedford Public Library. The DEIR submitted to the MEPA office should include a digital copy (e.g., CD-ROM, USB drive) of the complete document.



April 12, 2019
Date

Matthew A. Beaton

Comments received:

Form letters beginning "I am strongly opposed to the..." (1,013 received)
Form letters beginning "I strongly support the..." (two received)
03/08/2019 Tracy Wallace (1 of 2)
03/18/2019 Robert Ladino
03/22/2019 Massachusetts Department of Environmental Protection (MassDEP) (1 of 2)
03/26/2019 Roger Cabral
03/26/2019 Cheryl Souza
03/27/2019 Marlene Pollock
03/27/2019 Tracy Wallace (2 of 2)
03/27/2019 Wendy Graca
03/28/2019 Claire B.W. Miller, Toxics Action Center
03/29/2019 Massachusetts Department of Transportation (MassDOT)
03/29/2019 Jonathan F. Mitchell, Mayor, City of New Bedford
03/29/2019 Department of Energy Resources (DOER)
03/29/2019 Vincent Carolan

03/31/2019 Claudia Ostiguy
04/02/2019 Ron Cabral
04/02/2019 Carol Strupczewski
04/05/2019 MassDEP (2 of 2)

MAB/PRC/prc

Czepiga, Page (EEA)

From: cstrupczewski@verizon.net
Sent: Tuesday, April 02, 2019 9:33 AM
To: Czepiga, Page (EEA)
Cc: RRCRT@aol.com; cbostiguy@gmail.com; ritalapre@gmail.com; brad.markey@newbedford-ma.gov
Subject: EEA15990 Paralles Products

Paige Czepiga
Environmental Analyst
MEPA Office

First of all I want to thank and Secretary Matthew Beaton for the extension to April 5 for allowing residents to write their opposition for Parallel Products of New England plans for its expansion in the New Bedford Business Park with the future possibility of having a wastewater sludge facility.

My immediate concern is Phase I and its final step. If granted this will be devastating to the entire development of Pine Hill Acres more than 350 home, Heritage Estates, Long Built Homes, and Briarwood quality of life for more than a thousand residents. Presently, residents in Pine Hill Acres less than 500 feet for the facility are being awaken with loud noise at night, during the daytime, detection of odors in the neighborhood, and can clearly see the well-lighted outside holding stalls with materials in them from Phillips Road. Abutting the property, there are newly built homes.

As I drove on Phillips Road past the Parallel site at 10 p.m., I could clearly see down from the road the lighted open holding stalls which are less than 200 feet from the street. There are no trees, shrubs, privacy fence around the stalls.

The quality of life in this densely popular area is quickly changing for all of the residents from air to noise to traffic. Phillips Road is a two-lane street and can't take the traffic of heavy vehicles on it multiple times a day which will most likely happen as some trucks will take Exit 5 off of Route 140 to enter the southern area of the Business Park which is closer to the Parallel Products factory.

Please do not grant the Phase I step.

Carol Strupczewski
1075 Braley Road
New Bedford, MA 02745

508-995-6135

Czepiga, Page (EEA)

From: Cheryl Souza <clsouza@comcast.net>
Sent: Tuesday, March 26, 2019 8:06 PM
To: Czepiga, Page (EEA)
Subject: Parallel Products of New England

Ms Czepiga,

I have just learned about a project proposed for a location close to my home. I live at 80 Keene Road, in Acushnet, not far from the New Bedford Industrial Park. It has just been brought to my attention that Parallel Products of New England is proposing to bring a biosolid facility to the Industrial Park. I am a strong proponent of environmental cleanliness, and the company does present itself as an environmentaly concious company, however, there has definitely not been enough community outreach regarding the effects on neighbors and the environment they live in.

Parallel Products is also not being truly forthcoming, by denying their plan to implement the "gasification" of biosolids which is in their own words "cutting edge technology". Generally, cutting edge technology really means "we are making this up as we go along."

Please postpone the upcoming deadline for the public comment period, the company has not advertised their public forums, nor have they offered them at times the average working class person would be able to attend.

In addition, there is an annonymous campaign reaching out to the community with poorly written, blatantly false and repetitive flyers. The website for this campaign is http://stoptheparalleldump.com. It is not uncommon, in today's world, that corporations employ many ways to get their projects completed regardless of community interest. I believe the owner of that website should be brought to light, it could be Parallel Products themselves.

thank you for your time,

Cheryl Souza

80 Keene Road

Acushnet, Ma 02743

508-685-0330

CITY OF NEW BEDFORD
JONATHAN F. MITCHELL, MAYOR

March 29, 2019

Executive Office of Energy and Environmental Affairs (EEA)
Attention: MEPA Office
Paige Czepiga: EEA No. 15990
100 Cambridge St, Suite 900
Boston MA 02114

RE: EEA 15990: Parallel Products

Dear Ms. Czepiga,

I write to present the response of the City of New Bedford regarding Parallel Products of New England's (PPNE) proposed facility expansion project at 100 Duchaine Blvd. in our business park.

Given the facility's proximity to a densely populated residential neighborhood, I am troubled by the paucity of PPNE's outreach to public, and particularly to the abutting Pine Hill neighborhood. I believe strongly that there needs to be a much more robust public engagement effort that has been undertaken to date.

Moreover, I am not convinced that the preliminary impact analysis regarding potential noise, odor, and traffic is adequate given the stakes, and I would encourage MEPA to exercise its oversight authority to ensure that further study is pursued so that the decision-makers and the public alike can have greater confidence in the findings. In sum, unless and until PPNE is able to satisfactorily address reasonable neighborhood concerns in the areas of noise, odor, and traffic, I am not prepared to lend my support to the project.

In addition to my concerns regarding public engagement and neighborhood impacts, municipal departments have identified a number of specific operational/environmental issues with the proposed facility. These are enumerated below, and are based upon departmental reviews of the EENF submitted to the City of New Bedford in February 2019.

1) ***Land Use Impacts***

The project site is in the City's Business Park, a location established to accommodate most industrial uses. As such, the project site is meant to be buffered from the surrounding neighborhood which is residential to the east. If MEPA should allow the project to proceed, PPNE must be required to ensure that all impacts to this neighborhood are satisfactorily mitigated. This would include all potential noise, odor, or additional traffic impacts. It should be noted that the Land Section of the ENF Form was not completed. As the project is a redevelopment of a previously used industrial site, the responses in this section are not likely to have revealed any otherwise unidentified potential impacts.

However, responses would have quantified the amount of land occupied for certain uses (buildings, parking areas, etc.) and would have identified the project's consistency with current City Master Plan and the current Regional Policy Plan of the Southeast Regional Planning and Economic Development District (the regional planning agency whose territory includes New Bedford). Previous environmental studies at the site included a Phase 1 Environmental Assessment and a Limited Subsurface Investigation, by SAGE Environmental. These reports are not included in the EENF, but a table of reported releases to the environment from the Phase 1 Environmental Assessment is provided, showing three releases reported to MassDEP between 1994 and 2008. All three were assigned Release Tracking Numbers (RTNs), and all three either had the RTN retracted or had audits completed. Six previous spills or releases were also identified, between 1978 and 1994, with minimal information on remedial actions.

2) ***Economic Development***

It is recognized that this project would entail a significant economic investment, which would bring a positive return to the City in increased tax revenue and water usage fees.

3) **Rail Infrastructure, Waste, and Energy Efficiency**

a) **Rail Infrastructure:** PPNE is proposing to add a rail stub in order to utilize rail as an option for shipping out waste materials after processing. This is an important component of the project and is seen as a benefit as it mitigates truck traffic which is already increased significantly.

This rail siding requires the crossing of a Bordering Vegetated Wetland (BVW) and a perennial stream with associated Riverfront area. The ENF states that less than 5000 s.f. of BVW will be impacted by the rail crossing. The plans show that retaining walls will be utilized to minimize wetland impacts from the rail crossing. The wetland boundaries in the vicinity of the crossings have not yet been verified by the Conservation Commission and therefore the square footage of Resource Area impacts cannot be confirmed. This should be provided.

Rail transport of outgoing material is identified as beneficial for many aspects of the project, including greenhouse gas emissions, other air pollutant emissions, efficient energy usage, and traffic considerations. However, rail transport is faced with uncertainties: The owner of the rail line is not identified; no mention is made of discussions with the railroad owner about installing the proposed rail spur; and MSW is proposed to be baled, wrapped, and shipped in gondola (open-topped) rail cars. At present, CSX, the largest railroad network in the eastern US, will only haul MSW in sealed intermodal containers on flat-bed rail cars. If this policy does not change, the facility must either pack MSW in sealed intermodal containers or ship it off site in trucks.

The project will be supported by a grant of $500,000 from the Massachusetts Department of Transportation's Industrial Rail Access Program. There is no mention of contingency if this financing does not come through.

b) **Waste:** The EENF states (erroneously) that the Crapo Hill Landfill is located in New Bedford, and that District member communities "*are not expected to utilize the proposed facility for MSW disposal.*" However, there may be an advantage to some dialog between the District (and/or its member communities) and the project's proponent, to consider some use of the proposed facility to prolong the life of Crapo Hill, and/or to address long range planning for when the Crapo Hill Landfill does close.

The proposed facility consists of three primary components: A glass bottle processing facility, to accept 200 tons per day (tpd) of glass bottles for crushing and shipment to end-users; A municipal

solid waste (MSW) processing facility, that will accept 1,500 tpd for processing and transfer. The proponents expect to extract up to 20%, or 300 tpd, of material for recycling, and ship 1,200 tpd of waste for out-of-state disposal; A wastewater biosolids (sludge) processing facility that will accept 50 tpd dry weight (or up to 600 tpd wet weight), and ship dried product for end use or disposal. Inbound material will arrive by truck. Outbound material will be transported by rail, with some truck shipment as necessary. The waste shed area and waste sources are not identified, although District member communities are specifically noted as "not expected to use the proposed facility for MSW disposal" (Draft Site Suitability Application, pg 58).

i) Glass Facility: The glass processing facility is alternately described as replacing the proponent's existing glass "beneficiation" operation from their facility at 969 Shawmut Ave, New Bedford, but is also identified as "the relocation and upgrade of the glass recycling operation that Strategic Materials previously operated in Franklin, MA to the 100 Duchaine Boulevard site. The new glass recycling facility will be owned by PPNE and will be operated in conjunction with Strategic Materials" (Draft Site Suitability Application Narrative, p. 10.). The facility is proposed to receive 200 tpd of glass bottles collected through the Massachusetts bottle deposit system for crushing, sizing and separation by color, and shipment off site for re-use or disposal. The proponent's parent company is experienced in various aspects of product destruction and container processing.

ii) MSW Facility: As described in the EENF, the MSW facility is essentially a "Dirty Material Recovery Facility (MRF)", or a mixed waste processing facility, with a goal of extracting 20% of incoming material for recycling from raw waste. Such facilities are labor-intensive and face substantial worker safety challenges. They do not require any consumer or waste hauler separation of recyclable materials from waste and have largely fallen out of favor within the waste industry, displaced by single-stream recyclables collection and processing in a "Clean MRF". Massachusetts has devoted considerable effort into educating consumers and the waste industry about recycling and has for many years tried to encourage separation and recycling at all stages of the waste generation-collection-handling-disposal processes. Waste entering a "Dirty MRF" that has already been stripped of recyclable material will likely have a very low recyclables recovery rate. Operation of the MSW facility as described does not appear consistent with the general consensus of what the future of waste handling in Massachusetts should be. The MSW tipping (or receiving) building is 50,000 square feet, which appears adequate for the proposed tonnage; the tipping floor appears best configured for direct load of waste into intermodal rail cars. It appears likely the operation will target loads specific for processing and then move those loads into the processing facility, which appears to be insufficient at 103,000 square feet, for handling 1,500 tpd of mixed waste. For comparison, the E. L. Harvey Materials Recycling Facility in Hopkinton, Massachusetts, which is permitted for 600 tpd of single-stream recyclables or mixed waste, is 80,000 square feet in size.

iii) Biosolids Processing Facility: The biosolids processing facility is expected to receive and process 50 tpd dry weight of biosolids. At the low end of the range of solids content presented in the EENF, this will actually be 600 tpd of raw material. The proposed receiving and storage facilities for the thickened and dewatered biosolids appear to be adequately sized with appropriate redundancy. The building size of 30,000 square feet may be insufficient, unless an additional upper level is included. Very little detail is provided on the design for the railcar loadout system. Additionally, there is no mention of combustion and explosion mitigation measures associated with the dried biosolids. Dried biosolids are a known explosion hazard, especially during storage. Also, the dryer does not have a standby unit, and there is no mention of the impacts to the process if one or more driers become unavailable.

c) **Energy Efficiency:** PPNE is proposing to add an additional 1.9 MW of solar power in the form of PV panels to the already 1.5 MW generated onsite. This is a net Greenhouse Gas mitigation for the project and is a good use of the sites non-programmable rooftops.

The solar power component will need to be supported through the Solar Massachusetts Renewable Target (SMART) Program, and the requested Phase 1 MEPA waiver is "*imperative*" for SMART Program support. There is no mention of contingency if SMART program support does not come through.

4) **Traffic and Trip Generation**

a) ***Traffic/Trip Generation:*** PPNE has included a traffic impact study which states that the facility will generate 418 new truck trips per day (209 in/out) and 150 employee trips per day (75in/out). This is a significant increase over the existing conditions of 76 vehicle trips per day. To be conservative, this includes the contingency that all outgoing material will be by truck instead of by rail. Truck traffic in tons per load and in distribution throughout the day is estimated based on data from the SEMASS facility in Rochester, Massachusetts. Traffic from the existing NWD Trucking facility on the site is deducted, as this facility is expected to relocate.

Truck estimates appear to be accurate, except that the fraction from the biosolids component appears to be somewhat low (at the low range of solids content of the incoming material, each truck as presented would carry 30 tons, which is high). Facility traffic will be present from 6:00 am to 6:00 pm Mondays through Saturdays, with the biosolids component also creating traffic on Sundays. Only a small portion of the traffic is expected to occur during peak hours (7:30 am – 8:30 am, and 3:00 pm – 4:00 pm). Seven local intersections were studied, including Philips Road, Braley Road, the Route 140 exit ramps, and intersections within the Business Park. A 2025 "Build" scenario was projected to result in only two minor reductions in Level of Service at intersections.

It is recommended that PPNE describe Transportation Demand Management (TDM) strategies in effort to reduce the impacts associated with these trips, such as carpool and vanpool preferential parking designation, working with SRTA to locate transit service accommodations, shuttle services, bicycle parking accommodations, and other options. It would further be recommended that along with a traffic analysis the proponent should provide a report on how the added vehicle traffic would impact the road conditions and add to their maintenance.

5) ***Emissions, Odor, Sound***

a) ***Emissions, Odor:*** PPNE analyzed emissions associated with stationary onsite combustion sources, mobile diesel equipment, dust from materials handling, and potential odor sources (biosolids, MSW). Their plan proposes to avoid, minimize, and mitigate impacts to air quality and smell through the use of best industry practices, wet scrubbing and ionization. It goes on to state that National and State Ambient Air quality standards and standards for Air Toxics will not be exceeded 'in residential areas.'

As this project is located in an industrial area, we ask that PPNE clarify air quality impacts at the facility itself, particularly for the benefit of employees of PPNE who will be exposed to this air every day as well as the nearby neighborhood. The City should be able to peer review the air quality report at the time when PPNE returns to the planning board for a Site Plan modification in order to ensure the plant employees and residential neighborhood to the east of the site is

protected from any toxics in the air.

b) ***Sound:*** PPNE analyzed sound levels associated with the proposed plant operations, taking into account sounds generated from tipping activities, fans and exhaust towers, and both indoor and outdoor activities. The project will be subject to Massachusetts State laws as administered by the DEP, which regulate noise under air pollution. The controls/mitigation include using an electric yard engine for moving rail cars within the site, employing low-noise air quality control and ventilation mechanisms such as fans and stacks, and a noise barrier wall between the biosolids cooling towers and residential area to the south. It would be recommended that the City peer review the sound assessment report at the time when PPNE returns to the planning board for a Site Plan modification in order to ensure the residential neighborhood to the east of the site is protected from excessive decibels or pure tone sounds.

6) ***Wetlands, Water Resources***

a) ***Wetlands:*** Wetland replication has not been shown on the plans. The Conservation Commission has a policy of requesting a 1 ½ to 1 ratio of wetland mitigation to wetland impacts. The wetland replication area should be constructed in an area that is currently developed or grassland such that mature upland trees in the 100' Buffer Zone do not need to be cut to facilitate the replication area. The Conservation Commission also has a policy of maintaining a 25' setback of undisturbed land between wetland resource areas and proposed development (with the exception of wetland crossings). Incursions into the 25' setback have been noted in several locations and it is hoped the plans can be redesigned to maintain an undisturbed setback.

b) **Water Resources:** It appears a portion of the new rail spur would cross through the high yield aquifer while the remaining rail siding, recycling, MSW and biosolids facilities would be within the medium yield aquifer. Long Term Pollution Prevention Plans shall be requested for each component of the facility. Spill control plans shall also be requested with respect to the diesel fuel for the rail cars and other on-site fuel facilities. The proponent should prepare a Pollution Prevention and Emergency Response plan for both the construction phase and normal operations that identifies potential contamination sources, threats of Hazardous Material and Hazardous Waste releases to the environment, describes material storage and handling details, containment and contingency plans for spill response, and documents regular inspection and employee education opportunities. Areas used for vehicle maintenance and loading docks should install a mechanical shut-off valve or other flow-arresting device between the catch basin or other stormwater-capture structure draining this area and the leaching structures.

7) **Wastewater and Stormwater**

a) ***Wastewater:*** PPNE is expected to use 13,150 GPD of water and will generate 83,125 Gallons Per Day (GPD) of wastewater (biosolids drying will be extracting water from the product). It is recommended that the proponent demonstrate through a groundwater study that the project will not have adverse impacts on groundwater levels or adjacent surface waters and wetlands. It has also recommended an infrastructure analysis be done that the proponent demonstrate the current piping and pump station is sufficient to handle the proposed new water and wastewater use. This would include the new loads impact to the wastewater treatment facility. This would determine if a pre treatment facility would be needed either on site or at the Industrial Park Pump station. The plant loadings should include nitrogen loads.

b) ***Stormwater:*** The rail siding also crosses a stormwater detention facility which was constructed under SE49-0738 to capture runoff from a construction stockpiling facility. This Order of

Conditions has expired and does not have a Certificate of Compliance. The applicant/owner shall be required to obtain a Certificate of Compliance prior to any other work commencing on site. Following this, the Notice of Intent for Phase I will have to modify the design of the stormwater facilities and stockpile area to accommodate the rail siding. Additionally, runoff from the idling MSW trucks and recycling trucks may contain trash which will enter into the stormwater system.

A plan for keeping the pavement clean and preventing the clogging of the stormwater facilities is needed. It is also of concern to the city that the plans seem to show removal of existing catch basins as well as serious increase in impervious areas. Also noted would be an explanation of how any contaminated run off from the waste areas will be dealt with.

In conclusion, in the course of the City's review it has become evident that many environmental considerations should be understood much better than they are at present and will require significant attention going forward. It is in this context that I encourage MEPA to require the proponent to issue an Environmental Impact Report. Only a continued robust program of impact analysis will put MEPA, the public, and state and local officials, in a position to decide if this particular project, at this particular location, makes sense for New Bedford, our region, and the Commonwealth. Thank you for your consideration.

Sincerely,

Jon Mitchell

CC: Energy and Environmental Affairs Secretary Matthew Beaton
Senator Mark Montigny
Representative Paul Schmid
Representative Christopher Hendricks
New Bedford Planning Board

Czepiga, Page (EEA)

From: Claudia Ostiguy <cbostiguy@gmail.com>
Sent: Sunday, March 31, 2019 2:18 PM
To: Czepiga, Page (EEA)
Subject: Additional Comment Period Extension

EEA No. 15990 Parallel Products of New England, New Bedford

Page Czepiga
Environmental Analyst
MEPA Office

Ms Czepaga,
I appreciate and thank you and Secretary Matthew Beaton, for the extension to accept comments expressing thoughts and concerns regarding the establishing of Parallel Products of New England in the North End of New Bedford.

It is my understanding that MEPA, establishes regulations and reviews thresholds for projects that are of a nature, size or location, likely to cause damage to the environment, directly or indirectly.

Residents from many housing developments, 2 Elementary Schools and businesses in the actual Business Park that Parallel is joining, were stunned to learn of this invasive industry popping up, seemingly overnight, in our area.

New Bedford, has struggled for decades in its attempt to be a clean city. We are well aware of environmental challenges that impact health, and quality of life issues.

At this time, our concern is Phase I, and the final step, the Environmental Impact Report. Should this certification be granted Phaze II, which would be an even greater challenge, would begin.

Parallel's site is in the south end of the Business Park, directly across from a residential housing development with over 300

homes. (NOTE: there are many other residential sites impacted as well.)
Since Parallel has established their facility at this site, the landscape that blocked view and access to the previous businesses has been severely altered. With the recent building of new homes that abut the Parallel property, the dense tree line and vegetation that once buffered the park and the main Street (Phillips Rd) and the housing development (Pine Hill Acres) has been reduced to a few trees.
You can see the plant.
You can see stalls filled with recyclables. You can see dozens of vehicles including front end loaders.
You can hear the disruptive noises.
There's a faint odor detected, which will most probably get worse as the warmer weather arrives and the work load increases.

We are informed that this industry will be processing six days a week from 6 AM - 6PM and possibly some Sundays.
This brings up not only the din from the plant, but brings up the issue of trucks, 18 wheelers in fact, which will be delivering 1,500 TONS of recyclables/MSW daily. This fleet will be taking Rte 140 South and Exit 7, Braley Road Exit, which leads into the Business Park. What you may not be aware of is that this exit, with 4 ramps, 2 on and 2 off is just West of an Elementary Magnet School. This area is already a huge logistical problem. Braley Road is impassible twice a day when the Pulaski School opens and closes. Buses, private vehicles, block the way so that Emergency Vehicles, should they be activated, have a difficult time getting through either to the Business Park or residential areas. There's also the Business Park traffic as well that adds to this frustrating problem. These tractor trailers may in all likelihood avoid Exit 7 and take Exit 5 which will have them take Phillips Road. This two lane street is not designed or able to take the load of heavy trucks and would directly travel by residential homes. Once at the plant, these trucks will sound back

up bell noises, powerful engine noises and the actual sound of dumping products.

Even before this project is completed, we have lost our peace of mind. We feel disrespected and neglected. Many of us have bought homes in this bedroom community with the thought of enjoying our homes inside and outdoors. Many are retired elderly. All our hard work and sacrifices to sustain and enjoy our homes will literally be erased with noise, air pollution and traffic jams. This is just the tip of the iceberg.

We were here first! We are being invaded and taken over.
It's disheartening to learn that the powers that be are supporting 50 jobs over the welfare of thousands of taxpaying citizens.

I respectfully request that at this time, you do not give EIR Certification to Parallel Products of New England in New Bedford.

Parallel must inform our community directly of their plans. Give us this time to get educated before anything else moves ahead.

Sincerely,
Claudia Ostiguy
426 Valley Road
New Bedford, MA 02745
cbostiguy@gmail.com
508-995-7613

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF
ENERGY AND ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENERGY RESOURCES
100 CAMBRIDGE ST., SUITE 1020
BOSTON, MA 02114
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Charles D. Baker
Governor

Karyn E. Polito
Lt. Governor

Matthew A. Beaton
Secretary

Judith F. Judson
Commissioner

29 March 2018

Matthew Beaton, Secretary
Executive Office of Energy & Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02114
Attn: MEPA Unit

RE: Parallel Products, New Bedford, Massachusetts, EENF #15990

Cc: Maggie McCarey, Director of Efficiency Programs, Department of Energy Resources
Judith Judson, Commissioner, Department of Energy Resources

Dear Secretary Beaton:

We've reviewed the Expanded Environmental Notification Form (EENF) for the above project. The proposed project consists of the following:

- 115,000-sf of lighted buildings for MSW tipping and glass processing;
- 30,000-sf of semi-heated, lighted, and ventilated building for biosolids processing.

The proponent is proposing the following improvements for GHG mitigation:

- Lighting power density reduction of 10% for all buildings;
- Heating efficiency improvement (from 85% to 90%) for biosolids processing building;
- Installation of 1.9-MW of additional solar PV.

The following requires clarification in the next submission:

- For all buildings, clarify the planned code pathway and which two of the six C406.1 measures are being included;

- For the semi-heated biosolids processing building, provide the following:
    - Information about building construction (metal building, metal-framed, etc);
    - Envelope information (both roof and walls): R-value for insulation between studs, stud spacing, and R-value of continuous insulation;
    - Space heating output per area (btu/hr-ft^2).

Our recommendations are as follows:

1. Evaluate reducing lighting power density to 20%.
2. Evaluate using cold-climate heat pumps for space heating for the biosolids buildings.
3. Provide a schedule for installation of the planned 1.9-MW solar PV system.

Sincerely,

Paul F. Ormond, P.E.
Energy Efficiency Engineer
Massachusetts Department of Energy Resources

Czepiga, Page (EEA)

From: Marlene Pollock <marlenepollock929@gmail.com>
Sent: Wednesday, March 27, 2019 8:32 AM
To: Czepiga, Page (EEA)
Subject: Parallel Products Project

Ms. Czepiga,
I am writing to ask you to delay any approval of this project, since it is a significant undertaking, yet there has been almost very little notice to people in New Bedford about it. I just found out about it and I am very active in the community, especially around environmental issues.

In addition, I understand that any meetings that have been held about this project have not been well publicized, nor at times to allow people to attend. There needs to be public hearings, with effective publicity through newspapers, radio, social media, etc. to let people know about these hearings, and to schedule them with enough notice at times that people can attend.

Please delay any procedures moving toward approval of this project until the public can fully find out about it and weigh in on it, especially those whose homes abut the project directly.

Sincerely,

Marlene Pollock

--
Marlene Pollock
Organizer
Coalition for Social Justice
New Bedford & Cape Cod
508-982-8751

Learn more about CSJ's work:
https://youtu.be/scwkT1Ic6ZY?list=PLkDkZsSMuETz_2Whez0pX8R-Q0tz102x7

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

March 22, 2019

Mathew A. Beaton,
Secretary of Environment and Energy
Executive Office of Energy &
Environmental Affairs
100 Cambridge Street, Suite 900,
ATTN: MEPA Office,
Boston, MA 02114

RE: ENF Review EOEEA #15990
NEW BEDFORD.Parallel Products of New England (PPNE) at 100 Duchaine Boulevard

Dear Secretary Beaton,

The Southeast Regional Office of the Department of Environmental Protection (MassDEP) has reviewed the Environmental Notification Form (ENF) for the Parallel Products of New England (PPNE) Project at 100 Duchaine Boulevard, New Bedford, Massachusetts (EOEEA # 15990). The Project Proponent provides the following information for the Project:

The Site is an industrially zoned, approximately 71-acre parcel, located within the New Bedford Business Park. The Site location and property boundaries are shown in Figure 1 using an aerial view. The Site was previously developed by Polaroid and already includes access roads, parking areas, and various buildings. Much of the existing infrastructure will be used in developing the proposed Project. New buildings will be constructed for glass processing, municipal solid waste (MSW) and construction and demolition (C&D) waste tipping, and biosolids drying.

PPNE is proposing to develop the Site in two phases. Phase 1 construction will consist of the construction of a glass processing building and equipment and construction of a rail sidetrack from the main line rail to the 100 Duchaine Boulevard Site. The glass processing area will consist of a 27,500 sf building to house the processing equipment.

Phase 2 of the Project includes the construction of a municipal solid waste (MSW) processing/handling facility and the biosolids processing facility. Currently, significant quantities of MSW and biosolids are being trucked out of state for treatment and disposal. PPNE will construct a facility to collect and process this material in Massachusetts and then ship the residual waste out of state by rail for disposal.

The processing proposed will also significantly increase transportation efficiencies and reduce greenhouse gas emissions. The proposed solid waste handling facility will accept up to 1,500 tons per

day of MSW delivered to the facility by truck. The proposed facility will process the MSW to extract recyclable material from the MSW. PPNE expects to recover and recycle approximately 20% of the MSW received, which is supports the Massachusetts solid Waste Master Plan and is state-of-the-art for the Commonwealth. The non-recyclable fraction of the MSW along with the C&D residuals/bulky waste will be then loaded in rail cars for transport to out of state disposal sites, primarily landfills.

Bureau of Water Resources Comments

Wetlands Comments: The Wetlands Program has reviewed the Parallel Products LLC EENF (EEA# 15990) and offers the following comments. The Project Proponent acknowledges that work will occur within Areas Subject to Protection under M.G.L. c. 131, § 40; and that a Notice of Intent (NOI) will be filed with the New Bedford Conservation Commission and the Department. The EENF indicates that the Project will alter 4,436 square feet of Bordering Vegetated Wetland (BVW), 350 square feet of Land under Waterbodies & Waterways (LUWW), 1500 square feet of Riverfront Area, and 60 linear feet of inland Bank. The EENF states that the resource area alterations are associated with the construction of a proposed railroad spur, and that replication will be provided for the impacted BVW. The EENF also states that the impacts to BVW have been reduced by incorporating retaining walls into the crossing design to reduce the culvert length and minimize the amount of fill. The EENF does not address the potential use of a span or bridge design to further reduce or eliminate impacts to BVW, inland Bank and LUWW. The EENF does not indicate whether the proposed railroad spur crossing meets the stream crossing standards. The NOI should include a discussion of alternative designs for the proposed railroad spur crossing and address the stream crossing standards. The NOI should also include the Riverfront Area alternatives analysis required by 310 CMR 10.58(4)(c).

The Wetlands Protection Act Regulations for Inland Bank (310 CMR 10.54(4)(a)5.) state that a Project or Projects on a single lot, for which Notice(s) of Intent is filed on or after November 1, 1987, that (cumulatively) alter(s) up to 10% or 50 feet (whichever is less) of the length of the bank found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions. The Project proposes to alter 60 linear feet of inland Bank and therefore is required to undertake a Wildlife Habitat Analysis as part of the NOI submission. Please be aware, however, that in accordance with 310 CMR 10.54(4)(a)(6), the impact on bank caused by the installation of a stream crossing in compliance with the Massachusetts Stream Crossing Standards is exempt from the requirement to perform a wildlife habitat evaluation.

Water Management Comments. According to the ENF, it is expected that the New Bedford Water Department will supply 13,150 gallons per day (gpd) of water for this Project. New Bedford has the capacity to provide the requested volume for this Project based on its recent water use. However, MassDEP noticed that there was a discrepancy between the water use and wastewater generation volume presented in the ENF. MassDEP expects that the water being supplied by the New Bedford Water Department may change but New Bedford still has the ability to supply up to 83,125 gpd of water. MassDEP suggests the Proponent evaluate and implement conservation efforts that incorporate Best Management Practices (BMPs) at the Project Site. MassDEP also encourages Project Proponents that add additional demand to the public water system (PWS) to work with the PWS to mitigate the additional demands proposed by the Project.

Wastewater Comments: The City of New Bedford has an EPA approved Industrial Wastewater Pretreatment Program (IPP). The Proponent has had initial discussions with the City regarding the

wastewater generated by the Project. The City and the Proponent will determine the proper monitoring, metering and pretreatment necessary to comply with the City's IPP.

Underground Injection Control Comments. The Proponent details the uses of a comprehensive stormwater management system to collect, convey, treat and control stormwater discharges associated with the Project. The Proponent should be aware that the conveyances of stormwater through underground stormwater infiltration structures are subject to the jurisdiction of the MassDEP *Underground Injection Control (UIC)* program. These structures must be registered with MassDEP UIC program through the submittal of a BRP WS-06 UIC Registration application through MassDEP's electronic filing system, eDEP. The statewide UIC program contact is Joe Cerutti, who can be reached at (617) 292-5859 or at joseph.cerutti@state.ma.us . All information regarding on-line (eDEP) UIC registration applications may be obtained at the following web page under the category "Applications & Forms": https://www.mass.gov/underground-injection-control-uic.

Industrial Stormwater, Sector N - Recycling Facilities. Under the 2015 Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP), Sector N (SIC code 5093) recycling centers, commonly referred to as material recovery facilities (MRF), that accept waste for sorting and distribution, including material recovery facilities that receive paper, glass, plastic, and aluminum from non-industrial sources are required to apply for industrial stormwater permit coverage.

Common requirements for coverage under an industrial stormwater permit include development of a written stormwater pollution prevention plan (SWPPP), implementation of control measures, and submittal of a request for permit coverage, usually referred to as the Notice of Intent or NOI.

Good housekeeping is a practical, cost-effective way to maintain a clean and orderly facility to prevent potential pollution sources from coming into contact with stormwater. It includes establishing protocols to reduce the possibility of mishandling materials or equipment and training employees in good housekeeping techniques. Where feasible, minimizing exposure of potential pollutant sources to precipitation is an important control option. Minimizing exposure prevents pollutants, including debris, from coming into contact with precipitation and can reduce the need for BMPs to treat contaminated stormwater runoff. It can also prevent debris from being picked up by stormwater and carried into drains and surface waters.

BMPs must be selected and implemented to limit erosion on areas of your Site that, due to topography, activities, soils, cover, materials, or other factors are likely to experience erosion. Erosion control BMPs such as seeding, mulching, and sodding prevent soil from becoming dislodged and should be considered first. Sediment control BMPs such as silt fences, sediment ponds, and stabilized entrances trap sediment after it has eroded. Sediment control BMPs should be used to back-up erosion control BMPs.

For additional information on Sector N of the industrial stormwater program see https://www.epa.gov/sites/production/files/2015-10/documents/sector_n_scraprecycling.pdf

Bureau of Waste Site Cleanup Comments

Based upon the information provided, the Bureau of Waste Site Cleanup (BWSC) searched its databases for disposal sites and release notifications that have occurred at or might impact the proposed Project area. A disposal site is a location where there has been a release to the

environment of oil and/or hazardous material that is regulated under M.G.L. c. 21E, and the Massachusetts Contingency Plan [MCP – 310 CMR 40.0000].

There are no listed MCP disposal sites located at or in the vicinity of the site that would appear to impact the proposed Project area. Interested parties may view a map showing the location of BWSC disposal sites using the MassGIS data viewer (Oliver) at: http://maps.massgis.state.ma.us/map_ol/oliver.php Under "Available Data Layers" select "Regulated Areas", and then "DEP Tier Classified 21E Sites". MCP reports and the compliance status of specific disposal sites may be viewed using the BWSC Waste Sites/Reportable Release Lookup at: https://eeaonline.eea.state.ma.us/portal#!/search/wastesite

The Project Proponent is advised that if oil and/or hazardous material are identified during the implementation of this Project, notification pursuant to the Massachusetts Contingency Plan (310 CMR 40.0000) must be made to MassDEP, if necessary. A Licensed Site Professional (LSP) should be retained to determine if notification is required and, if need be, to render appropriate opinions. The LSP may evaluate whether risk reduction measures are necessary if contamination is present. The BWSC may be contacted for guidance if questions arise regarding cleanup.

Bureau of Air and Waste Comments:

Air Quality Comments. Construction and operation activities shall not cause or contribute to a condition of air pollution due to dust, odor or noise. To determine the appropriate requirements please refer to:

- 310 CMR 7.09 Dust, Odor, Construction, and Demolition
- 310 CMR 7.10 Noise

Construction-Related Measures. MassDEP requests that all non-road diesel equipment rated 50 horsepower or greater meet EPA's Tier 4 emission limits, which are the most stringent emission standards currently available for off-road engines. If a piece of equipment is not available in the Tier 4 configuration, then the Proponent should use construction equipment that has been retrofitted with appropriate emissions reduction equipment. Emission reduction equipment includes EPA-verified, CARB-verified, or MassDEP-approved diesel oxidation catalysts (DOCs) or Diesel Particulate Filters (DPFs). The Proponent should maintain a list of the engines, their emission tiers, and, if applicable, the best available control technology installed on each piece of equipment on file for Departmental review.

Massachusetts Idling Regulation. MassDEP reminds the Proponent that unnecessary idling (i.e., in excess of five minutes), with limited exception, is not permitted during the construction and operations phase of the Project (310 CMR 7.11). With regard to construction period activity, typical methods of reducing idling include driver training, periodic inspections by site supervisors, and posting signage. In addition, to ensure compliance with this regulation once the Project is occupied, MassDEP requests that the Proponent install permanent signs limiting idling to five minutes or less *on-site.*

Spills Prevention. A spills contingency plan addressing prevention and management of potential releases of oil and/or hazardous materials from pre- and post-construction activities should be presented to workers at the site and enforced. The plan should include but not be limited to, refueling of machinery, storage of fuels, and potential on-site activity releases.

Solid Waste Comments. As a result of its review of the Expanded Environmental Notification Form ("EENF") for the Parallel Products of New England Project at 100 Duchaine Blvd New Bedford ("Project" or "Site" or "facility") EEA No. 15990, the Massachusetts Department of Environmental Protection (MassDEP) Solid Waste Management Section (Solid Waste) is providing the following comments regarding solid waste permitting and the management of solid waste/recyclable and asbestos materials generated from the Project pursuant to Massachusetts Solid Waste Regulations 310 CMR 16.00: *Site Assignment Regulations For Solid Waste Facilities* and 310 CMR 19.000: *Solid Waste Management* and Asbestos Regulations 310 CMR 7.15.

EENF Project Information:

The EENF denotes Parallel Products of New England (PPNE or Proponent) is proposing to develop the site in two phases. Phase 1 development consists of building a glass beneficiation operation and the construction of approximately 1.9 MW of solar power energy generation. This operation will recycle the glass containers that are collected through the Massachusetts bottle deposit system. Phase 1 construction does not trigger any MEPA review thresholds. The Phase 1 activity is included in this EENF as required by 301 CMR 11.01 (c) Segmentation.

PPNE is requesting a Phase 1 Waiver to allow the construction of the Phase 1 infrastructure to begin prior to the acceptance of the Single EIR required for Phase 2 construction.

PPNE has been operating a recycling operation at 969 Shawmut Avenue, New Bedford for the past 11 years. Since purchasing the 100 Duchaine Blvd Site in 2016, PPNE has been repairing the infrastructure at the Site to accommodate future company operations. In addition to the operations detailed in the EENF, PPNE will be moving all of its recycling operations currently located at 969 Shawmut Avenue to the 100 Duchaine Boulevard site which, in addition to glass recycling, includes aluminum and plastics container recycling. The relocation of the Shawmut Avenue operations is currently in progress and as a result operations are currently split between the two facilities. PPNE has submitted a Solid Waste permit (i.e., General Permit) for the proposed recycling operations at the Duchaine Blvd facility and is currently conducting plastics recycling at the Site.

Phase 2 of the Project includes the construction of a 1,500 ton per day municipal solid waste (MSW) processing/handling facility and a 50 dry tons per day biosolids processing facility. The proposed facility will process the MSW to extract recyclable material from the MSW. A processing facility will be built to dry biosolids into a Class A biosolid.

Additionally, the EENF states that "Demolition and construction activity at the Site will result in the generation of solid waste. The construction and demolition waste generated by the Project will be sent to licensed construction and demolition waste processers to maximize recycling of the waste materials." During the MEPA scoping session, PPNE clarified that existing structures may be renovated or demolished as part of the site development.

Solid Waste Comments:
PPNE identified the following Solid Waste permits required for each phase of the proposed Project:

Phase I:

1. General Permit for Recycling Operations

Phase II:

1. Site Suitability (BWP SW-01)
2. Authorization to Construct a Large Handling Facility (BWP SW-05)
3. Authorization to Operate a Large Handling Facility (BWP SW-06)

A. Solid Waste Permitting:

PPNE submitted a **General Permit Certification** on May 11, 2018 for its glass, paper cardboard, metal and plastics recycling operations at the Site and is required to submit an "Annual Certification Statement for the General Permit pursuant to 310 CMR 16.06(1)(a)3. Refer to webpage link: https://www.mass.gov/how-to/general-permit-initial-annual-certification-recycling-composting-digestion.

The **Site Suitability Permit Application (BWP SW-01)** requires submittal of the EEA Secretary's Certificate on the ENF or EIR as appropriate. Refer to weblink: https://www.mass.gov/how-to/sw-01-38-site-suitability-report.

An **Authorization to Construct a Large handling Facility Permit Application (BWP SW-05)** may only be submitted if MassDEP issues a Decision on the Site Suitability application finding that the proposed Site is suitable for the proposed Project and the New Bedford Board of Health issues a Site Assignment for the Project property pursuant to the requirements of 310 CMR 16.00, Site Assignment Regulations for Solid Waste Facilities. Refer to weblink: https://www.mass.gov/files/documents/2016/08/uw/sw0529ap.pdf?_ga=2.260746381.1049696916.1553003081-1847519295.1541521730.

PPNE will be required to submit an **Authorization to Operate a Large Handling Facility Application (BWP SW-06)** pursuant to 310 CMR 19.029, Applicable Permit and Certification Procedures for Operation, Construction, Modification or Expansion of a Solid Waste Facility. Refer to weblink: https://www.mass.gov/how-to/sw-06-10-20-operate-an-existing-facility

B. Management of Solid Waste and Asbestos Materials from Demolition and Construction Activities

- Waste materials that are determined to be solid waste (*e.g.,* construction and demolition waste) and/or recyclable material (*e.g.,* metal, asphalt, brick, and concrete) shall be disposed, recycled, and/or otherwise handled in accordance with the Solid Waste Regulations including 310 CMR 19.017: *Waste Bans.*

  Asphalt, brick and concrete (ABC) rubble, such as the rubble generated by the demolition of buildings or other structures must be handled in accordance with the Solid Waste regulations. These regulations allow, and MassDEP encourages, the recycling/reuse of ABC rubble. The Proponent should refer to MassDEP's Information Sheet, entitled *" Using or Processing Asphalt Pavement, Brick and Concrete Rubble, Updated February 27, 2017 ",* that answers commonly asked questions about ABC rubble and identifies the provisions of the solid waste regulations that pertain to recycling/reusing ABC rubble. This policy can be found on-line at the MassDEP website: https://www.mass.gov/files/documents/2018/03/19/abc-rubble.pdf

- Demolition and Asbestos Containing Waste Material: The proposed Project includes the demolition of structures which may contain asbestos. The Project Proponent is advised that demolition activity must comply with both Solid Waste and Air Quality Control regulations.

Please note that MassDEP promulgated revised Asbestos Regulations (310 CMR 7.15) that became effective on June 20, 2014. The new regulations contain requirements to conduct a pre-demolition/renovation asbestos survey by a licensed asbestos inspector and post abatement visual inspections by a licensed asbestos Project monitor. The Massachusetts Department of Labor and Work Force Development, Division of Labor Standards (DLS) is the agency responsible for licensing and regulating all asbestos abatement contractors, designers, Project monitors, inspectors and analytical laboratories in the state of Massachusetts.

In accordance with the revised Asbestos Regulations at **310 CMR 7.15(4),** any owner or operator of a facility or facility component that contains suspect asbestos containing material (ACM) shall, prior to conducting any demolition or renovation, employ a DLS licensed asbestos inspector to thoroughly inspect the facility or facility component, to identify the presence, location and quantity of any ACM or suspect ACM and to prepare a written asbestos survey report. As part of the asbestos survey, samples must be taken of all suspect asbestos containing building materials and sent to a DLS certified laboratory for analysis, using USEPA approved analytical methods.

If ACM is identified in the asbestos survey, the Proponent must hire a DLS licensed asbestos abatement contractor to remove and dispose of any asbestos containing material(s) from the facility or facility component in accordance with **310 CMR 7.15,** prior to conducting any demolition or renovation activities. The removal and handling of asbestos from the facility or facility components must adhere to the Specific Asbestos Abatement Work Practice Standards required at **310 CMR 7.15(7).** The Proponent and asbestos contractor will be responsible for submitting an ***Asbestos Notification Form ANF-001*** to MassDEP at least ten (10) working days prior to beginning any removal of the asbestos containing materials as specified at **310 CMR 7.15(6).**

The Proponent shall ensure that all asbestos containing waste material from any asbestos abatement activity is properly stored and disposed of at a landfill approved to accept such material in accordance with **310 CMR 7.15 (17).** The Solid Waste Regulations at **310 CMR 19.061(3)** lists the requirements for any solid waste facility handling or disposing of asbestos waste. Pursuant to **310 CMR 19.061(3) (b) 1,** no asbestos containing material; including VAT, asphaltic-asbestos felts or shingles; may be disposed at a solid waste combustion facility.

C. Suitability Criteria:

- The Water Resources Map submitted within the Draft Site Suitability Report appears to indicate that riverfront area lies within the proposed waste handling area. The Proponent should review the requirements of 310 CMR 16.40(3)(d)(6) and consider modifying the proposed waste handling area.

- Figure 6-1 of the Sound Level Assessment Report depicts new residential dwellings southeast of the Site on the western side of Phillips Road. The new residential dwellings are not identified in Appendix A Insert 3 Land Use Plan. It is unclear if these dwellings are located within 500 feet of the waste handling area.

  It appears that the Proponent's Sound Level Assessment Report has not considered all potential sound sources from proposed facility operations. Pursuant to 310 CMR 7.00 Air Pollution Control Section 7.10: U Noise, MassDEP regulates all sounds emanating from a solid waste facility operation including the operation of: waste handling equipment inside and outside the

building; waste delivery vehicles on-Site inside and outside the building; and fixed mechanical equipment. Potential sound sources include both the movement of waste handling equipment and the sound produced during materials loading, unloading and transfer.

- The Site borders the Acushnet Cedar Swamp State Reservation. The EENF states "the siting of the Facility will not have an adverse impact on the physical environment of, or on the use and enjoyment of, state or municipal parklands or conservation land, or other open space held for natural resource purposes" however they did not offer any explanation or mitigating factors to support their claim.

- Proponent should provide a detailed description of the movement of empty and full railcars for the Site including the five new rail spurs within the proposed Site assigned area and the extended sidetrack along the western property boundary adjacent to the existing rail line. The Department recommends that the Proponent provide this information in the SEIR.

- Traffic Impact Study. The Traffic Impact Study performed by McMahon Associates indicates that two study intersections will operate at a traffic volume greater than their capacity for some turning movements and that one intersection has a crash ratio higher than the statewide and District 5 average. The Proponent has not proposed or recommended any mitigation. The Proponent should discuss these intersections with the roadway overseeing agency, MassDOT or the City of New Bedford as appropriate, regarding the necessity for and development of mitigation measures.

  The Proponent presented assumptions regarding the distribution incoming waste volume by vehicle capacity, which directly affected the predicted Project related traffic volume. The Proponent is advised that, during MassDEP permitting, the Proponent must commit to limiting the maximum number of vehicles utilizing the site to that presented in the traffic study, or the Proponent must revise the traffic study to reflect the maximum proposed Site traffic flow rate.

If you have any questions regarding the Solid Waste Management Program comments above, please contact Mark Dakers at (508) 946-2847 or Cynthia Baran at (508) 946-2887.

BAW Business Compliance and Recycling Comments: Massachusetts and the New England Region have had a difficult time finding outlets for recycling container glass after the Ardagh Glass plant (Milford, MA) closed in early 2018. The result has been a significant price swing driving costs up for municipal recycling programs. MassDEP has been actively trying to identify and support new markets for container glass working with municipalities and recycling businesses. The Parallel Products of New England, Inc. Phase I project will enhance glass processing in the region offering alternative markets for those collecting and diverting container glass from disposal. Parallel Products extensive background in handling, processing and marketing recycled container glass will increase competition in a currently oversupplied market resulting in lower costs for those entities looking to recycle the material.

Environmental Justice Comments:
After reviewing relevant Environmental Justice analyses presented in the Expanded ENF, MassDEP offers the following comments.

As stated in the report the city of New Bedford is an environmental justice community meeting all three criteria (M/I/E) with 69.6% or 66,180 residents residing in an EJ block group. The total population of the city of New Bedford based on the 2010 U.S. Census is 95,072.[1]

The Expanded ENF states that the proposed PPNE Project exceeds the MEPA threshold for new solid waste processing capacity of 150 or more tons per day, and the wastewater mandatory threshold of 150 or more of sewage sludge, triggering the requirement for filing an Environmental Notification Form and a mandatory Environmental Impact Report. Pursuant to the 2017 EEA EJ Policy any Project that exceeds the ENF thresholds for solid waste or wastewater and involves a Project Site located within one mile of an EJ population will be required to implement enhanced public participation under MEPA. The proposed outreach as written in the report meets some of the requirements in the EJ Policy. However MassDEP recommends the following additional outreach tools listed below:

- Non-Traditional Information Repositories (houses of worship, community centers, along with the traditional repositories – libraries, government offices)
- Contact EJ Community Leaders
- Ensure notice to the community prior to and during the public meeting and permitting process to ensure the community has opportunities to get involved.

Many EJ populations are located in densely populated urban neighborhoods, in and around the state's oldest industrial sites (i.e., New Bedford) while some are located in suburban and rural communities. These high –minority, low income neighborhoods are host to or are in close proximity to many of the states contaminated and abandoned sites, regulated facilities and sources of pollution.

The Environmental Justice Areas Criteria by Block Group map (Figure 3 in the Expanded ENF) indicates that there are two daycares and one school located within the one-mile buffer zone of the Site and another school located just outside of the one-mile buffer zone. It is noted in the report using MassDPH's Environmental Public Health Tracker that New Bedford has statistically higher rates of environmentally-related health outcomes including but not limited to pediatric asthma, COPD, asthma related ED visits. The close proximity of the school and daycares to the Project site and the Project's potential increase in truck traffic, air pollution (emissions) and potential noise and odor pollution raises a concern of the potential impact, to these vulnerable populations (children and the elderly). Potential Project-related impacts to these populations should be discussed in the EIR and addressed during this permitting process.

Additionally, MassDEP recommends that Project-related air pollution and environmental impact information be shared with EJ communities in alternative format (translation, interpreter services) if applicable. This information should be provided using terms that are easily understood in an effort to ensure the community understands the Project, its potential impacts, and can provide meaningful input.

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[1] Data provided by the 2010 Unites States Census – American Fact Finder at https://factfinder.census.gov/faces/nav/jsf/pages/community_factsxhtml.

Proposed s.61 Findings

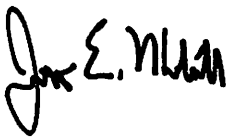
The "Certificate of the Secretary of Energy and Environmental Affairs on the Environmental Notification Form" may indicate that this Project requires further MEPA review and the preparation of an Environmental Impact Report. Pursuant to MEPA Regulations 301 CMR 11.12(5)(d), the Proponent will prepare Proposed Section 61 Findings to be included in the EIR in a separate chapter updating and summarizing proposed mitigation measures. In accordance with 301 CMR 11.07(6)(k), this chapter should also include separate updated draft Section 61 Findings for each State agency that will issue permits for the Project. The draft Section 61 Findings should contain clear commitments to implement mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation.

Other Comments/Guidance

MassDEP supports the Proponents request for the Secretary to grant a Phase I waiver.

The MassDEP Southeast Regional Office appreciates the opportunity to comment on this proposed Project. If you have any questions regarding these comments, please contact George Zoto at (508) 946-2820.

Very truly yours,



Jonathan E. Hobill,
Regional Engineer,
Bureau of Water Resources

JH/GZ

Cc: DEP/SERO

ATTN: Millie Garcia-Serrano, Regional Director and Acting BAW Deputy Regional Director
David Johnston, Deputy Regional Director, BWR
Gerard Martin, Deputy Regional Director, BWSC
Jennifer Viveiros, Deputy Regional Director, ADMIN
Jim Mahala, Chief, Wetlands and Waterways, BWR
Holly Johnson, Assistant Director for Operations and Special Projects/Boston
Deneen M. Simpson, Environmental Justice Director & Program Manager/Boston
Greg Cooper, Deputy Director - Consumer Programs/Boston
Daniel Gilmore, Wetlands and Waterways, BWR
Mark Dakers, Chief, Solid Waste, BAW
Alison Cochrane, Solid Waste, BAW
Douglas Coppi, Solid Waste, BAW
Daniel Connick, Solid Waste, BAW
Duane LeVangie, Chief, Water Management Act, BWR/Boston
Shi Chen, Water Management Act, BWR/Boston
Joseph Cerutti, Underground Injection Control Program, BWR/Boston
Allen Hemberger, Site Management, BWSC

Czepiga, Page (EEA)

From: Gilmore, Daniel (DEP)
Sent: Friday, April 05, 2019 9:42 AM
To: Czepiga, Page (EEA); Mahala, Jim (DEP)
Cc: Zoto, George (DEP); Hobill, Jonathan (DEP)
Subject: RE: Response to MassDEP comments

Hi Page,

The response letter addresses the alternative designs for the proposed crossing. That information should be clearly and concisely included in the NOI. The response states the stream crossing will be designed in accordance with the Stream Crossing Standards. The NOI plans should clearly demonstrate the design meets the standards. The response letter states that the Riverfront Area in New Bedford is only 25 feet which is accurate. However, I believe that the alternatives analysis should be augmented when the NOI is filed. If the proponent is contending that the site is previously developed or degraded and that the project is a Redevelopment Project, then the NOI should include information on how the proposal will meet the requirements of 310 CMR 10.58(5).

Dan

Daniel F. Gilmore
MassDEP Wetlands & Waterways Program
Southeast Regional Office
20 Riverside Drive
Lakeville, Massachusetts 02347

Telephone: 508-946-2808
FAX: 508-947-6557

Charles D. Baker, Governor
Karyn E. Polito, Lieutenant Governor
Stephanie Pollack, MassDOT Secretary & CEO

massDOT
Massachusetts Department of Transportation

March 29, 2019

Matthew Beaton, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114-2150

RE: New Bedford – Parallel Products of New England, Inc. - EENF
(EEA #15990)

ATTN: MEPA Unit
Page Czepiga

Dear Secretary Beaton:

On behalf of the Massachusetts Department of Transportation, I am submitting comments regarding the proposed Parallel Products of New England, Inc project in New Bedford, as prepared by the Office of Transportation Planning. If you have any questions regarding these comments, please contact J. Lionel Lucien, P.E., Manager of the Public/Private Development Unit, at (857) 368-8862.

Sincerely,

FOR

David J. Mohler
Executive Director
Office of Transportation Planning

DJM/jll

Ten Park Plaza, Suite 4150, Boston, MA 02116
Tel: 857-368-4636, TTY: 857-368-0655
www.mass.gov/massdot

cc: Jonathan Gulliver, Administrator, Highway Division
Astrid Glynn, Administrator, Rail and Transit
Patricia Leavenworth, P.E., Chief Engineer, Highway Division
Mary-Joe Perry, District 5 Highway Director
Neil Boudreau, Assistant Administrator of Traffic and Safety Engineering
Planning Department, City of New Bedford
Southeastern Regional Transit Authority
Southeast Regional Planning and Economic Development District
PPDU Files

Charles D. Baker, Governor
Karyn E. Polito, Lieutenant Governor
Stephanie Pollack, MassDOT Secretary & CEO

massDOT
Massachusetts Department of Transportation

MEMORANDUM

TO: David Mohler, Executive Director
Office of Transportation Planning

FROM: J. Lionel Lucien, P.E, Manager
Public/Private Development Unit

DATE: March 29, 2019

RE: New Bedford: Parallel Products of New England – EENF
(EEA #15990)

The Public/Private Development Unit (PPDU) has reviewed the Expanded Environmental Notification Form (EENF) for the Parallel Products of New England, Inc. project in New Bedford. The project entails the construction of a solid waste facility to process municipal solid waste (MSW) and construction and demolition (C&D) of materials. The existing site consists of the NWD Trucking facility located at 100 Duchaine Boulevard and is bounded by a CSX rail line to the east, Phillips Road to the west, industrial properties to the north and undeveloped land to the south. The project is expected to be built over time in two phases. Phase I development consists of building a glass Beneficiation operation and the construction of approximately 1.9 MW of solar power energy generation. Phase II entails the construction of a MSW transfer station and biosolids drying facility. Phase II is expected to be constructed approximately two years after the construction of Phase I.

The project is expected to generate approximately 418 new truck trips per day (209 truck trips entering, 209 truck trips existing) based on empirical data collected from a similar solid waste facility operations. In addition, employees will contribute approximately 150 vehicle trips (75 entering, 75 exiting) for a total of 568 vehicle trips accessing the site on an average weekday.

The project does not exceed any transportation thresholds but exceeds MEPA thresholds for wastewater and solid waste and therefore is required to prepare an Environment Impact Report (EIR). The Proponent has requested a waiver to proceed with the construction of Phase I, pending the completion of the Environment Impact Report (EIR) for the project.

The project does not require a Vehicular Access Permit from MassDOT but has applied for an Industrial Rail Access Program (IRAP) grant in the amount of $500,000. The grant will be used for the construction of a rail side track along the CSX Transportation line to meet the needs of the glass processing facilities as part of Phase I. The rail side will be expanded in Phase II to meet the needs for transport of solid waste. The Proponent will use the rail side for the outbound shipment of MSW, glass and dried biosolids.

Ten Park Plaza, Suite 4150, Boston, MA 02116
Tel: 857-368-4636, TTY: 857-368-0655
www.mass.gov/massdot

The facility, when at full capacity, expects to ship 1200 tons per day (tpd) of MSW residuals, 50 tpd of dried biosolids and 250 tpd of glass. The rail side track at full operations could reduce by up to 110 the number of truck trips in and out of the site.

The EENF includes a Transportation Impact Assessment (TIA) that includes an evaluation of the study area transportation network and presents an analysis of existing and future build conditions for each intersection. The TIA is in general conformance with MassDOT/EOEEA Guidelines for *EIR/EIS Traffic Impact Assessment.*

Study Area

The study locations for which traffic analyses were conducted are as follows:

- Route 140 Northbound on/off Ramps/Braley Road intersection;
- Route 140 Southbound on/off Ramps/Braley Road intersection;
- Braley Road/Theodore Rice Boulevard at Phillip Road intersection;
- Theodore Rice Boulevard/Duchaine Road intersection;
- Duchaine Boulevard/Samuel Barner Boulevard intersection;
- Phillips Road/Samuel Barner Boulevard intersection; and
- Duchaine Boulevard/Site Driveway intersection.

The study area is adequate for capturing the traffic impacts of this development.

Trip Distribution

The project trip distribution on the study area network was based on expected access to/from Route 140. The majority of traffic entering the site is expected to use Route 140 to Braley Road with a small portion of traffic coming from the site expected to use Phillips Road to access the proposed site.

Safety

Crash rates for the study area intersection were calculated using MassDOT data for the five-year period from 2011-2015. Based on the data, the crash rates for all study area intersections are below the state and district averages for signalized intersection. Two unsignalized intersections are experienced crash rates slightly higher than the state and district averages. The additional traffic volumes associated with the project is not expected to significantly impact safety at these intersections. There are no Highway Safety Improvement Program (HSIP) high crash cluster intersections in the study area.

Traffic Operations

Capacity analyses were conducted for the weekday AM and PM peak hours for 2018 Existing, 2025 No-Build, and 2025 Build (full build) conditions, for the study area intersections.

In the 2025 No-Build, traffic operating conditions at most intersections are expected to experience no significant changes, except for one approach movement where level of service will worsen from B to C. Likewise, 2025 Build conditions experience slightly increased delays compared to the 2025 No-Build conditions, but the delays were not significant enough to impact LOS in most cases.

Parking

The project will provide 428 parking spaces to accommodate both trucks and employees on site. The proposed number of parking spaces is a reduction from the current number of existing parking spaces.

Multimodal Access and Facilities

Despite the proposed land use primarily oriented towards truck traffic, the Proponent should seek the opportunity to provide multimodal accommodations to access the site. The roadway network in the vicinity of the site provide sufficient shoulder widths to encourage bicycle travel. We note that the Southeastern Regional Transit Authority (SRTA) provides bus service along Duchaine Boulevard and Phillips Road, with bus stops located within walking distance to the site along Duchaine Boulevard and at the intersection of Phillips Road with Heritage Court. Pedestrian accommodations exist along Phillips Boulevard. We encourage the Proponent to design their site drive in accordance to Complete Streets standards to facilitate opportunities to walk and bike to the site.

Transportation Demand Management Program

The Proponent should develop a Transportation Demand Management (TDM) program aimed at reducing site trip generation. MassDOT understands that the project primarily generate truck traffic; nevertheless, the following TDM measures are recommended with the goal of reducing vehicle trips by employees of the development:

- Offer direct deposit for payroll transactions;
- Implement off-peak shift start/end times for employees;
- Provide preferential parking for carpools and vanpools;
- Offer onsite employee services such as a cafeteria.
- Provide information on transit options as a mean of travel to the site.

MassDOT does not object to the Proponent's request for a Phase I waiver for the project. The proponent should address the details of the above comments in the SEIR and submit a copy of the MEPA Certificate for this project as part of their grant application for the IRAP funding. If you have any questions regarding these comments, please contact me at (857) 368-8862.

Secretary of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston Ma.02114
Attn: Page Czepiga, MEPA

Parallel Products of New England, LLC
file No. 15990

Dear MEPA Officials, my wife and I are 52 yr residents of a residential area that is located within a few hundred feet of the property of the proposed project. I have read the Expanded Environmental Notification report submitted by Green Seal Environmental Inc. on behalf of the petitioner.

I understand that the petitioner is requesting 1. waiver to begin immediate construction on a portion of the Phase1, glass recycling facility before submittal or receipt of permits of approval, 2. approval of the environmental permit for the complete construction and operation of Phase 1., and 3. the approval and permits for future construction and operation of a regional Municipal Solid Waste Plant and Bio-solids Drying facility. Some construction has already begun on Phase 1 as noted in the report and is readily observable at the site today.

It appears to me that the report is incomplete as it does not present enough information For MEPA to evaluate the requirements for site suitability as stated in 310CMR 16.40 which requires a 500 Foot clearance for the proposed facility from occupied residences. The map shown on report insert 3A obtained from the city of New Bedford published in 2015 shows that 500 Foot clearance from the facility property boundary encompasses 44 houses east of Phillips Rd. and another 6 that have been built since, on the west side of Phillips Rd. south of the facility. While some may argue that the operation of the facility will not occur on the facility boundary line, the access roads into the glass delivery area of the site are close enough to the eastern edge of the property boundary to still encompass at least half of the houses identified above.

These issues are affected by the infringement of the 500 foot clearance requirement. One is noise. Second is dust. Third is odor.

NOISE

In Phase 1., noise will be generated by truck traffic at the glass handling facility, and by the front end loaders that move the open dumping of glass into the glass crushing and classification building, as well as the unloading of the processed glass to trucks, and the movement of rail cars (future). The traffic study projected 108 trucks per day for the glass plant which drops to 54 once the rail is operational shown Appendix E of the Trip Generation study.
A noise analysis and evaluation was conducted. It included baseline measurements in 4 receptor locations: at the southeast property line and three locations east and north east at or near the residences. Modeling was used to project upon the baseline noise the additive effect of the proposed facility operation. Results showed a 3 to 8 Db rise in noise at some of the receptor locations. Equipment similar to that proposed for the facility were used together with noise studies done in other waste handling sites together with assumptions, stated that the10 Db criteria will be met.

Now, the nature of the noisiest part of the proposed plant occurs in the receipt and handling in the glass in Phase 1. which is located on the east side of the property, the area closest to the residences. Noise is generated by trucks dumping on the pavement, followed by the scraping of a front end loader bucket. This operation occurs in an open area covered only with a roof canopy to house the solar panels.

Two operating issues arise; 1. the sporadic and frequent nature of the 'bang and clank' equipment that may continue as late as 10Pm, 2. the probable magnification and echo effect of this noise generated in the canyon where this unloading operation takes place, which is about 30' below the residences east of Phillips Rd. AND inside the 500' clearance requirement.

When these two issue are taken into account, it is questionable that the modeling predictions of noise at the residences affected are within the 10Db requirements. Additionally the unloading operation noise is not steady but sporadic; composed of frequently variable sound changing in pitch and frequency, which increases its annoyance to the human ear. It is easier to fall asleep to a quiet bedroom fan than to a noisy party outside your bedroom window.

DUST

Dust will be generated by all phases of the proposed facility, dust that is now not present in our neighborhood. About 50% of the winds in our area blow from the southwestern to the western sector, which will carry dust and aerosols north and mostly east into the nearby residences. Mitigation strategies have been proposed that include housing the Phase 2 operations inside buildings. However, the Phase 1. truck unloading and reloading of glass and front end loading does not take place inside a building.

It is probable that some of this dust will be blown into the nearby residences as a nuisance, falling on parked automobiles, drying clothes, open decks, swimming pools, and outdoor play equipment. Even if the analysis show that no air quality requirements are breached, other mitigation efforts should be done to minimize this nuisance. Likely, spillage from glass carrying dump trucks along the eastern boundary access and egress roadway will generate unmitigated additional dust.

ODOR

An analysis of odor was submitted with the report which stated that odor is mostly a subjective measure. One human's nose may be more sensitive than another nose, and as such, a proxy metric has been used to evaluated the impact of odor. Dilution of the odorous air with equal or multiple volumes of air are the criteria used. Highly odorous emissions need up to 5 volumes of air as opposed to only one volume for slightly odorous emissions, according to the science presented, to reach an acceptable level. Some mitigation is offered for the emissions of the proposed bio-solids drying plant with a scrubber.

Questions arise about whether this strategy, or analysis is adequate, given that the noxious odors travel the same ambient wind currents that move the dust from the site to the residences. Will the bio_solids drying plant shut down when the scrubber is not in service? As a frequent user of the recycle facility at Shawmut Ave. in New Bedford, I can personally attest to the noxious and pungent odor emanating from the simple off loading of sludge waste water trailers discharging into underground tanks. This odor permeates the entire recycle area.

Keeping in mind that the proposed bio-solids facility is on the property that is not 500 ' from the residences and that it is proposed as a regional facility to operate 24 hours a day, it is questionable that the nearby residences will avoid receiving objectionable odors.

ENVIRONMENTAL JUSTICE

In order to protect the minority and under served population, an analysis of environmental justice is presented in the report . It focused on the health statistics of the New Bedford population as compared to the surrounding towns. The results showed that New Bedford has statistically higher incidences of cancer, heart disease, COPD and asthma than do either the state average or the surrounding towns. Both environmental and lifestyle factors are postulated as the reason for New Bedford's higher than average disease rate.

When an additional burden of noise, dust and odor is imposed on a community with compromised health to begin with, it is questionable that the minor benefit of a few new jobs of the proposed regional facility outweighs the health costs borne by its citizens. As shown in the preceding discussion, the 500' clearance requirement, has approximately 100 homes whose occupants are exposed to the environmental impacts of the proposed facility.

SITE HISTORY AND COURT CHALLENGE

Although not included in the report, it is instructional to know about the history of the site and adjacent areas. Thee building directly west of the site now owned by Eversource, was formally a film winding facility. Originally it was owned by the bankrupt Polaroid Corp. until the late 90"s. Later owned by another firm for the same purpose.

In 1990 a developer proposed to locate a 250Mw coal fired power plant about ½ mile west of the present Eversource building to serve the Polaroid plant and to sell the extra capacity to the electric utility. A construction permit was issued by MEPA over the objections of the local GNB-NO-COAL group of citizens and the Massachusetts Attorney Generals Office.

The Massachusetts Supreme Court rescinded the permit based on lack of need. The developer appealed the Court decision and reapplied for the permit. Again both GNB-NO-COAL, and the Attorney Generals Office objected to the issuance of the permit for the same reason. About 4 years passed since the permit was first requested. While preparing for another trip to the Supreme Court, the developer withdrew his application for the permit. As it turned out, the Polaroid Corporation went bankrupt and the electric utility was able to meet the electrical system demand without the unneeded Coal Fired power plant.

PRESENT SITE ACTUAL CONDITIONS

On March 17, 2019 I walked around most of the Eastern portions of the site in order to compare the maps presented in the report to the actual existing conditions. A large pile of crushed glass has already been stored under the north open canopy at the south eastern corner of the site. The pile occupies the entire area of the 100' by 275'area with heights from 6' to 12' in height. Using conservative estimates of 75lb/ft3 and a median height of 9',the pile contains approximately 9000 tons

of crushed glass. A photo is attached. Solar panels are in operation on the roof of this canopy as well as the identical south canopy about 70' away. No glass is currently stored under the south canopy.

The open space between the canopy storage areas is not shown on the maps C1, C2 and C2A but appear as parking lots. In order to move the pile to another facility or through the future proposed glass processing facility over 750,12 yd trucks are needed or an even greater number of front end loader trips . These operations are not described in the report. Additionally, the need to provide glass storage in the future is likely due to outages that interrupt operations in the processing building. This adds noise and dust beyond what is reported.

Presently there is some demolition and other activity around the area of the proposed glass processing building during the week which I can hear from the outside of my house. Has approval been given for this storage and construction before the public comment period is over?

RECOMMENDATIONS

1. All MEPA officials responsible for approving this proposed regional waste handling project need to visit the site and the surrounding residential areas. This licensing process is more about minimizing the impact on the community than on protecting the environment. Since 100 residences are within 500', as shown in the report, of the site boundary and are 30' above the site, residents have visual impact in addition to the environmental ones reported using projections, modeling and assumptions. When at the site, ask yourself honestly, would you buy any of the houses presently for sale on the west side of Phillips Rd. south of the site? I would appreciate being invited for any planned site visit.

2. Phase 1 is separable and distinct from Phase 2. Set aside the permitting process for Phase2. Delay MSW and Bio-solids drying portion, which have Air quality requirements of Phase2, until there is a demonstrated need. Does Parallel Products have signed contracts for the waste deliveries ? The report states that the city of New Bedford does not plan to use this proposed regional MSW & Bio-solids facility. The need for the proposed regional MSW and Bio-solids waste handling facility is questionable since the petitioner does not have a firm construction schedule. As was the case in the history of the proposed unneeded Coal-fired power plant, a large capacity regional facility is proposed to enhance economic viability for owners at odds with residence concerns.

3. Delay the waiver to construct the regional glass processing facility. Address the site suitability requirements which were stated to be preliminary until the air quality permit was received. No waiver was requested for relief from the 500' clearance required between the site and occupied houses by Massachusetts law.310CMR16.40

Early construction before permit receipt was requested so that the petitioner could receive approval to construct solar power qualified under the new SMART incentive program. According to the list of applicants to this program dated March 15, 2019, application nos. 65 and 68 for a total of 1.346Mw have already been approved. My site visit confirmed that the largest part of the solar power associated with Phase 1 is in service. The Solar Power is no longer an issue when Phase 1, is separated from Phase 2.

Closure of existing glass processing facilities in Massachusetts that received glass from recycling centers was stated as another reason that immediate construction approval was requested to avoid the longer haul to other facilities much further away. It is evident considerable storage of crushed glass now exists on the proposed site and should not be used as pressure for MEPA to approve the facility. The petitioner has other options that may be costly, but it is not the responsibility of MEPA to protect the petitioner's profit, poor planning or business model

FINALLY

In closing, I pray that MEPA would not place proposed large regional projects higher in value than local concerns which impacts its citizens. I see the purpose of respecting the environment, codified in numerous laws and requirements, as important to protect the humans living on the planet from harmful competing interests. A peaceful and pleasant residential neighborhood environment is a treasure. Unfortunately there are no scientific metrics to establish its worth when only the environment is measured.

It is interesting to note that Massachusetts has the oldest State Constitution. Together with the National Constitution, these documents stem from the individual rights of the people to life, liberty and the pursuit of happiness and authorize the Government to protect these rights by establishing just laws. Our Judiciary system is established not only to judge if laws are breached but to test that the laws are just.

MEPA, as an executive agency, can and should take a reasoned approach in this instance to judge the merit of this petition before you; and to exercise its authority to benefit the citizens of Massachusetts.

ATTACHMENTS

1. Older satellite image of proposed site showing adjacent residential area east of Phillips Rd. Note the blue 500'scale at the lower right of the image and the houses along Ridgewood Road. The south eastern part of the site appears as a parking lot, which it is today, with a canopy over the lots and solar panels on the roof. Not shown in this image are the 8 houses built on the west side of Phillips rd. One house is less than 100 feet from the south east bend on the access road, which remains unsold nearly one year after completion.

2. 9000 ton crushed glass pile taken 3-17-2019, located under the northern part of the southern lot.

Respectfully,

Robert H. Ladino 3-18-19

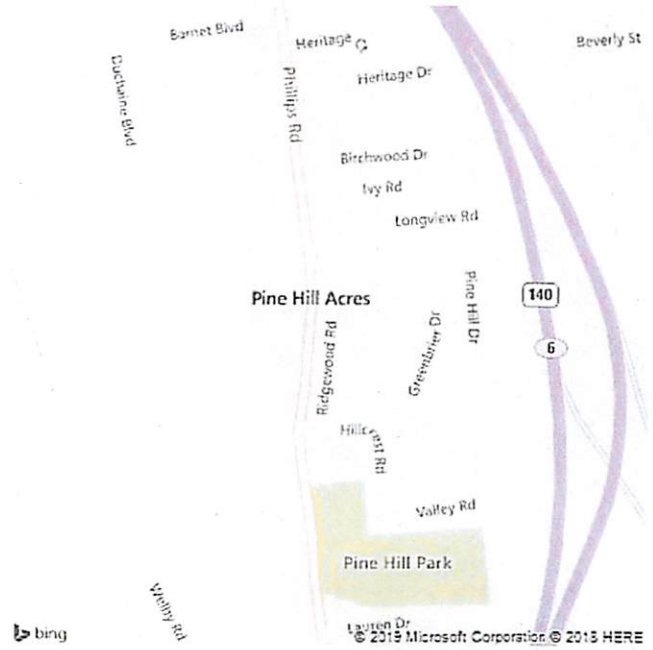
Robert H. Ladino
bobladino@comcast.net
508-269-9120

bing maps

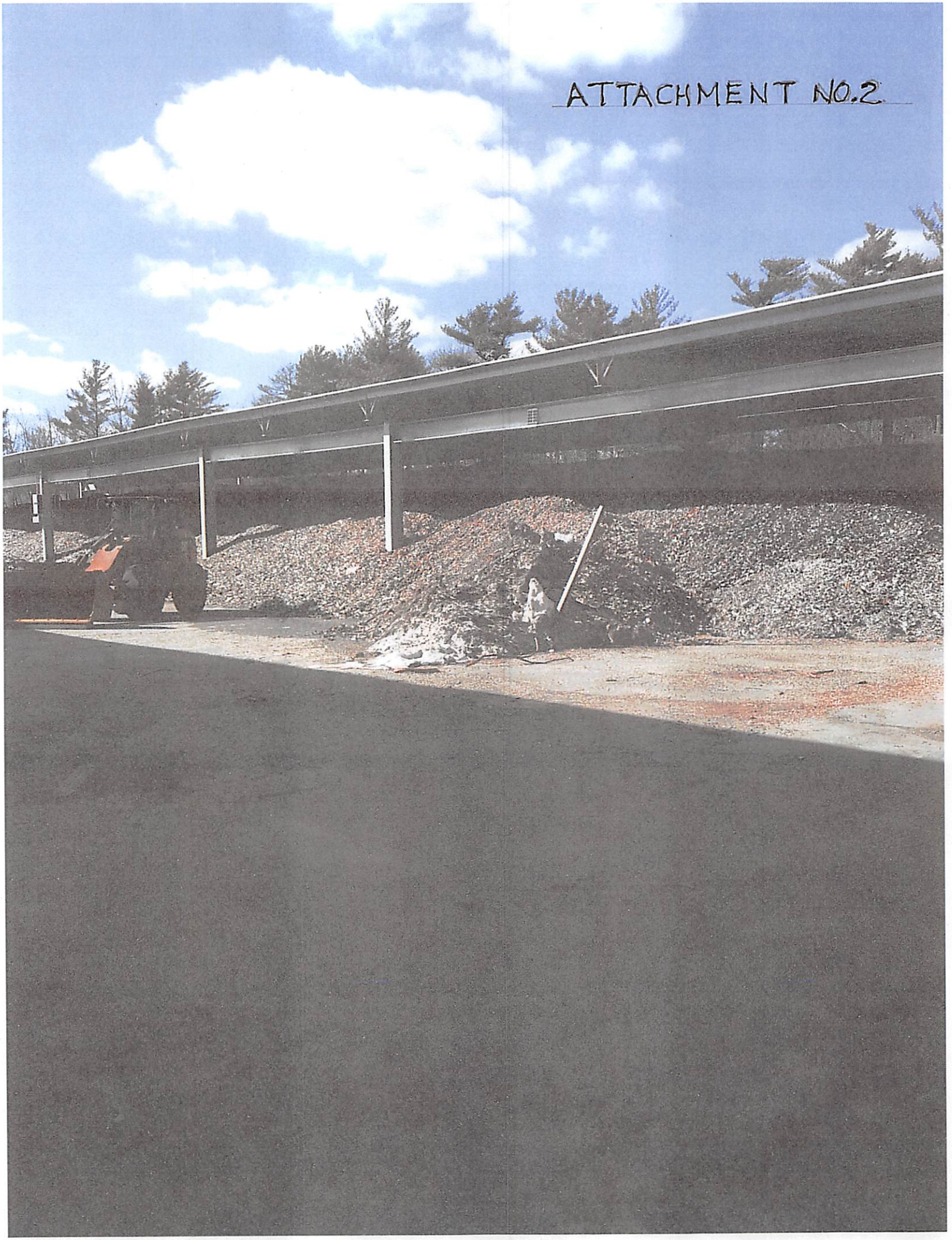
ATTACHMENT NO. 1

Notes

old satellite image



ATTACHMENT NO.2



Czepiga, Page (EEA)

From: Roger A. Cabral <rogercabral@comcast.net>
Sent: Tuesday, March 26, 2019 7:05 PM
To: Czepiga, Page (EEA)
Subject: Parallel Products / New Bedford industrial Park

I just learned of this project which is proposed for the New Bedford Industrial Park. I'm very concerned by the fact that this project has not received a lot of attention and that many of the neighbors are unaware of what is proposed. Given the nature of this proposed project I think that a WELL PUBLICIZED public meeting is appropriate. I also think that all neighbors within a mile of the site should be notified by mail about the meeting. I believe that the New Bedford Industrial Park is the wrong place for a business of this nature.

Roger A. Cabral
9 Bow Drive
Acushnet, MA
508-642-9173

Czepiga, Page (EEA)

From: Ron <rrcrt@aol.com>
Sent: Tuesday, April 02, 2019 6:09 PM
To: cstrupczewski@verizon.net; Czepiga, Page (EEA)
Cc: cbostiguy@gmail.com; ritalapre@gmail.com; brad.markey@newbedford-ma.gov; desk@wpri.com; kjohnston@abc6.com; 5investigates@wcvb.com; antonio.cabral@mahouse.gov; chris.hendricks@mahouse.gov; christopher.markey@mahouse.gov; paul.schmid@mahouse.gov; william.straus@mahouse.gov; Ian.Abreu@newbedford-ma.gov; Naomi.Carney@newbedford-ma.gov; Debora.Coelho@newbedford-ma.gov; Hugh.Dunn@newbedford-ma.gov; Brian.Gomes@newbedford-ma.gov; Dana.Rebeiro@newbedford-ma.gov; Linda.Morad@newbedford-ma.gov; Joseph.Lopes@newbedford-ma.gov; Maria.Giesta@newbedford-ma.gov; Scott.Lima@newbedford-ma.gov; Jon.Mitchell@newbedford-ma.gov
Subject: Re: EEA15990 Paralles Products - New Bedford Business Park

It is my understanding that Secretary Matthew Beaton has allowed residents till April 05, 2019 to write their opposition for Parallel Products, Inc. of New England for its expansion in the New Bedford Business Park and also their considering of adding a Wastewater Sludge Facility.

I reside in the Briarwood development which there are approximately 300 homes, there are two entrances from Braley Road into Briarwood and two exits from Briarwood onto Braley Road, Braley Road is a highly used thoroughfare going to and from Route 140, Acushnet Avenue and Phillips Road.

In the mornings starting at 7 AM we have a traffic problem on Braley Road with school buses, vehicles, parents dropping their children off for school at the Pulaski School, vehicles parked on both sides of Braley Road. It is a problem exiting from Briarwood onto Braley Road.

We have two large nursing homes and the VIBRA Hospital of S.E. MA in the Sassaquin area throughout the day ambulances are going back and forth, we have a Fire Station on Acushnet Avenue south of Braley Road. These emergency vehicles are always using Braley Road because of Route 140.

There will be a problem at Parallel Products, Inc we will have with garbage trucks and trailer trucks coming off of route 140 North and South bound it will be a nightmare, traffic will be backed up on Rt 140 North and South bound exit 7 as vehicles, garbage trucks, and 18 wheeler's are trying to exit off the highway onto Braley Road on the way to the Parallel Products Inc property, then they will be returning back to Route 140.

There will be Garbage trucks and 18 wheeler's to avoid the traffic jam off of exit 7 North bound they will use exit 5, they will proceed north on Phillips Road to enter the unnamed road of the New Bedford Business Park, south of Braley Road entrance closer to the Parallel Products, Inc property, this will now cause another traffic jam.

The study evaluated traffic impacts based on 284 inbound trips and 284 outbound trips (trucks carrying material and employee trips traveling to and from work). This is on Route 140 North and South as well as our streets leading to the Industrial Park.

I would not be surprise if fatalities could occur because of the numerous amount of garbage trucks and trailer trucks coming off of Rt 140 North and South bound onto Braley Road from 6 AM to 6 PM Monday to Saturday, and possibly on Sunday's going to Parallel Products, Inc.

As it is the New Bedford Business Park is a busy area with numerous businesses such as the large Service Center, Dunkin Donuts, Titleist Golf Ball, MA Registry of Motor Vehicles, Acushnet Co., American Circuit Breaker, Alberox Corp, N.E. Plastics, Milhench, AFC Cable, Epec, ete, etc.

Here in Briarwood we pay high house taxes, as does Pine Hill Acres and other housing developments off of Phillips Road, and other homes in the area, imagine the smell of garbage, imagine the rats we will have. Yes they will invade the businesses in the New Bedford Business Park, Briarwood, Pine Hill Acres, homes off of Phillips Road, homes in Freetown, Sassaquin, Acushnet Ave here in the far North End, lets not forget the Seagulls flying over dropping their poop on our homes and back yards where children will be playing, a child possibly being bitten by a rat.

There is the old N-Star building and property at the waterfront, garbage can come in by boats, barges, Trucks off of I-195 to Rt 18, and by Rail. There is the Building 19 property that trucks can come in, there is the railroad tracks next to the property, and the property is across the street from Parallel Products, Inc property at 969 Shawmut Avenue on Hathaway Road. These are one of two excellent locations for Parallel to be located.

Please stop Parallel from coming into the New Bedford Business Park.

Ron R. Cabral
67 Blaze Road
New Bedford, MA 02745
E-mail: RRCRT@aol.com

Page Czepiga
Environmental Analyst
(617) 626-1021
page.czepiga@mass.gov

MEPA Office
100 Cambridge St., Suite 900, Boston, MA 02114

TOXICS ACTION CENTER

Re: Parallel Products

Dear Ms. Czepiga

My name is Claire B.W. Miller and I am the lead community organizer for Toxics Action Center. We are a 32-year old public health and environmental non-profit. We work in all six north-eastern states side by side with communities to clean up and prevent pollution. I am writing in concern about construction of glass processing, a MSW processing and handling facility, biosolids drying & gasification facility, and railside track in a designated Environmental Justice neighborhood. This facility plans to process 1,500 tons per day of municipal solid waste, recieve construction and demolition, and process biosolids 24 hours a day, with an expected 418 new truck trips- all next to a residential neighborhood.

We firmly believe that community involvement in decisions is key. **Please consider granting a significant and fair extension to the deadline for public comments.**

As I'm sure you know, this location is a designated Environmental Justice neighborhood. As part of the Environmental Justice Policy of 2017, MEPA has obligations. These are screenshots from the EJ Policy:

Enhancing the Review of New MEPA Projects in EJ Populations

17. **Enhanced Analysis of Impacts and Mitigation Under MEPA.**[3] In addition to the enhanced public participation requirements specified in section 16 above, enhanced analysis will be required as part of the Environmental Impact Report (EIR) scope for projects that:

- (1) Exceed a mandatory EIR threshold for air, solid and hazardous waste (other than remediation projects), or wastewater and sewage sludge treatment and disposal; *and*
- (2) Are located within one mile of an EJ Population (or in the case of projects exceeding a mandatory EIR threshold for air, within five miles of an EJ Population) [4]. The project proponent may submit actual air modeling data on the project's area of potential air impacts in its EIR scope to modify the presumed five-mile impact area referred to in condition (2) above.

Enhanced analysis of impacts and mitigation may include analysis of multiple air impacts; data on baseline public health conditions within the affected EJ population; analysis of technological, site planning, and operational alternatives to reduce impacts; and proposed on-site and off-site mitigation measures to reduce multiple impacts and increase environmental and energy benefits for the affected EJ Population.

18. **Review of Thresholds.** As required by Executive Order 552, MEPA shall seek and consider stakeholder input on which thresholds are appropriate for enhanced participation and/or enhanced analysis.

19. **Collaboration with the Director of EJ.** For any projects triggering the MEPA EJ thresholds, as defined by this Policy, the MEPA Office shall collaborate with the Director of Environmental Justice to

ensure that appropriate measures are taken by project proponents to address any potential environmental impacts the project may have on the existing EJ population. This will include, but not be limited to

16. Enhanced Public Participation Under MEPA.[1] As part of the Secretary's commitment to Environmental Justice, enhanced public participation will be required for the following projects as they undergo review in accordance with MEPA:

- **(1) Any project that exceeds an Environmental Notification Form (ENF) threshold for air, solid and hazardous waste (other than remediation projects), or wastewater and sewage sludge treatment and disposal[2]; and**
- **(2) The project site is located within one mile of an EJ Population (or in the case of projects exceeding an ENF threshold for air, within five miles of an EJ Population).**

Enhanced public participation may include use of alternative media outlets such as community or ethnic newspapers, use of alternative information repositories, and translation of materials or interpretation services prior to and during public meetings where the relevant EJ Population uses a primary language other than English in the home.

When scheduling public meetings, EEA shall recommend that project proponents consider the time of the meeting, availability of public transportation to locations, and whether locations are child-friendly and culturally appropriate. To the extent feasible, meetings should be held in places that community members already routinely use and feel comfortable visiting. Additionally, EEA shall recommend that project proponents consider whether outreach efforts need to include an educational component to ensure that community members have the information necessary to evaluate a project's potential impacts.

I would appreciate a phone call to discuss the way that these measure- particularly the public meetings have been/will be met- especially given that the EJ Director Position is currently vacant. Thank you for your consideration of these comments and for your service to all the residents of the Commonwealth.

Respectfully,

Claire B.W. Miller
Lead Community Organizer
Toxics Action Center

Czepiga, Page (EEA)

From: Tracy Wallace <wallacetracy99@gmail.com>
Sent: Wednesday, March 27, 2019 8:41 AM
To: Czepiga, Page (EEA)
Subject: Re: Parallel Products proposed project

Hello Page,

Thank you very much for this information. I would like to add some additional comments in regards to the MEPA EENF complete report. Within the project description, it states that the site is zoned Industrial C, page 67 (page 28). That is not entirely true, the site is also zoned residential and zoned mixed business. There is no mention of the residential zoning of abutting properties, of which Parallel Products purchased two newly built homes. The full site is not zoned industrial C when consulting the site plan presented to the planning board of New Bedford in January 2017. During the presentation on March 7th the presenter indicted no production of Methane gas, however on page 13 of the complete report states the PPNE may decide to add gasification in the future to the site. The gasification process creates syn gas. Syn gas composition is known to be 7% Methane, when Methane mixes with other gases hydrogen sulfide is created, which is the rotten egg odor. Due to the location of several residential neighborhoods being within meters of the facility, this would have a dramatic impact on the community and its quality of life. This is fairly new technology and its effects on the surrounding communities are unknown. I would also like to call your attention to the Waste to Energy Project in Stamford, CT that was voted down by the Waste Pollution Control Authority in early 2010 after losing faith in its technical and economic feasibility, finding the drier itself produces significant emissions and there would be negligible economic benefit. The supervising engineer of Stamford's Water Pollution Control Authority stated that the overwhelmingly unpleasant smell that wafted in the air was due to the trucks that were parked carrying the waste. He stated in winter months, it's bad. In summer months, it'll be even more exaggerated. The complete report states that odor from the MSW and bio solids site will be minimized with ionization and wet scrubbing and by stacks ten feet above the bio solids facility and stacks from the MSW building. The study within the report mentions odor is subjective. There is no real way to know if the odor will be a nuisance or not. It also appears the stacks will be visible from the surrounding residential neighborhoods, this can decrease a property value of up to 13%. A collection of property value impacts is available from the Center for Health, Environment and Justice. The noise from heavy truck traffic lowers property value at a rate of 30 to 50 times greater than cars. This is because at 50 feet heavy trucks emit noise 16 times louder than car traffic. With regard to accidents, a fatality is twice as likely when a car is involved in a crash with a truck vs. another car. The studies included in the complete report regarding traffic, noise, odor and air quality impacts were done using conservative assumptions and computer modeling, which often does not translate to reality. The creation of waste sites tends to be around lower socio-economic communities and it seems this is of no exception. Environmental racism is environmental injustice that occurs in practice and in policy within a racialized context, exposing neighborhoods that are economically and racially disadvantaged to hazardous waste. This facility would never be put next to residents of a wealthier community. I ask you this, would you want to live within 500m or 1000m of a MSW and Bio Solids facility?

Sincerely,
Tracy L. Wallace M.Ed
Resident of New Bedford

On Mon, Mar 11, 2019 at 5:00 PM Czepiga, Page (ENV) <page.czepiga@state.ma.us> wrote:

> Tracy,

Czepiga, Page (EEA)

From: Tracy Wallace <wallacetracy99@gmail.com>
Sent: Friday, March 08, 2019 12:43 PM
To: Czepiga, Page (EEA)
Subject: Parallel Products proposed project

Hello Page,

I would like to take this opportunity to thank you and everyone who attended the meeting yesterday March 7, 2019. Everyone was very nice and welcoming. I would also like to take this opportunity to express my concern with Phase 2 of the proposed project by Parallel Products at the Industrial Park in the City of New Bedford. I would first like to bring your attention to the original site plan proposed by Parallel Products in January 2017, and approved on March 21, 2017 with conditions. Mr. Cusson, of Parallel Products, stated in the meeting yesterday that the intention of the site was always to have been a waste site. That is not indicated in the original site plan. The site plan is for cooler storage/warehouse and additional parking, etc.... The original proposed plan also brings attention to the inadequacy of the storm drains and the undersized stormwater basins that were to be addressed when the Certificate of Compliance was applied for. There is no statement within the site plan that indicates Parallel Products intent to move their entire operation from the Shawmut Ave location to the proposed Duchaine Blvd location. I find this to be in direct contrast to the statement made by Mr. Cusson. Regarding the MSW transfer location being moved to Duchaine Blvd, there is cause for concern due to the proximity of the residential developments in the area. The Shawmut Ave location is not in as close proximity to residential areas as the proposed Duchaine location would be. I also encourage you to visit the Shawmut Ave location. If you drive down Shawmut Ave toward the airport, there is a distinct amount of trash deposited over the roads as well as an odor. There are also concerns regarding health risks when living in close proximity to a transfer station, those include, asthma, shortness of breath, respiratory disease, cardiac disease, stroke, allergies, etc.... The proposed bio solids facility that is also part of the Phase 2 portion of the project is cause for concern as well. When researching bio solids, there appears to be much debate over their efficacy. Bio solids could contain heavy metals, hormones, antibiotics, steroids, etc... all that would be reentered into the environment if used. When describing the project the presenter indicated that there would be no methane gas production, it would not be anaerobic, nor would it use flocculants or bugs. It does not appear to be drying beds or an incinerator either, so how is this going to be done? Would there be a way to obtain more information about the process? The presenter also indicated that a chemical scrub would be used to clean the facility and control for odor. Where would these chemicals go after scrubbing the facility? Into the municipal water system? If a cleaning agent is needed, then there is going to be an odor. The presenter also mentioned studies conducted regarding traffic, noise, and odor, all not having a significant impact on the surrounding community. He pointed out that there would be an impact at the stop sign/intersection of Braley Rd. and Phillips Rd. I would like to mention that there is an older condominium complex at that intersection that would be impacted by the increased noise of the addition of 584 trips to the area. Is there a way to obtain copies of the studies which were conducted? A young man attended the meeting yesterday as well, he is a resident of the area. He stated he lives across the street from the current Duchaine location, and indicated that there is already a noise issue. Truck noises that go well past 10pm. Recently, several new homes have been built along Phillips Rd on the same side as the proposed site. Mr. Cusson indicated that Parallel Products bought the two homes closest to the site. Why did they buy the homes? They did not buy the other homes next to those two. Are they going to tell those home owners that their backyards will soon be abutting a waste site? The presenter indicated that the glass plant (part of Phase 1) would be round the clock, but was not sure the hours of operation of the MSW transfer station or bio solids facility. He thought it would be 7am to 6pm, however there seemed to be no confirmation of that. Would there be consequences in place for violations of those hours, if those are in fact the hours? The meeting was absolutely fascinating. It definitely brings to light the amount of waste we as a society produce, and the need for effective waste management. However, it would

be a shame if that need comes at the detriment of the community. I appreciate your time and consideration of my concerns.
Sincerely,

Tracy L Wallace, M.Ed
Resident of New Bedford

Czepiga, Page (EEA)

From: Vincent Carolan <vincent.h.carolan3@gmail.com>
Sent: Friday, March 29, 2019 2:59 PM
To: Czepiga, Page (EEA)
Subject: Industrial Park New Bedford

Greetings,

My name is Vincent Carolan and I am a long time resident of New Bedford and I have major concerns regarding the MSW plant and biosolids facility being built less than a mile from my house off of Exit 7 on route 140 affiliated with Parallel Products in the large Industrial Park on Duchaine Boulevard. It has the potential to effect the quality of life via traffic, odor, noise, and pollutants and there is no upside to having this facility stationed at this location within a residential neighborhood. I strongly urge you to find alternatives. Please consider.
Sincerely,
Vincent H. Carolan III
Resident of New Bedford

Czepiga, Page (EEA)

From: Wendy Graca <wendygraca@aol.com>
Sent: Wednesday, March 27, 2019 10:05 AM
To: Czepiga, Page (EEA)
Subject: Parallel Products NE Project in NB Industrial Park

Hello Page,

I am submitting the following comments regarding the Parallel Products Project, proposed for the New Bedford Industrial Park in the North End of New Bedford. I have just recently learned of this project, and after speaking with a few local residents have found that most people are in the same uninformed "boat" as I.

Please consider granting a significant and fair extension to the deadline for public comments. Residents in the area have little to no knowledge of this project, due to poor outreach and advertisement of public meetings by the company. Also, the one public meeting I was made aware of just a few days prior (due to my making inquiring phone calls), was held at 10:00 AM on a weekday. This is a community of working class citizens. Meetings that are intended to be informative to residents regarding something that could impact their daily lives and homes should be conducted at a time when they would not need to take time off of work to attend. That is not acceptable "outreach" and does not send a message that the company is working in "good faith" and "transparency". For that reason to start, this project does not make me comfortable.

The nature and scope of this project is not to be taken lightly. Little is known about the so-called "cutting edge" technology of this facility, since there are so few of these plants in the US. It is unfair and burdensome to expect the citizens of New Bedford to take on yet another industrial project in their community without giving them all of the information, as well as the opportunity to ask questions and time to submit informed comments.

Sincerely,

Wendy M. Graca
(508) 254-6333

EXHIBIT 2

MEPA – FINAL RECORD OF DECISION

The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Charles D. Baker
GOVERNOR

Karyn E. Polito
LIEUTENANT GOVERNOR

Kathleen A. Theoharides
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1081
http://www.mass.gov/eea

May 15, 2019

FINAL RECORD OF DECISION

PROJECT NAME	: Parallel Products of New England
PROJECT MUNICIPALITY	: New Bedford
PROJECT WATERSHED	: Buzzards Bay
EEA NUMBER	: 15990
PROJECT PROPONENT	: Parallel Products of New England, LLC
DATE NOTICED IN MONITOR	: April 24, 2019

Pursuant to the Massachusetts Environmental Policy Act (MEPA, M.G.L.c.30, ss. 61-62I) and Section 11.11 of the MEPA regulations (301 CMR 11.00), I have reviewed the Expanded Environmental Notification Form (EENF) and hereby **grant** a Phase 1 Waiver that will allow the first phase of development, as described in the EENF, to proceed to permitting prior to completion of the Draft Environmental Impact Report (Draft EIR) and Final EIR (FEIR) for the remaining development.

I received comment letters on the Draft Record of Decision from the City of New Bedford (City) and residents which identify concerns with the project. Comments from the City and City Councilor Brad Markey identify concerns with the noise, odor, traffic, and other cumulative impacts associated with full-build of the project. Comments from the City also request that I deny the Phase 1 Waiver request. I have weighed these concerns and considered the environmental impacts of Phase 1. I note that Phase 1, on its own, would not require MEPA review as it does not meet or exceed any MEPA review thresholds. Additionally, Phase 1 is an allowed use under the Proponent's existing General Permit for recycling operations. The Proponent will prepare Draft and Final EIRs which will provide additional opportunities for public review of the cumulative environmental impacts of the full-build project. Subsequent state and local permitting processes will also include additional meaningful opportunities for

review and refinement of potential environmental impacts and measures to avoid, minimize, and mitigate environmental impacts.

Project Description

As described in the EENF, the project includes the phased construction of a glass recycling/processing facility; a solid waste handling and processing facility that will accept 1,500 tons per day (tpd) of municipal solid waste (MSW) and construction & demolition (C&D) waste; and a biosolids drying facility that will accept 50 dry tpd of biosolids.

Phase 1 includes construction of a glass recycling/processing facility within a 27,500-square foot (sf) building, construction of a railroad (RR) sidetrack from the main RR line to the glass processing facility, and installation of a 1.9 megawatt (MW) solar photovoltaic (PV) array. The glass recycling/processing facility will recycle glass collected through the Massachusetts bottle deposit system. Glass processing will include crushing, sizing and separation of the glass by color. Processed glass will be stored in bunkers until it is loaded into rail cars or trucks to shipment for bottle manufacturers. Phase 1 is proposed to meet an immediate regional need for glass processing in the region by providing an alternative market for glass that would otherwise be disposed.

Phase 2 includes construction of the MSW and C&D transfer station and the biosolids drying facility and extension of the RR sidetrack to service these facilities. Phase 2 will construct a 50,000-sf waste handling building which will be connected to an existing 103,000-sf building. The larger building will house processing equipment which will remove waste ban items and separate out recyclable materials. It also includes construction of a stand-alone 30,000-sf building to house the biosolids processing equipment. Biosolids processing will consist of drying the biosolids to reduce the volume and tonnage of the material prior to off-site disposal. Shipment of all outbound material will primarily occur via rail car.

Project Site

The 71-acre project site is located within the New Bedford Industrial Park at 100 Duchaine Boulevard in New Bedford. The site is generally bounded by industrial properties and Samuel Barnet Boulevard to the north, Phillips Road to the east, undeveloped land to the south, and a rail line and the Acushnet Cedar Swamp State Reservation to the west. The site was previously developed by the Polaroid Corporation and contains access roads, parking areas, stormwater management infrastructure and numerous buildings. The Proponent purchased the site in 2016 and has relocated a portion of its processing and recycling operations from 969 Shawmut Avenue to the project site. The site also contains 1.5 MW of solar PV mounted on a series of carport canopies. Access to the site is provided from Duchaine Boulevard, via an internal one-way loop roadway surrounding the proposed facility. The site has adequate area to support truck movement and access and is easily accessible from Route 140 (Alfred M Bessette Memorial Highway) via Braley Road or Phillips Road.

Wetland resource areas in the vicinity of the project include Bank, Bordering Vegetated Wetlands (BVW), Land under Water (LUW), and Riverfront Area. The project site is not located in Priority and/or Estimated Habitat as mapped by the Division of Fisheries and Wildlife's (DFW) Natural Heritage and Endangered Species Program (NHESP) or an Area of Critical Environmental Concern

(ACEC). The site does not contain any structures listed in the State Register of Historic Places or the Massachusetts Historical Commission's (MHC) Inventory of Historic and Archaeological Assets of the Commonwealth.

Environmental Impacts and Mitigation

According to the EENF, potential environmental impacts of Phase 1 include alteration of 4.6 acres of land, creation of 21,780 sf of impervious area, generation of 108 new average daily trips (adt), consumption of 150 gallons per day (gpd) of potable water, and generation of 150 gpd of wastewater. Phase 1 will impact BVW (4,087 sf), Bank (36 linear feet (lf), and Riverfront Area (900 sf).

The following commitments are proposed to avoid, minimize and mitigate environmental impacts associated with Phase 1 including: limiting all glass processing to an enclosed building; designing the RR crossing to reduce impacts to BVW and RFA; wetland replication; constructing the project on a previously altered site; use of rail to ship glass off-site; construction period erosion and sedimentation control measures; and generating renewable energy with solar PV systems.

Jurisdiction and Permitting

The project is undergoing MEPA review and requires the preparation of a mandatory EIR pursuant to Sections 11.03(5)(a)(6) and 11.03(9)(a) of the MEPA regulations because it requires State Agency Actions and will result in: New Capacity for storage, treatment, processing, combustion or disposal of 150 or more wet tpd of sewage sludge and New Capacity of 150 or more tpd for storage, treatment, processing, or disposal of solid waste (respectively). Because it requires an EIR, the project is subject to review in accordance with the MEPA Greenhouse Gas (GHG) Emissions Policy and Protocol. The project is also subject to the Executive Office of Energy and Environmental Affairs' Environmental Justice (EJ) Policy.

The Proponent consulted with the Massachusetts Department of Environmental Protection (MassDEP) and the MEPA Office regarding the enhanced outreach requirements of the EJ Policy. The Proponent published Spanish and Portuguese language versions of the MEPA Public Notice in El Planeta and the Portuguese Times (respectively) in addition to the New Bedford Times. The Proponent also notified the following organizations of the project and MEPA scoping session and provided them with a copy of the EENF: Coalition for Social Justice, Alternatives for Community & Environment, Hands Across the River Coalition, and Old Bedford Village. These were identified as EJ leaders based on consultation with MassDEP. The comment period was extended for two-weeks at the Proponent's request to provide additional time to review and comment on the EENF. The comment period commenced on February 20, 2019 and concluded on April 5, 2019. I accepted all late comments as allowed in accordance with 301 CMR 11.06(3). A MEPA site visit and scoping session was held on March 7, 2019. Spanish and Portuguese translation services were provided at the MEPA scoping session.

Phase 1 of the project will receive Financial Assistance from the Massachusetts Department of Transportation (MassDOT) Industrial Rail Access Program (IRAP) in the amount of $500,000. Phase 1 will require an Order of Conditions from the New Bedford Conservation Commission (or in the case of

an appeal, a Superseding Order of Conditions from MassDEP). It may require an amended Site Plan Approval from the New Bedford Planning Board.

Because the Proponent is seeking Financial Assistance, MEPA jurisdiction is broad in scope and extends to all aspects of the project that may cause Damage to the Environment, as defined in the MEPA regulations.

Phase 1 Waiver Request

The Proponent submitted an EENF in support of its request for a Phase 1 Waiver. Consistent with this request, the EENF was subject to an extended 30-day public comment period. At the Proponent's request, the comment period was extended for an additional two-weeks and closed on April 12, 2019.

On April 12, 2019, I issued a Draft Record of Decision (DROD) proposing to grant a Phase 1 Waiver, provided that the Proponent hold a public meeting prior to the close of the comment period on the DROD. This provided the community with an additional opportunity to learn about and comment on the project. The DROD was published in the Environmental Monitor on April 24, 2019, commencing the 14-day public comment period, which concluded on May 8, 2019. The Proponent held a public meeting on the project on April 29, 2019 at 6:00 PM in the auditorium of the Pulaski Elementary School in New Bedford. The Proponent created and distributed a fact sheet for the project which provided a summary of the project and identified required permits and opportunities for public comment. Spanish and Portuguese translation services were also provided at the public meeting. The Proponent notified the following organizations of the meeting: Coalition for Social Justice, Alternatives for Community & Environment, Hands Across the River Coalition, Old Bedford Village, Conservation Law Foundation, and Toxics Action Center. Notice of the public meeting was also provided on the radio (1420 WBSM), through a Facebook campaign via New Bedford Guide, and published in the Standard Times on April 24th and 26-28th. The Proponent has committed to hold additional public meetings approximately every 30 days. I acknowledge the Proponent's outreach efforts and encourage the Proponent to continue this productive dialogue with stakeholders.

Standards for All Waivers

The MEPA regulations at 301 CMR 11.11(1) state that I may waive any provision or requirement in 301 CMR 11.00 not specifically required by MEPA and may impose appropriate and relevant conditions or restrictions, provided that I find that strict compliance with the provision or requirement would:

(a) result in an undue hardship for the Proponent, unless based on delay in compliance by the Proponent; and
(b) not serve to avoid or minimize Damage to the Environment.

Determinations for a Phase 1 Waiver

The MEPA regulations at 301 CMR 11.11(4) state that, in the case of a partial waiver of a mandatory EIR review threshold that will allow the proponent to proceed with Phase 1 of the project

prior to preparing an EIR, I shall base the finding required in accordance with 301 CMR 11.11(1)(b) on a determination that:

(a) the potential environmental impacts of Phase 1, taken alone, are insignificant;
(b) ample and unconstrained infrastructure facilities and services exist to support Phase 1;
(c) the project is severable, such that Phase 1 does not require the implementation of any other future phase of the project or restrict the means by which potential environmental impacts from any other phase of the project may be avoided, minimized or mitigated; and
(d) the agency action on Phase 1 will contain terms such as a condition or restriction, so as to ensure due compliance with MEPA and 301 CMR 11.00 prior to commencement of any other phase of the project.

Findings

Based upon review of the EENF, consultation with State Agencies, and review of public comments, I find that the Waiver Request has merit and that the Proponent has demonstrated that Phase 1 meets the standards for all waivers at 301 CMR 11.11(1). The EENF provided sufficient information regarding potential impacts for the purpose of MEPA review, it demonstrated that environmental impacts associated with Phase 1 are not significant and it identified measures to avoid, minimize, and mitigate potential impacts.

As noted in the EENF and confirmed by MassDEP's comments on the EENF, there are limited outlets for recycling container glass within the Commonwealth and New England since the last glass bottle production facility in the region closed in 2018. This has resulted in increased shipping distances to bottle production facilities, which combined with a nationwide trucking shortage, has increased costs for recycling programs. Phase 1 will provide a new outlet for processing of glass bottles and will facilitate reliable and economical shipment of the glass to recycling markets and bottle manufacturers via rail car. Comments from MassDEP on the EENF confirm that Phase 1 will enhance glass processing in the region by offering alternative markets for those collecting and diverting container glass from landfills. Phase 1 includes construction of a building and installation of solar PV within previously altered and impervious areas and extension of a RR line using funds from MassDOT's IRAP grant program.

In light of the regional benefits and limited impacts associated with Phase 1, strict compliance with the requirement to prepare a Mandatory EIR for the project prior to Phase 1 would result in undue hardship and would delay the regional benefits to the glass recycling market identified in MassDEP's comment letter on the EENF. The Proponent will redevelop a previously altered site within an industrial park, which has adequate vehicular access and is easily accessible from Route 140 (Alfred M Bessette Memorial Highway). In addition, the Proponent has committed to implement adequate measures to avoid, minimize, and mitigate Phase 1 impacts. Comments from MassDEP and MassDOT on the EENF indicate support for the Waiver. I find that strict compliance with the requirement to submit an EIR prior to completion of Phase 1 of the project would result in an undue hardship and would not serve to avoid or minimize Damage to the Environment.

In accordance with 301 CMR 11.11(4), the latter finding is based on my determination that:

1. The potential environmental impacts of Phase 1, taken alone, are insignificant.

Potential impacts associated with Phase 1 do not exceed ENF thresholds. The majority of development is located within previously altered and impervious areas. Potential environmental impacts of Phase 1 are primarily associated with construction of the RR side track which will alter wetland resource areas. The New Bedford Conservation Commission will review Phase 1 to determine its consistency with the Wetlands Protection Act (WPA), the Wetlands Regulations (310 CMR 10.00), and associated performance standards, including the Stormwater Management Standards (SMS). The Proponent will provide wetland replication and design the crossing to comply with MassDEP's Stream Crossing Standards.

2. Ample and unconstrained infrastructure facilities and services exist to support Phase 1.

The site provides infrastructure necessary to support Phase 1, including access roads, water and sewer, and electricity. Phase 1 will construct a RR extension to facilitate shipment of outbound material via rail car. Existing roadway infrastructure can accommodate traffic generation associated with the project. Based on the foregoing, I find that ample and unconstrained infrastructure exists to support Phase 1.

3. The project is severable, such that Phase 1 does not require the implementation of any other future phase of the project or restrict the means by which potential environmental impacts from any other phase of the project may be avoided, minimized or mitigated.

The Phase 1 project can function independently without the remaining development. Phase 1 does not require the implementation of remaining development phases or restrict the means by which potential environmental impacts from remaining development may be avoided, minimized, or mitigated.

4. The Agency Action(s) on Phase 1 will contain terms such as a condition or restriction, so as to ensure due compliance with MEPA and 301 CMR 11.00 prior to commencement of any other phase of the project.

The Proponent is seeking Financial Assistance from MassDOT for Phase 1. I hereby direct MassDOT to include a condition in their funding agreement that requires compliance with MEPA and 301 CMR 11.00 prior to commencement of Phase 2. Based on the foregoing, I find that Phase 1 of the project can commence prior to the completion of the MEPA review process.

Given the foregoing, and subject to the conditions included herein, I find that a requirement to complete MEPA review prior to Phase 1 is not necessary to demonstrate that it will avoid, minimize, and mitigate potential Damage to the Environment to the maximum extent practicable, and that a requirement to do so would therefore cause undue hardship and would not serve to minimize Damage to the Environment.

Conclusion

Based on these findings, I have determined that this waiver request has merit. A DROD was issued on April 12, 2019 and was published in the Environmental Monitor on April 24, 2019 in accordance with 301 CMR 11.15(2), which began the public comment period. The public comment

period lasted for 14 days and concluded on May 8, 2019. Accordingly, I hereby **grant** a Phase 1 Waiver to allow the Proponent to proceed with Phase 1 of the project prior to completing the EIR process.

May 15, 2019
Date

K. Theoharides
Kathleen A. Theoharides

Comments received on the DROD:

05/02/2019 City Councilor Brad Markey
05/05/2019 Ron Cabral
05/10/2019 Jonathan F. Mitchell, Mayor, City of New Bedford
05/15/2019 Donna Poyant
Form letter beginning "I am strongly opposed to the…" (1 received)

KAT/PRC/prc

City of New Bedford

Office of City Council
133 William Street • New Bedford, Massachusetts 02740
(508) 979-1455 • Fax: 508-979-1451

Brad Markey
Councillor Ward One

May 2, 2019

RE: EEA 15990 Parallel Products

Dear Ms. Czepiga

I am writing you regarding my concerns and the concerns of the residents in the surrounding areas on the Parallel Products project which is a proposed expansion at 100 Duchaine Blvd. in the New Bedford Industrial Park. The Industrial Park as well as the proposed expansion abuts heavily populated neighborhoods and we are concerned that this expansion can have a detrimental effect on these neighborhoods.

There are many concerns with the processing at this facility, health concerns of toxins being emitted into the air, odor, as well as issues with the proximity to wet lands.

Other issues effecting the quality of life in the area from this project would be noise, air pollution from the processing and, with the increase of truck traffic going into this facility every day, air quality from the diesel emissions.

While air quality is a major concern there is also traffic issues. With the many trucks making their way into the facility this is adding more traffic congestion into an already high traffic area.

I ask you to carefully review this project and to consider the neighborhood's concerns which are stated above and to their quality of living.

Sincerely,

Brad Markey

Brad Markey

City Councilor Ward 1

Residence: 1520 Morton Avenue • New Bedford, Massachusetts 02745 • Tel.: (508) 998-8377
Brad.Markey@newbedford-ma.gov

CITY OF NEW BEDFORD
JONATHAN F. MITCHELL, MAYOR

May 10, 2012

Executive Office of Energy and Environmental Affairs (EEA)
Attention: MEPA Office
Paige Czepiga: EEA No. 15990
100 Cambridge St, Suite 900
Boston MA 02114

RE: EEA 15990: Parallel Products

Dear Ms. Czepiga,

I write in strong opposition to the establishment of a glass/solid waste/biosolids processing facility to be operated by Parallel Products at 100 Duchaine Boulevard in New Bedford. In addition, I strongly urge MEPA to deny a Phase I Waiver to allow Parallel Products to proceed with the first phase of development as described in the April 12, 2019 Draft Record of Decision.

The company has operated a glass bottle recycling operation at the location for some time in compliance with local zoning, site plan conditions, and conservation restrictions. However, the site as newly conceived, would be an entirely different creature--especially with the inclusion of a biosolids processing facility as detailed in the company's MEPA filing in February.

On March 29 I submitted comments to MEPA regarding the proposed project. The concerns and objections I raised on behalf of the City all remain valid. (I refer you to items 1-7 contained in the letter.) Most important, I made clear then, as well as in several subsequent public remarks, that the burden was on the company to demonstrate that its project would not pose a threat to the quality of life in surrounding neighborhoods.

Since that time, concerns regarding the potential odor, noise, and traffic impacts of the Parallel Products proposal have grown significantly among both neighborhood residents and municipal departments. Based on what we have learned in recent weeks regarding potential odor, noise, and traffic impacts, there is ample evidence to conclude that this project is wrong for New Bedford.

With respect to the company's Waiver request, I believe it important for MEPA to consider the request in the full context of the development proposed at the site. The first development phase is now a part of a much larger, more impactful, multi-faceted project. It is therefore imperative that permitting authorities revise their approach accordingly. For example, at least one component in the first phase (rail access) now also has a direct connection to uses (including biosolid processing) that are being contemplated in future phases. In this broader context, it does not make sense to treat <u>any</u> Phase I component in isolation.

It is therefore wrong and irresponsible to provide a Waiver for certain aspects of the proposed expansion and allow the facility to be effectively approved piecemeal by the state, without adequate analysis and an understanding of the cumulative impact of the project as a whole. On behalf of local residents and businesses, I urge MEPA to refrain from approving any Waivers and instead mandate a full Environmental Impact Report be completed before any state decisions are made on any aspect of development at the site.

Thank you for this opportunity to express my opposition to the Waiver and the project more generally.

Sincerely,

Jon Mitchell

CC: Energy & Environmental Affairs Secretary Kathleen Theoharides
MassDEP Commissioner Martin Suuberg
Senator Mark Montigny
Representative Paul Schmid
Representative Christopher Hendricks
New Bedford City Council
New Bedford Planning Board

Czepiga, Page (EEA)

From: Buckley, Deirdre (EEA)
Sent: Wednesday, May 15, 2019 1:05 PM
To: Czepiga, Page (EEA)
Subject: FW: Parallel products of New Bedford

-----Original Message-----
From: Schwalbert, Nick (EEA) <nick.schwalbert@mass.gov> On Behalf Of internet, env (EEA)
Sent: Wednesday, May 15, 2019 1:01 PM
To: Buckley, Deirdre (EEA) <deirdre.buckley@mass.gov>
Subject: FW: Parallel products of New Bedford

Sending your way per Sarah's request.

Nicholas Schwalbert
617-626-1022

-----Original Message-----
From: Donna [mailto:dmpeko@comcast.net]
Sent: Wednesday, May 15, 2019 11:07 AM
To: internet, env (EEA)
Subject: Parallel products of New Bedford

I am writing as I believe the site description in EEA #15990 is deceiving. It does not reflect the hundreds of single family home east of Phillips road. It describes a site surrounded by industrial sites.
It also states that glass processing is limited to enclosed building. Glass processing is occurring under a canopy and residents whose home are only a few hundred feet away are already noting odors and noise issues.
I am writing to request your agency review this decision as well as deny phase 2 which would have a great affect on the adjacent neighborhoods.
Donna Poyant
39 Ridgewood Rd New Bedford MA 02745

Sent from my iPhone

Secretary of Energy & Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114
Attn: MEPA Office

RECEIVED
MAY 02 2019
MEPA

RE: Parallel Products of New England, LLC

I am **strongly opposed** to the Parallel Products of New England, LLC Waste Transfer Station project at 100 Duchaine Boulevard, New Bedford, MA. We do not need this horrendous project in our neighborhood.

There is no good reason to impose a facility like this on a community that has plenty of capacity for the disposal of waste. We do not want to be the dumping ground of Southeastern Massachusetts. As a group we will use whatever means necessary to make sure our neighborhood is not dumped on!!

Sincerely,

Signature Robert E Charron

Name ROBERT E CHARON

Address 3913 ACUSHNET AVE
NEW BEDFORD MA

Czepiga, Page (EEA)

From: Ron <rrcrt@aol.com>
Sent: Sunday, May 05, 2019 11:55 PM
To: antonio.cabral@mahouse.gov; chris.hendricks@mahouse.gov; christopher.markey@mahouse.gov; paul.schmid@mahouse.gov; william.straus@mahouse.gov; michael.moynihan@masenate.gov; mark.montigny@masenate.gov; Ian.Abreu@newbedford-ma.gov; Naomi.Carney@newbedford-ma.gov; Debora.Coelho@newbedford-ma.gov; Hugh.Dunn@newbedford-ma.gov; Brian.Gomes@newbedford-ma.gov; Dana.Rebeiro@newbedford-ma.gov; Linda.Morad@newbedford-ma.gov; Joseph.Lopes@newbedford-ma.gov; Brad.Markey@newbedford-ma.gov; Maria.Giesta@newbedford-ma.gov; Scott.Lima@newbedford-ma.gov; Jon.Mitchell@newbedford-ma.gov; kristine.arsenault@newbedfordma.gov
Cc: Buckley, Deirdre (EEA); Schluter, Eve (EEA); Wixon, Josephine (EEA); Canaday, Anne (EEA); Patel, Purvi (EEA); Czepiga, Page (EEA); Strysky, Alexander (EEA); Flaherty, Erin (EEA); MEPA (ENV); TimC@parallelproducts.com; newbedford@parallelproducts.com
Subject: Fwd: Attached letter ref Parallel Products, Inc.
Attachments: Draft-Record-of-Decision-April-12-2019.pdf

Follow Up Flag: Follow up
Flag Status: Completed

Good morning

Please read the attached letter regarding Parallel Products and the Commonwealth of Massachusetts Environment and Energy. I was quite surprised when I read the letter in particular Page 3 Paragraph 2 which is copied below.

The Proponent consulted with MassDEP and the MEPA Office regarding the enhanced outreach requirements of the EJ Policy. The Proponent published Spanish and Portuguese language versions of the MEPA Public Notice in El Planeta and the Portuguese Times (respectively) in addition to the New Bedford Standard Times. The Proponent also notified the following organizations of the project and MEPA scoping session and provided them with a copy of the EENF: Coalition for Social Justice, Alternatives for Community & Environment, Hands Across the River Coalition, and Old Bedford Village. These were identified as EJ leaders based on consultation with MassDEP. The comment period was extended for two-weeks at the Proponent's request to provide additional time to review and comment on the EENF. The comment period commenced on February 20, 2019 and concluded on April 5, 2019. I accepted all late comments as allowed in accordance with 301 CMR 11.06(3). A MEPA site visit and scoping session was held on March 7, 2019. Spanish and Portuguese translation services were provided at the MEPA scoping session.

Just wondering if any of the City and State Officials knew about this meeting? If so, why wasn't the residents in the area invited or made aware of this meeting?

Why were the Coalition for Social Justice, Alternatives of Community & Environment, Hands Across the River Coalition, and Old Bedford Village invited?

Also read that the company wants the state to give $500,000 for a side rail line to the property. This company is privately owned, why should we the taxpayers pay for a side rail line for the Parallel Products, Inc.? We are unable to get a commuter rail line from New Bedford to Boston although the state is working on it, lol.

We the residents/taxpayers, which I have been in contact with many, in the area deserve another meeting to be held at the Pulaski School, Parallel Products, Inc. should post at their expense in all news media a notice of such meeting, and being in large print. Hopefully Mayor Mitchel would be able to attend this meeting, sadly he was unable to attend the April 29th meeting.

Again, I would like to know if anyone of the City Officials, or State Officials knew about this meeting, I would like to hear from City and State Officials, that is if anyone is willing to respond.

My E-mail address is: RRCRT@aol.com

Respectfully,

Ron R. Cabral
67 Blaze Road
New Bedford, MA 02745

EXHIBIT 3

SECRETARIES CERTIFICATE FOR THE DEIR

The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Charles D. Baker
GOVERNOR

Karyn E. Polito
LIEUTENANT GOVERNOR

Kathleen A. Theoharides
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1181
http://www.mass.gov/eea

January 30, 2020

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
DRAFT ENVIRONMENTAL IMPACT REPORT

PROJECT NAME	: Parallel Products of New England
PROJECT MUNICIPALITY	: New Bedford
PROJECT WATERSHED	: Buzzards Bay
EEA NUMBER	: 15990
PROJECT PROPONENT	: Parallel Products of New England, LLC
DATE NOTICED IN MONITOR	: November 22, 2019

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G.L. c. 30, ss. 61-62I) and Section 11.08 of the MEPA regulations (301 CMR 11.00), I have reviewed the Draft Environmental Impact Report (DEIR) and hereby determine that it **adequately and properly complies** with MEPA and its implementing regulations. The Proponent may prepare and submit for review a Final Environmental Impact Report (FEIR).

I received comments from elected officials, the City of New Bedford (City) and residents opposed to the project because of its noise, air quality, odor and traffic and roadway impacts and its proximity to residences and schools. Many commenters are residents of the neighborhood adjacent to the project site and are concerned that the project would affect the quality of life of residents, change the overall character of the neighborhood and impact property values. Many commenters expressed the need for a longer comment period to review the DEIR. The Proponent is required to submit additional analyses in the FEIR documenting the project's impacts and proposed mitigation measures and responding to all comments received on the DEIR. MEPA requires Proponents to prepare documents to provide opportunities for the public to understand a project's impacts, identify additional relevant information and analyses that should be provided, challenge the assumptions of the Proponent's analyses and recommend design revisions and mitigation measures. A key purpose of MEPA is to "assist each Agency in using (in addition to applying any other applicable statutory and regulatory standards and requirements) all feasible means to avoid Damage to the Environment or, to the extent Damage to the Environment cannot

be avoided, to minimize and mitigate Damage to the Environment to the maximum extent practicable." 301 CMR 11.01(1)(a). However, MEPA does not ultimately approve or deny permits for the project. For this reason, while I expect that the FEIR will serve to provide further transparency and explanations of environmental impacts and mitigation, the many concerns about the design of the project will continue to be reviewed as the final design of the project proceeds to permitting at the conclusion of the MEPA process before the Massachusetts Department of Environmental Protection (MassDEP) and the City. This certificate is not intended to prejudge the outcome of those subsequent permitting procedures.

Project Description

As described in the DEIR, the project includes the construction of a waste management facility comprised of a glass recycling/processing facility; a solid waste handling and processing facility that will accept 1,500 tons per day (tpd) of municipal solid waste (MSW) and construction & demolition (C&D) waste; and a biosolids drying facility that will accept 50 dry tpd of biosolids.

The project will be constructed in two phases. Phase 1 includes construction of: a 27,500-square foot (sf) building for glass recycling/processing, a 23,050-sf bunker building attached to the north side of the new glass recycling/processing building, a 22,819-sf side bunker building southeast of the new glass recycling/processing building, a railroad (RR) sidetrack from the main RR line to the glass processing facility, and installation of a 1.9-megawatt (MW) solar photovoltaic (PV) array. The glass recycling/processing facility will also occupy an approximately 50,000-sf portion of an existing 92,200-sf building ("existing building"). The glass recycling/processing facility will recycle glass collected through the Massachusetts bottle deposit system. Glass processing will include crushing, sizing and separation of the glass by color. Processed glass will be stored in bunkers until it is loaded into rail cars or trucks to shipment for bottle manufacturers. Phase 1 was proposed to meet an immediate regional need for glass processing in the region by providing an alternative market for glass that would otherwise be discarded. The proponent submitted an Expanded Environmental Notification Form (EENF) in February 2019 with a Phase 1 Waiver request to allow Phase 1 to proceed prior to completion of MEPA review of the second phase of the project. A Phase 1 Waiver was granted in a Final Record of Decision (FROD) issued on May 15, 2019 and no further MEPA review of the Phase 1 project components, as described in the EENF, is required. The glass recycling facility is operating in the existing building and the 27,500-sf building has been constructed but is not yet in use. Construction of the other Phase 1 components has not commenced.

The DEIR provided additional information and analysis regarding Phase 2, which includes the MSW and C&D transfer station, the biosolids drying facility and extension of the RR sidetrack to service these facilities. The transfer station will be comprised of a 48,900-sf MSW and C&D tipping and processing building attached to the west side of the existing building, which will house sorting and processing equipment to remove waste ban items and separate out recyclable materials. The MSW tipping building will have four 70-ft high (above ground level) exhaust stacks and the MSW processing building will have three 70-ft high exhaust stacks. The biosolids facility will be constructed as a stand-alone 30,000-sf building northeast of the glass recycling facility. Biosolids processing will consist of drying the biosolids to reduce the volume and tonnage of the material prior to off-site disposal. The biosolids building will include 12 40-ft high exhaust stacks. Shipment of all outbound material will primarily occur via rail car.

Project Site

The 71-acre project site is located within the New Bedford Industrial Park at 100 Duchaine Boulevard in New Bedford. The site is generally bounded by industrial properties and Samuel Barnet Boulevard to the north, Phillips Road to the east, undeveloped land to the south, and RR tracks and the Acushnet Cedar Swamp State Reservation to the west. The site was previously developed by the Polaroid Corporation and contains access roads, parking areas, stormwater management infrastructure and numerous buildings. The Proponent purchased the site in 2016 and has relocated a portion of its processing and recycling operations from 969 Shawmut Avenue in New Bedford to the project site. The site also contains a 1.5-MW solar PV system mounted on a series of carport canopies. Access to the site is provided from Duchaine Boulevard, via an internal one-way loop roadway surrounding the proposed facility.

Most of the northern and western parts of the site are comprised of wetland resource areas, including Bank, Bordering Vegetated Wetlands (BVW), Land Under Water (LUW), and Riverfront Area. The project site is not located in Priority and/or Estimated Habitat as mapped by the Division of Fisheries and Wildlife's (DFW) Natural Heritage and Endangered Species Program (NHESP) or an Area of Critical Environmental Concern (ACEC). The site does not contain any structures listed in the State Register of Historic Places or the Massachusetts Historical Commission's (MHC) Inventory of Historic and Archaeological Assets of the Commonwealth.

Environmental Impacts and Mitigation

Potential environmental impacts associated with full-build of the project include alteration of 2.8 acres of land; creation of 2.2 acres of new impervious area (18.2 acres total at the site); alteration of 4,095 sf of BVW, generation of 568 new average daily trips (adt), use of 70,150 gallons per day (gpd) of potable water, and generation of 113,750 gpd of wastewater. Of these impacts, the following are attributable to Phase 2: alteration of 2.24 acres of land, addition of 2.2 acres of impervious area, generation of 450 adt (including 300 truck trips), use of 70,150 gpd of potable water and generation of 113,750 gpd of wastewater. Construction and operation of the facilities will emit air pollutants and odors and generate noise. The project will also emit Greenhouse Gasses in connection with its energy use and trip generation.

Measures to avoid minimize, and mitigate project impacts include constructing the project on a previously altered site; enclosing all areas where discharge, handling and processing of glass, solid waste and biosolids will occur; use of rail to transport the majority of material from the site; installation of a floor drain collection system that drains to a holding tank or sanitary sewer system to prevent groundwater contamination; operation of a 3.5-megawatt (MW) canopy-mounted solar photovoltaic (PV) generating system; erosion and sedimentation controls; stormwater management controls and implementation of Best Management Practices (BMPs) to minimize odor, dust, noise, and litter impacts.

Jurisdiction and Permitting

The project is undergoing MEPA review and requires the preparation of a mandatory EIR pursuant to Sections 11.03(5)(a)(6) and 11.03(9)(a) of the MEPA regulations because it requires State Agency Actions and will result in: New Capacity for storage, treatment, processing,

combustion or disposal of 150 or more wet tpd of sewage sludge and New Capacity of 150 or more tpd for storage, treatment, processing, or disposal of solid waste (respectively). Because it requires an EIR, the project is subject to review in accordance with the MEPA Greenhouse Gas (GHG) Emissions Policy and Protocol. The project is also subject to the Executive Office of Energy and Environmental Affairs' Environmental Justice (EJ) Policy as it is located within an EJ Population and exceeds mandatory thresholds for sewage and solid waste.

Phase 1 of the project will receive Financial Assistance from the Massachusetts Department of Transportation (MassDOT) Industrial Rail Access Program (IRAP) in the amount of $500,000. Phase 1 will require an Order of Conditions from the New Bedford Conservation Commission (or in the case of an appeal, a Superseding Order of Conditions from MassDEP) and a new or amended Site Plan Approval from the New Bedford Planning Board.

The remainder of the project will require a Determination of Site Suitability, Authorization to Construct, and Authorization to Operate and may require a Limited Plan Approval (LPA) for air emissions from MassDEP and a NPDES General Permit (GP) for Construction and/or Multi-Sector General Permit (MSGP) for Stormwater Discharges Associated with Industrial Activity from the U.S. Environmental Protection Agency (EPA). The project will also require a number of local permits from the City of New Bedford, including: Site Assignment from the Board of Health, a new and/or Amended Order of Conditions from the Conservation Commission, and a new and/or amended Site Plan Approval from the Planning Board.

Because the Proponent is seeking Financial Assistance, MEPA jurisdiction is broad in scope and extends to all aspects of the project that may cause Damage to the Environment, as defined in the MEPA regulations. The impacts arising from Phase 2 also are closely related to the required State Permits, including MassDEP's site suitability standards for solid waste handling facilities.

Changes Since the Filing of the EENF

The Proponent identified the following changes to the project design since the filing of the EENF:

- The design of the southwest corner of the MSW building has been modified resulting in a reduction of the area of the building from 50,000 sf to 48,900 sf;
- The solar canopy has been expanded to cover the eastern end of the rail spurs;
- The configuration of the side building building has changed (but not its overall size);
- The bunker buildings will be completely enclosed to minimize noise impacts; and,
- The size of the proposed noise barrier adjacent to the biosolids building has increased to increase its noise mitigation value.

Review of the DEIR

The DEIR provided a detailed description of Phase 2, including plans of existing and proposed conditions, identified potential environmental impacts and described mitigation measures. It included reports documenting the project's air quality, odor, noise, and traffic impacts, its GHG emissions, and public outreach and public health data provided in accordance

with the EEA Environmental Justice Policy. The DEIR included a copy of the Notice of Intent and a detailed drainage study submitted to the New Bedford Conservation Commission and described impacts to wetland resource areas and proposed BVW replication and other mitigation measures. It provided a brief description of applicable statutory and regulatory standards and requirements, reviewed how the project will meet relevant standards and provided an update on the state, federal, and local permitting process. The DEIR included a Response to Comments received on the EENF and provided draft Section 61 Findings identifying the Proponent's mitigation commitments. While providing a substantial amount of information about the project, the DEIR did not follow the format prescribed in the Scope included in the EENF. The Proponent should review the formatting requirements included in the Scope below and consult with the MEPA office prior to completing the FEIR.

Solid Waste

The DEIR provided additional information on the operation of the proposed facilities, including how C&D, baled and loose MSW, and dewatered cake and thickened wet slurry biosolids, will be delivered, transferred from vehicles, processed, and shipped-off site. It described safety measures to be implemented at the facilities and reviewed how the project would seek to meet the Site Suitability criteria. As discussed below, the ultimate determination of whether these criteria are met will be left to local and state agencies at subsequent permitting stages after the conclusion of MEPA review.

Facility Operations

According to the DEIR, MSW, C&D and biosolids will be delivered to the facility by truck between 5:00 AM and 9:00 PM, Monday through Saturday. Biosolids delivery may also occur on Sunday between 6:00 AM and 6:00 PM. The facility will receive C&D, baled MSW, and loose MSW in live floor trailers, transfer trailers, and packer trucks (respectively). All material will be deposited and processed within the tipping and processing building. Trucks will be weighed on a truck scale and backed into the proposed tipping building to tip their load. Processing equipment and manual picking lines will remove waste ban items, including recyclables, from the mixed waste and separate other recyclable materials for recycling or diversionary uses. Extracted recyclables are expected to comprise 20 percent of the MSW throughput and will be sent to recycling markets by rail or truck. The facility will include two processing lines with a total capacity of 40 tons of MSW per hour. Residual waste will be baled, shrink-wrapped, and transported via rail for disposal at off-site locations. The facility will receive Category 2 (pre-processed) and Category 3 (bulky waste with minimal recyclable material) C&D, which will be delivered to the tipping facility by in trailers. According to the DEIR, MSW to be transported by rail is currently required by CSX, the company that will provide rail service to the site, to be placed in intermodal containers that are loaded on flat bed rail cars. The Proponent expects that in the future, CSX will allow MSW that is either baled and shrink-wrapped or baled and bagged to be shipped in open-topped gondola rail cars. If the MSW transport requirements are not changed, the Proponent will not install a baler and will ship all loose material by intermodal containers. The facility is anticipated to generate 1,300 tons per day (tpd) of processed MSW and C&D for disposal, which would fill approximately 14.5 rail cars (each with a capacity of 90 tons) each day.

The biosolids processing facility will accept solids from wastewater treatment plants and will have a maximum processing capacity of 50 dry tpd. All biosolids processing will be done within a separate enclosed building with ionization and biofilter odor control systems. The facility will accept dewatered cake biosolids with a solids content between 15 percent and 30 percent and thickened wet slurry biosolids with a solids content of 5 percent to 10 percent. Wet slurry biosolids will be delivered to the site in tanker trucks, which will discharge the slurry through piping to storage tanks that will be sized to hold a volume equivalent to three days of deliveries. The slurry will be dewatered to produce a biosolids cake with a solids content of 30 percent. Approximately 52,000 gallons of wastewater per day is expected to be extracted from the dewatering process and discharged into the City of New Bedford's Sewer system. The dewatered biosolids cake will be delivered to the site in covered dump trucks. The trucks will drive into the facility and dump the material into a receiving area. The dewatered cake biosolids and dewatered slurry cake will be blended together and directed to a thermal dryer that utilizes a natural gas burner. The facility will be equipped with four dryers arranged in a parallel configuration, three of which will be typically in use and the fourth on standby if another dryer becomes unavailable; if all four dryers are inoperable, the biosolids and cake will be stored within the facility until its storage capacity is reached and no more material can be accepted. Moisture evaporated from the drying process will be condensed at a rate of 30,000 gallons per day and discharged into the City's sewer system. The biosolids will be dried to approximately 90% solids and sent via railcar or truck for disposal or for beneficial reuse as landfill daily cover. According to the DEIR, the facility will include fire alarms and fire suppression systems recommended by the National Fire Protection Association to minimize the potential the risk of fires during drying operations. The dryers will include safety features such as temperature controls, measures to minimize flammable dust from entering the dryers and a fire suppression system, and will be operated to maintain oxygen-deficient conditions within the dryer. Dried biosolids will be cooled before being transferred to storage tanks, stored in oxygen-deficient conditions and monitored for temperature.

The following Best Management Practices (BMP) were incorporated into the project design to minimize potential impacts to the site and surrounding environment:

- All tipping, handling, and loading of MSW/C&D and all biosolids processing will occur within fully enclosed buildings;
- To prevent contamination of groundwater, the tipping floor will be constructed of impervious concrete and include a floor drain collection system that drains to a holding tank, or if permitted, to the sanitary sewer system;
- Use of a fine atomized misting system within the MSW handing and processing buildings to control fugitive dust and odor;
- Regular daily clean-up and sweeping to control fugitive dust on external paved surfaces;
- Use of a negative pressure air collection system, biofilter, and ionization system to reduce odors from the biosolids facility; and
- Designing building stacks with adequate heights and exit velocities to facilitate air dispersion.

On-site Rail System

The DEIR described the movement of empty rail cars from the rail spurs to the MSW facility and of full cars from the MSW facility to the rail system for transport off-site. Five rail spurs will extend onto the site from the RR at the western edge of the property. Rail cars will be delivered and removed from the site by a locomotive and an electric rail car pusher will be used to move rail cars within the site. The southernmost spur (Track 1) will end inside the northern end of the MSW transfer station. The other four spurs (Tracks 2 through 5) will be parallel and to the north of the Track 1 and extend across to the eastern part of the site. Two of the tracks will not have any rail cars in order to receive rail cars once they are filled, and the other two will have 8 to 10 empty rail cars that will be sequentially moved, two at a time, into the MSW transfer station to be filled with waste. Two rail cars will be moved into the transfer station on Track 1, filled, and moved onto an empty track. Two more empty rail cars will then be moved onto Track 1 to be filled within the MSW transfer station, then moved to the track where the two previously-filled rail cars have been stored. This pattern will continue until 10 full cars are located on one track and eight full cars are on another track, at which point a locomotive will deliver 10 empty cars to an empty track and eight empty cars to the other empty track and haul away the 18 filled cars. The DEIR did not describe how the loading and transport of rail cars will occur for the operation of the glass recycling and biosolids processing facilities; this information should be provided in the FEIR.

Site Suitability Criteria

The regulations for siting of solid waste handling facilities (310 CMR 16.00) specify 20 siting criteria that must be evaluated for a proposed facility. The EENF included an analysis of these criteria, which was supplemented in the DEIR. The DEIR asserted that the project will comply with each criterion. However, MassDEP will make the final determination regarding site suitability based on its review of the Proponent's permit application and the New Bedford Board of Health must issue a Site Assignment for the facility.

In the DEIR, the Proponent provided supplemental information regarding the proposed facility's setbacks from residences and the Riverfront Area, and its potential impacts on the Acushnet Cedar Swamp (ACS). The DEIR included land use maps showing that all waste handling facilities will be greater than 500 feet away from residences and other sensitive uses and will not be located in the Riverfront Area. To support the Proponent's finding that the project will not adversely impact the ACS, the DEIR stated that the sites are separated by the RR and a drainage swale, that waste handling will occur within buildings located at least 800 feet away from the ACS and that treated stormwater will be discharged into and will travel through a wetland system for a distance of 4,000 feet before entering another wetland system that is hydraulically connected to the ACS.

Wetlands/Stormwater

According to the DEIR, Phase 2 will not impact wetland resource areas. As previously described in the EENF, Phase 1 includes the construction of a three-sided culvert to provide a stream crossing for the main rail spur in the western part of the site. The DEIR provided updated information about the impacts and proposed mitigation associated with the crossing and included a copy of the Notice of Intent filed with the New Bedford Conservation Commission in October,

2019 (DEP File #049-0831). The proposed stream crossing will impact 4,936 sf of BVW, 60 lf of Bank, 504 sf of LUW and 2,110 sf of Riverfront Area. A BVW replication area of 8,208 sf will be constructed adjacent to the wetland impacted to the crossing. The Proponent will restore a 4,425-sf area of Riverfront Area by planting native vegetation with wildlife habitat value. According to the DEIR, the stream crossing has been designed to conform to the Massachusetts Stream Crossing Standards and will include a span exceeding 1.2 times the bankfull width of the stream, a natural bottom substrate matching adjacent sections of the stream and a wide and tall opening relative to the length of the crossing.

The project will increase impervious area by 2.2 acres. The Notice of Intent included in the DEIR described the proposed stormwater management system and reviewed how it will comply with MassDEP's Stormwater Management Standards (SMS). The stormwater management system will be designed to reduce peak discharge rates and flow volumes under post-development conditions compared to existing conditions, remove at least 80 percent of Total Suspended Solids (TSS) in runoff prior to discharge and infiltrate runoff to recharge groundwater. The project is considered a land use with higher potential pollutant loading (LUHPPL); in addition to standard requirements of the SMS, the stormwater management system must be designed to treat the first inch of runoff and remove 40 percent of the TSS prior to discharge into an infiltration system. Runoff will be directed through new drain pipes to BMPs such as sediment forebays and constructed wetlands. The project also includes Low Impact Design (LID) measures such as rain gardens. The DEIR included a Long-Term Pollution Prevention Plan and a Long Term Operation and Maintenance Plan that described operational measures to minimize release of pollutants and maintenance activities and schedule. The project's compliance with the Wetlands Regulations (310 CMR 10.00), including the SMS, will be determined by the New Bedford Conservation Commission or, upon an appeal of the conservation commission's decision, by MassDEP.

Water/Wastewater

According to the DEIR, the project's water demand will be 70,150 gpd, including approximately 2,250 gpd to be used by employees and 67,900 gpd used for operation of the facility (e.g., biosolids building cooling tower makeup water, misting system and washdown water). The project will generate 113,750 gpd of wastewater, including 2,250 gpd associated with employees, 52,000 gpd from dewatering of biosolids, 53,000 gpd from drying of biosolids and 9,500 gpd from blowdown of the cooling tower at the biosolids building. The site is connected to the City's water and sewer systems as a result of the previous use of the site. In connection with applying for increased water and sewer use, the Proponent has been coordinating with the City to establish the capacity and condition of the water and sewer systems and compliance and mitigation requirements.

The City has expressed concern that the project's wastewater discharges may include concentrations of polyfluoroalkyl substances (PFAS) that would contaminate effluent and solids produced at the City's wastewater treatment plant. According to supplemental information provided by MassDEP, while there are no state or federal effluent standards currently for PFAS, MassDEP is evaluating the implications of PFAS in wastewater, including potential sources of PFAS in the influent from industrial dischargers, and potential effects of elevated PFAS

concentrations in the effluent on downstream water supplies. [1] To the extent these efforts result in new effluent limits or testing requirements, the Proponent should be prepared to comply with those requirements. The project's wastewater discharges must also conform with any requirements the City may impose through its EPA-approved Industrial Wastewater Pretreatment Program (IPP). The Proponent must address potential contamination of wastewater and solids generated by the project in the FEIR by analyzing its ability to conform to any future regulatory requirements through installation of new testing equipment or testing as needed, or other means. More detail on this type of analysis is provided in the Scope below.

Traffic and Transportation

The EENF had previously provided an analysis of the project's transportation impacts, including a review of existing roadway conditions, a summary of crash data and traffic safety concerns and an analysis of traffic operations at area intersections under existing and proposed conditions; in the DEIR, the Proponent provided a transportation analysis that specifically addressed the vehicle trips generated by Phase 2. Because Phase 2 was included as part of the Full Build condition evaluated in the EENF, the results of the traffic study are similar. As required by the Scope for the DEIR, the DEIR provided a revised traffic analysis, including queue lengths, reflecting the four-way stop-sign controlled intersection at Braley Road/Theodore Rice Boulevard at Phillips Road. As noted in the Scope below, a revised analysis must be provided in the FEIR to support the method of calculating truck trip generation, clarify impacts of each phase and review potential mitigation measures.

The analysis in the DEIR was prepared in general conformance with the EEA/Massachusetts Department of Transportation (MassDOT) *Transportation Impact Assessment (TIA) Guidelines* issued in March 2014. It included a detailed description of existing and proposed roadway conditions, traffic patterns and crash data. The DEIR provided traffic counts in the study area, trip generation estimates and likely travel routes for vehicles arriving to and departing from the site under proposed conditions. It described future No Build and Build traffic operations over a seven-year planning period and identified mitigation measures that will be implemented to minimize impacts to the local transportation network, including Transportation Demand Management (TDM) measures. The DEIR analyzed the transportation impacts of the project in a study area including the following intersections:

- Route 140 Northbound Ramps at Braley Road;
- Route 140 Southbound Ramps at Braley Road;
- Braley Road/Theodore Rice Boulevard at Phillips Road;
- Theodore Rice Boulevard at Duchaine Boulevard;
- Duchaine Boulevard at Samuel Barnet Boulevard;
- Phillips Road at Samuel Barnet Boulevard; and,
- Duchaine Boulevard at Site Driveway.

[1] See January 29, 2020 email from Stephanie Cooper to Alex Strysky. MassDEP does plan to finalize standards for drinking water this year, and has already finalized PFAS standards for its c. 21E hazardous waste clean-up program.

Vehicles are expected to travel to the site from Exit 7 on Route 140 to Braley Road/Theodore Rice Boulevard to Duchaine Boulevard and to follow the same route back to Route 140 when leaving the site.

Trip Generation

According to the DEIR, Phase 2 will generate 300 truck trips per day on each day the facility is open, in addition to the 108 truck trips per day generated by Phase 1. Employees of the facility, including Phase 1 and Phase 2 components of the project, will generate 150 adt. Accordingly, at full buildout the project will generate 558 adt, including 408 truck trips. As noted in the DEIR, each trip represents one trip either to or from the site. Estimates of the volume and hourly distribution of truck trips was based on observations of truck traffic patterns and the number of each type (size) of trucks used to deliver and transport waste at a similar facility in Rochester. According to the DEIR, the trip generation estimate is conservative because it assumes that all material will be brought to the site and transported from the site by truck. The actual number of truck trips are expected to be approximately 300 trips per day for the full buildout because most of the material will be transported from the site by rail.

Traffic Operations

The DEIR compared traffic operations in the study area under Existing 2019, No Build 2026 and Build 2026 conditions. The Existing 2019 scenario incorporated traffic counts collected in 2018, a background annual growth rate in traffic volume of one percent per year and the trips generated by Phase 1. The No Build 2026 was based on traffic volumes in the Existing 2019 scenario with added trips due to the background growth rate over the seven-year period. The Build 2026 condition was developed by adding trips generated by Phase 2 to the No Build 2026 traffic volumes.

The DEIR provided a capacity analysis, including volume-to-capacity (v/c) ratios, delay and Level of Service (LOS) designations, under each scenario for intersections in the study area during weekday morning and evening peak periods. The LOS reflects the overall peak period operations based on the average delay per vehicle entering an intersection, including traffic speed, delay, and capacity. In general, LOS D reflects an acceptable level of operations. The analysis indicated that under Existing 2019 conditions, intersections generally operate at an overall LOS D or better, except for the following:

- The northbound movement at the Route 140 Northbound Ramps at Braley Road operates at LOS F in both weekday peak periods;
- The southbound movement at the Route 140 Southbound Ramps at Braley Road operates at LOS F in both weekday peak periods;
- The eastbound movement at the Braley Road/Theodore Rice Boulevard at Phillips Road intersection operates at LOS F in the weekday evening peak period; and,
- The westbound movement at the Braley Road/Theodore Rice Boulevard at Phillips Road intersection operates at LOS F in both weekday peak periods.

Under the No Build 2026 and Build 2026 scenarios, all intersections are expected to operate under the same conditions as the Existing 2019 scenario. Several intersections

experiencing significant delays and congestion under existing conditions (LOS F) will continue to do so under future conditions; project-generated traffic is not expected to cause any additional intersection movements to operate below LOS D. However, queue lengths at the intersection of Braley Road/Theodore Rice Boulevard at Phillips Road appear to extend to the Route 140 ramps under certain conditions. The FEIR should include a more detailed assessment of the project's contribution to lengthened queues at this intersection during peak periods.

Transportation Demand Management (TDM)

The project will implement a TDM plan to minimize single-occupant vehicle (SOV) trips to the site. As proposed in the DEIR, the TDM plan will include the following:

- Transit subsidies and/or reimbursement program for employees;
- Inform employees of transit options and bicycle and pedestrian facilities;
- Work with Southeastern Regional Transit Authority (SRTA) to improve transit service to the site;
- Implement an employee carpool program;
- Offer direct deposit to employees;
- Provide preferential parking for carpools and vanpools;
- Provide bike racks and other bike storage amenities to encourage bicycling to work by employees; and,
- Work with the City of New Bedford to Provide striped bicycle lanes on Duchaine Boulevard and shared bicycle markings along Theodore Rice Boulevard to connect the site to bicycle facilities on Braley Road.

Greenhouse Gas Emissions

The DEIR included a revised GHG analysis based on the updated site plan and comments submitted by the Department of Energy Resources (DOER) on the EENF. Conditioned buildings that must meet Building Code energy requirements include the glass processing building, the glass recycling north bunker building, and the biosolids building. According to the DEIR, the conditioned buildings will meet or exceed the applicable energy requirements of the Building Code, including the following energy-related features:

- Building envelope: Wall and roof insulation with an R-value of R-19; the biosolids will additionally have a roof insulation linear system with R-11;
- Space heating: gas heating systems (82 percent efficiency) in the glass processing and biosolids buildings;
- Ventilation: Variable frequency drives (VFD) will be incorporated into the ventilation system of the biosolids building; and,
- Lighting: LED lighting will be used throughout the site (including non-conditioned spaces) and the buildings will have a lighting power density (LPD) that is at least 20 percent below the Building Code baseline.

If the project includes only the design features listed above, stationary-source GHG emissions generated the project were estimated as 11,241 tons per year (tpy), a reduction of 152 tpy (approximately 1.3 percent) compared to the baseline design corresponding to minimum

Building Code requirements. This reduction is small, given that "stretch code" communities (currently over 275 cities and towns in the Commonwealth) requires 10 percent more reductions in GHG emissions as compared to minimum Building Code levels. The project will include a 3.5-MW solar PV generating system that will offset 1,649 tpy of GHG emissions. The DEIR included an evaluation of the use of electric cold climate heat pumps to provide space heating. The analysis concluded that GHG emissions associated with heating would decrease by up to 42 percent compared to the proposed gas-fired system, but that the system would be too costly to install and operate. Comments from DOER request clarification of several aspects of the project design and GHG modelling, the selection of a biosolids building space heating system of lower efficiency than the one proposed in the EENF and the reduced roof insulation in the glass recycling building under construction. As indicated in the Scope below, the FEIR will be required to address DOER's comments and provide an updated analysis.

The DEIR calculated the project's mobile-source emissions associated with vehicle trips to the site associated with hauling of waste and employees and the use of front-end loaders to move waste within the site. These GHG emissions were estimated to be 1,721 tpy. The DEIR also compared GHG emissions associated with the off-site transport of processed waste to out-of-state landfills recycling facilities by truck and rail car. The use of rail for this purpose is estimated to reduce GHG emissions by approximately 60 percent (18,802 tpy) compared to the use of trucks. The FEIR should include a revised mobile-source estimate, as necessary, if the estimate of truck trips increases.

Noise

The DEIR included a revised a Sound Level Assessment Report which provided a description of the applicable noise regulatory requirements including the MassDEP Noise Policy, a brief explanation of noise terminology, a summary of the results of the complete ambient sound level monitoring program, and a discussion of the sound level modeling analysis for the proposed project. The facility will operate 24 hours per day, seven days per week, with waste deliveries to the site from 5:00 AM to 9:00 PM. The revised analysis modelled the following primary noise sources:

- Glass recycling building: eight sidewall inlet and exhaust fans;
- MSW/C&D transfer station: tipping and loading, front-end loaders operating inside the building and seven exhaust fans on the rooftop; and,
- Biosolids facility: two dewatering process exhaust fans on the rooftop, a makeup air fan at ground level, a biofilter exhaust stack equipped with an induced draft fan at ground level and four cooling towers; apart from the rooftop fans, all equipment will be on the west side of the building to provide shielding from the residential neighborhood.

According to the DEIR, noise generated by tipping/dumping and spreading of waste by front end loaders was modelled with three garage doors open at all times to produce a conservative analysis; however, the facility will typically operate with all doors closed. The analysis also modelled updated site conditions that are expected to minimize noise intensity, including enclosing glass recycling operations in two bunker buildings, use of an electric rail car pusher, fan silencers on the inlet/exhaust fans and induced draft fan, use of a low-noise makeup

air handling unit and construction of a 100-ft long, 24-ft high L-shaped sound barrier along the southwestern corner of the biosolids building to shield the residential neighborhood from noise generated by equipment on that side of the building.

Sound levels were measured at four locations at the western and eastern boundaries of the site and at two locations closer the residential neighborhood east of Phillips Road to establish background noise levels. The analysis modelled four sound levels at four nearby residential buildings under facility operating conditions. The model predicts that daytime noise levels at the four residential sites will increase by 2-3 decibels (dBA) over existing sound levels and that nighttime sound levels will increase by 6-8 dBA compared to existing conditions. According to the DEIR, the project will comply with the MassDEP Noise Policy because the increase over background noise levels is modelled as less than 10 dBA. The modeling results also indicated that the project is not expected to create any "pure tone" conditions, as defined by MassDEP, when combined with existing background sound levels at any modeled receptor locations. The project's noise levels modelled in the DEIR are generally less than those modelled in the EENF due to the updated site conditions described above, which have been designed to minimize noise impacts.

The DEIR included an analysis of the noise impacts of on-site truck traffic based on the Federal Highway Administration (FHWA) Traffic Noise Model (TNM). Noise levels were modelled for the peak hour of trucking activity based on the traffic study estimate of the number of truck trips to the site anticipated throughout the day. Modelled noise levels from peak hour on-site trucking activity were compared to modelled existing sound levels at the same four residential locations. Noise levels under operating conditions were modelled to be below FHWA's threshold of 66 dBA and will increase by up to 3 dBA, below the Massachusetts Department of Transportation's significance threshold of a 10dBA increase over existing sound levels. Noise impacts from trucks will be minimized by enforcing a low speed limit on roadway leading to the site and prohibiting truck idling and queuing on the east side of the site closest to residential areas.

Comments from MassDEP note that the Sound Level Assessment Report did not analyze all noise sources. The noise model omitted waste delivery vehicles, processing equipment, tipping and loading of biosolids and glass, loading and movement of rail cars and short duration sounds such as backup alarms. In addition, the DEIR did not evaluate a full range of mitigation measures that could be implemented at the site to minimize noise impacts. The Proponent will be required to provide a revised noise analysis in the FEIR.

Air Quality

The DEIR included an updated analysis of the project's air and odor emissions incorporating design refinements since the EENF was filed. It provided estimates of emissions from the project, included air dispersion modelling based on emission rates, exhaust parameters and weather patterns and compared the results to state and federal standards. According to the DEIR, sources of emissions include boiler and dryer emissions through stacks on the biosolids and glass recycling buildings, vents on the biosolids, glass recycling and transfer station buildings, cooling towers associated with the biosolids building, processing equipment and trucks.

The DEIR summarized the results of an air dispersion model that predicted the spread of air pollutants emitted by the project from both stationary and mobile sources. The analysis used the Environmental Protection Agency's (EPA) AEROMOD model, which incorporates emissions from the site, local meteorological data, orientation of buildings and stacks and surrounding terrain to estimate concentrations of air contaminants outside the site boundary. The analysis modelled criteria air pollutants regulated by the EPA through the National Ambient Air Quality Standards (NAAQS), including carbon monoxide (CO), nitrogen dioxide (NO_2), coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$) and sulfur dioxide (SO_2). According to the DEIR, the project's emissions will not contribute to an exceedance of any of the NAAQS established for these criteria pollutants.

The DEIR also included an evaluation of the project's emissions of non-criteria air pollutants using MassDEP Air Toxics Guidelines. MassDEP has establish allowable ambient limits (AAL) for chemicals and threshold effect exposure limits (TELs), which are developed through an analysis of health effects of the pollutants. Non-Threshold Effects Exposure Limits (NTELs) are developed to represent exposure limits to carcinogenic chemicals associated with a one in a million excess cancer risk over a lifetime of exposure to the chemical. The TEL addresses non-cancer health effects of a chemical, including impacts to sensitive populations such as children, and takes into account pathways such as indoor air, food, soil and water, in addition to outside air. The AAL corresponds to the lower of either NTEL or TEL, which for this analysis corresponded to the TEL. According to the DEIR, the project will not cause an off-site exceedance of either the AAL or TEL for any of the pollutants. The DEIR identified site design features that will further minimize air quality impacts, including the maintenance of a vegetated buffer between the site and residential areas, support for a truck restriction on Phillips Road, monthly monitoring of air emissions and development of a system to track odor, noise and dust complaints.

The air quality analysis evaluated the maximum 5-minute-averaged odor concentrations associated with the emissions from the biosolids and MSW facilities at on-site and off-site receptors. The analysis included odor mitigation measures to be implemented by the Proponent, including handling material indoors, the use of biofiltration with carbon/zeolite polishing, ionization and the proposed configuration and location of stacks and vents. According to the DEIR, the odor concentrations were below the concentrations identified in MassDEP's draft odor policy. As detailed below in the Scope for Solid Waste, the Proponent should provide supplemental information on air quality impacts, including a plan for ongoing monitoring.

Environmental Justice and Public Outreach

The DEIR described public outreach conducted by the Proponent since the filing of the EENF and included a report providing baseline health data consistent with the enhanced analysis of impacts and mitigation required by the EJ Policy. The Proponent has prepared a project fact sheet, consulted with community groups to expand distribution of information about the project and held community meetings in the evenings of April 29, 2019 and January 6 and 7, 2020 with Portuguese and Spanish language translators in attendance. Many commenters expressed concern that many residents potentially impacted by the project remain unaware of its details. As recommended by MassDEP, the Proponent should continue its outreach efforts by scheduling additional public meetings and site visits. The Proponent requested an extension of the comment period from the standard 30 days to 62 days to facilitate public review of the DEIR, and has

committed to providing notice of the FEIR at least 30 days prior to the comment period to allow for at least a 60 day review period for the FEIR.

The DEIR included an Environmental Justice report that reviewed baseline public health data for areas within one mile of the site, including sections of New Bedford, Acushnet and Dartmouth, available on the Department of Public Health's (DPH) Massachusetts Environmental Public Health Tracking (EPHT) website. The analysis reviewed rates of asthma hospitalizations and emergency room visits for the years 2000-2015; incidences of cancer for the years 2000-2013; rates of Chronic Obstructive Pulmonary Disease (COPD) hospitalizations and emergency room visits for the years 2000-2015; rates of Acute Myocardial Infarction (AMI) hospitalizations for the years 2000-2015; and prevalence of pediatric asthma for the years 2009-2017 (based on data from three schools in New Bedford). According to the DEIR, the data indicate that New Bedford suffers from elevated incidences of these parameters as compared to statewide averages, while Acushnet and Dartmouth have rates similar to or lower than the statewide average. As detailed in the Air Quality section above, the DEIR included analyses of the project's air emissions that indicated that the project will not exceed air quality standards that are protective of human health.

The DEIR Scope required the Proponent to evaluate the future climate conditions, such as extended periods of drought and extreme temperatures, on air quality within the EJ populations. As a potential measure of the effects of extreme temperature, the DEIR summarized EPHT data on incidences of heat-related illness hospitalizations and emergency room visits in the area. Heat-related illness hospitalizations were not statistically elevated at the community and county levels compared to the statewide average; emergency room visits due to heat-related illness were elevated at the county level, but not at the community level. The DEIR also indicated that no air stagnation watches or warnings were issued by the National Weather Service (NWS) for Bristol County from 1986 to 2018. The FEIR should provide a more detailed explanation and analysis of air quality impacts under future climate conditions.

As described in the Scope below, the FEIR should include additional analysis regarding factors related to air quality that may contribute to public health impacts for EJ communities, including a plan for ongoing monitoring of air pollution, noise and odor and supplemental analysis of weather related impacts. The risk of drinking water contamination appears low because all waste processing will occur within buildings equipped with floor drains leading to holding tanks or the sanitary sewer system. However, there is some indication that the presence of PFAS in treated wastewater could pose health risks. For this reason, the FEIR should also include additional analysis of potential measures to address future regulatory changes related to PFAS in wastewater, as described in the Scope below.

Hazardous Waste

The DEIR included a draft Spill Contingency Plan identifying proposed measures to be implemented by the Proponent to prevent and minimize releases of oil and other hazardous materials at the site. Measures to prevent spills include enclosing the facility operations, monitoring loading and refueling operations, and performing daily inspections of equipment and storage containers. Spill containment equipment, such as absorbent booms, spill pillows, wood chips, vermiculite and sand will be stored on-site in well-marked locations. Any used material

will be placed in 55- or 85-gallon drums that will be stored, handled and disposed of as hazardous material.

Construction Period

The FEIR identified construction-period mitigation measures to minimize noise and impacts to air, water, and wetlands. The measures include sedimentation and erosion controls, minimizing emissions from construction equipment using emission control devices such as oxidation catalysts, minimizing idling by construction vehicles and complying with the City's hours of construction and noise limitations.

Conclusion

Based on a review of the DEIR, comments letters and consultation with State Agencies, I have determined that the DEIR adequately and properly complies with MEPA and its implementing regulations. The MEPA regulations indicate that a DEIR can be determined adequate, even if certain aspects of the Project or issues require additional description or analysis in a FEIR, provided that it is generally responsive to 301 CMR 11.07 and the Scope. The DEIR was generally responsive to the Scope included in the EENF Certificate. It provided a detailed description of Phase 2, identified potential environmental impacts and described mitigation measures. As noted above and by several commenters, the FEIR did not provide all of the information and analyses required in the DEIR Scope and included inconsistencies in the description of project components and operations. The Proponent should provide detailed and comprehensive responses to the issues identified in the Scope below in order to avoid the need for foiling supplemental documentation after the FEIR.

SCOPE

General

The FEIR should follow Section 11.07 of the MEPA regulations for outline and content, in addition to the information and analyses identified in this Scope. While providing much of the information and analysis required in the Scope for the DEIR, the DEIR was not prepared in the format specified in the Scope, which required a full and self-contained description and analysis of the project and a comprehensive narrative with a separate chapter for each of the categories in this Scope. Each chapter should provide an overview of the topic, additional information and analysis in response to the Scope, and a narrative to explain and support the analysis of the project's impacts and mitigation. Each chapter should include relevant documentation and tables extracted from technical appendices to supplement the narrative; supporting information should not be presented only in the appendices. Technical documentation, such as drainage calculation, traffic counts and similar data, should be provided in a digital format such as CD-ROM, DVD, flash drives or download. The FEIR should be prepared following these specifications, and those identified in specific sections of the Scope below, in order to facilitate the understanding of the project by agencies and the public, including how the project will meet all relevant regulatory standards and all mitigation measures incorporated into the design of the facility's buildings and operations and exterior features of the site or provided at off-site locations. I encourage the Proponent to consult with the MEPA office prior to filing the FEIR to ensure that it has been

prepared consistent with the MEPA regulations and this Scope to avoid the need for supplemental MEPA review of the project.

Many commenters requested additional extensions of the comment period to provide sufficient time for a detailed review of the extensive technical documentation provided in the DEIR. I note that the MEPA regulations do not provide for an extension of the comment period on a FEIR beyond the 30-day period specified in the statute and regulations. However, the Proponent has agreed to distribute the FEIR at least 30 days prior to the formal start of the comment period to ensure that the public has at least 60 days to review the document.

Project Description and Permitting

The FEIR should include a detailed and consistent description of the project, including existing and proposed conditions at the project site at a legible scale. It should include dimensions of all existing and proposed buildings and structures, including height of buildings and stacks, plans showing the uses of and/or within each existing and proposed structure, a delineation of uses on exterior areas of the site under existing and proposed conditions, a quantification of the existing and proposed uses within each structure and on exterior areas, boundaries of wetland resources area under existing and proposed conditions and graphical and quantitative comparisons of impervious area under existing and proposed conditions. The FEIR should show areas of land alteration for buildings, roadways, parking, wastewater, water and stormwater infrastructure, lawns and landscaping, and other project components. The FEIR should clearly and consistently describe the project, including building designs and other components. All analyses presented in the FEIR should be based on the same structural and operational designs of the project.

The FEIR should include an analysis of the project that demonstrates that the Preferred Alternative includes all feasible means to avoid Damage to the Environment, or to the extent that Damage to the Environment cannot be avoided, that it includes measures to minimize and mitigate Damage to the Environment to the maximum extent practicable. It should clearly describe any changes to structural and operational components of the project from the designs presented in the EENF and the DEIR, including plans illustrating the changes, a narrative describing and quantifying the changes and any associated impacts. The FEIR should provide a brief description and analysis of applicable statutory and regulatory standards and requirements, and a description of how the project will meet those standards and provide an update on the state, federal, and local permitting process. It should include a table listing all required state, local and federal permits or other approvals and the status of the permit application. It should specifically identify any changes to the list of required permits since the filing of the EENF and DEIR.

Environmental Justice and Public Outreach

As detailed below, the FEIR must include additional information about the operations of the facility and potential public health, environmental and transportation impacts. The Proponent should continue its public outreach efforts to ensure that the additional information is available and presented to the public. MassDEP recommends that the Proponent schedule additional public meetings and site visits at times that are convenient to the public. Consistent the public outreach efforts already conducted, I commend the Proponent for committing to distribute the

FEIR at least 30 days prior to the start of the MEPA public comment period to facilitate public review of the document.

According to the DEIR, the Proponent will be required by MassDEP to monitor emissions on a monthly basis. In addition, the Proponent will prepare a a system to log odor, noise and dust complaints associated with the operation of the facility to be provided to MassDEP and the New Bedford Board of Health. The FEIR should include additional details on the air quality parameters to be monitored, ongoing modelling of the cumulative concentration of contaminants affecting sensitive receptors and the method by which the data will be made available to the public. It should include a draft of the complaint log sheet and describe response measures and mitigation action levels that will be implemented by the Proponent.

The FEIR should expand upon the DEIR's discussion of potential climate-related air quality impacts. It should review NWS data on air quality alerts based on air quality index and discuss how extreme temperatures might affect the frequency and severity of future air quality alerts. As described below, supplemental analysis of odor, noise and wastewater impacts should be provided.

Solid Waste

The FEIR should respond to comments from MassDEP and the City of New Bedford requesting clarification of the delineation of the waste handling site assignment areas on the Land Use plan included in the DEIR. It should review the site assignment boundary relative to adjacent agricultural lands and describe any changes to the site assignment area that may be necessary. The FEIR should explain why the waste handling areas are shown on the plan to include exterior portions of the site despite the Proponent's commitment to limit waste handling operations to enclosed buildings. Any waste handling activities outside of the buildings should be described.

The FEIR should include a revised or supplemental plan of rail car movements showing how loading of material from the glass recycling and biosolids buildings will occur. It should explain and illustrate with plans how the rail cars will be moved from the rail car storage spurs to each of the buildings while all buildings are in operation. The FEIR should explain how long waste material may be stored in rail cars waiting to be transported off site, describe any potential odor, air quality or nuisance impacts that may result and identify mitigation measures.

The City of New Bedford expressed concern that the wastewater discharged into the City's sewer system could add PFAS to its wastewater treatment system. Because PFAS is not removed by wastewater treatment systems, the City notes that the PFAS could impact the environment by its presence in treated wastewater discharges and potentially affect the City's ability to meet future effluent standards. While the Proponent does not state any current plans to land-apply or sell biosolid residuals as fertilizer, the FEIR should review how the biosolids facility may be operated if it is subject to future PFAS standards related to both its wastewater and solids (residuals) imposed by state, federal or City regulations. It should evaluate alternatives for monitoring and managing PFAS , including, at a minimum, refusing to accept biosolids from treatment plants with elevated PFAS levels; on-site testing and treatment of solids and wastewater to achieve PFAS standards; and alternate disposal methods, such as transport of wastewater and dried solids to an off-site treatment facility. The FEIR should describe any

facilities that may be necessary to address PFAS-contaminated biosolids, including expanded or additional buildings.

Traffic

The FEIR should include a revised traffic analysis prepared in accordance with the EEA/MassDOT *Transportation Impact Assessment (TIA) Guidelines* that compares intersection operations under Existing, Phase 1 Build, 2026 Baseline and 2026 Full Build scenarios. In addition to weekday morning and evening peak periods, it should analyze traffic operations for the Saturday midday peak period for all scenarios. The FEIR should discuss how the lengths of project-generated trucks contribute to lengthened queues at study area intersections. It should include diagrams showing queues at the Braley Road/Theodore Rice Boulevard at Phillips Road intersection at all peak periods, describe any impacts to traffic using the Route 140 ramps and identify any necessary mitigation measures. The FEIR should include modelled queue lengths that may be supplemented by field observations.

As requested by MassDEP, the FEIR should include additional documentation and analysis in support of the truck trip generation estimate, including peak hours, used in the DEIR. It should discuss how traffic patterns at the Rochester facility were used to the model the project's volume and hourly distribution of truck trips. The FEIR should provide greater detail on the average truck load used to calculate the number of trucks required to deliver waste to the project site and clarify whether outbound truck trips from the biosolids facility were included. If necessary, the traffic analysis should incorporate this revised data.

The DEIR identified TDM measures to be implemented by the Proponent but did not propose roadway improvements to mitigate the project's traffic impacts. The FEIR should identify any roadway mitigation measures to be implemented by the Proponent based on the results of the revised traffic analysis and/or consultation with MassDOT and the City. According to MassDEP, the FEIR must include commitments to restrict project-generated truck traffic to the truck route identified in the DEIR (Route 140 to Braley Road/Theodore Rice Boulevard to Duchaine Boulevard) or revise the traffic study to evaluate other routes that could be used by trucks. The FEIR should include a commitment by the Proponent to restrict project-generated truck access on Phillips Road and provide a protocol showing how this could be implemented and monitored. It should provide additional detail concerning the Proponent's recommendation that a general truck exclusion be implemented on Phillips Road.

Noise

The FEIR should include a revised analysis that takes into account additional potential sound sources identified by MassDEP, including waste delivery vehicles inside and outside the building; MSW, biosolids and glass processing equipment; biosolid and glass tipping and loading; loading and movement of rail cars; and short duration sounds from the outdoor operation of waste handling equipment, delivery vehicle back-up alarms, and dump truck tailgates. The Proponent should consult with MassDEP prior to completing the FEIR for guidance on establishing the ambient sound level based on the 7-day average of the lowest daytime and nighttime hourly L90 levels, modeling of all potential sound sources as described above, and modeling and analysis of project-generated sound sources using L90 sound levels.

The FEIR should identify measures to be implemented by the Proponent to mitigate project-generated noise to the maximum extent practical using a top-down approach.

Greenhouse Gas Emissions

The FEIR should address the questions and comments in DOER's comment letter, which is incorporated herein by reference. It should clarify which buildings were included in the energy model, the number of ventilation fans on the glass processing building, and the apparent reduction in the energy-efficiency of the biosolids building heating system. The FEIR should provide additional details regarding the lighting needs of the facility in the format specified in DOER's comment letter and explain how the analysis credited LPD with respect to Building Code requirements. It should address DOER's comments concerning the design of the biosolids building envelope and the wall insulation proposed in the conditioned buildings.

The FEIR should include commitments to GHG mitigation measures and provide a revised analysis comparing a Base Case design to the Preferred Alternative incorporating energy-efficient design measures. As requested by DOER, the FEIR should provide a table listing all energy systems, minimum Code requirements for the systems, proposed systems and the difference in performance. According to the DEIR, the Proponent has constructed the roof of the glass recycling building without R-11 linear system insulation committed to in the EENF. The FEIR should address the building's compliance with the Building Code, any necessary changes to the building that may be required to meet Code requirements and mitigation measures to compensate for the elimination of this mitigation measures described in the EENF. At a minimum, the FEIR should commit to GHG mitigation measures included in the EENF. I note that a new Building Code will be in effect by the time the FEIR is filed. The building designs described in the FEIR should be updated to reflect the updated Building Code. The FEIR should provide the additional analyses identified in DOER's comment letter regarding Alternative Energy Credits applicable to heat pumps and opportunities for achieving above-Code building envelopes. It should provide an update on the status of construction of the PV system and, if necessary, provide a revised schedule for its completion. The FEIR should review the proposed biosolids drying equipment and document that energy-efficient models will be used.

Mitigation and Draft Section 61 Findings

The FEIR should include a separate chapter summarizing proposed mitigation measures for both Phase 1 and Phase 2. This chapter should also include draft Section 61 Findings for each State Agency that will issue Permits for the project. The FEIR should contain clear commitments to implement mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation (either funding design and construction or performing actual construction), and contain a schedule for implementation. To ensure that all GHG emissions reduction measures adopted by the Proponent in the Preferred Alternative are actually constructed or performed by the Proponent, the FEIR must include a to self-certification to the MEPA Office indicating that all of the required mitigation measures, or their equivalent, have been completed. The commitment to provide this self-certification in the manner outlined above should be incorporated into the draft Section 61 Findings.

Response to Comments

The FEIR should contain a copy of this Certificate, and a copy of each comment letter received. Based on the large volume of form letters received, copies of form letters may be provided electronically. To ensure that the issues raised by commenters are addressed, the FEIR should include a separate chapter with direct responses to comments to the extent that they are within MEPA jurisdiction. A single response to form letters can be provided. This directive is not intended, and shall not be construed, to enlarge the scope of the FEIR beyond what has been expressly identified in this certificate. The Proponent should provide a direct response to individual responses or to groups of indexed comments raising the same issue. Responses must specifically address each comment letter on the DEIR; references to a chapter or extensive section of the FEIR are not adequate.

Circulation

The Proponent should circulate a hard copy of the FEIR to any State and City Agencies from which the Proponent will seek permits or approvals, and to any parties specified in Section 11.16 of the MEPA regulations. The Proponent must circulate a copy of the FEIR to all other parties that submitted individual written comments. In accordance with 301 CMR 11.16(5), the Proponent may circulate copies of the FEIR to these other parties in CD-ROM format or by directing commenters to a project website address. However, the Proponent should make available a reasonable number of hard copies to accommodate those without convenient access to a computer and distribute these upon request on a first-come, first-served basis. The Proponent should send correspondence accompanying the CD-ROM or website address indicating that hard copies are available upon request, noting relevant comment deadlines, and appropriate addresses for submission of comments. In addition, a hard copy of the FEIR should be made available for review at the New Bedford Public Library. The FEIR submitted to the MEPA office should include a digital copy (e.g., CD-ROM, USB drive) of the complete document.

January 30, 2020
Date

K. Theoharides
Kathleen A. Theoharides

Comments received:

62 form letters expressing concern about the project beginning "In early February of this year…"
21 form letters expressing concern about the project beginning with "First, let me thank you…"

10/31/2019 William J. Pires
11/22/2019 Charles Kennedy
11/25/2019 Tracy Wallace
11/26/2019 Sharon Pickering
12/01/2019 Vincent Carolan
12/01/2019 Claudia B. Ostiguy
12/01/2019 Ken Costa
12/03/2019 Robert H. Ladino
12/04/2019 Nelson Ostiguy
12/06/2019 Paul Schofield
12/07/2019 Michael J. McHugh
12/08/2019 David Amaral
12/09/2019 Carol Strupczewski
12/11/2019 Wendy M. Graça
12/13/2019 Senator Mark Montigny, Second Bristol and Plymouth District
12/16/2019 Claudia B. Ostiguy
12/18/2019 Robert H. Ladino
12/23/2019 Richard W. Fournier
12/23/2019 Jennifer Silva
12/26/2019 Kayla Trahan
12/27/2019 Claudia and Stanley Koska
12/30/2019 William Andrews
01/02/2020 Karen A. Chin
01/03/2020 Michelle T. Roza
01/03/2020 Carl E. Roza
01/03/2020 William Andrews
01/05/2020 Carl P. Anctil
01/05/2020 Corine Anctil
01/05/2020 Jenna Anctil
01/06/2020 Thomas Grota
01/06/2020 Betty Grota
01/07/2020 Richard Hatten
01/08/2020 Becca Kurie
01/09/2020 Donna Poyant
01/10/2020 Thomas Rua
01/12/2020 Jose Da Costa
01/13/2020 Brittny Furtado
01/14/2020 Kenneth Costa
01/14/2020 Deborah J. Fleet
01/15/2020 Eileen S. Dunleavy
01/15/2020 Giselda Rodrigues
01/15/2020 Robert H. Ladino
01/16/2020 Barbara J. Bouchard

01/17/2020	Carole Sherman
01/20/2020	Roger Cabral
01/20/2020	Charles F. Kennedy
01/20/2020	Susana Carreiro
01/20/2020	Manuel Carreiro
01/20/2020	Frances Heggie
01/21/2020	Rita Lizotte
01/22/2020	Tracy L. Wallace
01/22/2020	William Andrews
01/22/2020	Brad Markey, New Bedford City Council
01/22/2019	Elizabeth Saulnier
01/22/2020	Town of Acushnet Board of Selectmen
01/22/2020	Lisa Marie Andrews
01/23/2020	Representative Paul A. Schmid, 8th Bristol District
01/23/2020	Ariane Lambert
01/23/2020	KP Law on behalf of the City of New Bedford
01/23/2020	Massachusetts Department of Environmental Protection (MassDEP)/Southeast Regional Office (SERO)
01/23/2020	Elizabeth Isherwood
01/23/2020	Wallace A. Greely
01/23/2020	Alexia Orphanides
01/23/2020	Rick Kidder
01/23/2020	Department of Energy Resources (DOER)
01/29/2020	Massachusetts Department of Environmental Protection (MassDEP)

KAT/AJS/ajs

EXHIBIT 4

SECRETARIES CERTIFICATE FOR THE FEIR

The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Charles D. Baker
GOVERNOR

Karyn E. Polito
LIEUTENANT GOVERNOR

Kathleen A. Theoharides
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1181
http://www.mass.gov/envir

April 2, 2021

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
FINAL ENVIRONMENTAL IMPACT REPORT

PROJECT NAME	: Parallel Products of New England
PROJECT MUNICIPALITY	: New Bedford
PROJECT WATERSHED	: Buzzards Bay
EEA NUMBER	: 15990
PROJECT PROPONENT	: Parallel Products of New England, Inc.
DATE NOTICED IN MONITOR	: February 24, 2021

Pursuant to Section 11.08(8)(c)(2) of the MEPA regulations, I hereby determine that the Final Environmental Impact Report (FEIR) submitted on this project **does not adequately and properly comply** with the Massachusetts Environmental Policy Act (MEPA; M.G.L. c. 30, ss. 61-62I) and with its implementing regulations (301 CMR 11.00), and therefore requires the filing of a Supplemental FEIR. Specifically, I find that further analysis of the project's impacts and mitigation measures is required to satisfy the MEPA requirements that the project's environmental impacts have been clearly described and fully analyzed or that it has incorporated all feasible means to avoid Damage to the Environment.

I received over 450 comment letters from elected officials, the City of New Bedford (City), legislators, community and environmental organizations, and residents, including more than 350 letters opposed to the project because of its noise, air quality, odor and traffic impacts and its proximity to residences and schools. I note these topics were a significant focus of the Scope for the FEIR. Most commenters opposed to the project also highlighted the environmental burden placed on Environmental Justice (EJ) populations and residents in nearby sections of New Bedford associated with the cumulative impacts of existing solid waste facilities, including active and inactive landfills, hazardous waste sites and traffic congestion. The need to address the disproportionate environmental burden experienced by EJ populations was recognized by Governor Baker and the Massachusetts Legislature with the recent passage into law of Senate Bill 9 - An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy, which includes provisions that significantly increase protections for EJ communities across the

Commonwealth. Regulations for administering the EJ-related provisions of this legislation will be developed in the near future. The MEPA review process offers an appropriate forum for addressing cumulative environmental impacts, including those disproportionally affecting EJ populations.

The information and analyses to be provided in the Supplemental FEIR are necessary to comprehensively address the issues identified in comment letters submitted by the City and others and issues identified in the Scope for the FEIR, issued on January 30, 2020. As detailed below, the Scope is largely consistent with comments provided by the Massachusetts Department of Environmental Protection (MassDEP), which identify information that will be required during the solid waste permitting process, including additional analyses of the project's noise and traffic impacts and potential discharges of per- and polyfluoroalkyl substances (PFAS). The Supplemental FEIR will provide an opportunity for public review and comment on this information prior to the project entering the permitting phase.

Project Description

As described in the FEIR, the project includes the construction of a waste management facility comprised of a glass recycling/processing facility; a solid waste handling and processing facility that will accept 1,500 tons per day (tpd) of municipal solid waste (MSW) and construction & demolition (C&D) waste; and a biosolids drying facility that will accept 50 dry tpd (400 wet tpd) of biosolids, which are residual solid materials left over from the treatment of sewage at municipal wastewater treatment plants (commonly referred to as sludge).

The project will be constructed in two phases. Phase 1 includes construction of: a 27,500-square foot (sf) building for glass recycling/processing ("Glass Processing Building"), a 23,050-sf bunker building ("Glass Processing Bunker Building") attached to the north side of the Glass Processing Building, a 22,819-sf side bunker building ("Glass Processing Side Bunker Building") southeast of the Glass Processing Building, a railroad (RR) sidetrack from the main RR line to the glass processing facility, and installation of a 1.9-megawatt (MW) solar photovoltaic (PV) array. The glass recycling/processing facility will also occupy an approximately 50,000-sf portion of an existing 92,200-sf building ("existing building"). The glass recycling/processing facility will recycle glass collected through the Massachusetts bottle deposit system. Glass processing will include crushing, sizing and separation of the glass by color. Processed glass will be stored in bunkers until it is loaded into rail cars or trucks for shipment to bottle manufacturers. Phase 1 was proposed by the Proponent to meet a regional need for glass processing by providing an alternative market for glass that would otherwise be discarded. The proponent submitted an Expanded Environmental Notification Form (EENF) in February 2019 with a Phase 1 Waiver request to allow Phase 1 to proceed prior to completion of MEPA review of the second phase of the project. A Phase 1 Waiver was granted in a Final Record of Decision (FROD) issued on May 15, 2019 and no further MEPA review of the Phase 1 project components, as described in the EENF, is required. The glass recycling facility is operating in the existing building and in the 27,500-sf Glass Processing building. Construction of the other Phase 1 components has not commenced.

Phase 2 includes the MSW and C&D transfer station, the biosolids drying facility ("Biosolids Building") and extension of the RR sidetrack to service these facilities. The transfer station will be comprised of a 48,900-sf MSW and C&D tipping and processing building

attached to the west side of the existing building, which will house sorting and processing equipment to remove waste ban items and separate out recyclable materials. The MSW tipping building will have four 70-ft high (above ground level) exhaust stacks and the MSW processing building will have three 70-ft high exhaust stacks. The biosolids facility will be constructed as a stand-alone 30,000-sf building northeast of the glass recycling facility. Biosolids processing will consist of drying the biosolids to reduce the volume and tonnage of the material prior to off-site disposal. The biosolids building will include twelve (12) 40-ft high exhaust stacks. Shipment of all outbound material will primarily occur via rail car. According to the FEIR, two changes have been made to the project design since the filing of the Draft Environmental Impact Report (DEIR) to minimize noise impacts. The Biosolids Building has been expanded to allow delivery trucks to enter the building and unload the wet biosolids, and a proposed 24-ft high noise barrier will be lengthened to 325 ft and extended along the eastern and southern end of the RR spurs to shield sounds from locomotives, railcar coupling and mechanical equipment at the Biosolids Building.

According to the FEIR, MSW, C&D and biosolids will be delivered to the facility by truck between 5:00 AM and 9:00 PM, Monday through Saturday. Biosolids delivery may also occur on Sunday between 6:00 AM and 6:00 PM. The facility will receive C&D, baled MSW, and loose MSW in live floor trailers, transfer trailers, and packer trucks (respectively). All material will be deposited and processed within the tipping and processing building. Trucks will be weighed on a truck scale and backed into the proposed tipping building to tip their load. Processing equipment and manual picking lines will remove waste ban items, including recyclables, from the mixed waste and will separate other recyclable materials for recycling or diversionary uses. Extracted recyclables are expected to comprise 20 percent of the MSW throughput and will be sent to recycling markets by rail or truck. The facility will include two processing lines with a total capacity of 40 tons of MSW per hour. Residual waste will be baled, shrink-wrapped, and transported via rail for disposal at off-site locations. Baled waste delivered to the site will not be further processed by transported off-site. The facility will receive Category 2 (pre-processed) and Category 3 (bulky waste with minimal recyclable material) C&D, which will be delivered to the tipping facility in trailers. Processed MSW will be baled and shrink-wrapped prior to being loaded onto rail cars. The facility is anticipated to generate 1,300 tpd of processed MSW and C&D for disposal, which would fill approximately 15 rail cars each day.

The biosolids processing facility will accept solids from wastewater treatment plants and will have a maximum processing capacity of 50 dry tpd (400 wet tpd). All biosolids processing will be done within a separate enclosed building with ionization and biofilter odor control systems. The facility will accept dewatered cake biosolids with a solids content between 15 percent and 30 percent and thickened wet slurry biosolids with a solids content of 5 percent to 10 percent. Wet slurry biosolids will be delivered to the site in tanker trucks, which will discharge the slurry through piping to storage tanks that will be sized to hold a volume equivalent to three days of deliveries. The slurry will be dewatered to produce a biosolids cake with a solids content of 30 percent. Approximately 52,000 gallons per day (gpd) of wastewater is expected to be extracted from the dewatering process and discharged into the City's sewer system. The dewatered biosolids cake will be delivered to the site in covered dump trucks. The trucks will drive into the facility and dump the material into a receiving area. The dewatered cake biosolids and dewatered slurry cake will be blended together and directed to a thermal dryer that utilizes a natural gas burner. The facility will be equipped with four dryers arranged in a parallel configuration, three of which will be typically in use and the fourth on standby if another dryer

becomes unavailable; if all four dryers are inoperable, the biosolids and cake will be stored within the facility until its storage capacity is reached and no more material can be accepted. Moisture evaporated from the drying process will be condensed at a rate of 30,000 gpd and discharged into the City's sewer system. The biosolids will be dried to approximately 90 percent solids and sent via railcar or truck for disposal or for beneficial reuse as landfill daily cover. According to the FEIR, the facility will include fire alarms and fire suppression systems recommended by the National Fire Protection Association to minimize the potential the risk of fires during drying operations. The dryers will include safety features such as temperature controls, measures to minimize flammable dust from entering the dryers and a fire suppression system, and will be operated to maintain oxygen-deficient conditions within the dryer. Dried biosolids will be cooled before being transferred to storage tanks, stored in oxygen-deficient conditions and monitored for temperature. Dried biosolids will not be marketed or sold for reuse as fertilizer.

Project Site

The 71-acre project site is located within the New Bedford Industrial Park at 100 Duchaine Boulevard. The site is generally bounded by industrial properties and Samuel Barnet Boulevard to the north, Phillips Road to the east, undeveloped land to the south, and RR tracks and the Acushnet Cedar Swamp State Reservation to the west. The site was previously developed by the Polaroid Corporation and contains access roads, parking areas, stormwater management infrastructure and numerous buildings. The Proponent purchased the site in 2016 and has relocated a portion of its processing and recycling operations from 969 Shawmut Avenue in New Bedford to the project site. The site also contains a 1.6-MW solar photovoltaic (PV) system mounted on a series of carport canopies. Access to the site is provided from Duchaine Boulevard, via an internal one-way loop roadway surrounding the proposed facility.

Most of the northern and western parts of the site are comprised of wetland resource areas, including Bank, Bordering Vegetated Wetlands (BVW), Land Under Water (LUW), and Riverfront Area. The project site is not located in Priority and/or Estimated Habitat as mapped by the Division of Fisheries and Wildlife's (DFW) Natural Heritage and Endangered Species Program (NHESP) or an Area of Critical Environmental Concern (ACEC). The site does not contain any structures listed in the State Register of Historic Places or the Massachusetts Historical Commission's (MHC) Inventory of Historic and Archaeological Assets of the Commonwealth.

Environmental Impacts and Mitigation

Potential environmental impacts associated with full-build of the project include alteration of 2.8 acres of land; a net addition of 0.3 acres of new impervious area (18.03 acres total at the site); alteration of 4,095 sf of BVW, 45 linear feet (lf) of Bank, 4,700 sf of Bordering Land Subject to Flooding and 4,700 sf of Riverfront Area; generation of 718 new average daily trips (adt), including 418 daily truck trips; use of 70,150 gallons per day (gpd) of potable water, and generation of 113,750 gpd of wastewater. Of these impacts, the following are attributable to Phase 2: alteration of 2.24 acres of land, generation of 478 adt (including 328 truck trips), use of 70,150 gpd of potable water and generation of 113,750 gpd of wastewater. Construction and operation of the facilities will emit air pollutants and odors and generate noise. The project will also emit Greenhouse Gasses (GHG) in connection with its energy use and trip generation.

Measures to avoid minimize, and mitigate project impacts include constructing the project on a previously altered site; enclosing all areas where discharge, handling and processing of glass, solid waste and biosolids will occur; use of rail to transport the majority of material from the site; installation of a floor drain collection system that drains to a holding tank or sanitary sewer system to prevent groundwater contamination; operation of a 3.9-megawatt (MW) canopy-mounted solar PV generating system; erosion and sedimentation controls; stormwater management controls and implementation of Best Management Practices (BMPs) to minimize odor, dust, noise, and litter impacts.

Jurisdiction and Permitting

The project is undergoing MEPA review and requires the preparation of a mandatory EIR pursuant to Sections 11.03(5)(a)(6) and 11.03(9)(a) of the MEPA regulations because it requires State Agency Actions and will result in: New Capacity for storage, treatment, processing, combustion or disposal of 150 or more wet tpd of sewage sludge and New Capacity of 150 or more tpd for storage, treatment, processing, or disposal of solid waste (respectively). Because it requires an EIR, the project is subject to review in accordance with the MEPA Greenhouse Gas (GHG) Emissions Policy and Protocol. The project is also subject to the Executive Office of Energy and Environmental Affairs' Environmental Justice (EJ) Policy as it is located within an EJ Population and exceeds mandatory thresholds for sewage and solid waste.

Phase 1 of the project will receive Financial Assistance from the Massachusetts Department of Transportation (MassDOT) Industrial Rail Access Program (IRAP) in the amount of $500,000. Phase 1 received an Order of Conditions (DEP File No. SE49-0381) from the New Bedford Conservation Commission on July 30, 2020 and an amended Site Plan Approval from the New Bedford Planning Board on December 23, 2020.

The remainder of the project will require a Determination of Site Suitability, Authorization to Construct, and Authorization to Operate from MassDEP and a NPDES General Permit (GP) for Construction and/or Multi-Sector General Permit (MSGP) for Stormwater Discharges Associated with Industrial Activity from the U.S. Environmental Protection Agency (EPA). The project will also require a number of local permits from the City, including: Site Assignment from the Board of Health (BOH), a new and/or Amended Order of Conditions from the Conservation Commission, and a new and/or amended Site Plan Approval from the Planning Board.

Because the Proponent is seeking Financial Assistance, MEPA jurisdiction is broad in scope and extends to all aspects of the project that may cause Damage to the Environment, as defined in the MEPA regulations. The impacts arising from Phase 2 also are closely related to the required State Permits, including MassDEP's site suitability standards for solid waste handling facilities.

Review of the FEIR

The FEIR described the project and its environmental impacts and identified mitigation measures. It provided detailed site plans, including existing conditions and site conditions under Phases 1 and 2. It included a review of the project's permitting status, a response to comments

received on the DEIR and draft Section 61 Findings. As noted below, the FEIR did not adequately respond to several issues raised in the Scope. These issues should be addressed in the Supplemental FEIR.

Environmental Justice and Public Outreach

The Scope included in the DEIR Certificate required the FEIR to: describe how the project's air emissions will be monitored during operation of the facility to track its contribution to contaminants affecting sensitive receptors and the data made available to the public; develop a system for logging odor, noise and dust complaints associated with the operation of the facility and identify response measures; and include additional information about the operations of the facility and potential public health, environmental and transportation impacts, including a review of potential climate-related air quality impacts and an expanded discussion of how extreme temperatures might affect the frequency and severity of future air quality alerts issued by the National Weather Service (NWS).

According to the Proponent, the modeling of the project's air emissions previously provided in the DEIR, and summarized in the FEIR, described a worse-case scenario based on maximum site processing rates. The analysis documented that concentrations of air contaminants emitted by the facility will be below MassDEP's air permitting thresholds and MassDEP has not identified the need for an air permit for the project. According to the FEIR, the results of the air dispersion model address cumulative air impacts and varying climate conditions. As described in the FEIR, the ambient air toxic standards are intended to address the cumulative effect of the project's emissions and the project's emissions of criteria pollutants are evaluated against the standards after adding background pollutant concentration for other sources. The air dispersion model was prepared using methods prescribed by the EPA and incorporated weather conditions reflected in five years of hourly weather data; according to the FEIR, dispersion of pollutants is affected by colder temperatures rather than the prolonged period of high temperature projected under future climate conditions. As detailed below, the Supplemental FEIR should include a review of the analysis of the project's air emissions written in non-technical language.

Public Outreach

The FEIR described additional public outreach efforts conducted by the Proponent prior to filing the FEIR, including two virtual meetings held in December 2020. The Proponent will be required to continue to inform the public and seek additional input about the project during the subsequent permitting process. In connection with the MassDEP's Site Assignment review, the Proponent will be required to develop a Public Involvement Plan (PIP); the Supplemental FEIR should include an outline of public participation measures that may be included in the PIP.

I appreciate that the Proponent distributed the FEIR 30 days prior to the start of the formal MEPA comment period to provide additional time for public review of the project The public will continue to have opportunities to learn about the project and to review and comment on subsequent permit applications. Commenters on the FEIR and previously-filed MEPA documents for this project will receive a copy of the Supplemental FEIR as described below and will have an opportunity to comment during the 30-day comment period. The project will also require three permits or approvals from MassDEP. The Site Suitability review will include a 21-day comment period and the Authorization to Construct permit review will include a 30-day

public comment period; MassDEP may also allow for a 21-day comment period in connection with the issuance of a provisional Authorization to Operate permit. In addition, the BOH must hold a public hearing prior to making a decision on the Site Assignment.

The FEIR included a draft of a log sheet that will be used by the Proponent to document complaints received from the public regarding noise, odor and/or dust generated by the facility. Upon receipt of a complaint, staff of the facility will note weather conditions, attempt to confirm the odor, noise and/or dust impact reported by the complainant, implement mitigation measures to eliminate or minimize the impact, evaluate the cause of the complaint and determine whether new practices or procedures are necessary to avoid a repetition of the impact, and respond to the complainant. In the FEIR, the Proponent committed to monitoring the facility's emissions of Volatile Organic Compounds (VOC) and Particulate Matter (PM_{10}) by tracking monthly mass rates of air emissions and applying an air emissions factor based on the corresponding tonnage of processed glass, MSW and biosolids. The Proponent has proposed to make this data available for review by MassDEP, and if requested by MassDEP to do so, publicly available. As detailed below, the Supplemental FEIR should include additional details about the distribution of air quality data and implementation of the complaint logging system.

Solid Waste

The Scope for the FEIR required additional information about the delineation of the waste handling site assignment areas, the proposed site assignment boundary relative to adjacent agricultural lands, movement of rail cars through the site and potential modifications that could be made to the facility and its operations to address potential future regulations concerning the handling, treatment and disposal of PFAS in wastewater and biosolids.

The FEIR included an updated land use plan with a revised site assignment boundary that establishes a 100-ft buffer between mapped agricultural soils to the west of the site and the proposed site assignment area. The change to the proposed site assignment area boundary will not affect the proposed layout of the proposed facility. The FEIR clarified that the waste handling area shown on the land use plan includes all areas that meet the regulatory criteria for waste handling pursuant to Site Assignment Regulations (310 CMR 16.00); however, the Proponent has committed to conduct all waste handling and processing within the enclosed buildings.

According to the FEIR, the Proponent anticipates that most waste will be transported off-site by rail. The FEIR included additional details regarding the movement of rail cars from the RR tracks to the west to on-site rail spurs and loading tracks. One track (Track 1) will pass into loading areas within the MSW and Glass Handling buildings to minimize noise associated with loading of waste into the rail cars. The other four spurs (Tracks 2 through 5) will be parallel to and north of the Track 1 and extend to the eastern part of the site. Empty rail cars stored on two of the tracks will be sequentially moved onto Track 1, loaded, then moved back onto two empty tracks until hauled away. This pattern will continue until 10 full cars are located on one track and eight full cars are on another track, at which point a locomotive will deliver 10 empty cars to an empty track and eight empty cars to the other empty track and haul away the 18 filled cars. Dried biosolids will be trucked in covered containers from the Biosolids building to the loading area within the MSW building, loaded onto a rail car on Track 1, and transported off-site with the other wastes as described above.

The Scope for the FEIR required the Proponent to review how the biosolids facility may be operated if it is subject to future PFAS standards applicable to wastewater and/or solids (residuals) imposed by state, federal or City regulations. According to the FEIR, construction of the biosolids facility will not commence for at least a year and will be designed in accordance with all applicable regulations that will be in place at that time. During the review period, the Proponent acknowledged that future PFAS regulations may influence the design, construction and operation of the biosolids drying facility in the following ways:

- No changes may be necessary if the facility as currently designed is determined to comply with future standards and/or if the City's wastewater treatment system is modified to address PFAS in wastewater;
- A pre-treatment system may have to be added to the project to remove or reduce PFAS prior to discharge of wastewater into the City's sewer system;
- The facility may accept only wet biosolids that have been processed or treated to meet PFAS standards; or,
- The Proponent may decide to eliminate biosolids drying from the project or cease operations of the biosolids drying facility.

Standards for PFAS in drinking water were promulgated in 2020 and MassDEP is developing regulations to address potential human and ecological exposure to PFAS from other sources. Many commenters, including MassDEP and the City, identified the need for additional analysis of potential discharges of PFAS from the biosolids handling, transport and drying process; this analysis should be provided in the Supplemental FEIR.

Traffic

The FEIR included an updated traffic analysis prepared in accordance with the EEA/MassDOT *Transportation Impact Assessment (TIA) Guidelines* used to analyze transportation-related impacts of projects subject to MEPA review. The analysis compared traffic volumes and roadway and intersection operations under 2020 Base, 2020 Existing, 2027 No Build and 2027 Build conditions. Traffic conditions prior to the addition of truck and vehicle traffic generated by Phase 1 of the project are reflected in the 2020 Base scenario; because traffic counts could not be collected due to abnormally low traffic volumes associated with the COVID-19 pandemic, previously-collected counts from 2018 were adjusted using traffic counts collected by MassDOT prior to the pandemic in February 2020. The 2020 Existing condition was developed by adding truck and automobile trips generated by Phase 1 of the project to the 2020 Base scenario. Future conditions were modeled by increasing traffic volumes in the 2020 Existing scenario by one percent per year over the seven-year study horizon and are represented by the 2027 No Build condition. The 2027 Build condition was developed by adding the truck and automobile trips generated by the full buildout of the project to the 2027 No Build scenario. The analysis reviewed traffic operations at the seven same intersections that were studied in the DEIR:

- Route 140 Northbound (NB) Ramps at Braley Road;
- Route 140 Southbound (SB) Ramps at Braley Road;
- Braley Road/Theodore Rice Boulevard at Phillips Road;
- Theodore Rice Boulevard at Duchaine Boulevard;

- Duchaine Boulevard at Samuel Barnet Boulevard;
- Phillips Road at Samuel Barnet Boulevard; and,
- Duchaine Boulevard at Site Driveway.

Vehicles are expected to travel to the site along a route from Route 140 to Braley Road/Theodore Rice Boulevard and onto Duchaine Boulevard, and to follow the same route in reverse when leaving the site. The FEIR included a commitment to prohibit trucks associated with the facility from using Phillips Road, which abuts the residential neighborhood east of the site, to travel to or from the facility; this prohibition will be included in contracts with waste haulers which will specify financial penalties for trucks using Phillips Road and will ban repeat offenders from using the facility.

The FEIR included revised trip generation estimates for the project. Phase 2 will generate up to 328 truck trips per day on each day the facility is open, in addition to the 90 truck trips per day generated by Phase 1, for a total of up to 418 truck trips per day under full-build conditions. Employees of the facility will generate 150 trips per day in Phase 1 and an additional 150 trips in Phase 2 for a full-build total of 300 daily trips. Estimates of the volume and hourly distribution of truck trips were based on observations of truck traffic patterns and the number of each type (size) of trucks used to deliver and transport waste at facilities in Rochester and Taunton. Under 2027 Build conditions, Phase 2 of the project will generate a total of 478 daily trips, including 59 vehicle trips in the morning peak period and 59 trips in the evening peak period. According to the FEIR, the trip generation estimate is conservative because it assumes that all material will be brought to the site and transported from the site by truck; the number of truck trips will be lower if the proposed rail service to the site is implemented.

The results of the revised analysis of traffic operations at study area intersections provided in the FEIR are consistent with the DEIR analysis. According to the FEIR, several intersections in the study area experience congestion and long delays under existing conditions and project-generated traffic will further exacerbate these conditions. I note that the analysis indicated that the level of service (LOS) of the westbound left turn at the Route 140 SB Ramps at Braley Road will degrade from LOS D under 2027 No Build conditions to LOS E under 2027 Build conditions. An LOS D indicates an acceptable level of traffic operations through an intersection; an intersection operating at LOS E or LOS F will experience increased congestion and delays. The FEIR documented that several intersections, most notably Route 140 NB Ramp at Braley Road and Braley Road/Theodore Rice Boulevard at Phillips Road, operate at LOS E or LOS F with long delays and queues under the Existing 2027 and No Build 2027 conditions. The addition of project-generated traffic, as modeled under the 2027 Build scenario, will cause even longer delays and queues at these intersections, including queues that may cause traffic to back up onto Route 140.

According to the FEIR, roadway mitigation to address the impacts of project-generated traffic is not necessary because the project will cause minor delays at intersections that already operate over capacity under existing conditions. In addition, the FEIR suggested that the project's traffic impacts may be less than represented in the FEIR because the analysis assumed that all waste will be transported off-site by truck rather than by rail. As noted above, the traffic analysis in the FEIR documented that project-generated traffic will cause lengthened queues at the Route 140 NB off-ramp that may extend beyond the ramp onto the highway and add to

delays and congested at intersections that already experience poor levels of traffic operations. The FEIR also included a traffic signal warrant analysis for the Braley Road/Theodore Rice Boulevard at Phillips Road intersection that confirmed that the intersection meets traffic volume and delay criteria for installation of a traffic signal under both 2020 Existing and 2027 Build conditions. As detailed in the Scope below, the Supplemental FEIR should provide additional transportation information as requested by MassDEP and review potential mitigation measures to address the impacts identified above.

Noise

The FEIR included a revised noise analysis that incorporated additional sources of noise identified by MassDEP in its comment letter on the DEIR, including waste delivery vehicles inside and outside the buildings; MSW, biosolids and glass processing equipment; biosolid and glass tipping and loading; loading and movement of rail cars; and short duration sounds from the outdoor operation of waste handling equipment, delivery vehicle back-up alarms, and dump truck tailgates. Project-generated noise was modeled as either continuous noise or incidental noise. Continuous noise sources included exterior fans associated with the MSW, Biosolids and Glass Processing Buildings; cooling towers, biofilter exhaust stack and makeup air fan associated with the Biosolids Building; MSW tipping, dumping and moving with three open bay doors on the west side of the MSW Building; an open railcar loading bay door on the west side of the MSW Building; and exhaust and ventilation systems at the Glass Processing Bunker Building. Incidental sources included back-up alarms on trucks operating on the west side of the MSW Building; an idling locomotive near the northeast corner of the MSW Building; and railcar couplings at the eastern end of the rail spurs. Noise generated from these sources was modeled under the assumption that the following noise mitigation measures have been incorporated into the project design:

- Siting of noise generating equipment and material handling routes away from residences;
- Reducing truck backup alarms by arranging a forward traffic flow for unloading of biosolids;
- The use of an electric rather than diesel-powered rail car pusher;
- Conducting all waste handling activities within enclosed buildings;
- The use of low noise equipment, silencing equipment and insulated walls to minimize noise from stationary equipment;
- Require trucks to drive through the site at slow speeds and locate truck scales away from residences; and
- Construction of a 325-ft long, 24-ft high L-shaped sound barrier around the eastern and southern ends of the rail spur to shield noise generated by locomotives, railcar coupling and ground level equipment at the Biosolids Building.

The analysis of continuous noise sources assumed that all stationary equipment was operating at full load at the same time. Sound levels produced by continuous and incidental sources were modeled separately and compared to ambient sound levels at five residences nearest to the project site. The analysis indicated that the continuous and incidental sources will cause an increase of up to eight decibels (dBA) and 10 dBA, respectively, at one of the residences. According to the FEIR, the results indicate that the project will comply with

MassDEP's Noise Policy, which prohibits an increase of more than 10 dBA over ambient conditions. As detailed below, MassDEP has identified additional analyses that must be provided to support the conclusions of the noise analysis, including more information to support the analysis of noise impacts and mitigation measures identified in the FEIR.

Greenhouse Gas Emissions

The FEIR provided additional information about the project's stationary-source GHG emissions in response to the Scope included in the DEIR Certificate. It clarified that full energy models were prepared for the Biosolids, Glass Processing and Glass Processing Bunker buildings, which are considered to be conditioned spaces; the unconditioned space in the MSW Building and the Glass Processing Side Bunker Building were modeled only with respect to energy use associated with the lighting and ventilation needs of these buildings. The FEIR confirmed that the 90-percent efficient heating system originally proposed for the Biosolids building is not feasible because a direct-fired burner cannot be used in the building due to the risk of combustion of gases produced in the drying process. The Proponent has proposed to use an 82-percent efficient heating system in the Biosolids Building, which exceeds the minimum Building Code requirement for an 80-percent efficient heating system.

As described in the FEIR, the proposed buildings will emit 11,721 tons per year (tpy) of GHG, a 0.7 percent reduction compared to the emissions produced by buildings designed to meet the Baseline energy requirements of the Building Code (11,833 tpy). This marginal improvement is due to the use of an 82-percent efficient heating system rather than an 80-percent efficient heating system and reduced lighting power density (LPD) in the buildings.

According to the Department of Energy Resources (DOER), the proposed buildings appear to have been designed to meet outdated Building Code energy conservation requirements. While the GHG Policy allows for a Proponent to use a consistent baseline throughout MEPA review of a project, the building designs must meet all applicable standards of the Building Code that is in effect when the application for a Building Permit is filed with the City. As noted by DOER, the project design includes only two of the three specific measures identified under Section C406 of the Building Code and therefore may not be eligible to be granted a Building Permit by the City. The FEIR also indicated that the Glass Processing Building constructed in Phase 1 of the project does not comply with the Building Code because it was constructed without a required roof insulation liner. In the FEIR, the Proponent requested that the project be allowed to forgo retrofitting the Glass Processing Building with this required energy conservation measure. The Proponent should consult with the City to determine what additional improvements can be made to the existing Glass Processing Building in order to conform to the Building Code and to ensure that the project's other buildings are designed to meet all requirements of the Building Code that are in effect at the time a Building Permit application is filed. The Supplemental FEIR should review additional measures that will be incorporated into the design of the existing and proposed buildings to conform to Building Code requirements.

The FEIR documented that the project will reduce mobile-source GHG emissions by approximately 60 percent (18,802 tpy) by using rail rather than trucks to transport waste off-site. In the FEIR, the Proponent committed to installing a 1.9-MW solar PV system in addition to the existing 1.6-MW PV system; during the review period, the Proponent indicated that an additional 0.4 MW PV system will be constructed if the electric utility approves of the interconnection. The

FEIR did not review the proposed biosolids drying equipment and document that energy-efficient models will be used, as previously requested in the Scope for the FEIR; this information should be provided in the Supplemental FEIR.

Conclusion

As noted above, the FEIR did not adequately address the requirements of the Scope included in the DEIR Certificate and additional information and analysis is necessary to demonstrate that the project has taken all feasible measures to avoid, minimize, and mitigate impacts. As such, I cannot find that the FEIR and supplemental information have satisfied the regulatory requirements to ensure that the project's environmental impacts have been clearly described and fully analyzed and that the project takes all feasible means to avoid Damage to the Environment. In addition, comments from MassDEP identified additional information and analysis requested in the agency's comments on the DEIR that will be required to determine whether impacts will be avoided, minimized, and mitigated to the extent feasible and to demonstrate compliance with permitting requirements. Accordingly, I am requiring the Proponent to file a Supplemental FEIR pursuant to Section 11.08(8)(c)(2) of the MEPA regulations.

SCOPE

General

The Supplemental FEIR should follow Section 11.07 of the MEPA regulations for outline and content, and include the information and analyses identified in this Scope. It should clearly demonstrate that the Proponent has sought to avoid, minimize and mitigate Damage to the Environment to the maximum extent feasible. I expect the Supplemental FEIR will provide a comprehensive response to comments on the FEIR that specifically address each issue raised in the comment letter; references to a chapter or sections of the Supplemental FEIR alone are not adequate and should only be used, with reference to specific page numbers, to support a direct response. The Supplemental FEIR should identify measures the Proponent will adopt to further reduce the impacts of the project since the filing of the FEIR, or, if certain measures are infeasible, the Supplemental FEIR should discuss why these measures will not be adopted.

The information and analyses identified in this Scope should be addressed within the main body of the Supplemental FEIR and not in appendices. In general, appendices should be used only to provide raw data, such as drainage calculations, traffic counts, capacity analyses and energy modeling, that is otherwise adequately summarized with text, tables and figures within the main body of the Supplemental FEIR. Information provided in appendices should be indexed with page numbers and separated by tabs, or, if provided in electronic format, include links to individual sections. Any references in the Supplemental FEIR to materials provided in an appendix should include specific page numbers to facilitate review.

The Supplemental FEIR should address, in a detailed and comprehensive manner, issues raised in comment letters submitted by MassDEP and DOER, which are incorporated by reference herein. In general, information and analyses provided in response to these comment letters should be incorporated into the main body of the Supplemental FEIR rather than provided solely in the Response to Comments section.

Project Description and Permitting

The Supplemental FEIR should provide a description of the project, including updated plans that clearly identify existing and post-development conditions. It should include a detailed description of all project components and activities associated with each phase. The Supplemental FEIR should identify and describe State, federal and local permitting and review requirements associated with the project and provide an update on the status of each of these pending actions. It should include a description and analysis of applicable statutory and regulatory standards and requirements, and a discussion of the project's consistency with those standards. The Supplemental FEIR should include a comprehensive list of all mitigation measures and draft Section 61 Findings that include a detailed list of all mitigation commitments. As noted above, the information and analyses required in this Scope largely reflect the information identified by MassDEP that will be required during the permitting process; the Proponent should consult with MassDEP and the MEPA Office prior to filing the Supplemental FEIR to ensure that the document is responsive to this Scope.

Solid Waste

The Solid Waste Site Assignment Regulations (310 CMR 16.00) require MassDEP to determine whether the site is suitable for the proposed facility based on Site Suitability Criteria listed at 310 CMR 16.40. The regulations specify that a determination that the site is suitable for the proposed solid waste management facility include an evaluation of whether the impacts of the facility "by itself, or in combination with impacts from other sources within the affected area, constitute a danger to public health or safety or the environment." The information and analyses related to MassDEP's evaluation of site suitability provided in the Supplemental FEIR, including those addressing noise and traffic, should address this standard to the extent possible. To assist in characterizing impacts from other sources, the Supplemental FEIR should identify existing solid waste facilities, including those identified in the City's comment letter, describe how they are clustered geographically, and summarize the authorized operation and capacity of the facilities. The Supplemental FEIR should evaluate on-site and off-site measures to adequately mitigate environmental impacts. I encourage the Proponent to consult with MassDEP and the MEPA Office prior to completing these analyses.

The Supplemental FEIR should provide a comprehensive review of potential pathways for discharges of PFAS into air, soil and water resources associated with the biosolids drying process and as a result of any potential uses of the dried biosolids. It should provide a detailed analysis of direct and indirect impacts that may result from emissions of PFAS into the air. According to MassDEP, the solid waste permits may require that the Proponent reduce and monitor PFAS impacts to the environment. The Supplemental FEIR should review potential PFAS reduction measures and monitoring procedures. It should review potential permitting requirements related to the discharge of wastewater into the City's sewer system, including any pre-treatment for removal of PFAS and other pollutants.

Noise

According to MassDEP, the Noise Policy identifies a sound level increase of 10 dBA as an enforcement standard, rather than a design standard. The Supplemental FEIR should document that the project's noise impacts will be mitigated to the maximum extent practical by

evaluating a full set of potential noise control measures and adopting all mitigation measures that are technologically and economically feasible. It should include a comparison of noise impacts with and without mitigation to evaluate the effectiveness of each measure. The Supplemental FEIR should include an updated noise analysis consistent with MassDEP's comment letter and the following:

- Continuous and incidental sources should be modeled together, or the Proponent should justify the separate modelling of these sources presented in the FEIR;
- Project-related sound impacts should be modeled at both the nearest inhabited building(s) and at the property line;
- The noise study should evaluate the cumulative noise impacts from the project, including waste delivery vehicles on-site both inside and outside the building;
- The assertion that facility operations will not create any pure tones must be supported by appropriate data and analyses; and,
- As appropriate, the specific BMPs should be evaluated, including measures to prevent noise generated by truck tailgates.

The Supplemental FEIR should identify appropriate mitigation to address the project's noise impacts as documented by the revised noise analysis.

Traffic

According to MassDEP, further analysis is required to support the Proponent's conclusion that the traffic impacts associated with the facility will not constitute a danger to public health or safety or the environment with consideration to traffic congestion, pedestrian and vehicular safety, and roadway configuration. The Supplemental FEIR should provide a supplemental traffic analysis that addresses MassDEP's comments and the following:

- Potential impacts to delay time and queue lengths at some study area intersections under the Build scenario and mitigation measures;
- Potential impacts to volume-to-capacity (v/c) ratio for some study area intersections under the Build scenario and mitigation measures;
- Modeling of various distribution scenarios that may occur to compensate for uncertainties regarding the normal hourly fluctuation in waste deliveries;
- Modeling of operations at study area intersections under mitigated conditions, including signalization of the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard;
- Potential mitigation measures to address degradation of LOS of turning movements at the Route 140 SB at Braley Road intersection under the 2027 Build scenario;
- Potential mitigation measures to address congested conditions and delays at the intersections of Route 140 NB Ramps at Braley Road, Route 140 SB Ramps at Braley Road, and Braley Road at Phillips Road/Theodore Rice Boulevard under existing and future conditions; and,
- Potential mitigation measures to minimize extended queues throughout the study area, including the Route 140 NB Ramp.

The Proponent should consult with MassDEP, MassDOT and the City regarding this analysis and potential mitigation measures prior to filing the Supplemental FEIR.

Environmental Justice

The Proponent should continue its public outreach efforts prior to filing the Supplemental FEIR. The Supplemental FEIR should include a draft of the PIP that will be required by MassDEP in its solid waste permitting process. The PIP should address recommendations for public outreach and information efforts identified in MassDEP's comment letter and the measures listed below:

- Distribution of fact sheets and comment cards with pre-paid postage;
- Public meetings within the community with interpreter services;
- Advertisement of public meetings on radio, social media, and newspapers including The Standard Times, Portuguese Times, and New Bedford Guide;
- Outreach to EJ leaders, community leaders and municipal officials; and,
- Distribution of project-related air pollution and environmental impact information written in clear, non-technical language and translated as necessary.

The Supplemental FEIR should address how the Proponent will encourage the public to submit complaints in a confidential manner and how the complaint log and air quality data will be made available to the public in a convenient manner. It should provide a review of the analysis of the project's air emissions and baseline public health data written in non-technical language. Additionally, as noted above in the Solid Waste section, the Supplemental FEIR should include information and analyses that addresses impacts from other solid waste facilities in the area in order to provide context for the analyses in this Scope.

Greenhouse Gas Emissions

The Supplemental FEIR should respond to the issues identified in DOER's comment letter, which is incorporated by reference herein. It should review the building designs presented in the FEIR and identify additional energy conservation measures that will be incorporated into the design of the buildings to meet all Building Code energy requirements. As previously requested in the Scope for the FEIR, the Supplemental EIR should include a discussion of the proposed biosolids drying system, including energy efficiency features, and compare the proposed drying system to other drying systems with respect to energy use and GHG emissions.

Mitigation and Draft Section 61 Findings

The Supplemental FEIR provided draft Section 61 Findings for use by State Agencies. The Section 61 Findings should be provided to State Agencies to assist in the permitting process and issuance of final Section 61 Findings. The Proponent will provide a GHG self-certification to the MEPA Office that is signed by an appropriate professional (e.g., engineer, architect, transportation planner, general contractor) indicating that all of the GHG mitigation measures, or equivalent measures that are designed to collectively achieve identified reductions in stationary source GHG emission and transportation-related measures, have been incorporated into the project. To the extent the project will take equivalent measures to achieve the identified

reductions, I encourage the Proponent to commit to achieving the same level of GHG emissions identified in the mitigated (design) case expressed in volumetric terms (e.g., tpy).

Response to Comments

The Supplemental FEIR should contain a copy of this Certificate, and a copy of each comment letter received on the FEIR. Based on the large volume of form letters received, copies of form letters may be provided electronically. To ensure that the issues raised by commenters are addressed, the Supplemental FEIR should include a separate chapter with direct responses to comments to the extent that they are within MEPA jurisdiction. A single response to form letters can be provided. This directive is not intended, and shall not be construed, to enlarge the scope of the Supplemental FEIR beyond what has been expressly identified in this certificate. The Proponent should provide a direct response to individual responses or to groups of indexed comments raising the same issue. Responses must specifically address each comment letter on the FEIR; references to a chapter or extensive section of the Supplemental FEIR are not adequate.

Circulation

The Proponent should circulate a hard copy of the Supplemental FEIR to those parties who commented on the EENF, DEIR and/or FEIR, to any State Agencies from which the Proponent will seek permits or approvals, and to any parties specified in section 11.16 of the MEPA regulations. The Proponent should consult with the MEPA Office prior to filing the Supplemental FEIR to determine whether additional distribution or outreach may be warranted to the surrounding community. Per 301 CMR 11.16(5), the Proponent may circulate copies of the Supplemental FEIR to commenters in CD-ROM format or by directing commenters to a project website address. However, the Proponent must make a reasonable number of hard copies available to accommodate those without convenient access to a computer and distribute these upon request on a first-come, first-served basis. The Proponent should send correspondence accompanying the CD-ROM or website address indicating that hard copies are available upon request, noting relevant comment deadlines, and appropriate addresses for submission of comments. The Supplemental FEIR submitted to the MEPA office should include a digital copy of the complete document. A copy of the Supplemental FEIR should be made available for review at the New Bedford Public Library.[1]

K. Theoharides

April 2, 2021
Date

Kathleen A. Theoharides

[1] Requirements for hard copy distribution or mailings will be suspended during the Commonwealth's COVID-19 response, to the extent public facilities are closed. Please consult the MEPA website for further details on interim procedures during this emergency period: https://www.mass.gov/orgs/massachusetts-environmental-policy-act-office.

Comments received:

335 form letters opposed to the project beginning "This letter is to express opposition…"
74 form letters in support of the project beginning "Over the last three years…"
9 form letters opposed to the project beginning "Parallel Products of New England…"

02/26/2021 Ron Cabral
02/18/2021 Robert H. and Judith B. Ladino
03/08/2021 Sherry Hanlon
03/10/2021 Robert Michael Pittsley
03/11/2021 Diane Fine
03/11/2021 Sabine von Mering
03/12/2021 John Dufresne
03/17/2021 Representative Paul Schmid
03/18/2021 Carol Strupczewski
03/18/2021 Andrea Stone
03/18/2021 Representative Christopher Hendricks
03/19/2021 Senator Mark Montigny
03/22/2021 Elizabeth Saulnier
03/24/2021 Jacob Chin
03/24/2021 Karen Chin
03/26/2021 Linda M. Morad
03/26/2021 Brad Markey
03/26/2021 Wendy M. Graca
03/26/2021 Zeb Arruda
03/26/2021 Tracy L. Wallace
03/26/2021 Conservation Law Foundation/South Coast Neighbors United, Inc./Community Action Works
03/26/2021 Mark R. Reich, KP Law on behalf of:
Mayor Jon Mitchell, City of New Bedford
Senator Mark C. Montigny
Representative Antonio F.D. Cabral
Representative Christopher Hendricks
Representative Christopher Markey
Representative Paul A. Schmid III
Representative William M. Straus
City Council President Joseph P. Lopes
City Councillor Ian Abreu
City Councillor Derek Baptiste
City Councillor Naomi R.A. Carney
City Councillor Debora Coelho
City Councillor Hugh Dunn
City Councillor Maria E. Giesta
City Councillor Brian K. Gomes
City Councillor Scott J. Lima
City Councillor William Brad Markey
City Councillor Linda M. Morad
03/26/2021 Massachusetts Department of Environmental Protection (MassDEP)/Southeast Regional Office (SERO)

04/02/2021 Department of Energy Resources (DOER)

KAT/AJS/ajs

EXHIBIT 5

NOTICE OF PROJECT CHANGE FORM

Commonwealth of Massachusetts

Executive Office of Energy and Environmental Affairs ■ MEPA Office

For Office Use Only *Executive Office of Environmental Affairs*
MEPA Analyst:
Phone: 617-626-

Notice of Project Change

The information requested on this form must be completed to begin MEPA Review of a NPC in accordance with the provisions of the Massachusetts Environmental Policy Act and its implementing regulations (see 301 CMR 11.10(1)).

EEA #		
Project Name: **South Coast Renewables, LLC (FKA: Parallel Products of New England)**		
Street Address: **100 Duchaine Boulevard**		
Municipality: **New Bedford**	Watershed: **Buzzards Bay**	
Universal Transverse Mercator Coordinates: **337625 E 4620065.5 N (meters)**	Latitude: **41.717 N** Longitude: **70.95 W**	
Estimated commencement date:	Estimated completion date: **01/01/2024**	
Project Type: **Solid Waste**	Status of project design: **90** %complete	
Proponent: **South Coast Renewables, LLC (FKA: Parallel Products of New England)**		
Street Address: **100 Duchaine Boulevard**		
Municipality: **New Bedford**	State: **MA**	Zip Code: **02746**
Name of Contact Person: **Tim Cusson**		
Firm/Agency: **Green Seal Environmental, LLC**	Street Address: **114 State Road**	
Municipality: **Sagamore Beach**	State: **MA**	Zip Code: **02562**
Phone: **508-888-6034**	Fax: **508-888-1506**	E-mail: **greg@gseenv.com**

With this Notice of Project Change, are you requesting:

a Single EIR? (see 301 CMR 11.06(8))	☐ Yes	☒ No
a Special Review Procedure? (see 301CMR 11.09)	☐ Yes	☒ No
a Waiver of mandatory EIR? (see 301 CMR 11.11)	☐ Yes	☒ No
a Phase I Waiver? (see 301 CMR 11.11)	☐ Yes	☒ No

Which MEPA review threshold(s) does the project meet or exceed (see 301 CMR 11.03)?

301 CMR 11.03(9)(a) Solid and Hazardous Waste

Which State Agency Permits will the project require?

MassDEP

Identify any financial assistance or land transfer from an Agency of the Commonwealth, including the Agency name and the amount of funding or land area in acres:

$500,000 IRAPgrant from MassDOT

PROJECT INFORMATION

The project change involves the removal of the formally proposed biosolids building and associated biosolids drying operations and minor adjustments to solar PV array layouts and stormwater management features.
See full project change description beginning on page 3.

Date of publication of availability of the ENF in the Environmental Monitor: (Date: 2/20/2019)

Was an EIR required? [X]Yes []No; if yes,
was a Draft EIR filed? [X]Yes (Date: 11/22/2019) []No
was a Final EIR filed? [X]Yes (Date: 2/24/2021) []No
was a Single EIR filed? []Yes (Date:) [X]No

Have other NPCs been filed? []Yes (Date(s):) [X]No

If this is a NPC solely for lapse of time (see 301 CMR 11.10(2)) proceed directly to **ATTACHMENTS & SIGNATURES**.

PERMITS / FINANCIAL ASSISTANCE / LAND TRANSFER

List or describe all new or modified state permits, financial assistance, or land transfers not previously reviewed: **dd w/ list of State Agency Actions (e.g., Agency Project, Financial Assistance, Land Transfer, List of Permits)**

Are you requesting a finding that this project change is insignificant? A change in a Project is ordinarily insignificant if it results solely in an increase in square footage, linear footage, height, depth or other relevant measures of the physical dimensions of the Project of less than 10% over estimates previously reviewed, provided the increase does not meet or exceed any review thresholds. A change in a Project is also ordinarily insignificant if it results solely in an increase in impacts of less than 25% of the level specified in any review threshold, provided that cumulative impacts of the Project do not meet or exceed any review thresholds that were not previously met or exceeded. (see 301 CMR 11.10(6)) []**Yes** [X]**No; if yes, provide an explanation of this request in the Project Change Description below.The proposed changes to the project involve no significant net increase in either the physical dimension of the project or additional impacts. The change includes removal of the previously proposed biosolids building and operations.**

FOR PROJECTS SUBJECT TO AN EIR

If the project requires the submission of an EIR, are you requesting that a Scope in a previously issued Certificate be rescinded?
[]**Yes** [X]**No; if yes, provide an explanation of this request**_____.

If the project requires the submission of an EIR, are you requesting a change to a Scope in a previously issued Certificate?
[]**Yes** [X]**No; if yes, provide an explanation of this request**_____.

SUMMARY OF PROJECT CHANGE PARAMETERS AND IMPACTS

Summary of Project Size & Environmental Impacts	Previously reviewed	Net Change	Currently Proposed
LAND			
Total site acreage sq/ft	3,092,760	0	3,092,760
Acres of Land Altered	8.8	-0.66	8.2
Acres of Impervious Area sq/ft	785,571	-29,112	756,449
Square feet of bordering vegetated wetlands alteration	4,095	0	4,095
Square feet of other wetland alteration	0	0	0
Acres of non-water dependent use of tidelands or waterways	0	0	0
STRUCTURES			
Gross square footage (Phase II Buildings)	90,032	-24,715	65,317
Number of housing units	0	0	0
Maximum height (in feet)	45	0	45
TRANSPORTATION			
Vehicle trips per day	478 (max)	0	478 (max)
Parking Spaces	400+	0	400+
WATER/WASTEWATER			
Gallons/day (GPD) of water use	70,150	-50,500	19,650
GPD water withdrawal	0	0	0
GPD wastewater generation/ treatment	113,750	-111,000	2,750
Length of Water/Sewer Mains in Miles	N/A	N/A	N/A

Does the project change involve any <u>new or modified</u>:

1. conversion of public parkland or other Article 97 public natural resources to any purpose not in accordance with Article 97? ☐**Yes** ☒**No**
2. release of any conservation restriction, preservation restriction, agricultural preservation restriction, or watershed preservation restriction? ☐**Yes** ☒**No**
3. impacts on Rare Species**?** ☐**Yes** ☒**No**
4. demolition of all or part of any structure, site or district listed in the State Register of Historic Place or the inventory of Historic and Archaeological Assets of the Commonwealth? ☐**Yes** ☒**No**
5. impact upon an Area of Critical Environmental Concern? ☐**Yes** ☒**No**

If you answered 'Yes' to any of these 5 questions, explain below:

PROJECT CHANGE DESCRIPTION (attach additional pages as necessary). The project change description should include:

(a) a brief description of the project as most recently reviewed

(b) a description of material changes to the project as previously reviewed,

(c) if applicable, the significance of the proposed changes, with specific reference to the factors listed 301 CMR 11.10(6), and

(d) measures that the project is taking to avoid damage to the environment or to minimize and mitigate unavoidable environmental impacts. If the change will involve modification of any previously issued Section 61 Finding, include a draft of the modified Section 61 Finding (or it will be required in a Supplemental EIR).

South Coast Renewables, LLC (FKA:Parallel Products of New England, LLC or PPNE), through an affiliate company, own the property located at 100 Duchaine Boulevard, New Bedford, MA. The 71-acre site was previously developed by Polaroid Corporation. South Coast Renewables, LLC is proposing to redevelop the site into a solid waste management facility. Specific design and operation details for the proposed expanded facility are described throughout previous MEPA submittals and within the Supplemental FEIR to which this Notice of Project Change is attached.

The proposed material change to the project centers on elimination of the previously proposed biosolids building and biosolids drying operation. The Revised Phase 2 Site Plans are included in Exhibit 6.

The criteria listed in 301 CMR 11.10 (6) are not applicable to this Notice of Project Change.

A draft of the modified Section 61 Finding is included in Section 8.0 of the Supplemental FEIR.

ATTACHMENTS & SIGNATURES

Attachments:

1. Secretary's most recent Certificate on this project
   (Please see the Supplemental FEIR, Exhibit 4)
2. Plan showing most recent previously-reviewed proposed build condition
   (Please see the Supplemental FEIR, Exhibit 7)
3. Plan showing currently proposed build condition
   (Please see the Supplemental FEIR, Exhibit 6)
4. Original U.S.G.S. map or good quality color copy (8-1/2 x 11 inches or larger) indicating the project location and boundaries
   (Please see the Supplemental FEIR, Figure 2-1 and the design drawings in Exhibits 6 & 7)
5. List of all agencies and persons to whom the proponent circulated the NPC, in accordance with 301 CMR 11.10(7)
   (Pursuant to 301 CMR 11.10 (7), the NPC will be circulated to both Agencies and Persons who received the ENF or commented on the ENF or any EIR.

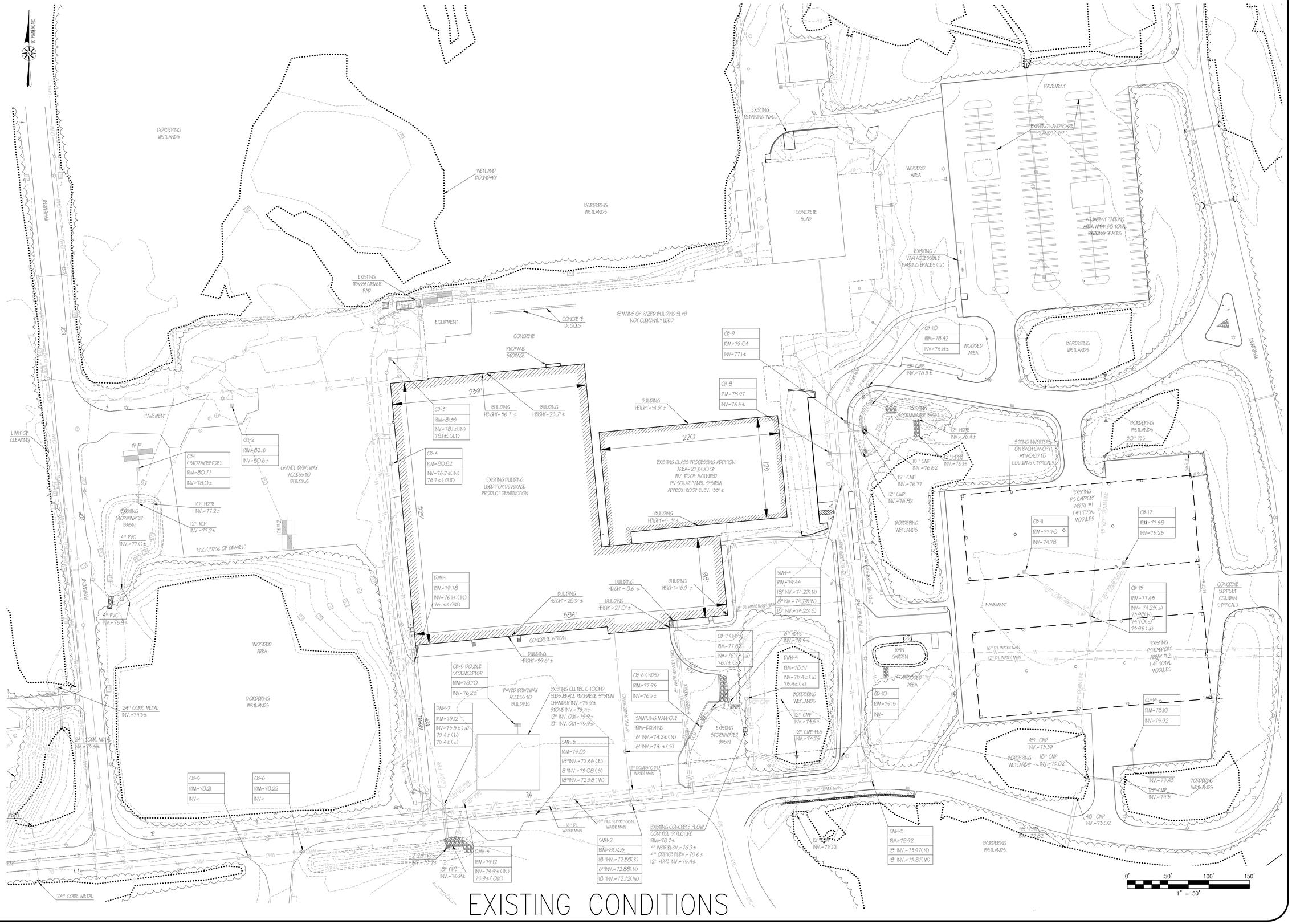
Signatures:

7/12/22	7/12/22
Date Signature of Responsible Officer or Proponent	Date Signature of person preparing NPC (if different from above)
Tim Cusson 7/12/22	Gregory C. Wirsen, MSc.
Name (print or type)	Name (print or type)
Parallel Products of New England, LLC	Green Seal Environmental, LLC
Firm/Agency	Firm/Agency
100 Duchaine Boulevard	114 State Road
Street	Street
New Bedford	Sagamore Beach, MA 02562
Municipality/State/Zip	Municipality/State/Zip
1-617-908-0825	508-888-6034
Phone	Phone

EXHIBIT 6

REVISED PHASE 2 SITE PLANS

EXISTING CONDITIONS



REVISIONS

1	3/2/22	CANOPY 4 & 5 REVISION
2	3/3/22	GREEN SEAL COMMENTS
3	4/8/22	REMOVE CANOPY, ADD BUILDING
4	4/18/22	MODIFY # OF PROP. CANOPIES
5	6/8/22	GREEN SEAL COMMENTS

COMMONWEALTH OF MASSACHUSETTS
CHRISTIAN ALBERT FARLAND
No. 47544
CIVIL
REGISTERED PROFESSIONAL ENGINEER

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- ENGINEERING
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- LAND SURVEYING
- DEVELOPMENT

DRAWN BY: JT
DESIGNED BY: CAF
CHECKED BY: CAF

PROPOSED PROJECT DEVELOPMENT

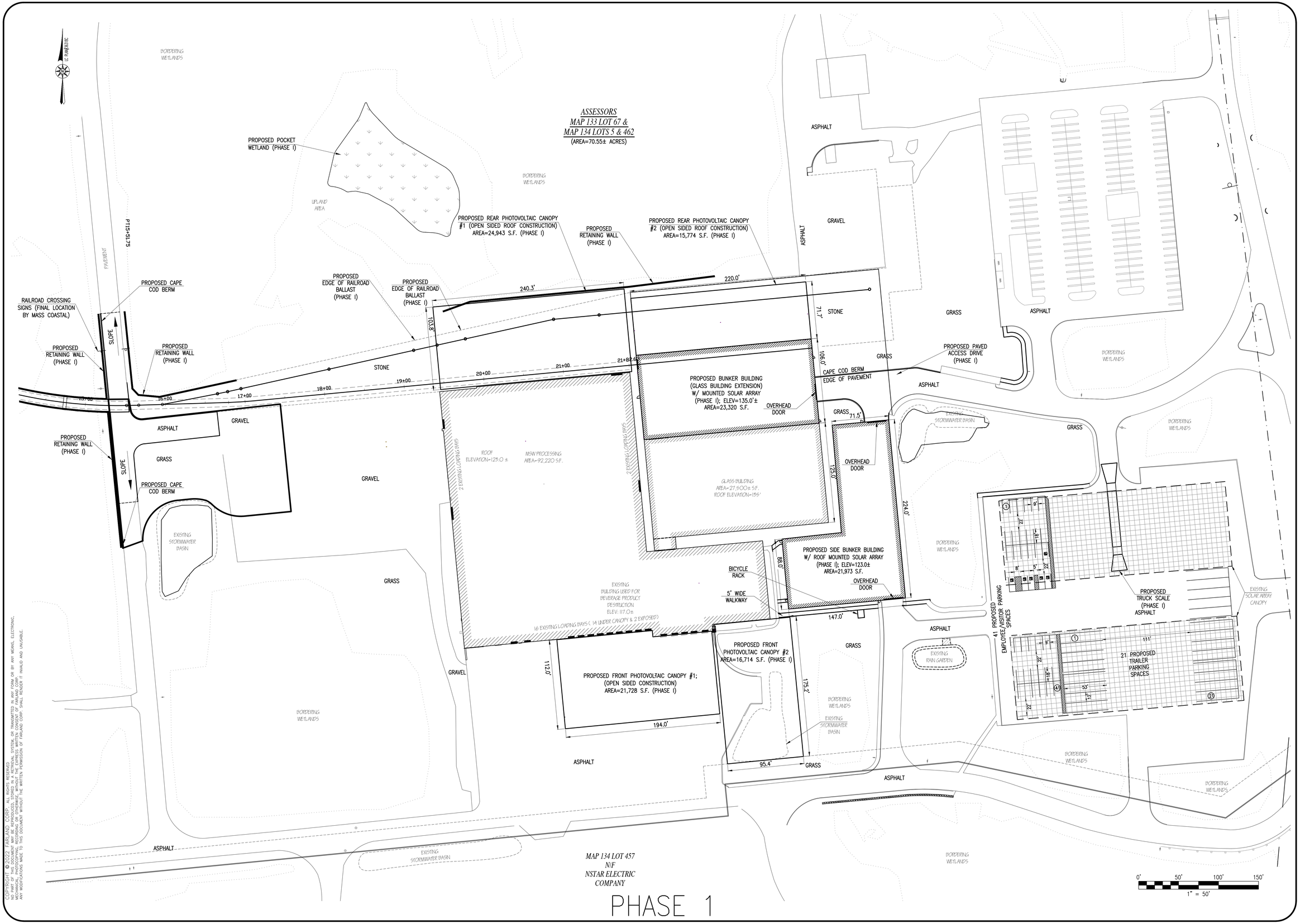
— 100 DUCHAINE BOULEVARD —
ASSESSORS MAP 133 LOT 67
ASSESSORS MAP 134 LOTS 5 & 462
NEW BEDFORD, MASSACHUSETTS

PREPARED FOR: PARALLEL PRODUCTS OF NEW ENGLAND
401 INDUSTRY ROAD
LOUISVILLE, KY 40208

FEBRUARY 18, 2022
SCALE: 1"=50'
JOB NO. 15-500.2
LATEST REVISION:
JUNE 8, 2022

EXISTING CONDITIONS

SHEET 1 OF 5



PHASE 1

REVISIONS

1	3/2/22	CANOPY 4 & 5 REVISION
2	3/3/22	GREEN SEAL COMMENTS
3	4/8/22	REMOVE CANOPY, ADD BUILDING
4	4/18/22	MODIFY # OF PROP. CANOPIES
5	6/8/22	GREEN SEAL COMMENTS

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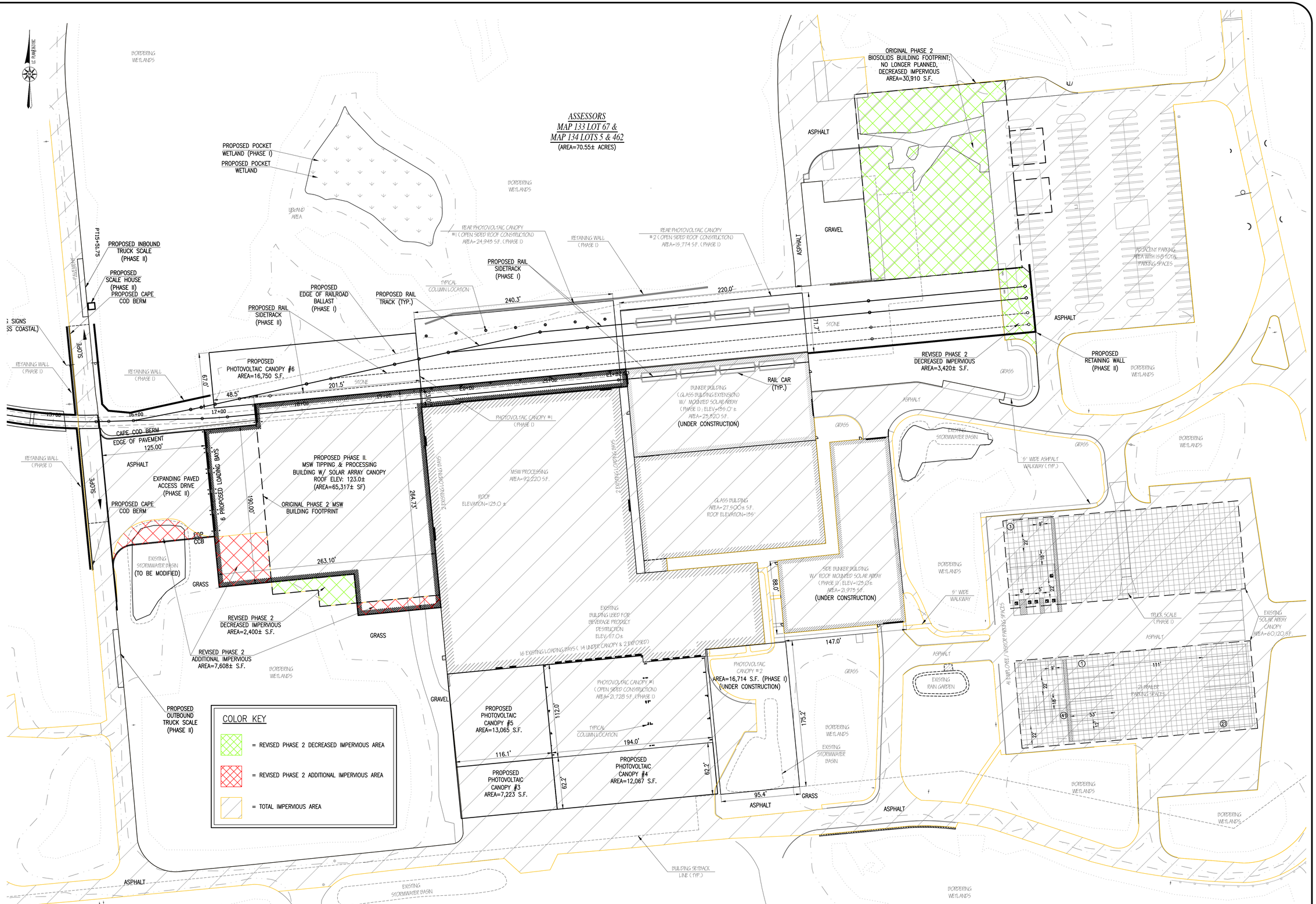
LAYOUT – PHASE 1

SHEET 2 OF 5



REVISED PHASE 2 LAYOUT vs. ORIGINAL PHASE 2 LAYOUT

REVISIONS

1	3/2/22	CANOPY 4 & 5 REVISION
2	3/3/22	GREEN SEAL COMMENTS
3	4/8/22	REMOVE CANOPY, ADD BUILDING
4	4/18/22	MODIFY # OF PROP. CANOPIES
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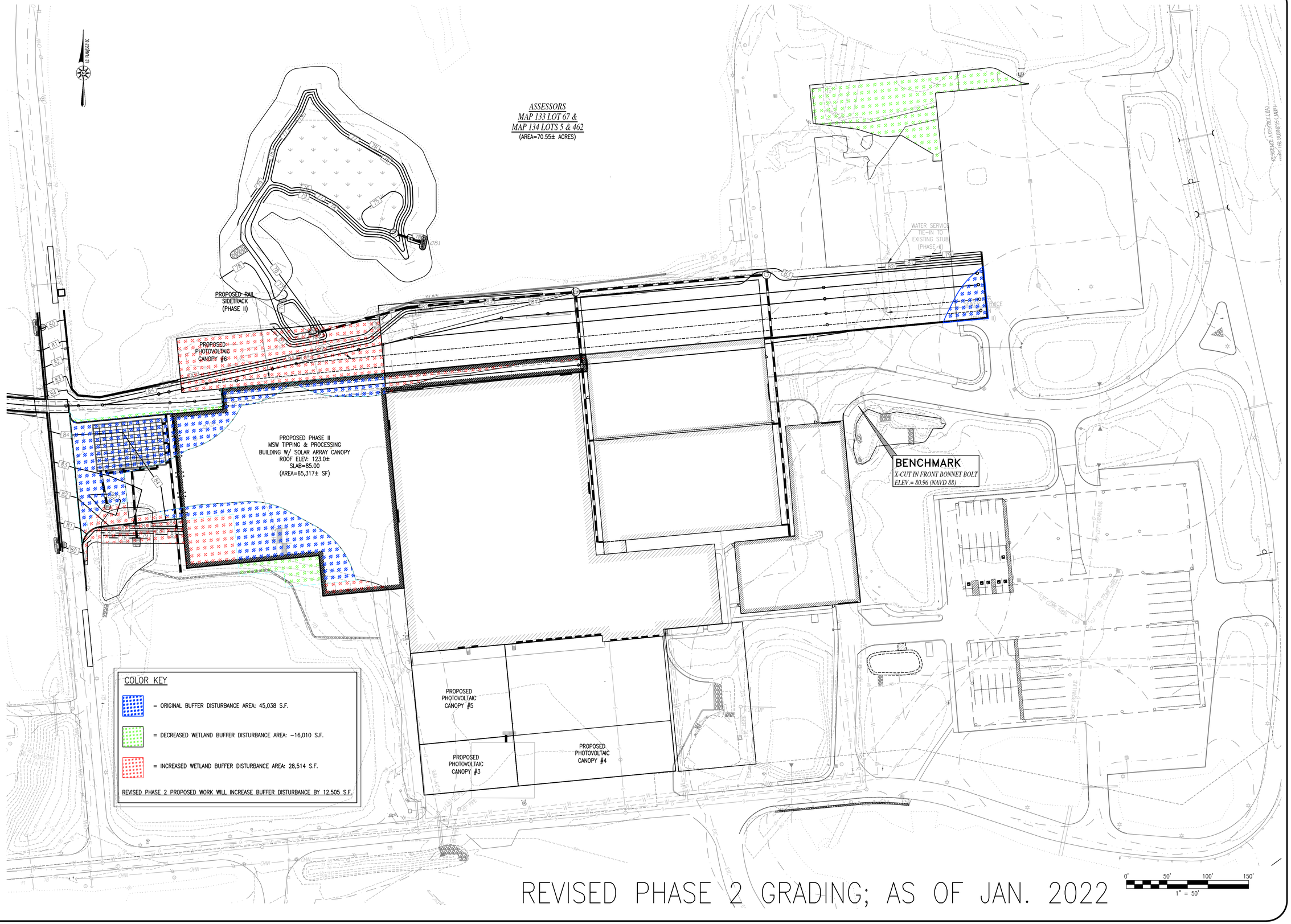
LAYOUT

SHEET 3 OF 5



REVISED PHASE 2 GRADING; AS OF JAN. 2022

REVISIONS

1	3/2/22	CANOPY 4 & 5 REVISION
2	3/3/22	GREEN SEAL COMMENTS
3	4/8/22	REMOVE CANOPY, ADD BUILDING
4	4/18/22	MODIFY # OF PROP. CANOPIES
5	6/8/22	GREEN SEAL COMMENTS

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DRAWN BY: JT
DESIGNED BY: CAF
CHECKED BY: CAF

PROPOSED PROJECT DEVELOPMENT

— 100 DUCHAINE BOULEVARD —
ASSESSORS MAP 133 LOT 67
ASSESSORS MAP 134 LOTS 5 & 462
NEW BEDFORD, MASSACHUSETTS

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JUNE 8, 2022

GRADING, DRAINAGE & UTILITIES - UPDATED PH. 2
SHEET 4 OF 5

– SOLAR ARRAYS –

SOLAR ARRAY LOCATION/DESCRIPTION	AREA (S.F.)	DC CAPACITY /SIZE KW	PHASE
EXISTING MSW PROCESSING BUILDING	92,220	649	PRE MEPA FILING
CARPORT #1	30,060	458	PRE MEPA FILING
CARPORT #2	30,060	458	PRE MEPA FILING
EXISTING SOLAR PRIOR TO MEPA FILING:		1.567 MEGAWATTS	
FRONT CANOPY #1	21,728	221	PHASE 1 APPROVAL
SIDE BUNKER BUILDING	21,728	231	PHASE 1 APPROVAL
REAR BUNKER/GLASS/REAR CANOPY #2	66,594	727	PHASE 1 APPROVAL
RAIL SIDETRACK REAR CANOPY #1	24,943	379	PHASE 1 APPROVAL
ON EXISTING BUILDING	N/A	40	PHASE 1 APPROVAL
FRONT CANOPY #2	16,714	254	PHASE 1 APPROVAL
TOTAL KW PHASE 1 APPROVED SOLAR:		1.842 MEGAWATTS	
TOTAL KW EXISTING & PHASE 1 APPROVED SOLAR:		3.337 MEGAWATTS	
PROPOSED SOLID WASTE TIPPING BUILDING	65,317	649	PROPOSED PHASE 2
PROPOSED CANOPY #3	7,223	73	PROPOSED PHASE 2
PROPOSED CANOPY #4	12067	123	PROPOSED PHASE 2
PROPOSED CANOPY #5	13,065	133	PROPOSED PHASE 2
PROPOSED CANOPY #6	16,750	379	PROPOSED PHASE 2
PROPOSED PHASE 2 ADDITIONAL SOLAR:		1.357 MEGAWATTS	
TOTAL SOLAR – EXISTING/UNDER CONSTRUCTION (PHASE 1) & PROPOSED PHASE 2:		4.766 MEGAWATTS	

COLOR KEY

= SOLAR ARRAYS: PRE MEPA FILING

= SOLAR ARRAYS: PHASE 1 APPROVAL

= SOLAR ARRAYS: PROPOSED POST PERMITTING

REVISED PHASE 2 SOLAR LAYOUT

REVISIONS

1	3/2/22	CANOPY 4 & 5 REVISION
2	3/3/22	GREEN SEAL COMMENTS
3	4/8/22	REMOVE CANOPY, ADD BUILDING
4	4/18/22	MODIFY # OF PROP. CANOPIES
5	6/8/22	GREEN SEAL COMMENTS

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DRAWN BY: JT
DESIGNED BY: CAF
CHECKED BY: CAF

PROPOSED PROJECT DEVELOPMENT
— 100 DUCHAINE BOULEVARD —
ASSESSORS MAP 133 LOT 67
ASSESSORS MAP 134 LOTS 5 & 462
NEW BEDFORD, MASSACHUSETTS

PREPARED FOR: PARALLEL PRODUCTS OF NEW ENGLAND
401 INDUSTRY ROAD
LOUISVILLE, KY 40208

FEBRUARY 18, 2022
SCALE: 1"=50'
JOB NO. 15-500.2
LATEST REVISION:
JUNE 8, 2022

SOLAR ARRAY LAYOUT

SHEET 5 OF 5

EXHIBIT 7

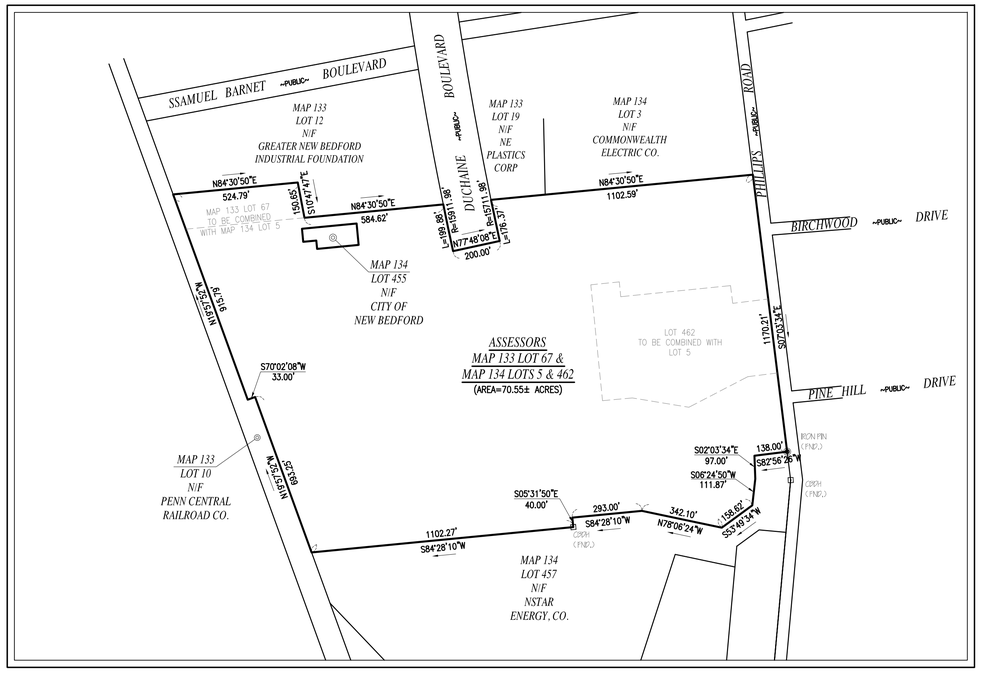
SITE PLANS SUBMITTED WITH FEIR

PROPOSED PROJECT DEVELOPMENT

100 DUCHAINE BOULEVARD

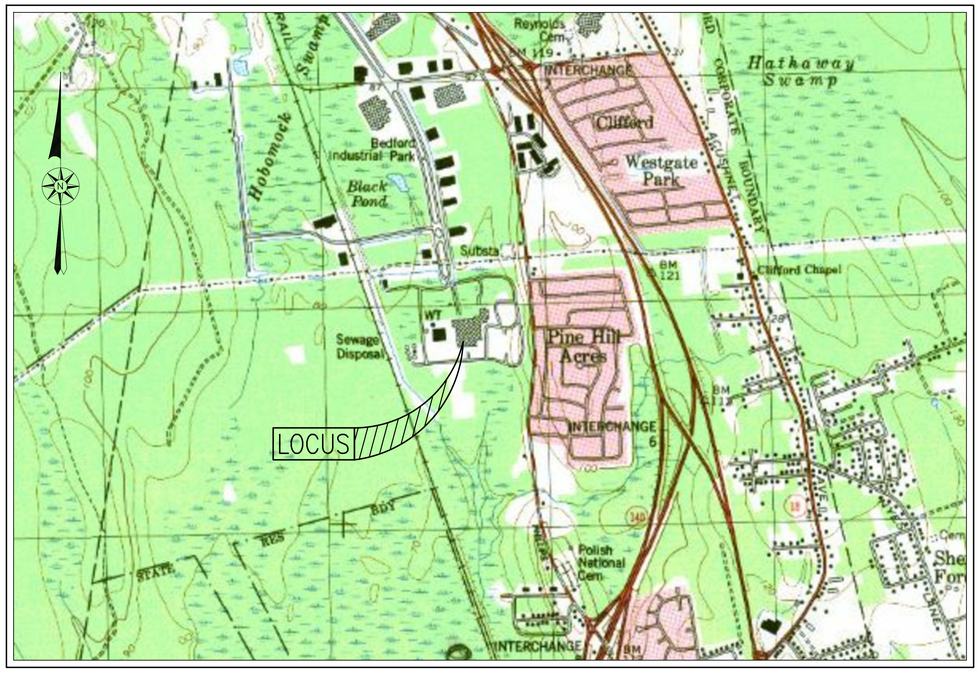
ASSESSORS MAP 133 LOT 67 AND MAP 134 LOTS 5 & 462

NEW BEDFORD, MASSACHUSETTS



— OVERALL SITE MAP —

SCALE: 1"=300'



— AREA MAP —

SCALE: 1"=1,000'±

— INDEX —

— ZONING DATA —

DISTRICT: IC (INDUSTRIAL C)

DESCRIPTION	REQUIRED	EXISTING	PROVIDED
LOT AREA	0 S.F.	61,961± AC	70.55± AC
LOT FRONTAGE	0 FT	576.17 FT	576.17 FT
FRONT SETBACK	25 FT	642.5± FT	582.0± FT
SIDE SETBACK	25 FT	758.9± FT	674.9± FT
REAR SETBACK	25 FT	192.5± FT	86.8± FT
BUILDING HEIGHT (MAXIMUM)	100 FT	<100 FT	<100 FT
BUILDING COVERAGE (MAXIMUM)	50 %	4.0± %	6.8± %
LOT COVERAGE (MAXIMUM)	80 %	22.9± %	25.8± %

— PARKING & LOADING REQUIREMENTS —

PRINCIPAL USE: RECYCLING FACILITY

(FOR PARKING REGULATION PURPOSES: BUSINESS ENGAGED IN WAREHOUSING & DISTRIBUTION)

REQUIREMENT	REQURIED	PROVIDED
1 SPACE PER 1,500 S.F. OF G.F.A. UP TO 15,000 S.F. THEREAFTER, ONE ADDITIONAL SPACE FOR EACH 5,000 S.F. OR PORTION THEREOF IN EXCESS OF 15,000 S.F., PLUS ONE SPACE FOR EACH VEHICLE UTILIZED IN THE BUSINESS.	47 STANDARD SPACES PLUS FLEET VEHICLES	189 TOTAL SPACES
WHEN 26-50 TOTAL PARKING SPACES ARE REQUIRED, 2 MUST BE ACCESSIBLE SPACES. ONE IN EVERY EIGHT ACCESSIBLE SPACES, BUT NOT LESS THAN ONE, SHALL BE VAN ACCESSIBLE	2 TOTAL SPACES (2 VAN)	2 TOTAL SPACES (2 VAN)
TWO (2) LOADING SPACES FOR EACH BUILDING CONTAINING 10,000 S.F. OF GROSS FLOOR AREA. THEREAFTER, ONE (1) ADDITIONAL LOADING SPACE SHALL BE REQUIRED FOR EACH FIFTEEN (15) FEET OF DOCK, PLATFORM, OR OPENING IN THE BUILDING WHERE THE LOADING OR UNLOADING OF COMMODITIES IS INTENDED TO OCCUR.	18 LOADING SPACES	20 LOADING SPACES

RECORD OWNER:

REGISTERED:
ASSESSORS MAP 134 LOT 5
SMRE 100, LLC
255 STATE STREET, 7TH FLOOR
BOSTON, MA 02109
L.C. CERTIFICATE No. 24201
LOT 8 ON L.C. PLAN 36318D

ASSESSORS MAP 134 LOT 462
SMRE SUBLOT 20 LLC
401 INDUSTRY ROAD – SUITE 100
LOUISVILLE, KY 40208
L.C. CERTIFICATE No. 24417
LOT 7 ON L.C. PLAN 36318D

UNREGISTERED:
ASSESSORS MAP 133 LOT 67
SMRE 100, LLC
50 DUCHAINE BOULEVARD
NEW BEDFORD, MA 02745
DEED BOOK 12378 PAGE 314
PARCEL B ON PLAN BOOK 177 PAGE 55

REVISIONS

1	9/13/19	CONSERVATION COMMENTS
2	10/15/19	PHASE I AND II
3	1/10/20	CONSERVATION COMMENTS
4	6/8/20	CONSERVATION COMMENTS
5	12/16/20	GREEN SEAL COMMENTS

COMMONWEALTH OF MASSACHUSETTS
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P.508.717.3479
OFFICES IN:
- TAUNTON
- MARLBOROUGH
- WARWICK, RI

DRAWN BY: MJW
DESIGNED BY: CAF
CHECKED BY: CAF

PROPOSED PROJECT DEVELOPMENT
— 100 DUCHAINE BOULEVARD —
ASSESSORS MAP 133 LOT 67
ASSESSORS MAP 134 LOTS 5 & 462
NEW BEDFORD, MASSACHUSETTS

PREPARED FOR: PARALLEL PRODUCTS OF NEW ENGLAND
401 INDUSTRY ROAD
LOUISVILLE, KY 40208

JULY 3, 2019
SCALE: AS NOTED
JOB NO. 15-500.2
LATEST REVISION:
DECEMBER 16, 2020

COVER

SHEET 1 OF 22

EXISTING CONDITIONS

WETLAND TOTAL AREA: 876,331± S.F.

IMPERVIOUS COVERAGE TOTAL AREA: 771,119± S.F.

IMPERVIOUS LOT COVERAGE = 25.1%

EXISTING CONDITIONS

0' 100' 200' 300'
1" = 100'

REVISIONS

1	9/13/19	CONSERVATION COMMENTS
2	10/15/19	PHASE I AND II
3	1/10/20	CONSERVATION COMMENTS
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5	12/16/20	GREEN SEAL COMMENTS

COMMONWEALTH OF MASSACHUSETTS
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PROPOSED PROJECT DEVELOPMENT
— 100 DUCHAINE BOULEVARD —
ASSESSORS MAP 133 LOT 67
ASSESSORS MAP 134 LOTS 5 & 462
NEW BEDFORD, MASSACHUSETTS

PREPARED FOR: PARALLEL PRODUCTS OF NEW ENGLAND
401 INDUSTRY ROAD
LOUISVILLE, KY 40208

JULY 3, 2019
SCALE: 1"=100'
JOB NO. 15-500.2
LATEST REVISION:
DECEMBER 16, 2020

EXISTING CONDITIONS
OVERALL SITE
SHEET 2 OF 22

MATCH LINE

MATCH LINE

BORDERING WETLANDS

WETLAND BOUNDARY

BORDERING WETLANDS

EXISTING TRANSFORMER PAD

EQUIPMENT

CONCRETE BLOCKS

CONCRETE

PROPANE STORAGE

REMAINS OF RAZED BUILDING SLAB NOT CURRENTLY USED

CONCRETE SLAB

EXISTING RETAINING WALL

PAVEMENT

EXISTING LANDSCAPE ISLANDS (TYP.)

WOODED AREA

ADJACENT PARKING AREA WITH 158 TOTAL PARKING SPACES

EXISTING VAN ACCESSIBLE PARKING SPACES (2)

PAVEMENT

LIMIT OF CLEARING

CONCRETE PAD

GRAVEL DRIVEWAY ACCESS TO BUILDING

TH #1

CB-1 (STORMCEPTOR)
RIM=80.77
INV=78.0±

CB-2
RIM=82.16
INV=80.6±

239'

CB-3
RIM=81.33
INV=78.1± (IN)
78.1± (OUT)

BUILDING HEIGHT=36.7'±

BUILDING HEIGHT=29.7'±

CB-4
RIM=80.82
INV=76.7± (IN)
76.7± (OUT)

EXISTING BUILDING USED FOR BEVERAGE PRODUCT DISTRIBUTION

BUILDING HEIGHT=91.5'±

220'

EXISTING GLASS PROCESSING ADDITION
AREA=27,500 SF
W/ ROOF MOUNTED PV SOLAR PANEL SYSTEM
APPROX. ROOF ELEV.=159'±

125'

BUILDING HEIGHT=91.5'±

CB-9
RIM=79.04
INV=77.1±

CB-8
RIM=78.97
INV=76.9±

CB-10
RIM=78.42
INV=76.8±

12" CMP
INV.=76.9±

WOODED AREA

8" FIBER MAIN
8" WATER MAIN

EXISTING STORMWATER BASIN

12" HDPE
INV.=76.4±

STRING INVERTERS ON EACH CANOPY, ATTACHED TO COLUMNS (TYPICAL)

BORDERING WETLANDS

50" FES

BORDERING WETLANDS

16" CMP
INV.=76.6±

12" HDPE
INV.=76.1±

12" CMP
INV.=76.7±

12" CMP
INV.=76.8±

BORDERING WETLANDS

EXISTING PS CARPORT ARRAY #1
1,411 TOTAL MODULES

CB-11
RIM=77.70
INV=74.78

CB-12
RIM=77.98
INV=76.25

CB-13
RIM=77.65
INV= 74.25(a)
73.98(b)
74.70(c)
73.95(d)

EXISTING PS CARPORT ARRAY #2
1,411 TOTAL MODULES

CB-14
RIM=78.10
INV=75.92

CONCRETE SUPPORT COLUMN (TYPICAL)

16" D.I. WATER MAIN

12" D.I. WATER MAIN

48" CMP
INV.=75.59

18" CMP
INV.=75.82

INV.=75.45

18" CMP
INV.=74.21

BORDERING WETLANDS

48" CMP
INV.=75.02

48" CMP
INV.=75.01

SMH-5
RIM=78.92
18"INV.=75.97(N)
18"INV.=75.87(W)

BORDERING WETLANDS

EXISTING EGG (EDGE OF GRAVEL)

10" HDPE
INV.=77.2±

12" RCP
INV.=77.2±

4" PVC
INV.=77.0±

4" PVC
INV.=76.9±

WOODED AREA

BORDERING WETLANDS

24" CORR. METAL
INV.=74.5±

24" CORR. METAL
INV.=75.6±

CB-5
RIM=78.21
INV=

CB-6
RIM=78.22
INV=

24" CORR. METAL

DMH-1
RIM=79.78
INV=76.1± (IN)
76.1± (OUT)

BUILDING HEIGHT=28.3'±

BUILDING HEIGHT=27.0'±

BUILDING HEIGHT=18.6'±

BUILDING HEIGHT=16.9'±

BUILDING HEIGHT=59.6'±

384'

CONCRETE APRON

8" D.I. WATER MAIN (TYP.)

SMH-4
RIM=79.44
18"INV.=74.29(N)
8"INV.=74.79(W)
18"INV.=74.25(S)

CB-7 (NDS)
RIM=77.85
INV=76.7± (a)
76.7± (b)

8" HDPE
INV.=76.5±

DMH-4
RIM=78.51
INV=75.4± (a)
75.4± (b)

RAIN GARDEN

WOODED AREA

CB-10
RIM=79.15
INV=

BORDERING WETLANDS

12" CMP
INV.=74.54

12" CMP-FES
INV.=74.76

CB-5 DOUBLE STORMCEPTOR
RIM=78.70
INV=76.2±

DMH-2
RIM=79.12
INV=75.5± (a)
75.4± (b)
75.4± (c)

PAVED DRIVEWAY ACCESS TO BUILDING

EXISTING CULTEC C-100HD SUBSURFACE RECHARGE SYSTEM
CHAMBER INV.=79.9±
STONE INV.=79.4±
12" INV. OUT=79.9±
18" INV. OUT=79.9±

CB-6 (NDS)
RIM=77.99
INV=76.7±

SAMPLING MANHOLE
RIM=EXISTING
6"INV.=74.2± (N)
6"INV.=74.1± (S)

SMH-3
RIM=79.85
18"INV.=72.66 (E)
8"INV.=75.08 (S)
18"INV.=72.58 (W)

EXISTING STORMWATER BASIN

12" DOMESTIC D.I. WATER MAIN

16" PVC SEWER MAIN

16" D.I. WATER MAIN

12" FIRE SUPPRESSION WATER MAIN

EXISTING CONCRETE FLOW CONTROL STRUCTURE
RIM=78.7±
4' WEIR ELEV.=76.9±
4" ORIFICE ELEV.=76.6±
12" HDPE INV.=75.4±

SMH-2
RIM=80.05
18"INV.=72.88(E)
6"INV.=72.88(N)
18"INV.=72.72(W)

DMH-3
RIM=79.12
INV=75.9± (IN)
75.9± (OUT)

2-24" FES
INV.=75.2±

18" PIPE
INV.=76.9±

24" CORR. METAL

0' 50' 100' 150'
1" = 50'

EXISTING CONDITIONS

REVISIONS

1	9/13/19	CONSERVATION COMMENTS
2	10/15/19	PHASE I AND II
3	1/10/20	CONSERVATION COMMENTS
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COMMONWEALTH OF MASSACHUSETTS
CHRISTIAN ALBERT FARLAND
No. 47544
CIVIL
REGISTERED PROFESSIONAL ENGINEER

FARLAND CORP.
www.FarlandCorp.com
401 COUNTY STREET
NEW BEDFORD, MA 02740
P.508.717.3479
OFFICES IN:
- TAUNTON
- MARLBOROUGH
- WARWICK, RI

DRAWN BY: MJW
DESIGNED BY: CAF
CHECKED BY: CAF

PROPOSED PROJECT DEVELOPMENT

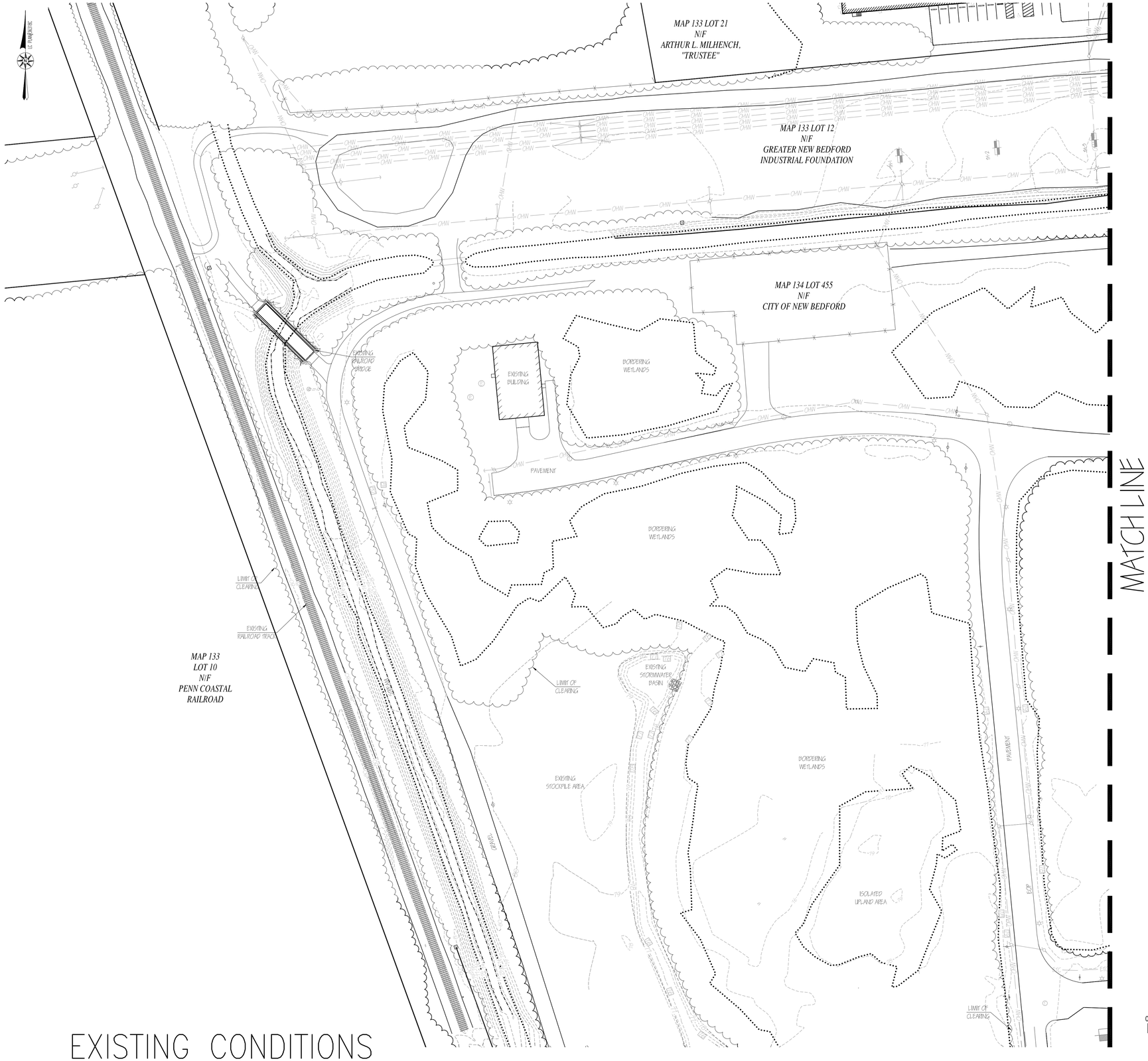
— 100 DUCHAINE BOULEVARD —
ASSESSORS MAP 133 LOT 67
ASSESSORS MAP 134 LOTS 5 & 462
NEW BEDFORD, MASSACHUSETTS

PREPARED FOR:
PARALLEL PRODUCTS OF NEW ENGLAND
401 INDUSTRY ROAD
LOUISVILLE, KY 40208

JULY 3, 2019
SCALE: 1"=50'
JOB NO. 15-500.2
LATEST REVISION:
DECEMBER 16, 2020

EXISTING CONDITIONS

SHEET 3 OF 22



EXISTING CONDITIONS

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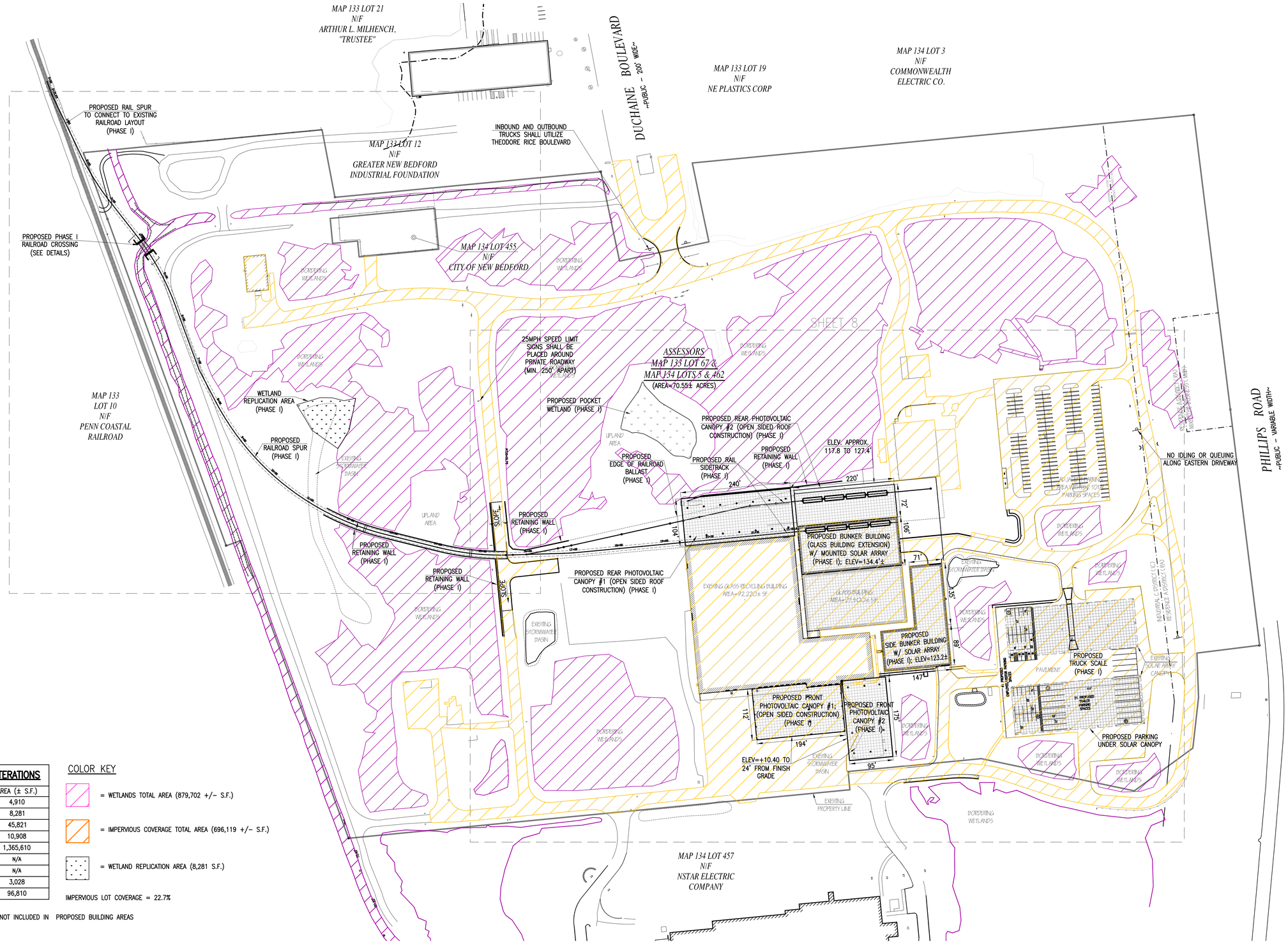
EXISTING CONDITIONS CONT.
SHEET 4 OF 22



PHASE 1 LAND ALTERATIONS

	AREA (± S.F.)
DISTURBED WETLANDS	4,910
WETLANDS REPLICATION	8,281
PROPOSED BUILDINGS	45,821
PROP. ROADWAY/PARKING	10,908
GREEN SPACE	1,365,610
WASTEWATER	N/A
WATER	N/A
LANDSCAPING	3,028
RAIL SPUR	96,810

COLOR KEY

= WETLANDS TOTAL AREA (879,702 +/- S.F.)

= IMPERVIOUS COVERAGE TOTAL AREA (696,119 +/- S.F.)

= WETLAND REPLICATION AREA (8,281 S.F.)

IMPERVIOUS LOT COVERAGE = 22.7%

NOTE: SOLAR CANOPIES ARE NOT INCLUDED IN PROPOSED BUILDING AREAS

PHASE 1

0' 100' 200' 300'
1" = 100'

REVISIONS

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— 100 DUCHAINE BOULEVARD —
ASSESSORS MAP 133 LOT 67
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NEW BEDFORD, MASSACHUSETTS

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LAYOUT
OVERALL SITE - PHASE 1
SHEET 5 OF 22

MATCH LINE

PROPOSED POCKET WETLAND (PHASE I)

ASSESSORS
MAP 133 LOT 67 &
MAP 134 LOTS 5 & 462
(AREA=70.55± ACRES)

BORDERING WETLANDS

UPLAND AREA

PROPOSED REAR PHOTOVOLTAIC CANOPY #1 (OPEN SIDED ROOF CONSTRUCTION) AREA=24,943 S.F. (PHASE I)

PROPOSED RETAINING WALL (PHASE I)

PROPOSED REAR PHOTOVOLTAIC CANOPY #2 (OPEN SIDED ROOF CONSTRUCTION) AREA=15,774 S.F. (PHASE I)

PROPOSED TYPICAL COLUMN LOCATION (PHASE I)

PROPOSED EDGE OF RAILROAD BALLAST (PHASE I)

PROPOSED TYPICAL COLUMN LOCATION (PHASE I)

PROPOSED EDGE OF RAILROAD BALLAST (PHASE I)

PROPOSED CAPE COD BERM

SIGNS
S COASTAL)

PROPOSED RETAINING WALL (PHASE I)

PROPOSED RETAINING WALL (PHASE I)

PROPOSED RETAINING WALL (PHASE I)

PROPOSED CAPE COD BERM

PROPOSED PHOTOVOLTAIC CANOPY #1 (PHASE I)

PROPOSED BUNKER BUILDING (GLASS BUILDING EXTENSION) W/ MOUNTED SOLAR ARRAY (PHASE I); ELEV=135.0'± AREA=23,320 S.F.

OVERHEAD DOOR

PROPOSED PAVED ACCESS DRIVE (PHASE I)

CAPE COD BERM

EDGE OF PAVEMENT

EXISTING STORMWATER BASIN

PROPOSED SIDE BUNKER BUILDING W/ ROOF MOUNTED SOLAR ARRAY (PHASE I); ELEV=123.0± AREA=21,973 S.F.

OVERHEAD DOOR

BICYCLE RACK

5' WIDE WALKWAY

EXISTING BUILDING USED FOR BEVERAGE PRODUCT DESTRUCTION ELEV. 117.0±

16 EXISTING LOADING BAYS (14 UNDER CANOPY & 2 EXPOSED)

2 EXISTING LOADING BAYS

2 EXISTING LOADING BAYS

ROOF ELEVATION=123.0 ±

MSW PROCESSING AREA=92,220 S.F.

GLASS BUILDING AREA=27,900± S.F. ROOF ELEVATION=135'

PROPOSED FRONT PHOTOVOLTAIC CANOPY #2 AREA=16,714 S.F. (PHASE I)

PROPOSED TYPICAL COLUMN LOCATION (PHASE I)

PROPOSED FRONT PHOTOVOLTAIC CANOPY #1; (OPEN SIDED CONSTRUCTION) AREA=21,728 S.F. (PHASE I)

PROPOSED TYPICAL COLUMN LOCATION (PHASE I)

EXISTING RAIN GARDEN

41 PROPOSED EMPLOYEE/VISITOR PARKING SPACES

PROPOSED TRUCK SCALE (PHASE I) ASPHALT

EXISTING SOLAR ARRAY CANOPY

21 PROPOSED TRAILER PARKING SPACES

EXISTING STORMWATER BASIN

EXISTING STORMWATER BASIN

MAP 134 LOT 457
N/F
NSTAR ELECTRIC
COMPANY

ASPHALT
GRAVEL
GRASS
STONE
PAVEMENT
SLOPE
BORDERING WETLANDS
EXISTING STORMWATER BASIN

240.3'
220.0'
103.8'
71.7'
106.0'
224.0'
71.5'
125.0'
88.0'
147.0'
112.0'
194.0'
175.2'
95.4'
82.6'
131'
53'
111'
12'
9'
22'
18'
8'
5'

PHASE 1

0' 50' 100' 150'
1" = 50'

REVISIONS

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PROPOSED PROJECT DEVELOPMENT

— 100 DUCHAINE BOULEVARD —
ASSESSORS MAP 133 LOT 67
ASSESSORS MAP 134 LOTS 5 & 462
NEW BEDFORD, MASSACHUSETTS

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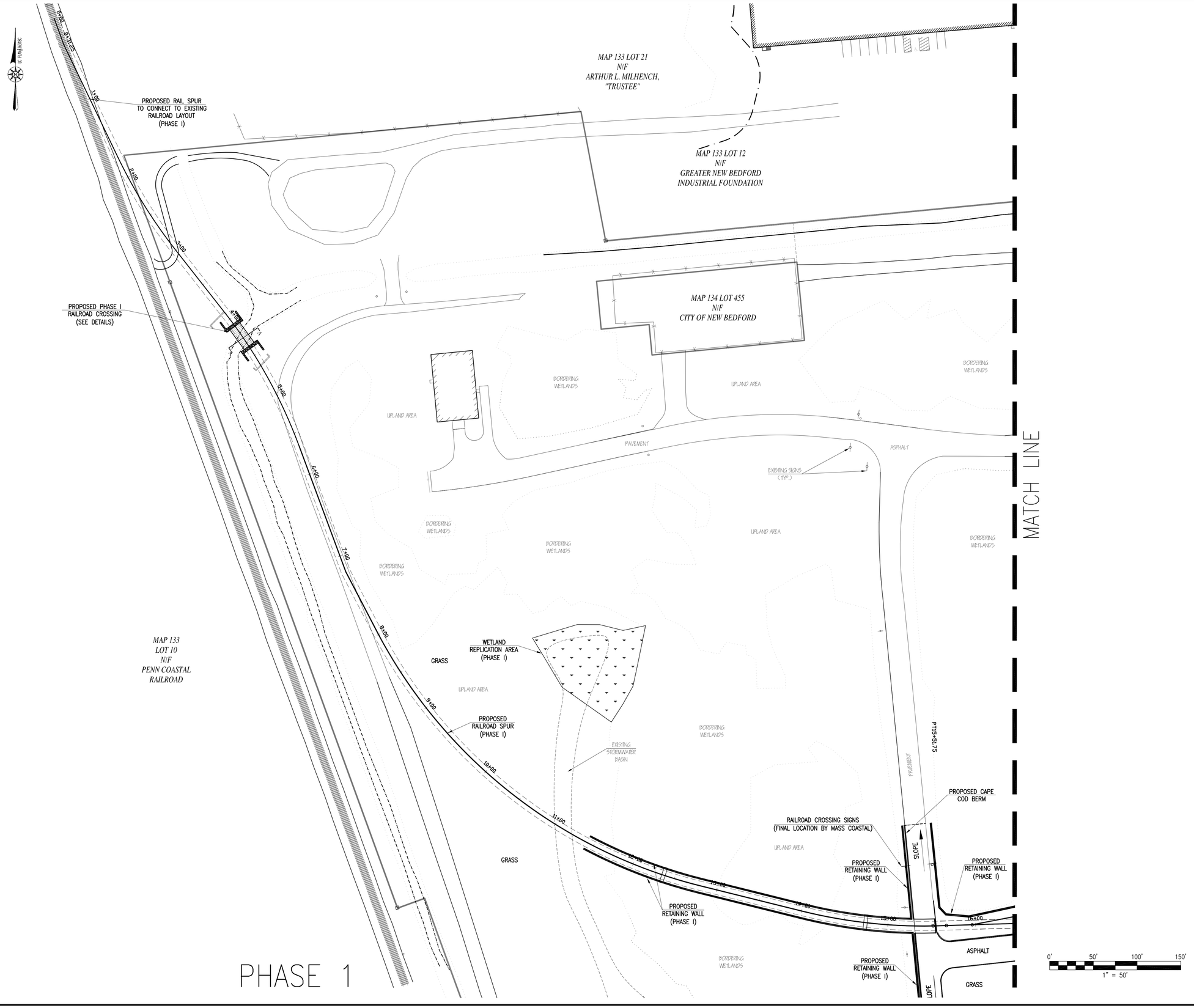
LAYOUT – PHASE 1

SHEET 6 OF 22



PHASE 1

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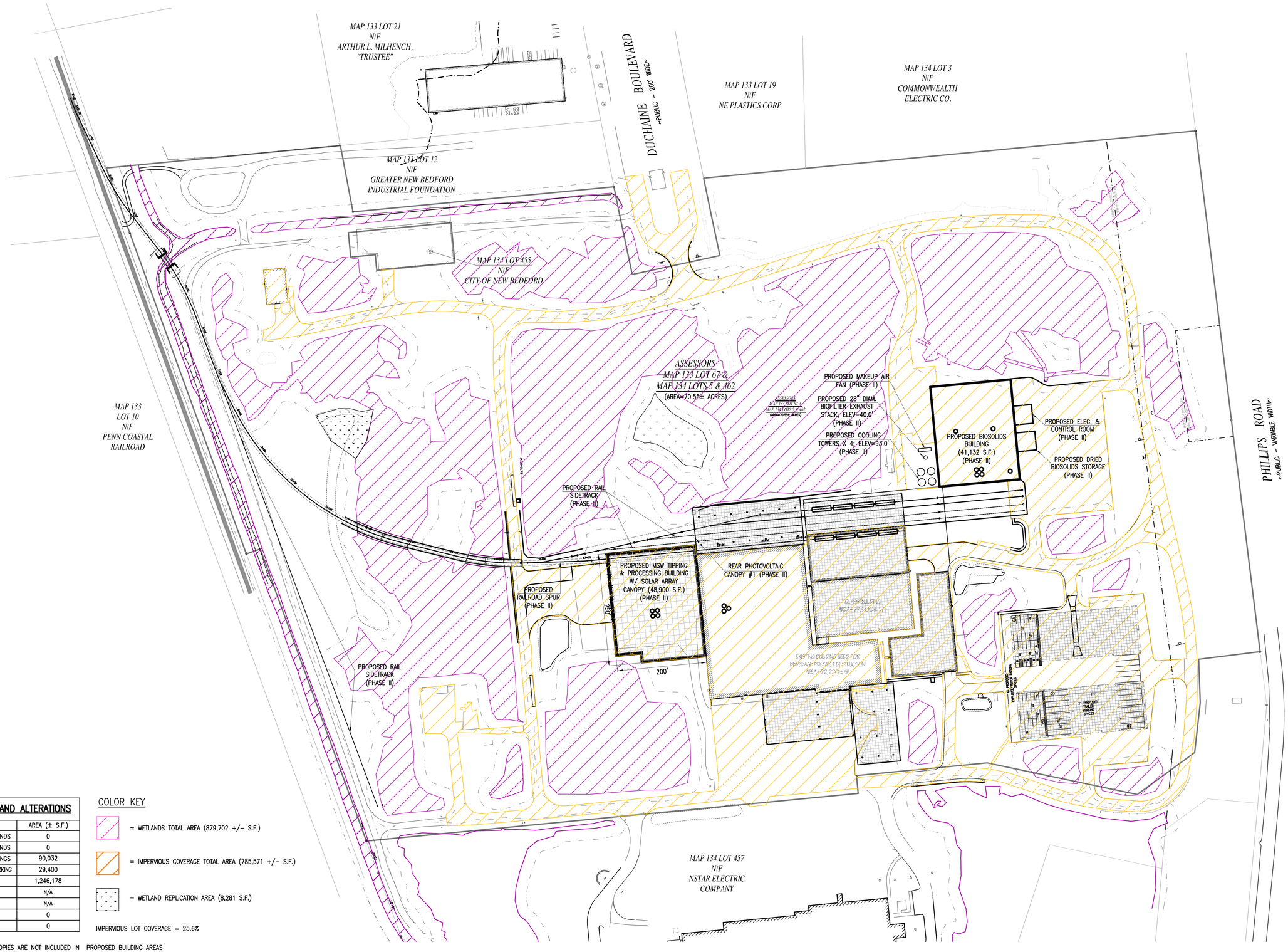
LAYOUT – PHASE 1 CONT.
SHEET 7 OF 22



PHASE 2 LAND ALTERATIONS	
	AREA (± S.F.)
DISTURBED WETLANDS	0
PROPOSED WETLANDS	0
PROPOSED BUILDINGS	90,032
PROP. ROADWAY/PARKING	29,400
GREEN SPACE	1,246,178
WASTEWATER	N/A
WATER	N/A
LANDSCAPING	0
RAIL SPUR	0

COLOR KEY

= WETLANDS TOTAL AREA (879,702 +/- S.F.)

= IMPERVIOUS COVERAGE TOTAL AREA (785,571 +/- S.F.)

= WETLAND REPLICATION AREA (8,281 S.F.)

IMPERVIOUS LOT COVERAGE = 25.6%

NOTE: SOLAR CANOPIES ARE NOT INCLUDED IN PROPOSED BUILDING AREAS

PHASE 1 & 2

0' 100' 200' 300'
1" = 100'

REVISIONS

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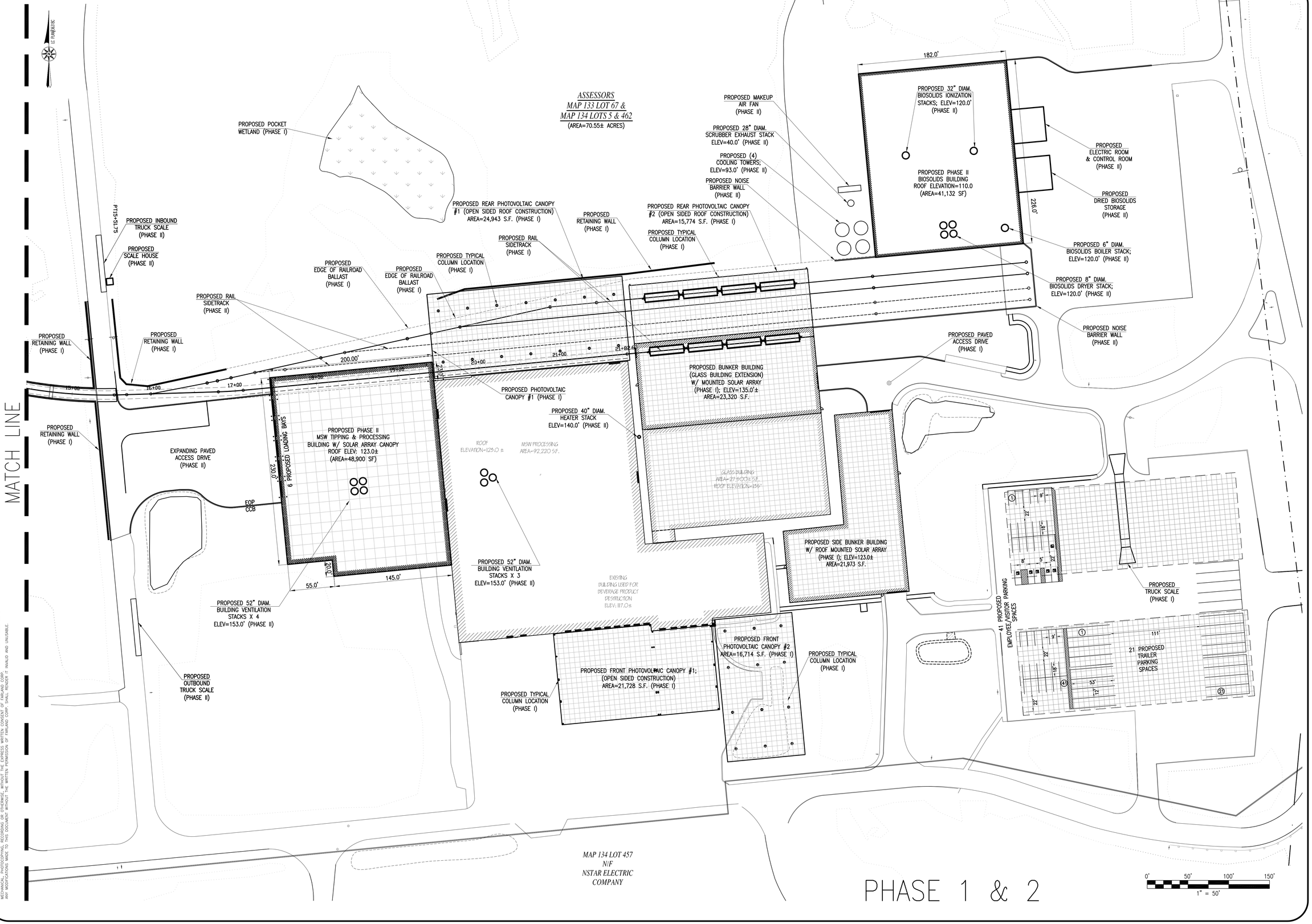
LAYOUT – PHASE 1 & 2 OVERALL SITE
SHEET 8 OF 22



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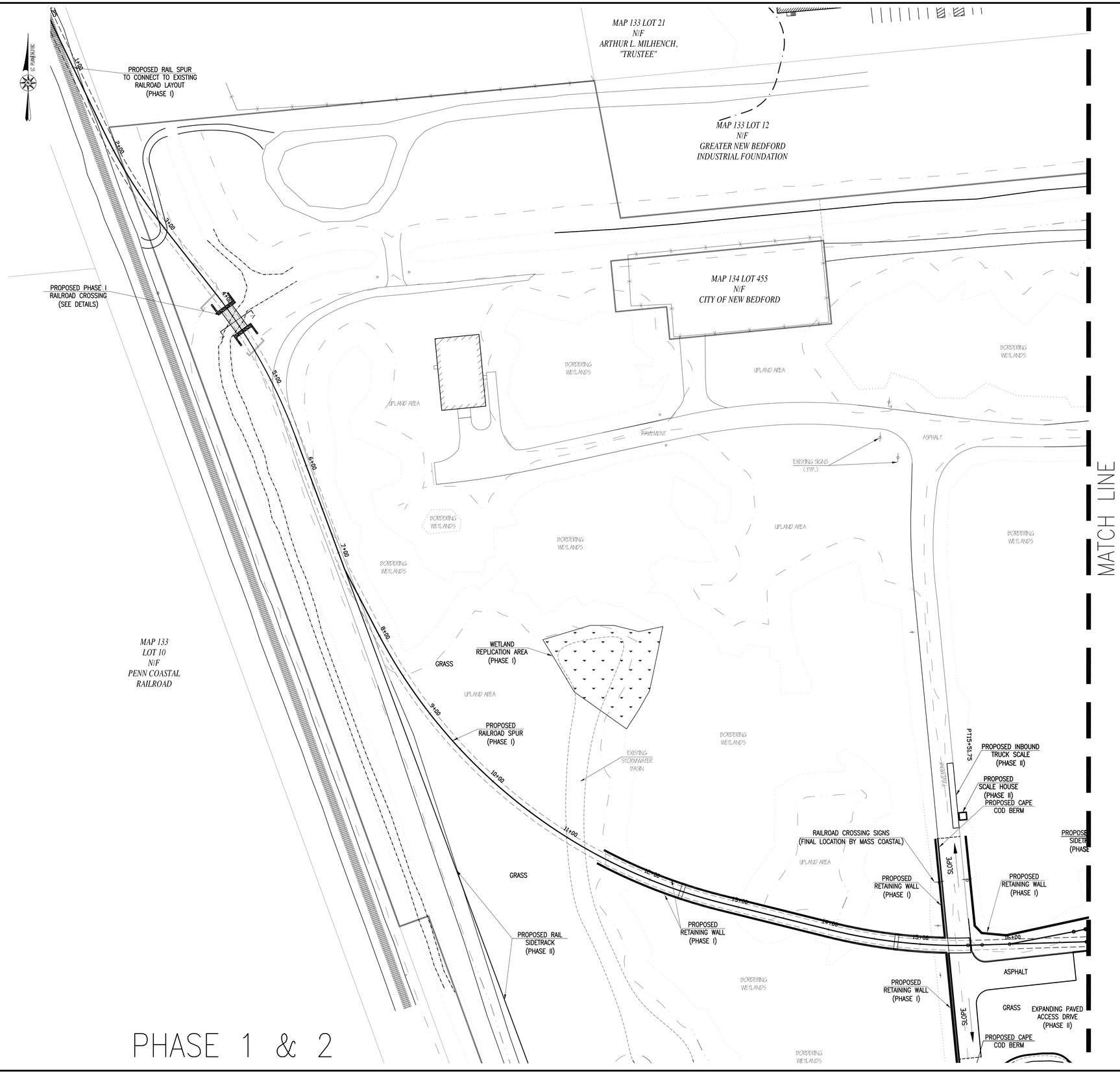
LAYOUT – PHASE 1 & 2

SHEET 9 OF 22



PHASE 1 & 2

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LAYOUT – PHASE 1 & 2 CONT.
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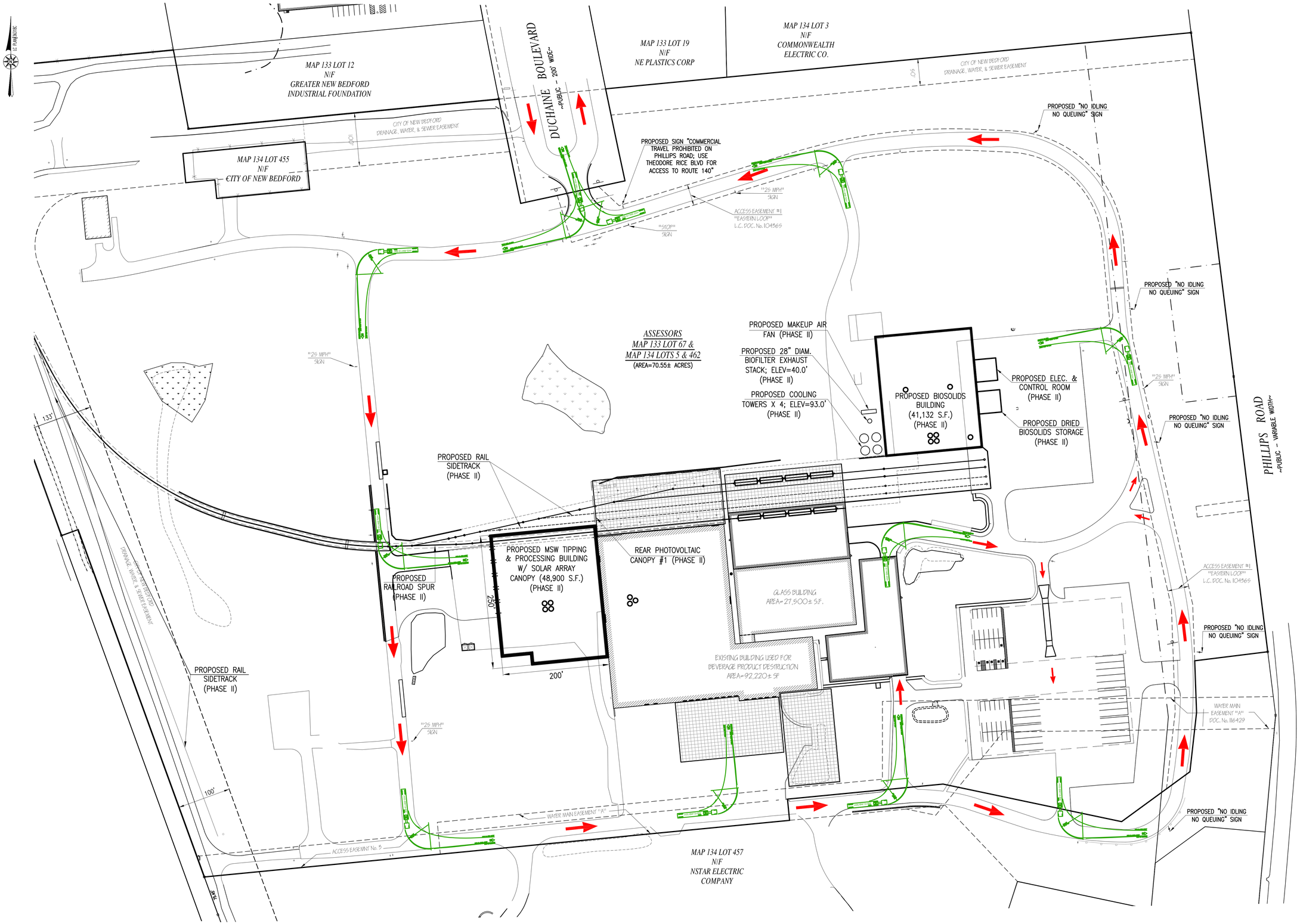

PHASE 1 & 2

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TRAFFIC CIRCULATION
PHASE 1 & 2
SHEET 11 OF 22

ASSESSORS
MAP 133 LOT 67 &
MAP 134 LOTS 5 & 462
(AREA=70.55± ACRES)

LOW MARSH ZONE
HIGH MARSH ZONE
FLOW PATH
POCKET STORMWATER WETLAND
BORDERING WETLANDS
25-FT WETLANDS BUFFER
100-FT WETLANDS BUFFER
10' WIDE SPILLWAY ELV=77.50
PROPOSED EROSION CONTROL (LIMIT OF WORK)
MICROPOOL
12" HDPE LEVEL SPREADER 12' LONG; INV.=76.00
GRADE TO DRAIN
SEDIMENT FOREBAY
WEIR ELV=77.25
18" HDPE W/ FES INV.=78.0±
STONE INFILTRATION TRENCH
REAR PHOTOVOLTAIC CANOPY #2 W/ OPEN SIDED ROOF CONSTRUCTION
PROPOSED INBOUND TRUCK SCALE (PHASE II)
PROPOSED SCALE HOUSE (PHASE II)
PROPOSED BUNKER BUILDING (GLASS BUILDING EXTENSION) W/ ROOF MOUNTED SOLAR ARRAY
REAR PHOTOVOLTAIC CANOPY #1 (PHASE II)
PROPOSED RAIL SIDETRACK (PHASE II)
PROPOSED RAILROAD SPUR (PHASE II)
PROPOSED RAILROAD SPUR (PHASE I)
PROPOSED RAIL SIDETRACK (PHASE I)
PHASE II PROPOSED BIOSOLIDS BUILDING 41,132 SF
PROPOSED ELECTRIC ROOM & CONTROL ROOM (PHASE II)
PROPOSED DRIED BIOSOLIDS STORAGE (PHASE II)
REPLACE WITH CDS WATER QUALITY UNIT
WATER SERVICE TIE-IN TO EXISTING STUB
SEWER SERVICE TIE-IN TO EXISTING STUB
BENCHMARK
X-CUT IN FRONT BONNET BOLT
ELEV.= 80.96 (NAVD 88)
PROPOSED EROSION CONTROL (LIMIT OF WORK)
DETENTION BASIN EXPANSION (PHASE II)
PHASE II PROPOSED MSW TIPPING BUILDING AREA=48,900 SF FF=85.0±
OVERFLOW WEIR ELEV=79.0±
OUTLET CONTROL STRUCTURE (PHASE II)
PROPOSED STAKED HAYBALES (TYP.)
PROPOSED OUTBOUND TRUCK SCALE (PHASE II)
EXISTING GLASS RECYCLING BUILDING AREA=92,220± SF
FRONT PHOTOVOLTAIC CANOPY #1 W/ OPEN SIDED CONSTRUCTION
FRONT PHOTOVOLTAIC CANOPY #2
EXISTING STORMWATER BASIN
EXISTING CULTEC C-100HD SUBSURFACE RECHARGE SYSTEM
EXISTING CONCRETE FLOW CONTROL STRUCTURE
PHASE 1 & 2

OCS-2
RIM=78.50
INV.=76.0±

CB-1 (STORMCEPTOR)
RIM=80.77
RIM=81.0 (NEW)
INV=78.0±

OCS-1
RIM=84.50
INV.=79.6±

DMH
RIM=84.50
INV.=80.7±

CB-10
RIM=78.42
INV=76.8±

CB-7 (NDS)
RIM=77.81
INV=76.7±(a)
76.7±(b)

CB-7 DOUBLE STORMCEPTOR
RIM=78.70
INV=76.2±
(REMOVE & RELOCATE)

CB-6 (NDS)
RIM=77.95
INV=76.7±

DMH-1
RIM=79.78
INV=76.1±(IN)
76.1±(OUT)

DMH-2
RIM=79.12
INV=75.5±(a)
75.4±(b)
75.4±(c)

DMH-3
RIM=79.12
INV=76.9±(IN)
75.9±(OUT)

DMH-4 (RE-LOCATED)
RIM=78.57
INV=75.4±(a)
75.4±(b)

BW=79.00 TW=79.50
BW=79.00 TW=83.00
BW=78.50 TW=83.00
BW=82.00 TW=83.00
BW=81.50 TW=81.50
BW=79.50 TW=82.50
BW=79.50 TW=83.50
BW=79.50 TW=80.00
BW=79.50 TW=84.50
BW=79.50 TW=80.00

+85.0
+76.20
+76.40
+76.50
+76.70
+76.90
+79.5

12" HDPE INV.=78.00
12" HDPE INV.=75.00
12" RCP INV.=77.2±
4" PVC INV.=77.0±
12" PERFORATED HDPE
12" HDPE INV.=76.4±
12" HDPE INV.=76.1±
12" CMP INV.=76.5±
6" HDPE INV.=76.8±
12" CMP INV.=74.5±
12" CMP-FES INV.=74.76
2-24" FES INV.=75.2±
15" PIPE INV.=76.9±

FIRE HYDRANT
SEWER SERVICE
OHW
GLASS BUILDING AREA=27,500± SF.

MATCH LINE

0' 50' 100' 150'
1" = 50'

REVISIONS

1	9/13/19	CONSERVATION COMMENTS
2	10/15/19	PHASE I AND II
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4	6/8/20	CONSERVATION COMMENTS
5	12/16/20	GREEN SEAL COMMENTS

COMMONWEALTH OF MASSACHUSETTS
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No. 47544
CIVIL

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www.FarlandCorp.com
401 COUNTY STREET
NEW BEDFORD, MA 02740
P.508.717.3479
OFFICES IN:
•TAUNTON
•MARLBOROUGH
•WARWICK, RI

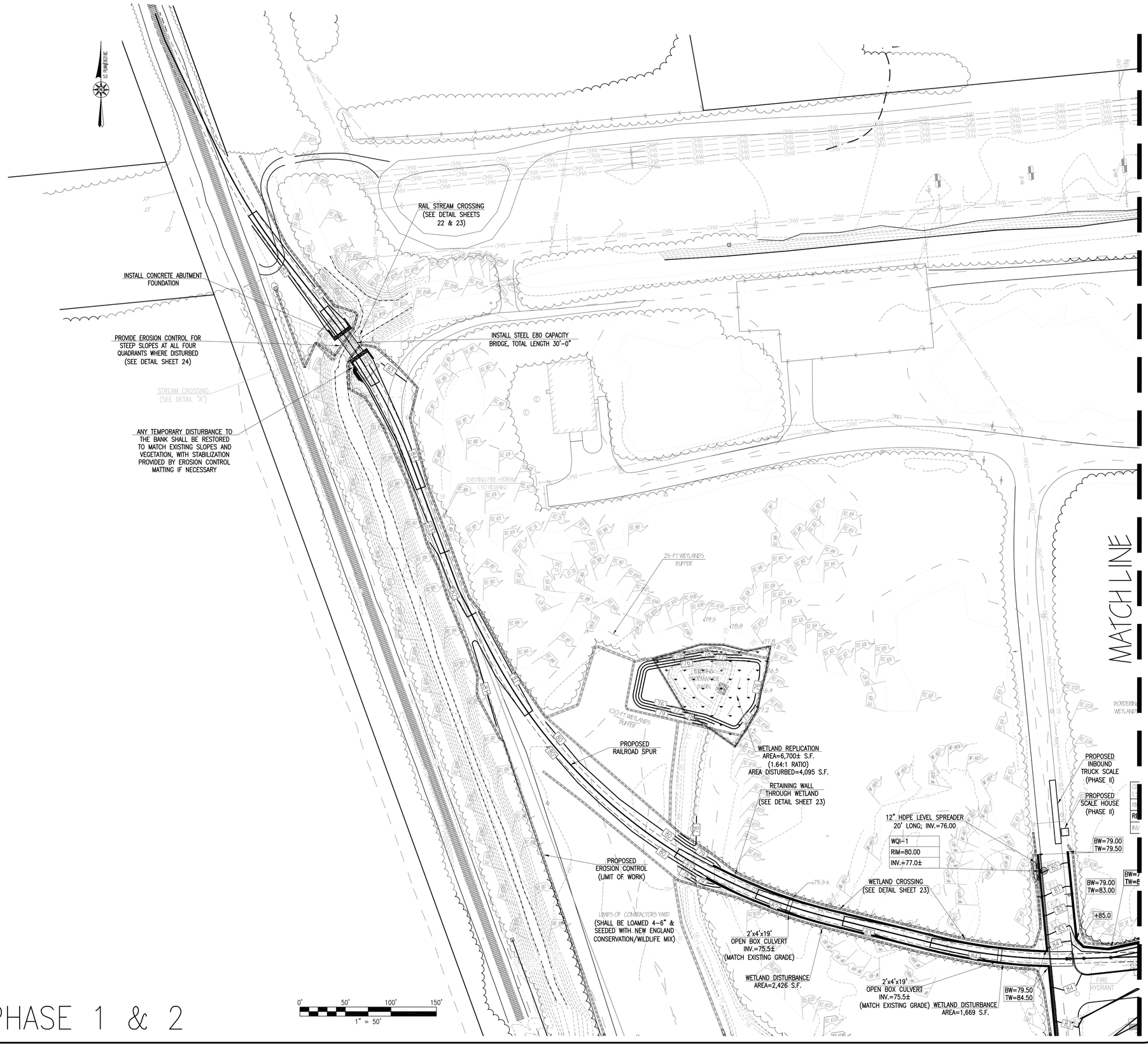
DRAWN BY: MJW
DESIGNED BY: CAF
CHECKED BY: CAF

PROPOSED PROJECT DEVELOPMENT
— 100 DUCHAINE BOULEVARD —
ASSESSORS MAP 133 LOT 67
ASSESSORS MAP 134 LOTS 5 & 462
NEW BEDFORD, MASSACHUSETTS

PREPARED FOR: PARALLEL PRODUCTS OF NEW ENGLAND
401 INDUSTRY ROAD
LOUISVILLE, KY 40208

JULY 3, 2019
SCALE: 1"=50'
JOB NO. 15-500.2
LATEST REVISION:
DECEMBER 16, 2020

GRADING, DRAINAGE & UTILITIES - PHASE 1 & 2
SHEET 12 OF 22



PHASE 1 & 2

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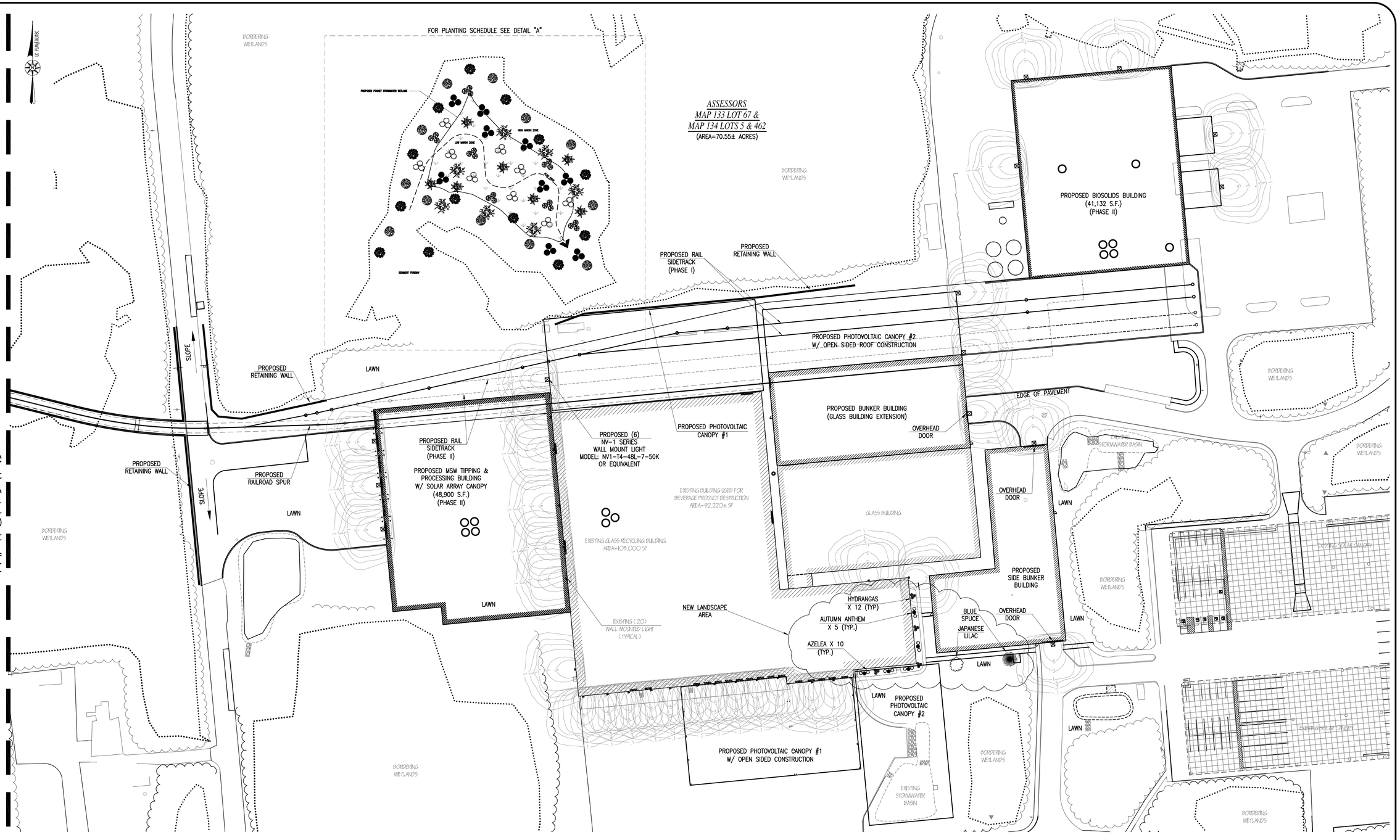
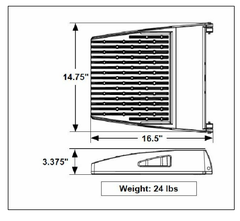
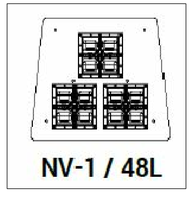
GRADING & DRAINAGE
CONT. - PHASE 1 & 2
SHEET 13 OF 22



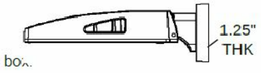




NV-1 / 48L

WALL MOUNT (WM)

Cast Aluminum Plate for direct wall mount. 3" extruded aluminum arm mounts directly to a cast wall mount box.



WALL MOUNT LIGHT (NV1-T4-48L-7-50K)

NOT TO SCALE

0' 50' 100' 150'

1" = 50'

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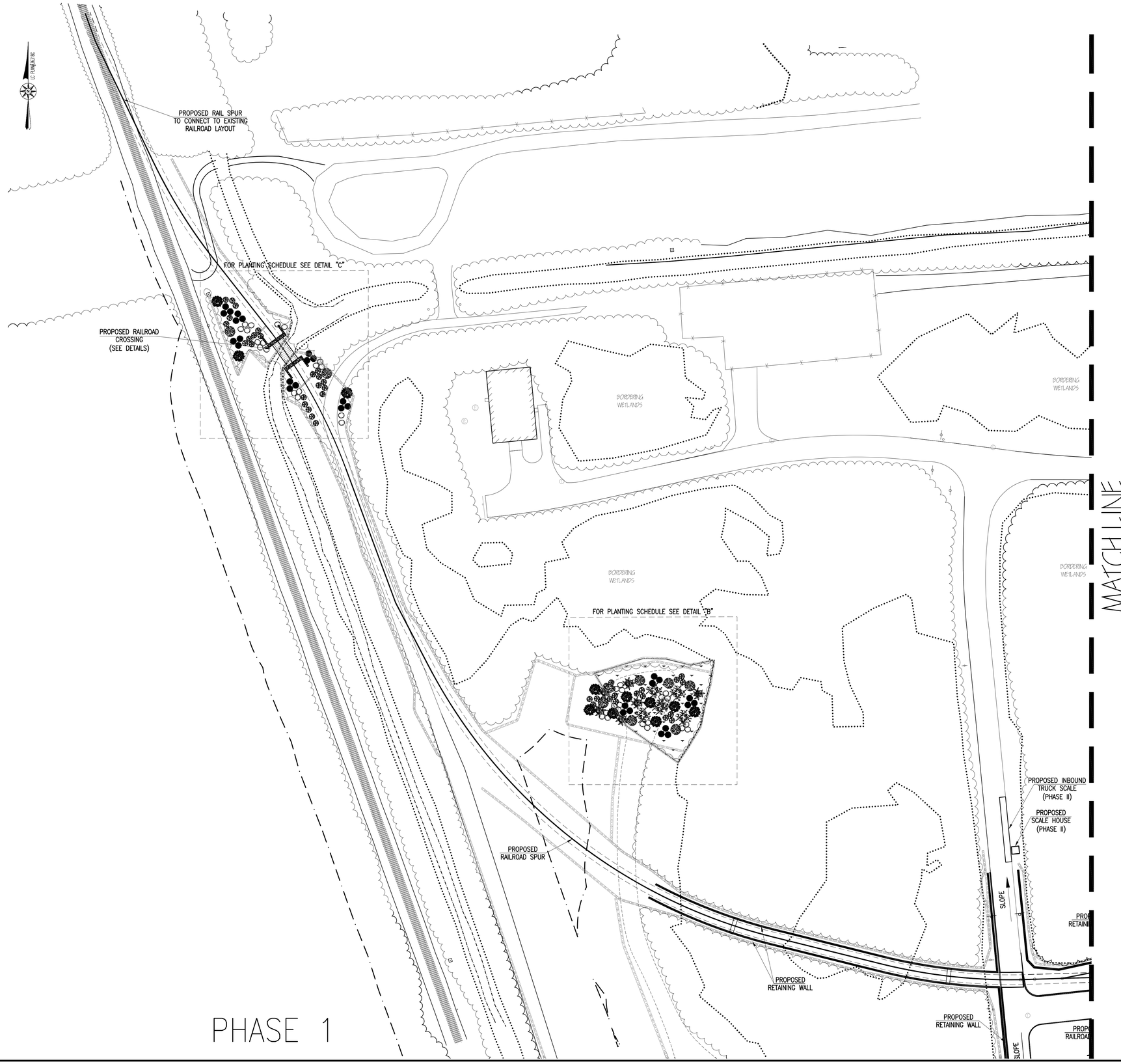
LIGHTING & LANDSCAPING
PHASE 1 & 2
SHEET 14 OF 22



PHASE 1

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LIGHTING & LANDSCAPING CONT. – PHASE 1
SHEET 15 OF 22

POCKET WETLAND SEEDMIXES

New England Province OBL Mix

Ernst Seeds Item Number: ERNMX-252
Seeding Rate: 20 lb per acre

Mix Composition
27.5% Carex vulpinoidea, PA Ecotype (Fox Sedge, PA Ecotype)
11.0% Carex lupulina, PA Ecotype (Hop Sedge, PA Ecotype)
11.0% Carex lurida, PA Ecotype (Lurid Sedge, PA Ecotype)
10.0% Carex scoparia, PA Ecotype (Blunt Broom Sedge, PA Ecotype)
6.2% Sparganium americanum (Eastern Bur Reed)
5.0% Elymus virginicus, PA Ecotype (Virginia Wildrye, PA Ecotype)
5.0% Panicum rigidulum, PA Ecotype (Redtop Panicgrass, PA Ecotype)
4.0% Verbena hastata, PA Ecotype (Blue Vervain, PA Ecotype)
3.0% Cinna arundinacea, PA Ecotype (Wood Reedgrass, PA Ecotype)
3.0% Juncus effusus (Soft Rush)
2.0% Alisma subcordatum, PA Ecotype (Mud Plantain, PA Ecotype)
2.0% Asclepias incarnata, PA Ecotype (Swamp Milkweed, PA Ecotype)
2.0% Carex intumescens, PA Ecotype (Star Sedge, PA Ecotype)
2.0% Sparganium eurycarpum, PA Ecotype (Giant Bur Reed, PA Ecotype)
1.0% Aster umbellatus, PA Ecotype (Flat Topped White Aster, PA Ecotype)
1.0% Eupatorium perfoliatum, PA Ecotype (Boneset, PA Ecotype)
1.0% Iris versicolor, PA Ecotype (Blueflag, PA Ecotype)
0.5% Carex stricta, PA Ecotype (Tussock Sedge, PA Ecotype)
0.5% Eupatorium fistulosum, PA Ecotype (Joe Pye Weed, PA Ecotype)
0.5% Helenium autumnale, PA Ecotype (Common Sneezeweed, PA Ecotype)
0.5% Lobelia siphilitica, PA Ecotype (Great Blue Lobelia, PA Ecotype)
0.5% Scirpus cyperinus, PA Ecotype (Woolgrass, PA Ecotype)
0.5% Scirpus validus, PA Ecotype (Softstem Bulrush, PA Ecotype)
0.3% Chelone glabra, PA Ecotype (Turtlehead, PA Ecotype)

Northeast Wetland Rush/Bulrush Mix

(Application Rate: 1 pound for 43,560 sq. ft. @ 230+ seeds per sq. ft.
(Southern Tier Consulting. Inc.)

Soft Rush	Juncus effusus
Green Bulrush	Scirpus atrovirens
Wool Grass	Scirpus cyperinus
Soft Stem Bulrush	Scirpus tabernaemontanii
Common Three Square	Scirpus pungens

New England Erosion Control and Restoration Mix for Detension Basins and Moist Sites

(35 lbs/acre 1250 sq ft/lb)
(New England Wetland Plants, Inc.)

Virginia Wild Rye, (Elymus virginicus), Creeping Red Fescue, (Festuca rubra), Little Bluestem, (Schizachyrium scoparium), Fox Sedge, (Carex vulpinoidea), Big Bluestem, (Andropogon gerardii), Switch Grass, (Panicum virgatum), Rough Bentgrass/Ticklegrass, (Agrostis scabra), Blue Vervain, (Verbena hastata), New England Aster, (Symphyptrichum novaeangliae), Boneset, (Eupatorium perfoliatum), Green Bulrush, (Scirpus atrovirens), Flat-top Goldentop, (Euthamia graminifolia), Soft Rush, (Juncus effusus), Wool Grass, (Scirpus cyperinus).

POCKET WETLAND PLUG PLANTING SPECIFICATIONS

HIGH MARSH
AREAS OF HIGH MARSH TO BE PLANTED WITH MINIMUM 200 2" PLUGS FROM THE BELOW LIST.

INCLUDE TWO OF THE FOLLOWING:

SCIRPUS CYPERINUS (WOOLGRASS)
CAREX LURIDA (LURID SEDGE)
JUNCUS EFFUSUS (SOFT RUSH)
PELTANDRA VIRGINICA (ARROW ARUM)

AND TWO OF THE FOLLOWING SPECIES:

THREE-SQUARE BULRUSH (*SCIRPUS PUNGENS*)
SCIRPUS ATROVIRENS (GREEN BULRUSH)
JUNCUS CANADENSIS (CANADA RUSH)
BLUE FLAG IRIS (*IRIS VERSICOLOR*)
ACORUS AMERICANA (SWEETFLAG)
CAREX STRICTA (TUSSOCK SEDGE)

MICROPOOL AND LOW MARSH
MICROPOOL AND LOW MARSH TO BE PLANTED WITH MINIMUM 300 2" PLUGS OR CELLS FROM THE BELOW LIST.

SCHOENOPLECTUS ACUTUS (HARD-STEM BULRUSH)
SCHOENOPLECTUS TABERNAEMONTANI (SOFT-STEM BULRUSH)
PICKERELWEED (*PONTEDERIA CORDATA*)
THREE-SQUARE BULRUSH (*SCIRPUS PUNGENS*)
NORTHERN ARROWHEAD (*SAGITTARIA LATIFOLIA*)

RIVERFRONT AREA PLANTING TABLE

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY
TREES				
	ACER RUBRUM	RED MAPLE	3 INCH CALIPER	3
	BETULA POPULIFOLIA	GRAY BIRCH	3 INCH CALIPER	2
SHRUBS				
	CLETHRA ALNIFOLIA	SWEET PEPPERBUSH	24 INCH	18
	VACCINIUM CONYMBOSIUM	HIGHBUSH BLUEBERRY	24 INCH	23
	ILEX VERTICILLATA	WINTERBERRY	24 INCH	18

GENERAL NOTES

- ALL PLANTINGS SHALL BE NATIVE VARIETIES WITH NO LANDSCAPE CULTIVARS INSTALLED.
- SPECIFIC PLACEMENT OF SHRUBS AND TREES ALONG THE EDGES OF THE POCKET WETLAND SHALL BE CARRIED OUT BY A QUALIFIED WETLAND SCIENTIST BASED ON ANTICIPATED WATER LEVELS & WETLAND INDICATOR STATUS. THE WETLAND SCIENTIST SHALL OVERSEE APPLICATION OF SEEDMIX AND GENERAL PLUG INSTALLATION LOCATIONS & WATER DEPTH ELEVATIONS..
- IF NECESSARY, ANY REQUIRED SUBSTITUTE NATIVE WOODY PLANTINGS OR NATIVE GROUNDCOVER SPECIES SHALL BE REVIEWED BY THE WETLAND SCIENTIST PRIOR TO INSTALLATION.
- INSTALLATION OF PLANTINGS IS RECOMMENDED IN THE SPRING OR FALL SEASON.
- SEEDMIXES SHALL BE APPLIED ACCORDING TO THE SUPPLIERS INSTRUCTIONS.
- APPROXIMATELY 6 INCHES OF ORGANIC RICH TOP SOIL SHALL BE ESTABLISHED THROUGHOUT.
- THE PROPOSED SOIL SHALL BE COMPRISED OF CLEAN LEAF COMPOST AND LOAM MIXTURE.
- ANY NECESSARY DEWATERING DURING PLANTING WILL BE CARRIED OUT USING CONSTRUCTION BEST MANAGEMENT PRACTICES.
- SHOULD DURING CONSTRUCTION STORMWATER INPUTS OCCUR IN THE POCKET WETLAND, PLANTINGS ARE RECOMMENDED TO BE INSTALLED AFTER THIS CONSTRUCTION PERIOD.
- THE ANTICIPATED MEAN WATER LEVELS TO BE CONFIRMED/ESTIMATED PRIOR TO PLANTING BY THE MONITORING WETLAND SCIENTIST AND/OR ENGINEER TO GUIDE PLANT INSTALLATION ELEVATIONS.
- IT IS RECOMMENDED THAT PLUGS BE SECURED WITH BIODEGRADABLE STAKES, STAPLES OR SMALL STONES TO PREVENT FLOATING WITHIN SURFACE WATER.
- POCKET WETLANDS TO BE SEEDED WITH 50/50 MIX COMPRISED OF NORTHEAST WETLAND NATIVE RUSH/BULRUSH MIX & THE NEW ENGLAND OBLIGATE SEED MIX. THE UPLAND WETLAND EDGE PERIMETER OF THE POCKET WETLAND AREA TO BE SEEDED WITH THE NEW ENGLAND EROSION CONTROL AND RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES.

POCKET WETLAND GENERAL NOTES

- THE PROPOSED SHRUBS AND TREES IN THE POCKET WETLAND PLANTING SPECIFICATIONS LIST SHALL BE EQUALLY DISTRIBUTED ALONG THE PERIMETER OF THE POCKET WETLAND ON THE EMBANKMENTS AND WITHIN THE EDGES OF THE HIGH MARSH. THE SPECIFIC LOCATIONS OF THE PLANTINGS SHALL BE OVERSEEN BY THE MONITORING WETLAND SCIENTIST TO ENSURE PROPER TARGET HYDROLOGY FOR EACH SPECIES (E.G. WILLOWS, BUTTONBUSH AND SWAMP ROSE TO BE PLACED AT OR A FEW INCHES ABOVE THE OUTERMOST EDGE OF TARGETED MEAN SURFACE WATER LEVEL. RED MAPLE AND TUPELO TO BE PLACED ANYWHERE ABOVE MEAN SURFACE WATER. REMAINDER OF PROPOSED WOODY PLANTINGS TO BE SITUATED 1-2 FEET ABOVE INTENDED SURFACE WATER LEVELS).

WETLAND REPLICATION AREA

- APPROXIMATELY 12 INCHES OF ORGANIC TOP SOIL SHALL BE ESTABLISHED IN THE WETLAND REPLICATION AREA.
- THE PROPOSED SOIL SHALL BE COMPRISED OF CLEAN LEAF COMPOST AND LOAM MIXTURE, AND SHALL HAVE APPROXIMATELY 20% ORGANIC MATTER CONTENT. THE IMPORTED SOIL SHALL BE INSPECTED BY THE WETLAND SCIENTIST BEFORE PLACEMENT IN THE REPLICATION AREA.
- PIT AND MOUND MICRO-TOPOGRAPHY SHALL BE ESTABLISHED IN THE WETLAND REPLICATION AREA UNDER THE OVERSIGHT OF THE WETLAND SCIENTIST.
- EFFORT SHALL BE MADE TO MINIMIZE SOIL COMPACTION DURING CONSTRUCTION.

POCKET WETLAND PLANT LIST

COMMON NAME	BOTANICAL NAME	SIZE	PLANTING SPECIFICATIONS	NO.
TREES				
PUSSY WILLOW	SALIX DISCOLOR	4–6' MIN.	SINGLES, 10–20 FEET O.C.	7
BLACK WILLOW	SALIX NIGRA	4–6' MIN.	SINGLES, 10–20 FEET O.C.	7
BLACK GUM	NYSSA SYLVATICA	4–6' MIN.	SINGLES, 10–20 FEET O.C.	7
RED MAPLE	ACER RUBRUM	4–6' MIN.	SINGLES, 10–20 FEET O.C.	7
SWAMP WHITE OAK	QUERCUS BICOLOR	4–6' MIN.	SINGLES, 10–20 FEET O.C.	7
SHRUBS				
HIGHBUSH BLUEBERRY	VACCINIUM CORYMBOSUM	2–3' MIN.	CLUSTERS 3–5, 4–6' O.C.	7
BUTTONBUSH	CEPHALANSIS OCCIDENTALIS	2–3' MIN.	CLUSTERS 3–5, 4–6' O.C.	7
COMMON ELDERBERRY	SAMBUSCUS CANADENSIS	2–3' MIN.	CLUSTERS 3–5, 4–6' O.C.	7
SWAMP ROSE	ROSA PALUSTRIS	2–3' MIN.	CLUSTERS 3–5, 4–6' O.C.	7
WINTERBERRY	ILEX VERTICILLATA	2–3' MIN.	CLUSTERS 3–5, 4–6' O.C.	7

SURROUNDING UPLAND PLANT SPECIES

Tree layer
Red maple (Acer rubrum)
White pine (Pinus strobus)
Gray birch (Betula populifolia)
White oak (Quercus alba)
Eastern hemlock (Tsuga canadensis)

Shrub layer
White pine (Pinus strobus)
Gray birch (Betula populifolia)
Black gum (Nyssa sylvatica)
Sweet pepperbush (Clethra alnifolia)
American holly (Ilex opaca)
American beech (Fagus grandifolia)

Climbing woody vines
Round–leaved greenbrier (Smilax rotundifolia)

Herbaceous
Broom sedge (Andropogon virginicus)
Little bluestem (Schizachyrium scoparium)
Unspecified sedge species (Carex sp.)
Trailing raspberry (Rubus sp.)

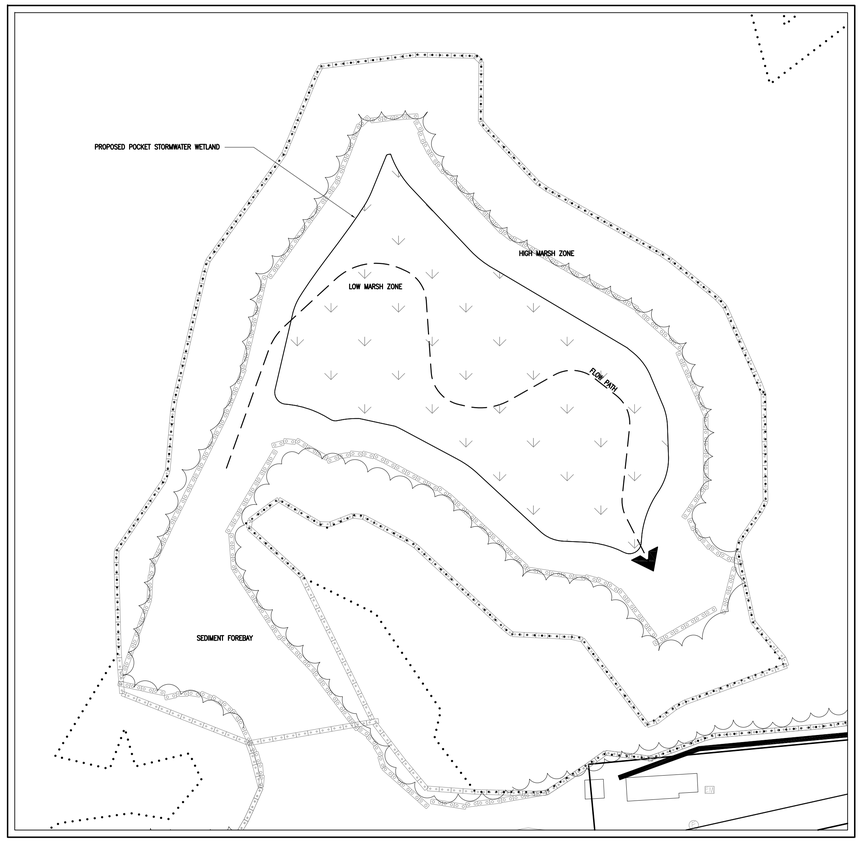
SURROUNDING WETLAND PLANT SPECIES

Tree layer
Gray birch (Betula populifolia)

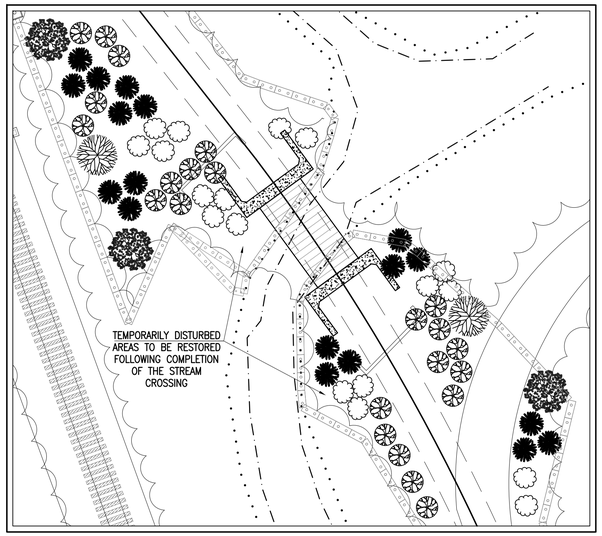
Shrub layer
Red maple (Acer rubrum)
Sweet pepperbush (Clethra alnifolia)
Multiflora rose (Rosa multiflora)
Highbush blueberry (Vaccinium corymbosum)
Maleberry (Lyonia ligustrina)
Arrowwood (Viburnum recognitum)

Climbing woody vines
Oriental bittersweet (Celastrus orbiculatus)

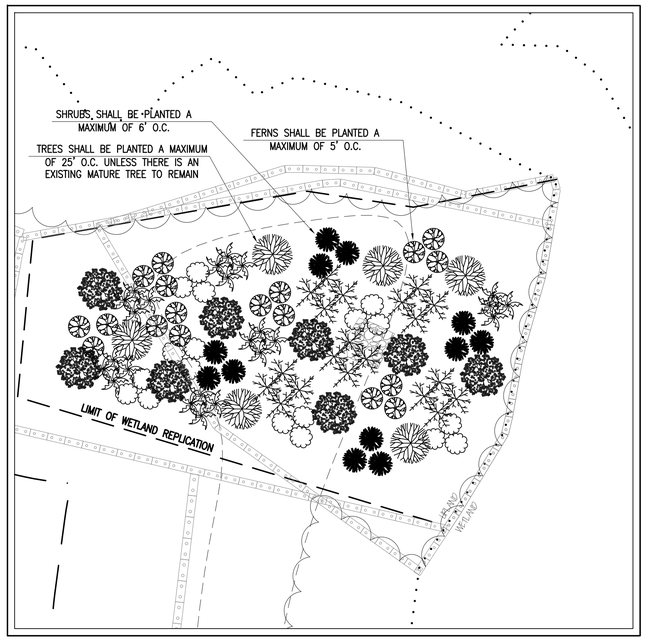
Herbaceous layer
Sensitive fern (Onoclea sensibilis)
Cinnamon fern (Osmunda cinnamomea)
Soft rush (Juncus effusus)
Reed canary–grass (Phalaris arundinacea)
Pennsylvania smartweed (Polygonum pensylvanica)
Arrow–leaved tearthumb (Polygonum cuspidatum)



STORMWATER POCKET WETLAND (DETAIL "A")
SCALE: 1"=30'



RIVERFRONT AREA RESTORATION (DETAIL "C")
SCALE: 1"=20'



WETLAND REPLICATION (DETAIL "B")
SCALE: 1"=20'

PHASE 1

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JULY 3, 2019
SCALE: AS NOTED
JOB NO. 15–500.2
LATEST REVISION:
DECEMBER 16, 2020

LANDSCAPING & PLANTING SCHEDULES
PHASE 1
SHEET 16 OF 22

GENERAL CONSTRUCTION NOTES

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIG SAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.
2. TOPOGRAPHIC AND PROPERTY LINE SURVEY PERFORMED BY FARLAND CORP. IN APRIL OF 2019.
3. VERTICAL ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 AND HORIZONTAL LOCATIONS REFER TO THE NORTH AMERICAN DATUM (NAD) OF 1983.
4. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL STANDARDS AND REGULATIONS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND BENCH MARKS NECESSARY FOR THE WORK.
6. ALL BENCHMARKS SHOWN ON THIS PLAN ARE TO BE CHECKED FOR CONSISTENCY BY THE CONTRACTOR. ANY DISCREPANCIES MUST BE RESOLVED BY THIS OFFICE PRIOR TO CONSTRUCTION.
7. WHERE PROPOSED PAVEMENT AND WALKS ARE TO MEET EXISTING, THE CONTRACTOR SHALL SAWCUT A NEAT LINE AND MATCH GRADE. SEAL ALL JOINTS WITH HOT BITUMINOUS ASPHALT JOINT SEALER.
8. CURBING TO BE AS INDICATED ON THE PLANS.
9. ALL EXISTING TREES, SHRUBS AND GROUND COVER WHERE NATURAL GRADE IS TO BE RETAINED SHALL BE KEPT IN THEIR EXISTING STATE UNLESS REMOVAL IS REQUIRED FOR CONSTRUCTION PURPOSES.
10. ALL AREAS DISTURBED BY CONSTRUCTION AND NOT TO BE PAVED OR OTHERWISE TREATED AS NOTED ON PLAN SHALL BE TREATED WITH 4" OF LOAM, SEEDED AND HAY MULCHED FOR EROSION CONTROL.
11. SITE IMPROVEMENTS SHALL CONFORM TO A.D.A. SPECIFICATIONS.
12. LIGHTING SHALL BE DIRECTED ON SITE AND AWAY FROM TRAFFIC INTERFERENCE.
13. TEST PITS AND/OR BORINGS WERE TAKEN FOR THE PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY. THEY DO NOT NECESSARILY SHOW THE NATURE OF ALL MATERIALS TO BE ENCOUNTERED DURING CONSTRUCTION.
14. THE CONTRACTOR SHALL PROTECT AND/OR CAP OFF ALL EXISTING ON-SITE UTILITY SERVICES ACCORDING TO THE LOCAL AUTHORITY'S SPECIFICATIONS. SERVICES SHALL BE CAPPED OFF WHERE SAME ENTER THE PERIMETER OF THE PROPERTY LINE.
15. CONTRACTOR SHALL THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL CONSTRUCTION DOCUMENTS, SPECIFICATIONS AND SITE CONDITIONS PRIOR TO BIDDING AND PRIOR TO CONSTRUCTION.
16. ANY DISCREPANCIES BETWEEN DRAWINGS, SPECIFICATIONS AND SITE CONDITIONS SHALL BE REPORTED IMMEDIATELY TO THE OWNER'S REPRESENTATIVE FOR CLARIFICATION AND RESOLUTION PRIOR TO BIDDING OR CONSTRUCTION.
17. THESE PLANS ARE PERMITTING PLANS AND SHALL NOT TO BE USED FOR CONSTRUCTION. A FINAL SET OF STAMPED PLANS FOR CONSTRUCTION WILL BE ISSUED AFTER RECEIVING FINAL APPROVAL FROM THE LOCAL AND/OR STATE DEPARTMENTS.

CONSTRUCTION SEQUENCING NOTES

1. CONSTRUCT TEMPORARY AND PERMANENT EROSION CONTROL FACILITIES. EROSION CONTROL FACILITIES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING.
2. TREE PROTECTION FENCE SHALL BE INSTALLED AND APPROVED BY THE OWNER REPRESENTATIVE PRIOR TO ANY EARTH MOVING.
3. ALL PERMANENT DITCHES AND SWALES ARE TO BE STABILIZED WITH VEGETATION OR RIP RAP PRIOR TO DIRECTING RUNOFF TO THEM.
4. CLEAR CUT, DEMOLISH AND DISPOSE OF EXISTING SITE ELEMENTS NOT TO REMAIN.
5. STORMWATER SHALL NOT BE DIRECTED TOWARDS THE INFILTRATION BASINS UNTIL THE ENTIRE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.
6. GRADE AND GRAVEL ALL PAVED AREAS. ALL PROPOSED PAVED AREAS SHALL BE STABILIZED IMMEDIATELY AFTER GRADING.
7. BEGIN ALL PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND MULCHED IMMEDIATELY AFTER THEIR CONSTRUCTION.
8. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, SILT FENCES AND MULCH AND SEED AS REQUIRED.
9. FINISH PAVING ALL HARD SURFACE AREAS.
10. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES.
11. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
12. REMOVE TEMPORARY EROSION CONTROL MEASURES.
13. THE CONSTRUCTION SEQUENCE SHALL BE CONFINED TO THE LIMIT OF WORK AS SHOWN ON THE DRAWINGS.
14. UPON COMPLETION OF CONSTRUCTION THE OWNER SHALL AGREE TO MAINTAIN AND CLEAN ALL DRAINAGE STRUCTURES AS REQUIRED.

SITE PREPARATION NOTES

1. WITHIN THE LIMIT OF WORK LINE AS NOTED ON THE SITE PLANS, REMOVE AND DISCARD ALL CONCRETE PAVEMENT, BITUMINOUS CONCRETE PAVEMENT, BRICK PAVEMENT, TOP SOIL, MULCH, TRASH, DEAD TREES AND STUMPS, SHRUBBERY, CHAIN LINK FENCE POSTS, RAILS, FABRIC, GATES, FOOTINGS AND ALL APPURTENANCES, BOLLARDS, POSTS, CONCRETE FOOTINGS AND FOUNDATIONS, WALLS AND CURBS UNLESS OTHERWISE NOTED.
2. THE OWNER'S REPRESENTATIVE SHALL BE CONSULTED AND WILL REVIEW THE WORK ON SITE WITH THE CONTRACTOR BEFORE ANY WORK SHALL COMMENCE.
3. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS IN THE FIELD AND REPORT ANY DISCREPANCIES BETWEEN PLANS AND ACTUAL CONDITIONS TO THE OWNER'S REPRESENTATIVE PRIOR TO STARTING WORK.
4. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING CONDITIONS TO REMAIN THAT ARE DUE TO CONTRACTOR OPERATIONS.
5. ALL ITEMS TO BE REMOVED THAT ARE NOT STOCKPILED FOR LATER REUSE ON THE PROJECT OR DELIVERED TO THE OWNER SHALL BE LEGALLY DISPOSED OF OFF SITE BY THE CONTRACTOR.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS EFFORTS OF THE DEMOLITION WITH ALL TRADES.
7. THE CONTRACTOR SHALL COORDINATE ALL ADJUSTMENT OR ABANDONMENT OF UTILITIES WITH THE RESPECTIVE UTILITY COMPANY.
8. THE CONTRACTOR SHALL MAINTAIN OR ADJUST TO NEW FINISH GRADES AS NECESSARY ALL UTILITY AND SITE STRUCTURES SUCH AS LIGHT POLES, SIGN POLES, MANHOLES, CATCH BASINS, HAND HOLES, WATER AND GAS GATES, HYDRANTS, ETC., FROM MAINTAINED UTILITY AND SITE SYSTEMS UNLESS OTHERWISE NOTED OR DIRECTED BY THE OWNER'S REPRESENTATIVE.

UTILITY AND GRADING NOTES

1. ALL ON-SITE STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE PIPE (HDPE) OR RCP, UNLESS NOTED OTHERWISE.
2. HDPE PIPE SHALL CONFORM WITH AASHTO DESIGNATIONS M294 AND M252, SHALL BE MANUFACTURED WITH HIGH DENSITY POLYETHYLENE PLASTIC AND SHALL BE ADS N-12 PIPE AS MANUFACTURED BY ADVANCE DRAINAGE SYSTEM, INC. OR HANCOR HI Q PIPE AS MANUFACTURED BY HANCOR, INC. OR APPROVED EQUAL UNLESS OTHERWISE NOTED OR DETAILED.
3. A MINIMUM OF 18" VERTICAL CLEARANCE SHALL BE MAINTAINED WHERE WATER SERVICES CROSS STORM DRAIN LINES.
4. ALL SERVICE CONNECTIONS SHALL BE INSTALLED TO A POINT OF 10 FEET FROM THE BUILDING WALL UNLESS OTHERWISE NOTED OR DETAILED.
5. ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM OF 5 FEET OF COVER AND A MAXIMUM OF 6 FEET OF COVER EXCEPT AS NOTED OR DETAILED OTHERWISE. GREATER DEPTHS ARE PERMITTED WHERE REQUIRED TO AVOID CONFLICTS WITH OTHER UTILITIES.
6. GENERALLY, WATER MAIN FITTINGS IDENTIFIED ON THIS DRAWING ARE SHOWN FOR INSTALLATION LOCATION PURPOSE. THE CONTRACTOR SHALL NOTE THAT NOT ALL FITTINGS ARE NOTED, SHOWN OR INDICATED.
7. ALL WATER MAIN FITTINGS, TEES, BENDS, HYDRANTS, ETC. SHALL BE RESTRAINED WITH CONCRETE THRUST BLOCKS.
8. ALL HYDRANTS SHALL BE INSTALLED WITH A 6" C.L.D.I. RUNOUT AND SHALL BE INSTALLED WITH APPROPRIATELY SIZED GATE VALVE, BOX, AND TEE FITTING. ALL HYDRANTS SHALL MEET LOCAL MUNICIPAL SPECIFICATION REQUIREMENTS AND SHALL BE INSTALLED IN ACCORDANCE WITH ALL LOCAL MUNICIPAL REQUIREMENTS.
9. DOMESTIC WATER SERVICES 2.5" AND SMALLER SHALL BE TYPE K COPPER TUBING AND SHALL BE INSTALLED WITH APPROPRIATELY SIZED CORPORATION STOP AND APPROVED SADDLE CURB STOP, AND BOX, USING MATERIALS SPECIFIED BY THE MUNICIPAL WATER DEPARTMENT OR COMPANY.
10. ALL WATER MAINS 3" AND LARGER SHALL BE CEMENT LINED DUCTILE IRON – CLASS 52, AND SHALL BE INSTALLED WITH APPROPRIATELY SIZED FITTINGS AND GATE VALVES.
11. ALL WATER MAIN APPURTENANCES, MATERIALS, METHODS OF INSTALLATION AND TESTING REQUIREMENTS SHALL MEET OR EXCEED ALL LOCAL MUNICIPAL REQUIREMENTS.
12. PRESSURE AND LEAKAGE TEST, DISINFECTION AND FLUSHING SHALL BE IN ACCORDANCE WITH ALL LOCAL MUNICIPAL STANDARDS AND REQUIREMENTS. CONTRACTORS SHALL BE RESPONSIBLE FOR ALL COSTS IN CONNECTION WITH UTILITY TESTS, FLUSHING AND INSPECTIONS AS REQUIRED BY THE LOCAL MUNICIPALITY.
13. PRIMARY WATER METER AND BACKFLOW PREVENTER SHALL BE LOCATED AT THE POINT WHERE THE WATER LINE ENTERS THE BUILDING UNLESS OTHERWISE NOTED OR DETAILED ON THE DRAWINGS.
14. ALL GRAVITY SEWER PIPE SHALL BE PVC PER ASTM D3034, SDR-35 AND ASTM D1784 WITH RUBBER GASKET JOINTS.
15. WHERE SANITARY SEWERS CROSS WATER LINES, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE CROWN OF THE SEWER IS AT LEAST EIGHTEEN INCHES BELOW THE INVERT OF THE WATER MAIN. IF THE ELEVATION OF THE SEWER CANNOT BE VARIED TO MEET THIS REQUIREMENT. THE WATER MAIN SHALL BE RELOCATED TO PROVIDE THIS SEPARATION OR CONSTRUCTED WITH MECHANICAL JOINT PIPE FOR A DISTANCE OF TEN FEET ON EACH SIDE OF THE SEWER. ONE FULL LENGTH OF WATER MAIN SHALL BE CENTERED OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR AS THE SEWER AS POSSIBLE. IF MECHANICAL JOINT PIPE IS NOT USED THAN BOTH THE WATER MAIN AND SANITARY SEWER SHALL BE ENCASED IN CONCRETE FOR A MINIMUM DISTANCE OF 10 FEET FROM THE CROSSING POINT OF THE OTHER PIPE AS MEASURED NORMALLY FROM ALL POINTS ALONG THE PIPE.
16. DUE TO THE SMALL SCALE OF THE SITE WORK DRAWINGS, EXACT LOCATION OF UTILITY STUBS FOR BUILDING CONNECTIONS SHALL BE VERIFIED WITH THE BUILDING DRAWINGS. SERVICE STUBS TO THE BUILDING SHALL BE INSTALLED TO A POINT 10 FEET FROM THE BUILDING WALL UNLESS OTHERWISE NOTED OR DETAILED.
17. BEFORE THE DEVELOPMENT SITE IS GRADED, THE AREA OF THE DRAINAGE BASINS SHOULD BE FENCED OFF TO PREVENT HEAVY EQUIPMENT FROM COMPACTING THE UNDERLYING SOIL.
18. WHERE PROPOSED GRADES MEET EXISTING GRADES, CONTRACTOR SHALL BLEND GRADES TO PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING AND NEW WORK. PONDING AT TRANSITION AREAS WILL NOT BE ALLOWED.
19. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM ALL BUILDING FOUNDATIONS AND STRUCTURES.
20. MAXIMUM SLOPE IN DISTURBED AREAS SHALL NOT EXCEED 3:1 , UNLESS OTHERWISE NOTED.
21. CONTRACTOR SHALL VERIFY EXISTING GRADES AND NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES.
22. CONTRACTOR SHALL ADJUST UTILITY ELEMENT MEANT TO BE FLUSH WITH GRADE THAT IS AFFECTED BY SITE WORK OR GRADE CHANGES, WHETHER SPECIFICALLY NOTED ON PLANS OR NOT.
23. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE OWNER'S REPRESENTATIVE FOR RESOLUTION OF THE CONFLICT.
24. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF ALL GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.
25. ELECTRICAL DUCT BANK LOCATION IS SHOWN FOR COORDINATION PURPOSES, REFER TO ELECTRICAL PLANS FOR SECTIONS AND DETAILS OF THE UTILITY DUCT BANK.
26. THE LOCATION, SIZE, DEPTH AND SPECIFICATIONS FOR CONSTRUCTION OF PRIVATE UTILITY SERVICES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS PROVIDED BY AND APPROVED BY THE RESPECTIVE UTILITY COMPANY (GAS, TELEPHONE AND ELECTRICAL). FINAL DESIGN AND LOCATIONS AT THE BUILDING WILL BE PROVIDED BY THE ARCHITECT. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE UTILITY CONNECTIONS WITH THE RESPECTIVE COMPANIES PRIOR TO ANY UTILITY CONSTRUCTION.

LAYOUT AND MATERIAL NOTES

1. CONTRACTOR SHALL THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL CONSTRUCTION DOCUMENTS, SPECIFICATIONS AND SITE CONDITIONS PRIOR TO BIDDING AND PRIOR TO CONSTRUCTION.
2. ANY DISCREPANCIES BETWEEN DRAWINGS, SPECIFICATIONS AND SITE CONDITIONS SHALL BE REPORTED IMMEDIATELY TO THE OWNER'S REPRESENTATIVE FOR CLARIFICATION AND RESOLUTION PRIOR TO BIDDING OR CONSTRUCTION.
3. SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND ALL DETAILS CONTIGUOUS TO THE BUILDING INCLUDING SIDEWALKS, RAMPS, UTILITY ENTRANCE LOCATIONS, WALL PACKS, CONCRETE DOOR PADS, ROOF DRAINS, ETC.
4. ACCESSIBLE CURB RAMPS SHALL BE PER THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD AND THE AMERICANS WITH DISABILITIES ACT ACCESSIBLITY GUIDELINES, WHICHER IS MORE STRINGENT.
5. THE FOLLOWING LAYOUT CRITERIA SHALL CONTROL UNLESS OTHERWISE NOTED ON THE PLAN:
   ALL DIMENSIONS ARE TO OUTSIDE FACE OF BUILDING.
   ALL DIMENSIONS ARE TO FACE OF CURB AT GUTTER LINE.
   ALL DIMENSIONS ARE TO CENTER OF PAVEMENT MARKINGS.
   ALL TIES TO PROPERTY LINES ARE PERPENDICULAR TO THE PROPERTY LINE UNLESS OTHERWISE NOTED.

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. THE CONSERVATION COMMISSION SHALL BE NOTIFIED, AT LEAST 72 HOURS PRIOR TO ANY LAND DISTURBANCE.
2. A COPY OF THE SOIL EROSION AND SEDIMENT CONTROL PLAN MUST BE MAINTAINED ON THE PROJECT SITE DURING CONSTRUCTION.
3. SOIL EROSION AND SEDIMENT CONTROL PRACTICES IN THE PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
4. ALL APPLICABLE SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN PLACE PRIOR TO ANY DEMOLITION GRADING OPERATIONS AND/OR INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES.
5. ALL APPLICABLE SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE LEFT IN PLACE UNTIL CONSTRUCTION IS COMPLETED AND/OR THE AREA IS STABILIZED.
6. ALL SOIL EROSION AND SEDIMENT CONTROL STRUCTURES SHALL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS AND AFTER EVERY STORM EVENT.
7. THE MAINTENANCE OF SOIL EROSION AND SEDIMENT CONTROL MEASURES AND FACILITIES DURING AND IMMEDIATELY AFTER CONSTRUCTION RESTS WITH THE GENERAL CONTRACTOR. UPON ACCEPTANCE OF THE PROJECT, THE OWNER SHALL BECOME RESPONSIBLE FOR MAINTENANCE OF ANY REMAINING MEASURES AND FACILITIES.
8. OFF SITE SEDIMENT DISTURBANCE MAY REQUIRE ADDITIONAL CONTROL MEASURES TO BE DETERMINED BY THE ENGINEER.
9. THE CONSERVATION COMMISSION AND/OR ENGINEER MAY REQUIRE ADDITIONAL SOIL EROSION MEASURES TO BE INSTALLED, AS DIRECTED BY THE DISTRICT INSPECTOR.
10. ADJOINING PROPERTIES SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS AT ALL TIMES.
11. THE CONTRACTOR SHALL UTILIZE ALL METHODS NECESSARY TO PREVENT BLOWING AND MOVEMENT OF DUST FROM THE EXPOSED SOIL SURFACES.
12. PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.
13. A CRUSHED STONE TIRE CLEANING PAD WILL BE INSTALLED WHEREVER A CONSTRUCTION ENTRANCE EXISTS. SEE LOCATION DETAIL ON PLAN.
14. ALL CATCH BASIN INLETS SHALL BE PROTECTED DURING CONSTRUCTION AS DETAILED ON THE PLAN, IF APPLICABLE.
15. ALL STORM DRAINAGE OUTLETS SHALL BE PROTECTED AS REQUIRED HEREON BEFORE DISCHARGE POINTS BECOME OPERATIONAL.
16. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORMWATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
17. LAND AREAS EXPOSED AT ANY ONE TIME AND THE LENGTH OF EXPOSURE SHALL BE KEPT TO A PRACTICAL MINIMUM. THEY SHALL BE LEFT IN A NEAT AND FINISHED APPEARANCE AND PROTECTED FROM EROSION.
18. ANY DISTURBED AREA THAT WILL BE LEFT EXPOSED FOR MORE THAN SIXTY (60) DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL IMMEDIATELY RECEIVE A TEMPORARY SEEDING AND FERTILIZATION. IF THE SEASON PROHIBITS TEMPORARY SEEDING, THE DISTRIBUTED AREAS SHALL BE MULCHED.
19. ALL CRITICAL AREAS SUBJECT TO EROSION SHALL RECEIVE A TEMPORARY SEEDING AND BE MULCHED IN ACCORDANCE WITH THE SPECIFICATIONS IMMEDIATELY FOLLOWING ROUGH GRADING.
20. IMMEDIATELY AFTER COMPLETION OF STRIPPING AND STOCKPILING OF TOPSOIL, SEED THE STOCKPILE WITH ANNUAL RYE GRASS. STABILIZE TOPSOIL STOCKPILES WITH STRAW MULCH FOR PROTECTION IF THE SEASON DOES NOT PERMIT THE APPLICATION AND ESTABLISHMENT OF TEMPORARY SEEDING.
21. SOIL STOCKPILES ARE NOT TO BE LOCATED WITHIN FIFTY (50) FEET OF WETLANDS, THE FLOODPLAIN, SLOPE, ROADWAY OR DRAINAGE FACILITIES. THE BASE OF ALL STOCKPILES SHALL BE PROTECTED BY A HAY BALE BARRIER OR SEDIMENT FENCE. LOCATIONS ARE DELINEATED ON THE PLAN.
22. MAXIMUM SIDE SLOPES OF ALL EXPOSED SURFACES SHALL NOT BE CONSTRUCTED STEEPER THAN 3:1 UNLESS OTHERWISE APPROVED BY THE DISTRICT.
23. ALL AREAS NOT STABILIZED BY CONSTRUCTION, SODDING OR LANDSCAPING SHALL BE SEEDED AND STABILIZED IN ACCORDANCE WITH THE SEEDING AND MULCHING SPECIFICATIONS.
24. MULCHING IS REQUIRED ON ALL SEEDED AREAS TO INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED TO PROMOTE EARLIER VEGETATIVE COVER.
25. ALL DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT FILTRATION DEVICE. THE SEDIMENT FILTER MUST BE CAPABLE OF FILTERING THE SEDIMENT AND BE PLACED SO AS NOT TO CAUSE EROSION OF THE DOWNSTREAM AREA.

GENERAL PLANTING NOTES

1. ALL PLANT MATERIAL SHALL CONFORM TO THE STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN OR THE PLANT MATERIAL WILL BE UNACCEPTABLE. ALL PLANT MATERIAL SHALL BE TRUE TO SPECIES, VARIETY, SIZE AND BE CERTIFIED DISEASE AND INSECT FREE. THE OWNER AND/OR THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO APPROVE ALL PLANT MATERIAL ON SITE PRIOR TO INSTALLATION.
2. ALL PLANT MATERIAL SHALL BE PROPERLY GUYED, STAKED, WRAPPED, AND PLANTED IN CONFORMANCE WITH THE TYPICAL PLANTING DETAILS. GUY WIRES SHALL BE ATTACHED TO THE TREE AT A HEIGHT OF TWO-THIRDS THE HEIGHT OF THE TREE AND SHOULD BE LOCATED AT POINTS SO AS NOT TO SPLIT THE TRUNK OF MULTI-STEMMED TREES. PROVIDE THREE STAKES PER TREE UNLESS NOTED OTHERWISE INSTALL ALL PLANT MATERIAL ON UNDISTURBED GRADE. PROVIDE BURLAP WRAPPING WITH A 50% OVERLAP. CUT AND REMOVE BURLAP FROM TOP ONE-THIRD OF THE ROOT BALL.
3. PROVIDE PLANTING PITS AS INDICATED ON PLANTING DETAILS. BACKFILL PLANTING PITS WITH ONE PART EACH OF TOP SOIL, PEAT MOSS, AND PARENT MATERIAL. IF WET SOIL CONDITIONS EXIST THEN PLANTING PITS SHALL BE EXCAVATED AN ADDITIONAL 12" AND FILLED WITH SAND.
4. NEWLY INSTALLED PLANT MATERIAL SHALL BE WATERED AT THE TIME OF INSTALLATION AND SHALL BE SUBSEQUENTLY FLOODED TWICE WITHIN TWENTY-FOUR (24) HOURS OF PLANTING. REGULAR WATERING SHALL BE PROVIDED TO ENSURE THE ESTABLISHMENT, GROWTH AND SURVIVAL OF ALL PLANTS.
5. ALL PLANT MATERIAL SHALL BE GUARANTEED FOR ONE YEAR AFTER THE DATE OF FINAL ACCEPTANCE. ANY PLANT MATERIAL THAT DIES WITHIN THAT TIME PERIOD SHALL BE REMOVED, INCLUDING THE STUMP, AND REPLACED WITH MATERIAL OF SIMILAR SIZE AND SPECIES AT THE EXPENSE OF THE DEVELOPER. THE REPLACED PLANT MATERIAL SHALL BE GUARANTEED FOR ONE YEAR AFTER THE REPLACEMENT DATE.
6. THE LANDSCAPE CONTRACTOR SHALL PROVIDE A MINIMUM 4" LAYER OF TOPSOIL IN ALL LAWN AREAS AND A MINIMUM OF 6" OF TOPSOIL IN ALL PLANTING AREAS. A FULL SOIL ANALYSIS SHALL BE CONDUCTED AFTER CONSTRUCTION AND PRIOR TO PLANTING TO DETERMINE THE EXTENT OF SOIL AMENDMENT REQUIRED.
7. ALL DISTURBED LAWN AREAS SHALL BE STABILIZED WITH EITHER SOD OR SEED AS INDICATED ON THE LANDSCAPE PLANS. SEED SHALL CONSIST OF THE MIXTURE LISTED IN THE GENERAL SEEDING NOTES. ALL DISTURBED LAWN AREAS SHALL BE TOP SOILED, LIMED, FERTILIZED, AND FINE GRADED PRIOR TO LAWN INSTALLATION.
8. ALL PLANTING BEDS SHALL RECEIVE 3" OF SHREDDED PINE, CEDAR OR HEMLOCK BARK.
9. ALL SHRUB MASSES SHALL BE PLANTED IN CONTINUOUS MULCHED BEDS.
10. ALL TREES ARE TO BE GUYED, 3 EACH, UNLESS OTHERWISE NOTED ON PLAN.
11. ALL DECIDUOUS TREES ARE TO BE WRAPPED, WITH TREE WRAP, UP TO THE FIRST BRANCHING AND SECURED.
12. THE LANDSCAPE CONTRACTOR IS TO PERFORM ALL CONTRACTED WORK IN A REASONABLE PERIOD OF CONTINUOUS WORK.
13. THE LANDSCAPE CONTRACTOR IS TO MAINTAIN PLANT MATERIAL WHILE THE PROJECT IS UNDERWAY AND FOR A PERIOD OF TWO WEEKS AFTER THE COMPLETION OF THE PROJECT UNLESS OTHERWISE SPECIFIED.
14. THE CONTRACTOR IS TO CLEAN UP AND REMOVE ANY DEBRIS FROM THE SITE, CAUSED BY THE LANDSCAPE CONTRACTOR.

LEGEND

EXISTING		PROPOSED
101	CONTOUR LINE	101
x101.1	SPOT GRADE	+101.1
EOP	EDGE OF PAVEMENT	EOP
VGC	VERTICAL GRANITE CURB	VGC
SGC	SLOPED GRANITE CURB	SGC
VCC	VERTICAL CONCRETE CURB	VCC
BCC	BITUMINOUS CONCRETE CURB	BCC
CCB	CAPE COD BERM	CCB
	STONE WALL	
	CHAIN LINK FENCE	
	IRON FENCE	
	POST & RAIL FENCE	
	STOCKADE FENCE	
	GUARD RAIL	
	HAY BALES	
W	WATER LINE	W
	FIRE HYDRANT	
	POST INDICATOR VALVE	
	WATER GATE	
	WATER METER PIT	
	IRRIGATION HAND HOLE	
	WELL	
S	SEWER LINE	
	SEWER MANHOLE	
G	GAS LINE	
	GAS METER	
	GAS GATE	
D	DRAIN LINE	
	DRAIN MANHOLE	
	CATCH BASIN	
OHW	OVERHEAD WIRES	
E/C	ELECTRIC, TELEPHONE & CABLE	
	UTILITY POLE	
	GUY WIRE	
	BORDERING VEGETATED WETLANDS	
	STREAM	
	25' WETLAND BUFFER	
	100' WETLAND BUFFER	
	WETLAND FLAG	

REVISIONS

1	9/13/19	CONSERVATION COMMENTS
2	10/15/19	PHASE I AND II
3	1/10/20	CONSERVATION COMMENTS
4	6/8/20	CONSERVATION COMMENTS
5	12/16/20	GREEN SEAL COMMENTS

COMMONWEALTH OF MASSACHUSETTS
CHRISTIAN ALBERT FARLAND
No. 47544
CIVIL
REGISTERED PROFESSIONAL ENGINEER

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401 COUNTY STREET
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P.508.717.3479
OFFICES IN:
●TAUNTON
●MARLBOROUGH
●WARWICK, RI

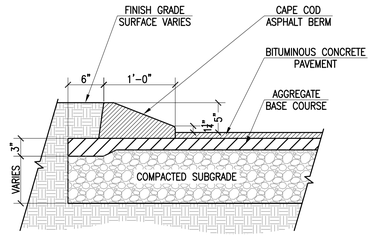
DRAWN BY: MJW
DESIGNED BY: CAF
CHECKED BY: CAF

PROPOSED PROJECT DEVELOPMENT
100 DUCHAINE BOULEVARD
ASSESSORS MAP 133 LOT 67
ASSESSORS MAP 134 LOTS 5 & 462
NEW BEDFORD, MASSACHUSETTS

PREPARED FOR: PARALLEL PRODUCTS OF NEW ENGLAND
401 INDUSTRY ROAD
LOUISVILLE, KY 40208

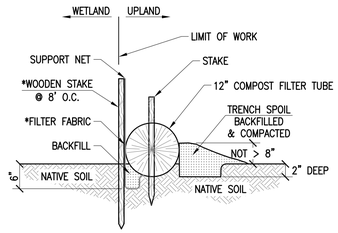
JULY 3, 2019
SCALE: AS NOTED
JOB NO. 15-500.2
LATEST REVISION:
DECEMBER 16, 2020

NOTES & LEGEND



BITUMINIOUS CONCRETE CAPE COD BERM

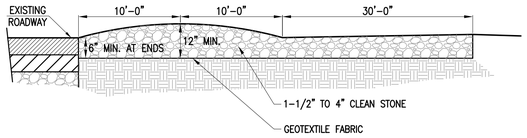
NOT TO SCALE



*CONTRACTOR SHALL ADD SILT FENCE AS DIRECTED BY ENGINEER OR CONSERVATION COMMISSION AGENT

STAKED 12" COMPOST FILTER TUBE WITH SILT FENCE

NOT TO SCALE

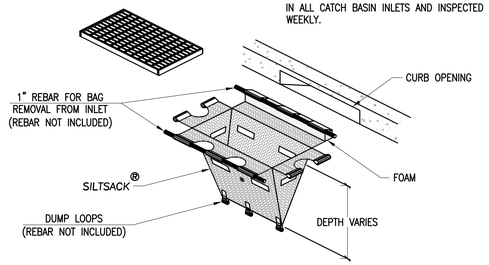


(12' WIDE MINIMUM)
NOTE: PURPOSE IS TO REMOVE MUD FROM TIRES OF CONSTRUCTION VEHICLES.

TEMPORARY CONSTRUCTION ENTRANCE

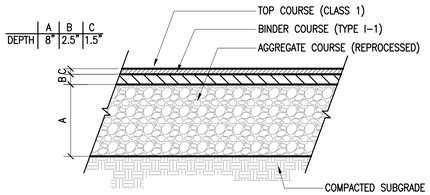
NOT TO SCALE

NOTE:
REGULAR FLOW SILTSACKS SHALL BE INSTALLED IN ALL CATCH BASIN INLETS AND INSPECTED WEEKLY.



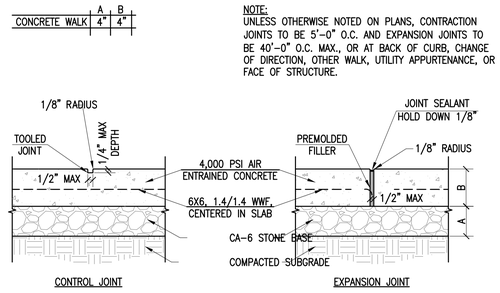
REGULAR FLOW SILTSACK®

NOT TO SCALE



BITUMINOUS CONCRETE PAVEMENT

NOT TO SCALE

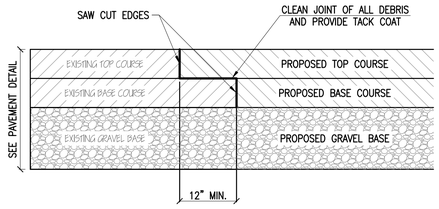


NOTE:
UNLESS OTHERWISE NOTED ON PLANS, CONTRACTION JOINTS TO BE 5'-0" O.C. AND EXPANSION JOINTS TO BE 40'-0" O.C. MAX., OR AT BACK OF CURB, CHANGE OF DIRECTION, OTHER WALK, UTILITY APPURTENANCE, OR FACE OF STRUCTURE.

CONCRETE PAVEMENT SIDEWALK

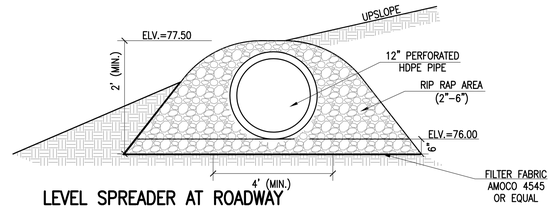
NOT TO SCALE

NOTES:
1. TACK COAT – PROVIDE EMULSIFIED ASPHALT WHICH CONFORMS TO THE REQUIREMENTS OF THE STATE SPECIFICATIONS, DILUTED WITH ONE PART WATER TO ONE ONE PART ASPHALT FOLLOWING AASHTO M140/ASTM D997, OR AASHTO M208/ASTM D2397, SS-1H, CSS-1, OR CSS-1H.



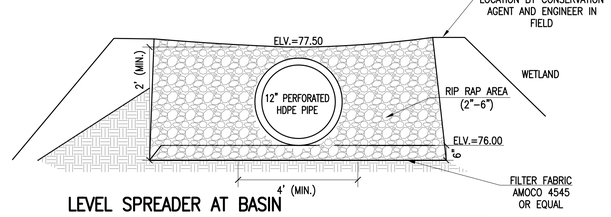
PAVEMENT SAWCUT KEY DETAIL

NOT TO SCALE



LEVEL SPREADER AT ROADWAY

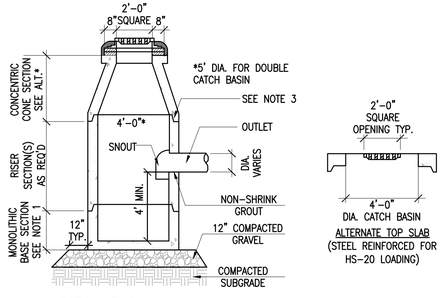
NOT TO SCALE



LEVEL SPREADER AT BASIN

NOT TO SCALE

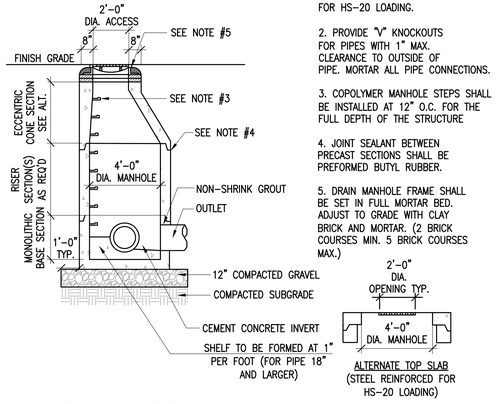
NOTES:
1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 1" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. CATCH BASIN FRAME SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR. (2 BRICK COURSES MIN. 5 BRICK COURSES MAX.)
5. FRAME AND GRATE TO BE EQUAL TO LEBARON LK 120 (3 FLANGE) OR LK 121 (4 FLANGE) WITH SG-1 GRATE. DOUBLE FRAME AND GRATE SHALL BE LEBARON TYPE R-3531 B OR APPROVED EQUAL BY THE ENGINEER.



CATCH BASIN

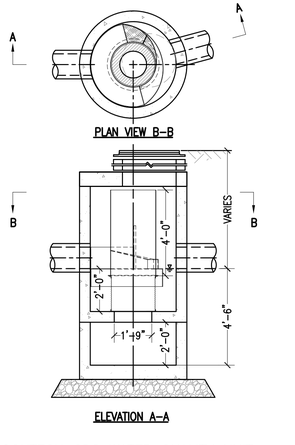
NOT TO SCALE

NOTES:
1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 1" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. DRAIN MANHOLE FRAME SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR. (2 BRICK COURSES MIN. 5 BRICK COURSES MAX.)



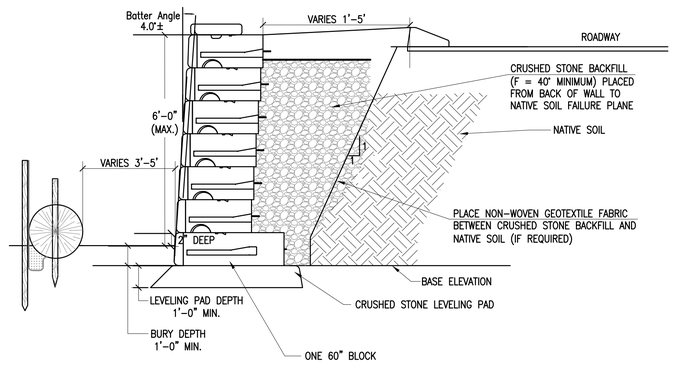
DRAIN MANHOLE

NOT TO SCALE



CONTECH CDS WATER QUALITY UNIT

NOT TO SCALE



"REDI-ROCK" 12' GRAVITY WALL SECTION W/ ONE 60" & 41" GRAVITY BLOCKS (ROADWAY AREAS)

FINAL DESIGN TO BE PROVIDED BY "REDI-ROCK"
NOT TO SCALE

REVISIONS

1	9/13/19	CONSERVATION COMMENTS
2	10/15/19	PHASE I AND II
3	1/10/20	CONSERVATION COMMENTS
4	6/8/20	CONSERVATION COMMENTS
5	12/16/20	GREEN SEAL COMMENTS

COMMONWEALTH OF MASSACHUSETTS
CHRISTIAN ALBERT FARLAND
No. 47544
CIVIL
REGISTERED PROFESSIONAL ENGINEER

FARLAND CORP.
www.FarlandCorp.com
401 COUNTY STREET
NEW BEDFORD, MA 02740
P.508.717.3479
OFFICES IN:
●TAUNTON
●MARLBOROUGH
●WARWICK, RI

DRAWN BY: MJW
DESIGNED BY: CAF
CHECKED BY: CAF

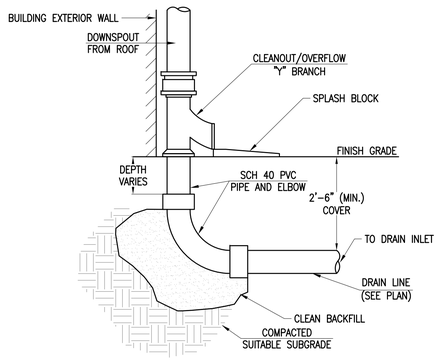
PROPOSED PROJECT DEVELOPMENT
— 100 DUCHAINE BOULEVARD —
ASSESSORS MAP 133 LOT 67
ASSESSORS MAP 134 LOTS 5 & 462
NEW BEDFORD, MASSACHUSETTS

PREPARED FOR: PARALLEL PRODUCTS OF NEW ENGLAND
401 INDUSTRY ROAD
LOUISVILLE, KY 40208

JULY 3, 2019
SCALE: AS NOTED
JOB NO. 15-500.2
LATEST REVISION:
DECEMBER 16, 2020

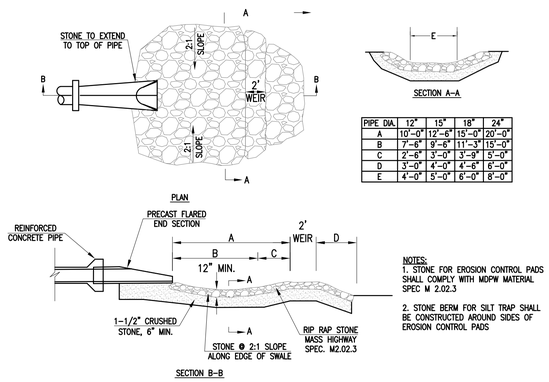
DETAILS

SHEET 18 OF 22



DOWNSPOUT CONNECTION FROM ROOF

NOT TO SCALE

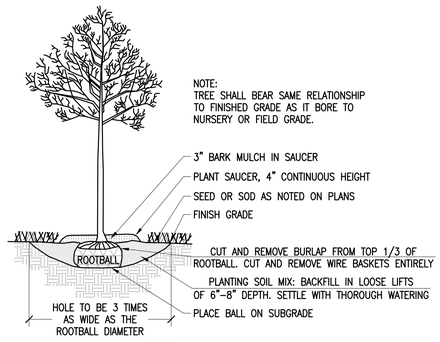


PIPE DIA.	12"	15"	18"	24"
A	10'-0"	12'-6"	15'-0"	20'-0"
B	7'-6"	9'-6"	11'-3"	15'-0"
C	2'-6"	3'-0"	3'-9"	5'-0"
D	3'-0"	4'-0"	4'-6"	6'-0"
E	4'-0"	5'-0"	6'-0"	8'-0"

NOTES:
1. STONE FOR EROSION CONTROL PADS SHALL COMPLY WITH MDPW MATERIAL SPEC M 2.02.3
2. STONE BERM FOR SILT TRAP SHALL BE CONSTRUCTED AROUND SIDES OF EROSION CONTROL PADS

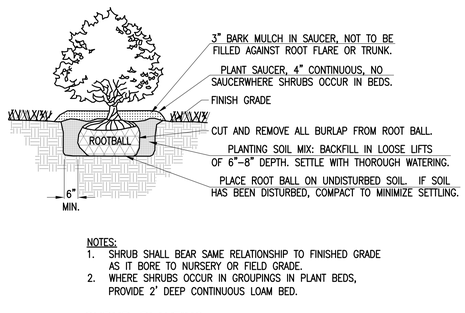
FLARED END OUTLET

NOT TO SCALE



TREE PLANTING

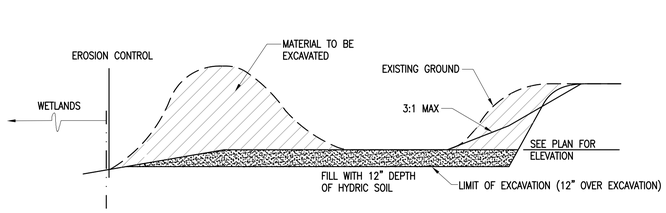
NOT TO SCALE



NOTES:
1. SHRUB SHALL BEAR SAME RELATIONSHIP TO FINISHED GRADE AS IT BORE TO NURSERY OR FIELD GRADE.
2. WHERE SHRUBS OCCUR IN GROUPINGS IN PLANT BEDS, PROVIDE 2' DEEP CONTINUOUS LOAM BED.

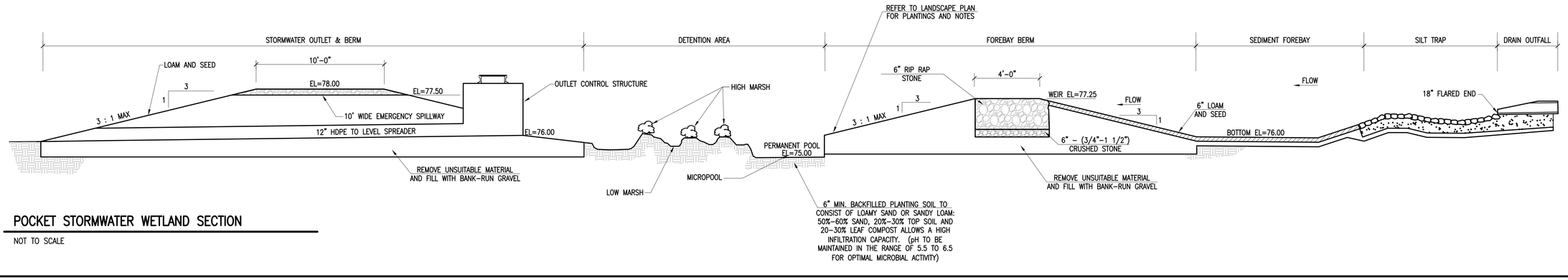
SHRUB PLANTING

NOT TO SCALE



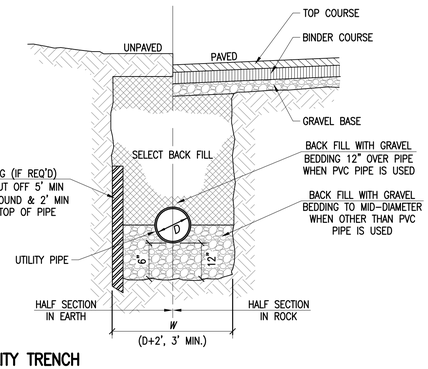
SCHEMATIC CROSS SECTION OF REPLICATION AREA EARTHWORK

NOT TO SCALE



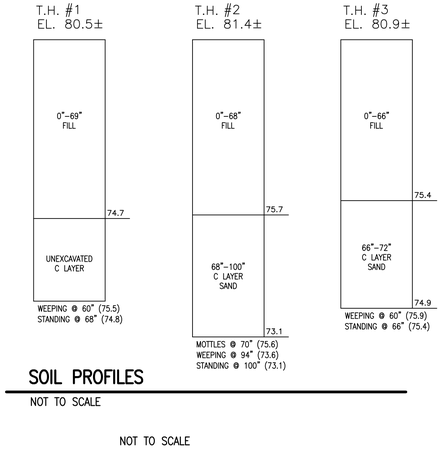
POCKET STORMWATER WETLAND SECTION

NOT TO SCALE



UTILITY TRENCH

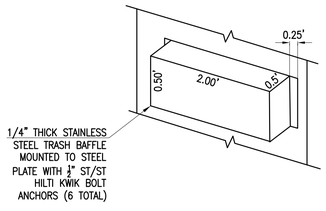
NOT TO SCALE



SOIL PROFILES

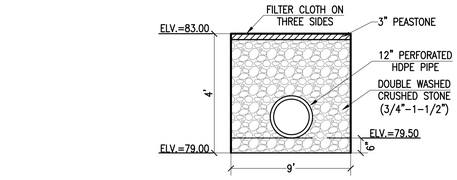
NOT TO SCALE

NOT TO SCALE



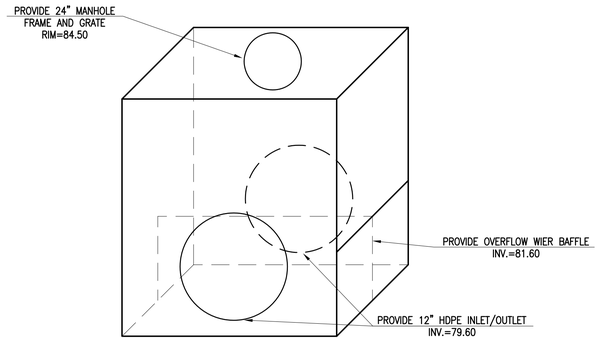
TRASH BAFFLE DETAIL

NOT TO SCALE



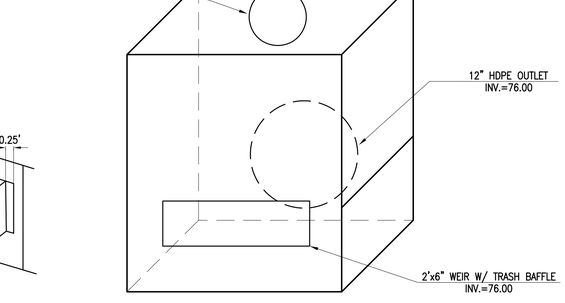
INFILTRATION TRENCH

NOT TO SCALE



PRECAST CONCRETE OUTLET CONTROL STRUCTURE #1

NOT TO SCALE



PRECAST CONCRETE OUTLET CONTROL STRUCTURE #2

NOT TO SCALE

REVISIONS

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COMMONWEALTH OF MASSACHUSETTS
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No. 47544
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NEW BEDFORD, MA 02740
P.508.717.3479
OFFICES IN:
●TAUNTON
●MARLBOROUGH
●WARWICK, RI

DRAWN BY: MJW
DESIGNED BY: CAF
CHECKED BY: CAF

PROPOSED PROJECT DEVELOPMENT
— 100 DUCHAINE BOULEVARD —
ASSESSORS MAP 133 LOT 67
ASSESSORS MAP 134 LOTS 5 & 462
NEW BEDFORD, MASSACHUSETTS

PREPARED FOR:
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401 INDUSTRY ROAD
LOUISVILLE, KY 40208

JULY 3, 2019
SCALE: AS NOTED
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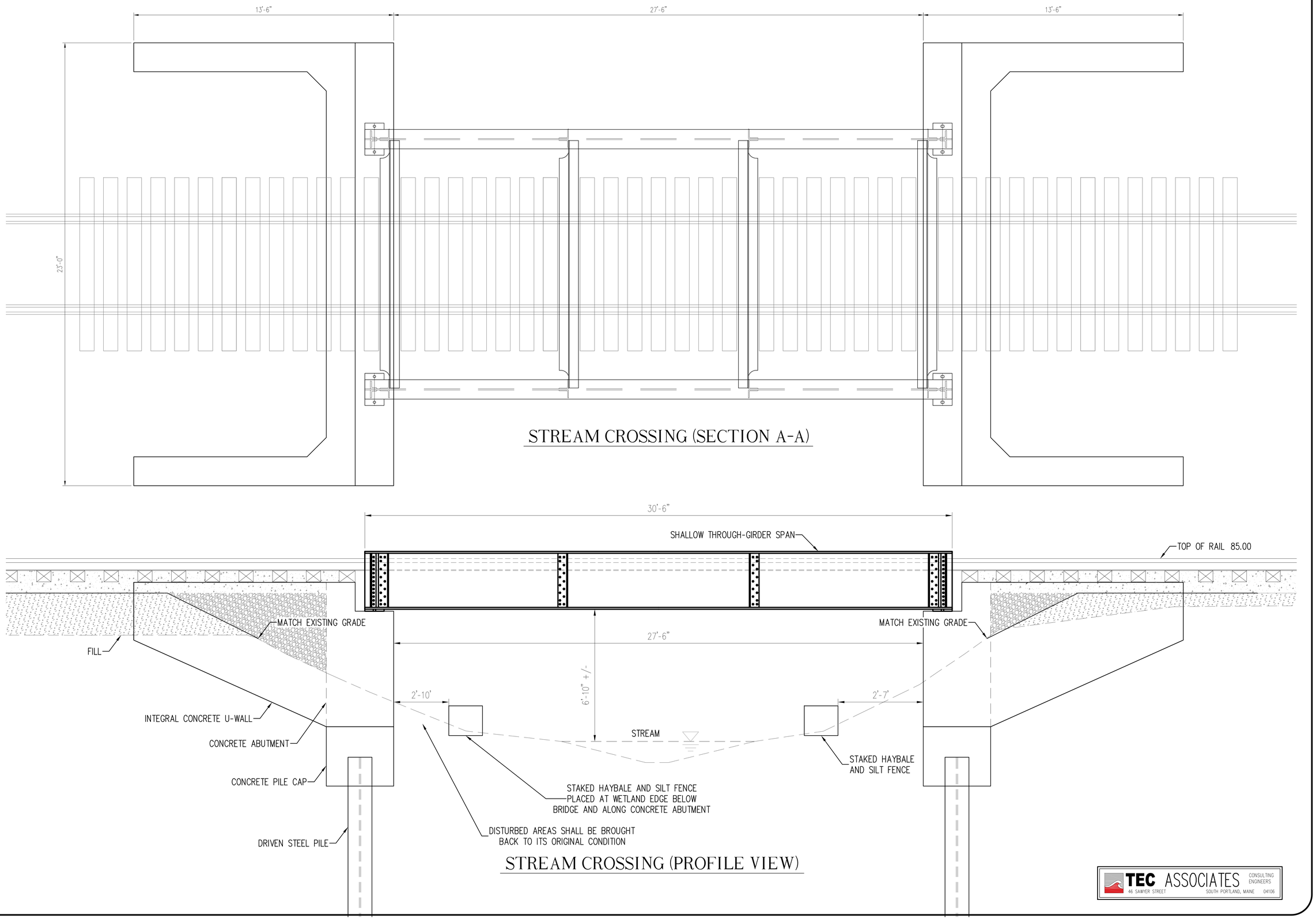
LATEST REVISION:
DECEMBER 16, 2020

DETAILS CONT.

SHEET 19 OF 22



STREAM CROSSING (SECTION A-A)

STREAM CROSSING (PROFILE VIEW)

REVISIONS

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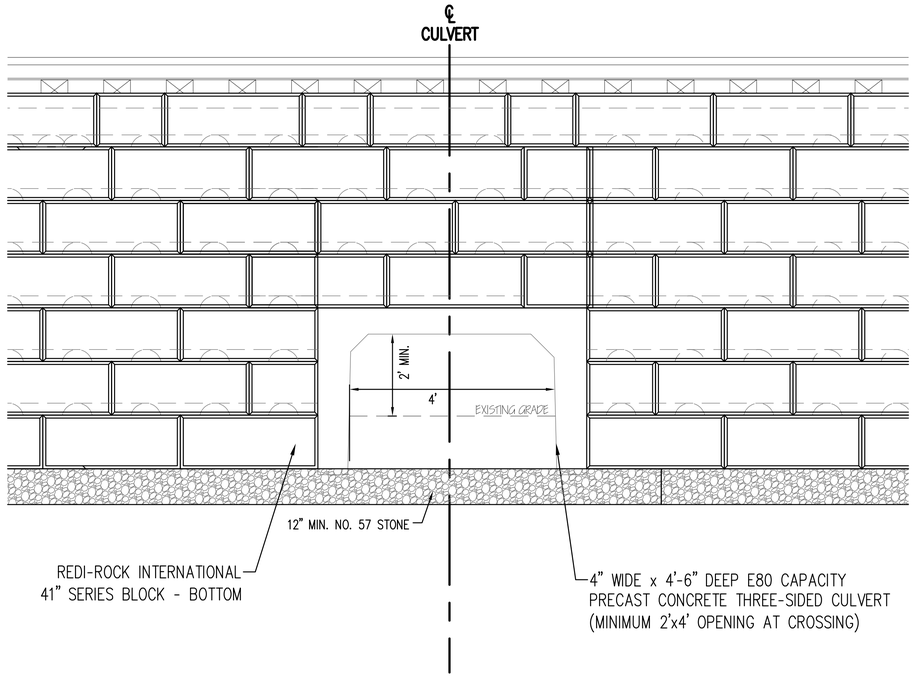
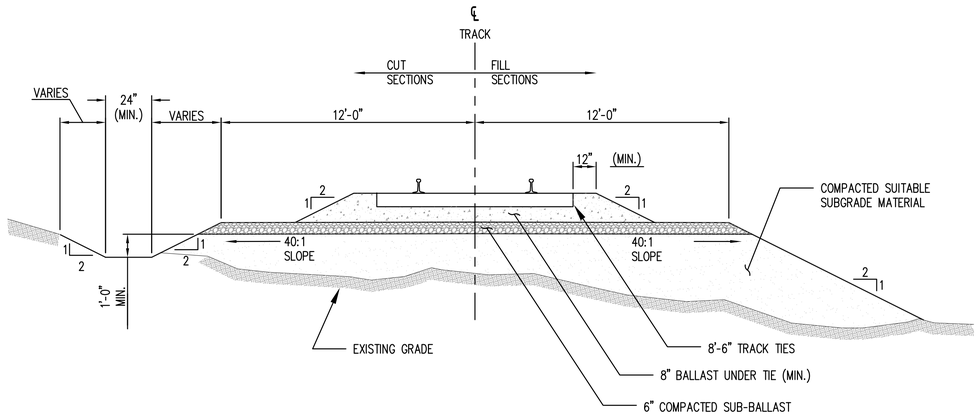
DETAILS

SHEET 20 OF 22

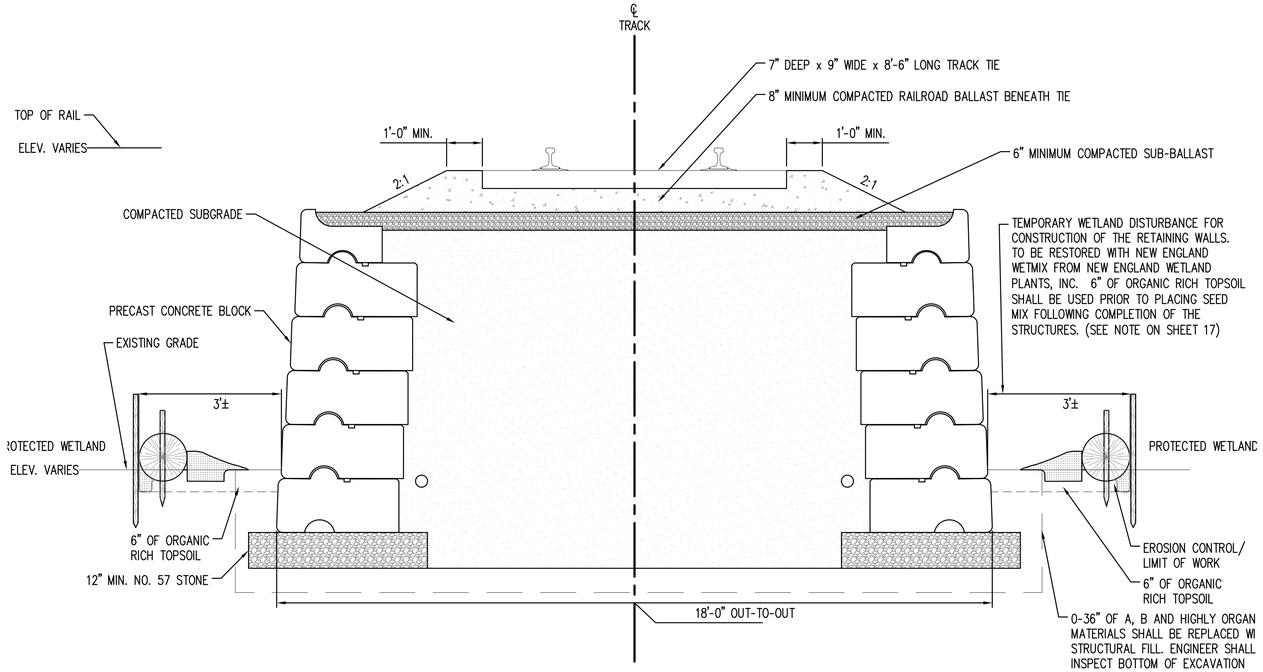
TEC ASSOCIATES CONSULTING ENGINEERS
46 SAWYER STREET SOUTH PORTLAND, MAINE 04106



WILDLIFE CROSSING DETAIL
(2 LOCATIONS)



TYPICAL CROSS SECTION - SINGLE RAIL



WETLAND CROSSING - SECTION VIEW

REVISIONS

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ASSESSORS MAP 133 LOT 67
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LOUISVILLE, KY 40208

TEC ASSOCIATES CONSULTING ENGINEERS
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JULY 3, 2019
SCALE: AS NOTED
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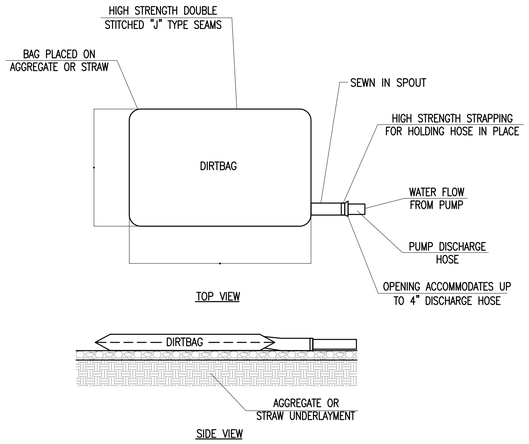
DECEMBER 16, 2020

DETAILS

INSTALLATION
TO USE, PLACE WETLAND BAG ON A BED OF COURSE AGGREGATE OR STRAW. THE COURSE BEDDING MATERIAL WILL PROVIDE INCREASED FLOW FROM THE PUMPING ACTIVITY. INSERT THE DISCHARGE PUMP HOSE IN THE SPOUT OF THE BAG AND SECURELY FASTEN. DO NOT EXCEED INITIAL RECOMMENDED PUMPING RATES.

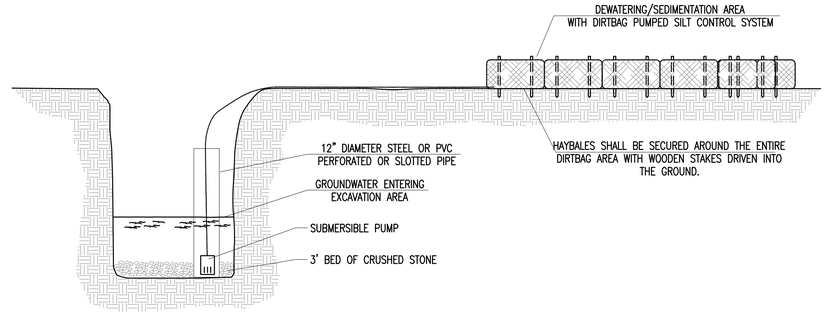
AS THE PUMPING ACTIVITY CONTINUES, THE FLOW FROM THE BAG WILL BE GREATLY REDUCED DEPENDING ON THE AMOUNT AND TYPE OF SEDIMENTS BEING PUMPED. DO NOT OVERFILL. AS THE BAG COLLECTS PARTICLES, IT WILL EVENTUALLY BURST AT THE SEWN SEAMS AND CAN CAUSE DAMAGE TO THE PUMP.

DISPOSAL
THE ENTIRE BAG SHALL BE LOADED AND DISPOSED OF OFFSITE AS DIRECTED BY THE SITE ENGINEER.



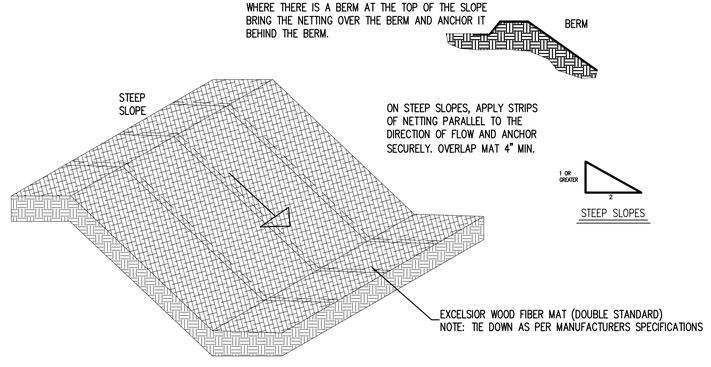
DIRTBAG

NOT TO SCALE



DEWATERING/SEDIMENTATION CONTROL

NOT TO SCALE



EROSION CONTROL - STEEP SLOPES

N.T.S.

REVISIONS

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DRAWN BY: MJW
DESIGNED BY: CAF
CHECKED BY: CAF

PROPOSED PROJECT DEVELOPMENT
— 100 DUCHAINE BOULEVARD —
ASSESSORS MAP 133 LOT 67
ASSESSORS MAP 134 LOTS 5 & 462
NEW BEDFORD, MASSACHUSETTS

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DETAILS

SHEET 22 OF 22

TEC ASSOCIATES CONSULTING ENGINEERS
46 SAWYER STREET SOUTH PORTLAND, MAINE 04106

EXHIBIT 8

NEW BEDFORD CONSERVATION COMMISSION
ORDER OF CONDITIONS

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
SE49-0831
MassDEP File #

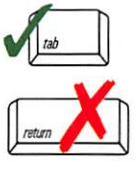
eDEP Transaction #

New Bedford
City/Town

A. General Information

Please note: this form has been modified with added space to accommodate the Registry of Deeds Requirements

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. From: New Bedford
Conservation Commission

2. This issuance is for (check one): a. ☒ Order of Conditions b. ☐ Amended Order of Conditions

3. To: Applicant:

Tim	Cusson
a. First Name	b. Last Name

Parallel Products of New England
c. Organization

100 Duchaine Blvd.
d. Mailing Address

New Bedford	MA	02745
e. City/Town	f. State	g. Zip Code

4. Property Owner (if different from applicant):

a. First Name	b. Last Name

SMRE 100, LLC c/o Ruberto, Israel & Weiner
c. Organization

225 State St., 7th Floor
d. Mailing Address

Boston	MA	02109
e. City/Town	f. State	g. Zip Code

5. Project Location:

100 Duchaine Blvd.	New Bedford
a. Street Address	b. City/Town
Map 133; Map 134	Lot 67; Lots 5 & 462
c. Assessors Map/Plat Number	d. Parcel/Lot Number

Latitude and Longitude, if known:

d m s	d m s
d. Latitude	e. Longitude

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
SE49-0831
MassDEP File #

eDEP Transaction #

New Bedford
City/Town

A. General Information (cont.)

6. Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):

Bristol (S.D.)	24201
a. County	b. Certificate Number (if registered land)
c. Book	d. Page

7. Dates:

10/3/2019	7/21/2020	7/30/2020
a. Date Notice of Intent Filed	b. Date Public Hearing Closed	c. Date of Issuance

8. Final Approved Plans and Other Documents (attach additional plan or document references as needed):
Phase I & Phase II Site Plan 100 Duchaine Blvd. Assessors Map 133 Lot 67 & Assessors Map 134 Lots 5 & 462. Sheets 1 through 24 of 26.

Farland Corp.	Christian Farland, P.E.
b. Prepared By	c. Signed and Stamped by
06/26/2020	various
d. Final Revision Date	e. Scale

Long Term Operation & Maintenance Plan	revised 3/4/2020
f. Additional Plan or Document Title	g. Date

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act:

Following the review of the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act (the Act). Check all that apply:

a. ☒ Public Water Supply
b. ☐ Land Containing Shellfish
c. ☒ Prevention of Pollution
d. ☒ Private Water Supply
e. ☒ Fisheries
f. ☒ Protection of Wildlife Habitat
g. ☒ Groundwater Supply
h. ☒ Storm Damage Prevention
i. ☒ Flood Control

2. This Commission hereby finds the project, as proposed, is: (check one of the following boxes)

Approved subject to:

a. ☒ the following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
SE49-0831
MassDEP File #

eDEP Transaction #

New Bedford
City/Town

B. Findings (cont.)

Denied because:

b. ☐ the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect the interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**

c. ☐ the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**

3. ☐ Buffer Zone Impacts: Shortest distance between limit of project disturbance and the wetland resource area specified in 310 CMR 10.02(1)(a) — a. linear feet

Inland Resource Area Impacts: Check all that apply below. (For Approvals Only)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. ☒ Bank	45 a. linear feet	45 b. linear feet	c. linear feet	d. linear feet
5. ☒ Bordering Vegetated Wetland	4,095 perm 1,209 temp a. square feet	4,095 perm 1,209 temp b. square feet	6,700 c. square feet	6,700 d. square feet
6. ☐ Land Under Waterbodies and Waterways	a. square feet e. c/y dredged	b. square feet f. c/y dredged	c. square feet	d. square feet
7. ☐ Bordering Land Subject to Flooding	a. square feet	b. square feet	c. square feet	d. square feet
Cubic Feet Flood Storage	e. cubic feet	f. cubic feet	g. cubic feet	h. cubic feet
8. ☐ Isolated Land Subject to Flooding	a. square feet	b. square feet		
Cubic Feet Flood Storage	c. cubic feet	d. cubic feet	e. cubic feet	f. cubic feet
9. ☒ Riverfront Area	4, 700 a. total sq. feet	4, 700 b. total sq. feet		
Sq ft within 100 ft	4, 700 c. square feet	4, 700 d. square feet	4, 700 s. f. (restored)	4,700 s.f. (restored)
Sq ft between 100-200 ft	g. square feet	h. square feet	i. square feet	j. square feet

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B. Findings (cont.)

Coastal Resource Area Impacts: Check all that apply below. (For Approvals Only)

	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. ☐ Land Under the Ocean	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
12. ☐ Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. ☐ Coastal Beaches	a. square feet	b. square feet	c. nourishment cu yd	d. nourishment cu yd
14. ☐ Coastal Dunes	a. square feet	b. square feet	c. nourishment cu yd	d. nourishment cu yd
15. ☐ Coastal Banks	a. linear feet	b. linear feet		
16. ☐ Rocky Intertidal Shores	a. square feet	b. square feet		
17. ☐ Salt Marshes	a. square feet	b. square feet	c. square feet	d. square feet
18. ☐ Land Under Salt Ponds	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
19. ☐ Land Containing Shellfish	a. square feet	b. square feet	c. square feet	d. square feet
20. ☐ Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	a. c/y dredged	b. c/y dredged		
21. ☐ Land Subject to Coastal Storm Flowage	a. square feet	b. square feet		
22. ☐ Riverfront Area	a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	g. square feet	h. square feet	i. square feet	j. square feet

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B. Findings (cont.)

* **#23.** If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c (BVW) or B.17.c (Salt Marsh) above, please enter the additional amount here.

23. ☐ Restoration/Enhancement *:

a. square feet of BVW	b. square feet of salt marsh

24. ☒ Stream Crossing(s):

a. number of new stream crossings	b. number of replacement stream crossings
	1

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects.

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
   a. The work is a maintenance dredging project as provided for in the Act; or
   b. The time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
   c. If the work is for a Test Project, this Order of Conditions shall be valid for no more than one year.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order. An Order of Conditions for a Test Project may be extended for one additional year only upon written application by the applicant, subject to the provisions of 310 CMR 10.05(11)(f).
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not extend the issuance date of the original Final Order of Conditions and the Order will expire on 7/30/2023 unless extended in writing by the Department.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.

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C. General Conditions Under Massachusetts Wetlands Protection Act

8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.

9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.

10. A sign shall be displayed at the site not less then two square feet or more than three square feet in size bearing the words,

"Massachusetts Department of Environmental Protection" [or, "MassDEP"]

"File Number SE49-0831 "

11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before MassDEP.

12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.

13. The work shall conform to the plans and special conditions referenced in this order.

14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.

15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.

16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.

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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.

18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.

19. The work associated with this Order (the "Project")
    (1) ☒ is subject to the Massachusetts Stormwater Standards
    (2) ☐ is NOT subject to the Massachusetts Stormwater Standards

    If the work is subject to the Stormwater Standards, then the project is subject to the following conditions:

    a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Construction General Permit as required by Stormwater Condition 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.

    b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that:
    i. all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures;
    ii. as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized;
    iii. any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10;

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

iv. all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition;

v. any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 18(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement) for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following:

i.) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and

ii.) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.

d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Multi-Sector General Permit.

e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 18(f) through 18(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 18(f) through 18(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.

f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.

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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

g) The responsible party shall:
1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.

h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.

i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.

j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.

k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.

l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions (if you need more space for additional conditions, please attach a text document):
See attached Special Conditions 21 through 55

20. For Test Projects subject to 310 CMR 10.05(11), the applicant shall also implement the monitoring plan and the restoration plan submitted with the Notice of Intent. If the conservation commission or Department determines that the Test Project threatens the public health, safety or the environment, the applicant shall implement the removal plan submitted with the Notice of Intent or modify the project as directed by the conservation commission or the Department.

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D. Findings Under Municipal Wetlands Bylaw or Ordinance

1. Is a municipal wetlands bylaw or ordinance applicable? ☒ Yes ☐ No

2. The New Bedford Conservation Commission hereby finds (check one that applies):

   a. ☐ that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw, specifically:

   _____ (1. Municipal Ordinance or Bylaw) _____ (2. Citation)

   Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

   b. ☒ that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:

   Wetlands Ordinance (1. Municipal Ordinance or Bylaw) Sec. 15-101 thru 15-112

3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

   The special conditions relating to municipal ordinance or bylaw are as follows (if you need more space for additional conditions, attach a text document):

   MADEP General Conditions 1 through 20 are Special Conditions pursuant to the City of New Bedford Wetlands Ordinance (Sec. 15-101 through 15-112). In addition, see attached Special Conditions 21 through 55.

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E. Signatures

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

7/30/2020
1. Date of Issuance

Please indicate the number of members who will sign this form.
This Order must be signed by a majority of the Conservation Commission.

3
2. Number of Signers

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office, if not filing electronically, and the property owner, if different from applicant.

Signatures:

☐ by hand delivery on

Date

☒ by certified mail, return receipt requested, on

7/30/2020
Date

F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order, or providing written information to the Department prior to issuance of a Superseding Order.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.

CITY OF NEW BEDFORD
JONATHAN F. MITCHELL, MAYOR

PARALLEL PRODUCTS SPECIAL CONDITIONS
RAIL AND RECYCLING FACILITIES
100 DUCHAINE BOULEVARD
APPLICANT: Parallel Products of New England
OWNER: SMRE 100, LLC

SE49-0831 SPECIAL CONDITIONS

21. No activity shall occur prior to obtaining all necessary and required permits, licenses and approvals; and until copies of the same have been furnished to the Conservation Commission.

22. Any design modifications, alterations, amendments, or additions shall be subject to the approval of the New Bedford Conservation Commission. Requests for any changes shall be made in writing and shall be accompanied by a revised plan.

23. No modification to surface features, drainage or topography shall be permitted except as indicated by this Order of Conditions.

24. Contours shall remain unchanged except as permitted by this Order of Conditions.

25. There shall be no construction other than that proposed by the Notice of Intent and included on the plans.

26. Immediately following completion of construction and grading, permanent stabilization shall be carried out to minimize erosion.

27. All wetland areas not to be altered shall be kept clear of rubbish, debris, and construction material.

28. All exposed soil or subsoil shall be replanted with vegetation such as grass, groundcover, shrubs or a wetland seed mix so as to minimize erosion.

29. There shall be minimum disruption of existing grades and vegetation in order to minimize erosion.

30. No runoff shall be caused to drain on adjacent property.

31. All excess material shall be removed from the site.

32. The owners shall notify the Conservation Commission of the work start date prior to its commencement so that regular inspections may be made.

33. The inspector and/or Commission members shall have the right to enter upon the land for the purpose of the inspection and/or the taking of pictures to determine and evaluate compliance with this Order.

34. All facilities and equipment shall be continually maintained so as to comply with this Order of Conditions and M.G.L. Ch. 131 S40, the Wetlands Protection Act and Regulations 310 CMR 10.00 et seq.

35. Certain conditions such as maintenance or monitoring are on-going and are not to expire at the end of three years or with the issuance of a Certificate of Compliance.

36. This Order of Conditions shall apply to any successor in interest or successor in control.

37. Any changes required by any other board or authority may require a new filing with the Conservation Commission.

38. It is the responsibility of the applicant to complete the review required by agencies with jurisdiction over the activity that is subject to this Order of Conditions and procure all required permits or approvals before work commences. These reviews, permits, and approvals may include but are not limited to:

    - The Army Corps of Engineers
    - The MA Department of Environmental Protection
    - The MA Natural Heritage and Endangered Species Program
    - Review by local Planning Boards, Zoning Boards, Board of Health and Building Inspector.

39. The Conservation Commission shall not be responsible or liable for the construction, operation, or maintenance of any part of this project and does not warrant the safety of same.

40. Any fill or construction materials shall be placed in upland areas.

41. Any mitigation and resource protection devices and measures, e.g. straw bales, siltation fence or compost tubes are to be installed prior to the initiation of work under this Order of Conditions. Silt fence and straw bales shall be trenched into the ground. The Conservation Agent is to be notified when in place for inspection and verification. No work is to be undertaken until written or verbal approval is received from the Conservation Commission or its Agent.

42. In accordance with Condition number fourteen (14), no activity shall take place until the applicant has furnished written documentation that the plans on file with the Conservation Commission are consistent with permits and approvals of other City Boards.

43. Prior to any construction, an on-site inspection is to be held between the proposed contractor, the

engineer, and the Conservation Commission Agent to go over the sequence of construction and all other restrictions and requirements as noted on the Order of Conditions. A written construction schedule is to be received at that time.

44. Any changes in proposed drainage patterns shall require the written approval of the Conservation Commission.

45. Wetland flagging to remain in place until the project has been completed and a Certificate of Compliance issued.

46. Notice of Intent, Order of Conditions and approved plans shall be retained on the site during construction and made available to all contractors.

47. All conditions are on going and do not expire until the issuance of a Certificate of Compliance.

48. An as-built plan including utilities, grading and 25' No Disturb Zone shall be submitted upon completion of construction.

49. The Stormwater Pollution Prevention Plan (SWPPP) shall be submitted two weeks prior to construction start up.

50. The applicant shall maintain vegetative growth in the stormwater pond where Front voltaic canopy # 2 is proposed. Failure to maintain vegetative growth in the stormwater pond shall result in removal of the photovoltaic canopy and restoration of the vegetation in the stormwater pond.

51. The Conservation Commission's consulting engineer shall conduct inspections at a minimum of the following times: 1) at the pre-construction meeting. 2) When the proposed stormwater wetland subgrade has been established. 3) At the time of installation of the two equalizing culverts in the wetland impact area. 4) when the locations of the level spreaders are staked out in the field.

52. The Conservation Agent shall conduct inspections at a minimum of the following times: 1) at the pre - construction meeting. 2) when the erosion controls are installed. 3) when the wetland replication area has been excavated to subgrade. 4) when the wetland replication area has been planted. 5) when the wetland restoration areas have been restored.

53. The resume of the wetland scientist to oversee construction of the wetland replication area, the restoration of the temporarily impacted wetlands, the riverfront restorations and bridge crossing construction shall be sent to the Conservation Commission two weeks prior to construction commencement.

54. Two annual wetland monitoring reports shall be submitted to the Conservation Commission following the initial year of construction. They shall document the at least 75% of the surface of the wetland replication areas and wetland restoration areas are vegetated with indigenous wetland plant species. Documentation that the riverfront restoration areas has been completed in compliance with the approved plans shall also be included in the annual wetland monitoring reports.

55. An as-built of the wetland replication, riverfront restoration, and the wetland and stream crossing shall be submitted to the Conservation Commission at the completion of construction. The as-built

shall provide, at a minimum, the bottom elevation of the wetland replication area, the square footages of the replication area and the wetland impact areas. The wetland impact area as-built shall also include showing the size and restoration of the temporarily impacted wetlands, including the elevation of the restored wetlands and the elevation of the adjacent wetlands. The stream crossing as-built shall include the limits of the bridge, the entire slope leading to the stream and the distance from the limit of construction on the slope and the stream.

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G. Recording Information

Prior to commencement of work, this Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

New Bedford
Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

New Bedford
Conservation Commission

Please be advised that the Order of Conditions for the Project at:

100 Duchaine Blvd
Project Location

SE49-0831
MassDEP File Number

Has been recorded at the Registry of Deeds of:

Bristol (S.D.)
County

Book

Page

for: SMRE 100, LLC
Property Owner

and has been noted in the chain of title of the affected property in:

Book

Page

In accordance with the Order of Conditions issued on:

7/30/2023
Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant

EXHIBIT 9

MSW PROCESSING FLOW DIAGRAMS AND SPECIFICATIONS


Parallel Products
New Bedford MA

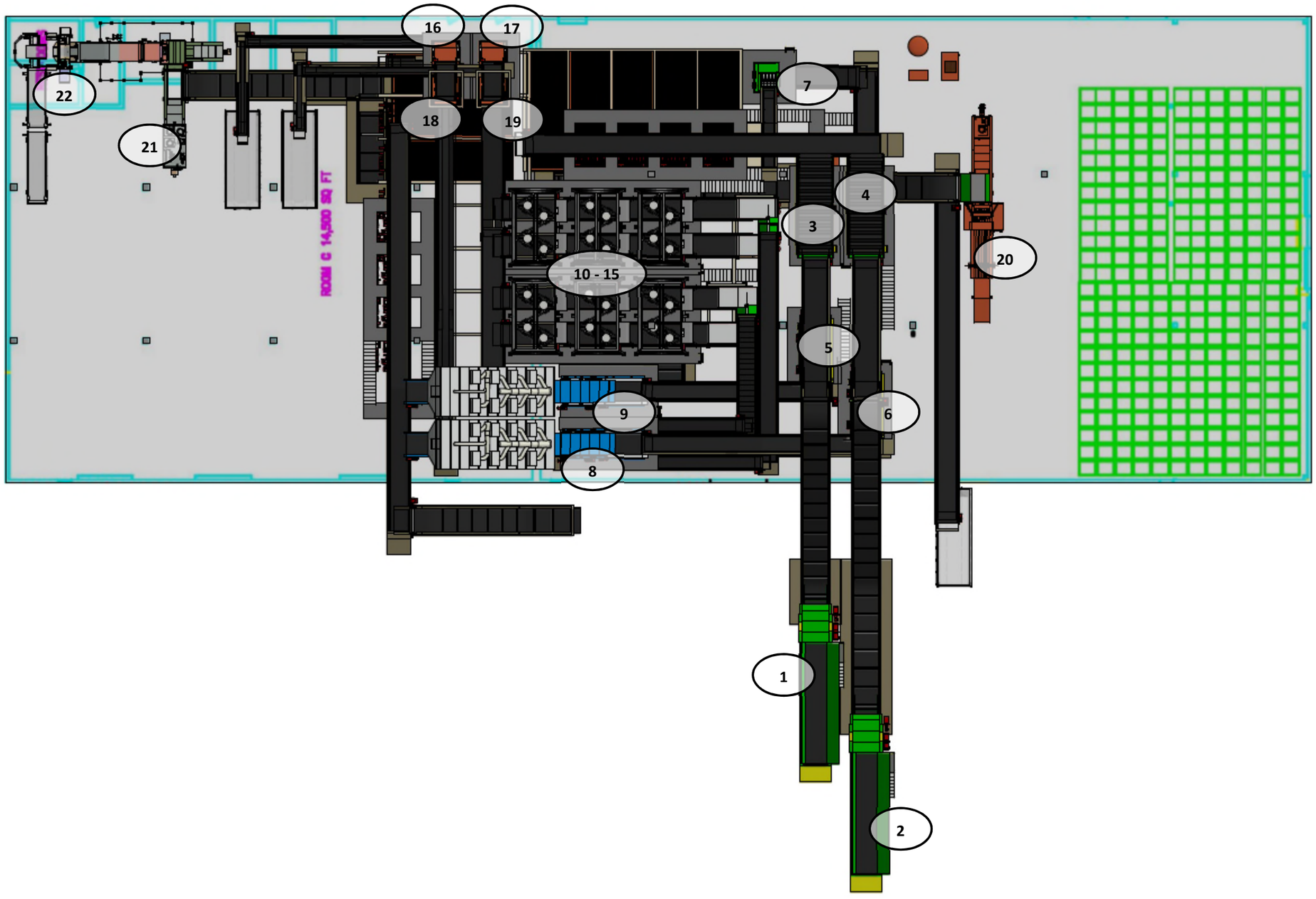
MSW Processing System

Equipment Detail

Confidential Proposal # 17-0289 DV2
17 July 2018

BHS
What's next.

Equipment Detail Diagram



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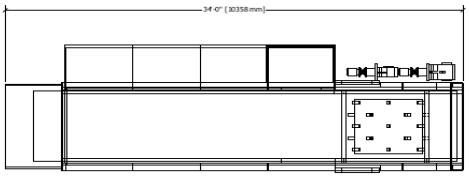
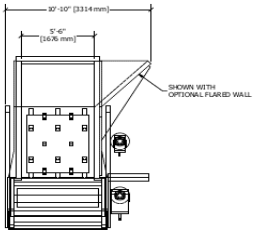
Equipment Detail

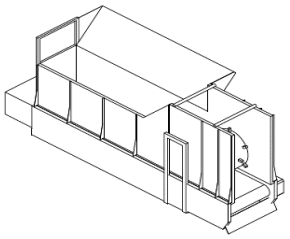
17 July 2018

BHS Metering Bin: Liberator Class

Application:	Liberator Class Metering Bin provides regulated flow of material to the system equiped with ripper teeth to open large bags
Manufacturer:	BHS
Model:	MB-50 L







Width:	Approximately 2.9m [9' 8"]
Length:	Approximately 13.4m [44']
Installed Weight:	Approximately 23,000 kg [51,000 lbs]
Infeed Lip:	10’-4-1/8" (3150 mm) high, sti ened with 8" (203 mm) structural channel
Wall Construction:	Front and rear wall construction is 3/8 formed channel shaped pans
Bearings:	CRS 1045 Dodge S-2000 roller bearing pillow blocks with triple lip seal
Drive Shaft:	CRS 1045 4-7/16" (113 mm) diameter with reducer
Tail Shaft:	CRS 1045 2-7/16" (62 mm) diameter with Dodge S-2000 bearings and take-ups
Chain:	Webster Chain, 9" (229 mm) pitch, RS 932F
Access:	Includes rear door, side door, maintenance platform, flared back wall
Motors:	SEW-EURODRIVE Premium Efficiency Motor: 45 kW [60HP] Drum Drive
Design Speed:	64 RPM, 5.2 FPM
Ship Method	20' HC & 40' HC
Conveyor Type	Steel Chainbelt
Teeth:	36 replaceable tungsten carbide-tipped teeth - Optional ripper teeth to open bags included

BHS Paint Specification

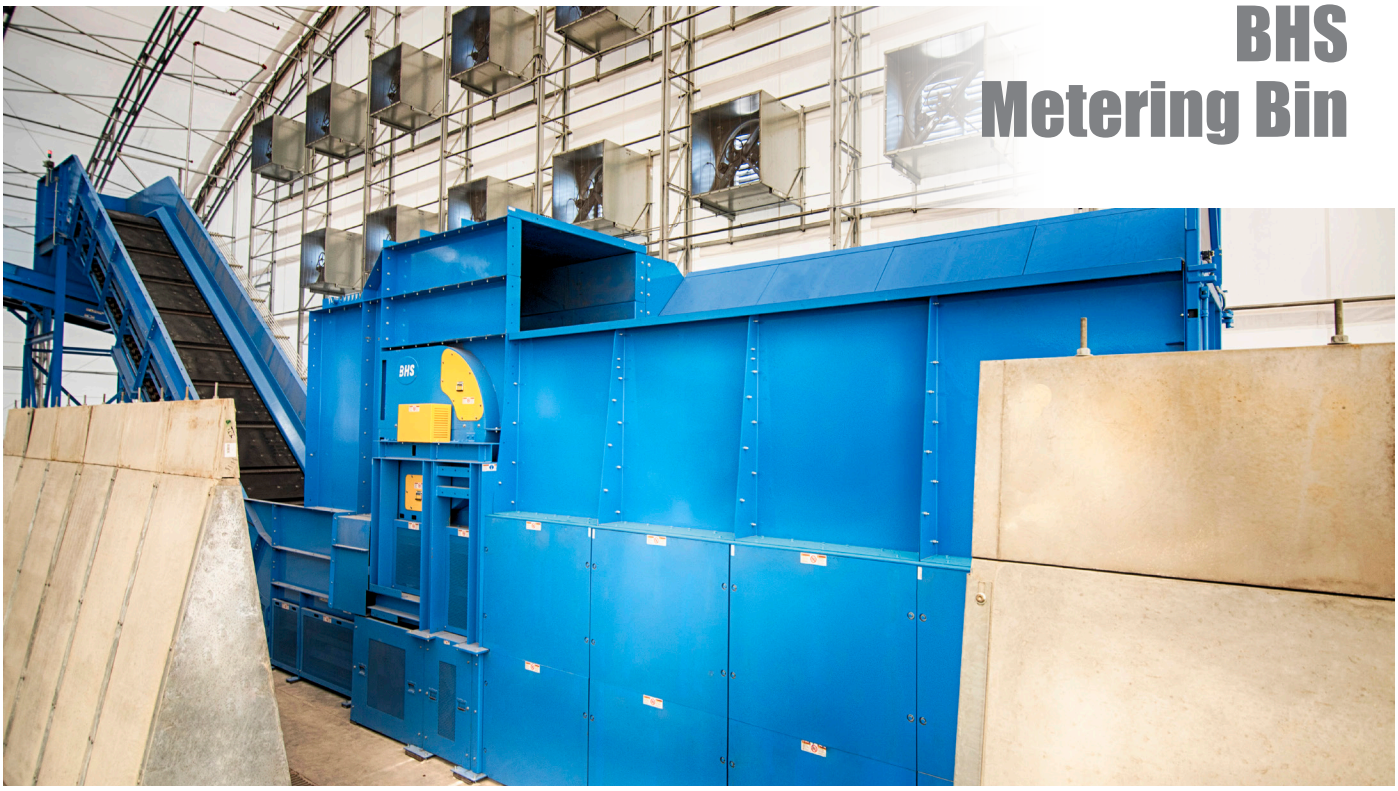
Our standard BHS paint system will meet ISO 12944-5: 1998, corrosivity categories C2 and C3.

Our paint system consists of the following steps:

- Surface Preparation: ISO ST-2 thorough hand and power tool cleaning to remove unwanted and/or foreign matter.
- Primer: One coat of Rodda 733823x Low HAP Metal Primer II
- Topcoat: Two coats Rodda 758001x Quick Drying Equipment Enamel

The total paint system as described above will achieve 120 microns NDFT, 4.7 mils.

BHS Metering Bin



The new **BHS Metering Bin** and **Metering Bin Liberator Class** provide numerous features that increase performance and decrease maintenance requirements. BHS has developed a strong platform to precisely regulate material flow through the combination of a variable speed conveyor and a counter-rotating drum at the discharge end, eliminating black-belt and keeping your system operating at peak levels. The new design's hallmark is its modularity: the design allows a wide range of mix-and match features which can transform the Metering Bin to match your own operational demands. From base features such as extra thick walls to the steel belt and bag-ripping teeth of the Liberator Class, BHS offers a bin without equal in the market.

FEATURES & BENEFITS

- Increases throughput and system capacity up to 20%
- Eliminates need for costly pits and additional civil work
- Quick, easy retrofit into existing facilities
- Rear door allows for easy removal of bulky items from bin
- New seal design provides protection from material interference
- Available with 60-HP driven drum to power through the toughest loads
- Reinforced load side and flared back walls for ease of loading and durability with minimal spillage

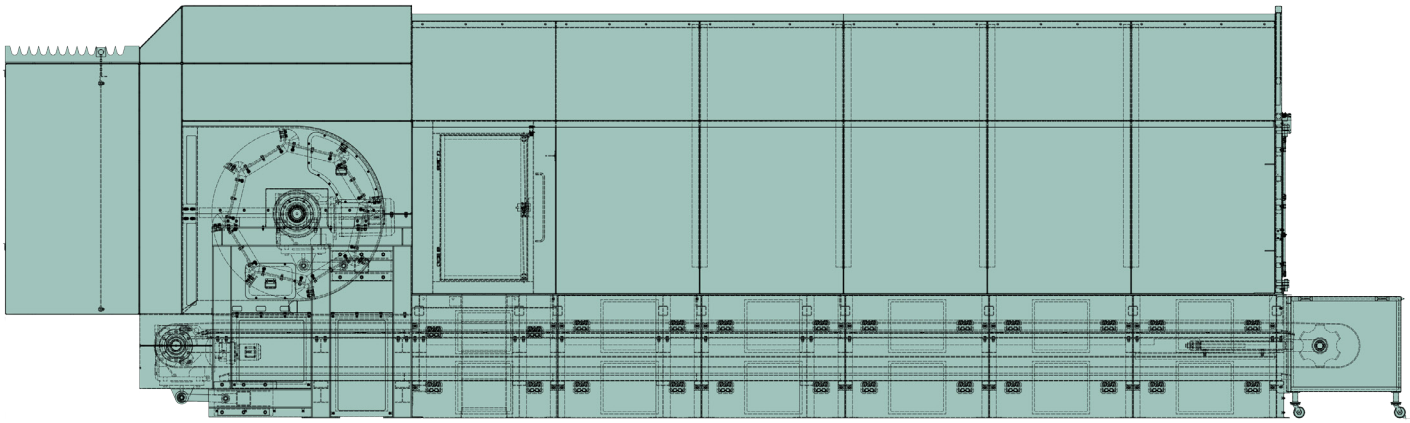
THE MODULAR ADVANTAGE

- Four-week typical lead time on standard design
- Ambidextrous load side and rear door allows for variable loading and access
- Interchangeable belts, drums & teeth
- Reinforced side wall panels
- Can be easily retrofitted to increase capacity
- AR-plated octagonal drum agitates material, opens bags and is easier to clean & repair
- 36 replaceable tungsten carbide-tipped teeth and optional ripper teeth to open bags

BHS

What's next.

BHS Metering Bin



Technical Specifications

Model	MB 30	MB 40	MB 50	MB 60
Capacity	30 yd.3 (23 m3)	40 yd.3 (31 m3)	50 yd.3 (38 m3)	60 yd.3 (46 m3)
Dimensions	W 9'- 8" (2.9 m) L 34'-0" (10.4 m) H 14'- 4" (4.3 m)	W 9'- 8" (2.9 m) L 39'-0" (11.9 m) H 14'- 4" (4.3 m)	W 9'- 8" (2.9 m) L 44'-0" (13.4 m) H 14'- 4" (4.3 m)	W 9'- 8" (2.9 m) L 49'-0" (14.9 m) H 14'- 4"(4.3 m)
Installed weight	43,682 lbs (19,814 kg)	44,096 lbs (20,002 kg)	45,842 lbs (20,794 kg)	47,588 lbs (21,586 kg)
Installed weight (Liberator Class)	47,284 lbs (21,448 kg)	48,479 lbs (21,990 kg)	51,006 lbs (23,136 kg)	53,533 lbs (24,282 kg)

Infeed Lip	10'-4-1/8" (3150 mm) high, stiffened with 8" (203 mm) structural channel
Wall Construction	Front and rear wall construction is 3/8 formed channel shaped pans
Teeth	36 tungsten carbide tipped
Drum	Heavy Duty Abrasion Resistant (AR) plates, replaceable
Bearings	CRS 1045 Dodge S-2000 roller bearing pillow blocks with triple lip seal
Drum Drive	SEW-EURODRIVE Premium Efficiency Motor Horsepower: 25 HP, 40HP, 60HP
Drive Shaft	CRS 1045 4-7/16" (113 mm) diameter with reducer
Tail Shaft	CRS 1045 2-7/16" (62 mm) diameter with Dodge S-2000 bearings and take-ups
Chain	Webster Chain, 9" (229 mm) pitch, RS 932F
Belt	PVC 350, with angle iron flights 3" tall (76 mm) Steel belting also available
Oil	Standard Synthetic
Liberator Package	Steel belt; ripper teeth; 60 HP drum drive

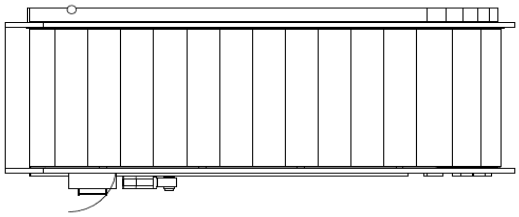
Bulk Handling Systems | 3592 West 5th Avenue | Eugene, OR 97402 USA | 1.866.688.2066 | bulkhandlingsystems.com

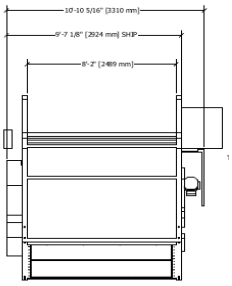
Equipment Detail

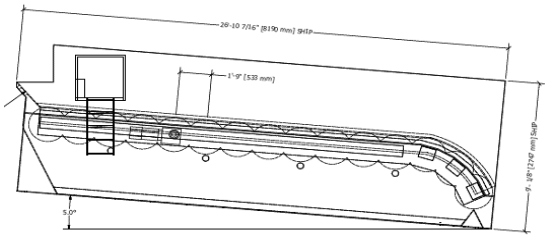
17 July 2018

BHS Scalping Screen

Application:	Separate lerge material from waste stream
Manufacturer:	Bulk Handling Systems
Model:	DRS98-15-762







Screen width:	2500mm [98”] wide screening surface
Screen Length:	Approximately 8.19m [26' - 11"] long
Shipping Weight:	Approximately 11,340 kg [25,000 lbs]
Discs:	Patented rubber tri-disc A1-762 on fifteen shafts
IFO:	Variable by fixed increments, suggested openings of 178mm x 254mm [7” x 10”]
Shafts:	Fifteen (15) total shafts on one (1) deck on 533 mm [21”] shaft centers
Bearings:	Pillow block bearings
Sprockets:	Hardened double-single timed sprockets with split taper bushings
Drive Chain:	RC 80
Motors:	One (1) 7.5 kW [10 HP] SEW energy efficient motor directly coupled to gear reducer
Noise:	<85 dB(a)
Reducers:	Shaft mounted reducer
VFD:	Variable frequency drives for operating flexibility are recommended
Drive Guards:	Drive system is enclosed in a solid guard with lift off door for easy removal and replacement. Grease fittings are plumbed to a common point outside guard for convenient bearing maintenance
Angle:	Fixed 5 degree decline
Auto-lube:	Automatic oiler system for the drive chain, which includes: reservoir, solenoid, distribution manifold, flexible tubing and adjustable brush applicators
Chutes	Included

BHS Paint Specification

Our standard BHS paint system will meet ISO 12944-5: 1998, corrosivity categories C2 and C3.

Our paint system consists of the following steps:

- Surface Preparation: ISO ST-2 thorough hand and power tool cleaning to remove unwanted and/or foreign matter.
- Primer: One coat of Rodda 733823x Low HAP Metal Primer II
- Topcoat: Two coats Rodda 758001x Quick Drying Equipment Enamel

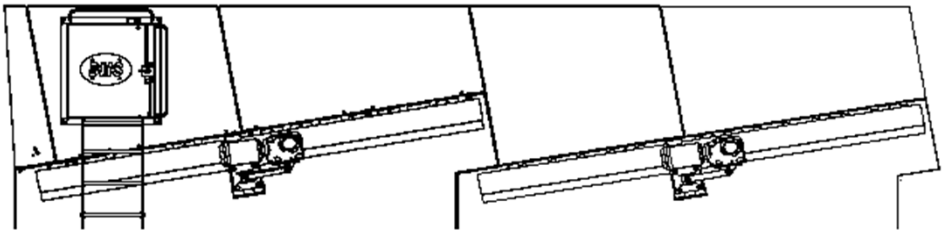
The total paint system as described above will achieve 120 microns NDFT, 4.7 mils.

Equipment Detail

17 July 2018

BHS Debris Roll Screen®

Application:	The Inter-Face Opening (IFO) of the DRS is specifically designed to maximize the removal of fines without the loss of valuable single serve containers.
Manufacturer:	Bulk Handling Systems
Model:	DRS84-11-11-236



Screen width:	2130mm [84”] wide screening surface
Screen Length:	Approximately 5.4m [17' 9"] long
Shipping Weight:	Approximately 4000 kg [9000 lbs]
Discs:	BHS patented in-line compound tri-disc design with BHS disc 2-233 / 2-236 on all shafts. Discs hardened to 400+ Brinell for long wear life
IFO:	2-233 / 2-236 with openings of 32mm x 57mm [1 ¼” x 2 ¼”]
Shafts:	Thirty (30) total shafts on two (2) decks with two (2) rollover shafts at the tail section on 222 mm [8 ¾”] shaft centers
Bearings:	Pillow block bearings
Sprockets:	Hardened double-single timed sprockets with split taper bushings
Drive Chain:	RC 80
Motors:	Two (2) 5.5 kW [7.5 HP] SEW energy efficient motor directly coupled to gear reducer
Noise:	<85 dB(a)
Reducers:	Shaft mounted reducer
VFD:	Not Included - Variable frequency drives for operating flexibility are recommended *(By Customer)*
Drive Guards:	Drive system is enclosed in a solid guard with lift off door for easy removal and replacement. Grease fittings are plumbed to a common point outside guard for convenient bearing maintenance
Angle:	Fixed 0 degree incline
Auto-lube:	Automatic oiler system for the drive chain, which includes: reservoir, solenoid, distribution manifold, flexible tubing and adjustable brush applicators
Chutes	Included

BHS Paint Specification

Our standard BHS paint system will meet ISO 12944-5: 1998, corrosivity categories C2 and C3.

Our paint system consists of the following steps:

- Surface Preparation: ISO ST-2 thorough hand and power tool cleaning to remove unwanted and/or foreign matter.
- Primer: One coat of Rodda 733823x Low HAP Metal Primer II
- Topcoat: Two coats Rodda 758001x Quick Drying Equipment Enamel

The total paint system as described above will achieve 120 microns NDFT, 4.7 mils.

BHS
Debris Roll Screen®

The **BHS Debris Roll Screen®** is the industry's flagship disc screen. This proven, patented technology is the premiere sizing tool for Single Stream, Municipal Solid Waste (MSW), Construction and Demolition (C&D) waste, wood waste, compost, green waste, plastics, glass, tires and various other materials.

The unique Tri-Discs™ are in-line from shaft-to-shaft, creating a precise opening for highly-accurate material sizing. Their hardened steel, triangular shape provides superior material agitation and true sizing in a small footprint.

The compound disc design provides precise sizing far superior to other disc or "star" screens. Patented gear timing paired with variable speed drives allows for fine tuning for varying material conditions.

Excellent material agitation and separation

Patented in-line discs provide accurate sizing of material, reducing product loss

Disc and shaft design reduces material wrap, increasing uptime

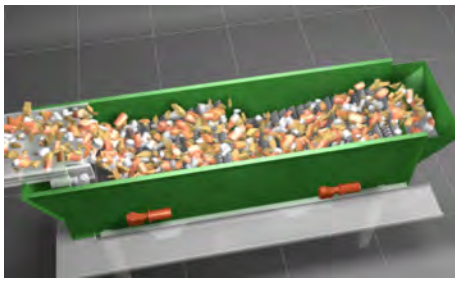
Heavy-duty discs ensure long disc life and reduced maintenance

BHS
What's next.

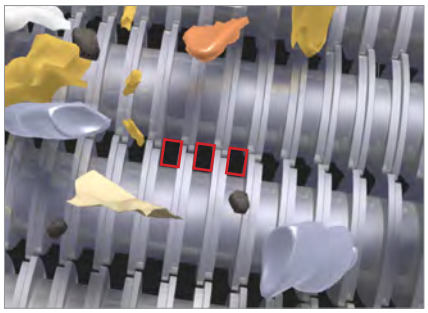
BHS Debris Roll Screen®

The Difference is the Discs

Our patented discs deliver superior sorting efficiency, material quality and throughput rates versus other screens. The BHS Debris Roll Screen® is unmatched in its ability to accurately sort a wide range of material from a variety of applications. The BHS' Tri Disc™ imparts a wavelike action into the material stream, efficiently and precisely sizing material and minimizing wrapping and jamming. Typical disc screens have uneven openings, allowing for inexact sizing and material wrapping and jamming.

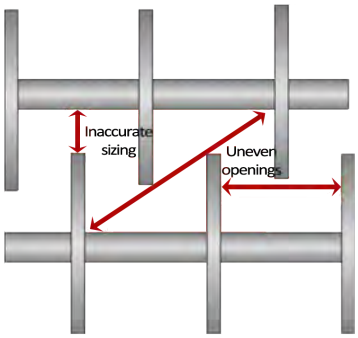


BHS DRS Screen



Precise openings

Conventional Disc Screen



General Specifications

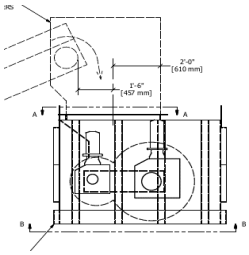
Screen width	Varies according to application
Inter-Face Openings	Varies according to application
Screen Angles	Varies according to application
Motors	SEW-EURODRIVE high efficiency gear motors
Reducers	Shaft mounted
Drive Guards	Drive system is enclosed in a solid guard with lift off door for easy removal and replacement. Grease fittings are plumbed to a common point outside guard for easy bearing maintenance.
Bearings	Dodge SC Tapped Base
Sprockets	80Q17 hardened double-single timed sprockets with split taper bushing.
Drives	RC 80 Chain-driven. Variable frequency drives recommended for operating flexibility, included with controls system.
Auto Lube	Automatic oiler system for the drive chain including reservoir, solenoid, distribution manifold, copper plumbing and adjustable brush applicators; easy sprocket, chain and bearing maintenance.

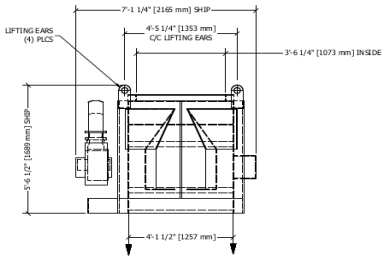
Equipment Detail

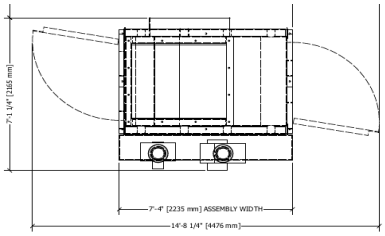
17 July 2018

BHS Bag Breaker®

Application:	The BHS Bag Breaker® is designed to minimize shredding of the bags to allow efficient recovery of film. The majority of the empty bags remain in one to three elongated pieces. The bags exit the machine with the released material.
Manufacturer:	Bulk Handling Systems
Model:	BB48







Width:	1220 mm [48"] wide
Length:	Approximately 2.11m [83"] long
Shipping Weight:	Approximately 3600 kg [8000 lbs]
Shafts:	Two (2) counter-rotating shafts with heavy-duty double row spherical roller bearings
Motors:	One (1) 7.5 kW [10 HP] and one (1) 1.5 kW [1 HP] SEW motor with Class II reducers
Noise:	<85 dB(a)
Controls:	Integrated into BHS System Controls
Access doors:	Two (2) large access doors reinforced with steel bracing with Signal latches
VFD:	Variable frequency drives for operating flexibility
Chutes	Included

BHS Paint Specification

Our standard BHS paint system will meet ISO 12944-5: 1998, corrosivity categories C2 and C3.

Our paint system consists of the following steps:

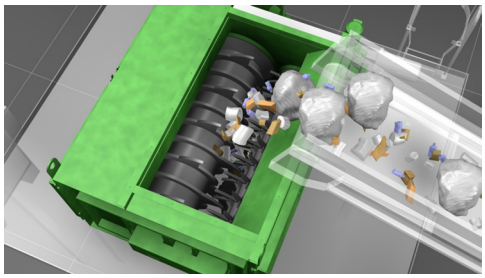
- Surface Preparation: ISO ST-2 thorough hand and power tool cleaning to remove unwanted and/or foreign matter.
- Primer: One coat of Rodda 733823x Low HAP Metal Primer II
- Topcoat: Two coats Rodda 758001x Quick Drying Equipment Enamel

The total paint system as described above will achieve 120 microns NDFT, 4.7 mils.

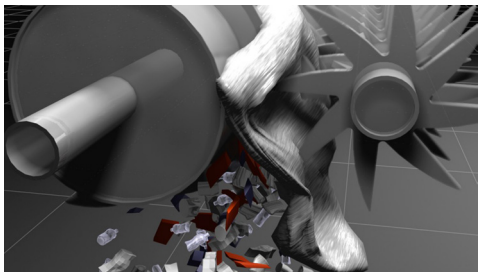
BHS Bag Breaker®

The **BHS Bag Breaker®** opens bags at high volumes without damaging content, ensuring maximum recovery of valuable recyclables. The patented Bag Breaker® uses large, counter-rotating drums to efficiently open the bags and release the contents, discharging them from the bottom of the machine. Bags are torn into large pieces for easy removal.

Bagged material can be fed directly into the BHS Bag Breaker® with an infeed conveyor to achieve an evenly-metered flow rate.



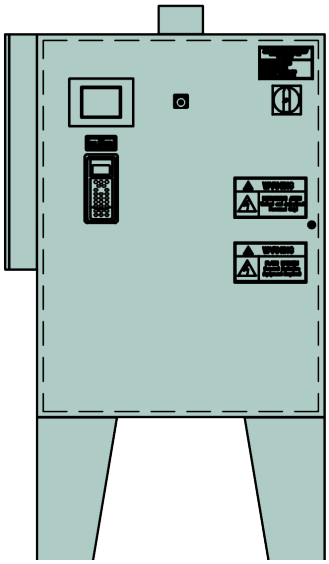
- Clean-out doors on two sides for easy access and maintenance
- Easy to retrofit into existing facility
- Opens bags without damaging valuable recyclables
- Bags are torn to large pieces rather than shredded for easy removal
- Heavy-duty construction for decreased downtime and long-operating life

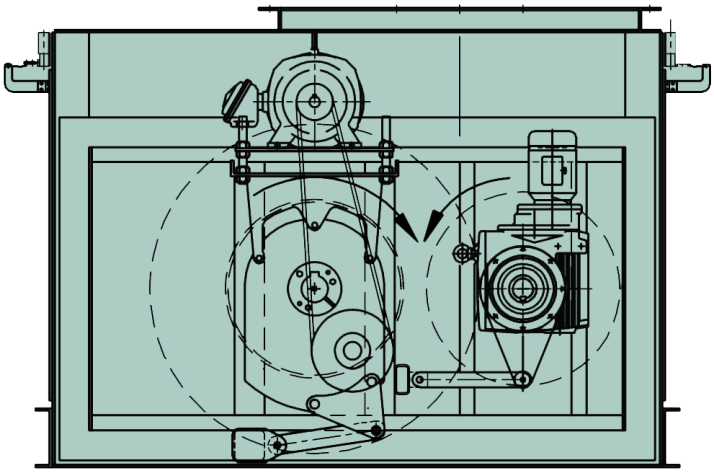


BHS

What's next.

BHS Bag Breaker®

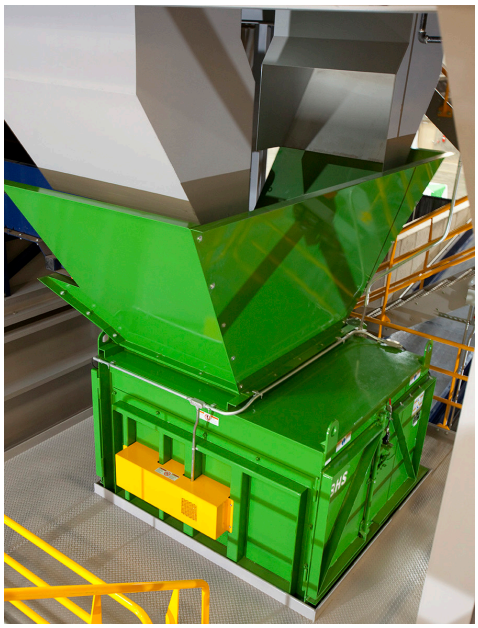




Technical Specifications

Model	BB-60	BB-72	BB-90
Capacity	up to 22 tph	up to 30 tph	up to 35 tph
Motors	10 hp , 1 hp (7.5 kW, 0.75 kW)	20 hp , 3 hp (15 kW, 2.2 kW)	20 hp , 3 hp (15 kW, 2.2 kW)
Access Doors	43"x 36" (1090 mm x 910 mm)	43"x 43" (1090 mm x 1090 mm)	43" x 52" (1090 mm x 1320 mm)
Dimensions	W 7'-7" (2.3 m) L 8'-1" (2.5 m) H 5'-2" (1.6 M)	W 8'- 1" (2.5 m) L 10'- 4" (3.1 m) H 5'-2" (1.6 m)	W 8'- 1" (2.5 m) L 11'-10" (3.6 m) H 5'-2" (1.6 m)
Shipping weight	7,900 lbs. (3,600 kg.)	10,100 lbs. (4,600 kg.)	13,100 lbs. (5,950 kg.)

Motors	Energy efficient motor with Class II gear reducer
Shafts	Two (2) counter-rotating shafts with heavy-duty double row spherical roller bearings; 3-15/16" (100mm)
Drum	Constructed of heavy-duty rolled plate with 3-15/16"(100mm) diameter, C1045 head shaft
Bearings	Dodge Type E
Controls	Control panel in NEMA 12 enclosure
Access Doors	Two (2) large access doors reinforced with steel bracing with signal latches



Equipment Detail

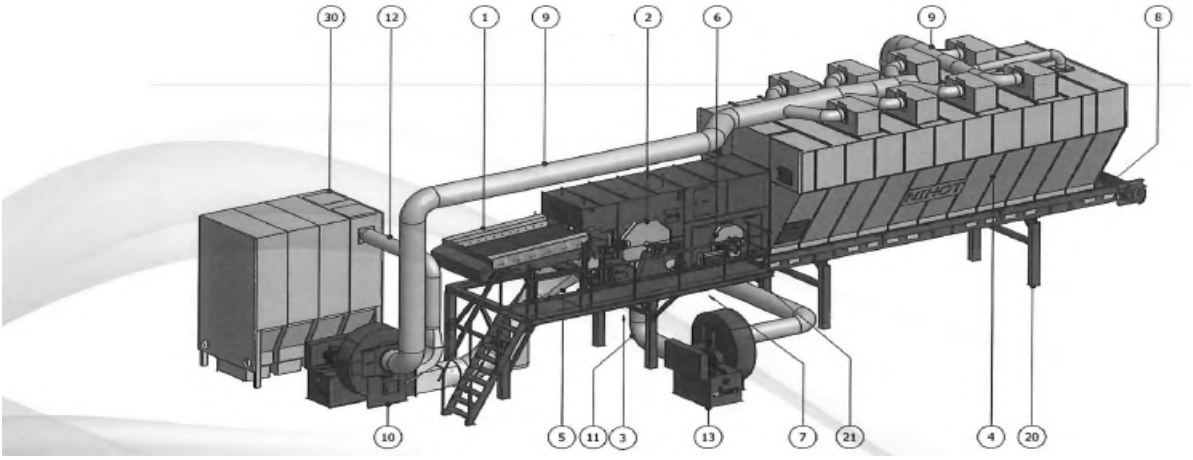
17 July 2018

Nihot Double Drum Separator

Application: Input material is separated into a heavy, mid-heavy and light fraction due to an installed second rotating splitter drum and second fan with blow nozzle.

Manufacturer: Nihot

Model: DDS1600



			Installed Power
1.	Product Input Conveyor (PIC)	1600x 2750mm	5.5 kW
2.	First splitter drum		2.2 kW
3.	Discharge heavy fraction		
4.	Expansion Room	3600x 9000mm	
5.	First air inlet		
6.	Second splitter drum		2.2 kW
7.	Discharge mid fraction		
8.	Light Fraction Discharge Conveyor	1600x 11,250mm	9.2 kW
9.	Air return duct		
10.	First recirculation fan	2x RF(I) 60	2x 30 kW
11.	Second air inlet		
12.	Dust duct		
13.	Second recirculation fan	RF 50	18.5 kW
14.	Support construction		
15.	Stairs and maintenance platform		
30.	Filter unit	Included	

Nihot Coating Specification

Nihot equipment is built using blank-stained and galvanized plates. Blank-stained steel plates are degreased with Sigma Thinner 91-80. The layer is treated with Sigma Steel QD which consists of a zinc phosphate primer (1x 40µm).

The finishing layer is 1x Sigma Steel QD Finish and can be applied in any RAL color according to customer specification (1x 40µm).

Drum Separators

Besides the superior separation efficiency, the Nihot Drum Separators are well known for their ability of handling large volumes of light fractions. The robust construction and foolproof functionality guarantee a long lasting and trouble free operation.

SDS: Single Drum Separators

The Single Drum Separator is a highly versatile separator that processes a large variety of waste streams into two fractions; heavy and light. This high capacity separator system is capable of processing e.g.:

- Bad shredded materials
- Waste containing large materials
- A high volume percentage of light materials
- Hard and bulky soft materials

DDS: Double Drum Separators

When a three-way separation is desired or a volume separation is required, the Nihot Double Drum Separator is a good solution. The input material is separated into a heavy, mid-heavy and light fraction due to an installed second rotating splitter drum and second fan with blow nozzle.

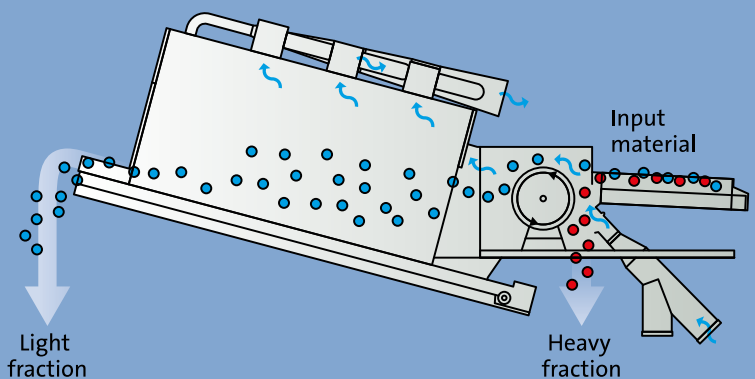
Advantages SDS & DDS

- Versatile – processes many different waste streams, including high moisture content input
- Gives control of the caloric value of the output
- Removes interferants from input, thus protecting the granulators in RDF refinement
- Low maintenance and few wear parts i.e. reduced downtime
- Can handle large fraction sizes (plastics and film)
- Low dust emission

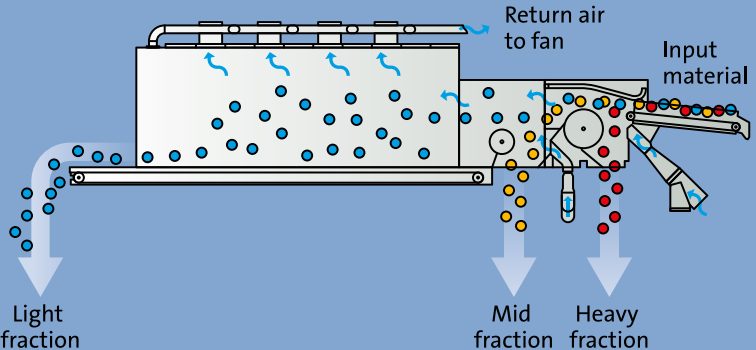
These benefits result in fast return on investment, low operating costs and superior reliability.

The operating principles

SDS: Single Drum Separator



DDS: Double Drum Separator

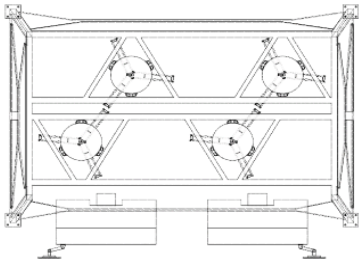


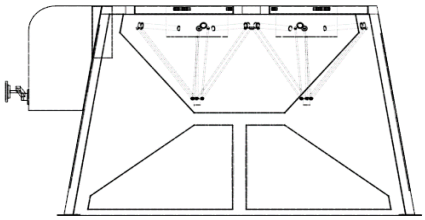
Equipment Detail

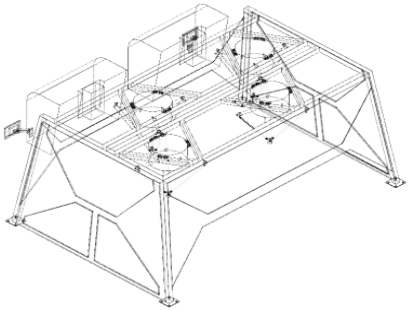
17 July 2018

Max-AI™ Autonomous QC

Application:	Identification and sorting of recyclable containers for recovery. Dual-frame, quad-robot configuration for sorting from two parallel conveyors with common chutes in between.
Manufacturer:	NRT
Model:	AQC-4







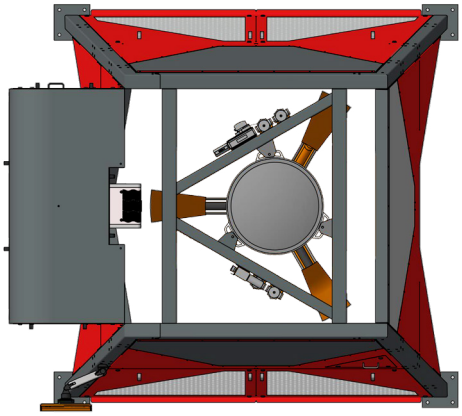
Approx. Dimensions (L x W x H)	10' x 20' x 9' (2.9m x 5.8m x 2.6m)
Machine Weight	Approx. 14,000 lbs. (6,400 kg)
Picking Rate	up to 240 picks/minute
Max Object Weight	1 lb. (0.5 kg)
Coating	powder coated with a textured finish
Structure Color	RAL 7012 (dark gray)
Conveyor Speed	180 ft./min (55 m/min)
Air Supply	160 scfm @100psig (4.5 m^3/min @ 6.9 BAR) per arm
Power Supply (By Customer)	40A 230V 50/60Hz
Delta bot robotic sorter	4x Included
UL or CE Certification	Included
Vision system and enclosure	Included
Max-AI™ neural network license	Included
Suction based grasping system	Included

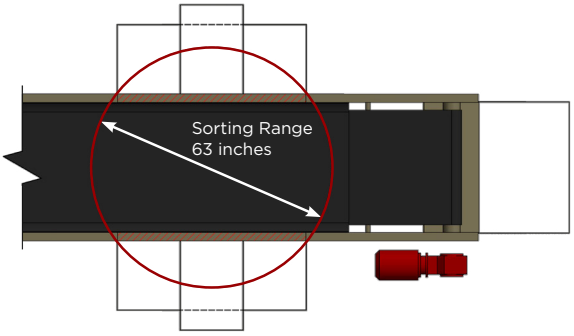
MAX·AI® AUTONOMOUS QC

Max-AI® Autonomous Quality Control (AQC) sorters are the ultimate in post-sort automation. When combined with NRT optical sorters, the container sorting process is 100% autonomous and the need for human contact with waste is eliminated.

The AQC makes multiple sorting decisions autonomously; for example separating thermoform trays, aluminum, 3D fiber and residue from a stream of optically-sorted PET bottles. All of this is done at rates exceeding human capabilities and each pick is prioritized for profitability.

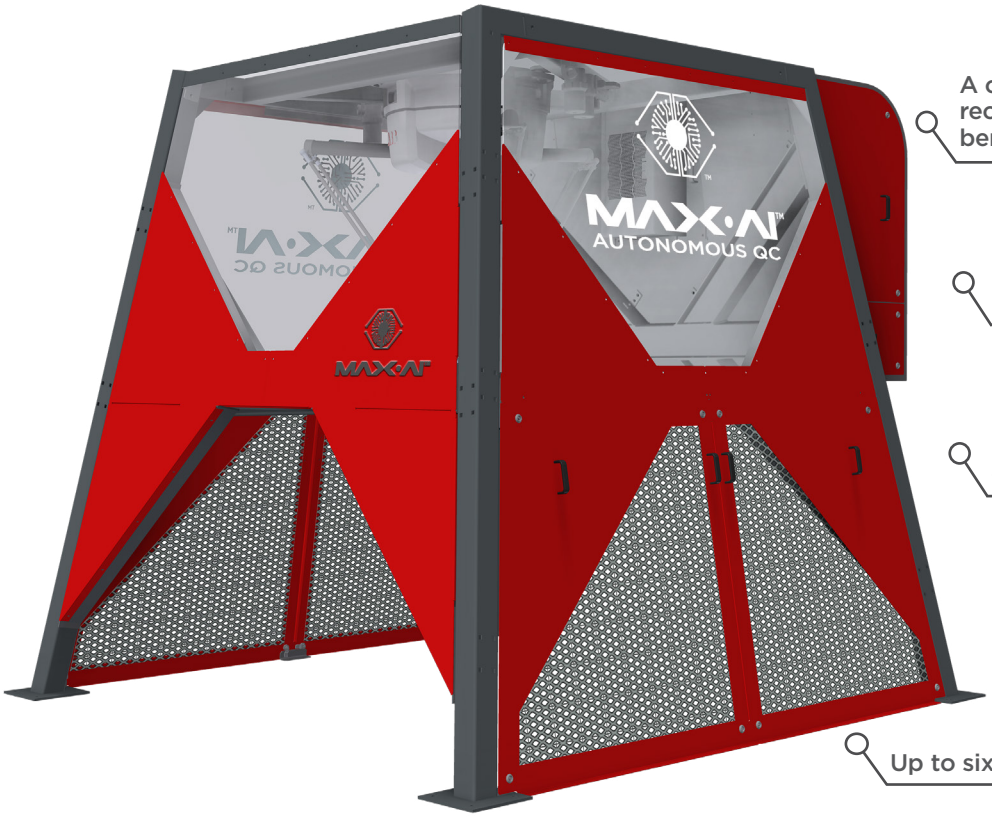
This advanced technology uses a machine vision system to see the material, specialized artificial intelligence to think and identify each item, and a robot to pick targeted items or contamination. Max-AI AQC sorters provide MRF operators with sustained and consistent sorting performance while improving MRF safety, recovery, product quality and operational expenses.





Max Autonomous QC

The Max AQC automates QC positions and positively recovers recyclables



A completely autonomous high-volume recovery solution. Provides additional benefit when paired with NRT sorters.

Advanced neural networks can be retrained to identify new materials as waste streams change.

Exceeds human capabilities in every metric including pick rate, accuracy, & uptime; and sustains those capabilities every minute of the day.

Picks are prioritized by value, weight, or other operator specifications. Priorities are easily adjusted when market conditions change.

Up to six discrete sorts from a single unit.

CONTAINER LINE SORTS

- PET BOTTLES
- PET TRAYS
- HDPE-N
- HDPE-C
- MIXED PLASTICS
- CARDBOARD
- ASEPTICS/ CARTONS
- ALUMINUM
- MIXED PAPER
- BLACK PLASTICS

FIBER LINE SORTS AVAILABLE SOON

- CONTAINERS
- CARDBOARD
- RESIDUE

I am Max. I was created to do this job.

"I don't get sick. I don't need breaks, lunches or days off. I work harder, longer and better than anyone else. I'm more accurate and more efficient than anyone could be. Thanks to my intelligent neural network, I'm capable of learning on the job so I can adapt to changing conditions and variables. I was created to do this job and I look forward every day to fulfilling my promise while lowering costs, improving productivity and delivering higher profits for my employers."

max-ai.com

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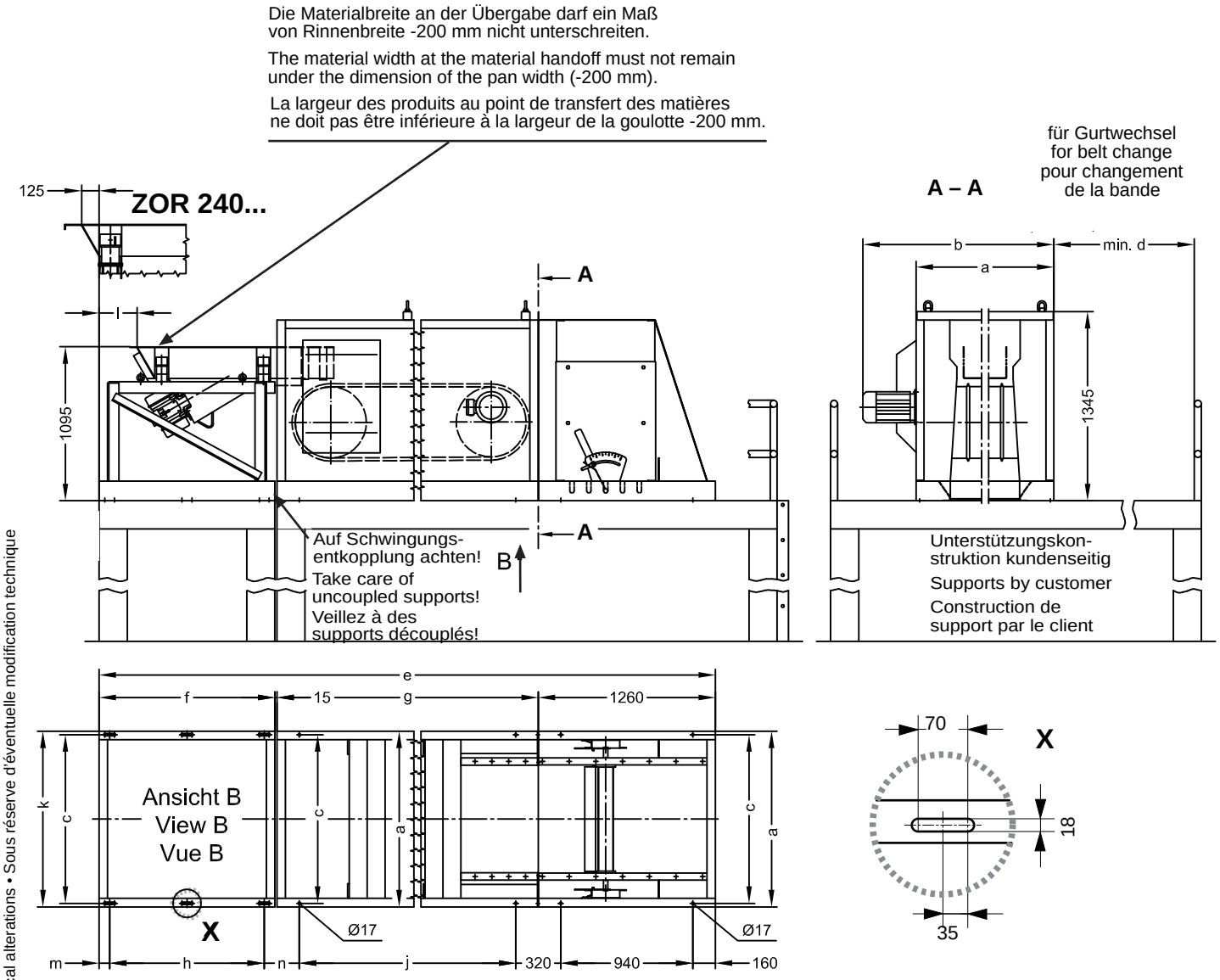
Einbauvorschlag für Nichteisenmetallscheider
Mounting-Proposal for Non-Ferrous Metals Separator
Proposition de montage pour séparateur de métaux non-ferreux

STEINERT Elektromagnetbau GmbH • Widdersdorfer Str. 329-331, D-50933 Köln • Tel.+49 (0) 221 49 84 0 • Fax +49 (0) 221 49 84 102 • sales@steinert.de

Mitgeltende Datenblätter / See additional Technical Data / Voir aussi fiches techniques: **TD ZOR • TD NES • TD ALK**



Typ Type Type	Abmessungen Dimensions Dimensions															Antriebe Drives Entraînement				
		E 36...	E 50...	E 61...												Vibr. Rinne Vibr. feeder couloir vibrant	Band belt courroie	Polsystem Pole system système polaire		
	a	b	b	b	c	d	e	f	g	h	j	k	l	m	n			E 36...	E 50...	E 61...
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kW	kW	kW	kW	kW
NES 50 1.0 E...	1250	-	1560	1622	1200	1000	4625	1250	2100	2x550	2x890	1250				2 x 0,4	2,2	-	4,0	5,5
NES 75 1.0 E...	1380	-	1695	1766	1330	1250						1380				2 x 0,6	2,2	-	4,0	7,5
NES 100 2.0 E...	1630	2083	1944	2078	1580	1500						1630	270	75	250	2 x 0,8	2,2	5,5	4,0	9,2
NES 125 2.0 E...	1880	2333	2060	2328	1830	1750	5675	1500	2900	2x675	3x860	1880				2 x 1,2	2,2	5,5	5,5	9,2
NES 150 2.0 E...	2130	2583	2510	2578	2080	2000						2130				2 x 1,2	3,0	5,5	5,5	9,2
NES 200 2.0 E...	2630	-	3010	3078	2580	2500	6375	2200		3x680		2650	120	80	255	2 x 1,6	3,0	-	5,5	9,2
NES 250 300 E...	3130	-	-	3610	3080	3000	7630	2455	3900	3X765	5X720	3150	-	80	245	2 x 3,0	3,0	-	-	7,5

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Überbandmagnetscheider UME…R
Overband Magnetic Separator UME…R
Séparateur magnétique de type „Overband“ UME…R

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Bild A
picture A
vue A

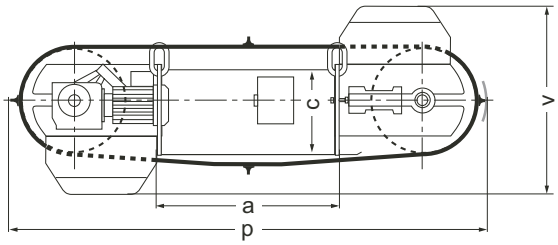

Bild B
picture B
vue B

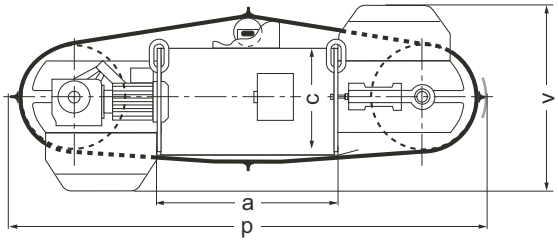

Bild C
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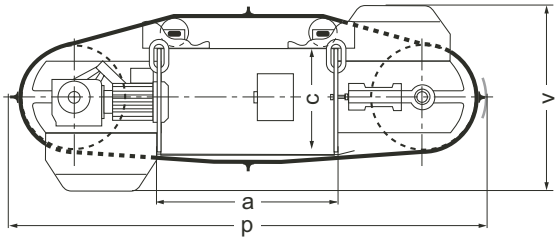

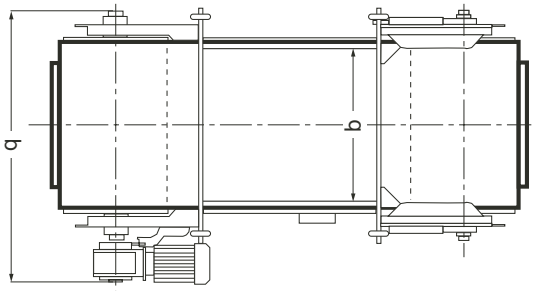

Typ Type Type	Nenn-leistungs-aufnahme Rated power input Puissance nominale	Anschluß-spannung Operating voltage Tension de service	Abstand max. Maximum clearance Distance max. re-comandée**	Anordnung über Förderband* Arrangement over belt width * Disposition au-dessus de la largeur de la bande*		Abmessungen Dimensions Dimensions						Bild picture vue	Motor-leistung Motor capacity Puissance du moteur	Austrags-band-geschwin-digkeit Speed of discharge belt Vitesse de la bande de debit	Gewicht ca. Weight approx. Poids env.
				quer across trans-versale	längs in-line longitu-dinale	a	b	c	p	q	v				
	kW	Volt	mm	mm	mm	mm	mm	mm	mm	mm	mm		kW	ca. m/s	kg
UME 75 90 RF	2,7		330	1000	800	915	760	430	2295	1327		A			1550
UME 90 105 RF	3,2	80	360	1200	1000	1060	910	400	2440	1507	910		3	2,1	1850
UME 125 140 RF	5,2		470	1400	1200	1370	1220	435	2744	1807		B			3150
UME 75 90 R	3,1	63	350	1000	800	880	740	415	2290	1322					1600
UME 75 110 R	3,5	75		1200		1080			2490			A			1850
UME 95 110 R	4,1	95	420		1000		940	425		1522	910		3		2250
UME 95 130 R	4,3	105		1400		1280			2690			B		2,1	2700
UME 115 130 R	6,1	95	490		1200		1140	500		1722					3550
UME 115 150 R	6,9	108		1600		1480			2890						4200
UME 135 150 R	7,8	126	560		1400	1500	1350	510	3170	2046	1000				6300
UME 135 170 R	8,3	138		1800		1700			3370		1000	C	4		6900
UME 160 175 R	12,3	208	680		1700	1725	1600	666	3395	2300	1150		5,5	1,7	10 000
UME 180 195 R	14,7	192	730	2000	2000	1950	1800	786	3620	2500	1270				15 500

* Gemuldetes Band nach DIN 22101. / * Belt with throughing angle acc. DIN 22101. / *Bande en auge selon DIN 22101.

Abst. zwischen Polfläche und Oberkante Förderband / **Clear. between pole surface and conveyour belt /Dist. entre surface de pôle et courroie du convoyeur

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Überbandmagnetscheider UME…R
Overband Magnetic Separator UME…R
Séparateur magnétique de type „Overband“ UME…R

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Bild A
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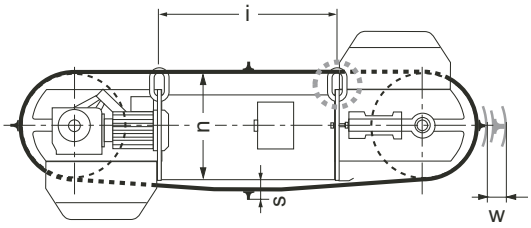

Bild B
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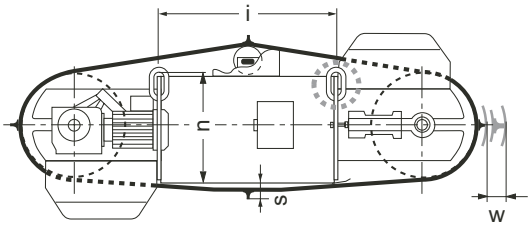

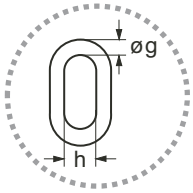

Bild C
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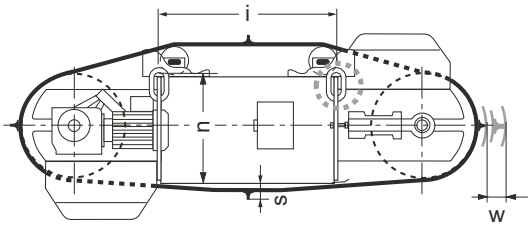
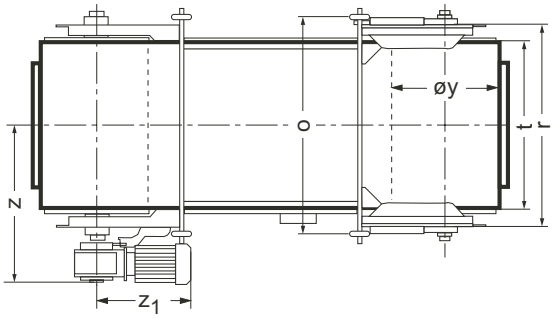
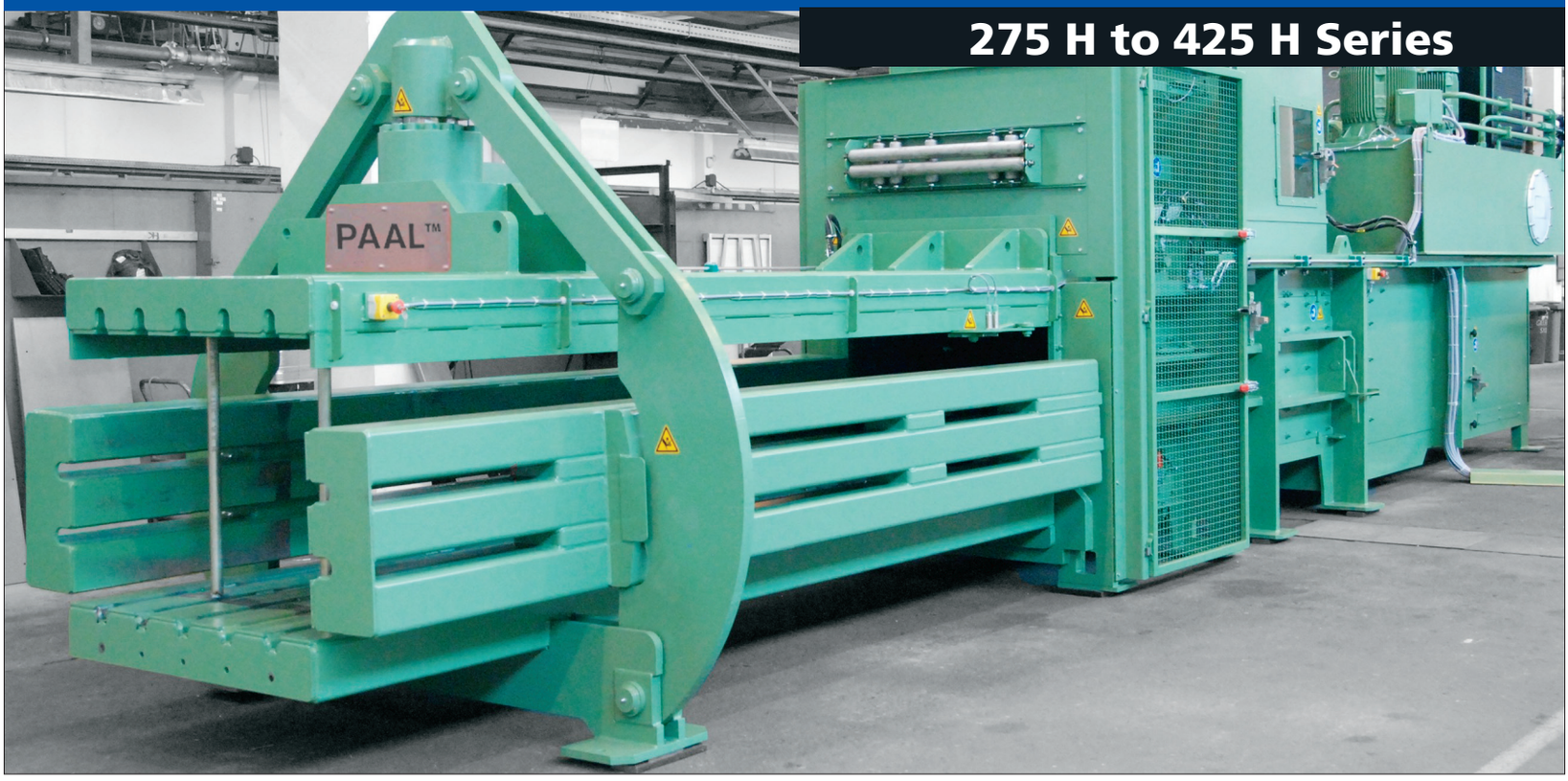




Typ Type Type	Abmessungen Dimensions Dimensions												Bild picture vue
	g	h	i	n	o	r	s	t	w	y	z	z_1	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
UME 75 90 RF			900		1100	970	84	800			753		A
UME 90 105 RF	22	50	1045	520	1280	1150		950	50	506	843	454	
UME 125 140 RF			1350		1530	1450	124	1250			993		B
UME 75 90 R			860		1050	970	80	800			764		
UME 75 110 R			1060				85		50				A
UME 95 110 R	22	50		524	1250	1170		1000			864	454	
UME 95 130 R			1260				95						B
UME 115 130 R					1450	1370		1200		506	964		
UME 115 150 R			1460	639			100						
UME 135 150 R	22	50	1480	524	1760	1630		1400	80		1139	509	
UME 135 170 R			1680										C
UME 160 175 R	26	100	1685	814	2000	1880	110	1600			1266		
UME 180 195 R			1910	934	2200	2080		1800			1366		

PAAL Konti™ Baler

275 H to 425 H Series



Kadant PAAL's Konti H channel baler features high throughput and bale weights with low energy consumption.

Features of the PAAL Konti H channel baler

- Optimized knife, stamper, and channel design
- Modern axial piston pumps with low drive power
- Advanced positional ram measurement system
- Large door at rear section of baler
- PLC offering remote access and service as well as high resolution operator panel

Benefits of the PAAL Konti H channel baler

- High throughput and bale weights
- Low energy consumption
- Easy access to tying unit via optional ladder to three-sided platform
- Simple operation and maintenance
- Low total cost of ownership

Kadant PAAL was founded in 1854 in Osnabrück, Germany. Since its introduction of the first continuously operated horizontal baler in 1960, PAAL has delivered more than 30,000 machines and today is the #1 channel baler manufacturer in Europe.

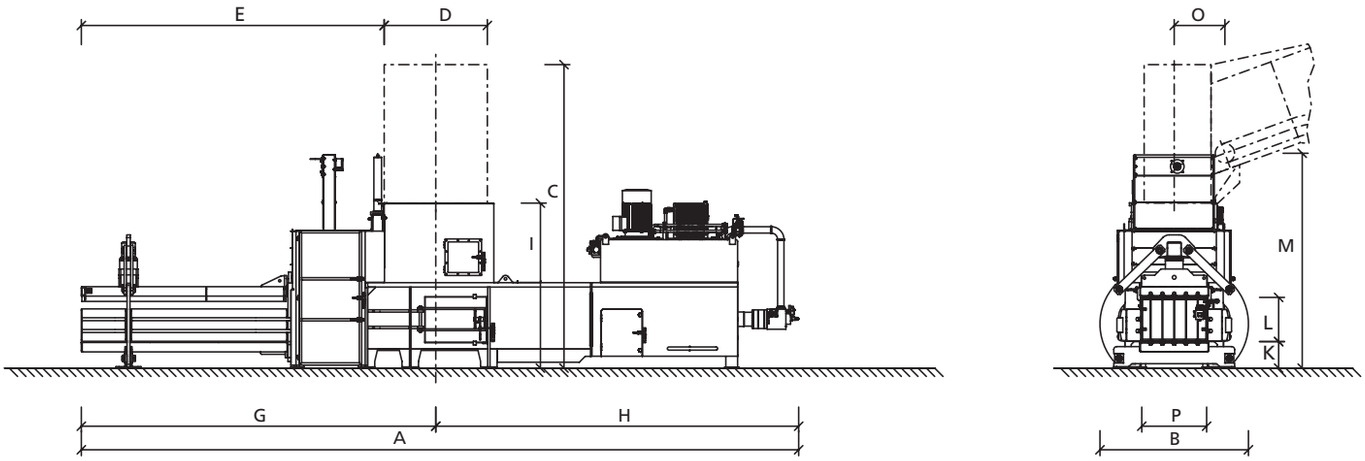
KADANT

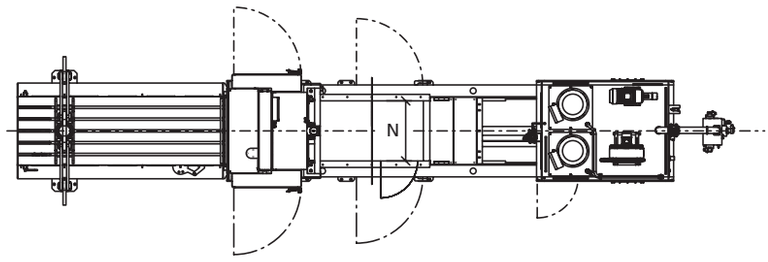
PAAL KONTI BALER 275 H TO 425 H SERIES

Technical data and measurements

PAAL KONTI H SERIES		275 H			325 H				425 H				
Pressing force	US tons	90			111				134				
Spec. pressing force	psi	141			174				210				
Tunnel cross section	inch	30 x 44			30 x 44				30 x 44				
Hopper opening	inch	63 x 41			69 x 41				79 x 41				
Feeding volume	yd³	2.62			2.81				3.10				
Number of wires	pieces	5			5				5				
Driving power	HP	50	74	2x 50	50	74	2x 50	2x 74	60	74	2x 50	2x 74	3x 74
Press output (ideal)	max. yd³/h	543	798	942	458	680	811	1,151	386	589	706	1,027	1,373
Press output (under load)	max. yd³/h	327	477	589	275	405	504	713	262	360	451	647	876
Press capacity (weight)													
• 59 lb/yd³ (e.g., flattened OCC)	US t/h	9.4	13.8	17.1	8.3	12.1	14.9	20.9	7.7	10.5	13.2	18.7	25.9
• 101 lb/yd³ (e.g., mixed paper)	US t/h	16.0	23.1	28.1	13.2	19.8	24.3	33.6	12.7	17.6	21.5	30.9	41.9
• 169 lb/yd³ (e.g., newspaper, magazines)	US t/h	23.7	33.6	40.8	19.8	28.7	35.3	48.0	19.8	25.9	32.5	44.6	58.4
Baler weight	US tons	28			31				39				

Dimensions are in inches.



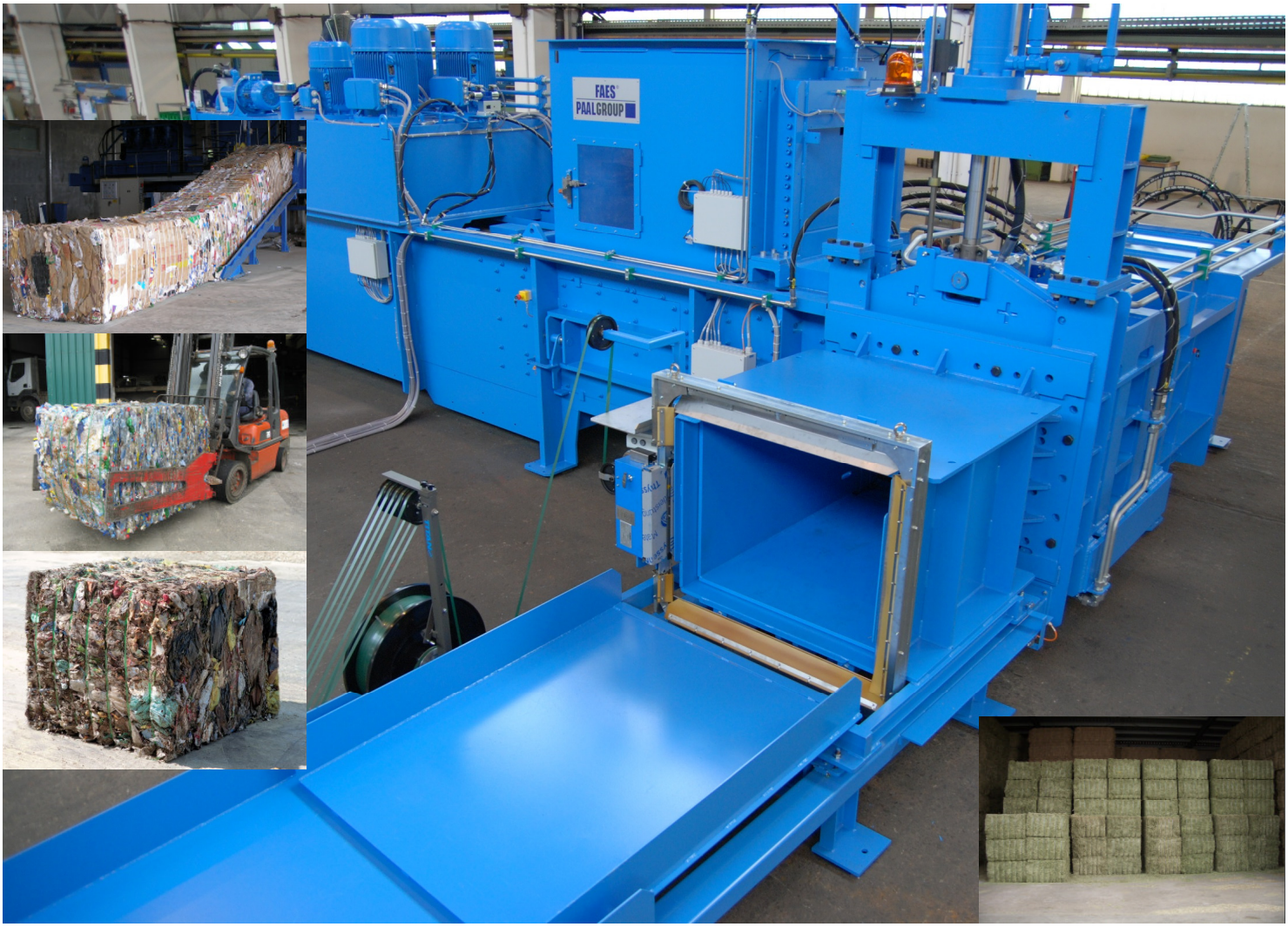


	A*	B	C	D	E	G	H*	I	K	L	M	N	O	P
KONTI 275 H	433.5	87.8	202.8	63.0	174.7	206.2	227.3	110.2	17.7	29.5	144.5	40.2	33.9	43.3
KONTI 325 H	476.0	99.6	202.8	68.9	202.2	236.7	239.3	110.2	17.7	29.5	144.5	40.2	33.9	43.3
KONTI 425 H	523.4	104.3	202.8	78.7	225.9	265.2	258.2	110.2	17.7	29.5	144.5	40.2	33.9	43.3

**Maximum length for specified hopper opening*

Dimensions are in inches.

PAAL Konti Baler 275 H to 425 H Series-1000 (BHS US) 04/2017



HTR-B

NEW

HIGH COMPRESSION TWO-RAM BALER WITH PLASTIC TYING SYSTEM

KÄDANT

PAAL®

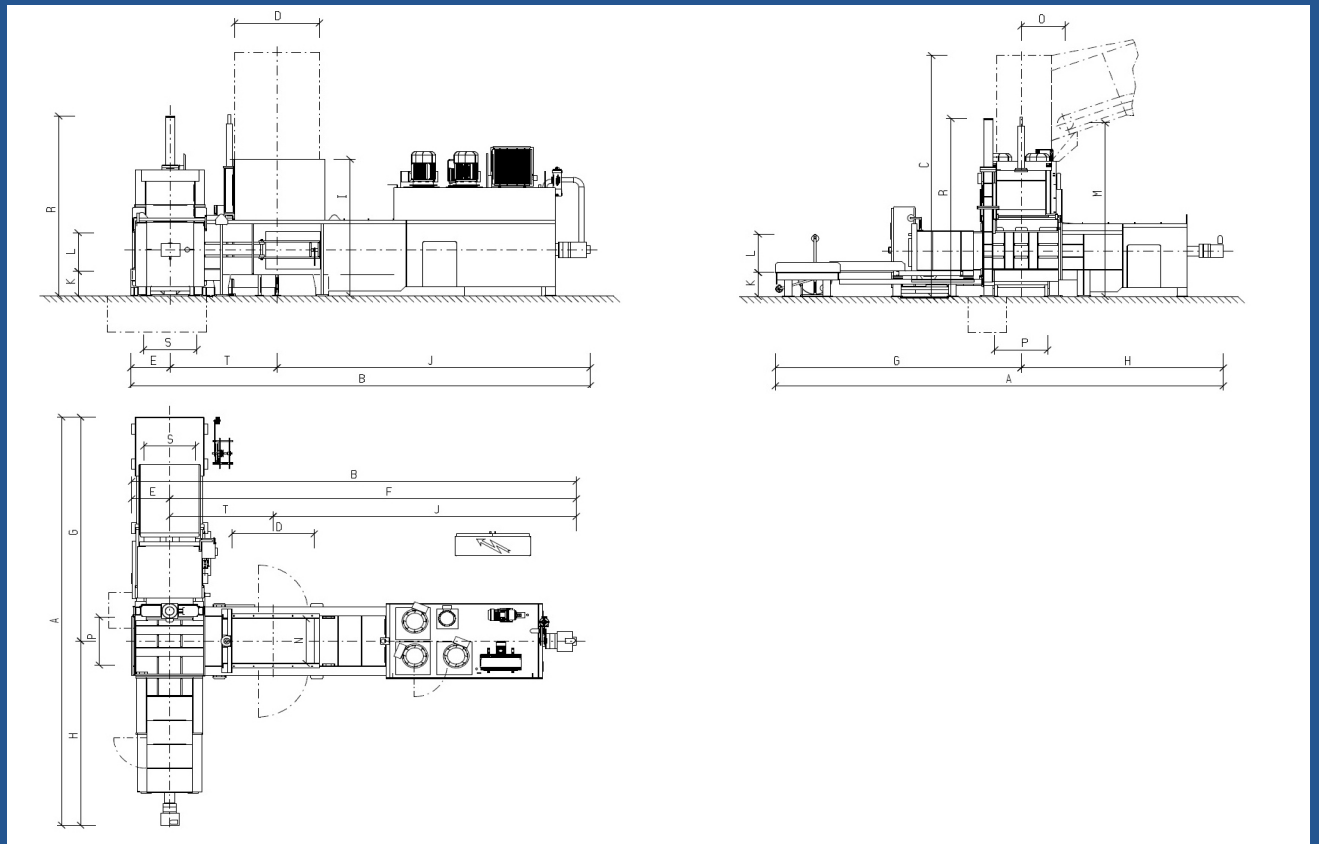
Technical data and measurements

HTR		425			700	
pressing force	t (kN)	122 (1197)			198 (1940)	
spec. pressing force	N/cm²	136			160	
press box dimension	cm	80 x 110 x 94			110 x 110 x 94	
hopper opening	cm	175 x 102			200 x 102	
number of tyings	pieces	6 or more			6 or more	
driving power	kW	55	2x 55	3x 55	2x 55	3x 55
press output (at input density of 80 kg/m³)	max. m³/h	170	255	295	280	345
press output (at input density of 150 kg/m³)	max. m³/h	145	225	270	235	300
press output (at input density of 200 kg/m³)	max. m³/h	135	205	245	220	275
press capacity (weight)						
• 80 kg/m³ e.g. alfalfa or grass	ca. t/h	14	20	24	22	27
• 150 kg/m³ e.g. RDF	ca. t/h	22	34	40	35	45
• 200 kg/m³ e.g. MSW	ca. t/h	27	41	49	44	55
baler weight (according to equipment)	ca. t	40			50	

Dimenssions in mm	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	R	S	T
HTR 425	9239	9459	5360	1750	808	8651	5100	4139	3010	6451	535	800	3835	1020	920	1100	3963	940	2200
HTR 700	9423	10211	5640	2000	908	9303	5205	4218	3290	6813	535	1080	4115	1020	920	1100	4908	940	2490

Special FEATURES of the new HTR two-ram baler:

- Multipurpose baler for compacting municipal solid waste (MSW), refuse derived fuel (RDF), recyclable material like plastic, carton, paper, etc. and agriculture material like alfalfa, grass, straw, etc. into high density bales
- Automatic binding with polyester straps incorporated on the telescopic tunnel
- Reduces operating cost: lower transportation (high bale density) and lower consumables (binding with polyester straps)
- Bales tied with polyester straps are ideal for incineration because plastic does not damage the incineration equipment as it is burned during the process
- Binding process is carried out during compaction process of next bale
- Easy operation by a new multi-functional 9” Touch-Panel with recipe management and comprehensive display of functions and data including data transfer

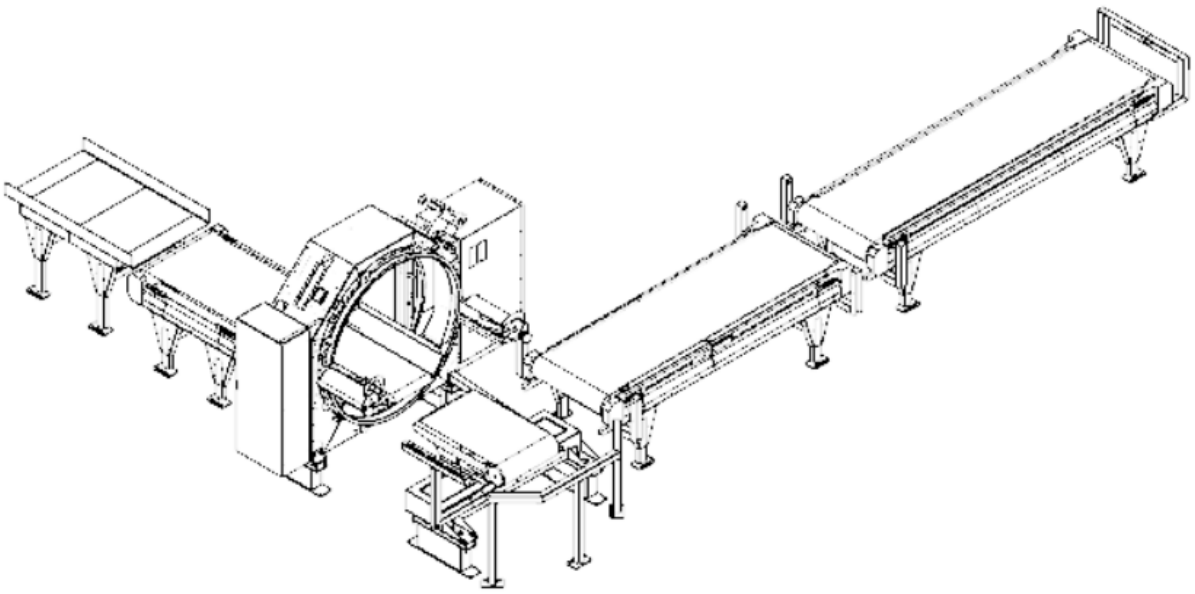


www.kadantpaal.com

Stand 12/16

CW 2200-SW-750-1-5 wrapping line

Front conveyor (L=1900 mm)	1 pc
Wrapping unit	1 pc
Rear conveyor (L=4900 mm)	1 pc
Standard safety fences	1 set
Remote access device for a 3G/4G/network cable/WLAN connection	1 pc
Hydraulic system	1 pc
Electric system	1 pc
Control system	1 pc
Oil cooler	1 pc
Operation manual in English	2 pc on paper, 1 CD



TECHNICAL INFORMATION

Features

Capacity

Wrapping cycle speed is ca. 60 seconds per bale

Baler	HTR 700
Bale dimensions	
Width:	1200 mm
Height:	1200 mm
Lengths (min-max):	1300 mm
Weight max:	2000 kg
Weight min:	400 kg
Baled material:	RDF/MSW

Wrapping film

Cross Wrap recommends stretch film 25 micron, width 750 mm, max Ø 240 mm, weight max 25 kg.

Wrapping process description

* The wrapping line recognises a bale when it is coming to the first conveyor after the baler.
* The wrapping line measures the length of the bales and starts wrapping them automatically.
* After wrapping, the wrapped bale waits for the next bale on the rotation table. When the new bale has reached a certain place, the wrapped bale moves forward to the store conveyor and the new bale is wrapped vertically at the same time. Wrapping film is transferred to the next bale automatically, no manual operations are needed.
* The automatic wrapping process is optimized so that extra film is only wrapped where strongest protection is needed. The number of layers can be modified.
* When the bale has been wrapped, it can be lifted from the store conveyor with a forklift equipped with a bale clamp.
* Wrapping cycle speed is approximately 60 seconds per bale when using 5 layers of film per bale (does not include film roll change or downtime).
* The machine is designed to handle bales consisting of waste material.
* If the shape of the waste bale is not optimal, the system needs an operator to control the wrapping process.

What's next.

BHS WORLD HEADQUARTERS | **Eugene, Oregon USA** | **866-688-2066** | **sales@bhsequip.eu** | bulkhandlingsystems.com

BHS EUROPE | **Amsterdam, The Netherlands** | **+31 (0) 20 58 220 30** | **info@bhsequip.eu** | bulkhandlingsystems.com

EXHIBIT 10

COMMENT LETTERS

From: Dianne Bolen
To: Strysky, Alexander (EEA)
Subject: Comment Re: EEA No. 15990
Date: Friday, April 2, 2021 7:11:32 AM

Alex Strysky ,

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
Alex Strysky - EEA No. 15990
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Secretary Theoharides;

This letter is to express opposition to a project proposed by Parallel Products of New England (PPNE), to construct and operate a glass recycling and dirty Materials Recovery Facility (MRF), as well as a Municipal Solid Waste (MSW) processing facility and biosolids plant in the New Bedford Business Park.

The reasons for this opposition include the following:
* Over 400 trucks a day will be traveling on residential roads and side streets through a densely populated neighborhood. Aside from the emissions concerns, the highway infrastructure granting access to and egress from these roads was not constructed to accommodate this volume and magnitude of traffic and are already rated at "F". Beyond the safety implications on these residents, we also expect back-ups, traffic hazards and undue wear, tear and damage to the roadways.
* The project brings increased environmental nuisances of noise and odors associated with the emissions from the 19 smoke stacks planned as part of the proposed construction and business operations. Further, the neighborhood and surrounding communities will be unwillingly exposed to chemical pollutants from organic and nonorganic waste, volatile organic compounds (VOCs) and (PFAS) associated with the operation.
* The nature of the project's activities as well as its planned 24/7 operation all but guarantees a significant disruption to and devaluation of the residents' quality of life.
* The project will negatively impact the property values in the surrounding neighborhood. Moreover, the proposed facility will be in very close proximity to a residential community.
* The proposed facility will place further burdens on and pose grave risks to New Bedford, a city already severely impacted by pollution. New Bedford has worked hard for years to remediate the environmental damage created by its industrial past.
* The proposed facility acts as a clear exploitation of an Environmental Justice Community.

* PPNE has a poor track record of being a "good neighbor" and has previously been caught dumping materials in a protected area on the site.
* PPNE claims that they will help solve the city's "waste problems," although they will be accepting waste from OTHER cities.
* PPNE surreptitiously calls their facility a "Green Energy Center" due to their proposed used of solar panels. However, they conveniently neglect to acknowledge the many aspects of the business that are everything but GREEN.
* The proposed facility is in direct contradiction to the goals of the Climate Action and Resilience Plan recently adopted by the City of New Bedford

For the health, safety, security, and well-being of the citizens of our communities, all elected and appointed officials and agencies in the Commonwealth of Massachusetts, should immediately take action to halt this proposed project in the City of New Bedford.

cc: Senator Mark Montigny
Senator Michael Rodrigues
Representative Paul Schmid, III
Representative Christopher Markey
Representative Christopher Hendricks
Representative Alan Silvia
Representative Antonio Cabral
Congressman William Keating
Mayor Jonathan Mitchell
Councilor Ian Abreau
Councilor Naomi Carney
Councilor Debora Coelho
Councilor Brian Gomes
Councilor Linda Morad
Councilor William Brad Markey
Councilor Maria Giesta
Councilor Hugh Dunn
Councilor Derek Baptiste
Councilor Scott Lima
Councilor Joseph Lopes
Damon Chaplin, Director of Health Department
Patricia L. Andrade, M.D., Board of Health
Sarah Morris, Board of Health
Dr. Craig Longo, Board of Health

The data contained in this letter can be found in the following sources:
FEIR: https://drive.google.com/file/d/1q9YBoOByzIIkWdAIRGwIoIIXSQ6zAQRU/view?usp=sharing
Letter from KP Law:
https://docs.google.com/document/d/1gcPH5mpM9scjY2nSgAuX27to7yoO-

TCbskXy9GBMcVc/edit?usp=sharing
Previous violation: http://s3.amazonaws.com/newbedford-ma/wp-content/uploads/sites/39/20191219202235/Parallel-Products-enf-ord-1.pdf
MOU with Brockton and Fall River: https://drive.google.com/file/d/10YtaJBpG_QAK_eYBGLmPaYniOtnD1xGT/view?usp=sharing
New Bedford Resilience Plan: https://kladashboard-clientsourcefiles.s3.amazonaws.com/New+Bedford/NB+Resilient+Plan+-+Final+3-20.pdf

Dianne Bolen
bolendianne@gmail.com
Midland Rd
SOMERSET, Massachusetts 02726

March 18, 2021

Secretary of Energy and Environmental Affairs
Attn: MEPA Office
EEA 15990
100 Cambridge Street
Suite 900
Boston, MA 02114

Dear Secretary Theoharides,

For over a decade, Parallel Products has operated on Shawmut Ave in New Bedford. They are a good company that has always strived to be a good community partner. They have always prioritized their relationship with their neighbors, and they have never received so much as a single complaint from them. Parallel Products is a recycling company, not a dump, not a polluter, not a massive industrial operation, but a recycling company that accepts seventy percent of the glass in the state and wants to expand operations in New Bedford.

For the past few years the Parallel Products team has dedicated hundreds of hours to the development of the South Coast Green Energy Center, the new facility located in the business park, which is buffered by trees and may utilizes a railroad to haul out materials to reduce traffic. Parallel Products has worked with local engineers, environmental scientists, and state regulators to conduct extensive studies to ensure the facility will meet and exceed all state, federal, and local regulations. Parallel is investing 50 million dollars into the South Coast Green Energy Center to ensure the nearby neighborhoods and surrounding environment are not impacted by in any way. After receiving many suggestions from neighbors at community meetings, Parallel incorporated many of them into the revised plans. One example is now 100 percent of the operations will be conducted in a fully enclosed facility.

Parallel Products has gone above and beyond to communicate with their neighbors. They have conducted multiple tours and open houses at the facility and four public meetings with their engineers to answer questions from the community. To show their transparency even further, Parallel took project information directly to the neighbors' doorsteps closest to their site in the business park and responded to every question and concern they received about the project.

Parallel is committed to being a good community partner and has a history of investing in the New Bedford community, and will continue to do so. This project can serve as an economic generator for a struggling community. It will create at least 75 new jobs, including laborers, mobile equipment operators, mechanics, supervisors, and administrative personnel, which will generate an additional $2.6 million dollars in wages to hourly workers. The project will also generate an estimated $1,000,000 in taxes per year to the city of New Bedford, which can help stimulate the economy and prevent budget cuts to necessary services, including stopping the reduction of funds to our local fire department. We strongly urge MEPA and the local New Bedford agencies to approve the Parallel Products South Coast Green Energy Center.

Sincerely,

To Whom It May Concern,

Parallel Products of New England wants to build a massive sewage and trash plant in the Business Park, next to a residential community. Sludge and municipal solid waste (MSW) from other cities would be delivered 24 hours/day, 7 days/week via industrial trucks, amounting to approximately 400+ trips per day. According to the Conservation Law Foundation, MSW can contain dangerous substances, such as volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), heavy metals, radioactive materials, and pharmaceuticals, and these sites affect water quality, air quality, produce smoke & dust, and create pest infestations.

Parallel is also planning to build a rail system through their property to accommodate shipments of more waste materials. The odors, noise, pests and increased traffic in an already congested area caused by this facility will negatively impact the value of properties and lives, posing an unacceptable risk and nuisance to the local residents and surrounding communities.

The City of New Bedford has long suffered from numerous hazardous waste sites and its residents have born a large brunt of the health impacts as a result. The city is already the 6th most overburdened town in the Commonwealth of Massachusetts with Ecological Hazards. For the safety, security, and well-being of the citizens of our communities, we oppose this project in our city. It's time to start prioritizing people and the planet over pollution and profits.

For the reasons listed above, please consider this letter my formal declaration of opposition to the project. The potential health hazards, damage to our already failing infrastructure and destruction of the wetlands that should be protected should be reason enough.

Thank you,

Name & Date: Gail Stone 3/20/21

Signature: Gail Stone

Address: 68 Richmond Rd.
Assonet, MA 02702

Additional Comments:

My family and I drive Rt 140 all the time and the increased traffic will negatively impact us all.

From: Ron Cabral

To: cstrupczewski@verizon.net; wallacetracy99@gmail.com; angelo89rossi@gmail.com; athenatetrault@yahoo.com; auracorr@aol.com; becca.kurie@gmail.com; bobladino@comcast.net; bookwithrosa@yahoo.com; bricketth@aol.com; bsmrc@aol.com; c.kelley3917@gmail.com; cah3156@yahoo.com; camaral1789@gmail.com; carolgorman3830@aol.com; cbostiguy@gmail.com; cfkennedy1956@gmail.com; cidaliamt@hotmail.com; davealves@hotmail.com; deannakelly07@comcast.net; debhop2397@aol.com; dletendre@middleboro.k12.ma.us; dmpeko@comcast.net; Donnamarie1960@comcast.net; dotdir@aol.com; eraposa68@gmail.com; fernandesrose83@yahoo.com; fmbelmiro@comcast.net; garyjsantos@msn.com; gborden83@comcast.net; gertie456@comcast.net; gmap5@aol.com; htavares1@comcast.net; hughcd33@gmail.com; ireneduprevgutierrez@gmail.com; izzyb7@comcast.net; Jacobandcolin@aol.com; jaimechris23@comcast.net; jdsnrs@comcast.net; jeanmotyl@hotmail.com; jpspickering@comcast.net; jrod11758@gmail.com; karen.a.chin@gmail.com; kennethrap@aol.com; kensouthcoast@gmail.com; kfg57@comcast.net; kqqllss@icloud.com; ks7585@aol.com; ldyred1@comcast.net; lenny.catojo@yahoo.com; leo1choquette@gmail.com; magenaguiar@yahoo.com; martinsward2@aol.com; medeirosstephen@yahoo.com; melissab8122@yahoo.com; melissacosta4NB@gmail.com; MIMIDACOSTA77@gmail.com; mjmchugh1@comcast.net; msc.barbosa91@gmail.com; niemczyk5282@gmail.com; nsbulhoes00@hotmail.com; ostiguyml@comcast.net; pattycake159@msn.com; piostiguy@gmail.com; prptaxservice@yahoo.com; regor100@comcast.net; ricof4@comcast.net; mperone1@verizon.net; cmiller@uumassaction.org; wendygraca@aol.com; rogercabral@comcast.net; bdbew@yahoo.com; claire@toxicsaction.org; margaretjohn1015@aol.com; clsouza@comcast.net; lpswib@comcast.net; lbtorres@comcast.net; ritabee37@comcast.net; ritalapre@gmail.com; ric1953@aol.com; RNR724@comcast.net; robert.schard@gmail.com; rocpix@yahoo.com; ronaldfortier13@gmail.com; s_koska@yahoo.com; sab.cndavis@gmail.com; samanthatripp90@gmail.com; sandrasylvia21@yahoo.com; sanribs@comcast.net; shelley0228@aol.com; snoogan1187@hotmail.com; spenacho@msn.com; stack419@gmail.com; tenacioussm@comcast.net; thwynne@verizon.net; wendyandrelaw@gmail.com; ldakin@comcast.net; wlima881@comcast.net; mulroyr@gmail.com

Cc: zzzBuckley, Deirdre (EEA); Wixon, Josephine (EEA); Canaday, Anne (EEA); Patel, Purvi (EEA); Czepiga, Page (EEA); Strysky, Alexander (EEA); Flaherty, Erin (EEA); MEPA (EEA); Ian.Abreu@newbedford-ma.gov; Naomi.Carney@newbedford-ma.gov; Debora.Coelho@newbedford-ma.gov; Hugh.Dunn@newbedford-ma.gov; Maria.Giesta@newbedford-ma.gov; Brian.Gomes@newbedford-ma.gov; Scott.Lima@newbedford-ma.gov; Joseph.Lopes@newbedford-ma.gov; Brad.Markey@newbedford-ma.gov; Linda.Morad@newbedford-ma.gov; Dana.Rebeiro@newbedford-ma.gov; mrego@newbedfordschools.org; Jonathan.Mitchell@newbedford-ma.gov; Superintendent@newbedfordschools.org; cdawicki@newbedfordschools.org; brucejoliveira@newbedfordschools.org; jlivramento@newbedfordschools.org; ccotter1125@me.com; joshdamaral@gmail.com; joliveira@newbedfordschools.org; Antonio.Cabral@mahouse.gov; Chris.Hendricks@mahouse.gov; Christopher.Markey@mahouse.gov; Paul.Schmid@mahouse.gov; William.Straus@mahouse.gov; Michael.Moynihan@masenate.gov; Mark.Montigny@masenate.gov; jspillane@s-t.com

Subject: Re: Invitation to New Bedford Community Forum Re: Parallel Products Project updates

Date: Saturday, March 6, 2021 11:41:29 AM

Hi Carol,

I hear you, same here especially with my neuropathy in my feet, hands, and yes problems with my spine especially the problem I incurred with my leg after spine surgery.

Hopefully there are some younger folks who will give Mike a Hand as we have to fight Parallel, and those in certain positions that might be friends with certain ones at Parallel..

Yesterday attempting to drive out of Briarwood seeing the school buses coming off of the exit 7 ramp onto Braley road I could not help but think, God Forbid a 18 wheeler coming down the ramp brakes all of a sudden are not working rear ends into a school bus, that school bus

rear ends into another school bus in front of it.

That school bus rear ends into a vehicle in front of it, bad accident, bad scene, school children injured, other injuries in the vehicles all because of a 18 wheeler bringing garbage, waste to Parallel from other cities or states.

I say this because it could happen, the ones to blame would be those who approved the permits, those in office in the City and State giving the go ahead for Parallel to operate bringing rodents, and smell to the local neighborhood, a neighborhood that pays high taxes.

Our City should not have voted for a Mayor to serve 4 years, our city residents should stand up and do something about the Mayor being appointed for 4 years, our City should do something about our City and State officials when it comes voting time, sadly people forget.

Can you imagine Carol this E-mail being sent to all the individuals listed if they would do something, all got together and voiced their opinion.

Can you imagine Parallel getting rail tracks into their property free of charge thanks to the State yet the City won't build a second entrance to the Pulaski School. What is wrong with this picture?

There is no Traffic enforcement at the Pulaski School on Braley Road, vehicles parked illegally, drivers not obeying the NO PARKING SIGNS. What is wrong with this picture.

Promises were made by certain City Officials that this was going to be taken care of signs would be installed, Traffic enforcement would be done, OH yes it was Election Time back then. OH yes it is Election Time this year.

Ron R. Cabral

-----Original Message-----
From: cstrupczewski@verizon.net

To: rrcrt@aol.com;
Sent: Sat, Mar 6, 2021 10:30 am
Subject: Re: Invitation to New Bedford Community Forum Re: Parallel Products Project updates

Thanks Ron for sharing this info. Sorry but I can no longer go door-to-door as I once did because of my bad knees and hips. It would be nice if others younger in the group could help Mike.

From: Ron Cabral

To: cstrupczewski@verizon.net; Brad.Markey@newbedford-ma.gov; Jamie.Ponte@newbedford-ma.gov; Damon.Chaplin@newbedford-ma.gov

Cc: wallacetracy99@gmail.com; angelo89rossi@gmail.com; athenatetrault@yahoo.com; auracorr@aol.com; becca.kurie@gmail.com; bobladino@comcast.net; bookwithrosa@yahoo.com; bricketth@aol.com; bsmrc@aol.com; c.kelley3917@gmail.com; cah3156@yahoo.com; camaral1789@gmail.com; carolgorman3830@aol.com; cbostiguy@gmail.com; cfkennedy1956@gmail.com; cidaliamt@hotmail.com; davealves@hotmail.com; deannakelly07@comcast.net; debhop2397@aol.com; dletendre@middleboro.k12.ma.us; dmpeko@comcast.net; Donnamarie1960@comcast.net; dotdir@aol.com; eraposa68@gmail.com; fernandesrose83@yahoo.com; fmbelmiro@comcast.net; garyjsantos@msn.com; gborden83@comcast.net; gertie456@comcast.net; gmap5@aol.com; htavares1@comcast.net; hughcd33@gmail.com; ireneduprey gutierrez@gmail.com; izzyb7@comcast.net; Jacobandcolin@aol.com; jaimechris23@comcast.net; jdsnrs@comcast.net; jeanmotyl@hotmail.com; Jmarques1980@yahoo.com; jpspickering@comcast.net; jrod11758@gmail.com; karen.a.chin@gmail.com; kennethrap@aol.com; kensouthcoast@gmail.com; kfg57@comcast.net; kqqllss@icloud.com; ks7585@aol.com; ldyred1@comcast.net; lenny.catojo@yahoo.com; leo1choquette@gmail.com; magenaguiar@yahoo.com; martinsward2@aol.com; medeirosstephen@yahoo.com; melissab8122@yahoo.com; melissacosta4NB@gmail.com; MIMIDACOSTA77@gmail.com; mimchugh1@comcast.net; msc.barbosa91@gmail.com; nfeeney123@gmail.com; niemczyk5282@gmail.com; nsbulhoes00@hotmail.com; ostiguyml@comcast.net; pattycake159@msn.com; piostiguy@gmail.com; prptaxservice@yahoo.com; regor100@comcast.net; ricardorosa1973@yahoo.com; ricof4@comcast.net; mperone1@verizon.net; cmiller@uumassaction.org; wendygraca@aol.com; rogercabral@comcast.net; bdbew@yahoo.com; claire@toxicsaction.org; margaretjohn1015@aol.com; clsouza@comcast.net; lpswib@comcast.net; lbtorres@comcast.net; ritabee37@comcast.net; ritalapre@gmail.com; ric1953@aol.com; RNR724@comcast.net; robert.schard@gmail.com; rocpix@yahoo.com; ronaldfortier13@gmail.com; s_koska@yahoo.com; sab.cndavis@gmail.com; samanthatripp90@gmail.com; sandrasylvia21@yahoo.com; sanribs@comcast.net; shelley0228@aol.com; snoogan1187@hotmail.com; spenacho@msn.com; stack419@gmail.com; tenacioussm@comcast.net; thwynne@verizon.net; wendyandrelaw@gmail.com; ldakin@comcast.net; wlima881@comcast.net; mulroyr@gmail.com; marlenepollock929@gmail.com; Ian.Abreu@newbedford-ma.gov; Naomi.Carney@newbedford-ma.gov; Debora.Coelho@newbedford-ma.gov; Hugh.Dunn@newbedford-ma.gov; Maria.Giesta@newbedford-ma.gov; Brian.Gomes@newbedford-ma.gov; Scott.Lima@newbedford-ma.gov; Joseph.Lopes@newbedford-ma.gov; Linda.Morad@newbedford-ma.gov; Dana.Rebeiro@newbedford-ma.gov; mrego@newbedfordschools.org; Jonathan.Mitchell@newbedford-ma.gov; Antonio.Cabral@mahouse.gov; Chris.Hendricks@mahouse.gov; Christopher.Markey@mahouse.gov; Paul.Schmid@mahouse.gov; William.Straus@mahouse.gov; Michael.Moynihan@masenate.gov; Mark.Montigny@masenate.gov; jspillane@s-t.com; zzzBuckley, Deirdre (EEA); Wixon, Josephine (EEA); Canaday, Anne (EEA); Patel, Purvi (EEA); Czepiga, Page (EEA); Strysky, Alexander (EEA); Flaherty, Erin (EEA); MEPA (EEA)

Subject: Re: Water Meeting ~ Parallel ~ Pumping Station ~ The Zoning Board of Appeals

Date: Friday, February 26, 2021 4:30:33 PM

Carol mentions, "If our faucets are being clogged because of the chemicals inserted into the water purification systems then everyone else in the city of New Bedford their faucets will be getting just as clogged as our faucets and running slowly."

If the chemicals are being inserted into the water purification system and it is the cause of our faucets being clogged.

WHAT ARE THE CHEMICALS CAUSING TO OUR BODIES????

IS IT POSSIBLE THAT THE CHEMICALS COULD CAUSE CANCER IN OUR BODIES, CAN THESE CHEMICALS BE CAUSING OTHER MEDICAL ISSUES IN OUR BODIES?

I AM SURE IT MAY BE SAFE BUTTT?

THIS NEEDS TO BE ADDRESSED
by Jamie Ponte and Damon Chaplin

The City Needs another Pumping Station here in the Far North End, What is not Needed is another STUDY, Another Excuse. Seems that the City of New Bedford is throwing the Far North End Residents Under the Bus, and we pay High Taxes here in the Far North End, the City needs to get off of their Butts.

Between the Chemicals in our WATER, (it is scary) and RODENTS that could possibly, and eventually come from PARALLEL to our neighborhoods, it is a concern, the Citizen's in our area need to be addressed by the City and Parallel.

IF RODENTS DID COME INTO OUR NEIGHBORHOODS COULD THEY BE CARRYING DISEASES?
Parallel needs to address what they would be doing in preventing RODENTS coming into our Neighborhoods.

The City and State needs to explain what they would be doing in preventing RODENTS from coming into our Neighborhoods.

Parallel will be getting a Railroad Line Spur into their Back Yard, why can't the Residents of Pine Hill Acres, and Briarwood get Sidewalks and Curbing, why can't the Pulaski School have a Second Entrance, why can't we have another Pumping Station here in the Far North End?

Just this morning getting out of Briarwood was a hassle because of the traffic, plus I am now seeing more 18 wheelers coming off route 140 Exit 7, going into the Industrial Park as well as 18 Wheelers coming out of the Industrial Park.

I realize they are not all coming from Parallel or going to Parallel right now, but wait in another year or two and see what the *traffic* situation of 18 wheelers will be coming off of EXIT 7.

This E-mail is going out to over 100 City Residents, we need more names, the City needs to replace the members on certain City Boards who will listen to the

People of our City, and who will have their hearts for the City Residents, and Realize how Parallel will be affecting the Residents of the area.

The Zoning Board of Appeals denied a resident's appeal for the city's planning board to revisit its approval of Parallel Products site expansion. The Zoning Board of Appeals should schedule another hearing, the Mayor and City Council who supposedly are against Parallel should request another Hearing, and it should be done Quickly, Correctly, and Honestly.

Hats off to City Councilors Linda Morad, Brad Markey, Naomi Carney, Maria Giesta and State Rep. Paul Schmid. Where were the other City Councilors, the Mayor, and our State Elected Officials, Guess they all must be with Charlie on the Boston MTA beneath the Streets of Boston.

Clerk Stephen Brown and Bob Schilling of the Zoning Board of Appeals were the two "yes" votes to send the approval back to the planning board for review. Chair Laura Parrish, Vice Chair Celeste Paleologos and Allen Decker of the Zoning Board of Appeals voted "no" and denied the appeal.

Mr. Mayor there needs to be a change with members of your boards, you should get involved with the Citizens Against Parallel.

Respectfully,

Ron R. Cabral
Briarwood Resident
New Bedford, MA

-----Original Message-----
From: cstrupczewski@verizon.net
To: Brad.Markey@newbedford-ma.gov <Brad.Markey@newbedford-ma.gov>
Cc: RRCRT@aol.com <RRCRT@aol.com>; lbtorres@comcast.net <lbtorres@comcast.net>; lpswib@comcast.net <lpswib@comcast.net>; karen.a.chin@gmail.com <karen.a.chin@gmail.com>
Sent: Fri, Feb 26, 2021 8:20 am
Subject: Re: Water meeting.

Good morning Brad.

February 18,2021

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs
Attn. MEPA Office
~~Alex Strysky~~ EEA 15990
100 Cambridge St., suite 900
Boston, Ma.02114

Parallel Products of New England, LLC
FEIR EEA 15990, Jan. 24, 2021

To regulating agencies,

My wife and I are residences of a home since 1966 that is within 1000' of this proposed Municipal Solid Waste processing, glass classification, and sewage sludge drying plant. I have previously filed comments in opposition on 3-18-19, 12-3-19, 12-18-19 and 1-15-20, and offer additional comments on this pariah; an unneeded and nuisance facility, at this inappropriate residential location, adjacent to a stable, mainly single family community that is a harm and insult to its residences; also a trespass to the quality of life, character and environment of New Bedford.

Webster's dictionary says, fittingly, that Pariah is an outcast or reject. The proposed facility is just plain ethically wrong; usurping the sovereignty of the citizens of New Bedford to control and protect the development of their city without an attendant benefit.

The owner of the property, U.S. Liquids of Houston, Texas through its Subsidiary Parallel Products of Louisville, Kentucky and Parallel Products, LLC of New England was not invited by New Bedford. They acquired a portion of the property previously owned by Polaroid Corporation, now bankrupt. They initially proposed to expand their existing glass classification plant and relocate it to this property. Shortly afterward we learned their plans through PPL's filing of and Expanded Environmental Notification Form in March of 2019, which now outlined a much expanded scope for this site that included; reprocessing MSW to capture the recyclables and plastic, drying sewage sludge to be sold for land application of agriculture; and, to accept these waste streams from outside the area from unnamed sources and locations, and to then rail or truck them offsite. DUH?? Surprise!! The proposed facility has now become a regional waste processor. Nice Neighbor!

The city of New Bedford has no plans to utilize this proposed now regional facility, as both the MSW and sewage sludge is land-filled locally. It appears that the business plan of PPL is based on the expectation that other cities have, or will run out of options to dispose their waste streams; enabling them to charge ever higher tipping fees; and by processing these waste streams, PPL will be responsible to ultimately also dispose them to an unnamed out of State location.

Seems to me that there are too many unknowns or undisclosed information that is not part of the FEIR. PPL in addition to becoming a processor of waste now has the responsibility of disposing which is the same problem that other waste producers have, since they are not disposing any received waste streams at their site, and must locate licensed disposal locations to accept their non-sellable wastes. Of course the residue and emissions of the processing operations, some of which are toxic, are left on the site, able to enter the sewer, air and wetlands of our residential community.

If 75 people will work at the plant in around the clock operations, at a maximum that is less than $0.5M in taxes to the city, assuming that they all own houses in the city; a small benefit. BAD DEAL for the citizens of New Bedford!

ENVIRONMENTAL

Many of the environmental impacts that were assessed are incomplete, not defined or not meeting the requirements:

First, the most important criteria, setback from residences has been subverted: 310CMR16.40 requires 500 feet. To date the owner and the reviewing agencies have not documented a property boundary of their site to the property boundary to the adjacent residences as evidence in their filings of meeting this requirement. When this criteria is applied it is clear that about 2 dozen houses are within the 500' setback violation. As I have every right to utilize all the area on my property, so does PPL. Why should it matter where upon the site the activity takes place. The setback requirement is the only environmental restraint that is factual, not subject to estimates, assumptions and calculations. It is easily confirmed by maps and or surveys, which have not been demonstrated in any of the documents submitted for review.

Second, I have not seen a requirement imposed on the unnamed suppliers of the waste streams that specify what will or will not be accepted. Will PPL accept any and all of it? If not, will any inspections be done before it is discharged into the processing facility? And how can you predict or calculate what the output waste and nuisance streams will be? And how can you be in compliance with the environmental requirements should egregious toxic PFAS or industrial wastes be mixed in with the expected waste streams supplied?

Third, concerning this same issue, are the nuisance residual unprocessed waste streams and emissions produced at the site, going to be continuously monitored at the adjacent residences to insure compliance? With enforcement provisions to allow stoppage of processing operations upon non compliance until the occurrence has been remedied that caused it?

Fourth, consider odor; a very subjective offensive characteristic which is always present with decaying organic and sewage waste. The longer it decays, the stronger the offensive gaseous odor. The analysis of the gaseous emissions from the sewage sludge drying operation, is based on an assumed ratio of atmospheric air that will dilute what is emitted from the stacks to produce a reduction of the perception of odor at the nearby residences. However, the proposed elevation of 120' for the top of the stacks of the waste sludge drying building is about the same elevation as the first floor of the adjacent residences on the east. In other words the site is located in a bowl. It is questionable that these emissions will achieve the assumed dilution effect as the stack discharge elevation is not high enough to promote good mixing with the atmosphere, thereby compromising the expected results. Predominately stronger south to west winds in the summer months will drive these emissions with potential offensive odors toward the residences downstream on the northeast and east only a few hundred feet from the site when people are enjoying their patios, barbecues, decks and pools.

Fifth, also consider that PPL has no other sewage sludge waste drying facility in operation at their other locations. How confident can we be of the ability of this proposed facility to meet the requirements imposed upon it? Is it likely that PPL will sell or lease that portion of the project to another company to operate and mange? If so, to whom does the City or State appeal when the plant fails to perform as anticipated? And who has the responsibility to insure financially, that the City of New Bedford is not left with a vacant mess to clean up, if the project fails to meet requirements or proves to be uneconomic and operation is abandoned?

New Bedford does have the unfortunate remembrance of these very issues. Witness the PCB contamination of the harbor and the toxic waste dump, now a solar farm, at Sullivan's ledge from industries that no longer operate.

POLITICAL AND LEGAL

Beyond the environmental criteria that is being analyzed in the FEIR, there are political and legal issues that must be considered. The people are sovereign entities given inalienable rights by their Creator of life, liberty and pursuit of happiness---and that governments are established to protect those rights. One of those rights in the U.S. Constitution is to petition the government for a redress of grievances. Also the Massachusetts Constitution in Articles IV and V says that the people have the sovereign right to govern themselves....the power resides in the people who authorize the legislative, executive and Judicial magistrates as substitute agents which are accountable to the people at all times. And Article VII says that Government is instituted for the common good of the people, not the private interests of any one man, family or class.

Therefore it is obvious that the peoples' rights, in the case of this proposed waste processing facility in a residential neighborhood, has not been served or protected; nor has the common good been demonstrated. Instead, the private entrepreneurial interest of a powerful corporation seeks to override the existing tranquility of the social compact and covenant that the citizens of New Bedford now have, and will be adversely affected by this proposed waste processing facility. As previously expressed by our Mayor Jon Mitchell, and by hundreds of residences in the area affected, we resolve to pursue our rights to prevent any further development leading to licensing, construction and operation of this proposed waste processing facility on Environmental, Political and Legal grounds.

We admonish. the EEA, as an arm of the Executive branch of Massachusetts, to prevent all further advancement of the licensing of this plant subject to an entirely new proposal from the petitioner that satisfy' s the common good, preserves and protects the tranquility and safety of the sovereign people of New Bedford.

Finally, consider the gravity and impact of a decision to allow a nuisance waste processing facility, adjacent to a multi-hundred residential community, located in a swampy wetland to proceed. Long after the elected officials, the appointed administrators and the company executives move on, our community and their occupants will receive the legacy of a regrettable folly. It can and should be avoided by farsighted and courageous leaders who value people's rights over profit.

By copy of this letter, we address our concerns to our Mayor, City Council and Legislators with the request to initiate the necessary action on their part to protect our community from this pariah project and pledge our cooperation in every way we are able.

Longtime New Bedford residents,

Robert H. and Judith B. Ladino

Robert H. and Judith B. Ladino; bobladino@comcast.net

cc; Mayor Jon Mitchell, City hall, 133 William St., New Bedford, Ma.02740
Brad Markey Ward 1 Councilor, " "
Joseph P. Lopes, Chairman, New Bedford City Council " "
Mark Montigny, State Senate, 2nd district, 24 Beacon St. Rm. 312c, Boston , Ma 02133
Paul Schmidt, State Representative 8th district, 24 Beacon St.,Boston, Ma.02133
Tracy Wallace, SCNU, CAPPP COMMITTEE 75 Stephanie Place, New Bedford, Ma. 02745

From: Sherry Hanlon
To: Strysky, Alexander (EEA)
Subject: Comment Re: EEA No. 15990
Date: Monday, March 8, 2021 7:43:41 PM

Alex Strysky ,

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
Alex Strysky - EEA No. 15990
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Secretary Theoharides;

I stand with community members in opposition to a project proposed by Parallel Products of New England (PPNE), to construct and operate a glass recycling and dirty Materials Recovery Facility (MRF), as well as a Municipal Solid Waste (MSW) processing facility and biosolids plant in the New Bedford Business Park.

The reasons for our opposition include the following:
• 400+ trucks a day will be traveling on residential roads through an already congested area. The highway interchanges onto these roads were not constructed to handle this volume of traffic and are already rated F. We expect back-ups, traffic hazards and further damage to the roadways.
• The increased environmental nuisances of noise and odors associated with the emissions from the proposed business operations. We will be exposed to chemical pollutants from waste, volatile organic compounds and PFAS associated with the operation.
• A disruption to our quality of life from the planned 24/7 hours and nature of the operations.
• The negative impact on our property values. The proposed facility will be in very close proximity to a residential neighborhood.
• The proposed facility will place further burden on a city already impacted by pollution. New Bedford has been working for years to remediate the environmental damage created in its industrial past.
• The proposed facility is clearly an exploitation of an environmental justice community.
• PPNE has a poor track record of being a “good neighbor” and already has been caught dumping materials in a protected area on the site.
• PPNE is claiming that they are helping to solve the city’s “waste problems” although they will be accepting waste from OTHER cities.
• PPNE is falsely calling their facility a “Green Energy Center” because they will have solar

panels. They conveniently neglect to acknowledge the many aspects of the business that are everything but GREEN.
• The proposed facility is in direct contradiction to the goals of the Climate Action and Resilience Plan recently adopted by the City of New Bedford

For the health, safety, security, and well-being of the citizens of our communities, we ask all elected and appointed officials and agencies in the Commonwealth of Massachusetts, to immediately take action to stop this project proposed for the City of New Bedford.

Sherry Hanlon
sch@hanlonlawoffice.com
9 Madison St
Taunton, Massachusetts 02780

From: Robert Michael Pittsley
To: Strysky, Alexander (EEA)
Subject: Comment Re: EEA No. 15990
Date: Wednesday, March 10, 2021 10:51:07 PM

Alex Strysky ,

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
Alex Strysky - EEA No. 15990
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Secretary Theoharides;

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For the health, safety, security, and well-being of the citizens of our communities, we ask all elected and appointed officials and agencies in the Commonwealth of Massachusetts, to immediately take action to stop this project proposed for the City of New Bedford.

Robert Michael Pittsley
rpittsley6@gmail.com
56 Norfolk Street
Cambridge, Massachusetts 02139

From: Diane Fine
To: Strysky, Alexander (EEA)
Subject: Comment Re: EEA No. 15990
Date: Thursday, March 11, 2021 7:23:33 AM

Alex Strysky ,

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
Alex Strysky - EEA No. 15990
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Secretary Theoharides;

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panels. They conveniently neglect to acknowledge the many aspects of the business that are everything but GREEN.
• The proposed facility is in direct contradiction to the goals of the Climate Action and Resilience Plan recently adopted by the City of New Bedford

For the health, safety, security, and well-being of the citizens of our communities, we ask all elected and appointed officials and agencies in the Commonwealth of Massachusetts, to immediately take action to stop this project proposed for the City of New Bedford.

Diane Fine
d1028@verizon.net
31 frances dr
Stoughton, Massachusetts 02072

From: Sabine von Mering
To: Strysky, Alexander (EEA)
Subject: Comment Re: EEA No. 15990
Date: Thursday, March 11, 2021 7:11:05 AM

Alex Strysky ,

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
Alex Strysky - EEA No. 15990
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Secretary Theoharides;

I stand with community members in opposition to a project proposed by Parallel Products of New England (PPNE), to construct and operate a glass recycling and dirty Materials Recovery Facility (MRF), as well as a Municipal Solid Waste (MSW) processing facility and biosolids plant in the New Bedford Business Park.

The reasons for our opposition include the following:
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panels. They conveniently neglect to acknowledge the many aspects of the business that are everything but GREEN.
• The proposed facility is in direct contradiction to the goals of the Climate Action and Resilience Plan recently adopted by the City of New Bedford

For the health, safety, security, and well-being of the citizens of our communities, we ask all elected and appointed officials and agencies in the Commonwealth of Massachusetts, to immediately take action to stop this project proposed for the City of New Bedford.

Sabine von Mering
sabine.vonmering@gmail.com
6 Melville Place
Wayland, Massachusetts 01778

From: Czepiga, Page (EEA) on behalf of MEPA (EEA)
To: Strysky, Alexander (EEA)
Subject: Fw: Attn: MEPA Office Alex Strysky - EEA No. 15990 - questions regarding
Date: Friday, March 12, 2021 2:44:56 PM

From: John Dufresne <johnvdufresne@gmail.com>
Sent: Friday, March 12, 2021 9:20 AM
To: MEPA (EEA) <mepa@mass.gov>
Subject: Attn: MEPA Office Alex Strysky - EEA No. 15990 - questions regarding

Can you explain where the products of this facility are stored, sent and delivered?

Is it safe for the air and water quality of the citizens of New Bedford and the area around it?

Is there a report by experts that confirms that the proposed facility will not harm the air and water quality of the citizens of New Bedford and the area around it - by comparison with this type of facility somewhere else in the United States?

Is this report accessible to the public? If so, then where can I obtain this?

Thank you very much! Stay safe!
John Dufresne
42 Malbone Street
Lakeville, MA 02347

From: Czepiga, Page (EEA) on behalf of MEPA (EEA)
To: Strysky, Alexander (EEA)
Subject: Fw: Attn: MEPA Office Alex Strysky - EEA No. 15990 - Questions regarding
Date: Friday, March 12, 2021 2:44:14 PM

From: John Dufresne <johnvdufresne@gmail.com>
Sent: Friday, March 12, 2021 9:12 AM
To: MEPA (EEA) <mepa@mass.gov>
Subject: Attn: MEPA Office Alex Strysky - EEA No. 15990 - Questions regarding

Dear Secretary Theoharides; This letter is to express opposition to a project proposed by Parallel Products of New England (PPNE), to construct and operate a glass recycling and dirty Materials Recovery Facility (MRF), as well as a Municipal Solid Waste (MSW) processing facility and biosolids plant in the New Bedford Business Park.

Can you please explain how the processing of dirty Materials Recovery Facility (MRF) is an expansion of Parallel Products sustainability industry, the ethanol industry and in green energy production?

What in this proposed facility is making sustainable green energy products from the dirty materials?

Thank you very much! Stay safe!
John Dufresne
42 Malbone Street
Lakeville, MA 02347

The Commonwealth of Massachusetts
MASSACHUSETTS HOUSE OF REPRESENTATIVES
STATE HOUSE BOSTON, MA 02133

REPRESENTATIVE PAUL A SCHMID III
8th Bristol District
State House, Room 466
Boston, MA 02133

Jt. Committee on Ways and Means
Tel: 617-722-2017
Paul.Schmid@mahouse.gov

Vice-Chair, Jt. Committee on Cannabis Policy
House Committee on Ways and Means
Jt. Committee on Public Health
Jt. Committee on State Administration and Regulatory Oversight

Secretary Kathleen Theoharides
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114
**sent via electronic mail only*

March 17, 2020

Dear Secretary Theoharides,

I write to you today regarding Parallel Products' (100 Duchaine Boulevard, New Bedford, 02745) Final Environmental Impact Report (FEIR) with the Massachusetts Environmental Policy Act Office (MEPA).

Residents in the area contact my office consistently, concerned for the negative impact this facility may have on their neighborhood and daily lives. Throughout this entire process our office has not seen a change in public attitude and many concerns remain sufficiently unaddressed.

Concerns such as increased traffic and roadway congestion, as well as unpleasant odor or noise pale in comparison to the fear of depreciated home values. For many, their home is their primary asset and the prospect of home values decreasing, even minimally, has caused many to question their financial future in this difficult economic climate.

It is clear to my office, the community does not wish for this project to continue for, at this point, we are not equipped to understand what if any, affects operations may have on residents. For this reason, I do not support the expansion of Parallel Products at present.

If you have any additional question, please do not hesitate to contact my office.

Sincerely,

Paul Schmid

PAUL SCHMID
State Representative
8th Bristol

alexander.strysky@mass.gov

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
Alex Strysky - EEA No. 15990
100 Cambridge Street,

EEA No. 15990

Once again I am writing requesting the that your agency DENY the approval of Parallel Product of New England located in New Bedford, Massachusetts 02745 request to have Phase 2 granted. There are a number of reasons for my objections:

- Parallel is located close to a hundreds of residential homes, more than 200 in Pine Hill and at least 12 homes bordering its own property with just a split rail fence and bales of hay separating Parallel's land from those 12 homeowners land.
- Parallel is operating 24/7 daily and noise is occurring throughout the evening—see attached video from a homeowner's home on Ridgeline in Pine Hill after 11 p.m.
- Truck will be transporting raw materials to Parallel throughout the day and perhaps the evening via highways as well as, possible city streets. What happens if there is an accident and the raw materials spills onto the streets impacting homeowners' property and public lands? Who will be responsible for the major cleanup?
- Parallel is surrounded by wetlands. Again, what impact will occur on the wetlands if an accident(s) happen(s)?
- Parallel is planning on having side trail tracks put in from the main rail line to their facility. Again, what happens if the rail cars turn over and spills materials into the wetlands?
- Will the rail cars be bringing in raw materials to be processed and from where?
- Will, seeing that the company is operating 24/7, these rail cars be filled during the evening or wee hours of the morning? Presently, Parallel Products is making loud noise with trucks backing up after 11 p.m. Right now it is still the winter season and windows are closed so what will it be like in the summertime when windows are open? Remember, there are about 12 houses bordering Parallel's land with just a split rail fence and bales of hay.
- It is predicted that there will be approximately 90 trucks entering and exiting the company many of which are coming from who knows where. There are hundreds of children going to Pine Hill Park located on Phillips Road a route that some of these trucks might use—disaster waiting to occur!
- Not far from Pine Hill which is a big development within visual view of Parallel Products, there are two other large housing communities off of Phillips Road, a condo unit, and apartment complexes. There are thousands of people living in close proximity to this company. Parallel is NOT located in the inner part of the business park.
- Parallel proposes erecting, I believe, 19 stacks 70 feet high for, I believe, the processing of bio-solids. What toxins will be emitted into the air from this process? How will that impact our air quality? What testing will be done and when?

- Water use and sewage from the processing of materials. Presently, we residents, in the Far North End of New Bedford where Parallel is located, are experiencing extremely low water pressure which happened during this summer when the company, in my opinion, began full operations here. How much water is the company consuming? How will this impact the pressure in the fire hydrants? There are thousands of homes in this section of the city as well as two nursing homes, a hospital, and two elementary schools all from the Phillips Road north to the Freetown line.
- What impact will the processing of the raw materials from municipal wastewater sludge and other raw materials have on the New Bedford's sewage system and the sewage treatment plant located in the South End of the city? This is a nightmare waiting to happen!

There are many unanswered questions and potential accidents waiting to happen that will impact thousands of residents' lives as well as the environment. Here in New Bedford, we have had and are still cleaning up past environmental contamination such as Sullivan's Ledge, the New Bedford Harbor, Parker Street Waste Site, former Goodyear, etc. Let's not add Parallel Products to the list. Please do not grant the company the permission to move ahead with Phase 2.

Carol Strupczewski
1075 Braley Road
New Bedford, MA 02745

From: Andrea Stone
To: Strysky, Alexander (EEA)
Subject: MEPA Office- EEA No. 15990
Date: Thursday, March 18, 2021 8:28:31 PM

Dear Alex Strysky,

I am writing this email in opposition to a project proposed by Parallel Products of New England, to construct a facility in the New Bedford Business Park one mile from my home. I'm sure you've received emails and calls from people such as myself-- individuals worried about how this enormous facility is going to affect us and our families personally. I just want to start by saying despite COVID and the daily struggles we've all endured, it has been one of the best years of my life. I had my first child, and get to raise him around Sassaquin Pond as I've always dreamt of. I'm not sure if you are aware of Sassaquin Pond and the tiny, yet spirited community we have built over the years. It might just be a dot on a map to you, but to many of us it's special.

Question #1: What research has been done (and if so, what were the results) to determine the effects that municipal solid waste (MSW- that can contain dangerous substances, such as volatile organic compounds, polychlorinated biphenyls, heavy metals, radioactive materials, and pharmaceuticals) will have on Sassaquin Pond, located one mile from this proposed site? The New Bedford Environmental Affairs Committee gave Sassaquin Pond a Sensitive Environmental Area Designation back in 2012 to try and protect the water quality of the pond.

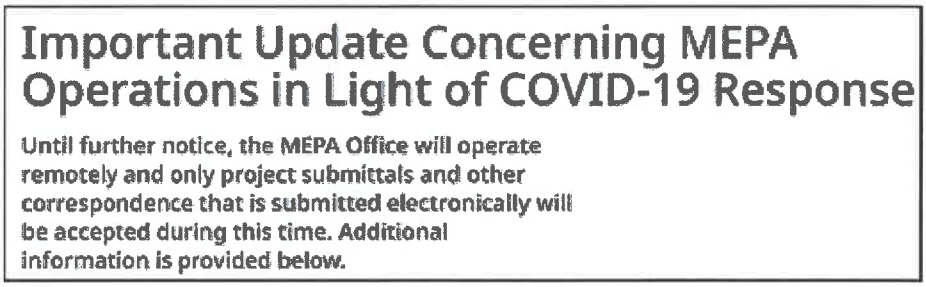
Question #2: Does MEPA have to consider protected lands, wetlands, and designated sensitive areas when making the ultimate decision on whether to approve this proposed project?

My third question is, how would you feel if 19 smoke stacks spewing out chemical pollutants was 0.8 miles from your child's elementary school? Casimir Pulaski Elementary School is 0.8 miles from the business park. I'd really like to know how/why a project such as this is allowed to take place in residential areas, near daycares, near an elementary school?

Question #4, What research has been done to prove that these pollutants will not enter the HVAC systems of Casimir Pulaski Elementary School, located less than one mile from this proposed facility? Additionally, in an article produced by the EPA on www.epa.gov the article titled "Report: EPA Unable to Assess the Impact of Hundreds of Unregulated Pollutants in Land-Applied Biosolids on Human Health and the Environment", Report # 19-P-0002, the author states, "The EPA identified 352 pollutants in biosolids but cannot yet consider these pollutants for further regulation due to either a lack of data or risk assessment tools. Pollutants found in biosolids can include pharmaceuticals, steroids, and flame retardants" (2018). So the pollutants ARE there, but because of a lack of data, we are just supposed to deal with it?

Question #5: How can a project such as this be approved when the roadways in the City of New Bedford are already rated an "F"?

Question #6: How can this project get pushed through different phases during a global pandemic? The mailings we received were nondescript and vague, definitely not something your average citizen would understand. We were also supposed to attend in-person meetings to voice our opinions? This entire process has felt predatory and lacking any sort of due-diligence. So, while the MEPA office is working from home, we are supposed to expose ourselves to gain information? How are the citizens supposed to effectively organize our efforts to spread knowledge about this facility when people are afraid to leave their homes?



Now, moving on to the topic of environmental injustices in minority communities. The City of New Bedford is rated the 6th most overburdened city in the state of Massachusetts in consideration of ecological hazards. The city of New Bedford and the EPA is still mitigating and monitoring the PCBs in New Bedford Harbor from decades ago. So, no matter the efforts of the citizens of New Bedford to restore, revitalize, and improve our city, we are just supposed to continue to be a dump for hazardous waste?

According to the Massachusetts EJ Policy, this proposed facility will be located in and around a predominantly minority community.

Question #7: Does MEPA have to use explicit consideration of disproportionate impact on low income communities and communities of color?

Question #8: Does MEPA decline projects that will contribute more pollution to already overburdened towns and cities?

Question #9: Does MEPA use the "precautionary principle" when addressing and analyzing potential environmental issues in overburdened communities? "The precautionary principle says that if there is a strong possibility of harm (instead of a scientifically proven certainty of harm) to human health or the environment from a substance or activity, precautionary measures should be taken" (Environmental Health Perspectives).

Question #10: Does MEPA offer increased protections to overburdened communities?

Question #11: Does MEPA consider environmental racism when making decisions?

I hope that some of these questions get answered, and I want to thank you for taking the time to read my letter. I'm frustrated that the City of New Bedford is being preyed upon because of income, race, and class based biases. I grew up in a small, affluent community and I KNOW a facility such as this would never be built there. It's simply unjust and corrupt.

You should explicitly deny the approval of this facility based on the disproportionate impact on low income communities and communities of color. You should deny the approval of this facility because of the close proximity to residential communities, daycares, and elementary schools. You should deny the approval of this facility to shield the wetlands and sensitive environmental areas that we, the citizens of this area are striving to protect.

Please reach out to me with any questions, comments, or clarifications.

Thank you,

Andrea Stone

AndreaStone12@gmail.com

1123 Sassaquin Ave.

New Bedford, MA 02745

From:	Canfield, Karen B (HOU)
To:	Strysky, Alexander (EEA)
Cc:	Hendricks, Christopher - Rep. (HOU); r_3@yahoo.com
Subject:	Final Environmental Impact Report: EEA #15990 (Parallel Products, 100 Duchaine Boulevard, New Bedford)
Date:	Thursday, March 18, 2021 11:39:13 AM
Attachments:	Commissioner Suuberg Letter (Parallel Products).pdf

Dear Mr. Stryky,

Please find attached a letter from Representative Christopher Hendricks outlining his concerns about the proposed Parallel Products expansion in New Bedford. This is submitted as part of the public comment testimony for **EEA #15990.** Please let us know if you'd like additional information.

Sincerely,

Karen Canfield

Karen B. Canfield
The Office of Representative Christopher Hendricks
11th Bristol District (Acushnet and New Bedford)

(please note that The State House is currently closed. Email and voicemail are monitored daily)
617-722-2305 x8326
Karen.Canfield@mahouse.gov

The Commonwealth of Massachusetts
HOUSE OF REPRESENTATIVES
STATE HOUSE, BOSTON 02133-1054

CHRISTOPHER M. HENDRICKS
STATE REPRESENTATIVE
11TH BRISTOL DISTRICT

Committees:
Judiciary
Housing
Veterans and Federal Affairs
Redistricting

STATE HOUSE, ROOM 237
TEL.(617) 722-2305
Chris.Hendricks@MAhouse.gov

March 3, 2020

Commissioner Martin Suuberg
Department of Environmental Protection
Commonwealth of Massachusetts
One Winter Street
Boston, MA 02108

Re: Parallel Products expansion proposal for New Bedford, MA

Dear Commissioner Suuberg,

We write to express our concern regarding the proposed Parallel Products expansion in the North End of New Bedford. As you know, the Draft Environmental Impact Report (DEIR) certificate recently issued by the Executive Office of Energy and Environmental Affairs raised a number of issues that Parallel Products must address; namely, concerns dealing with traffic, noise, odor, water usage, and wastewater. It is clear that Parallel Products has yet been unable to properly account for these concerns. As such, we are opposed to this project as it would pose an unavoidable risk of harm to the neighboring residential areas and the City of New Bedford.

The certificate issued by Secretary Theoharides noted that the delivering of waste and biosolids will occur from 5 AM to 9 PM, Monday through Saturday, and 6 AM to 6 PM on Sundays. The certificate also states that the sound analysis conducted by Parallel Products "did not analyze all noise sources," noting the research did not consider "waste delivery trucks, processing equipment, tipping and loading of biosolids and gas, loading and movement of rail cars and short duration sounds like back up alarms." If parallel products did not consider these noise factors, what did they analyze?

As I'm sure you know, additional sound and noise is of great concern with the neighbors. According to the certificate, there will be an expected increase of 2 to 3 decibels (dB) for the four residential areas in the daytime; while nighttime sound levels, unfortunately, will be increased 6 to 8 dB. Given the inadequate sound analysis conducted by Parallel Products, these figures, in reality, will be much higher. As such, it is imperative that the Final Environmental Impact Report (FEIR) reflect accurate noise data/measurements.

The certificate also notes that the DEIR did not properly account for the expected increase in traffic congestion at the intersection of Braley Road/Theodore Rice Boulevard at Phillips Road. The increase in truck trips (408 per day) is going to dramatically change the nature of that neighborhood. While Parallel Products has already acknowledged that traffic will be backed up to the Route 140 junction regularly, it needs to provide a plan for mitigating and minimizing this problem. Even the certificate stated that Parallel Products "should include a more detailed assessment of the project's contribution to the lengthened queues at this intersection." It also stated that Parallel Products needs to accurately calculate truck trip generation in that neighborhood, as well as clarifying the impacts of each phase of the project.

Traffic congestion and noise are two very immediate, tangible changes that will occur if this expansion is allowed. Therefore, the citizens of New Bedford deserve hard answers and accurate data on how their neighborhood will change, as this project will certainly have a detrimental impact to the immediate and surrounding communities.

Yet another piece of the certificate we found troubling was that it acknowledges there will be a total of 19 new smoke stacks due to this expansion (7 seventy-foot smoke stacks on the MSW tipping and processing buildings and 12 forty-foot smoke stacks on the biosolids building). In every single one of the renderings we have seen, none of them include depictions of these smoke stacks. While we understand that this has no impact on the air quality analysis itself, we feel it is an unfortunate reflection on how unforthcoming Parallel Products has been with the community. Perhaps this was a mistake; however, it is more likely that this was a deliberate omission, given the level of staff, experts, and researchers Parallel Products has working on this project. These misrepresentations are significant and cannot be ignored.

Perhaps the most concerning piece of this proposed expansion includes Parallel Product's plan to discharge perfluoroalkyl and polufluoroalkyl substances, otherwise known as PFAS, into New Bedford's water treatment system. According to the Center for Disease Control and Prevention, the presence of PFAS in drinking water is "one of the most seminal public health challenges for the next decades." New research has shown that PFAS can cause developmental defects in infants, as well as defects in the thyroid, liver, kidneys, and the immune system.

Years ago, the United States Environmental Protection Agency issued a health advisory, recommending that drinking water contain no more than 70 parts per trillion (ppt) of PFAS chemicals. This advisory, however, was issued well before the known risks of PFAS came to light, prompting the EPA to create new regulations sometime in the future. The EPA has not done so yet; and it would be ill-advised to think they will anytime soon.

The Massachusetts Department of Environmental Protection (MassDEP), on the contrary, has recently recommended that drinking water should contain less than 20 ppt. This is far more restrictive than the EPA's current advisory of 70 ppt. This drastic decrease in recommended PFAS levels in our drinking water reflects the growing concern experts have about PFAS consumption for humans. As such, the MassDEP should be concerned with Parallel Products' intention of releasing PFAS into New Bedford's water system.

The release of PFAS in this proposed expansion is unavoidable. Parallel Products has done little to explain how they will mitigate the levels of PFAS into New Bedford's sewers and water supplies. In fact, in the DEIR certificate itself, Secretary Theoharides stated that Parallel Products "should be prepared to comply with" the new recommendations of MassDEP, and others, regarding PFAS. I urge you do deny the FEIR unless Parallel Products can show that the 113,750 gallons of wastewater they will produce per day will not contain unsafe levels of PFAS. It is simply unacceptable that the burden of managing Parallel's Product's PFAS-contaminated wastewater should fall upon the citizens of New Bedford.

Additionally, for most residents, their home is their primary investment. Many are concerned that the presence of Parallel Products and this gross expansion will be detrimental to the value of their home. It is our understanding that there are no other plants in Massachusetts of similar operational capacity in such close proximity to a neighborhood. That said, at this point, we are not equipped to understand what, if any, affects this operation will have on local property values.

As you can see, we have a number of concerns about this proposed expansion - the health and wellbeing of the people in this neighborhood being number one. Parallel Products has not given sufficient reassurances that the noise, odor, traffic, air quality, and PFAS contamination increases will be tolerable for the adjacent neighbors. Therefore, we urge you to deny any further progress of this project until, and only if, these issues are addressed in good faith by Parallel Products.

Sincerely,

Representative Christopher Hendricks
11th Bristol

Paul Schmid

Representative Paul A. Schmid III
8th Bristol

THE GENERAL COURT OF MASSACHUSETTS
STATE HOUSE, BOSTON 02133-1053

March 19, 2021

Honorable Kathleen Theoharides
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

RE: EEA #15990 Parallel Products of New England FEIR

Dear Secretary Theoharides:

Once again, I am writing to express my strong opposition to Parallel Products of New England's proposal to construct an expanded waste facility in very close proximity to a residential neighborhood in New Bedford.

The New Bedford Business Park was never intended to serve waste processing operations, and nearby homeowners invested in their properties with this expectation. The business park was always meant to host world-class manufacturing operations as seen today with AHEAD, LLC, Titleist/Acushnet Company, Poyant Signs, and many others. The proposal by Parallel Products of New England (PPNE) will dramatically alter the nature of this development and negatively impact a dense residential area just a stone's throw away.

New Bedford is an Environmental Justice community with an unfortunate history of environmental damage by reckless, profit-driven corporations. The deleterious impact of these actions is still on display through continued harbor dredging and various site cleanups. We cannot permit our city to revisit these circumstances through increased air, noise, and odor pollution by a solid waste facility.

As I previously emphasized in past public comments to your office, PPNE failed to address deep concerns expressed by my constituents. Two years later there seems to be very little progress in alleviating their fears. Rather, PPNE seems determined to satisfy the minimal criteria necessary to advance this project without regard for the very real and permanent impact their activity will have on hardworking residents. For this reason, I remain staunchly opposed to this project, and believe EEA should not approve the FEIR. Thank you for your consideration of these concerns.

Sincerely,

Mark Montigny
SENATOR

From: bsmrc@aol.com
To: Strysky, Alexander (EEA)
Subject: EEA #15990 Parallel Products FEIR
Date: Monday, March 22, 2021 12:22:01 PM

Mr. Strysky,
I am submitting additional comments for consideration for EEA #15990 Parallel Products FEIR. I signed a petition submitted by the action network but it didn't list all of my concerns.

New Bedford has an aging sewer system. According to the city website, some pipes are older than 75 years old, some are older than 50 years old and some are less than 50 years old. The untreated 52,000 gallons daily of wastewater will have to traverse the length of the city, about 12 miles from Parallel Products to the New Bedford Sewer Treatment Center. Without that additional load, New Bedford has had problems in the past during rainstorms of wastewater overflowing from storm drains. I am concerned that the wastewater may contaminate the areas that overflow of unknown potential chemicals, PFAs, pharmaceuticals.

The 400 tons daily of biosolids may contain potentially dangerous chemicals, such as PFAs (the forever chemical), PCB's, heavy metals, pharmaceuticals. The wastewater from drying these biosolids will be discharged into the NB sewer system. The New Bedford wastewater treatment will not be removing these chemicals and will release the water into Buzzards Bay. New Bedford has already dealt with dredging the river trying to remove PCBs from industrial waste dumped decades ago. I'm concerned about the potential impact on our fishing industry and the related industries that support that economy. According to the New Bedford City website" The Port of New Bedford has been the number one most valuable commercial fishing port in the country since 2001. In 2016, the Port of New Bedford landed 111 million." This wastewater would have a detrimental effect on our economy.

If the guidelines for wastewater treatment change, will Parallel Products be mandated to pick up the expense of that treatment? Will they be required to treat their discharge prior to release? I certainly hope so.

Another concern I have is about a fire or other hazardous situations. As you've heard, Parallel Products is across the road from a residential neighborhood. If a fire were to occur at their plant, evacuation will be almost impossible. Phillips Rd is what I'd called landlocked for almost 2 miles. On one side of Phillips Rd is the industrial Park, On the other side of the road is a housing development with over 300 houses. Rt 140 borders the back of the houses. The nearest evacuation route from my home would be 3/4 mile north to Braley Rd. Pulaski Elementary School on Braley Rd is less than a mile from Parallel Products and very close to the Braley Rd exit off Rt140. On the southern end of Phillips Rd is the Phillips Rd exit off Rt140. A little further along Phillips Rd curves at a 90 degree angle and leads to another Elementary School, Campbell. In addition to all these school age children, there are all the other occupants of the industrial park. Both exits of Rt. 140 are already dangerous without the additional truck traffic.

You may have heard on Friday 3/19/21news that there was third fire in No Andover at the TBI recycling site that processes construction debris. That fire was still being wet down 7 hours after the start of the blaze. In Aug 2019, there was a 4 alarm fire at this same site, 210 Holt Rd. It took 18 hours to reduce the fire to smoldering. At the time TBI was doing business as Thomson Bros. There wasn't enough water to put out the fire so the fire dept. had to close the highway to run their hoses across the highway to get to a fire hydrant. Another fire took place in 2012. That would be 3 fires in less than 10 years. Parallel Products is hoping to handle construction debris like TBI as part of their expansion so my fire concern is real.

Parallel Products is not a good neighbor. The New Bedford Conservation Commission cited them on 5/9/19 for: "Stockpiling of glass in the 100' buffer zone, The existing Order of Conditions approved plans

specifically state the area is to be used for the parking of tractor trailers. The glass covers two of the catch basins which discharge into Bordering Vegetated wetland. It is unknown if these catch basins are covered to prevent glass from entering them". This occurred during the time that Parallel Products was trying to get permitted. You can look up the citation yourself at the City of New Bedford website, environmental Stewardship, Conservation Commission, then Conservation Commission Notes 5-21-19 notes. I liken it to finding out that your spouse is cheating on you during your honeymoon, it doesn't bode well for the marriage.

Parallel Products plans to build 19 smokestacks for their expansion ranging in height from 70 feet to 40 feet. I don't think there are 19 smokestacks in the whole greater New Bedford area. They plan to accept 1/10 of the state's waste, estimated to be about 500 million tons of trash per year. That trash and the biosolids will arrive in trucks estimated to be at least 75 trucks in and 75 trucks out for a total of 150 daily trips. The estimates range from a low of 150 truck trips per day to as many as 400 trips per day. The CrapoHill landfill is already located in New Bedford at 300 Barnet Blvd, New Bedford in this same industrial park but it is managed better.

New Bedford residents are opposed to Parallel Products and I hope you will give serious consideration to our concerns. In my opinion, the only "green" in parallel Products new name is the green that they hope to line their pockets with at the expense of the residents of greater New Bedford.

Elizabeth Saulnier
94 Birchwood Dr.
New Bedford, MA 02745

From: Jacob Chin
To: Strysky, Alexander (EEA)
Subject: EEA No. 15990
Date: Wednesday, March 24, 2021 7:36:39 PM

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
Alex Strysky - **EEA No. 15990**
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Mr. Strysky,

I am emailing you to note my strong opposition in totality to the Parallel Products of New England (PPNE) Project planned for New Bedford's business park. While I understand that PPNE has gotten approval for phase one from the MEPA office, I am urging MEPA to require PPNE to produce additional information, and requesting that MEPA require independent non-bias studies for phase two to be approved.

I oppose PPNE in New Bedford for many reasons. New Bedford is a gateway city in Massachusetts that has a history of environmental injustices including New Bedford High School being built on a landfill. There are many concerns related to the PPNE-NB project such as odors, pests, air, water, and ground pollution, traffic, access to roads, etc.

I am also concerned about the impact to poor and communities of color that live close to the planned site. Neighbors like Lord Phillips; Satellite Village; and Dottin place, are all low-income housing developments that don't have the option to move. What outreach has been done by MEPA or PPNE to these communities?

I look forward to you answering the following questions:
1) What studies have been conducted to the current land of the business park to test for the environmental impact already existing?
2) What studies have been done to test the impact of PPNE to the proposed site and surrounding wetlands and environmentally protected lands?
3) What will be the impact to the other businesses in the park, and surrounding neighborhood? Will they have to install air filtration systems? If so, who will pay?
What will be the impact to Pulaski school and any other child care centers? Will schools and child centers needs to install/upgrade air filtration systems? If so, who will pay?

4) PPNE conducted their traffic study and came to the conclusion that there will be no impact to traffic. That can't possibly be true with the projected numbers alone. Has MEPA conducted an independent traffic study?
5) What impact will PPNE have on vulnerable populations like elderly, medically fragile, and people without transportation?
6) The nearest hospital is St. Luke's in New Bedford about 15 minutes away without traffic. What studies have been conducted to assess the impact of PPNE on emergency needs of the community?
7) The proposed project is planned to have 19 stacks. How far will the smoke from the stacks reach? What is the impact on the quality of air? Does MEPA know the height of all stacks (factoring in the levels of the project site)? What is the height relationship to the stacks and the nearby homes and businesses?
8) Given the state of the current roadways in New Bedford, what will happen once we have hundreds of trucks each day on these already failing roads?
9) What studies has MEPA done to ensure the safety and wellbeing of poor and communities of color?
10) What are the proposed plans for transporting the sludge to be processed at PPNE-NB? Will a train bring the sludge to the south end of New Bedford's water treatment plant? Will the sludge only be processed at the business park? Is the sludge only being transported to and from the proposed site by truck? If plans include moving the sludge around New Bedford or nearby areas to be treated, what studies have been conducted to assess the impacts?

Thanks so much,

Jacob Chin
26 Garrison Road
New Bedford, MA 02745

--
Jacob Chin, Esq.
Juris Doctor¦ Master of Public Policy

From: Karen Chin
To: Strysky, Alexander (EEA)
Subject: ATTENTION MEPA OFFICE : EEA No. 15990
Date: Wednesday, March 24, 2021 9:41:22 PM

Secretary of Energy and Environmental Affairs

Executive Office of Energy and Environmental Affairs (EEA)

Attn: MEPA Office

Alex Strysky - **EEA No. 15990**

100 Cambridge Street, Suite 900

Boston, MA 02114

Dear Alex Strysky,

I am writing this email in strong opposition to the project proposed by Parallel Products of New England, to construct a sludge and waste facility in the New Bedford Business Park. I do not stand alone in the opposition of this facility. I have gone door to door to see how others feel about this facility in our city of New Bedford. I have gone from single-family homes; to condos; and to the 3 low-income housing projects that are all in the north end of New Bedford. Regardless of where these people live in the north end, they all voiced their concerns about allowing this facility.

My community members and I believe PPNE project in New Bedford will be harmful to our community in so many ways, such as: health concerns; air, noise, and ground pollution; overuse of water; and causal links to disease, illness, and agricultural scarcity; truck traffic causing harm to our roads; trucks causing pollution; harm to the children playing in residential areas near traffic area and outside for recess (PPproject between two large Elementary New Bedford Schools).

My questions to you are:

1. With all the toxins going back into the sewer system, how is this not going to eventually pollute our bay?

What impact will PPNE project have on the local sewer systems; drinking water systems; water treatment systems; and natural bays, oceans, and waterways?

2. Who's sludge is Parallel Products taking and what is the criteria?

Has MEPA studied the variants of sludge from different cities/states and the impact of variants of sludge?

3. Is Parallel Products capable of doing more recycling and if so how is MEPA going to ensure the best outcomes?

4. There is a concern of pests(mice, rats and other rodents). Is Parallel Products going to be responsible for the pest control?

How is this going to affect the community?

5. What is the impact on the residential community with the trucks (400 per day) and traffic (also being in a school district.) PPNE conducted their own traffic study in an area where the facility was not up and running.

Does MEPA plan to have an independent traffic study?

6. PPNE has planned for 19 stacks (with some being 70 feet high) to service their facility.

How will the smoke from these stacks affect the community, how far will the smoke reach, has wind direction been taken in consideration?

What is the impact on the quality of air?

Has MEPA done a study on what these 19 stacks will affect the residential homes and businesses it borders?

7. Does MEPA offer increased protections to overburdened communities?

8.Does MEPA consider environmental racism when making decisions?

Thank you for taking the time to read this letter and I will await your response.

Karen Chin

26 Garrison Rd

New Bedford,MA 02745

Secretary Kathleen Theoharides
Executive Office of Energy and Environmental Affairs
Attn. MEPA Office
EEA No. 15990
100 Cambridge Street, Suite 900 Boston, MA 02114

Re: Parallel Products of New England, LLC 100 Duchaine Boulevard, New Bedford, MA
Final Environmental Impact Report - EEA No. 15990

Dear Secretary Theoharides:

By way of introduction my name is Linda Morad. For the past 18 years I have had the honor of serving the residents of the City of New Bedford as a member of the New Bedford City Council. In this capacity, representing the voices of the people that elected me, I have continuously spoken in opposition to the project in the New Bedford Business Park referenced above. Many of the residents I represent have also previously sent correspondence to your office detailing their concerns and opposition to this project.

However I write this letter from a personal perspective, representing myself and my family, all whom have been residents of the City of New Bedford our entire lives. I own and have lived in my family home in the far north end of New Bedford, which was built in 1959. In addition members of my immediate family own and reside in two additional properties in the north end. All three of these properties are within a one mile radius of this proposed project.

A fairly remote area of the City of New Bedford back in 1959, with a large fresh water spring fed pond, the area neighborhoods have flourished over the years into a beautiful residential community, bustling during the day with normal family and business activities, quiet and serene in the evening.

There are two elementary schools, several child day care facilities and several long term nursing facilities located in the surrounding neighborhoods. Several years ago the area residents supported the development of the New Bedford Business Park, which provided manufacturing and service related businesses the opportunity to expand and offer good paying jobs to residents of the City and the surrounding communities. None of these companies are engaged in the type of industry that is currently under consideration with this permit, nor do they operate on a twenty four hour / seven day a week schedule that is certain to be totally disruptive to the peacefulness of the surrounding community.

So I am clear and this does not sound like a 'Not In My Back Yard' message, a facility like this does not belong abutting **ANY** residential neighborhood in the Commonwealth. The long term impact on the surrounding neighborhood is certain to be devastating.

The fact that the property where this permit is being considered may be zoned correctly should not be considered when permitting this type of industry within a residential area in the City of New Bedford or anywhere in Massachusetts.

Odor, pollutants, chemical emissions, industrial smokestacks and potential environmental damage to the surrounding wetlands and ponds, these are just a few of the issues that should immediately ban this type of industry from locating within any residential area.

Added to that, the effect on traffic flow, odor and sound from numerous diesel trucks idling in the overnight hours waiting to be unloaded, road infrastructure damage, neighborhood safety, residential property values and overall quality of life of my family and my neighbors require the most serious consideration and should result in the denial of this permit. I can assure you that no one who purchased a property in this area assumed that their home life would be subjected to an industrial project operating twenty four hours a day / seven days a week.

I implore you, Secretary Theoharides, your office staff and all the State agencies reviewing this expansion project to earnestly listen to these concerns, halt this project from moving forward and reject this application as presented to preserve the residential neighborhood that my family, neighbors and I love and have invested our lives.

Respectfully submitted,

Linda M. Morad
Resident of the City of New Bedford
4162 Acushnet Avenue
New Bedford, MA 02745

March 25, 2021

Secretary Kathleen Theoharides

Executive Office of Energy and Environmental Affairs

MEPA Office

100 Cambridge St., Suite 900, Boston, MA 02114

RE: EEA No. 15990 Parallel Products

Dear Secretary Theoharides,

I am a resident of the Far North End of New Bedford where this project is located, and also the City Councilor for this area, I am writing in regards to my concerns as well as my families concerns and the concerns of the residents in the surrounding areas on the Parallel Products project which is a proposed expansion at 100 Duchaine Blvd. in the New Bedford Industrial Park. The Industrial Park as well as the proposed expansion abuts heavily populated neighborhoods, in which is an elementary school, and we are concerned that this expansion will have a detrimental effect on this community.

There are many concerns with the processing of MSW and biosolids at this facility, health concerns of toxins being emitted into the air and ground, odor, as well as issues with the proximity to wetlands causing environmental concerns.

Other issues affecting the quality of life in the area from this project would be noise, air pollution from the processing as well as with the increase of truck traffic going into this facility every day, air quality from the diesel emissions.

While air quality is a major concern with the increase of trucks there is also traffic issues. With the many trucks making their way into the facility this is adding more traffic congestion into an already high traffic area. This will only heighten the danger for Elementary School students who walk to school in this already high traffic area.

With all that has been mentioned above this is also causing grave concern regarding quality of life in this area. This is a residential area where people are raising their families and there is serious concern regarding safety for their children with the heavy truck traffic that will come about due to this project, as well as health concerns. With this project so close to neighborhoods there are noise concerns especially at night when families are trying to sleep to get up for work and school the next day. They want to be able to enjoy their home's and yards without having to deal with the issues that this project will bring.

Another concern is what this project will do to property values, residents here take pride in their homes, these families pay some of the highest taxes in the City and shouldn't have to be burdened with all the problems that will be associated with this project.

There are just too many issues with the environment, health of the residents, noise, quality of life that this project would bring, this project is not in the best interest of the residents and why I oppose this project moving forward.

Sincerely,

Brad Markey

1520 Morton Ave

New Bedford, MA 02745

March 26, 2021

Secretary Kathleen Theoharides
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office
EEA No.15990
100 Cambridge Street Suite 900
Boston, MA 02114

Dear Secretary Theoharides,

I am writing this letter to follow-up on a previous letter I submitted for the FEIR public comment period of EEA No. 15990, Parallel Product of New England's (PPNE) biosolids processing facility proposed for New Bedford. In my previous letter I expressed very specific concerns about elements of the project that I feel deem it too risky and dangerous to be sited in a location so close to residential neighborhoods. In this letter I would like to delve a little more deeply into the greatest reason overall that it should not be approved: the continued pattern of targeting and exploiting Environmental Justice Communities in the pursuit of corporate profits.

In Massachusetts a community is identified as an Environmental Justice community if any of the following are true:

- Block group whose annual median household income is equal to or less than 65 percent of the statewide median ($62,072 in 2010); or
- 25% or more of the residents identify as a race other than white; or
- 25% or more of households have no one over the age of 14 who speaks English only or very well - English Isolation

This definition can be found on the state government's website, at: https://www.mass.gov/info-details/environmental-justice-communities-in-massachusetts
An interactive map is also available, which clearly outlines the area in and surrounding the proposed site as an environmental justice community, based upon the criteria that 25% or more of the residents identify as a race other than white: http://maps.massgis.state.ma.us/map_ol/ej.php

The construction and operation of a facility of this nature is inherently risky and raises numerous deep concerns. I will go into more detail about the issues that cause the highest alarm for me below, but the laundry list of concerns surrounding this project include but are not limited to: noxious odors, vermin and pest infestations, noise pollution, air pollution, additional traffic congestion and hazardous conditions, the possibility of increased taxes due to the burden of repairing and maintaining the roads, decreased property values, threats to protected wetlands and conservation lands and many endangered species indigenous to this area, not to mention a multitude of environmental degradation issues.

Everything about this project deeply concerns me, but the elements that raise the most alarm include but are not limited to:

Additional truck traffic
The reported addition of 400+ truck trips per day (a number which seems to vary between project documents) on these already congested, unmaintained and unrepaired local roads significantly raises the risk of accidents, which in turn, increases the risk of property damage, bodily injury and even death for the citizens living and traveling in the area. This is especially worrisome for children who attend the elementary school less than a mile away, located on Braley Road. The neighborhoods though which they'll travel will also be exposed to the pollution caused by diesel vehicles.

Air quality
Construction of this facility would entail the excavation of a site that is contaminated (and not remediated) by the previous occupant, Polariod. This will undoubtedly stir, kick up and circulate toxics from the contaminated soil, exposing people to dangerous chemicals, all of which will cause health issues for citizens living and working nearby and children attending the local elementary school.

Despite claims to the contrary, operation of this facility would produce toxic air pollution, released through the multiple (19) smokestacks featured in the project renderings. There are more than 80,000 chemicals in the USA, most of which are never tested for health impacts. Recently, a national movement has pointed out a new chemical that should be banned, like asbestos and PCBS- its called PFAS. **PFAS is incredibly toxic to human health.** Per - and poly fluoroalkyl substances (PFAS) are a category of chemicals containing multiple fluorine atoms that bond to a chain of carbon atoms. There are thousands of these chemicals used in business and in the consumer market. Most easily able to bioaccumulate in air-breathing organisms, PFAS are absorbed by plants, animals and people. Chemical manufacturers like DuPont and 3M have covered up evidence of the negative human and environmental impacts of PFAS since the 1960s. But mounting research links PFAS to a wide range of health problems. **Studies of the best-known PFAS, called PFOA and PFOS, show links to kidney cancer and testicular cancer, as well as human endocrine disruption targeting the liver and thyroid.** Other health reports associated w/ PFAS chemicals include metabolic & developmental effects, neurotoxicity and immunotoxicity. This facility would release PFAS into the air of New Bedford, and be carried as far and wide as the wind can travel, impacting all of New Bedford and the surrounding communities.

Water quality
As I understand it, as part of the daily business operations, this facility will produce wastewater that will be discharged into the City of New Bedford's sewage system, which already has problems with overflow during certain times of year and weather. This places the local water ways and resources at risk.

Public relations
During previous public information sessions, PPNE representatives were asked questions by the community about this project, including whether or not they had an emergency evacuation plan. When asked this question, the representative for Parallel said that they did not have an emergency evacuation plan in place. The company was also asked what "cutting edge" technology will they be utilizing to remove the toxins from their byproduct, but they had no answer for that question. These public forums included experts from other companies, as well as the MEPA office. The fact that satisfactory answers could not be given to these questions from ANYONE on the panel is quite troublesome.

I think it is important to learn from the experience (and mistakes) of others. To that end, I have done some research on these types of facilities, to learn more about how they operate and their impact on communities. Ironically, most of the similar facilities that exist in the US are not located near residential areas, which makes it hard to find out exactly WHAT kind of direct impact they could have. I have also found that these facilities are not only risky to human health and the environment, but to the local economy as well. A similar plant which was proposed for Stanford, CT, was ultimately not operational, and instead cost the taxpayers millions of dollars:
https://ctmirror.org/2013/02/05/stamfords-failed-attempt-energy-innovation-cost-taxpayers-tens-millions/
In learning more about that project, I also found that the claim to turn wastewater into energy without carbon emissions is a false endeavor. "In fact, the drier by itself produces significant emissions."

Because so much is NOT known about long-term effects of these kinds of business operations on a residential community OR the environment, I think it is the responsibility and obligation of any agency of authority, when considering approval of such a business, to exercise the precautionary principle: "the principle that the introduction of a new product or process whose ultimate effects are disputed or unknown should be resisted". If you cannot guarantee protection of the health and safety of the local residents, or their homes and property, the accountability rests on YOU to not allow them to be put in harm's way to begin with.

The existing facility PPNE owns and operates at that location is already causing disruption to the quality of life for residents in the area, in the forms of noise and light pollution, and additional truck traffic to already highly traveled roads. This renders no cause to believe or hope that things will get any better if they are allowed to expand, only worry and stress about what's to come. The citizens of this community deserve better. I believe that the proponent of this project needs to provide more substantial information, proving how they will not mitigate, but rather, PREVENT the construction and 24/7 operation of this facility from having a negative impact on the community. I call upon you, as an agent tasked with protecting the public, to require PPNE to provide a supplemental report and review subsequent to their FEIR.

Sincerely,

Wendy M. Graca

Wendy M. Graca, President
South Coast Neighbors United
(508) 254-6333

From: Zeb Arruda
To: Strysky, Alexander (EEA)
Subject: EEA #15990
Date: Friday, March 26, 2021 8:46:47 AM

Good morning Mr. Strysky,

My name is Zeb Arruda. I live on 103 Longview Rd, New Bedford, MA 02745.

There is a company that is attempting to build one of their facilities in our Business Park in New Bedford. We have worked so hard as a community to create a beautiful and inviting Business Park that has attracted world class businesses. More importantly, a Business Park that worked with its neighborhoods and abutting residents in the past.

Over the past couple of years companies have been allowed to work out of the Business Park with their construction division. Crapo Hill truck traffic has never been addressed for nearly 20 years.....And now we are entertaining the idea of allowing yet another company that will be utilizing large trucks. This new company may also end up running for 24 hours a day all week long. None of them stay on Rte 140 to use the Braley rd. exit, but instead use the Phillips Rd. exit. They certainly Can't police themselves. Traffic backs up into the highway every morning at both of the exits.

I am not sure how we have gotten to this point. I live exactly 1/4 mile from this project. The sound and smell travels beautifully in Pine Hill Acres. The sound of their trucks can be heard clearly from our homes. I can only imagine how our lives will change trying to enjoy our lives doing the simplest of things like grilling in our backyards.

Phillips Rd. can not take any more traffic. We have children that wait at bus stops along that route. The only playground in the far north end is located in that stretch of road. Our children would not dare cross that road to get a drink at a local gas station because of the volume and size of vehicles that use it. There are no curbs to protect our children on the sidewalks or any type of safe bike lanes.

The city has a Wastewater Treatment Plant that does not allow truck trucks before 7:00 am nor after 7:00 pm. Why are we being treated differently in our neighborhood?

I know that these facilities are being pushed and we need them going forward. But Please consider the location and the harm it will be creating to so many of our citizens when they are being placed in peoples backyards.

Your understanding is so much appreciated when making your decision.

Respectfully,

Zeb Arruda

From: Tracy Wallace
To: Strysky, Alexander (EEA)
Subject: EEA No. 15990 - Comment Submission
Date: Friday, March 26, 2021 12:35:28 PM
Attachments: FEIR Comments.docx

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office
Alex - Strysky - EEA No. 15990
100 Cambridge Street, Suite 900
Boston, MA 02114

To Whom it May Concern,

Attached is my letter of comments regarding the FEIR filed by Parallel Products.

Sincerely,
Tracy L. Wallace M.Ed
75 Stephanie Place
New Bedford MA, 02745

The Final Environmental Impact Report does not address the concerns stated within the certificate of the Secretary of Energy and Environmental Affairs on the Draft Environmental Impact Report. The following details those short comings and further indicates that a supplemental environmental impact report be required of the company to address those concerns.

Within the Project description, the FEIR only indicates that the property is zoned industrial C. That statement is false as the property is zoned mixed business B and residential A as well as industrial C. As such, the report needs to state that. It has been the company's argument that the facility will not be using any of the property zoned mixed business or residential, however within Appendix 4 on page 331 it shows the road within the property going through the mixed business and residential portion of the facility. Utilization of the portion puts the company in violation of the 500 ft buffer zone. Figure 2.1 is out of date; it does not include the newly built homes on the same side of Philips Rd. Requirement of current up to date plots and maps need to be enforced in all sections of the final document.

Within the FEIR it is stated that "a Phase 1 Environmental Site Assessment and Limited Subsurface Investigation was conducted at the subject site.... As such SAGE is of the opinion that further actions are not warranted at this time." However, in analysis of the site by Weston & Sampson, who specialize in engineering and environmental services, it has been noted that "the latest data associated with the site petroleum release was collected during the 1990s. Based on the continued industrial nature of the site, use as a recycling facility, and duration of time (i.e. approximately 20 years) without a comprehensive subsurface investigation or collection of additional information, the possibility exists that additional undocumented releases of oil or hazardous materials have occurred at the site. This lack of current soil and groundwater information represents a data gap with respect to existing site conditions.... We would recommend assessment to establish a current baseline and evaluate emerging contaminants such as PFAs. The potential presence of PFAs may impact construction costs, future soil and groundwater management, as well as potential impacts to surrounding receptors."

Additional analysis related to PFAS was required within the certificate of the DEIR. The presence of PFAS in treated wastewater could pose a health risk. The FEIR, section 4.4 page 60 PFAS, presents no further analysis as requested in the certificate of the DEIR, only a statement that it will comply with regulations and consult the city during the design process. To date, there is no known mechanism to remove PFAS from contaminated wastewater. This is insufficient and presents a lack of knowledge and significant risk to the community. The company needs to provide an analysis of the current presence of PFAS in the type of biosolids they will produce and how they will mitigate those "forever chemicals" from getting into the city sewer system, as no municipal wastewater treatment plant is equipped to remove PFAS. The company plans to receive biosolids as a thickened wet slurry that will be dewatered in a centrifuge and that wastewater extracted in the dewatering process will be directed to the New Bedford sewer system at 52,000 gallons per day. In addition, biosolids will also be delivered in cake form and sent to a thermal dryer. The moisture captured will be condensed with the condensate water discharged to the city sewer system for an additional 30,000 gallons per day. This process shows the need for PFAS mitigation to be addressed as 82,000 gallons of discharge will be sent into the New Bedford sewer system. That is almost 30 million gallons a year.

While doing a better job than in the DEIR, the FEIR still does not fully comply with the SCOPE. The SCOPE states "supporting information should not be presented only in the appendices." Yet, in

several areas of the FEIR that is the case, still only referring to the corresponding appendix, as well as some sections referring to appendices in the DEIR.

Regarding traffic, within the certificate of the DEIR, it was stated that the FEIR provide a revised analysis to support the method of calculating truck trip generalities, clarify aspects of each phase and review potential mitigation measures. Queue lengths were indicated, showing a back up onto route 140, posing a danger with nothing to address this. While the FEIR does go into further detail regarding the projects contribution to lengthened queues at ramps of 140, it does not address mitigation. The FEIR also states that "there are no planned roadway improvements that would impact traffic on the study area roadways." With a potential of 418 truck trips per day, deterioration of the surrounding roadway will occur and maintenance will be required. How will this potentially impact traffic to the surrounding areas? The traffic table indicate several intersections rating F, therefore whether the study indicates the increase in traffic will be significant or not, any increase to a dangerous F rated intersection poses a threat to the surrounding area. No mitigation measures are addressed to improve the F rated intersections. The FEIR states that "PPNE is having ongoing discussions with the City of New Bedford which includes discussions on potential mitigations, which has not been finalized." The FEIR includes a Traffic Signal Warrant Analysis with a conclusion stating that "According to the warrant analysis results, the intersection of Braley Road at Philips Road/Theodore Rice Boulevard warrants the installation of a traffic signal under all three Warrants based on the 2020 existing traffic volumes, independent of the project." Yet, no mitigation measures are offered by the company, implying it is the City's problem currently and that it be handled as such.

What are these discussions on potential mitigations they are having with the city? A supplemental EIR must include elaboration and explanation regarding these potential mitigation measure, as that was what was required in the certificate of the DEIR and not provided in the FEIR. The project also intends to run 7 days a week with deliveries on all 7 days. The table included in section 5.0 only addresses weekday counts, week day AM peak hour, and week day PM peak hour. What are those counts for weekend? What will the weekend impacts be? A complete breakdown of weekend truck trips should be required in a supplemental EIR. The certificate of the DEIR stated that the FEIR "should include revised mobile-source estimate as necessary if estimate of truck trips increase." The company does not address a possible increase, yet only states that it will not go over 418 truck trips per day. That is impossible to guarantee and the company should be required to address an estimate of truck trip increases. Further explanation of how an increase of 418 truck trips on roads that operate over capacity and with high delays under current conditions would only result in minor increases with no clear mitigation measure proposed should be addressed. 418 truck trips per day is 152,570 truck trips per year.

The traffic analysis is broken down by Phase 1 and Phase 2, it is not clear if the numbers reflect an inclusion of truck traffic from the company's current operations. In February of 2020, the company relocated its operations from their Shawmut Ave location, which include the receiving and processing of aluminum, cardboard and other mixed waste recyclables. Phase 1 is defined as glass recycling and not inclusive of the company's current operations. Does the data include additional truck generation from those operations? A supplemental EIR needs to be submitted for clarification.

The MSW processing section of the FEIR states that the facility is not a "dirty MRF" yet when questioned at the company's open house, the vice president of PPNE did confirm that the facility is a

"dirty MRF" and would be operating as such. However, their practices would guarantee 20% recyclable materials from their MSW processing. The FEIR indicates that this 20% will be sold to recycling markets. What are those markets? Does the company have contracts in place? The reality is there are no markets. It is cheaper and more cost effective for companies to produce new product than to repurpose materials that have already broken down and are likely to break down further. That fact that there are no markets is evident by the collapse of Coastal Resources of Maine, which opened a "dirty MRF" in Hampden in August 2019 and less than a year later it had closed. Diagrams and specifics of BHS equipment is included within appendix 5, yet there is no explanation of how this will yield them a 20% return, nor an explanation of how this is more efficient than current technology being used.

The certificate of the DEIR stated the FEIR is required to provide a revised noise analysis. Within the FEIR they provide an update to the noise analysis and state "for descriptions of the other locations that are not a part of the FEIR analysis, refer to the DEIR Noise Section." A full revision of the noise analysis should be provided. This is insufficient and incomplete. The noise analysis was conducted between June 26th and July 3rd 2018, a course of one week over the summer and inclusive of a holiday. This is not representative of a normal week where peak activity would be occurring. It is also two years out of date and prior to the movement of their current operations from Shawmut Ave. Figure 6.3 only indicates two continuous measurement locations, one completely opposite of any residential area, and the other on the border of the property and the two residential houses PPNE bought. Figure 6.3 also only indicate two short-term measurement locations. No sound monitoring was done within the neighborhood directly across the street from the facility. Sound travels and effects could be reached further outside their locus of measurement. A comprehensive new analysis of overall noise levels must be required for an accurate depiction to be addressed and continuous measurement needs to be analyzed within local neighborhoods. This fails to meet a requirement of revised noise analysis. The project has been consistently criticized for inconsistencies in description of project components and operations. "As the design of the project equipment progresses, specifications of mechanical equipment may change", is a perfect example of this and therefore illustrates the need for an updated overall noise assessment.

Within the FEIR, it states there are no local quantitative noise regulations applicable to this project. However, there is a city noise ordinance that addresses noises at commercial establishments. It states "all noises at commercial establishments located in principally residential neighborhoods that menace the health, interrupt or disturb sleep of residents between the hours of 10:00pm and 7:00am are hereby prohibited; and, without limiting the generality of the foregoing, it is hereby intended that 'noises.' as used in this section, shall include the loading or unloading of motor vehicles, those sounds emitted by all types of mechanical devices, including motor vehicles, and those by animals and birds." Figure 6.1 and 6.3 shows the close proximity to the residential neighborhoods. The company also intents to operate 24 hours a day 7 days a week, and the city ordinance would prohibit those intended operations between 10pm and 7am.

Regarding odor, it is documented multiple times within the FEIR that C&D waste produces hydrogen sulfide, the rotten egg smell. The company's response to this is that this waste will only there for a limited amount of time. Therefore, not addressing the issue that it will still be there and that smells linger. Methane production is not fully addressed, since it is unclear as to what mechanism will be used during the thermal drying (heat drying) process of the biosolids brought onto the property,

there is no way to know what is being done with the methane produced from that process or any other production of possible syngas. Further review is required.

The company calls this project its "green energy project" and its "sustainability project", yet is requesting a waiver of building code for its glass processing building, via not having to install r-11 insulation for that building, a direct violation of building code compliance. PPNE is justifying that waiver and noncompliance by stating the emissions savings is minimal. Yet wouldn't any decrease in emissions be advantageous especially if it were green energy and sustainable? The company states that the buildings are less than 100,000 square feet and therefore not subject to the Stretch Energy Code. For new buildings between 5,001 and 99,999 square feet there is an option to follow a prescriptive base code, however it is unclear to whether that option is available to the builder or the municipality. The option to follow base code does not mean they are not subject to follow stretch code, clarification needs to be submitted as to whether the city needs to allow them that option. The City of New Bedford has adopted that appendix to the Massachusetts Building Code, therefore the company should address this especially if it is a green energy center. Compliance with the stretch energy code provides energy efficiency and long term savings in energy costs that will offset initial compliance costs.

The way the FEIR is addressing Greenhouse Gases is not sufficient. It does not sufficiently address the methane gas issues the technology proposed would generate. The facility will have 19 stacks all emitting substances. The facility is located at a level below that of the residences, creating a bowl effect, those stacks will not lift over the residential neighborhoods. This should be addressed in a supplemental EIR.

Additionally, idling locomotives, deliveries of live load trucks and the installation of impervious concrete floors all need to be explained. Several locomotives will be loaded and moved throughout the facility what emissions will that create? Trucks take two hours to live load drop, are these trucks idling while they deliver their live loads? Trucks will be taking the processed biosolids to the MSW building for loading onto rail cars, how is that factored into GHG emissions? Diesel trucks moving throughout the property will have an effect on GHG emissions, as well as pose a threat to the surrounding community. Employees of the business park will now be subjected to breathing in the emissions from 418 truck trips, while commuting or working in the area. With respect to impervious concrete, concrete is inherently porous, although a sealer can be added to the concrete surface to prevent water penetration. PPNE must fully address how their concrete within their buildings will be "impervious", what sealant will be used, how that could affect toxicity during installation, if impervious how run off will be handled and processed? Will that be directed to the city sewer system and what would those affects be?

Within the FEIR the project indicates that it will use a thermal drying system utilizing natural gas for its biosolids processing. The FEIR fails to indicate what type of drying system this will be. A thermal dryer is in fact a heat drying system. The diagrams fail to indicate if the heat drying systems will be direct or indirect or a form of both. There is mention of a belt drying system and the assumption that the dryer manufacturer will be Gryphon Model 1060U. Belt dryers usually refer to direct drying, however Gryphon models use stream which is an indirect heat drying model. Heat drying facilities propose a host of issues. They require a substantial capital investment. They require a large amount of energy making them less energy efficient per pound of final material than other beneficial reuse methods. They generate a significant amount of dust that can affect neighbors in local communities, primarily affecting lung function. This dust generation creates an explosive hazard. Dryer installations

have experienced fires, deflagrations, and explosions. These systems are relatively complex and require skilled labor of operation and maintenance. These systems produce odors that negatively affect communities and it has been documented that odor was the single most detrimental impact of thermal drying plants. The end product also has properties of offensive odor. The age of the biosolids should be address as well as more information regarding storage, as noted previously the final product contains offensive odors. Further assessment and analysis of the full process needs to be addressed. It is also important to acknowledge that the city of New Bedford has been decommissioning fire trucks due to budget constraints, and the city would be unable to address or handle any potential fire hazard that may arise from this operation. PPNE must document how the city of New Bedford could handle or address potential fires or explosions on their site, as their operations are highly flammable and explosive.

Climate change is a national and global threat, and this facility will release VOCs and PM 10 into the atmosphere. VOCs are Volatile Organic Compounds which are dangerous to human health and cause harm to the environment. They are known to have long-term chronic health effects, which include eye, nose, and throat irritation; headaches, loss of coordination, nausea; and damage to the liver, kidney, and central nervous system. PM 10 are particles with a diameter of 10 micrometers, this can be a complex mixture of soot, smoke, metals, nitrates, sulphates, dust, water, rubber, etc.... These particles are so small that they effectively act as a gas and exposure to them can result in a number of health impacts ranging from coughing and wheezing to asthma attacks and bronchitis to high blood pressure, heart attack, stokes and premature death. It can also have a huge impact on forests, wildlife and coastal regions. It's common to find large patches of dying trees in forests affected by PM. The groundwater becomes too acidic, and vital nutrients are leached out of the soil, which prevents the trees from growing. Again, if this is a "green energy center" and a "sustainable project" the facility would not be generating any such thing. The methodology of recording and tracking "monthly mass rates of air emissions for the preceding month, by the 15th of each month, by populating a 12 month rolling tracking Excel workbook with the operational activity rates (tons per month of glass processed, MSW tipped and processed, and biosolids processed)" is impractical. No company would document any values with cause for concern on itself, data reported has the potential to be unreliable. This also does not address current operations going on at the facility (those that involve aluminum and other recycling processes that were relocated from the Shawmut Ave location in February 2020) and the impact the total operation could have on VOCs and PM 10. The fact that the company even had to prepare a complaint system to the extent the surrounding neighborhood could log the nuisance of odor, noise, and dust is proof that this project will have a detrimental effect on the surrounding community. If it were to have no significant effect on that community, there would be no need for a complaint logging system.

Best Management Practices is used throughout the document and in essence means "we don't know" and "haven't figured that out yet" therefore, insufficient for FEIR analysis and review. The fact a partial list of "Best Management Practices" with a few examples is confirmation of that. Full lists and documentation of "best management practices" should be required. Sensitive receptors is another word used throughout the document, and in reality the term means "acceptable collateral damage" or the "human beings that will be effected". The fact that the term is included in the document at all indicates that human beings will be negatively impacted. The people and communities of New Bedford and surrounding towns are being held responsible for a state and regional problem. They are being asked to shoulder the state's waste issues, which is irresponsible and unjust. These communities have

been historically overburdened and are now being burdened further. Across the state currently, environmental justice communities are being further exploited. There are better alternatives for the population of Massachusetts to pursue that will not include the further exploitation of these communities as this project does.

Energy & Environmental Affairs
Public Comments Portal

alexander.strysky@mass.gov

View Comment

Comment Details

EEA #/MEPA ID*	First Name	Address Line 1	Organization
15990	Elizabeth	3 Jennifer LAne	--
Comments Submit Date	**Last Name**	**Address Line 2**	**Affiliation Description**
3-26-2021	Swible	--	Individual
Review Due By	**Phone**	**State**	**Status**
4-5-2021	--	MASSACHUSETTS	Opened
Reviewer	**Email**	**Zip Code**	
Alex Strysky (857) 408-6957	lpswib@comcast.net	02745	

Comments

Topic: Opposition to Parallel Products of New England EEA #/MEPA ID* 15990

Secretary Kathleen Theoharides Executive Office of Energy and Environmental Affairs Attention: MEPA Office EEA No. 15990 100 Cambridge St. Suite 900 Boston, MA 02114 3/26/2021 Dear Secretary Theoharides, I am writing in regard to the proposed expansion of Parallel Products of New England at 100 Duchaine Blvd. located in the New Bedford Busines park. My name is Elizabeth Swible and I have been a resident of New Bedford for 52 years and have very serious concerns about the impact that this facility will have on the residents of our city. The location of this facility is in a densely populated residential community and is considered an Environmental Justice Community. I am opposed to this facility and asking that MEPA reject the Draft Environmental Impact Report (DEIR) submitted by Green Seal Environmental, Inc. hired by PPNE. I am concerned with the negative impact that the trucking-in, processing of, and the hauling out of bio-solid sludge from municipalities across the state will have on our community. The impacts include air quality, odor, traffic, pollution, and reduction of property value. My specific concerns include the following: • Odor emitting from this facility is a serious concern along with the chemicals that will be added and dispersed into the environment in any attempt to mask foul odors. How is this company going to mitigate air quality and odor as many factors including wind and temperature impact the air quality? • Will PPNE pay for a thorough odor audit? • I am concerned with the high volume of traffic and the trucking in of biosolid sludge through our community. • Noise has been an issue since PPNE has moved into the business park. This is a proposed 24-hour, 7-day functioning facility. Will PPNE provide this community with a thorough noise study? • PFC's have become a growing concern. The state of Maine has put in place restrictions on accepting fertilizer to be dumped onto farms because of high levels of PFC's contaminating Dairy and crop farms. The state of Mass is looking into this issue and how it will be handling PFC's. How will PPNE handle tracking the amount of PFC's in the bio sludge being accepted from across the region at this proposed facility? How will PPNE ensure that the public is informed? • Is there a study on the havoc this facility will cause on an already aging infrastructure of this city's sewage system? It was never imagined that the sewer lines would have to handle the volume of wastewater and corrosive materials that will be further processed and flushed from the bio sludge, again from highly populated municipalities across the state. • What impact will the contaminate from the chemicals added during the scrubbing process, odor control, and the sewage from the overall processing of this bio-sludge have on not only out wastewater treatment plant but the Buzzard Bay as well? I look forward to your response in addressing my concerns. Sincerely. Elizabeth Swible 3 Jennifer Lane New Bedford, MA 02745

Attachments

PPNE 15990.docx(null)

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BACK TO SEARCH RESULTS

From: Irene
To: Strysky, Alexander (EEA)
Subject: Parallel Products
Date: Sunday, February 28, 2021 1:31:48 PM

I guess "quality of life" only matters when it involves the powers that be. Unfortunately, I am not one among the chosen few since this proposed toxic waste site will sit a stone's throw across Phillips Road from my home. No, I am not rich, famous or politically connected but I do vote and I do pay taxes (which won't decrease when our property values do and I am extremely unhappy.

I am an 80 year old retired teacher not looking for anything more than safe, quiet surroundings to spend my final years – which I will not get with the traffic, pollution, noise and destruction of wet lands, etc., that Parallel Products will bring to our neighborhood.

I appreciate the need for more jobs so I am not asking that PP be denied. I am asking, however, that it be relocated to your housing complex so that you may enjoy the full benefits pf its expansion.

Irene Duprey-Gutierrez
1940 Phillips Rd. #14
New Bedford, Ma. 02745
(508)991-2598
Sent from Mail for Windows 10

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conservation law foundation

South Coast Neighbors United, Inc.

COMMUNITY ACTION WORKS
Confront polluters. Seed solutions.

For a thriving New England

CLF Massachusetts
62 Summer Street
Boston MA 02110
P: 617.350.0990
F: 617.350.4030
www.clf.org

March 26, 2021

Secretary Kathleen Theoharides
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114

Regarding: Parallel Products of New England, LLC, 100 Duchaine Boulevard, New Bedford, Massachusetts, Final Environmental Impact Report, EOEEA No. 15990

To Whom It May Concern:

The undersigned would like to express its serious concerns regarding the project proposed by Parallel Products of New England, LLC (the "Proponent") to be sited at 100 Duchaine Boulevard, New Bedford, (the "Site") and described in the Final Environmental Impact Report ("FEIR") described above (the "Proposed Facility"). ***The FEIR did not adequately address concerns raised in the comments to the DEIR, and the undersigned therefore request that the Secretary of the Executive Office of Energy and Environmental Affairs ("EEA") issue a Certificate requiring the Proponent to generate a supplemental EIR, and provide guidance on the scope of additional study and analysis needed.***

Conservation Law Foundation ("CLF") is a non-profit, member supported regional environmental organization working to conserve natural resources, protect public health, and promote thriving communities in New England. Through CLF's Zero Waste Project, CLF aims to protect New England communities from the dangers posed by unsustainable waste generation and disposal. CLF's Massachusetts members include residents with a deep interest in protecting our natural resources and in reducing the need for landfills and incinerators and promoting Zero Waste programs in the Commonwealth.

South Coast Neighbors United is a non-profit, grassroots organization of concerned residents who came together in 2015 in opposition to Access Northeast, a project proposed to expand and construct unnecessary and dangerous natural gas infrastructure in South Coast communities. SCNU shares factual information with the public about the true risks that this, and other similar projects, pose to their community's health, safety, financial security, and the environment.

Community Action Works is a non-profit, regional organization that works side by side with everyday people to confront those who are polluting and harming the health of our communities. They partner with the people who are most impacted by environmental problems and train them with the know-how anyone would need to make change in their own backyard.

The Proposed Facility includes:

- Glass processing plant that will crush, size, and separate glass by color that has been collected through the Massachusetts bottle deposit system.[1] This glass cullet will then be sold for the production of new glass products;
- Rail sidetrack to be built from the existing rail line adjacent to 100 Duchaine Boulevard;[2]
- Solar canopies to be constructed on a canopy system;[3]
- Transfer station for Municipal Solid Waste ("MSW") and Construction and Demolition ("C&D") materials, with some processing ("Proposed Transfer Station," or "Proposed Dirty MRF") that will accept about ***450,000 tons of trash a year***, (1,500 tons a day, 300 days a year) and ship almost all of that waste out for disposal by rail;[4] and,
- Sewer sludge drying facility that will accept about ***15,000 tons of sewer sludge a year*** (50 tons a day).[5]

As per 301 CMR 11.07, the final EIR should expound on "aspects of the Project or issue that require further description or analysis and a response to comments. . ."[6] Within seven days after the close of the public comment period, the Secretary of the EEA shall determine if the FEIR is adequate or inadequate.[5] If inadequate, the Secretary shall require the Proponent to file a supplemental EIR in accordance with 301 CMR 11.07.[7]

While the undersigned reserve their right to comment more specifically in the future regarding noise, odor, traffic, vector, water and air pollution, impacts on nearby residents, and greenhouse gas concerns, ***we request that the Secretary require the Proponent to provide more detailed information in a supplemental EIR regarding the impact of the Proposed Dirty MRF and rail transport on the Commonwealth's solid waste system, the Environmental Justice community the Proposed Facility would be located in, a baseline review of soil and groundwater conditions at the Site, how a sewer sludge drying facility would impact sludge treatment and disposal in the region, and the leachate generated and best treatment options for that leachate for the following reasons:***

I. Impact of Proposed Facility on Commonwealth's Solid Waste System

[1] Certificate of the Secretary of Energy and Environmental Affairs on the Draft Environmental Impact Report, January 30, 2020, p. 2.
[2] Id.
[3] Id.
[4] Id. and FEIR, p. 190.
[5] Id. and FEIR, p. 190.
[6] 301 CMR 11.07(4)
[7] 301 CMR 11.08(8)(c)2.

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conservation law foundation

South Coast Neighbors United, Inc.

COMMUNITY ACTION WORKS
Confront polluters. Seed solutions.

A. Solid Waste Disposal in Massachusetts – No Progress in Last Ten Years

In 2019, the Commonwealth of Massachusetts generated 5.5 million tons of solid waste for disposal.[8] This is 100,000 tons more than we disposed of a decade ago in 2010, despite plans to significantly decrease disposal by 2020, the almost total elimination of office paper and newspapers, and the increased infrastructure for processing food waste. In its 2020 Solid Waste Master Plan: A Pathway to Zero Waste[9] and the 2030 Draft Solid Waste Master Plan[10], the Department of Environmental Protection of the Commonwealth of Massachusetts ("MassDEP") continues to frame solid waste as an issue of providing disposal capacity. In other words, providing some place for our trash to go, even if that means continuing to allow the oldest incinerator in the country to belch pollution in Saugus, or continuing to ship trash to Ohio, New York, South Carolina, New Hampshire, Maine, and Virginia.[11]

Table 3 Solid Waste Disposal 2010-2019 (all data in tons)

			2010	2011	2012	2014	2015	2016	2017	2018	2019
Disposal			**5,430,000**	**5,610,000**	**5,400,000**	**5,520,000**	**5,510,000**	**5,610,000**	**5,720,000**	**5,660,000**	**5,510,000**
	Landfill		**1,560,000**	**1,650,000**	**1,700,000**	**1,560,000**	**1,380,000**	1,330,000	1,310,000	1,270,000	**880,000**
		MSW	1,280,000	1,390,000	1,380,000	1,380,000	1,260,000	1,170,000	1,140,000	1,190,000	**820,000**
		C&D	120,000	70,000	100,000	50,000	50,000	70,000	70,000	0	**0**
		Other	170,000	190,000	220,000	130,000	70,000	90,000	110,000	70,000	**60,000**
	Combustion		**3,180,000**	**3,260,000**	**3,210,000**	**3,270,000**	**3,250,000**	**3,190,000**	**3,180,000**	**3,200,000**	**2,990,000**
		MSW	3,170,000	3,250,000	3,210,000	3,260,000	3,250,000	3,170,000	3,140,000	3,180,000	**2,970,000**
		Non-MSW	10,000	10,000	0	0	10,000	20,000	30,000	20,000	**10,000**
	Net Exports		**690,000**	**700,000**	**490,000**	**690,000**	**880,000**	**1,090,000**	**1,230,000**	**1,190,000**	**1,640,000**
		Exports	1,270,000	1,340,000	1,050,000	1,190,000	1,380,000	1,560,000	1,790,000	1,820,000	**1,970,000**
		MSW	690,000	630,000	510,000	460,000	620,000	680,000	820,000	750,000	**820,000**
		Non-MSW	580,000	710,000	540,000	730,000	760,000	880,000	970,000	1,070,000	**1,140,000**
		Imports	580,000	640,000	560,000	490,000	500,000	460,000	570,000	630,000	**330,000**
		MSW	440,000	390,000	420,000	460,000	460,000	420,000	540,000	610,000	**310,000**
		Non-MSW	140,000	240,000	150,000	40,000	50,000	40,000	20,000	20,000	**20,000**

Table 4 MSW and NON MSW Disposal 2010-2019

	2010	2011	2012	2014	2015	2016	2017	2018	2019	% change vs 2018
Total Disposal (Tons)	5,440,000	5,620,000	5,390,000	5,510,000	5,510,000	5,620,000	5,720,000	5,650,000	5,490,000	-0.03
MSW	4,700,000	4,880,000	4,680,000	4,640,000	4,670,000	4,600,000	4,560,000	4,510,000	4,300,000	-0.05
Non-MSW	740,000	740,000	710,000	870,000	840,000	1,020,000	1,160,000	1,140,000	1,190,000	0.04

This approach has not worked to reduce disposal, and it will not work. New Hampshire similarly has historically permitted new landfill capacity in an effort to provide disposal options for its residents and business sector, and imports almost a million tons of waste a year for disposal from out of state.[12] Yet New Hampshire also exports about 500,000 tons of waste each year to be

[8] 2019 Solid Waste Data Update, https://www.mass.gov/doc/2019-solid-waste-data-update/download, p. 3. Disposal for the purposes of these comments means burned in an incinerator or buried in a landfill.
[9] Massachusetts 2010-2020 Solid Waste Master Plan, April 2013, https://www.mass.gov/doc/2010-2020-solid-waste-master-plan-a-pathway-to-zero-waste/download
[10] Draft for Public Comment, Massachusetts 2030 Solid Waste Master Plan September 2019, https://www.mass.gov/doc/draft-2030-solid-waste-master-plan/download
[11] Id. at p. 5.
[12] 2019 Biennial Solid Waste Report, NH DES, p. 4 https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/r-wmd-19-02.pdf

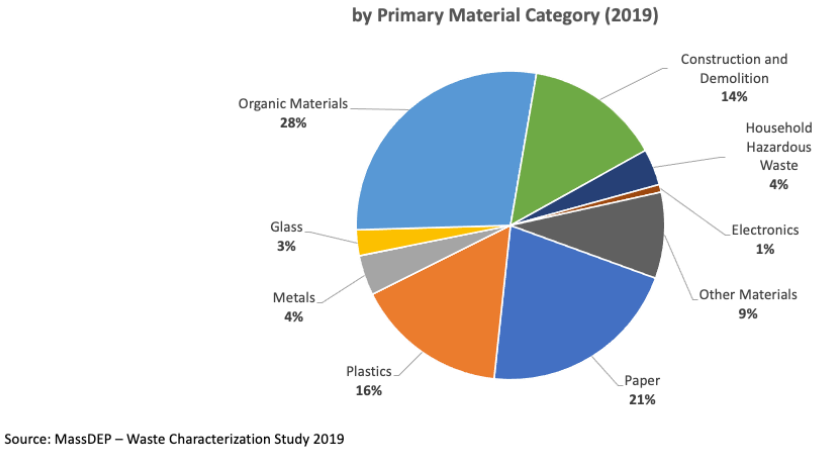
landfilled elsewhere[13], meaning New Hampshire's landfills are not actually netting a benefit for New Hampshire. Disposal will decrease when it is NOT convenient.

In reality, the scarcer disposal capacity is, the more likely it will be that we will take meaningful action to reduce, reuse, and recycle, once we are resolved to do so. Connecticut has rejected building a "massive transfer station for shipping waste out of state" when faced with the imminent closure of one of their largest solid waste incinerators.[14] Instead, Connecticut's Department of Energy and Environmental Protection is pursuing, "unit-based pricing for solid waste disposal, greater promotion of recycling, and separation of food waste for composting."[15]

The Commonwealth must also stop enabling endless waste disposal. The easier and cheaper it is to dispose of waste, the more the system remains unchanged, and the harder it is to establish working Zero Waste programs. Instead, the Commonwealth must also adopt unit-based pricing to incentivize waste reduction, strengthen and establish producer responsibility systems, like the Bottle Bill and EPR for packaging, entirely ban disposal of food scraps, and enforce our existing waste bans vigorously. As shown on the pie chart below, much of the trash we are disposing of could be recycled or composted if it was properly sorted at its source. We have good, workable solutions that would save cities, towns, and businesses money and create good, local jobs. We should follow Connecticut's lead and NOT build huge transfer stations to ship our waste out of state.

[13] The NCES "public benefit" report, p. 4 cites both CDD and MSW export figures. https://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4834062
[14] "Lamont won't back $330M trash plant subsidy" Harford Business Journal, July 15, 2020 https://www.hartfordbusiness.com/article/lamont-wont-back-330m-trash-plant-subsidy
[15] Id.

Overall Waste Composition in Massachusetts



Source: MassDEP – Waste Characterization Study 2019

The Proponent failed to address any of these concerns in the FEIR. The Proposed Facility would not enable or encourage the Commonwealth to reduce, reuse, recycle or compost our trash, obviating the need for disposal. Instead, this would make it easier and cheaper to ship our waste out of state, and out of mind. This is unacceptable and in direct contradiction to the goals and polices adopted by the Commonwealth. ***The undersigned request that the Secretary require the Proponent submit a supplemental EIR to address this problem, and explain how this Proposed Facility would do anything other than encourage the Commonwealth to generate solid waste for disposal.***

B. Recycling in Massachusetts – Broken and Expensive

Our recycling system is also broken. Right now in Massachusetts, only about 690,000 tons of materials a year are collected and brought to materials recycling facilities, or MRFs.[16] There, materials collected mainly from curbside recycling systems are sorted manually and by machines. MRFs do not accept trash, but recyclables diverted from the waste stream.

When waste companies adopted single stream collection systems for recycling about ten years ago, they told the public to throw items in recycling that there has never been a market to recycle.[17] MRFs, many run by waste companies, sent very contaminated bundles of mixed plastic

[16] Massachusetts Materials Management Capacity Study, MSW Consultants, MassDEP, February, 2019, page 2-5, https://www.mass.gov/doc/massachusetts-materials-management-capacity-study-february2019/download

[17] Cambridge Switches to Single-Stream Recycling, August 18, 2010, "There are also going to be new materials that are going to be accepted as part of the single-stream program: empty pizza boxes; big plastic items like laundry baskets, buckets, plastic toys; spiral cans like those that potato chips, coffee, or

and paper to China, where it was further sorted and/or recycled or disposed of.[18] Now that China is no longer willing to accept our low grade materials, the recycling market has fallen apart.[19] As a result, those same waste companies are charging cities and towns in Massachusetts astronomical per ton tipping fees to accept and sort their recycling.[20]

Many of these single stream materials are not recycled, but downcycled, or worse, disposed of and used as landfill cover. Plastic beverage containers that are not covered by deposit systems are unlikely to be recycled. The national recycling rate for plastic beverage containers collected curbside is only 28%, while the national recycling rate for plastic containers in bottle bill states is 72%.[21] According to the National Waste and Recycling Association, 25% of what is placed into single-stream recycling is too contaminated to go anywhere other than a landfill[22] only 40% of glass placed into single-stream recycling collections actually gets recycled.[23] In other words, even the bottles, cans, cardboard, and paper in curbside systems are NOT getting purchased by recycling companies after they leave the MRFs to be made into new bottles, cans, cardboard, and paper.

Against this backdrop, the idea that Proponent will be able to extract usable recyclables with any value from a Dirty MRF is ludicrous.

Proponent is proposing to construct a "Transfer Station" but operate parts of it like a "Dirty MRF." 310 CMR 16.00 defines a "Transfer Station," as a "handling facility where solid waste is brought, stored, and transferred from one vehicle or container to another vehicle or container for transport off-site to a solid waste handling or disposal facility." Some of the waste would be delivered baled to the Proposed Facility, and then it will be loaded directly onto rail cars to be shipped off-site for disposal. None of the baled MSW would be recycled.[24] The Proposed Facility would also accept C&D residuals (Construction and Demolition materials that are left over after all of the recyclables have been extracted) and C&D bulky waste, both of which have

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nuts come in; and empty paper coffee cups." None of these items are accepted now in curbside programs, and none of them were recyclable then. http://www.warmhomecoolplanet.org/cambridge-switches-singlestream-recycling/

[18] https://e360.yale.edu/features/piling-up-how-chinas-ban-on-importing-waste-has-stalled-global-recycling#:~:text=It has been a year since China jammed,world's recyclable waste for the past quarter century.

[19] Id.

[20] https://www.bostonglobe.com/metro/2020/01/11/national-recycling-crisis-hits-hard-western-massachusetts/cn6o05CAvXmYzwyqWFCniJ/story.html

[21] Simon Scarr & Marco Hernandez, Downing in Plastic: Visualizing the World's Addiction to Plastic Bottles, Reuters. (Sept. 4, 2019).

[22] Maggie Koerth, The Era of Easy Recycling May be Coming to an End, FiveThirtyEight (Jan. 10, 2019).

[23] Mitch Jacoby, Why Glass Recycling in the U.S. Is Broken, Chemical & Engineering News (Feb. 11, 2019).

[24] DEIR, page 7.

little or no recyclable value.[25] In regards to the baled MSW and C&D waste, the Proposed Facility would be a Transfer Station.

A "Dirty MRF" is a Materials Recycling Facility that accepts and processes recyclables mixed in trash, including food scraps, household hazardous waste, and the non-recyclable materials commonly found in residential and commercial waste, as well as recyclable materials. Proponent plans to cherry pick recyclables out of the loose MSW -- by hand or mechanization -- to remove recyclable commodities based on changing markets, which Proponent lists as metals, cardboard, aluminum, wood, glass, PET plastic, paper and other plastics.[26] The rest of the MSW would be baled and shipped out on rail cars.

Unfortunately, due to high levels of contamination (materials that are not recyclable) this is untenable at a Dirty MRF. If MRFs are not producing clean recyclable materials cheaply, why would the Commonwealth consider allowing a Dirty MRF to be built? ***The Proposed Facility would do nothing but ensure that the Commonwealth of Massachusetts continued shipping trash, at least 450,000 tons a year, out of state for the indefinite future.***

C. **The Proposed Dirty MRF is a highly optimistic, inefficient, misguided, and polluting concept:**

Optimistic, because a Dirty MRF is even more unlikely to yield any marketable recyclables than a regular MRF. Proponent estimates that this Dirty MRF would extract about 20%, or more, from the MSW for recycling. The rest would be shipped out of state to be landfilled or burned in an incinerator. The DEIR is unclear on what that 20% recyclable materials actually represents, particularly given how little of the materials will be recyclable as:

- None of the baled MSW will be recycled.
- Organics like food scraps and yard waste usually comprise about a third of MSW, and none of them are recyclable. Organics should be source separated initially so they don't contaminate the recyclables and so they can be composted.
- The type of C&D the Proponent is planning to accept is by definition unrecyclable.
- Most of the cardboard, paper, and glass will be too contaminated by food and other materials to sell.
- Proponent states that it plans on processing Bottle Bill glass at their glass facility, not glass from their own Dirty MRF, probably because it would contaminate the cullet they will produce. Proponent will not recycle glass from their own Dirty MRF.

[25] DEIR, page 8.
[26] DEIR, page 9.

- Metal (including aluminum) is only about 4% of the waste stream.[27] Currently there is no market for most plastic – only PET and HDPE plastics are getting recycled, and only then if they are well-sorted and clean. According to the most recent 2019 Waste Characterization Studies, they account for about 5% of the waste stream.[19]

Inefficient, because the expense of processing the materials is unlikely to pay for itself. It would be much more efficient if materials were sorted and diverted up front before they went into the trash or single-stream containers. Even in the current depressed markets places like the Towns of Wellesley or Sturbridge that deep sort their recyclables still can sell much of their cardboard/paper and containers for a profit, because they are clean and uncontaminated. In fact, if the food scraps, yard waste, and recyclable materials like containers, cardboard, and textiles were not initially commingled, somewhere between 70%-80% of the Commonwealth's MSW could be composted or recycled.[15]

Misguided, because while the DEIR states, "The proposed project is being developed to fill a need in the Commonwealth for processing and economical transfer to out of state proposal sites," in accordance with the Massachusetts 2010-2020 Solid Waste Master Plan, in actuality that plan was called "A Pathway to Zero Waste," because it prioritized the reduction, recycling, and composting of solid waste. Shipping solid waste out of Massachusetts was never the goal of MassDEP, in fact over the last ten years it has been viewed as a policy failure at Solid Waste Action Committee meetings held at MassDEP.

Polluting, because investing in the Proposed Dirty MRF may seem like investing in recycling infrastructure, when in actuality it will be an investment in polluting landfills to accept our surfeit of solid waste in states with less rigorous siting regulations, like New Hampshire, Ohio, or Virginia. Given that all landfills leak toxic leachate[28] and emit toxic landfill gas,[17] this is polluting and morally reprehensible.

The Proposed Dirty MRF will result in no reduction, no composting, and little, if any, recycling of the Commonwealth's waste. It will also exacerbate two major impediments to the evolution of Massachusetts' solid waste system: 1) Cheap out of state disposal has allowed us to avoid

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[27] Overall Waste Composition by Detailed Material Category, 2016 Sampling Excel Spreadsheet, https://www.mass.gov/guides/solid-waste-master-plan#-waste-characterization-&-capacity-studies- [14] Overall Waste Composition by Detailed Material Category, 2016 Sampling Excel Spreadsheet, https://www.mass.gov/guides/solid-waste-master-plan#-waste-characterization-&-capacity-studies- [15] Overall Waste Composition by Detailed Material Category, 2016 Sampling Excel Spreadsheet, https://www.mass.gov/guides/solid-waste-master-plan#-waste-characterization-&-capacity-studies-
[28] All Landfills Leak, and Our Health and Environment Pay the Toxic Price, Kirstie Pecci, https://www.clf.org/blog/all-landfills-leak-and-our-health-and-environment-pay-the-toxic-price/ [17] Landfills Have a Huge Greenhouse Gas Problem. Here's What We Can Do About It, Erica Gies, Ensia,
October 25, 2016, https://ensia.com/features/methane-landfills/

adopting programs to incentivize waste reduction; and, 2) Poor recycling systems that generate poor quality recyclables, moving us no closer to circular production systems.

The bales of trash would be loaded onto rail cars for disposal off site, "generally out of state," said the Proponent.[29]

The undersigned request that the Secretary require the Proponent submit a supplemental EIR to address this what marketable materials they will remove from the trash to achieve 20%, especially considering that much of the waste they accept will be transferred without extracting any recyclables.

II. Environmental Justice Impacts of the Proposed Facility

Waste transfer stations like this one have long been recognized as a health and environmental burden when located in dense, low-income communities. In 2000, a report prepared for the U.S. Environmental Protection Agency ("EPA") by the National Environmental Justice Advisory Council ("NEJAC") found that transfer stations "are disproportionately clustered in low-income communities and communities of color," and that these stations "can bring many problems to a community if they are not managed correctly," including "quality of life issues such as noise, odor, litter, and traffic, . . . environmental concerns associated with poor air quality (from idling diesel-fueled trucks and from particulate matter such as dust and glass)."[30] In its analysis for EPA, NEJAC also found that "when issuing permits for [transfer stations], local permitting agencies typically fail to consult with potentially impacted neighborhoods regarding the environmental impact of proposed [transfer stations]."[31]

Proponent recognizes that "EJ populations are those segments of the population that the Executive Office of Environmental Affairs has determined to be most at risk of being unaware of or unable to participate in environmental decision-making or to gain access to state environmental resources or are especially vulnerable."[32] Proponent acknowledges that the Site is within "an Environmental Justice area."[33] so it meets the first condition necessary to trigger additional procedural requirements, as well as enhanced analysis. The Proposed Facility also exceeds "a mandatory EIR threshold for air, solid and hazardous waste. . . or wastewater sewage sludge treatment and disposal," and as such, the EJ Policy requires not only enhanced public participation through, "use of alternative media outlets such as community or ethnic newspapers.

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[29] https://www.southcoasttoday.com/news/20190329/business-of-waste-parallel-products-and-neighbors-dont-see-it-same

[30] NEJAC, A Regulatory Strategy for Siting and Operating Waste Transfer Stations, v (2000), https://www.epa.gov/sites/production/files/2016-03/documents/waste-trans-reg-strtgy_1.pdf

[31] *Id.* at 27.

[32] DEIR, page 42.

[33] FEIR, pg. 177.

. . and translation of materials or interpretation services at public meetings,"[34] but also "substantively provides for enhanced analysis and review of impacts and mitigation in relation to projects that meet both conditions."[35]

This is appropriate, because for each of the Baseline Health indicators listed in the DEIR – Asthma Hospitalizations, Asthma Emergency Department Visits, Pediatric Asthma, Cancer, Chronic Obstructive Pulmonary Disease, Chronic Obstructive Pulmonary Hospitalization, Chronic Obstructive Pulmonary Emergency Department Visits, Acute Myocardial Infarction Hospitalizations, etc., -- New Bedford's rates are statistically elevated when compared to the statewide rates.[36]

Today, the Governor of Massachusetts is signing **An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy**, which includes significant environmental justice provisions, specifically the consideration of "cumulative impacts" from new projects. For communities like New Bedford, this new standard is, as it should be, a game changer.

Given the new standards this project will have to meet, and the burdens the community is already laboring under, the undersigned request that the Secretary require an enhanced environmental review and analysis of impacts which should include, at a minimum, baseline public health conditions within New Bedford and nearby communities, and on-site and off-site mitigation to reduce impacts on this frontline population.[37] A more comprehensive review of the Commonwealth's solid waste infrastructure is also warranted before siting yet another large facility in an EJ community, especially considering that six of the state's seven solid waste incinerators are already in EJ communities.[38]

III. Leachate-Contaminated Wastewater at the Proposed Transfer Station Poses a Risk to Water Quality.

The Proposed Transfer Station will collect waste liquids, including leachate, from the tipping floor and processing areas in a "floor drain system" and thence it will be trucked for disposal into a waste water treatment plant, or, if allowed, the New Bedford Sanitary Sewer.[26] The "fresh" leachate found at waste transfer stations contains high concentrations of heavy metals and

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[34] City of Brockton v. Energy Facilities Site Bd., 49 Mass. 196 (2014), page 4.
[35] *Id.*
[36] DEIR, page 42-49
[37] Environmental Justice Policy of the Executive Office of Energy and Environmental Affairs, Nos. 16 & 17, page 10. https://www.mass.gov/files/documents/2017/11/29/2017-environmental-justicepolicy_0.pdf
[38] Aging Waste Incinerators Pose a Danger to New Englanders, Kevin Budris December 9, 2019, https://www.clf.org/blog/aging-incinerators-pose-a-danger/ [26] DEIR, page 10.

nitrogen, high chemical oxygen demand values, and has a strong odor.[39] Leachate has also been found to contain Per- and Polyfluoroalkyl Substances ("PFAS"),[40] highly toxic human-made contaminants of emerging concern that pose a wide array of health risks, including cancer; growth, learning, and behavioral problems; infertility; and impaired immune, liver, thyroid, and pancreatic function.[41] Collecting the leachate and sending it to New Bedford and other waste water treatment plants will not "treat" or remove these contaminants from the leachate, instead the PFAS and other "forever chemicals" are released into our rivers and ocean.[42] Some waste water treatment plants have become so concerned about this prospect that they have canceled contracts to accept untreated leachate.[43] ***Given this, the leachate at the Proposed Facility should be tested and treated prior to sending it into a waste water treatment plant, and the Secretary should require that a supplemental Environmental Impact Report detail how the leachate would be tested and handled.***

IV. Gaps in Information

Proponent notes that this site was previously owned by Multilayer Coating Technologies, and before that by the Polaroid Corporation.[44] The Site was used by both previous owners to manufacture film.

The City of New Bedford retained Weston & Sampson Engineers, Inc. to review the environmental documentation pertaining to the Site, which was summarized in *City of New Bedford, Massachusetts, Parallel Products Document Review Report, January 2020* (the "Weston & Sampson Report"). *See Exhibit A.* Past conditions at the Site include:[45]

- Recycling of up to 5,800,000 gallons/year of Methyl Ethyl Ketone, Ethyl Acetate, and other non-specified solvents. The relevant RCRA permit does not discuss if the chemicals were handled properly, the housekeeping, or storage of the chemicals, which is unknown.
- Six underground storage tanks for fuel oil and Class A Flammable Fluids.

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[39] Seyed Mohammad Dara Ghasimi, Batch Anaerobic Treatment of Fresh Leachate from Transfer Station, 3 Journal of Engineering Science and Technology 3, 257 (2008).
[40] Jessie J. O. King, Emerging Contaminants & Landfill Leachate, 30–48 (2019), http://www.scswana.org/resources/Documents/2019%20Spring%20Conference/08%20-%20King%20%20Emerging%20Contaiminants%20and%20LF%20Leachate.pdf.
[41] *See generally* U.S. Dept. of Health and Human Servs., Toxicological Profile for Perfluoroalkyls (2018), https://www.atsdr.cdc.gov/toxprofiles/tp200.pdf.
[42] *Toxic PFAS chemicals can be dumped into Merrimack River, federal and state officials say*, Cole Alder, November 6, 2019, https://pfasproject.com/2019/11/06/toxic-pfas-chemicals-can-be-dumped-intomerrimack-river-federal-and-state-officials-say/
[43] *Lowell water treatment plant to stop accepting toxic water from N.H. landfill*, The Boston Globe, David Abel, November 7, 2019, https://www.bostonglobe.com/metro/2019/11/07/lowell-water-treatmentplant-stop-accepting-toxic-water-from-landfill/tmXpsDYlCI6Bow0rovemkJ/story.html
[44] FEIR, at p. 11
[45] Weston & Sampson Report

- Drum storage up to 25,000 gallons (contents unspecified).
- 80,000 gallons capacity in eight separate above-ground storage tanks (contents unspecified).
- Propane tanks, cylinders, and storage.
- A series of large underground bunker fuel oil tanks.

Weston & Sampson concluded that the status of the tanks is unknown, and there is no closure documentation. Due to at least three releases at the Site, there have been groundwater monitoring activities and soil sampling in the past.[46] While Weston & Sampson concluded there was no evidence of ongoing releases, they did find that a number of data gaps and deficiencies existed.[47] They also found that residual impacts may be present which would need to be managed, and that the most recent soil and groundwater conditions were collected in the 1990s, constituting a data gas with respect to existing site conditions.[48]

Additionally, Weston & Sampson note that new reportable concentrations and cleanup standards under the Massachusetts Contingency Plan regulations have been promulgated for per- and poly-fluoroalkyl substances ("PFAS").

Weston & Sampson recommended an environmental assessment to evaluate current soil and groundwater at the Site, to establish a baseline, especially for emerging contaminants of concern like PFAS.[49] ***We, the undersigned, also recommend an environmental assessment be conducted and submitted by Proponent as part of a supplemental EIR, to not only establish a baseline, but to ensure that there are not existing conditions that would endanger the surrounding community due to the development and operation of the Proposed Facility.***

V. Sewage Sludge in the Commonwealth – No Plan, No Clear Direction

This year the undersigned learned that Aries LLC has proposed a large scale, regional, sewer sludge dryer and incinerator (using gasification) in Taunton, Massachusetts. *See Exhibit B.* Aries LLC originally was going to work with the Proponent in New Bedford, though that plan seems to have been abandoned. The undersigned are very concerned about the proliferation of sewage sludge treatment facilities in the region at a time when it is becoming more clear every day that MassDEP must set standards for PFAS emissions prior to allowing any long term infrastructure to be built. Furthermore, reasonable concerns about the toxicity of PFAS have caused any market for spreading dried sewage sludge to disappear.

[46] Weston & Sampson Report, pgs. 3.1-3.2
[47] Id, at 4.1
[48] Id.
[49] Id.

Both the New Bedford and Taunton proposals make clear that a plan for managing sewage sludge safely is desperately needed in Massachusetts. ***To avoid a "race to bottom," i.e., development of dangerous facilities in EJ communities competing for host fees, the Secretary should immediately place a moratorium on sewer sludge infrastructure until such time as the agency has developed a plan for the long-term management of sewer sludge that includes standards for protecting human health and the environment from PFAS.***

VI. Conclusion

Proponent defined this Proposed Facility as a Processing Facility that would divert recyclables in large numbers from disposal. In reality, it is a Transfer Station as it pertains to the baled MSW and C&D it accepts, and a Dirty MRF that will yield very little material that is actually recycled, just disposal for almost all of the loose MSW it accepts. None of the responses in the FEIR alter or even challenge this analysis. Given that, and the additional procedural requirements, as well as enhanced analysis due this Proposed Facility under the Environmental Justice Policy, the undersigned respectfully request that the Secretary issue a Certificate requiring the Proponent to generate a supplemental EIR, and provide guidance on the scope of additional study and analysis needed.

Thank you for your consideration.

Respectfully submitted,

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Interim VP of Environmental Justice
Director Zero Waste Program

Wendy M. Graca,
South Coast Neighbors United, Inc.
President

clf
conservation law foundation

South Coast Neighbors United, Inc.

COMMUNITY ACTION WORKS
Confront polluters. Seed solutions.

Sylvia Broude,
Community Action Works
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REPORT

January 2020

CITY OF
New Bedford
MASSACHUSETTS

Parallel Products Document Review

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LIST OF APPENDICES

1.0 INTRODUCTION

At the request of KP Law, P.C., acting as special counsel to the City of New Bedford (the City), Weston & Sampson Engineers, Inc. (Weston & Sampson) performed a review of environmental documentation pertaining to the Parallel Products site, located off of Duchaine Boulevard in New Bedford, Massachusetts (the "Site"). It is our understanding that Parallel Products is seeking to establish a recycling and disposal facility at this property. The City, through its counsel, KP Law, has asked Weston & Sampson to review certain documents regarding the Site. Specifically, Weston & Sampson reviewed existing information regarding the proposed use and current Massachusetts Department of Environmental Protection (MassDEP) Solid Waste and Bureau of Waste Site Cleanup regulations. Documents reviewed included the following submittals provided by the City:

- Stormwater Pollution Prevention & Sediment Erosion Control Plan (excerpts only);
- Recycling Permit – Massachusetts Department of Environmental Protection – Division of Hazardous Waste;
- Various storage tank records, State and local departments;
- Massachusetts Contingency Plan Documentation, Release Tracking Numbers 4-12272, 4-12617, 4-16316, 4-10113;

Note that this review was limited to the documents provided, as well as readily available supplemental information pertaining to the identified site releases and recycling permit, available from MassDEP databases. Based on our review of the aforementioned documents, Weston & Sampson offers comments regarding these submittals in Sections 2.0 through 4.0.

2.0 CONSERVATION COMMISSION PROVIDED DOCUMENT REVIEW

Weston & Sampson offers the following comments regarding the following submittals that were included in the document package provided by the Conservation Commission. Note that our review was limited to those documents or excerpts provided, and does not represent a comprehensive review of regulatory submittals, permits, or other documents regarding the site.

2.1 Stormwater Pollution Prevention & Erosion and Sediment Control Plan (2017)

The Stormwater Pollution Prevention Plan & Erosion and Sediment Control Plan (SWPP) was included in a Notice of Intent (NOI) submittal, which was part of an EPA National Pollutant Discharge Elimination System (NPDES) permit for the proposed construction project. A NPDES permit and SWPP is required for any construction project impacting an area greater than or equal to 1 acre. Only a limited excerpt of the SWPP was provided, therefore, a data gap exists. However, based on the information contained therein, the SWPP appears to meet its purpose and did not show evidence of a larger environmental concern in relation to the property or project.

2.2 Recycling Permit – Department of Environmental Protection Division of Hazardous Waste (1995)

This document relates to permitted recycling operations of Methyl Ethyl Ketone (MEK), Ethyl Acetate, and other non-specified solvents at up to 5,800,000 gallons / year as part of manufacturing operations for polaroid film media. Solvents were reportedly contained in a closed-loop distillation process, with overall hazardous waste generation for the facility tracked under Facility ID # MAD058060476 . The permit reportedly expired in 2000, and review of the overall facility tracking number through the RCRA Generator Database did not indicate any violations. It is unclear if operations continued after 2000, which represents a data gap. The RCRA permit does not discuss if chemicals were handled appropriately at the Site, only that chemicals were stored at the Site. The housekeeping and storage of the chemicals is an unknown, or data gap.

2.3 Various Storage Tank Records, State and Local Departments

The documents reviewed include several permit applications for licensing, maintenance, installation, and decommissioning of a series of underground storage tanks associated with No. 6 fuel oil, No. 2 fuel oil, and Class “A” Flammable Fluids. The Class “A” Flammable Fluids storage was originally licensed in 1970 and included permits for both drum storage as well as six underground tanks totaling 12,000-gallons of capacity. This license was amended in 1992 - 1993 to include the following:

- Drum storage up to 25,000 gallons (unspecified contents),
- 80,000-gallon capacity in eight separate above-ground storage tanks (unspecified contents),
- Various propane tanks, cylinders, and additional small lighter-than-air gas storage.

Further information may be available from the New Bedford Fire Department, however, based on the permit information provided and apparent lack of violations, conditions associated with flammable liquid storage are not expected to represent an environmental concern assuming all relevant permits are current and in accordance with state and local regulations. The condition of the tanks and storage vessels, as well as how they were filled / dispensed is unknown and is a data gap.

The documents reviewed also included an additional series of tank records relating to a series of large underground bunker fuel oil tanks, which appear to have been constructed around 1991 to service an on-site power plant. These tanks consist of three concrete bunkers, ten feet deep, with a shared

concrete slab foundation. In addition to providing fuel storage capacity, these structures served as foundational support for two concrete cooling towers, as well as acting as bermed containment basins for collection of tower condensate. Two of the tanks appear to have been decommissioned by 1998, with the contents removed and interior surfaces cleaned. The third bunker was retrofitted with three steel storage tanks for continued fuel oil storage in 1998 – 1999. However, due to concerns with differential settling and damage to the cooling towers and piping, these tanks were reportedly abandoned in place without backfilling.

The current status of the tanks is unknown from the documents provided, but due to the lack of closure documentation, it is possible that the steel fuel oil tanks remain active and in service. The lack of information constitutes a data gap. These tanks were reportedly gauged manually and groundwater monitoring wells in the vicinity of both the tanks were sampled for petroleum analysis. Further discussion of groundwater monitoring activities are provided in Section 3.0 under Release Tracking Number (RTN) 4-10113.

3.0 MASSACHUSETTS CONTINGENCY PLAN DOCUMENT REVIEW

Several documents issued by the MassDEP Bureau of Waste Site Cleanup (BWSC) were included in the provided files. Three separate Notices of Responsibility (NORs) identified releases of oil or hazardous material at addresses on Duchaine Boulevard, and are tracked under RTNs 4-12272, 4-12617, and 4-16316. Additionally, a Notice of Noncompliance (NON) was identified for RTN 4-10113 related to a fuel oil release from the on-site storage tanks discussed above. Available documentation pertaining to each RTN was reviewed through the BWSC Database for additional information, as summarized below.

3.1 RTN 4-12272

The provided NOR (dated July 1, 1996) does not specify the nature of the release / threat of release, and this RTN does not appear in the BWSC Database. It is possible that this RTN was issued in error or subsequently retracted. Therefore, Weston & Sampson cannot comment on this RTN due to lack of information.

3.2 RTN 4-12617

The provided NOR (dated November 6, 1996) references a release of 1,100 pounds of ethyl acetate to the atmosphere due to a misconfigured system after-burner. Response actions reportedly consisted of assessment only and no records for this RTN were found in the BWSC Database. Based on the nature of the release (i.e., to the atmosphere) and nature of requested response actions, conditions associated with RTN 4-12617 likely do not appear to represent a current environmental concern in association with the property.

3.3 RTN 4-16316

According to NOR Database records, in June 2001 Polaroid Wastewater Treatment Plant personnel identified a leak in a supply line from a sulfuric acid storage tank located within a concrete containment structure. During the course of investigating this release, impacts to underlying soils in the area of the sulfuric acid tank were discovered, and subsequently addressed through a series of remedial actions. The tank was emptied of its contents, concrete containment structure was demolished, tank emptied of contents, and 347 tons of soils underlying soils disposed of at a licensed off-site facility. Impacts were not identified in groundwater samples collected from the excavation. Based on the results of confirmatory sampling, a condition of No Significant Risk (NSR) was achieved and the release was closed with a Class A-1 Response Action Outcome (RAO) Statement. Based on the nature of the release, completed remedial activities, and current regulatory status, conditions associated with RTN 4-16316 does not appear to represent a current environmental concern in association with the property.

3.4 RTN 4-10113

Based on our review of the MassDEP documents associated with this release, in 1986, Polaroid personnel identified free-phase oil droplet petroleum present in the observation well for the bunker fuel oil tanks noted previously. GZA GeoEnvironmental, Inc. conducted monitoring of groundwater wells in the vicinity of the tanks from 1986 through at least 1993. Monitoring rounds identified sheen within wells, and one half inch of free-phase product was identified in a single well in November 1993, triggering a notification condition to MassDEP. Immediate Response Actions included purging this well of accumulated product and cleaning the well screen and riser. Subsequent monitoring of this well did not identify free-phase product. Laboratory analysis detected petroleum hydrocarbons, select volatile organic compounds including BTEX gasoline constituents, and tetrachloroethylene at concentrations below applicable MCP Method 1 Cleanup Standards. Fingerprint analysis of the petroleum product

confirmed the presence of weathered fuel oil. Based on the results of the groundwater sampling, GZA indicated a condition of NSR had been achieved and filed a Class B-1 RAO for the release in January 1994.

MassDEP conducted an audit of the Site in 1994 – 1995, which identified several deficiencies in the GZA RAO report, and issued the NON in 1995. These deficiencies included several administrative concerns, namely lack of MassDEP notification prior to conducting Immediate Response Actions and lack of notification to City officials following submittal of the RAO. Additionally, MassDEP indicated that based on the information provided, GZA had not demonstrated that free-phase product no longer existed in the subsurface, and additional assessment was required.

To address the NON findings, GZA conducted supplemental site assessment activities (including borings and monitoring well installation) in the vicinity of the well that contained free-phase product, and completed an additional round of groundwater sampling from the Site well network. Free-phase product was not identified in the wells, and soil and groundwater samples contained no detectable concentrations of petroleum hydrocarbons. Based on the supplemental data received, MassDEP concurred with GZA's assertion that a condition of NSR was achieved, and the audit findings were considered adequately addressed.

4.0 REVIEW SUMMARY AND COMMENTS

Weston & Sampson concludes that there is no evidence or indication of ongoing environmental releases or concerns associated with the documents reviewed, however a number of data gaps exist. Two RTNs had no information, and the other two RTNs associated with the property have achieved regulatory closure. Deficiencies identified in one RTN as part of a MassDEP audit appear to have been resolved through additional assessment activities undertaken by GZA, however residual impacts may be present, which would need to be managed as part of future construction.

Weston & Sampson notes however that the documentation did not include data or opinions on recent soil or groundwater conditions. The latest data associated with the site petroleum release was collected during the 1990s. Based on the continued industrial nature of the site, use as a recycling facility, and duration of time (i.e. approximately 20 years) without a comprehensive subsurface investigation or collection of additional information, the possibility exists that additional undocumented releases of oil or hazardous materials have occurred at the site. This lack of current soil and groundwater information represents a data gap with respect to existing site conditions.

Additionally, new regulations were promulgated in December 2019 under the Massachusetts Contingency Plan related to per- and poly-fluoroalkyl substances (PFAS). These changes include reportable concentrations and cleanup standards for these compounds, which were not previously regulated in the state. As such, testing for these compounds has not been performed at the site, but may be warranted based on the site use. A further environmental assessment, including collection of soil and groundwater samples for laboratory analysis, although not required under the Massachusetts Contingency Plan, may be warranted to evaluate current conditions of soil and groundwater at the Site. In light of the proposed expansion of operations, we would recommend assessment to establish a current baseline and evaluate emerging contaminants such as PFAs. The potential presence of PFAs may impact construction costs, future soil and groundwater management, as well as potential impacts to surrounding receptors.

APPENDIX A

Conservation Commission Provided Documents

Stormwater Pollution Prevention & Erosion and Sediment Control Plan for:

Owner(s):

Parallel Products located at:
20 Duchaine Boulevard
New Bedford, MA 02745

Contractor(s):

Farland Corp.
401 County Street
New Bedford, MA 02740
Phone: (508) 717-3479 Fax: (508) 717-3481

SWPPP Contact(s):

Matthew J. White
Farland Corp.
401 County Street
New Bedford, MA 02740
Phone: (508) 717-3479 Fax: (508) 717-3481

SWPPP Preparation Date:

November 2017

Estimated Project Dates:
Project Start Date: December 6, 2017
Project Completion Date: May 31, 2018

Prepared by:

FARLAND CORP.
ENGINEERING A BETTER TOMORROW
ENGINEERING | SITE WORK | LAND SURVEYING

(MAIN OFFICE) 401 COUNTY STREET, NEW BEDFORD, MA 02740 P 508.717.3479 F 508.717.3481 WWW.FARLANDCORP.COM

1.7 Site Features and Sensitive Areas to be Protected

Description of unique features that are to be preserved:
No disturbance is permitted beyond the proposed erosion control measures to be installed prior to construction. These barriers represent the limit of work permitted within the buffer zone to the surrounding BVW.

Describe measures to protect these features:
Straw wattles with Silt Fence and/or hay bale barriers will be installed at locations shown on the plans. Dedicated construction entrances are to be utilized during construction. The existing on-site drainage system will be protected by the appropriate erosion controls throughout construction.

1.8 Potential Sources of Pollution

Potential sources of sediment to stormwater runoff:

- Grading and site excavation operations
- Vehicle tracking
- Topsoil stripping and stockpiling
- Landscape operations

Potential pollutants and sources, other than sediment, to stormwater runoff:

- Combined Staging Areas – small fueling activities, minor equipment maintenance, sanitary facilities and hazardous waste storage.
- Materials Storage Areas – general construction materials, solvents, adhesives, paving materials, paints, aggregates, trash, etc....
- Construction Activity – paving, curb/gutter installation, concrete pouring/mortar, etc...
- Concrete Washout Area (if necessary).

Aside from the above mentioned potential pollutants, there will be no treatment chemicals used for the means of reducing or treating stormwater runoff. The procedures outlined in the erosion control and natural buffers section above will sufficiently handle the stormwater runoff produced by this project, so no additional chemicals will be needed at this time. All other chemicals that may be encountered on site are listed below, and all have been chosen to be as minimally harmful as possible given the site conditions and soils.

Trade Name Material	Stormwater Pollutants	Location
Pesticides (insecticides, fungicides, herbicides, rodenticides)	Chlorinated hydrocarbons, organophosphates, carbamates, arsenic	Herbicides used for noxious weed control
Fertilizer	Nitrogen, phosphorous	Newly seeded areas
Cleaning solvents	Perchloroethylene, methylene chloride, trichloroethylene, petroleum distillates	No equipment cleaning allowed in project limits
Asphalt	Oil, petroleum distillates	Parking area
Concrete	Limestone, sand, pH, chromium	Curb and gutter
Glue, adhesives	Polymers, epoxies	Drainage construction
Paints	Metal oxides, Stoddard solvent, talc, calcium carbonate, arsenic	Parking striping
Curing compounds	Naphtha	Curb and gutter
Hydraulic oil/fluids	Mineral oil	Leaks or broken hoses from equipment
Gasoline	Benzene, ethyl benzene, toluene, xylene, MTBE	Secondary containment/staging area
Diesel fuel	Petroleum, distillate, oil & grease, naphthalene, xxylenes	Secondary containment/staging area
Kerosene	Coal oil, petroleum distillates	Secondary containment/staging area
Antifreeze/coolant	Ethylene glycol, propylene glycol, heavy metals (copper, lead, zinc)	Leaks or broken hoses from equipment
Sanitary toilets	Bacteria, parasites, and viruses	Staging area

1.9 Endangered Species Certification

Are endangered or threatened species and critical habitats on or near the project area?

☒ Yes ☐ No

Describe how this determination was made:

Farland Corp. has reviewed the potential for endangered or threatened species and critical

habitats by using the Fish and Wildlife Services On-line mapping tool (iPaC) located at https://ecos.fws.gov/ipac/ (accessed on 11/28/17) to determine if any exist on or around the project site, and that they might be affected by any construction activities. It was determined that there is one (1) species of threated wildlife that may be affected by said construction activitied.

If yes, describe the species and/or critical habitat:

The species found on the above referenced database is the Northern Long-Eared Bat. This species is classified as "threatened", and does not have a designated critical habitat.

If yes, describe or refer to documentation that determines the likelihood of an impact on identified species and/or habitat and the steps taken to address that impact. (Note, if species are on or near your project site, EPA strongly recommends that the site operator work closely with the appropriate field office of the U.S. Fish and Wildlife Service or National Marine Fisheries Service. For concerns related to state or tribal listing of species, please contact a state or tribal official.)

Due to the previously developed nature of the project site and surrounding area, a visual inspection has been conducted to determine the potential presences of the species as well as any potential impacts to its natural habitat. This site inspection was performed by Matthew White of Farland Corp. on May 15, 2017. Upon the completion of the inspection no specimens of the stated threatened species were encountered, and the proposed work to take place for this project will be mostly contained to the previously developed commercial areas of the site. In addition, there will be minimal to no impact on the existing wooded areas surrounding the project site.

1.10 Historic Preservation

Are there any historic sites on or near the construction site?

☐ Yes ☒ No

Describe how this determination was made:

Farland Corp. has reviewed the Massachusetts State Register of Historic Places available from the Division of Tourism – Massachusetts Historic Sites at http://www.mass.gov/portal/visiting-recreation/tourism/massachusetts-historic-sites.html (accessed on 11/28/17) to determine if any historic sites are on or near the Eversource Energy site in New Bedford, Massachusetts. No historic sites were identified from this review. Additionally, Farland Corp. has contacted The City of New Bedford's Historical Commission to verify that no historical sites or areas exist at the proposed work site. Farland Corp. described the location and nature of the work, and it was verified that there are no historic sites on or near the project area.

3

The Commonwealth of Massachusetts
Department of Public Safety
Division of Fire Prevention and Regulation

APPLICATION FOR PERMIT TO MAINTAIN AN EXISTING/NEW UNDERGROUND STORAGE FACILITY

TO: Head of Fire Department

New Bedford
City, Town or District

April 22, 1991
Date

Application is hereby made for a permit to maintain an existing/new underground storage facility as required by 527 CMR 9.00: Permits.

Location of property: 100 Duchaine Blvd.
Street Address

Owner of property: Polaroid Corporation
Full name of person, firm or corporation

Signature of owner or authorized representative: Richard L Chandler

FEE: $ 15.00 (M.G.L.A. Chapt. 148 Sec. 10A)

FORM F.P. 290
(rev. 10/90)

(Fire department's copy to be filed with F.P. 290 Part 2)

Department of Public Safety
Division of Fire Prevention and Regulation

Notification for Underground Storage Tanks

Submit to:
LOCAL FIRE DEPARTMENT

☒ A. NEW FACILITY ☐ B. AMENDED ☐ C. CLOSURE

3 No. of tanks at facility 0 No. of continuation sheets attached

INSTRUCTIONS

Please type or print in ink all items except "signature" in section V. This form must be completed for each location containing underground storage tanks. If more than five (5) tanks are owned at this location, photocopy the following sheets, and staple continuation sheets to the form.

STATE USE ONLY

ID NUMBER FIRE DEPT. 05301

DATE RECEIVED 4-22-91

A. Date Entered Into Computer ____

B. Data Entry Clerk Initials ____

C. Owner Was Contacted to Clarify Responses. Comments

GENERAL INFORMATION

Notification is required by Federal law for all underground tanks that have been used to store regulated substances since January 1, 1984, that are in the ground as of May 8, 1986, or that are brought into use after May 8, 1986. The information requested is required by Section 9002 of the Resource Conservation and Recovery Act, (RCRA), as amended.

The primary purpose of this notification program is to locate and evaluate underground tanks that store or have stored petroleum or hazardous substances. It is expected that the information you provide will be based on reasonably available records, or in the absence of such records, your knowledge, belief, or recollection.

Who Must Notify? Section 9002 of RCRA, as amended, requires that, unless exempted, owners of underground tanks that store regulated substances must notify designated State or local agencies of the existence of their tanks. Owner means—

a) In the case of an underground storage tank in use on November 8, 1984, or brought into use after that date, any person who owns an underground storage tank used for the storage, use, or dispensing of regulated substances, and

b) In the case of any underground storage tank in use before November 8, 1984, but no longer in use on that date, any person who owned such tank immediately before the discontinuation of its use.

c) If the State agency so requires, any facility that has undergone any changes to facility information or tank system status (only amended tank information needs to be included).

What Tanks Are Included? Underground storage tank is defined as any one or combination of tanks that (1) is used to contain an accumulation of "regulated substances," and (2) whose volume (including connected underground piping) is 10% or more beneath the ground. Some examples are underground tanks storing: 1. Gasoline, used oil, or diesel fuel, and 2. industrial solvents, pesticides, herbicides or fumigants.

What Tanks Are Excluded? Tanks removed from the ground are not subject to notification. Other tanks excluded from notification are:

1. farm or residential tanks of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes;
2. tanks used for storing heating oil for consumptive use on the premises where stored;
3. septic tanks;
4. pipeline facilities (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968, or the Hazardous Liquid Pipeline Safety Act of 1979, or which is an intrastate pipeline facility regulated under State laws;
5. surface impoundments, pits, ponds, or lagoons;
6. storm water or waste water collection systems;
7. flow-through process tanks;
8. liquid traps or associated gathering lines directly related to oil or gas production and gathering operations;
9. storage tanks situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situate upon or above the surface of the floor.

What Substances Are Covered? The notification requirements apply to underground storage tanks that contain regulated substances. This includes any substance defined as hazardous in section 101 (14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), with the exception of those substances regulated as hazardous waste under Subtitle C of RCRA. It also includes petroleum, e.g., crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).

Where To Notify? Completed notification forms should be sent to the address given at the top of this page

When To Notify? 1. Owners of underground storage tanks in use or that have been taken out of operation after January 1, 1974, but still in the ground, must notify by May 8, 1986. 2. Owners who bring underground storage tanks into use after May 8, 1986, must notify within 30 days of bringing the tanks into use.

Penalties: Any owner who knowingly fails to notify or submits false information shall be subject to a civil penalty not to exceed $10,000 for each tank for which notification is not given or for which false information is submitted.

I. OWNERSHIP OF TANK(S)

Owner Name (Corporation, Individual, Public Agency, or Other Entity)
POLAROID CORPORATION

Street Address
100 DUCHAINE BLVD

City NEW BEDFORD State MA Zip Code 02745

County BRISTOL

Phone Number (Include Area Code) (508) - 998-5657

II. LOCATION OF TANK(S)

If required by State, give the geographic location of tanks by degrees, minutes, and seconds. Example: Lat. 42, 36, 12 N Long. 85, 24, 17W

Latitude 41,42,56N Longitude 70,57,20W

(If same as Section I, mark box here ☒)

Facility Name or Company Site Identifier, as applicable
POLAROID CORPORATION

Street Address (P.O. Box not acceptable)
100 DUCHAINE BLVD

City NEW BEDFORD State MA Zip Code 02745

County BRISTOL

III. TYPE OF OWNER

- ☐ Federal Government
- ☐ State Government
- ☐ Local Government
- ☒ Commercial
- ☐ Private

IV. INDIAN LANDS

Tanks are located on land within an Indian Reservation or on other trust lands. ☐

Tanks are owned by native American nation, tribe, or individual. ☐

Tribe or Nation: _____

V. TYPE OF FACILITY

Select the Appropriate Facility Description

____ Gas Station	____ Railroad	____ Trucking/Transport
____ Petroleum Distributor	____ Federal - Non-Military	____ Utilities
____ Air Taxi (Airline)	____ Federal - Military	____ Residential
____ Aircraft Owner	X Industrial	____ Farm
____ Auto Dealership	____ Contractor	____ Other (Explain) _____

VI. CONTACT PERSON IN CHARGE OF TANKS

Name	Job Title	Address	Phone Number (Include Area Code)
RICHARD JOYCE	POWER PLANT ENGINEER	POLAROID CORP 100 DUCHAINE BLVD NEW BEDFORD, MA	(508)-998-5647

VII. FINANCIAL RESPONSIBILITY

I have met the financial responsibility requirements in accordance with 40 CFR Subpart H ☒

Check All that Apply

☒ Self Insurance	☐ Guarantee	☐ State Funds
☐ Commercial Insurance	☐ Surety Bond	☐ Trust Fund
☐ Risk Retention Group	☐ Letter of Credit	☐ Other Method Allowed Specify

_____

VIII. CERTIFICATION (Read and sign after completing all sections)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true,accurate, and complete.

Name and official title of owner or owner's authorized representative (Print)	Signature	Date Signed
RICHARD L. CHANDLER SR. ENVIRONMENTAL ENGINEER	Richard L. Chandler	3/29/91

EPA estimates public reporting burden for this form to average 30 minutes per response including time for reviewing instructions, gathering and maintaining the data needed and completing and reviewing the form. Send comments regarding this burden estimate to Chief, Information Policy Branch PM-223, U.S. Environmental Protection Agency, 401 M Street, Washington D.C. 20460, marked "Attention Desk Officer for EPA." This form amends the previous notification form as printed in 40 CFR Part 280, Appendix I.

IX. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location.)

Tank Identification Number	Tank No. 1	Tank No. 2	Tank No. 3	Tank No. ___	Tank No. ___
1. Status of Tank (mark only one) — Currently in Use	X	X	X		
Temporarily Out of Use (Remember to fill out section IX.)					
Permanently Out of Use (Remember to fill out section IX.)					
Amendment of Information					
2. Date of Installation (mo./year)	6/70	6/70	6/70		
3. Estimated Total Capacity (gallons)	167,000	163,000	38,000		
4. Material of Construction (Mark all that apply)					
Asphalt Coated or Bare Steel					
Cathodically Protected Steel					
Epoxy Coated Steel					
Composite (Steel with Fiberglass)					
Fiberglass Reinforced Plastic					
Lined Interior					
Double Walled					
Polyethylene Tank Jacket					
Concrete	X	X	X		
Excavation Liner					
Unknown					
Other, Please specify	FIBERGLASS/ EPOXY COATED	FIBERGLASS/ EPOXY COATED	FIBERGLASS/ EPOXY COATED		
Has tank been repaired?	NO	NO	NO		
5. Piping (Material) (Mark all that apply) — Bare Steel	X	X	X		
Galvanized Steel					
Fiberglass Reinforced Plastic					
Copper					
Cathodically Protected					
Double Walled					
Secondary Containment					
Unknown					
Other, Please specify					
6. Piping (Type) (Mark all that apply)					
Suction: no valve at tank					
Suction: valve at tank	X	X	X		
Pressure	X	X	X		
Gravity Feed					
Has piping been repaired?	NO	NO	NO		

Tank Identification Number	Tank No. 1	Tank No. 2	Tank No. 3	Tank No. ___	Tank No. ___
7..Substance Currently or Last Stored In Greatest Quantity by Volume					
Gasoline					
Diesel					
Gasohol					
Kerosene					
Heating Oil	X	X	X		
Used Oil					
Other, Please specify					
Hazardous Substance CERCLA name and/or, CAS number	FUEL OIL #6 68553-00-1	FUEL OIL #6 68553-00-1	FUEL OIL #2 68476-30-2		
Mixture of Substances Please specify					

X. TANKS OUT OF USE, OR CHANGE IN SERVICE N/A

1. Closing of Tank					
A. Estimated date last used (mo./day/year)					
B. Estimate date tank closed (mo./day/year)					
C. Tank was removed from ground					
D. Tank was closed in ground					
E. Tank filled with inert material					
Describe					
F. Change in service					
2. Site Assessment Completed					
Evidence of a leak detected					

XI. CERTIFICATION OF COMPLIANCE (COMPLETE FOR ALL NEW AND UPGRADED TANKS AT THIS LOCATION)

Tank Identification Number	Tank No. 1		Tank No. 2		Tank No. 3		Tank No. ___		Tank No. ___	
1. Installation N/A										
A. Installer certified by tank and piping manufacturers	☐		☐		☐		☐		☐	
B. Installer certified or licensed by the implementing agency	☐		☐		☐		☐		☐	
C. Installation inspected by a registered engineer	☐		☐		☐		☐		☐	
D. Installation inspected and approved by implementing agency	☐		☐		☐		☐		☐	
E. Manufacturer's installation check-lists have been completed	☐		☐		☐		☐		☐	
F. Another method allowed by State agency. Please specify.	☐		☐		☐		☐		☐	
2. Release Detection (Mark all that apply)	TANK	PIPING	TANK	PIPING	TANK	PIPING	TANK	PIPING	TANK	PIPING
A. Manual tank gauging	☒		☒		☒		☐		☐	
B. Tank tightness testing	☐		☐		☐		☐		☐	
C. Inventory controls	☐		☐		☐		☐		☐	
D. Automatic tank gauging	☐		☐		☐		☐		☐	
E. Vapor monitoring	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. Groundwater monitoring	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐
G. Interstitial monitoring double walled tank/piping	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
H. Interstitial monitoring/secondary containment	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
I. Automatic line leak detectors	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
J. Line tightness testing		☐		☐		☐		☐		☐
K. Other method allowed by Implementing Agency. Please specify.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	_____		_____		_____		_____		_____	
3. Spill and Overfill Protection										
A. Overfill device installed	☐		☐		☐		☐		☐	
B. Spill device installed	☐		☐		☐		☐		☐	

OATH: I certify the information concerning installation that is provided in section X is true to the best of my belief and knowledge.

Installer:

_____ Name

_____ Signature

_____ Date

_____ Position

_____ Company

CITY OF NEW BEDFORD

LICENSE

To Use a Building or Other Structure for the Keeping, Storage ~~or Sale~~ of

CRUDE PETROLEUM

or any of its Products

Fee $35.00

UNDER GENERAL LAWS CHAPTER 148, AS AMENDED

This is to certify that on Oct. 22, 1970 the City Council granted a license to use the land at Industrial Park-south end of Duchaine Blvd. (Polaroid Property)

on application of Polaroid Corp.

for keeping, storage ~~or sale~~ of products of crude petroleum, hereinafter specified, the premises, buildings or structures to be used being described as follows:

Building is constructed of concrete and is used as manufacturing plant

Products of crude petroleum to be kept, as well as number, kind and capacity of containers to be used

Class C (#6 fuel oil): 1 und. concrete tank 167,000 gals.
1 und. tank-163,000 gals. concrete tank
~~Class B (#2 fuel oil): 1 und. concrete tank 38,000 gals.~~
~~Class A fluids-1000 gals. in 5 and 55 gal. drums~~ (above ground set on covered concrete pad)
~~Class A fluids- 1 und. tank in 2 sections 4,000 gals. each~~
~~Class A fluids- 5 und. tanks -8,000 gals. each~~

Approved subject to compliance with the rules and regulations as enforced by the Chief of the Fire Department.

Allen M. Lingham
City Clerk

CERTIFICATE OF REGISTRATION MUST BE FILED ANNUALLY ON OR BEFORE APRIL 30

POST THIS LICENSE ON LICENSED PREMISES

Site Approved: --

previous license: 6/26/70

Notification for Removal or Closure of In Place Storage Tanks Regulated Under 527 CMR 9.00

Forward completed form, signed by local fire department, to: ***Mass. UST Compliance Unit, Dept. of Fire Services, P.O. Box 1025 - State Road, Stow, MA 01775***

Telephone (978) 567-3710

(Fire Department retains one copy of FP-290R)

Fire Dept. Use Only

Date Received: 9/24/99
Fire Dept. ID# 05201
Fire Dept. Sig. Dep. Lieut

This form is to be used for notification for removal of Underground Storage Tanks/ Piping.

If a storage facility has UST's which are to remain in use, an entire amended FP-290 (long form) must be filed.

State Use Only

A. Facility Number _____
B. Date Entered _____
C. Clerk's Initials _____
D. Comments _____

Note: "Facility street address" must include both a street number and a street name. Post office box numbers are not acceptable, and will cause a registration to be returned. If geographic location of facility is not provided, please indicate distance and direction from closest intersection, e.g., (facility at 199 North Street is located) **400 yards southeast of Commons Road** (Intersection).

I. Ownership of Tank(s)

Owner Name (Corporation, Individual, Public Agency, or Other Entity)
POLAROID CORPORATION

Street Address
100 DUCHAINE BOULEVARD

City NEW BEDFORD State MA Zip Code 02745

County BRISTOL

Phone Number (Include Area Code) 781-386-7374

Owner's Employer Federal ID # _____

II. Location of Tank(s)

If known, give the geographic location of tanks by degrees, minutes, and seconds. Example: Lat. 42, 36, 12 N Long. 85, 24, 17W

Latitude 41, 42, 56 N Longitude 70, 57, 20 W

Distance and direction from closest intersection (see note above) POLAROID CORPORATION

Facility Name or Company Site Identifier, as applicable

100 DUCHAINE BOULEVARD
Street Address (P.O. Box not acceptable - see note above)

NEW BEDFORD MA 02745
City State Zip Code

County BRISTOL

III. Tanks/Piping Removed or Filled in Place

Tank Number	Tank No. 1	Tank No. 2	Tank No. 3	Tank No.	Tank No.
1. Tank/Piping removed or filled in place (mark all that apply)					
A. Substance last stored	#6 FUEL OIL	#6 FUEL OIL	#2 FUEL OIL		
B. Tank capacity gallons	167,000	163,000	38,000		
C. Estimated date last used (mo./day/yr.)	12/20/98	2/15/97	6/30/92		
D. Estimated date of removal (mo./day/yr.)	N/A	N/A	N/A		
E. Tank was removed from ground					
F. Tank was not removed from ground	X	X	X		
Tank was filled with inert material	NA	NA	NA		
Describe material used:	SEE ATTACHED (9/3/98 - PARSONS I+T GROUP)				
G. Piping was removed from ground					
H. Piping was not removed from ground	X	X	X		
I. Other, please specify					

FP-290R (revised 5/93)

with 527 CMR 9.00					
A. Evidence of leak detected	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
B. Mass. DEP notified	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No
1. Mass. DEP tracking number	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No
2. Agency or company performing contamination assessment *					

*527 CMR 9.07 (J), see "Commonwealth of Massachusetts, Underground Storage Tank Closure Assessment Manual" April 9, 1996 DEP Policy #WSC-402-96

I declare under penalty of perjury that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner or owner's authorized representative (Print)	Signature:	Date:
STEPHEN A KECHES DIRECTOR OF MANUFACTURING OPERATIONS		9/20/99

PARSONS INFRASTRUCTURE & TECHNOLOGY GROUP INC.

30 Dan Road • Canton, Massachusetts 02021-2809 • (781) 401-3200 • Fax: (781) 401-2575

September 3, 1998

Mr. Richard Chandler
Environmental Manager
Polaroid Corporation
100 Duchaine Boulevard, Bldg NB1
New Bedford, MA 02745

Project: NB2 Oil Tanks Installation
New Bedford, MA
Job No. 732140-02000

SUBJECT: Abandonment In-Place of Concrete Bunkers Classified as Underground Storage Tanks (UST)
Letter No. PP-23

Dear Mr. Chandler:

The purpose of this letter is to present the possible consequences of abandonment in-place of two concrete bunkers that are classified as UST, in accordance with Board of Fire Prevention Regulations.

BACKGROUND

The Board of Fire Prevention Regulations, 527CMR9.07(J)(1), requires that Underground Storage Tanks (UST) which are to be abandoned in-place must be filled with a concrete slurry mix or other inert material approved by the Marshall.

The USTs consist of three concrete bunkers, ten feet deep, with a common concrete slab foundation. The bunkers are separated with one-foot thick concrete walls, and are covered with a concrete roof.

- The two larger bunkers are each nominally 50 ft. x 50 ft. in plan, and have a storage capacity of 150,000 gallons. The roofs of these bunkers each support a cooling tower. Low concrete walls (18 inches) constructed around the perimeter enable the roofs to also serve as a basin for the collection of the cooling tower condensate water. The south bunker has been cleaned out, and will be used as a vault for the construction of three 23,000 gallon steel fuel oil storage tanks. The north bunker is proposed to be abandoned in place after all oil has been pumped out. The bunker will not be used for oil storage effective December 22, 1998.

- The third bunker is nominally 20 ft. x 20 ft. in plan with a storage capacity of 40,000 gallons, and is located on the east side of the north bunker. Any oil previously stored in this bunker has been pumped out, the bunker has been cleaned and is proposed to be abandoned in place.

POSSIBLE CONSEQUENCES OF ABANDONMENT IN-PLACE BY FILLING WITH CONCRETE

Soil conditions underlying the site of the existing USTs are described in a report prepared by Haley & Aldrich Inc. in June 1995 (Ref. 1). The report recommends an allowable bearing pressure of 3,000 psf for shallow foundations (footings and mats) constructed at this area of the Polaroid site. Estimated settlement at this bearing pressure is 1 inch total and 3/4 inch differential.

The maximum foundation loading which the soils underlying the existing USTs have experienced is approximately 1,200 psf. This includes the weight of concrete structure, fuel oil, cooling tower, and water contained in the cooling tower basin. If the north 150,000 gallon UST and the 40,000 gallon UST are filled with concrete, the foundation loading will become non-uniform. Soil bearing pressure below the concrete-filled north end of the structure will increase to about 2,500 psf., whereas the soil bearing pressure below the south end of the structure will reduce to less than 1,000 psf. This non-uniform loading will tend to produce non-uniform settlement of the structure towards the heavier north end. The magnitude of differential settlement is expected to be on the order of 1/2 inch.

Differential movement of this magnitude could be a concern with respect to the existing cooling water piping which runs underground from the boiler house to the cooling tower basin pump chamber and the fuel oil piping that runs underground from the boiler house to the pump room adjacent to the concrete bunkers. These rigid, heavy-wall pipes could be overstressed and might fail if subjected to excessive movement where they enter the concrete structure. In addition, differential movement could overstress portions of the structure itself, resulting in damage or failure.

If cracks should occur within the structure, leakage of cooling water either through the basin to the South bunker or through the wall of the sluice and wet well to the surrounding soils could result. In either case, the cooling tower could be rendered inoperative and could be damaged sufficiently so as to necessitate its demolition. Should the existing cooling tower become inoperative or require demolition, Polaroid would have to incur the expense of its replacement and the potential loss of production for lack of process cooling capability.

If you have any questions regarding the contents of this letter, please feel free to contact me at (781) 401-2555.

Very truly yours,

PARSONS INFRASTRUCTURE & TECHNOLOGY GROUP, INC.

Damodar R. Pandit, P.E.
Chief Civil & Structural Engineer

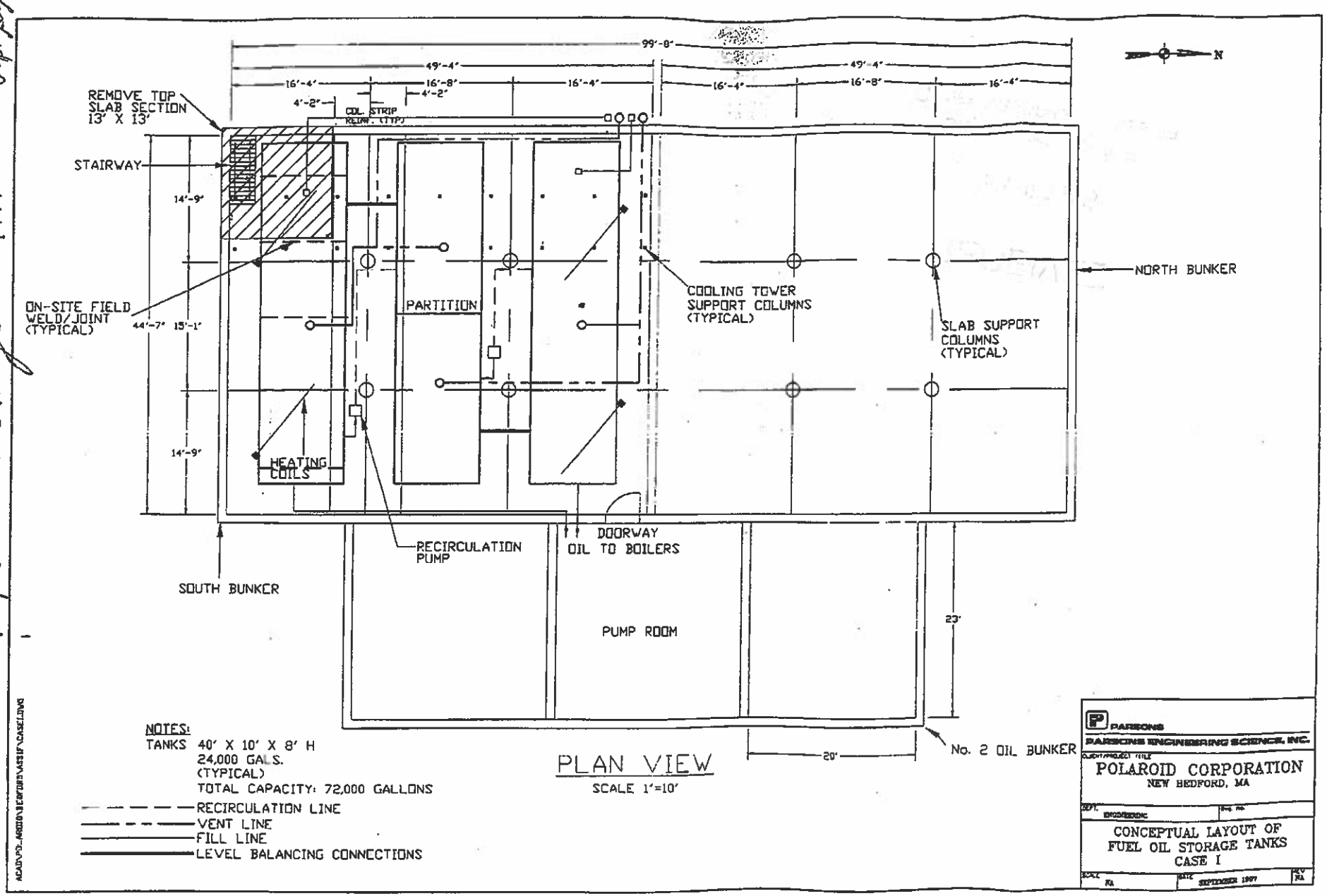
REF. 1 Haley & Aldrich Inc. Report on Subsurface Investigations and Foundation Design Recommendations, Polaroid Corporation, NB2 Utilities Improvements, New Bedford, MA, 19 June 1995.

cc: Richard Trinidad, Polaroid
William Bodtman, Parsons
Anil Wagle, Parsons

#21389

Dep. Log

Proposed Fuel Storage — Dec. 1987



PLAN VIEW

SCALE 1"=10'

NOTES:

TANKS 40' X 10' X 8' H
24,000 GALS.
(TYPICAL)
TOTAL CAPACITY: 72,000 GALLONS

RECIRCULATION LINE
VENT LINE
FILL LINE
LEVEL BALANCING CONNECTIONS

PARSONS
PARSONS ENGINEERING SCIENCE, INC.

POLAROID CORPORATION
NEW BEDFORD, MA

CONCEPTUAL LAYOUT OF FUEL OIL STORAGE TANKS CASE I

SEPTEMBER 1987

#21389

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
20 RIVERSIDE DRIVE, LAKEVILLE, MA 02347 508-946-2700

RECEIVED

NOV 05 2019

City of New Bedford
Conservation Commission

JANE SWIFT
Governor

BOB DURAND
Secretary

LAUREN A. LISS
Commissioner

COPY

URGENT LEGAL MATTER: PROMPT ACTION NECESSARY
CERTIFIED MAIL: RETURN RECEIPT REQUESTED

July 10, 2001

Polaroid Corporation
100 Duchaine Boulevard
New Bedford, MA 02745

RE: NEW BEDFORD - BWSC
100 Duchaine Blvd.
RTN# 4-16316

NOTICE OF RESPONSIBILITY
M.G.L. c. 21E, 310 CMR 40.0000

ATTENTION: Stephen A. Keches, Director of Manufacturing Operations

On June 18, 2001 at 4:55 PM the Department of Environmental Protection (the "Department") received oral notification of a release and/or threat of release of oil and/or hazardous material at the above referenced property that requires one or more response actions. Two thousand four hundred (2,400) gallons of Sulfuric Acid was released from a three thousand (3,000) gallon aboveground storage tank and an unknown volume of that was released into the environment.

The Massachusetts Oil and Hazardous Material Release Prevention and Response Act, M.G.L. c.21E, and the Massachusetts Contingency Plan (the "MCP"), 310 CMR 40.0000, require the performance of response actions to prevent harm to health, safety, public welfare and the environment which may result from this release and/or threat of release and govern the conduct of such actions. The purpose of this notice is to inform you of your legal responsibilities under State law for assessing and/or remediating the release at this property. For purposes of this Notice of Responsibility, the terms and phrases used herein shall have the meaning ascribed to such terms and phrases by the MCP unless the context clearly indicates otherwise.

The Department has reason to believe that the release and/or threat of release which has been reported is or may be a disposal site as defined by the M.C.P. The Department also has reason to believe that you (as used in this letter, "you" refers to Polaroid Corporation) are a Potentially Responsible Party (a "PRP") with liability under M.G.L. c.21E §5, for response action costs. This liability is "strict", meaning that it is not based on fault, but solely on your status as owner, operator, generator, transporter, disposer or other person specified in M.G.L. c.21E §5. This liability is also "joint and several", meaning that you may be liable for all response action costs incurred at a disposal site regardless of the existence of any other liable parties.

The Department encourages parties with liabilities under M.G.L. c.21E to take prompt and appropriate actions in response to releases and threats of release of oil and/or hazardous materials. By taking prompt action, you may significantly lower your assessment and cleanup costs and/or avoid liability for

Unless otherwise provided by the Department, potentially responsible parties ("PRP's") have one year from the initial date of notification to the Department of a release or threat of a release, pursuant to 310 CMR 40.0300, or from the date the Department issues a Notice of Responsibility, whichever occurs earlier, to file with the Department one of the following submittals: (1) a completed Tier Classification Submittal; (2) a Response Action Outcome Statement or, if applicable, (3) a Downgradient Property Status. The deadline for either of the first two submittals for this disposal site is **June 18, 2002**. If required by the MCP, a completed Tier I Permit Application must also accompany a Tier Classification Submittal.

This site shall not be deemed to have had all the necessary and required response actions taken unless and until all substantial hazards presented by the release and/or threat of release have been eliminated and a level of No Significant Risk exists or has been achieved in compliance with M.G.L. c.21E and the MCP.

If you have any questions relative to this Notice, please contact Michael Moran at the letterhead address or at [redacted] All future communications regarding this release must reference the following Release Tracking Number: **4-16316**.

Very truly yours,

For

Richard F. Packard, Chief
Emergency Response / Release
Notification Section

P/MJM/re

CERTIFIED MAIL # 7099 3220 0002 0272 6834
RETURN RECEIPT REQUESTED

Attachments: Release Notification Form; BWSC-103 and Instructions
Summary of Liability under M.G.L. c.21E
Department's guide to hiring a Licensed Site Professional.

cc: GEI Consultants
1021 Main Street
Winchester, MA 01890
ATTN: Ian Phillips

Health Dept.
181 Hillman St.
New Bedford, MA 02740

Office of the Mayor
City Hall
181 Hillman St.
New Bedford, MA 02740

Fire Dept
868 Pleasant St.
New Bedford, MA 02740

(2)

21389

Polaroid Corporation
100 Duchaine Boulevard
New Bedford, Massachusetts 02745

Polaroid

RECEIVED

NOV 05 2019

City of New Bedford
Conservation Commission

February 3, 1997

Deputy Chief Paul Leger
City Of New Bedford
New Bedford Fire Prevention Bureau
181 Hillman Street
New Bedford, MA 02740

Dear Deputy Chief Leger:

The purpose of this letter is to confirm our telephone conversation on Thursday, 1/30/97, notifying the New Bedford Fire Department of Polaroid Corporation's desire to restore to service a fuel oil underground storage bunker at its 100 Duchaine Boulevard location.

As we discussed, the "South" underground fuel oil storage bunker, (identified as Tank #1 on our FP-290 Notification , Fire Dept. ID# 05201), has developed a blockage at the suction inlet inside the bunker. Polaroid proposes to restore to service the "North" underground fuel oil storage bunker, (identified as Tank #2 on FP-290, ID# 05201) for a period of 90 days, in order to perform the appropriate maintenance on the "South" bunker.

After reviewing the sections of 527 CMR 9.05 and 9.07, highlighted in your fax of 1/30/97, it is Polaroid's contention that, due to the nature of its construction, leak testing of the "North" bunker is not possible using currently available testing methods. The pressurized piping system, which has secondary containment, is a common piping line for both bunkers and has never been out of service.

Therefore, Polaroid is requesting approval to restore the "North" bunker to service as soon as possible.

Please contact me @ (617) 386-7374 if you have any questions.

Sincerely,
POLAROID CORPORATION
Richard L Chandler
Richard L. Chandler
Division Environmental Mgr

APPROVED:
Paul Leger 2-3-97
Deputy Chief Paul Leger, New Bedford Fire Department

Polaroid Corporation
100 Duchaine Boulevard
New Bedford, Massachusetts 02745

Polaroid

May 22, 1997

Deputy Chief Paul Leger
City Of New Bedford
New Bedford Fire Prevention Bureau
181 Hillman Street
New Bedford, MA 02740

Dear Deputy Chief Leger:

The purpose of this letter is to confirm our telephone conversation on Thursday, 5/19/97, notifying the New Bedford Fire Department of Polaroid Corporation's desire to have Clean Harbors remove liner material, in accordance with DEP standards and CMR 9, from a fuel oil underground storage bunker at its 100 Duchaine Boulevard location.

As we previously discussed, the "South" underground fuel oil storage bunker,(Identified as Tank #1 on our FP-290 Notification , Fire Dept. ID# 05201), had developed a blockage at the suction inlet inside the bunker. Polaroid received your approval to restore to service the "North" underground fuel oil storage bunker, (Identified as Tank #2 on FP-290, ID# 05201) for a period of 90 days, in order to perform the appropriate maintenance on the "South" bunker.

Polaroid is requesting approval to remove the liner material from the "South" bunker, in preparation for an upgrading project currently in the design stage. Polaroid is also requesting approval to indefinitely continue the "in service" status of the "North" bunker, pending resolution of the "South" bunker upgrade.

Please contact me @ (617) 386-7374 if you have any questions.

Sincerely,
POLAROID CORPORATION
Richard L. Chandler
Richard L. Chandler
Division Environmental Mgr.

APPROVED:
Paul Leger
Deputy Chief Paul Leger, New Bedford Fire Department

(3)

#21389

Form FP 6 Rev. 12/97

The Commonwealth of Massachusetts

Department of Fire Services

Office of the State Fire Marshal

P.O. Box 1025, State Road, Stow, MA 01775

APPLICATION FOR PERMIT

Date: Dec. 16, 19 98

New Bedford (City or Town) Permit No NA (If Applicable)

DIG SAFE NUMBER
M.G.L. C. 82, S. 40
NA
Start Date

In accordance with the provisions of M.G.L. Chapter 148, as provided in Section CMR #9 application is hereby made

by Polaroid Corporation
(Full name of person, Firm or Corporation)

Address 100 Duchaine Blvd. (Street or P.O. Box) New Bedford (City or Town)

For permission to install: 3 - 22,740 gal. ea. rectangular horizontal steel tanks with #6 fuel oil

State clearly purpose for which permit is requested

(TO BE INSTALLED IN A CONCRETE BUNKER BELOW COOLING TOWERS)

Name of competent operator (If Applicable) Cert. No.

Date Issued ~~XXXXXX~~ 12/15 19 98 By Richard L Chandler (Signature of Applicant)

Date of expiration NA 19

Fee $ 75.00 Paid ✓ Due

RECEIVED

NOV 05 2019

City of New Bedford
Conservation Commission

(4)

The Commonwealth of Massachusetts
Department of Fire Services
Office of the State Fire Marshal
Post Office Box 1025, Stow, Massachusetts 01775
(978) 567-3300 Fax: (978) 567-3199

Application for Inspection

of plans for construction or installation of tanks in excess of 10,000 capacity, for aboveground storage of fluids other than water

Note: Application must be submitted in triplicate. **MINIMUM FEE ONE HUNDRED DOLLARS PER TANK WITH A CAPACITY OF NOT MORE THAN 100,000 GALLONS.** For each gallon over 1,000 an additional fee of one dollar shall be paid per gallon. Two sets of plans must accompany this application. When approved this application becomes the permit to build, install or repair tank. When tank has been built, tested and approved, a certification for it's use will be issued. Please enclose all materials and send to:

Office of the State Fire Marshal, Code Compliance Unit, P.O. Box 1025, Stow, MA 01775

Name of applicant for permit Polaroid Corporation

Business address of applicant 100 Duchaine Boulevard New Bedford, MA 02745

Location of Tank In concrete bunker below coolin towers

Description of tank Three rectangular horizontal steel tanks height of length 38'x8'

Capacity in gallons 68,220 gal (22,740 gal ea.) fee $300 diameter 10'

Kind of fluid to be stored in tank Number 6 Fuel Oil

State number and title of plans submitted 3 sets NB2 Oil Tank Upgrade, Polaroid Corp. New Bedford

---

Material Specification for Roof ASTM-A-36 Shell ASTM-A-36 Bottom ASTM-A-36

Types of joints Butt, Corner, Lap, Tee

Welding rod number AWS ER70S-6 Has welding procedure been submitted Yes

Thickness of Shell rings and number of rings 5/16" Tensile strength 58,000

Thickness of Roof 5/16" of Bottom 5/16" Tensile strength 58,000

Description of retaining basin and its capacity not applicable

---

Has a permit been issued by the local authority Yes Signature Paul Ryan Deputy

Has local Fire Chief been consulted Paul Ryan Dep.
Approve signature Disapproved signature

Manufacture of the tank Containment Solutions

Business address 6740 Bay Meadow Drive Glen Burnie, MD 21060

Tank to be Manufacture according to A.P.I. 650/UL 142 A.S.M.E. n/a 527 CMR 9.00 Yes

Signature of applicant or agent Dallas M. Dorland

Business address of applicant or agent POLAROID CORPORATION, 100 DUCHAINE BLVD, NEW BEDFORD MA, 02745

PERMIT TO BUILD, INSTALL OR REPAIR TANK:

APPROVED: Edward H. Kelly C.F.O. 9/24/98
State Fire Marshal or his designee

State Tag # _____ File # 0010

Print Last Name _____ Social Security Number _____

I certify under the penalties of perjury that to the best of my knowledge and belief I have filed all state tax returns and paid all state taxes required under the law.

Signature Dallas M. Dalbard *Date* 2 Sept 98

NOTE: PERMIT WILL NOT BE ISSUED UNLESS THIS ATTESTATION HAS BEEN COMPLETED AND SIGNED BY THE OWNER. (AUTHORITY: C. 62C, S, 49A M.G.L. AS AMENDED BY CHAPTER 233, ACTS OF 1983)

Checklist

Please remember to include all of the following and mail to Office of the State Fire Marshal, Code Compliance Unit, P.O. Box 1025, Stow, MA 01775

- ☐ Application in triplicate.
- ☐ FEE - MINIMUM FEE ONE HUNDRED DOLLARS PER TANK WITH A CAPACITY OF NOT MORE THAN 100,000 GALLONS. For each gallon over 1,000 an additional fee of one dollar shall be paid.
- ☐ Two sets of plans.

(5)

Notification for Removal or Closure of In Place Storage Tanks Regulated Under 527 CMR 9.00

Forward completed form, signed by local fire department, to: ***Mass. UST Compliance Unit, Dept. of Fire Services, P.O. Box 1025 - State Road, Stow, MA 01775***

Telephone (978) 567-3710

(Fire Department retains one copy of FP-290R)

Fire Dept. Use Only

Date Received: 9/24/98
Fire Dept. ID# 05201
Fire Dept. Sig. Dep. Insp

This form is to be used for notification for removal of Underground Storage Tanks/ Piping.

If a storage facility has UST's which are to remain in use, an entire amended FP-290 (long form) must be filed.

State Use Only

A. Facility Number _____
B. Date Entered _____
C. Clerk's Initials _____
D. Comments _____

Note: "Facility street address" must include both a street number and a street name. Post office box numbers are not acceptable, and will cause a registration to be returned. If geographic location of facility is not provided, please indicate distance and direction from closest intersection, e.g., (facility at 199 North Street is located) 400 yards southeast of Commons Road (intersection).

I. Ownership of Tank(s)

Owner Name (Corporation, Individual, Public Agency, or Other Entity)
POLAROID CORPORATION

Street Address
100 DUCHAINE BOULEVARD

City NEW BEDFORD State MA Zip Code 02745

County BRISTOL

Phone Number (Include Area Code) 781-386-7374

Owner's Employer Federal ID #

II. Location of Tank(s)

If known, give the geographic location of tanks by degrees, minutes, and seconds. Example: Lat. 42, 36, 12 N Long. 85, 24, 17W

Latitude 41, 42, 56 N Longitude 70, 57, 20 W

Distance and direction from closest intersection (see note above)

Facility Name or Company Site Identifier, as applicable
POLAROID CORPORATION

Street Address (P.O. Box not acceptable - see note above)
100 DUCHAINE BOULEVARD

City NEW BEDFORD State MA Zip Code 02745

County BRISTOL

III. Tanks/Piping Removed or Filled in Place

Tank Number	Tank No. 1	Tank No. 2	Tank No. 3	Tank No.	Tank No.
1. Tank/Piping removed or filled in place (mark all that apply)					
A. Substance last stored	#6 FUEL OIL	#6 FUEL OIL	#2 FUEL OIL		
B. Tank capacity gallons	167,000	169,000	38,000		
C. Estimated date last used (mo./day/yr.)	12/20/98	2/15/97	6/30/92		
D. Estimated date of removal (mo./day/yr.)	N/A	N/A	N/A		
E. Tank was removed from ground					
F. Tank was not removed from ground	X	X	X		
Tank was filled with inert material	NA	NA	NA		
Describe material used:	SEE ATTACHED (9/3/98 - PARSONS I&T GROUP)				
G. Piping was removed from ground					
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I. Other, please specify					

FP-290R (revised 5/98)

with 527 CMR 9.00					
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I declare under penalty of perjury that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner or owner's authorized representative (Print)	Signature:	Date:
STEPHEN A KECHES DIRECTOR OF MANUFACTURING OPERATIONS		9/20/99

PARSONS INFRASTRUCTURE & TECHNOLOGY GROUP INC.

30 Dan Road • Canton, Massachusetts 02021-2809 • (781) 401-3200 • Fax: (781) 401-2575

September 3, 1998

Mr. Richard Chandler
Environmental Manager
Polaroid Corporation
100 Duchaine Boulevard, Bldg NB1
New Bedford, MA 02745

Project: NB2 Oil Tanks Installation
New Bedford, MA
Job No. 732140-02000

SUBJECT: Abandonment In-Place of Concrete Bunkers Classified as Underground Storage Tanks (UST)
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If you have any questions regarding the contents of this letter, please feel free to contact me at (781) 401-2555.

Very truly yours,

PARSONS INFRASTRUCTURE & TECHNOLOGY GROUP, INC.

Damodar R. Pandit, P.E.
Chief Civil & Structural Engineer

REF. 1 Haley & Aldrich Inc. Report on Subsurface Investigations and Foundation Design Recommendations, Polaroid Corporation, NB2 Utilities Improvements, New Bedford, MA, 19 June 1995.

cc: Richard Trinidad, Polaroid
William Bodtman, Parsons
Anil Wagle, Parsons

(6)

UL Approval for Above Ground

Above ground ??

UL listing for on site

Secondary Containment - 3 tanks ⇒

⇒ 24,000 gal.

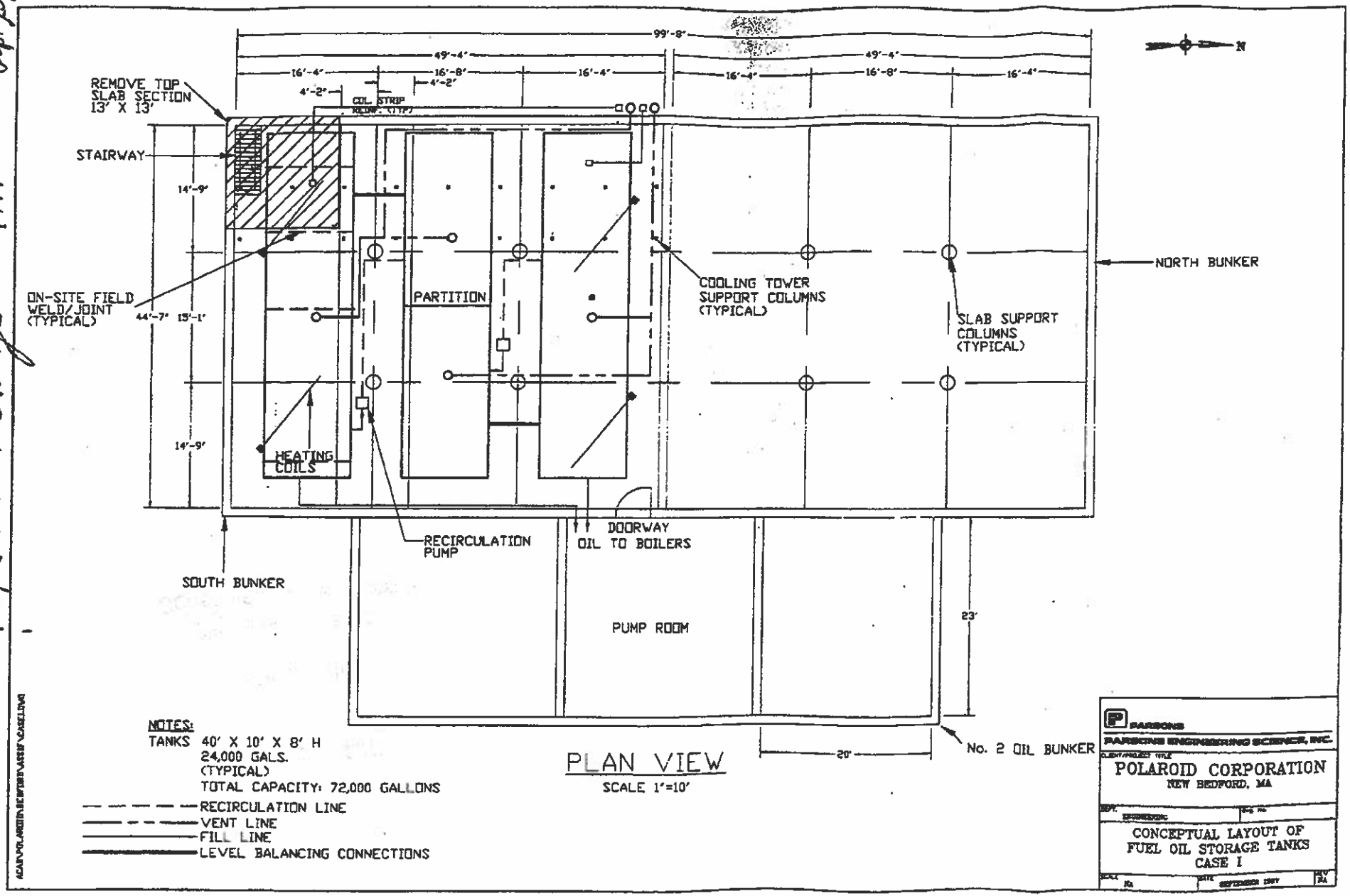
Licenses for Fuel oil ??

State - UST Program.

12/97 Proposed fuel storage

T. 2/3/97

#21389



NOTES:
TANKS 40' X 10' X 8' H
24,000 GALS.
(TYPICAL)
TOTAL CAPACITY: 72,000 GALLONS

RECIRCULATION LINE
VENT LINE
FILL LINE
LEVEL BALANCING CONNECTIONS

PLAN VIEW
SCALE 1"=10'

PARSONS
PARSONS ENGINEERING SCIENCE, INC.

POLAROID CORPORATION
NEW BEDFORD, MA

CONCEPTUAL LAYOUT OF
FUEL OIL STORAGE TANKS
CASE I

(8)

#21389

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOUTHEAST REGIONAL OFFICE

WILLIAM F. WELD
Governor

ARGEO PAUL CELLUCCI
Lt. Governor

TRUDY COXE
Secretary

DAVID B. STRUHS
Commissioner

URGENT LEGAL MATTER: PROMPT ACTION NECESSARY
CERTIFIED MAIL: RETURN RECEIPT REQUESTED

COPY

November 6, 1996

Polaroid Corporation
50 Duchaine Boulevard
New Bedford, Massachusetts

RE: NEW BEDFORD--BWSC
50 Duchaine Boulevard
Building NB#6
RTN: 4-12617

NOTICE OF RESPONSIBILITY
M.G.L. c. 21E, 310 CMR 40.0000

ATTENTION: Jeanne Benjamin

On November 4, 1996, at 5:20 p.m., the Department of Environmental Protection (the "Department") received oral notification of a release and/or threat of release of oil and/or hazardous material at the above referenced property which requires one or more response actions. The after burners in the coating production line were not in the right position, allowing approximately 1,100 pounds of ethyl acetate to vent to the atmosphere.

The Massachusetts Oil and Hazardous Material Release Prevention and Response Act, M.G.L. c.21E, and the Massachusetts Contingency Plan (the "MCP"), 310 CMR 40.0000, require the performance of response actions to prevent harm to health, safety, public welfare and the environment which may result from this release and/or threat of release and govern the conduct of such actions. The purpose of this notice is to inform you of your legal responsibilities under State law for assessing and/or remediating the release at this property. For purposes of this Notice of Responsibility, the terms and phrases used herein shall have the meaning ascribed to such terms and phrases by the MCP unless the context clearly indicates otherwise.

The Department has reason to believe that the release and/or threat of release which has been reported is or may be a disposal site as defined by the M.C.P. The Department also has reason to believe that you (as used in this letter, "you" and "your" refers

to Polaroid Corporation) are a Potentially Responsible Party (a "PRP") with liability under M.G.L. c.21E §5, for response action costs. This liability is "strict", meaning that it is not based on fault, but solely on your status as owner, operator, generator, transporter, disposer or other person specified in M.G.L. c.21E §5. This liability is also "joint and several", meaning that you may be liable for all response action costs incurred at a disposal site regardless of the existence of any other liable parties.

The Department encourages parties with liabilities under M.G.L. c.21E to take prompt and appropriate actions in response to releases and threats of release of oil and/or hazardous materials. By taking prompt action, you may significantly lower your assessment and cleanup costs and/or avoid liability for costs incurred by the Department in taking such actions. You may also avoid the imposition of, the amount of or reduce certain permit and/or annual compliance assurance fees payable under 310 CMR 4.00. Please refer to M.G.L. c.21E for a complete description of potential liability. For your convenience, a summary of liability under M.G.L. c.21E is attached to this notice.

You should be aware that you may have claims against third parties for damages, including claims for contribution or reimbursement for the costs of cleanup. Such claims do not exist indefinitely but are governed by laws which establish the time allowed for bringing litigation. The Department encourages you to take any action necessary to protect any such claims you may have against third parties.

At the time of verbal notification to the Department, the following response actions were approved as an Immediate Response Action (IRA):

- Assessment only.

ACTIONS REQUIRED

Additional submittals are necessary with regard to this notification including, but not limited to, the filing of a written IRA Plan, IRA Completion Statement and/or a Response Action Outcome (RAO) statement. **The MCP requires that a fee of $750.00 be submitted to the Department when an RAO statement is filed greater than 120 days from the date of initial notification.** Specific approval is required from the Department for the implementation of all IRAs and Release Abatement Measures (RAMs). Assessment activities, the construction of a fence and/or the posting of signs are actions that are exempt from this approval requirement.

In addition to oral notification, 310 CMR 40.0333 requires that a completed Release Notification Form (BWSC-103, attached) be submitted to the Department within sixty (60) calendar days of November 4, 1996.

You must employ or engage a Licensed Site Professional (LSP) to manage, supervise or actually perform the necessary response actions at this site. You may obtain a list of the names and addresses of these licensed professionals from the Board of Registration of Hazardous Waste Site Cleanup Professionals at (617) 556-1145.

Unless otherwise provided by the Department, potentially responsible parties ("PRP's") have one year from the initial date of notification to the Department of a release or threat of a release, pursuant to 310 CMR 40.0300, or from the date the Department issues a Notice of Responsibility, whichever occurs earlier, to file with the Department one of the following submittals: (1) a completed Tier Classification Submittal; (2) a Response Action Outcome Statement or, if applicable, (3) a Downgradient Property Status. The deadline for either of the first two submittals for this disposal site is **November 4, 1997**. If required by the MCP, a completed Tier I Permit Application must also accompany a Tier Classification Submittal.

This site shall not be deemed to have had all the necessary and required response actions taken unless and until all substantial hazards presented by the release and/or threat of release have been eliminated and a level of No Significant Risk exists or has been achieved in compliance with M.G.L. c.21E and the MCP.

If you have any questions relative to this notice, please contact Dan Crafton at the letterhead address or at (508) 946-2865. All future communications regarding this release must reference the following Release Tracking Number: **4-12617**.

Very truly yours,

Richard F. Packard

Richard F. Packard, Chief
Emergency Response / Release
Notification Section

P/DC/jt

CERTIFIED MAIL #P606 845 527
RETURN RECEIPT REQUESTED

Attachments: Release Notification Form; BWSC-103 and Instructions
Summary of Liability under M.G.L. c.21E

cc: City of New Bedford
Office of the Mayor
City Hall
133 William Street
New Bedford, MA 02740

cc: City of New Bedford
Health Department
181 Hillman Street
New Bedford, MA 02740

City of New Bedford
Fire Department
868 Pleasant Street
New Bedford, MA 02740

DEP - SERO
ATTN: Andrea Papadopoulos, Deputy Regional Director

DEP - SERO - BWSC
ATTN: Data Entry

(9)

#21389

RECEIVED

NOV 05 2019

City of New Bedford
Conservation Commission

Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Protection
Southeast Regional Office

William F. Weld
Governor
Trudy Coxe
Secretary, EOEA
David B. Struhs
Commissioner

URGENT LEGAL MATTER: PROMPT ACTION NECESSARY
CERTIFIED MAIL: RETURN RECEIPT REQUESTED

COPY

July 1, 1996

Polaroid Corp.
50 Duchaine Boulevard
N.Bedford, Massachusetts 02745-1201

RE: NEW BEDFORD--BWSC
50 Duchaine Boulevard
RTN: 4-12272

NOTICE OF RESPONSIBILITY
M.G.L. c. 21E, 310 CMR 40.0000

On June 22, 1996, at 10:10 a.m., the Department of Environmental Protection (the "Department") received oral notification of a release and/or threat of release of oil and/or hazardous material at the above referenced property which requires one or more response actions.

The Massachusetts Oil and Hazardous Material Release Prevention and Response Act, M.G.L. c.21E, and the Massachusetts Contingency Plan (the "MCP"), 310 CMR 40.0000, require the performance of response actions to prevent harm to health, safety, public welfare and the environment which may result from this release and/or threat of release and govern the conduct of such actions. The purpose of this notice is to inform you of your legal responsibilities under State law for assessing and/or remediating the release at this property. For purposes of this Notice of Responsibility, the terms and phrases used herein shall have the meaning ascribed to such terms and phrases by the MCP unless the context clearly indicates otherwise.

The Department has reason to believe that the release and/or threat of release which has been reported is or may be a disposal site as defined by the M.C.P. The Department also has reason to believe that you (as used in this letter, "you" and "your" refers to Polaroid Corp.) are a Potentially Responsible Party (a "PRP") with liability under M.G.L. c.21E §5, for response action costs. This liability is "strict", meaning that it is not based on fault, but solely on your status as owner, operator, generator,

cc: City of New Bedford
Health Department
181 Hillman Street
New Bedford, MA 02740
ATTN: Dr. David Constantine

City of New Bedford
Fire Department
868 Pleasant Street
New Bedford, MA 02740
ATTN: Chief Roger Nadeau

DEP - SERO
ATTN: Andrea Papadopoulos, Deputy Regional Director

RECEIVED (10)

NOV 05 2019

City of New Bedford
Conservation Commission

#21389

Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Protection
Southeast Regional Office

William F. Weld
Governor
Trudy Coxe
Secretary, EOEA
Thomas B. Powers
Acting Commissioner

COPY

April 13, 1995

Richard L. Chandler
Polaroid Corporation
100 Duchaine Boulevard
New Bedford, Massachusetts 02745

RE: NEW BEDFORD--WSC/ASM-4-10113
Polaroid Power Plant
100 Duchaine Boulevard
NOTICE OF NON-COMPLIANCE/
NOTICE OF AUDIT FINDINGS
M.G.L. c.21E and MCP,
310 CMR 40.0000
NON-SE-95-3041

NOTICE OF NON-COMPLIANCE/NOTICE OF AUDIT FINDINGS

This is an important Notice. Failure to take adequate action in response to this Notice could result in serious legal consequences.

Dear Mr. Chandler:

The Department of Environmental Protection (the "Department"), on October 4, 1994, issued a Notice of Audit/Request for Information informing you (as used herein "you" refers to the Polaroid Corporation) that the Department was conducting an audit of certain activities related to the above-referenced disposal site pursuant to 310 CMR 40.1100. That audit is now complete. The purpose of this Notice is to inform you that, as a result of the audit, the Department has determined that activity occurred at the site which is in non-compliance with one or more laws, regulations, orders, licenses, permits, or approvals enforced by the Department. The activity which is in non-compliance and the measures the Department wants you to take to come into compliance are described in the Notice of Non-Compliance. In addition, the audit identified certain deficiencies in response actions conducted at the subject site. The deficiencies and measures you should take to address them, if any, are also described below.

The audit included a review of the following:

- Notification Requirements.
- Immediate Response Actions (IRA).
- Risk Characterization.
- Response Action Outcome (RAO) Statement.

The audit consisted of the following activities:

- A review of documents contained in the Department's files including the reports titled "Fuel Oil Release Characterization, Underground Storage Tanks, 100 Duchaine Boulevard, New Bedford, Massachusetts" dated January 1994 and "New Bedford-WSC/ASM-4-10113, Polaroid Power Plant Building, 100 Duchaine Boulevard, Response to the Notice of Audit/Request for Information" dated October 1994, both prepared by GZA GeoEnvironmental, Incorporated (GZA) and a class B-1 RAO Statement prepared by John J. Spirito, Licensed Site Professional (LSP) Number 8403.
- A Notice of Audit/Request for Information dated October 4, 1994.

SITE SUMMARY

The area of the three (3) concrete underground storage tanks (the "Site") is located west of the Polaroid Power Plant Building (Polaroid) located on Duchaine Boulevard in New Bedford, Massachusetts. Two (2) of the tanks have a capacity of approximately 150,000 gallons and contain number 6 fuel oil. The third tank has a capacity of 40,000 gallons and contains number 2 fuel oil.

In December 1986, GZA conducted a subsurface investigation in the vicinity of the underground storage tanks. The investigation consisted of the execution of nine (9) borings, the installation of three (3) well points and eight (8) monitoring wells and the collection, field screening and analysis of soil, groundwater and surface water samples. Review of the data revealed that total volatile organics ranged between 0.6 and 5.8 parts per million (ppm) in the soil, methane ranged between 0.05 and 8.20 ppm in the samples collected from the wetlands and the well installed by Polaroid, and total petroleum hydrocarbons (TPH) existed at a concentration of 920 ppm in the sample collected from the vertical corrugated metal observation pipe (CMP) located south of the underground storage tanks. Additionally, a sample was collected from the CMP and submitted to ERCO for hydrocarbon fingerprinting. Review of this data revealed that number 6 fuel oil was present in the groundwater.

At Polaroid's request, GZA monitored groundwater conditions at the site every year since 1987. The monitoring program consisted of the measurement of depth to groundwater and separate phase product, if applicable in each monitoring well, the visual observation of a groundwater sample from each well for evidence of a sheen or oil globules, the field screening of groundwater samples for temperature and the collection of groundwater samples for analysis of TPH. Review of the data revealed that depth to groundwater ranged between 3 and 10 feet below grade, approximately

0.06 feet of separate phase product existed on the groundwater surface in one monitoring well located west of the underground storage tanks on November 23, 1993, the temperature of the groundwater ranged between 10 and 29 °C and TPH concentrations ranged between none detected and 22 ppm. Additionally, samples were collected from the monitoring wells on November 23, 1993 and January 6, 1994 for analysis of semi-volatile organics and purgeable aromatics, respectively. Review of this data revealed that total BTEX existed in one well at a concentration of approximately 15 parts per billion.

Note: This summary is based on the information contained in the Department's files.

AUDIT FINDINGS

On the basis of the information reviewed during the course of the audit and in reliance upon the accuracy of that information, the Department has identified both violations and deficiencies with one or more laws, regulations, orders, licenses, permits or approvals enforced by the Department as described below.

I. Violations. The following Notice of Non-Compliance contains a description of each activity identified during the audit which is in non-compliance, the requirements violated, the action the Department now wants you to take, and the deadline for taking such action.

NOTICE OF NON-COMPLIANCE
NON-COMPLIANCE SUMMARY
NON-SE-95-3041

ENTITY IN NON-COMPLIANCE

Polaroid Corporation
100 Duchaine Boulevard
New Bedford, Massachusetts 02754

LOCATION WHERE NON-COMPLIANCE OCCURRED OR WAS OBSERVED

Polaroid Power Plant Building
100 Duchaine Boulevard
New Bedford, Massachusetts 02745

DATES WHEN NON-COMPLIANCE OCCURRED AND DESCRIPTION OF ACTIVITIES IN NON-COMPLIANCE

Relative to a release of oil encountered during the monitoring of the groundwater in the vicinity of the three (3) underground fuel oil storage tanks at the above referenced site, the Department has identified the following violations:

1. By November 23, 1993, you failed to notify the Department of your intention to conduct an Immediate Response Action (IRA) at the above referenced site.

2. On January 21, 1994, a Response Action Outcome (RAO) Statement was submitted to the Department for the subject site. According to the RAO Statement, the Licensed Site Professional (LSP) of record for this site, Mr. John J. Spirito, provided an opinion that a Class B-1 RAO has been achieved. Pursuant to 310 CMR 40.1046(1) a Class B-1 RAO Statement is applicable when a level of No Significant Risk has been achieved at a disposal site without conducting remedial actions or imposing Activity and Use Limitations. However, based on the information provided, you have not demonstrated that separate phase product no longer exists at the site and that a level of No Significant Risk has been achieved.

3. By January 20, 1994, you failed to submit documentation pursuant to 310 CMR 40.1403(3)(f) which demonstrates the Chief Municipal Officer and the Board of Health in the community(ies) in which the disposal site is located and any other communities which are likely to be affected by the disposal site have been notified of the availability of the RAO Statement filed pursuant to 310 CMR 40.1000 for the site.

DESCRIPTION OF REQUIREMENTS NOT COMPLIED WITH

1. 310 CMR 40.0420(3)(a) requires Potentially Responsible Parties, Responsible Parties and Other Persons to inform the Department of their intention to conduct an IRA required pursuant to 310 CMR 40.0412 at the time of notification of a 2 or 72 hour release as described in 310 CMR 40.0311 through 310 CMR 40.0314.

2. 310 CMR 40.1004 requires a RAO Statement be supported by assessment activities conducted pursuant to 310 CMR 40.0000 which are of sufficient scope, detail and level of effort to demonstrate that all the requirements of the applicable class of RAO pursuant to 310 CMR 40.1000 have been met.

3. 310 CMR 40.1403(3)(f) requires documentation be submitted to the Department which demonstrates that the Chief Municipal Officer and the Board of Health in the community(ies) in which the disposal site is located and any other communities which are likely to be affected by the disposal site have been notified of the availability of the RAO Statement filed pursuant to 310 CMR 40.1000 for the site.

DESCRIPTION OF AND DEADLINE FOR ACTIONS TO BE TAKEN

1. Within thirty (30) days of receipt of this Notice, submit to the Department documentation which demonstrates that the Chief Municipal Officer and the Board of Health in which the disposal site is located and any other communities which are likely to be affected by the disposal site have been notified of the availability of the RAO Statement filed with the Department pursuant to 310 CMR 40.1000.

2. Within sixty (60) days of receipt of this Notice, conduct additional assessment activities at the above referenced disposal site which include at a minimum, the execution of three (3) borings in the vicinity of the monitoring well designated as GZA-5 on Figure 2 titled "Exploration Location Plan" dated December 1986 and prepared by GZA. The borings shall be of sufficient depth to determine whether or not separate phase product still exists at the site and samples should be collected as appropriate for field screening and analysis by a Massachusetts State Certified Laboratory.

3. Within ninety (90) days of receipt of this Notice, submit to the Department copies of all documentation generated as a result of the additional assessment activities described in item two (2) above.

II. Deficiencies. The Department also identified the deficiencies listed below and the actions required.

1. Deficiency: A discrepancy exists regarding page 1 of the Fuel Oil Release Characterization Report dated January 1994 and Figure 2 titled "Exploration Location Plan" dated December 1986, both prepared by GZA. Specifically, the text of the Report indicates that wetlands are located north, west and east of the underground storage tanks while the Exploration Location Plan depicts the existence of wetlands to the north, south and west of the underground storage tanks.

Action(s) Required: Specify the direction of the wetlands with respect to the underground storage tanks and modify the Exploration Location Plan, if necessary.

2. Deficiency: The source of the odors identified in the monitoring wells designated as GZA-2 and GZA-4 on the Exploration Location Plan was not identified.

Action(s) Required: Provide documentation which identifies the source of the odors in the above referenced monitoring wells.

3. Deficiency: An explanation which addresses the source (i.e., a cracked tank, tank overfilling, etc.) of the soil and groundwater contamination at the site was not provided.

Action(s) Required: Provide written documentation (i.e., tightness testing data) which addresses the cause of the soil and groundwater contamination at the site.

4. Deficiency: Table 1 titled "Comparison of Groundwater Screening Results, November 23, 1993, Underground Storage Tank Area, Polaroid Corporation, New Bedford, Massachusetts" contained in the Fuel Oil Release Characterization Report dated January 1994 references GZA Reports dated March 1987, August 1988 and May 1989.. However these reports were not provided to the Department.

Action(s) Required: Submit to the Department copies of the reports referenced above.

5. Deficiency: A Chain of Custody (COC) was not provided to support the samples collected on December 12, 1986, December 18, 1986, January 2, 1987, January 6, 1987, January 13, 1987, January 15, 1987 and June 23, 1988. Furthermore, the COC provided for the April 27, 1989 sampling episode does not include the sample locations and times and is therefore incomplete. The laboratory certificates generated by ERCO for the samples received on January 2, 5 and 6, 1987 do not specify the extraction and analysis date. The test methods employed by GZA Environmental Chemistry Laboratory and Rhode Island Analytical for the analysis of the samples collected in December 1986 and June 1988, respectively were not specified on the laboratory analytical certificates. The analytical data associated with the analysis of the soil samples collected from borings GZA-2, GZA-5 and GZA-6A in January 1987 were expressed on a wet weight basis. The duplicate sample collected from monitoring well GZA-4 on April 27, 1989 was not labelled as a blind duplicate and the COC for the May 27, 1992 sampling episode indicated that a sample was collected from the well designated as POW-1 installed by Polaroid for the analysis of TPH, however this data was not provided.

Action(s) Required: Future sample collection and analysis must be conducted in strict accordance with 310 CMR 40.0017.

6. Deficiency: Analytical data generated from the sampling of the well points and the CMPs was used to support the RAO Statement for this site and are not representative sampling locations.

Action(s) Required: No further action is required.

DEADLINES FOR RETURNING TO COMPLIANCE

You are advised to correct the violations (I) in the Notice of Noncompliance Summary within the time frames specified and to correct the deficiencies (II) within thirty (30) days of receipt of this Notice. Your response must include appropriate evidence and documentation as specified herein.

DO NOT IGNORE THIS NOTICE. Failure to correct the violations and the deficiencies identified and provide documentation of such action to the Department may subject you, your officers and employees to enforcement action by the Department. The Department may conduct a follow-up audit to determine whether the required actions have been taken and the violations and the deficiencies corrected. If the Department finds that the violations and deficiencies have not been corrected, it may then issue additional Notices of Non-Compliance (NON), a Notice of Intent to Assess a Civil Administrative Penalty (PAN), an administrative enforcement order, a Notice of Responsibility (NOR), a Notice of Intent to take Response Action (NORA), an Administrative Consent Order, an Unilateral Order, or seek a Judicial Judgement as appropriate. You may also be subject to cost recovery under 310 CMR 40.1200 for failure to perform response actions at the disposal site.

A copy of this Notice has been sent to the LSP of record for your disposal site. You may consult with the LSP of record when preparing a response to this Notice. Note, however, that you, not your LSP, are obligated to respond to this Notice and remedy the violations and the deficiencies specified herein. Note that any submittals to the Department made in response to this Notice must include the certification enclosed signed by an authorized individual as specified in 310 CMR 40.0009.

Additional Comments. The list below contains observations and recommendations from the Department on the response actions that were audited. These observations and recommendations do **NOT** constitute deficiencies or violations and require no response to the Department from you. Instead, they are included to help you and your LSP better understand the Department's interpretation of M.G.L. c.21E. 310 CMR 40.0000, and other requirements to applicable to the site.

1. According to the Fuel Oil Characterization Report, the presence of oil and hazardous materials (OHM) at the site is limited to the area below the groundwater table, Method 1 Risk Characterization Standards are available for the OHM of concern at the site and pursuant to 310 CMR 40.0982(5) a Method 1 Risk Characterization has been conducted for the site. 310 CMR 40.0982(5) refers to a Method 2 Risk Characterization whereby Method 1 Standards may be used in combination with Method 2 Standards.

LIMITATIONS

These findings do not apply to response actions or other aspects of the site that were not reviewed in the audit. These findings do not in any way constitute a release from liability under M.G.L. c. 21E, the MCP, or any other law, regulation, or requirement. This audit does not preclude future audits of past, current, or future response actions or activities at the site.

No portion of this Notice shall be construed to relieve any person from an obligation for Response Action Costs or damages related to a site or disposal site for which that person is liable under M.G.L. c. 21E or from any obligation for any administrative, civil or criminal penalty, fine, settlement, or other damages.

No portion of this Notice shall be construed to limit the Department's authority to take or arrange, or to require any Responsible Party or Potentially Responsible Party to perform, any response action authorized by M.G.L. c. 21E which the Department deems necessary to protect health, safety, public welfare or the environment.

If you have any questions regarding this Notice or any requirements specified herein please contact Laura Stanley at (508) 946-2880. Please reference the Release Tracking Number (4-10113) in any correspondence regarding the site.

Very truly yours,

Joseph F. Kowal

Joseph F. Kowal, Chief
Audit and Site Management Section

K/LAS/re

CERTIFIED MAIL # Z 309 604 211
RETURN RECEIPT REQUESTED

Enclosure: Certificate of Submittal

cc: New Bedford Health Department
181 Hillman Street
New Bedford, MA 02740
ATTN: Dr. David Constantine, Chairman

Office of the Mayor
City Hall
133 Williams Street
New Bedford, MA 02740
ATTN: Honorable Rosemary Tierney, Mayor

GZA GeoEnvironmental, Incorporated
140 Broadway
Providence, RI 02903
ATTN: John J. Spirito, LSP

cc: DEP - Boston
ATTN: Steve Winslow, BWSC

DEP - SERO
ATTN: Andrea Papadopoulos, Deputy Regional Director

DEP - SERO
ATTN: Richard Packard, ER

DEP - SERO
ATTN: Data Entry

#21389

RECEIVED
NOV 05 2019
City of New Bedford
Conservation Commission

Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Protection
Southeast Regional Office

William F. Weld
Governor
Trudy Coxe
Secretary, EOEA
Thomas B. Powers
Acting Commissioner

April 24, 1995

David P. Swanson
Environmental Protection Manager
Polaroid Corporation
50 Duchaine Boulevard, NB6
New Bedford, Massachusetts 02745

RE: NEW BEDFORD--Recycling Permit No.S-95-005,Transmittal No. 104244, Site ID# MAD058060476, 310 CMR 30.200, Regulated Recyclable Material

Dear Mr. Swanson:

Enclosed please find a Class A recycling permit issued to: Polaroid Corporation High Resolution Media Manufacturing, 50 Duchaine Boulevard, NB6, New Bedford, Massachusetts 02745, which authorizes the management of regulated recyclable materials. This permit is issued pursuant to G.L. c. 21C and 310 CMR 30.200.

Please read this document carefully as it stipulates the particular activities for which the permit is issued as well as the general and specific conditions governing those activities.

If you object to the terms and conditions of this permit you must contact the Department within 10 days of the receipt of this letter, otherwise you will be deemed to have assented to the permit as issued. The permit shall then become valid and binding as of the effective date shown on page one of the permit.

Should you have any questions, please contact Mark R. Poudrier of this office at (508) 946-2821.

Very truly yours,

John K Winkler, for
Christopher Tilden, P.E.
Regional Engineer for Waste Prevention

T/MRP/re

Enclosure

CERTIFIED MAIL NO. Z 309 604 216
RETURN RECEIPT REQUESTED

cc: DEP-BWP
ATTN: James Miller
(Enclosure)

Health Dept.
Hazardous Waste Coordinator
1213 Purchase Street
New Bedford, MA 02740
(Enclosure)

Polaroid Corporation
50 Duchaine Blvd., NB6
New Bedford, MA 02745
ATTN: Jeanne M. Benjamin, Environmental Engineer
(Enclosure)

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE

RECYCLING PERMIT

Polaroid Corporation High Resolution Media Manufacturing Name of Permittee	50 Duchaine Blvd., NB6, New Bedford, MA 02745 Mailing Address

David P. Swanson Contact Person	April 24, 1995 Effective Date	A Class	S-95-005 Permit No.
[redacted] Phone Number	April 24, 2000 Expiration Date	MAD058060476 EPA Identification No.	

****

This is to certify that the above named company is authorized to manage regulated recyclable materials pursuant to G.L. c21C and 310 CMR 30.200.

This permit authorizes recycling of the following materials only:

Material Description	EPA Waste Code	Amount
Methyl Ethyl Ketone	F005	5,800,000 gallons/year
Ethyl Acetate	F003	
Other Solvents as Listed in Application	D001	

DESCRIPTION OF RECYCLING OPERATIONS

Batches of waste solvents generated on-site are recycled in a completely enclosed distillation system for re-use as a cleansing solvent. Waste solvents not scheduled for re-use shall be managed as a hazardous waste in accordance with 310 CMR 30.000.

LOCATION OF RECYCLING OPERATIONS

Polaroid Corporation High
Resolution Media Manufacturing
50 Duchaine Blvd., NB6
New Bedford, MA 02745

General Conditions of Recycling Permit

I. The permittee shall have all equipment installed in accordance with all applicable Federal, State and local regulations. The equipment site must have proper fire and explosion protection features, must have proper ventilation and provide easy access to all significant parts of the equipment.

II. The permittee shall install, operate and maintain recycling equipment in accordance with all recommendations provided by the manufacturer.

III. Permittee shall not alter the recycling device.

IV. Permittee shall not allow material to be introduced into the recycling device, other than those which have been specifically enumerated by the manufacturers or that would result in inadequate performance of the device.

V. The permittee shall satisfy all applicable conditions of 30.200. They include but are not limited to the following:

(1) Duty to Comply. The permittee shall comply at all times with the terms and conditions of the permit, 310 CMR 30.000, MGL c. 21C, MGL c. 21E, and all other applicable State and Federal statutes and regulations.

(2) Duty to Maintain. The permittee shall always properly operate and maintain all facilities, equipment, control systems, and vehicles which the permittee installs or uses.

(3) Duty to Halt or Reduce Activity. The permittee shall halt or reduce activity whenever necessary to maintain compliance with 310 CMR 30.200 or the permit conditions, or to prevent an actual or potential threat to public health, safety, or welfare, or the environment.

(4) Duty to Mitigate. The permittee shall remedy and shall act to prevent all potential and actual adverse impacts to persons and the environment resulting from noncompliance with the terms and conditions of the permit. The permittee shall repair at his own expense all damages caused by such noncompliance.

(5) Duty to Provide Information. The permittee shall provide the Department, within a reasonable time, any information which the Department may request and which is deemed by the Department to be relevant in determining whether a cause exists to modify, revoke, or suspend a permit, or to determine whether the permittee is complying with the terms and conditions of the permit.

(6) Entries and Inspections. The permittee shall allow personnel or other authorized agents of the Department or authorized EPA representatives, upon presentation of credentials or other documents as may be required by law, to:

(a) Enter at all reasonable times any premises, public or private for the purposes of investigation, sampling or inspecting any records, condition, equipment, practice, or property relating to activities subject to MGL c. 21C, MGL c.21E, or RCRA, as amended; and

(b) Enter at any time such premises for the purpose of protecting the public health, safety or welfare, or the environment; and

(c) Have access to and copy at all reasonable times all records that are required to be kept pursuant to the conditions of the permit, and all other records relevant to the permittee's hazardous waste activity or to the permittee's activity involving regulated recyclable material.

(7) Records. All records and copies of all applications, reports, and other documents required by 310 CMR 30.200 shall be kept by the permittee for at least three (3) years from the expiration of the permit. This period shall be automatically extended for the duration of any enforcement action. This period may be extended by order of the Department. All record-keeping shall be in compliance with 310 CMR 30.007.

(8) Continuing Duty to Inform. The permittee shall have a continuing duty to immediately:

(a) correct any incorrect facts in an application; and

(b) report or provide any omitted facts which should have been submitted; and

(c) in advance, report to the Department each planned change in the permitted facility or activity which might result in noncompliance with 310 CMR 30.200 or with a term or condition of the permit; and

(d) report to the Department any cessation of the permitted activity.

(9) Preventing and Reporting Releases Into the Environment. No materials that are to be recycled shall be intentionally released into the environment or otherwise disposed of within Massachusetts except in full compliance with all applicable provisions of 310 CMR 30.000 and C. 21C. All accidental releases of recyclable material shall be immediately reported to the Department and to all other persons to whom such releases must be reported pursuant to State or Federal laws or regulations.

(10) Compliance with the Application and the Terms of the Permit. Except where 310 CMR 30.200 or other conditions of the permit provide otherwise, the materials that are to be recycled shall be recycled in the manner described in the application for the permit and in no other manner, and in compliance with all conditions of the permit. There shall be no change in the procedure of recycling without the prior express written approval of the Department.

(11) Transportation of Recyclable Material. Unless otherwise specified, all transportation of recyclable material, and preparation of all recyclable material for transportation, shall be in full compliance with U.S. Department of Transportation and other Federal regulations, and all State regulations, governing the transportation of hazardous materials.

(12) Annual Reporting. All permittees shall submit to the Department an annual report covering all recyclable material they handle. Each annual report shall be submitted to the Department no later than March 1 for the proceeding calendar year. The permittee shall use the form prescribed by the Department for Annual Reports submitted in compliance with 310 CMR 30.205(12). All annual reports shall include at least the following information:

(a) The EPA identification number of the generator; and

(b) The name, address, and EPA identification number of the facility to which recyclable material was sent; and

(c) Identification of all recyclable material recycled at the site of generation. Such identification shall include the EPA listed name or description, the EPA hazardous waste number, the DOT hazard class, and the amount of material recycled; and

(d) Identification of all recyclable material shipped to off-site facilities. Such identification shall include the EPA listed name or description, the EPA hazardous waste number, the DOT hazard class, the amount of recyclable material transported, and the facility to which it was transported; and

(e) The name and EPA identification number of the transporters used.

(13) Dust Suppression and Road Treatment. The use of regulated recyclable material for dust suppression or road treatment is prohibited. The provisions set forth in 310 CMR 30.205(9) shall apply to such activity.

(14) Speculative Accumulation. Speculative accumulation is prohibited. The permittee shall make and keep records that will adequately demonstrate that there has occurred no speculative accumulation. Such records shall include, but not be limited to, the following:

SPECIAL CONDITIONS

(1) The permittee is authorized only to handle the Class A regulated recyclable material described in this permit in accordance with 310 CMR 30.220 Requirements Governing Class A Regulated Recyclable Materials. The Department must be notified immediately of any changes or modifications in material composition, amount or operation of recycling activities.

(2) Each tank or container in which regulated recyclable material is being accumulated or stored and each outside container into which small containers are packed shall be clearly marked and labelled throughout the period of accumulation or storage in accordance with 310 CMR 30.206(1).

(3) Previously issued Recycling Permit No. S-92-032 dated October 21, 1992 is hereby made void by the issuance of Recycling Permit No. S-95-005 approved herein.

(4) Please note that the Department reserves the right to revoke or suspend this permit if the above special conditions are not met.

THIS PERMIT AUTHORIZES ONLY THE NAMED PERMITTEE TO ENGAGE IN THE ACTIVITIES DESCRIBED ABOVE AT THE LOCATION DESCRIBED ABOVE. THIS PERMIT DOES NOT GRANT ANY RIGHTS NOT OTHERWISE GRANTED BY FEDERAL, STATE OR LOCAL STATUTES, ORDINANCES, OR REGULATIONS. THE PERMITTEE SHALL COMPLY AT ALL TIMES WITH ALL STATE AND FEDERAL REGULATIONS AND STATUTES APPLICABLE TO THE MANAGEMENT OF REGULATED RECYCLABLE MATERIALS.

Julian K Wenisch, for
Christopher Tilden, P.E.
Regional Engineer for Waste Prevention

Date 4/24/95

APPEAL OF APPROVAL

This Approval is an action of the Department. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts which are the grounds for the request, and the relief sought. Additionally, the request must state why the Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to Commonwealth of Massachusetts in the amount of one hundred dollars ($100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

The request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below.

The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

The Department may waive the adjudicatory hearing filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

#21389

(12)

NOTICE TO CHIEF OF FIRE DEPARTMENT

OFFICE OF CITY CLERK New Bedford, Mass., March 3, 1993

Chief of Fire Department

Application has been made by Edward Bretschneider, POLAROID CORP.

for license to use land for the **KEEPING, STORAGE AND SALE OF CRUDE PETROLEUM OR ANY OF ITS PRODUCTS**, under provisions of General Laws, Chapter 148, as amended by Acts of 1936, Chapter 394, and any amendments thereto and a hearing is assigned thereon for Thursday, MARCH 25, 1993

The following description and facts appear in the application filed at this office:

The land on which the license is to be exercised is situated at

100 Duchaine Boulevard
street and number

Building is constructed of concrete and steel

and is used as Manufacturing plant
if garage state capacity (if lubritorium, give capacity);

Products of crude petroleum to be kept, as well as number, kind and capacity of containers to be used

SEE ATTACHED APPLICATION

Premises previously licensed by city council 9/14/78
(date)

site approved

Additional storage covered by this application (kind and quantity) listed below

SEE ATTACHED APPLICATION

Respectfully,

JANICE A. DAVIDIAN
City Clerk

CERTICICATE OF HEAD OF FIRE DEPARTMENT

OFFICE OF CHIEF OF FIRE DEPARTMENT

New Bedford, Mass. Mar. 26, 1993

To the City Council,

Gentlemen:

I hereby certify my approval ~~disapproval~~ of the application for license described above.

My reasons for disapproval are

Respectfully,

Chief of Fire Department

Application for License

To Use Land for the

KEEPING, STORAGE OR SALE OF

Products of Crude Petroleum

New Bedford, Mass., February 10, 1993

Under the provisions of General Laws, Chapter 148, as amended, the undersigned hereby makes application for a license to use land for Keeping and Storage
(keeping and storage; or keeping, storage and sale)
of products of crude petroleum, hereinafter specified, the premises, buildings or structures to be used being described as follows:—

The land on which the license is to be exercised is situated at
100 Duchaine Boulevard New Bedford, MA 02745
(street and number)

Products of crude petroleum to be kept, as well as number, kind and capacity of containers to be used
additional storage to be included: Class "A" Fluids 25,000 gallons in 5 to 55 gallon drums & Totes; 80,000 gallons in 8 aboveground tanks 10,000 gallon each. Class "B" (#2 Fuel Oil) in 1 underground concrete tank - 38,000 gallons & 2 - 300 gallons each diked aboveground metal tanks. Class "C" (#6 Fuel Oil) in 1 underground concrete tank - 167,000 gallons & 1 underground concrete tank - 163,000 gallons; propane in 2 (1001bs each) tanks & 8 (401bs each) cylinders; lighter-than-air flammable gases in 24 cylinders (360cu ft each).

Building, if any, is or will be constructed of Concrete and Steel
and will be used as
(if garage, state capacity) (if lubritorium, give capacity)
If filling station, site approved
(date)
Signature of applicant E.S. Bretschneider PLANT MGR 2/12/92
Edward Bretschneider
Residence or mail address 100 Duchaine Boulevard New Bedford, MA 02745

Premises previously licensed by city council
(date)
Additional storage covered by this application (kind and quantity) listed below
47,000 gallons Class "A" fluids; 600 gallons Class "B" #2 Fuel Oil; 5201bs propane; 8,640 cu ft lighter-than-air flammable gases.

(13)

21389

Polaroid Corporation
100 Duchaine Boulevard
New Bedford, Massachusetts 02745

RECEIVED

NOV 05 2019

City of New Bedford
Conservation Commission

Polaroid

December 3, 1992

Chief Henry Openshaw
New Bedford Fire Department
868 Pleasant Street
New Bedford, MA

RE: Flammable Storage License
100 Duchaine Blvd.

Dear Chief Openshaw:

With the addition of our new 11X film production facility, we have a need to increase our flammable storage capacity on site. Our current license (attached) permits storage of 58,000 gallons of Class A fluids. Polaroid seeks approval to increase its Class A fluid storage capacity to 105,000 gallons. We also understand that there is a need to include flammable gas storage as part of our license.

The attached drawing (C-177216-3) depicts our total current site flammable storage needs.

We would like to meet with you, at your earliest convenience, to discuss this request and the procedure required for permit modification.

Please contact me @ (508)-998-5657.

Sincerely,

Polaroid Corporation
Richard L Chandler
Richard L. Chandler
Safety/Environmental Mgr.

1992

The Commonwealth of Massachusetts

Department of Public Safety—Division of Fire Prevention
1010 COMMONWEALTH AVE., BOSTON

$850.00

REGISTRATION

New Bedford (City or Town) 6/10/1992 (Date)

This is to certify that Polaroid Corp has, in accordance with the provisions of Chapter 148, Section 13, of the General Laws, filed with me a certificate of registration setting forth that T. Regan is the holder of the license granted 9/14/1978 for the lawful use of the building(s) or other structure(s) situated or to be situated at Industrial Park South Off Duchaine Blvd (Street and Number)

as related to the KEEPING, STORAGE, MANUFACTURE OR SALE OF FLAMMABLES OR EXPLOSIVES.

Petroleum

J. D. (Signature and Official Title) City Clerk

Note: A certificate of registration must be filed on or before April 30th of each year.

(THIS REGISTRATION MUST BE CONSPICUOUSLY POSTED ON THE PREMISES.)

11

CITY OF NEW BEDFORD

LICENSE

To Use a Building or Other Structure for the Keeping, Storage or ~~Sale~~ of

CRUDE PETROLEUM

or any of its Products

UNDER GENERAL LAWS, CHAPTER 148, AS AMENDED

Fee $20.00

This is to certify that on Sept. 14, 1978 the City Council granted a license to use the land at Industrial Park-south end of Duchaine Blvd. (Poloroid Property) on application of Poloroid Corporation for keeping, storage or sale of products of crude petroleum, hereinafter specified, the premises, buildings or structures to be used being described as follows:

Building is constructed of Concrete pad w/roof and is used as Manufacturing Plant

Products of crude petroleum to be kept, as well as number, kind and capacity of containers to be used

Class C (#6 fuel oil) 1 und concrete tank 167,000 gals., 1 und tank (concrete) 163,000 gals., Class B (#2 fuel oil) 1 und concrete tank 38,000 gals., Class A fluids-10,000 gals.in 5 & 55 gal drums. Class A fluids-1 und tank in 2 sections 4,000 gals. each. 8,000 gals each. Class A fluids-5 und tanks.

Approved subject to compliance with the rules and regulations as enforced by the Chief of the Fire Department.

David R Nelson
City Clerk

alf

CERTIFICATE OF REGISTRATION MUST BE FILED ANNUALLY ON OR BEFORE APRIL 30

POST THIS LICENSE ON LICENSED PREMISES

Site Approved: -------

previous license: 10/22/70

3

The Commonwealth of Massachusetts
Department of Public Safety
Division of Fire Prevention and Regulation

APPLICATION FOR PERMIT TO MAINTAIN AN EXISTING/NEW UNDERGROUND STORAGE FACILITY

TO: Head of Fire Department

New Bedford
City, Town or District

April 22, 1991
Date

Application is hereby made for a permit to maintain an existing/new underground storage facility as required by 527 CMR 9.00: Permits.

Location of property: 100 Duchaine Blvd.
Street Address

Owner of property: Polaroid Corporation
Full name of person, firm or corporation

Signature of owner or authorized representative: Richard L Chandler

FEE: $ 15.00 (M.G.L.A. Chapt. 148 Sec. 10A)

FORM F.P. 290
(rev. 10/90)

(Fire department's copy to be filed with F.P. 290 Part 2)

2

Department of Public Safety
Division of Fire Prevention and Regulation

Notification for Underground Storage Tanks

Submit to:
LOCAL FIRE DEPARTMENT

☒ A. NEW FACILITY ☐ B. AMENDED ☐ C. CLOSURE

3 No. of tanks at facility 0 No. of continuation sheets attached

INSTRUCTIONS

Please type or print in ink all items except "signature" in section V. This form must be completed for each location containing underground storage tanks. If more than five (5) tanks are owned at this location, photocopy the following sheets, and staple continuation sheets to the form.

STATE USE ONLY

ID NUMBER FIRE DEPT. 05201

DATE RECEIVED 4-22-91

A. Date Entered into Computer _____

B. Data Entry Clerk Initials _____

C. Owner Was Contacted to Clarify Responses, Comments

_____

_____

_____

_____

GENERAL INFORMATION

Notification is required by Federal law for all underground tanks that have been used to store regulated substances since January 1, 1984, that are in the ground as of May 8, 1986, or that are brought into use after May 8, 1986. The information requested is required by Section 9002 of the Resource Conservation and Recovery Act, (RCRA), as amended.

The primary purpose of this notification program is to locate and evaluate underground tanks that store or have stored petroleum or hazardous substances. It is expected that the information you provide will be based on reasonably available records, or in the absence of such records, your knowledge, belief, or recollection.

Who Must Notify? Section 9002 of RCRA, as amended, requires that, unless exempted, owners of underground tanks that store regulated substances must notify designated State or local agencies of the existence of their tanks. Owner means—

a) In the case of an underground storage tank in use on November 8, 1984, or brought into use after that date, any person who owns an underground storage tank used for the storage, use, or dispensing of regulated substances, and

b) In the case of any underground storage tank in use before November 8, 1984, but no longer in use on that date, any person who owned such tank immediately before the discontinuation of its use.

c) If the State agency so requires, any facility that has undergone any changes to facility information or tank system status (only amended tank information needs to be included).

What Tanks Are Included? Underground storage tank is defined as any one or combination of tanks that (1) is used to contain an accumulation of "regulated substances," and (2) whose volume (including connected underground piping) is 10% or more beneath the ground. Some examples are underground tanks storing: 1. Gasoline, used oil, or diesel fuel, and 2. industrial solvents, pesticides, herbicides or fumigants.

What Tanks Are Excluded? Tanks removed from the ground are not subject to notification. Other tanks excluded from notification are:

1. farm or residential tanks of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes;
2. tanks used for storing heating oil for consumptive use on the premises where stored;
3. septic tanks;
4. pipeline facilities (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968, or the Hazardous Liquid Pipeline Safety Act of 1979, or which is an intrastate pipeline facility regulated under State laws;
5. surface impoundments, pits, ponds, or lagoons;
6. storm water or waste water collection systems;
7. flow-through process tanks;
8. liquid traps or associated gathering lines directly related to oil or gas production and gathering operations;
9. storage tanks situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situate upon or above the surface of the floor.

What Substances Are Covered? The notification requirements apply to underground storage tanks that contain regulated substances. This includes any substance defined as hazardous in section 101 (14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), with the exception of those substances regulated as hazardous waste under Subtitle C of RCRA. It also includes petroleum, e.g., crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).

Where To Notify? Completed notification forms should be sent to the address given at the top of this page.

When To Notify? 1. Owners of underground storage tanks in use or that have been taken out of operation after January 1, 1974, but still in the ground, must notify by May 8, 1986. 2. Owners who bring underground storage tanks into use after May 8, 1986, must notify within 30 days of bringing the tanks into use.

Penalties: Any owner who knowingly fails to notify or submits false information shall be subject to a civil penalty not to exceed $10,000 for each tank for which notification is not given or for which false information is submitted.

I. OWNERSHIP OF TANK(S)

Owner Name (Corporation, Individual, Public Agency, or Other Entity)
POLAROID CORPORATION

Street Address
100 DUCHAINE BLVD

City NEW BEDFORD State MA ZIP Code 02745

County BRISTOL

Phone Number (Include Area Code) (508)-998-5657

II. LOCATION OF TANK(S)

If required by State, give the geographic location of tanks by degrees, minutes, and seconds. Examples Lat. 42, 34, 12 N Long. 85, 24, 17W

Latitude 41,42,56N Longitude 70,57,20W

(If same as Section I, mark box here ☐)

Facility Name or Company Site Identifier, as applicable
POLAROID CORPORATION

Street Address (P.O. Box not acceptable)
100 DUCHAINE BLVD

City NEW BEDFORD State MA Zip Code 02745

County BRISTOL

III. TYPE OF OWNER

- ☐ Federal Government
- ☐ State Government
- ☐ Local Government
- ☒ Commercial
- ☐ Private

IV. INDIAN LANDS

Tanks are located on land within an Indian Reservation or on other trust lands. ☐

Tanks are owned by native American nation, tribe, or individual. ☐

Tribe or Nation: _____

V. TYPE OF FACILITY

Select the Appropriate Facility Description

____ Gas Station	____ Railroad	____ Trucking/Transport
____ Petroleum Distributor	____ Federal - Non-Military	____ Utilities
____ Air Taxi (Airline)	____ Federal - Military	____ Residential
____ Aircraft Owner	X Industrial	____ Farm
____ Auto Dealership	____ Contractor	____ Other (Explain) _____

VI. CONTACT PERSON IN CHARGE OF TANKS

Name	Job Title	Address	Phone Number (Include Area Code)
Richard Joyce	Power Plant Engineer	Polaroid Corp 100 Duchaine Blvd New Bedford, MA	(508)-998-5647

VII. FINANCIAL RESPONSIBILITY

I have met the financial responsibility requirements in accordance with 40 CFR Subpart H ☒

Check All that Apply

☒ Self Insurance	☐ Guarantee	☐ State Funds
☐ Commercial Insurance	☐ Surety Bond	☐ Trust Fund
☐ Risk Retention Group	☐ Letter of Credit	☐ Other Method Allowed Specify

_____

VIII. CERTIFICATION (Read and sign after completing all sections)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner or owner's authorized representative (Print)	Signature	Date Signed
Richard L. Chandler Sr. Environmental Engineer	Richard L. Chandler	3/29/91

EPA estimates public reporting burden for this form to average 30 minutes per response including time for reviewing instructions, gathering and maintaining the data needed and completing and reviewing the form. Send comments regarding this burden estimate to Chief, Information Policy Branch PM-223, U.S. Environmental Protection Agency, 401 M Street, Washington D.C. 20460, marked "Attention Desk Officer for EPA." This form amends the previous notification form as printed in 40 CFR Part 280, Appendix I.

IX. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location.)

Tank Identification Number	Tank No. 1	Tank No. 2	Tank No. 3	Tank No. ____	Tank No. ____
1. Status of Tank (mark only one)					
Currently in Use	X	X	X		
Temporarily Out of Use (Remember to fill out section IX.)					
Permanently Out of Use (Remember to fill out section IX.)					
Amendment of Information					
2. Date of Installation (mo./year)	6/70	6/70	6/70		
3. Estimated Total Capacity (gallons)	167,000	163,000	38,000		
4. Material of Construction (Mark all that apply)					
Asphalt Coated or Bare Steel					
Cathodically Protected Steel					
Epoxy Coated Steel					
Composite (Steel with Fiberglass)					
Fiberglass Reinforced Plastic					
Lined Interior					
Double Walled					
Polyethylene Tank Jacket					
Concrete	X	X	X		
Excavation Liner					
Unknown					
Other, Please specify	FIBERGLASS/ EPOXY COATED	FIBERGLASS/ EPOXY COATED	FIBERGLASS/ EPOXY COATED		
Has tank been repaired?	NO	NO	NO		
5. Piping (Material) (Mark all that apply)					
Bare Steel	X	X	X		
Galvanized Steel					
Fiberglass Reinforced Plastic					
Copper					
Cathodically Protected					
Double Walled					
Secondary Containment					
Unknown					
Other, Please specify					
6. Piping (Type) (Mark all that apply)					
Suction: no valve at tank					
Suction: valve at tank	X	X	X		
Pressure	X	X	X		
Gravity Feed					
Has piping been repaired?	NO	NO	NO		

Tank Identification Number	Tank No. 1	Tank No. 2	Tank No. 3	Tank No. ____	Tank No. ____
7. Substance Currently or Last Stored In Greatest Quantity by Volume					
Gasoline					
Diesel					
Gasohol					
Kerosene					
Heating Oil	X	X	X		
Used Oil					
Other, Please specify					
Hazardous Substance CERCLA name and/or, CAS number	FUEL OIL #6 68553-00-4	FUEL OIL #6 68553-00-4	FUEL OIL #2 68476-30-2		
Mixture of Substances Please specify					

X. TANKS OUT OF USE, OR CHANGE IN SERVICE N/A

1. Closing of Tank					
A. Estimated date last used (mo./day/year)					
B. Estimate date tank closed (mo./day/year)					
C. Tank was removed from ground					
D. Tank was closed in ground					
E. Tank filled with inert material Describe					
F. Change in service					
2. Site Assessment Completed					
Evidence of a leak detected					

XI. CERTIFICATION OF COMPLIANCE (COMPLETE FOR ALL NEW AND UPGRADED TANKS AT THIS LOCATION)

Tank Identification Number	Tank No. 1	Tank No. 2	Tank No. 3	Tank No. ___	Tank No. ___
1. Installation N/A					
A. Installer certified by tank and piping manufacturers	☐	☐	☐	☐	☐
B. Installer certified or licensed by the implementing agency	☐	☐	☐	☐	☐
C. Installation inspected by a registered engineer	☐	☐	☐	☐	☐
D. Installation inspected and approved by implementing agency	☐	☐	☐	☐	☐
E. Manufacturer's installation check-lists have been completed	☐	☐	☐	☐	☐
F. Another method allowed by State agency. Please specify.	☐	☐	☐	☐	☐

2. Release Detection (Mark all that apply)	TANK	PIPING	TANK	PIPING	TANK	PIPING	TANK	PIPING	TANK	PIPING
A. Manual tank gauging	X		X		X		☐		☐	
B. Tank tightness testing	☐		☐		☐		☐		☐	
C. Inventory controls	☐		☐		☐		☐		☐	
D. Automatic tank gauging	☐		☐		☐		☐		☐	
E. Vapor monitoring	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. Groundwater monitoring	X	X	X	X	X	X	☐	☐	☐	☐
G. Interstitial monitoring double walled tank/piping	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
H. Interstitial monitoring/secondary containment	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
I. Automatic line leak detectors	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
J. Line tightness testing		☐		☐		☐		☐		☐
K. Other method allowed by Implementing Agency. Please specify.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	___		___		___		___		___	

3. Spill and Overfill Protection					
A. Overfill device installed	☐	☐	☐	☐	☐
B. Spill device installed	☐	☐	☐	☐	☐

OATH: I certify the information concerning installation that is provided in section X is true to the best of my belief and knowledge.

Installer:

Name _____ Signature _____ Date _____

Position _____ Company _____

CITY OF NEW BEDFORD

LICENSE

To Use a Building or Other Structure for the Keeping, Storage ~~or Sale~~ of

CRUDE PETROLEUM

or any of its Products

Fee $35.00

UNDER GENERAL LAWS, CHAPTER 148, AS AMENDED

This is to certify that on Oct. 22, 1970 the City Council granted a license to use the land at Industrial Park-south end of Duchaine Blvd. (Polaroid Property)

on application of Polaroid Corp.

for keeping, storage ~~or sale~~ of products of crude petroleum, hereinafter specified, the premises, buildings or structures to be used being described as follows:

Building is constructed of concrete

and is used as manufacturing plant

Products of crude petroleum to be kept, as well as number, kind and capacity of containers to be used

Class C (#6 fuel oil): 1 und. concrete tank 167,000 gals.
1 und. tank-163,000 gals. concrete tank
~~Class B (#2 fuel oil): 1 und. concrete tank~~ 38,000 gals.
~~Class A fluids-1000 gals. in 5 and 55 gal. drums~~ (above ground set on covered concrete pad)
~~Class A fluids- 1 und. tank in 2 sections~~ 4,000 gals. each
Class A fluids- 5 und. tanks -8,000 gals. each

Approved subject to compliance with the rules and regulations as enforced by the Chief of the Fire Department.

Allen M. Lindsay
City Clerk

CERTIFICATE OF REGISTRATION MUST BE FILED ANNUALLY ON OR BEFORE APRIL 30

POST THIS LICENSE ON LICENSED PREMISES

Site Approved: —

previous license: 6/26/70

APPENDIX B

Massachusetts Contingency Plan Document Excerpts

Polaroid

Polaroid Corporation
100 Duchaine Boulevard
New Bedford, Massachusetts 02745

July 13, 1995

Mr Joseph F. Kowal, Chief
Audit and Site Management Section
Department of Environmental Protection
Southeast Regional Office
20 Riverside Drive
Lakeville, MA 02346

Re: New Bedford - WSC/ASM-4-10113
Polaroid Power Plant Building
100 Duchaine Blvd
Response to Notice of Non-Compliance/Notice of Audit Findings

Dear Mr. Kowal:

In order to address your April 13, 1995 Notice of Non-Compliance/ Notice of Audit Findings regarding the Response Action Outcome (RAO) statement for the referenced site, at our request, GZA GeoEnvironmental, Inc. (GZA) prepared the enclosed response.

Please contact me @ (617) 386-7374 if you have any questions.

Sincerely,

POLAROID CORPORATION

Richard L Chandler

Richard L. Chandler
Division Environmental Mgr

CERTIFICATION OF SUBMITTAL
(310 CMR 40.0009)

This certification must be included with <u>all</u> submittals to the Department.

I certify under the penalties of law that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this certification, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained herein is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for wilfully submitting false, inaccurate or incomplete information.

Name (Print): DALLAS M. DARLAND

Position or Title: PLANT MANAGER

Signature: Dallas M. Darland

Date: 7/12/95

GZA

NEW BEDFORD - WSC/ASM-4-10113
POLAROID POWER PLANT BUILDING
100 DUCHAINE BOULEVARD
RESPONSE TO NOTICE OF NON-COMPLIANCE/NOTICE OF AUDIT FINDINGS

PREPARED FOR:
Polaroid Corporation
New Bedford, Massachusetts

PREPARED BY:
GZA GeoEnvironmental, Inc.
Providence, Rhode Island

July 1995
File No. 7989-2

GZA
GeoEnvironmental, Inc.

Engineers and Scientists

July 11, 1995
File No. 7989.2

Mr. Richard Chandler
Polaroid Corporation
100 Duchaine Boulevard
New Bedford, Massachusetts 02745

Re: New Bedford - WSC/ASM-4-10113
Polaroid Power Plant Building
100 Duchaine Boulevard
Response to Notice of Non-Compliance/Notice of Audit Findings

140 Broadway
Providence
Rhode Island 02903
401-421-4140
FAX 401-751-8613

Dear Dick:

At your request, we are responding to the one outstanding issue in the Massachusetts Department of Environmental Protection's (DEP) April 13, 1995 Notice of Non-Compliance/Notice of Audit Findings regarding the Response Action Outcome (RAO) Statement submitted on January 21, 1994. Our May 15, 1995 letter responded to all of DEP's stated requests for information, with the exception of the need for additional soil borings and soil sampling and analysis in the vicinity of monitoring well GZA-5.

In the way of background, the January 4, 1994 RAO Statement was prepared to address the November 23, 1993 Notification of the observed presence of a 0.5 inch layer of floating oil in one monitoring well located immediately adjacent to Polaroid's underground fuel oil storage tanks adjacent to the Power Plant at the referenced site. The violation/deficiency identified by the DEP which has not been addressed is restated below with our response. Our work was performed for Polaroid Corporation (Polaroid) in accordance with our May 5, 1995 proposal.

DEP REQUEST/GZA RESPONSE

DEP Violation No. 2: On January 21, 1994, a Response Action Outcome (RAO) Statement was submitted to the Department for the subject site. According to the RAO Statement, the Licensed Site Professional (LSP) of record for this site, Mr. John J. Spirito, provided an opinion that a Class B-1 RAO has been achieved. Pursuant to 310 CMR 40.1046(1) a class B-RAO Statement is applicable when a level of No Significant Risk has been achieved at a disposal site without conducting remedial actions or imposing Activity and use Limitations. However, based on the information provided, you have not

demonstrated that separate phase product no longer exists at the site and that a level of No Significant Risk has been achieved.

GZA

310 CRM 40.1004 requires a RAO Statement be supported by assessment activities conducted pursuant to 310 CMR 40.000 which are of sufficient scope, detail and level effort to demonstrate that all the requirements of the applicable class of RAO pursuant to 310 CMR 40.1000 have been met.

Within sixty (60) days of receipt of this Notice, conduct additional assessment activities at the above referenced disposal site which include at a minimum, the execution of three (3) borings in the vicinity of the monitoring well designated as GZA-5 on Figure 2 titled "Exploration Location Plan" dated December 1986 and prepared by GZA.

The borings shall be of sufficient depth to determine whether or not separate phase product still exists at the site and samples should be collected as appropriate for field screening and analysis by a Massachusetts State Certified Laboratory.

Within ninety (90) days of receipt of this Notice, submit to the Department copies of all documentation generated as a result of the additional assessment activities described in item two (2) above.

GZA's Response: *GZA, at Polaroid's request, proceeded with the completion of the requested soil borings and analysis. Four soil borings, SB-1 through SB-4, were installed on June 12, 1995, adjacent to monitoring well GZA-5, as shown in Figure 2. The soil borings were extended to depths of 17 feet below ground surface, approximately 9 feet below the groundwater table. In addition, we collected an additional round of groundwater and product thickness measurements and groundwater samples from the network of existing wells: GZA-1 through GZA-5, GZA-6A and GZA-7.*

GZA

The soil boring, soil sampling, and water/product level measurement techniques and groundwater sampling procedures which were employed are described in Appendix A. Soil samples were screened in the field for Total Volatile Organic Compounds (TVOCs) using a Photoionization detector (PID) equipped with a 10.2 eV lamp. The soil and groundwater samples were subjected to total petroleum hydrocarbon (TPH) analysis via EPA Method 8100. Soil boring logs are provided in Appendix B. Chain of Custody forms and laboratory data sheets are provided in Appendix C. Groundwater/Product level measurements, past and current, are summarized in Table 1.

The additional field and laboratory work indicate:

1. *On May 2, 1995, the groundwater table was measured in wells GZA-1 through GZA-5, GZA-6A and GZA-7 at depths of between approximately 7 to 8 feet below ground surface. No floating layer was detected in any of the wells, see Table 1;*

2. *No TPH was detected in any of the groundwater samples collected from the seven wells on May 2, 1995. The detection limit was 0.25 ppm;*

3. *No visual or olfactory signs of fuel oil was noted in any of the soil samples collected from SB-1 through SB-4 on June 12, 1995. TVOC PID screening results were all below detection limits of 0.1 ppmv. The soil samples were observed to consist of tan sand and gravel to depths of 11 to 13 feet below groundsurface at depths below which a grey fine sand was encountered; and*

4. *No TPH was detected in the soil samples selected from the four soil borings on June 12, 1995. One soil sample was selected from each boring from within the estimated zone of the groundwater table, a depth of 7 to 9 feet. The TPH analysis detection limit was 10 mg/kg, ppm.*

The laboratory data sheets are provided in Appendix C.

We believe that the results of the additional sampling and analysis Polaroid requested supports our original RAO opinion that a permanent solution has been achieved.

We believe that the submission of this letter to the DEP, in conjunction with our letter dated May 15th, addresses all the concerns expressed by the DEP in their April 13, 1995, Notice of Non-Compliance/Notice of Audit Findings. If you have any questions or comments, please do not hesitate to contact me.

Thank you,

GZA GEOENVIRONMENTAL, INC.

John J. Spinto, LSP
Associate Principal

Michael A. Powers, P.E., LSP
Project Reviewer

JJS:clz

Enclosures: Table 1
Figure 2
Appendix A, B and C

F:\JOBS\7989-2.JJS\7989-2.LT7

TABLE

TABLE 1
SUMMARY OF GROUNDWATER LEVELS AND ELEVATIONS 1986-1995
UNDERGROUND STORAGE TANK AREA

POLAROID CORPORATION
NEW BEDFORD, MASSACHUSETTS

Station Location	Measuring PT Elevation (ft)	12-31-86		1-13-87		6-23-88		4-27-89		5-8-91		4-27-92		11-23-93		2-7-95		6-2-95		6-23-95	
		Water Depth	Water Elevation	Water Depth	Water Elevation	Water Depth	Water Elevation	Water Depth	Water Elevation	Water Depth	Water Elevation	Water Depth	Water Elevation	Water Depth	Water Elevation	Water Depth	Water Elevation	Water Depth	Water Elevation	Water Depth	Water Elevation
GZA-1	496.76	6.62	490.1	6.59	490.2	8.20	488.6	7.16	489.6	6.86	489.9	9.00	487.8	7.80	488.96	NA	NA	6.83	489.93	7.23	489.53
GZA-2	497.63	7.39	490.2	7.36	490.3	9.02	488.6	7.84	489.8	7.6	490.0	9.77	487.9	8.58	489.05	NA	NA	7.58	490.05	8.00	489.63
GZA-3	496.84	6.63	490.2	6.62	490.2	8.24	488.6	7.11	489.7	6.87	490.0	9.00	487.8	7.82	489.02	6.55	490.29	6.84	490.00	7.26	489.58
GZA-4	497.45	7.09	490.4	7.08	490.4	8.90	488.6	7.58	489.9	7.36	490.1	9.60	487.9	8.34	489.11	NA	NA	7.32	490.13	7.78	489.67
GZA-5	496.78	6.49	490.3	6.48	490.3	8.15	488.6	6.98	489.8	6.75	490.0	8.85	487.9	7.74	489.04	6.40	490.38	6.68	490.10	7.13	489.65
GZA-6A	496.83 (497.04)^	6.15^	490.9	6.15^	490.9	8.10	488.7	6.57	490.3	6.29	490.5	8.48	488.4	7.30	-7.30	NA	NA	NA	NA	6.76	490.07
GZA-7	496.19 (496.44)^	5.81^	490.6	5.80	490.6	7.45	488.7	6.23	490.0	5.96	490.2	7.87	488.3	6.89	-6.89	NA	NA	NA	NA	6.26	489.93
GZA-8	494.53	3.23	491.3	3.27	491.3	5.59	488.9	4.15	490.4	3.75	490.8	5.63	488.9	4.83	489.70	NA	NA	NA	NA	NA	NA
POW-1	491.79	1.95	498.8	1.93	489.9		***	1.65	490.1	2.17	489.6	3.78	487.5	2.39	489.40	NA	NA	NA	NA	NA	NA
WP-1	491.77	2.72	489.1	1.72	490.1	3.00	**	1.98	**	NA	NA	NA	NA	2.83	488.94	NA	NA	NA	NA	NA	NA
WP-2	492.37	2.23	490.1	2.25	490.1	>2.95*	**	2.64	**	NA	NA	NA	NA	DRY	ND	NA	NA	NA	NA	NA	NA
WP-3	492.35	2.23	490.1	2.26	490.1	>2.70*	**	2.45	**	NA	NA	NA	NA	DRY	ND	NA	NA	NA	NA	NA	NA
SW-1	490.63	0.78	489.9	0.8	489.8	*	*	0.94	**	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA
SW-2	492.35	dry	*	dry	–	*	*	*	*	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA
SW-3	493.85	dry	*	dry	–	*	*	*	*	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA

NOTES:

-1- All elevations referenced to a temporary benchmark with an assumed elevation of 500 feet (top of SE corner of wall surrounding top of the southern No. 6 fuel oil storage tank). Measuring Point (PT) elevations are top of PVC.

-2- With the exception of the 11-23-93 measurements, the depth to water and petroleum product thickness measurements were made using a chalked and water indicating pasted measuring tape or an ORS oil/water interface probe. No distinct product layer was on the dates measured except the observed presence of approximately 0.04 feet in GZ-5 on 11/23/94.

* Due to dry conditions water elevation could not be measured.

** All wellpoint and surface water measuring point elevations after 1987 are suspect since these wells maybe subject to winter heaving. Therefore, wellpoint groundwater elevation data was not computed.

*** Water level was not measured (unable to unlock on 6/23/88 site visit)

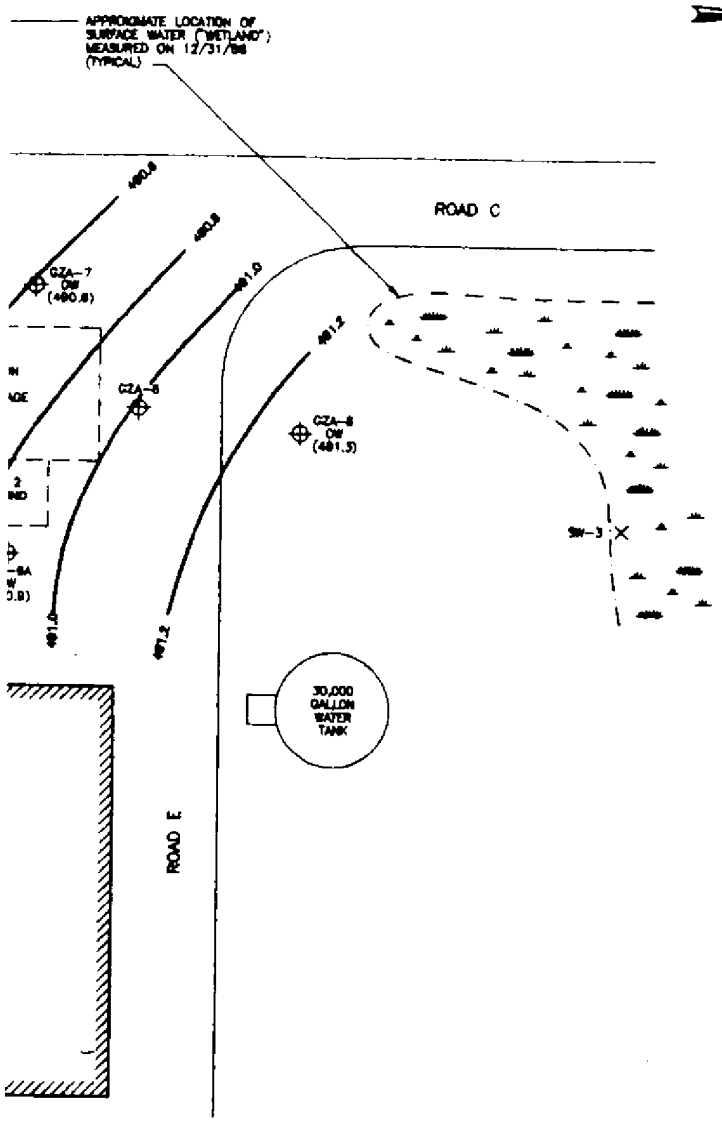
– No surface water elevation computed due to dry conditions

^ = Measured from lip to curb box.

NA = Data not available.

P:\JOBS\7989-4.JJS\TAB.xls

FIGURE



NOTES:

1. THE BASE PLAN WAS DEVELOPED FROM A PLAN PROVIDED BY POLAROID CORPORATION ENTITLED "GRADING PLAN II", DATED 7/88, DRAWING NO. E-177216-A-3.
2. THE LOCATIONS OF THE BORINGS AND SAMPLING LOCATIONS WERE APPROXIMATELY DETERMINED BY TAPE MEASUREMENTS FROM EXISTING TOPOGRAPHIC AND MAN-MADE FEATURES. THIS DATA SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.

LEGEND:

- SB-1 — BORINGS PERFORMED BY GZA DRILLING, INC. ON 6/12/95, OBSERVED BY GZA PERSONNEL
- GZA-1 — BORINGS PERFORMED BY GZA DRILLING, INC. ON 12/22 AND 12/23/86, OBSERVED BY GZA PERSONNEL. INDICATES OBSERVATION WELL INSTALLED
- WP-1 — WELL POINTS INSTALLED BY GZA PERSONNEL ON 12/10/86
- POW-1 — POLAROID OBSERVATION WELL
- SW-1 — SURFACE WATER SAMPLING LOCATION, SAMPLES COLLECTED ON 12/12/86
- SW-3 — SURFACE WATER ELEVATION POINT
- (480.8) — INDICATES GROUNDWATER ELEVATION (IN FEET) RECORDED ON 12/31/86
- 481.2 — GROUNDWATER CONTOUR (IN FEET) ON 12/31/86

REV. No.	DESCRIPTION	BY	DATE
	PROJ. MGR.	JJS	
	CHECKED BY:	WF	
	REVIEWED BY:	JPH	

DRAWN BY: BAW
SCALE: 1" = 50'
DATE: JULY 1995

SCALE IN FEET: 0' 25' 50' 100'

GZA GeoEnvironmental, Inc.

POLAROID CORPORATION
NEW BEDFORD, MASSACHUSETTS

EXPLORATION LOCATION PLAN AND GROUNDWATER CONTOUR PLAN

PROJECT No. 7989.2

FIGURE No. 2

APPENDIX A

SOIL BORING, SOIL SAMPLING AND WATER/ PRODUCT LEVEL MEASUREMENT TECHNIQUES AND GROUNDWATER SAMPLING PROCEDURES

APPENDIX A

Drilling for completion of the four soil borings, SB-1 through SB-4, was conducted by GZA Drilling, Inc. of Brockton, Massachusetts on June 12, 1995. The approximate locations of the borings are shown on Figure 2. The borings were located to provide soil sampling points adjacent to GZA-5.

All four borings were advanced by 3-3/4-inch hollow stem augers. Each boring was advanced to depths of about 17 feet. Split spoon soil samples were collected at a minimum of 5-foot intervals beginning at the ground surface. In addition, to assess for the presence (at all four locations) of petroleum product, soil samples were collected by continuous sampling from depths of between approximately 5 to 12 feet. The continuous split spoon sampling was intended to provide soil samples from the vadose zone and capillary fringe at the water table. Soil samples were visually classified and logged by the GZA engineer/geologist on-site and a portion of each sample was obtained in duplicate and sealed immediately after collection in an 8-ounce glass jar. The soil containers were stored in an ice chest for laboratory testing. Boring logs are presented in Appendix B.

MEASUREMENT OF GROUNDWATER ELEVATIONS AND PRODUCT THICKNESS

On May 2, 1995, measurements were made on seven monitoring wells GZA-1 through GZA-5, GZA-6A, and GZA-7 to determine the thickness of floating product petroleum layer, if any was present, in each well and the depth to water below the top of the PVC well. The measurements were made using an ORS oil/water interface probe. The water table depth and elevation data are summarized in Table 1. As indicated in footnote 2 of Table 1 on May 2, 1995, no measurable product layer was detected in any of the wells.

GROUNDWATER SAMPLING

On May 2, 1995, after water/product level measurements, groundwater samples were collected from wells GZA-1 through GZA-5, -6A and -7. Samples were collected with separate (i.e., one per well) clean stainless steel bailers. Three times the well volume was evacuated prior to sampling in order to flush standing water from the well. The purged groundwater was visually checked for evidence of separate phase product, as a check on the ORS oil/water interface probe readings.

Samples for Total Petroleum Hydrocarbon (TPH) analysis by EPA Method 8100 were collected in 1/2 liter glass jars, which were placed in an ice filled cooler while being returned to GZA's Newton laboratory. Chain of Custody (COC) procedures were followed during the transfer of these samples. Copies of COC forms are provided in Appendix C.

SOIL SCREENING AND LABORATORY ANALYSIS

Soil samples collected during drilling were screened in the field for Total Volatile Organic Compounds (TVOC), using a photoionization detector (PID) analyzer (HNU Model PI-101) equipped with a 10.2 eV lamp. Results of PID TVOC measurements are provided on the boring logs in Appendix B.

Based upon the results of the PID TVOC screening analyses and visual and olfactory observations made while test drilling, selected soil samples were submitted for TPH analysis via EPA Method 8100. Samples from each boring from within the water table fluctuation zone, from depths of 7 to 9 feet, were selected for TPH analysis. These included: SB-1, 7-9'; SB-2, 7-9'; SB-3, 7-9'; and SB-4, 7-9'. The results of TPH analysis are provided in Appendix C.

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APPENDIX B

BORING LOGS

GZA GEOENVIRONMENTAL, INC.
140 BROADWAY, PROVIDENCE, RHODE ISLAND
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
POLAROID CORPORATION
NEW BEDFORD, MASSACHUSETTS

REPORT OF BORING No. SB-1
SHEET 1 OF 1
FILE No. 7989.2
CHKD. BY

BORING Co. GZA DRILLING
FOREMAN R. WORDELL
GZA ENGINEER W. FORTONE

BORING LOCATION
GROUND SURFACE ELEVATION DATUM
DATE START 6/12/95 DATE END 6/12/95

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3 3/4 HSA OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
6/12/95		+8	5'	1 MIN

DEPTH	CASING BLOWS	SAMPLE No.	SAMPLE PEN./REC.	SAMPLE DEPTH (Ft.)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	PID FIELD TESTING (ppm)	REMKS
		S-1	24/12	0.5-2.5	5	Medium dense, tan, coarse to fine SAND, trace+ Gravel, trace- Silt	0.4' ASPHALT	NONE	ND	1
					8-9					
		S-2	24/8	2.5-4.5	7-12	Medium dense, tan, coarse to fine SAND, trace+ Gravel, trace- Silt	TAN SAND AND GRAVEL		ND	
					13-13					
					11					
5		S-3	24/15	5-7	10-24	Medium dense, tan, medium SAND, trace Silt turning to very dense tan coarse to fine SAND, little- Gravel, trace Silt			ND	
					38-33					
		S-4	24/13	7-9	36-39	Very dense, tan, coarse to fine SAND, little Gravel, trace Silt			ND	
					29-29					
10		S-5	24/3	10-12	26-21	Dense, tan-gray, coarse to fine SAND, little Gravel, trace+ Silt			ND	2
					20-18					
							13'+ GRAY FINE SAND			
15		S-6	24/10	15-17	3-9	Medium dense, gray, medium to fine+ SAND, little Silt			ND	3
					10-15					
						End of Exploration at 17'±				
20										
25										
30										
35										
40										

REMARKS:
1. The headspace of soil samples was screened for total volatile organic compounds using a HNU photoionization detecting equipped with a 10.2 eV lamp.
2. Encountered groundwater at approximately 8'.
3. No visual or olfactory signs of fuel oil observed.

NOTES:
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. SB-1

GZA GEOENVIRONMENTAL, INC.
140 BROADWAY, PROVIDENCE, RHODE ISLAND
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
POLAROID CORPORATION
NEW BEDFORD, MASSACHUSETTS

REPORT OF BORING No. SB-2
SHEET 1 OF 1
FILE No. 7989.2
CHKD. BY

BORING Co. GZA DRILLING
FOREMAN R. WORDELL
GZA ENGINEER W. FORTUNE

BORING LOCATION
GROUND SURFACE ELEVATION DATUM
DATE START 6/12/95 DATE END 6/12/95

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 In.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 In.

CASING SIZE: 3 3/4 HSA OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
6/12/95		+8	5'	2 MIN

DEPTH	CASING	BLOWS	SAMPLE No.	SAMPLE PEN./REC.	SAMPLE DEPTH (Ft.)	BLOWS/6"	SAMPLE DESCRIPTION (Burmister CLASSIFICATION)	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	PID FIELD TESTING (ppm)	REMKS
			S-1	24/10	0.5-2.5	7	Medium dense, tan, coarse to fine SAND, little+ Gravel, trace- Silt	0.4' ASHPALT	NONE	ND	1
						11-10					
			S-2	24/10	2.5-4.5	9-15	Medium dense, tan, coarse to fine SAND, little+ Gravel, trace- Silt	TAN SAND AND GRAVEL		ND	
						21-23					
						24					
5			S-3	24/8	5-7	7-13	Medium dense, tan, coarse to fine SAND, trace Gravel, trace- Silt			ND	
						12-9					
			S-4	24/12	7-9	12-21	Dense, tan, coarse to fine SAND, trace Gravel, trace Silt			ND	
						20-26					
10			S-5	24/11	10-12	29-28	Dense, tan-gray, coarse to fine SAND, little+ Gravel, trace+ Silt			ND	2
						9-6					
								13'+ GRAY FINE SAND			
15			S-6	24/3	15-17	1-1	Loose, gray, medium to fine+ SAND, little Silt			ND	
						2-12					3
							End of Exploration at 17'±				
20											
25											
30											
35											
40											

REMARKS:
1. The headspace of soil samples was screened for total volatile organic compounds using a HNU photoionization detecting equipped with a 10.2 eV lamp.
2. Encountered groundwater at approximately 8'.
3. No visual or olfactory signs of fuel oil observed.

NOTES:
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. SB-2

GZA GEOENVIRONMENTAL, INC.
140 BROADWAY, PROVIDENCE, RHODE ISLAND
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
POLAROID CORPORATION
NEW BEDFORD, MASSACHUSETTS

REPORT OF BORING No. SB-3
SHEET 1 OF 1
FILE No. 7989.2
CHKD. BY

BORING Co. GZA DRILLING
FOREMAN R. WORDELL
GZA ENGINEER W. FORTUNE

BORING LOCATION
GROUND SURFACE ELEVATION DATUM
DATE START 6/12/95 DATE END 6/12/95

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3 3/4 HSA OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
6/12/95		±7.5	5'	2 MIN

DEPTH	CASING BLOWS	SAMPLE No.	SAMPLE PEN./REC.	SAMPLE DEPTH (Ft.)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	PID FIELD TESTING (ppm)	REMKS
		S-1	24/3	0-2	1-1	Very loose, tan, coarse to fine SAND, trace Silt		NONE	ND	1
					1-2					
5		S-2	24/12	5-7	5-8	Medium dense, tan, coarse to fine SAND, little- Gravel, trace+ Silt	TAN SAND AND GRAVEL		ND	
					13-9					
		S-3	24/20	7-9	6-6	Medium dense, tan, coarse to fine SAND, trace Gravel, trace Silt			ND	2
					8-15					
10		S-4	24/16	10-12	38-16	Dense, tan, coarse to fine SAND, little Gravel, trace+ Silt,			ND	
					22-22	turning at 11' to dense, gray, medium to fine SAND, trace+ Silt	11' GRAY FINE SAND			2
15		S-5	24/18	15-17	11-11	Medium dense, gray, medium to fine+ SAND, little silt			ND	
					9-8					
						End of Exploration at 17'±				
20										
25										
30										
35										
40										

REMARKS:
1. The headspace of soil samples was screened for total volatile organic compounds using a HNU photoionization detecting equipped with a 10.2 eV lamp.
2. Encountered groundwater at approximately 9.5'.
3. No visual or olfactory signs of fuel oil observed.

NOTES:
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. SB-3

GZA GEOENVIRONMENTAL, INC.
140 BROADWAY, PROVIDENCE, RHODE ISLAND
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
POLAROID CORPORATION
NEW BEDFORD, MASSACHUSETTS

REPORT OF BORING No. SB-4
SHEET 1 OF 1
FILE No. 7989.2
CHKD. BY

BORING Co. GZA DRILLING
FOREMAN R. WORDELL
GZA ENGINEER D. FORTUNE

BORING LOCATION
GROUND SURFACE ELEVATION DATUM
DATE START 6/12/95 DATE END 6/12/95

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3 3/4 HSA OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
5/12/95		+8	5'	1 MIN

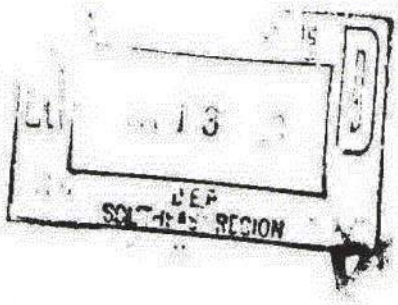
DEPTH	CASING	BLOWS	SAMPLE No.	SAMPLE PEN./REC.	SAMPLE DEPTH (Ft.)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION (Burmister CLASSIFICATION)	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	PID FIELD TESTING	REMKS
			S-1	24/6	0-2	1-2	Very loose, brown mulch turning at 0.5' to loose tan, corse to fine SAND, trace Gravel, trace Silt	DETRITUS	NONE	ND	1
						2-3		0.5' TAN SAND AND GRAVEL			
5			S-2	3/2	5-5.3	80/3"	Medium dense, tan, coarse to fine SAND, little Gravel, trace Silt			ND	2
			S-3	24/16	7-9	10-38	Very dense, tan, coarse to fine SAND, little Gravel, trace Silt			ND	3
						28-27					
10			S-4	24/16	10-12	11-18	Medium dense, tan-gray, coarse to fine SAND, little Gravel, trace Silt turning at 11' to medium dense, gray, fine SAND, little Silt			ND	
						14-18		11' GRAY FINE SAND			
15			S-5	24/19	15-17	1-1	Loose, gray, fine SAND, little Silt			ND	4
						3-4					
							End of Exploration at 17'±				
20											
25											
30											
35											
40											

REMARKS:
1. The headspace of soil samples was screened for total volatile organic compounds using a HNU photoionization detecting equipped with a 10.2 eV lamp.
2. Encountered cobble obstruction at 5.3'.
3. Encountered groundwater at approximately 7.5'.
4. No visual or olfactory signs of fuel oil observed.

NOTES:
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. SB-4



Class A-1 Response Action Outcome and Phase IV Final Inspection and Completion Statement

Wastewater Treatment Plant
100 Duchaine Boulevard
New Bedford, Massachusetts 02745

Release Tracking No.
4-16316

March 10, 2006

Prepared for:

Polaroid Corporation
100 Duchaine Boulevard
New Bedford, Massachusetts 02745

Prepared by:

ROUX ASSOCIATES, INC.
67 South Bedford Street, Suite 101W
Burlington, Massachusetts 01803

ROUX

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EXECUTIVE SUMMARY

Roux Associates, Inc. (Roux Associates) has prepared this Phase IV Final Inspection Report, Phase IV Completion Statement and Class A-1 Response Action Outcome (RAO) Statement for the wastewater treatment plant at Polaroid Corporation's (Polaroid) facility located at 100 Duchaine Boulevard in New Bedford, Massachusetts. The report was prepared in accordance with the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000.

In June 2001, Polaroid wastewater treatment plant (WWTP) personnel observed leakage of sulfuric acid along a pipe exiting the northern end of an above ground storage tank (AST) within a concrete containment. Polaroid notified the Massachusetts Department of Environmental Protection (DEP) of a 2-hour reportable condition and DEP assigned release tracking number RTN 4-16316 to the Site. An Immediate Response Action Completion Report, Phase I Initial Site Assessment Report, Phase II Comprehensive Site Assessment and Phase III Comprehensive Remedial Action Alternatives Report, and a Phase IV Remedy Implementation Plan have been completed for this Site.

Based upon the results of the Phase II investigation, the Site has been defined as soil with pH levels less than 4.0 pH units within an approximate area of 1,600 square feet in the center of Polaroid's WWTP. Sulfuric acid-impacted soil was present at depths ranging from two to ten feet below ground surface and located along utility pipe bedding and in the crushed stone beneath the former AST containment dike.

The Phase IV Remedy Implementation Plan was submitted in June 2005 and was implemented in July 2005. The remedial activities included:

- Demolition of three flash mix tanks and the concrete containment dike
- Excavation and stockpiling of material for reuse as backfill
- Excavation and off-site disposal of contaminated soil and concrete
- Removal, disposal and replacement of wastewater transfer piping
- Confirmatory soil sampling
- Backfilling

Based on the results of the confirmatory soil sampling conducted during remedial activities the source has been removed, there is no significant risk to health or to the environment for current and unrestricted foreseeable uses of the Site. A class A-1 RAO is applicable for the Site since the pH of the remaining soil within the Site boundaries is generally within the range of 4 to 7, which is considered as background for the area.

1.0 INTRODUCTION

On behalf of Polaroid Corporation (Polaroid), Roux Associates, Inc. (Roux Associates) has prepared this Phase IV Final Inspection and Completion Statement and Response Action Outcome (RAO) Statement for a sulfuric acid release from an above ground storage tank (AST) located at the wastewater treatment plant (WWTP) of the facility located at 100 Duchaine Boulevard in New Bedford, Massachusetts. A Site Location Map, Site Vicinity Map and a Site Plan are included as Figures 1, 2 and 3 respectively. This document was prepared to meet the requirements of the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000).

1.1 Statement of Purpose

The remainder of this report is divided into the following sections:

- Section 2.0 Site History and Description;
- Section 3.0 Disposal Site History;
- Section 4.0 Implementation of Remedial Activities;
- Section 5.0 Phase IV Final Inspection and Completion Statement;
- Section 6.0 Condition of No Significant Risk;
- Section 7.0 Feasibility of Achievement of Background;
- Section 8.0 Activity and Use Limitations and Operation, Maintenance, and Monitoring Plan; and
- Section 9.0 Class A-1 RAO Statement;
- Section 10.0 Statement by Licensed Site Professional.

This Class A-1 RAO Statement has been prepared in accordance with the MCP (310 CMR 40.1056) on behalf of Polaroid. A copy of the Comprehensive Response Action Transmittal form (BWSC-108) and the RAO Statement form (BWSC-104) is provided in **Appendix A**. The original forms are being submitted with this report.

Roux Associates has provided written notification to the New Bedford Mayor and Board of Health, as required by the public involvement provisions of the MCP [310 CMR 40.1403(3)(f)]. This written notification has been provided regarding the availability of a Phase IV Final Inspection and Completion Statement and Response Action Outcome Statement. Copies of the letters provided to the New Bedford Mayor and the Board of Health are presented in **Appendix B**.

1.2 Background

In June 2001, sulfuric acid was released to the environment at Polaroid WWTP, in New Bedford, MA. The release was reported to the MADEP verbally as a 2-hour reporting condition. Investigations were conducted as part of an immediate response action (IRA) to determine the extent of contamination caused by the sulfuric acid. The sulfuric acid release impacted the soil at the Site by reducing the pH to less than 2.0 in some areas.

Additional investigations were conducted in 2002 and a Phase I and Tier Classification report was submitted in June 2002. The Site was classified as a Tier II Site. Further investigations were conducted in 2004 to delineate the extent of acid-impacted soil and a Phase II/III Report along with a Method III Risk Characterization were submitted. In June 2004 a Phase IV Remedy Implementation Plan was submitted detailing the response action to excavate and dispose of the contaminated soil at the Site.

Further details of the investigations and response actions are included in Section 3 of this report.

2.0 SITE HISTORY AND DESCRIPTION (310 CMR 40.1056(2)(B))

This section provides a description of Site conditions, ownership and operations history, and a summary of surrounding receptors.

2.1 Site Location and Configuration

The Polaroid facility is located at the southern end of the New Bedford Business Park, at the junction of Route 140 and Braley Road, at the northern end of New Bedford (Figure 1). Industrial and commercial properties lie to the north. To the east of the facility is Pine Hill Acres, a residential community. A Conrail rail line runs northwest to southeast to the west of the Site. To the South and to the West (beyond the Conrail line) the facility is bordered by the Acushnet Cedar Swamp State Reservation. The location of the release ("the Site") is within the Polaroid New Bedford facility and is approximately 225 feet to the closest property boundary (Conrail rail line). The perimeter of the Polaroid property (Figure 2) is not fenced; however, the facility has security personnel who patrol the grounds. The WWTP is fenced.

The Site is located within the wastewater treatment plant (WWTP) at the Polaroid facility (see Figure 3). The WWTP is located in an isolated area on the western side of the facility. The WWTP is approximately 50,000 square feet in area, and is bounded by wetlands on four sides with access provided by roads leading north. An approximately 2,500 square foot wastewater treatment facility building is located on the eastern portion of the property. The former sulfuric acid AST was located near three flash mix tanks, to the south of the wastewater treatment facility building. Four approximately 40-foot diameter wastewater treatment tanks used for equalization, flocculation, clarification and sedimentation are located in the northeast, southeast, and southwest corners of the WWTP. An electrical substation is located to the southeast of the WWTP building. The majority of the WWTP is paved or covered by existing structures.

2.2 Abutting Properties

The Polaroid facility is located at the southern end of the New Bedford Business Park. Industrial and commercial properties lie to the north. To the east of the facility is Pine Hill Acres, a residential community. A Conrail rail line runs northwest to southeast to the west of the Site. The facility is bordered to the south and to the west (beyond the Conrail line) by the Acushnet

Cedar Swamp State Reservation. The Site is within the Polaroid New Bedford facility and is approximately 225 feet to the closest property boundary (Conrail rail line).

2.3 Surrounding Receptors

The nearest residences are located approximately 0.2 miles (1800 feet) east of the Site. No institutions, as defined by the MCP as hospitals, educational facilities, day care centers, etc., were identified within 500 feet of the Site.

The WWTP Site is built on mounded land, surrounded by nearby wetlands. Wetland areas are located within 100 feet of the Site, to the southeast. According to the Massachusetts Geographic Information System (MassGIS) Site Scoring Map dated December 15, 2005 for the area (Figure 5), the Site is located within a medium yield, non-potential water source aquifer. A medium yield potentially productive aquifer is located approximately 500 feet south and west of the Site. Priority habitats of rare species are located within a ½ mile radius to the west and southeast of the Site.

The nearest private drinking water wells are located on Braley Road, approximately 0.75 miles northeast of the Site, based on municipal records from the city of New Bedford. No public water supply wells are located within ½ mile radius of the Site.

The immediate Site topography is flat; however, the ground surface slopes sharply and radially around the WWTP downward to the wetlands areas. Surface water flow in the immediate area of the Site drains to the northeast and southeast, toward the nearest wetlands.

3.0 DISPOSAL SITE HISTORY

This section details the release of sulfuric acid to the Site and the investigations and response actions that took place.

3.1 Release Description

At approximately 11:00 PM on Sunday, June 17, 2001, Polaroid wastewater treatment personnel checked the volume of the 4,000-gallon sulfuric acid AST in the WWTP area. Leakage was observed along an insulated pipe exiting from the northern end of the AST. Approximately 300 gallons of acid remained in the tank. At that time, the valve from the tank was shut. However, the internal ceramic valve did not hold (it was later discovered to be cracked) and additional acid was released to the containment dike. The tank was known to have contained 2,700 gallons on the evening of June 13, 2001, at 11:00 PM. When the release from the tank was discovered, it was believed that the drain within the diked area had captured the release and directed the released acid to the wet well in the WWTP Building.

On Monday, July 18, 2001, Polaroid personnel began inspections and repairs. Polaroid discovered that the leak was associated with the failure of a pipe leading from the AST that had occurred sometime between 11:00 PM on June 13 and 11:00 PM on June 17. The WWTP is routinely shut down during weekends. Polaroid response actions included the following:

- Removal of acid-soaked insulation from around the damaged piping.
- Removal of additional acid remaining in the AST.
- Removal of limestone present in the bottom of the concrete containment dike.
- Neutralization of the concrete by flushing the concrete containment dike with sodium bicarbonate solution.

During the response activities, Polaroid observed that the sodium bicarbonate neutralization solution was entering into the valve pit from around the containment dike drainpipe. The valve pit is located adjacent to the containment. At approximately 3:30 PM on June 18, acid was observed in the concrete valve pit and Polaroid personnel were concerned that a release to the

environment may have occurred. Following removal of the limestone from the diked area, Polaroid observed that the area around the drain was severely corroded.

At 4:50 PM on Monday, June 18, 2001, Ian Phillips, LSP, on behalf of Polaroid, called Michael Moran of the Massachusetts Department of Environmental Protection (DEP) Southeast Regional Office, to report a Threat of Sudden Release of Hazardous Materials as a 2-hour Reportable Condition under the MCP.

3.2 Summary of Previous Site Response Actions

3.2.1 Immediate Response Action Activities

Polaroid received oral approval from the MADEP to conduct immediate response actions at the Site on June 18, 2001. The IRA activities included the following:

- Advancement of test borings using vacuum extraction to determine the extent of the release (soil borings TB1 through TB17);
- Installation of sumps to collect free phase acid, if present;
- Advancement of soil borings using the GeoprobeTM sampling technique (soil borings GP-1 to GP-6);
- Installation of two groundwater monitoring wells (GP-2 and GP-3A).
- Monitoring the pH of surface water in the surrounding wetlands (surface water samples SW-1 through SW-7).

The pH in soils in the borings ranged from 0.1 to 7.7. In general, the soils were observed to be dry with bands of discoloration due to contact with acid. These bands of discoloration appear to represent the preferential migration pathways of the acid and were observed during the vacuum borings. Soil saturated with acid was observed below the concrete dike. Soil saturated with acid was also observed in boring GP-4 at a depth of 5.6 feet below ground surface.

Surface water testing conducted for the IRA investigation did not indicate any impacts from the acid spill to the surrounding wetlands.

A detailed description of the subsurface investigations including boring logs and laboratory analytical reports was presented in GEI Consultants, Inc.'s (GEI) Immediate Response Action Completion Report submitted to the MADEP on November 28, 2001.

3.2.2 Phase I Site Assessment Activities

From April to June 2002, Site assessment activities consisting of collection of sediment samples (SS-1 through SS-15) and groundwater samples (GP-2 and GP-3A) were conducted at the Site. The pH of the sediment samples ranged from 4.01 to 5.53. Background sediment samples (SS-7, SS-11, SS-14, and SS-15, see Figure 2) collected from alternate areas of the Polaroid facility from the Site, indicated pH values from 4.01 to 4.96. The pH of groundwater collected from GP-2 and GP-3A was 5.64 and 5.69, respectively. A detailed description of these subsurface activities was provided in the Tier Classification and Phase I Initial Site Investigation report submitted to the MADEP on June 18, 2002.

3.2.3 Phase II/III Site Assessment Activities

In April 2004 an additional four soil borings (MW-1, SB-1, MW-2 and MW-3) were advanced using hollow-stem augers. Three of the borings (MW-1, MW-2, and MW-3) were completed as overburden groundwater monitoring wells during the period of April 28-30, 2004. Monitoring wells MW-1, MW-2, and MW-3 were completed to intercept the groundwater table and assess potential contaminant migration to the southeast, northeast, and southwest. SB-1 was advanced in the vicinity of vacuum boring TB-2, to determine if subsurface conditions had changed substantially from June 2001 to April 2004. Soil samples were collected at two-foot intervals from MW-2 and MW-3 from ground surface to 25 feet below ground surface (bgs). Soil samples were collected at two-foot intervals from SB-1 and MW-1 from ground surface to approximately ten feet bgs (the approximate location of the groundwater interface). The pH of soil samples ranged from 4.79 (SB-1, 8 to 10 feet bgs) to 6.51 (MW-3, 20 to 22 feet bgs). The pH of groundwater in all five wells was tested in April 2004 and ranged from 4.35 to 6.4.

Additional information including boring logs, chemical data, a detailed evaluation of remedial alternatives and the Method III risk characterization were included in the Phase II / III report dated June 17, 2004.

4.0 IMPLEMENTATION OF REMEDIAL ACTIVITIES

This section describes the remedial activities to eliminate the source of contamination at the Site.

4.1 Elimination of Uncontrolled Sources (310 CMR 40.1056(2)(B))

From July 18, 2005 through July 29, 2005, sulfuric acid-impacted soil was removed from the source area. Therefore, no further uncontrolled sources of sulfuric acid are present at the Site.

4.2 Phase IV Remedial Activities

The selected remedial action was to excavate and dispose of the contaminated soil that exhibited a pH of less than 4.0. Existing structures, including three flash mix tanks and the former acid tank pad were demolished prior to excavation. Un-impacted soil was segregated and stockpiled for re-use. Impacted soil was excavated and disposed of at CWM Chemical Services, LLC in Model City, New York (CWM).

4.2.1 Site Preparation and Demolition

The remedial activities took place between July 18 and July 29, which coincided with Polaroid's two-week plant-wide shut down for routine maintenance throughout the facility. Prior to mobilization at the Site, Polaroid personnel flushed and rinsed the above ground acid piping, drained the clarifier tank located to the south of the excavation area, drained the three flash mix tanks and closed the valves to the underground wastewater transfer pipes.

Based on the recommendation of the New Bedford Conservation commission, in response to a request for determination of applicability, silt fence and hay bales were placed around the excavation area and around the material handling area prior to the commencement of demolition activities to prevent runoff of soils to the abutting wetlands. In addition, a temporary stockpile area for unimpacted soil was constructed in the northwest portion of the WWTP. The temporary stockpile area was constructed with a 12-mil reinforced polyethylene liner with hay bale berms along its perimeter. Five roll-off containers were also staged on-site for unimpacted demolition debris.

On Monday July 18 and Tuesday July 19, Clean Harbors, Inc. (CHI) demolished the above ground portion of the three flash mix tanks and the shed-like structure that was located on top of the concrete acid tank pad. The demolition debris was segregated by type (wood, concrete, steel) and was placed in roll-off containers to be transported off-site as non-hazardous demolition

debris. CHI also removed the above ground acid piping. The piping was rinsed and neutralized with a basic solution within the WWTP. Roux Associates personnel conducted periodic pH testing of the demolition debris, including the acid piping, using litmus paper to verify that the debris was not a hazardous waste.

4.2.2 Installation of sheeting

On July 20, 2005, CHI began installing steel sheeting around the area to be excavated. The sheeting design included placement of sheeting along the east, south and west sides of the excavation to protect the structural integrity of the transformer station, clarifier tank and the roadway, respectively. CHI began with installation of the sheeting on the eastern boundary along the transformer station. The sheets were advanced to a depth of 16 feet below ground surface. As the sheeting progressed to the southeast and east sides of the excavation, the sheets would not advance further than approximately 9 feet below grade due to obstructions. CHI conducted test pits along the sheet pile line and exposed concrete throughout the majority of the south and southeast ends of the area to be excavated. The concrete appeared to be extended footings from the flash mix tanks and possibly spread footings from the clarifier tank. CHI's shoring engineer, Mabey Bridge and Shore, Inc. (Mabey), visited the Site to observe the existing conditions. After inspecting the installed sheeting by the transformer station, the obstructions adjacent to the clarifier, and the characteristics of the soil, it was Mabey's opinion that the excavation could continue without the use of the steel sheeting as support for the clarifier, and that the excavation along the roadway could be benched at a 1:1 slope along the roadway to prevent slope failure.

4.2.3 Excavation

CHI began excavating on the eastern portion of the Site adjacent to the sheet pile on July 22, 2005. Roux Associates personnel tested soil in approximately every other excavator bucket with litmus paper and approximately every 10th bucket with a handheld pH probe to segregate soil for disposal or re-use. Soil with a pH greater than 4.0 was considered acceptable for reuse.

The most heavily impacted soil was encountered beneath the concrete acid tank pad and extending to the subsurface portions of flash mix tank no. 1614 (Figure 3). Based on the measured pH of the soils, the flash mix tank and the concrete acid tank pad were excavated and loaded with the impacted soil into trucks for off-site disposal as a hazardous waste at CWM.

In general, the soil excavation was continued until a pH of 4.0 or higher was achieved (generally between approximately 5 and 8 feet below ground surface). In a number of locations immediately beneath the former acid tank, the pH levels were reduced to between 3.0 and 4.0. The excavation depth was extended in the area beneath the former acid tank to between approximately 9 and 13 feet below ground surface. At these depths, the soil was beginning to sluff and become moist indicating proximity to the groundwater. Because the most significantly impacted soil had been removed and for safety reasons, the excavations were terminated at these depths. Figure 4 presents the final excavation depths and pH results.

Two locations were excavated to a depth of approximately 12-14 feet deep in order to collect groundwater samples (Figure 4).

A total of eleven 25-cubic yard capacity polyethylene lined trucks were loaded with acid-impacted soil and concrete and transported to CWM in Model City, New York. A total of 347 tons was received. Copies of the manifests are included in **Appendix C**.

4.2.4 Confirmatory Soil Sampling

Confirmatory soil samples were collected every 5 feet on an East to West grid with opposite 10-foot intervals North to South. In addition to bottom samples, several side-wall samples were collected around the perimeter of the excavated area.

The confirmatory soil samples were tested in the field using a pH probe by mixing soil and deionized water in an approximate 1:1 ratio. The pH of the water was then measured using a calibrated OaktonTM Waterproof pH Tester. Calibration was performed daily with buffer solutions of 4 and 7 and verified throughout the day.

In addition, two groundwater samples were collected from below the excavation and tested for pH. The groundwater samples were collected by excavating a small area to the groundwater table and collecting water from inside the excavation. The samples were collected from under the former concrete acid tank pad and in the northeast corner of the excavation, which is in the downgradient direction.

4.2.5 Results of Confirmatory Sampling

The results of the confirmatory samples are shown in Figure 4 and are compiled in Table 1. The pH of the confirmatory soil samples ranged from 3.2 to 7.9. The lowest pH results were generally found immediately beneath the former acid tank. The average pH of the bottom confirmatory samples was 4.6. The average pH of the sidewall samples was 5.8 and the average pH of all the confirmatory soil samples was 5.0. The two groundwater samples had pH values of 3.7 (under the acid tank pad) and 6.9 (downgradient and adjacent to the building). The low pH of the groundwater beneath the former acid tank pad was likely the result of acid-impacted soil sluffing into the water as it pooled prior to sample collection as opposed to acid leaching into the groundwater over time.

4.2.6 Backfill

The Site was brought back up to grade in approximate 6-inch compacted lifts with the stockpiled unimpacted soil and with crushed stone under and around the new underground piping. The finished area is unpaved and covered with crushed stone.

5.0 PHASE IV FINAL INSPECTION AND COMPLETION STATEMENT

On July 29, 2005, the last day of excavation activities, Ian Phillips, Licensed Site Professional from Roux Associates, conducted a final inspection of the Site. Final inspection activities included confirmatory soil sampling in the area beneath the former acid tank pad and confirmatory groundwater sampling from two locations within the excavation area as detailed further in Section 4.2.4.

Based on the final site inspection and information contained herein, it is our opinion that the comprehensive remedial actions that took place at the Site were conducted in conformance with the Remedy Implementation Plan (RIP) and that the implementation of the Phase IV activities is considered complete.

No post remedial systems have been put in place, therefore no testing, adjustments or modifications are required. No permits or licenses were required to conduct the remedial activities. No activities under Phase V will be conducted as part of the implementation of the Comprehensive Remedial Action.

The original Comprehensive Response Action Transmittal form (BWSC-108) is being submitted with this report, and a copy is contained in **Appendix A**.

6.0 CONDITION OF NO SIGNIFICANT RISK 310 CMR 40.1056(2)(C)

A Condition of No Significant Risk has been achieved at the Site as the pH of the soil has been reduced to conditions approaching background. The source of contamination has been removed and residual acid-impacts to the soil and groundwater are expected to dissipate and neutralize naturally.

There are no current exposures to the residually impacted soil and groundwater as they are present at depths of greater than seven feet below ground surface.

7.0 FEASIBILITY OF ACHIEVEMENT OF BACKGROUND 310 CMR 40.1056(2)(E)

Based on results of the Phase II investigation, background pH levels ranged from 4.8 to 6.5. As describe in Section 4, the average pH of soil confirmatory soil samples was 5.0, which is approaching background levels.

A limited number of soil pH values less than 4.0 were measured in confirmatory samples, predominantly from the area beneath the former acid tank. The excavation in this area was extended to between approximately 9 and 13 feet below ground surface. At these depths, the soil was beginning to sluff and become moist indicating proximity to the groundwater. Therefore, it was not feasible to achieve background without further significant safety risks and disproportionate costs. Soil pH levels were becoming more neutral with depth and the most heavily impacted soil (pH<0.5) was removed, therefore, further excavation was not performed.

Groundwater and surface water samples taken from monitoring wells and surface water wetlands around the facility indicated an average background pH of 5.4. The average pH of the two groundwater samples inside the excavation was 5.3. Because the source has been removed, the pH is not anticipated to become more acidic with time.

It is Roux Associates' opinion that the remaining soil and groundwater at the Site is approaching background and will reach background without further response actions.

8.0 ACTIVITY AND USE LIMITATIONS AND OPERATION, MAINTENANCE, AND MONITORING PLAN 310 CMR 40.1056(2)(G, H, AND I)

The implementation of response actions at the Site have successfully removed the source resulting in a condition of no significant risk for current and potential future uses of the Site. Therefore, no activity and use limitations are associated with this RAO. No Post RAO Operation, Maintenance, and/or monitoring is required or planned under this RAO.

9.0 CLASS A-1 RAO STATEMENT [310 CMR 40.1056]

Based on the results of the remediation performed, adequate removal of contaminated soil has been conducted in order to approach background, therefore a class A-1 RAO is applicable for the Site.

10.0 STATEMENT BY LICENCED SITE PROFESSIONAL

Based on the results of the confirmatory soil sampling, no further response actions are required and a Condition of No Significant Risk exists at the Site for current and foreseeable use.

11.0 LIMITATIONS

This Report was prepared for Polaroid Corporation, exclusively. The conclusions provided by Roux Associates in this Report are based solely on the information reported in this document. Any additional quantitative information regarding the Site, not available to Roux Associates may result in a modification of the conclusions stated above. This Report has been prepared in accordance with generally accepted geohydrological practices. No warranty, expressed or implied, is made.

12.0 REFERENCES

Clean Harbors Environmental Services, Inc., Polaroid Corporation Bid Specification and Request for Quote, Waste Water Treatment Plant – Soil Excavation, June 17, 2005.

GEI Consultants, Inc., "Release Notification and Immediate Response Action Plan", Letter from GEI Consultants, Inc. to Massachusetts Department of Environmental Protection, July 19, 2001.

GEI Consultants, Inc., "Immediate Response Action Completion", Letter from GEI Consultants, Inc. to Massachusetts Department of Environmental Protection, November 28, 2001.

GEI Consultants, Inc., "Tier Classification and Phase I Initial Site Investigation", Letter from GEI Consultants, Inc. to Mr. Richard Chandler, Polaroid Corporation, June 18, 2002.

Massachusetts Contingency Plan 310 CMR 40.0000, Subpart J: Response Action Outcomes 310 CMR 40.1000.

Roux Associates, Inc., MCP Phase II/Phase III Report, Polaroid Corporation, Waste Water Treatment Plant, 100 Duchaine Boulevard, New Bedford, MA 02745, June 17, 2004.

Roux Associates, Inc., Request for Determination of Applicability for Excavation and Removal of Contaminate Soil, Polaroid Corporation, New Bedford, MA, June 14, 2005.

Roux Associates, Inc., Phase IV Remedy Implementation Plan, Polaroid Corporation, Waste Water Treatment Plant, 100 Duchaine Boulevard, New Bedford, MA 02745, June 23, 2005.

Respectfully Submitted,

ROUX ASSOCIATES, INC.

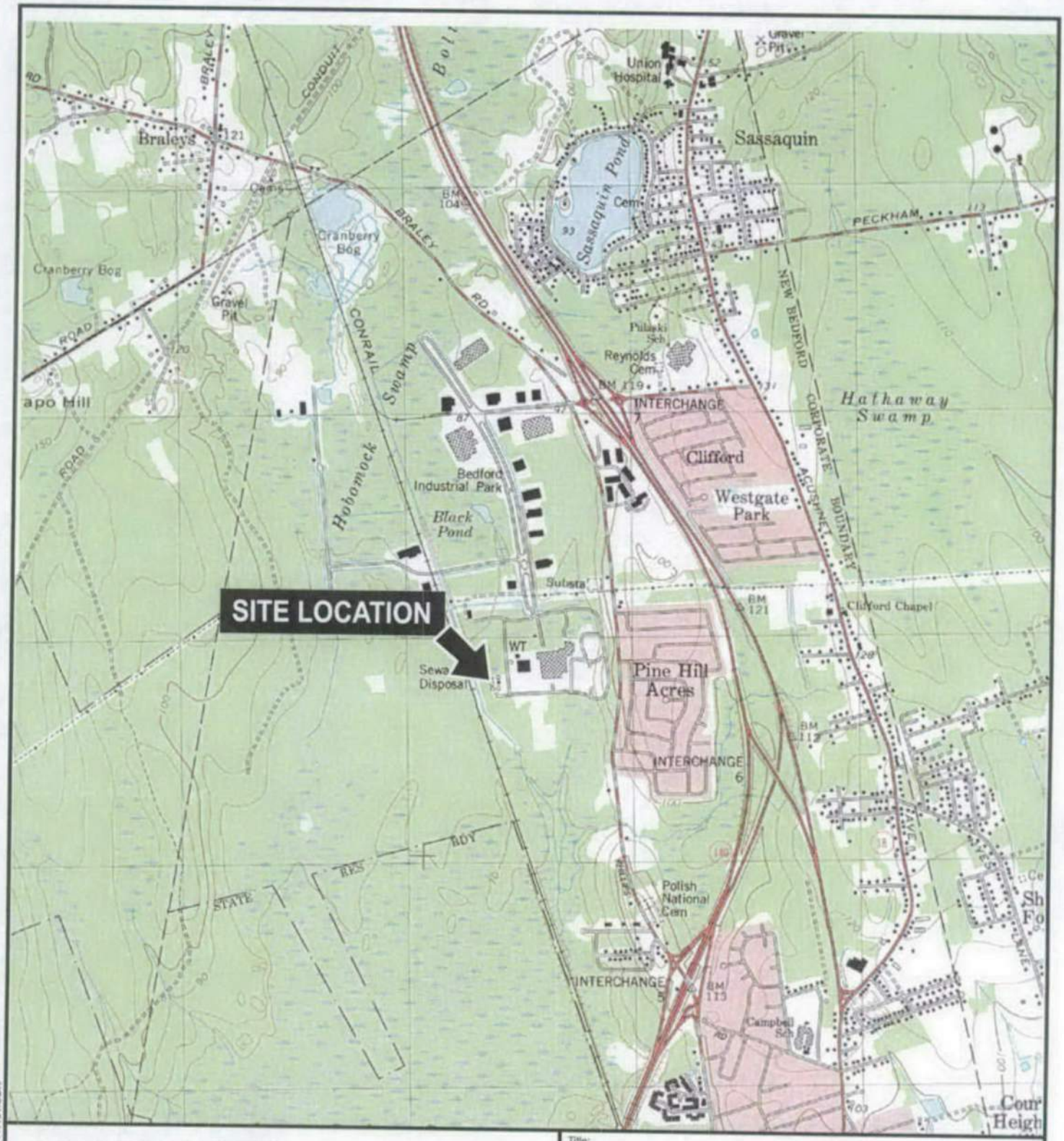
Ian Phillips, LSP
Principal Scientist / Project Manager

Table 1. Confirmatory pH Results

Polaroid Corporation
100 Duchaine Boulevard
New Bedford, Massachusetts
RTN 4-16316

Sample ID	Date	Depth (ft)	Result
Bottom Samples			
B01	7/27/2005	8.5	7.1
B02	7/27/2005	8.5	5.4
B03	7/27/2005	8.5	4.3
B04	7/27/2005	8.5	6.6
B05	7/27/2005	8	3.9
	7/27/2005	9	4.7
B06	7/27/2005	8.5	4.3
B07	7/27/2005	8.5	5.6
B08	7/27/2005	10.5	3.7
B09	7/27/2005	10.5	4.2
B10	7/27/2005	10.5	3.9
B11	7/27/2005	10.5	4.4
B12	7/28/2005	12	3.9
	7/28/2005	13	3.8
B13	7/28/2005	10	4.1
B14	7/28/2005	9	4.3
B15	7/28/2005	8	5.1
B16	7/28/2005	8	3.9
B17	7/28/2005	9	6.8
B18	7/28/2005	9	3.9
B19	7/28/2005	10	4.8
B20	7/28/2005	8	3.8
B21	7/28/2005	9	6.3
B22	7/28/2005	9	3.2
B23	7/29/2005	10	3.8
B24	7/29/2005	10	3.2
B25	7/29/2005	13	3.4
B26	7/29/2005	5	5.7
Side Wall Samples			
S01	7/27/2005	6	6.9
S02	7/27/2005	6	7.9
S03	7/27/2005	6	7.5
S04	7/27/2005	6	6.3
S05	7/27/2005	5.5	4.9
S06	7/27/2005	6	4.7
S07	7/27/2005	5	5.3
S08	7/28/2005	7	3.2
S09	7/28/2005	7	3.9
S10	7/26/2005	3	5.5
	7/26/2005	5	6.8
S11	7/22/2005	5	6.5
S12	7/22/2005	5	6.2
S13	7/26/2005	5	5.5
Ground Water Samples			
GW01	7/29/2005	16	3.7
GW02	7/29/2005	14	6.9

NOTES:
- B indicates a bottom sample
- S indicates a side wall sample
- GW indicates a groundwater sample



QUADRANGLE LOCATION

SOURCE:
USGS; 1979, New Bedford North, MA
7.5 Minute Topographic Quadrangle
Contour Interval 3 Meters
National Geodetic Vertical Datum 1929

N

0 2000'

Title:

SITE LOCATION MAP

WASTEWATER TREATMENT FACILITY
100 DUCHAINE BLVD.
NEW BEDFORD, MASSACHUSETTS

Prepared for:

POLAROID CORPORATION

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: CM		Date: 12/15/05	FIGURE
Prepared by: CRS		Scale: 1"=2000'	1
Project Mgr.: IP		Office: MA	
File No.: PDC10211101		Project No.: 111204M02	

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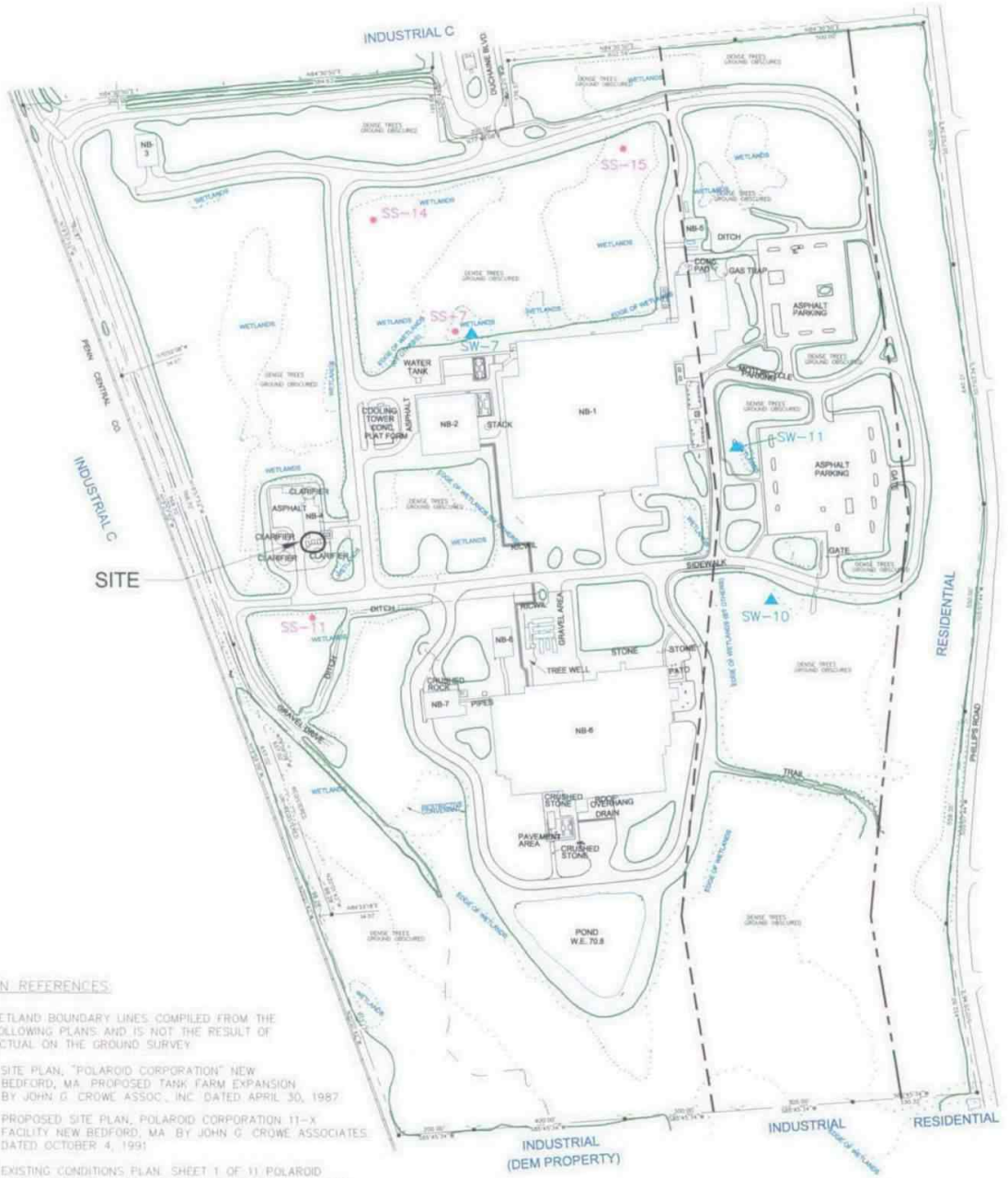

PLAN REFERENCES:

1. WETLAND BOUNDARY LINES COMPILED FROM THE FOLLOWING PLANS AND IS NOT THE RESULT OF ACTUAL ON THE GROUND SURVEY.

A) SITE PLAN, "POLAROID CORPORATION" NEW BEDFORD, MA. PROPOSED TANK FARM EXPANSION BY JOHN G. CROWE ASSOC., INC. DATED APRIL 30, 1987.

B) PROPOSED SITE PLAN, POLAROID CORPORATION 11-X FACILITY NEW BEDFORD, MA. BY JOHN G. CROWE ASSOCIATES. DATED OCTOBER 4, 1991.

C) EXISTING CONDITIONS PLAN. SHEET 1 OF 11 POLAROID CORPORATION BY COLER & COLANTONIO ASSOCIATES., INC. DATED MARCH 18, 1991.

D) WETLAND RESTRICTIVE COVENIAT PLAN POLAROID SITE, NEW BEDFORD, MA. BY COLER & COLANTONIO, INC. DATED JUNE 25, 1990.

2. PROPERTY LINE INFORMATION WAS COMPILED FROM MASSACHUSETTS LAND COURT DECREE PLAN 16318, DATED APRIL 23, 1969, PREPARED BY TIBBETTS ENGINEERING CORP., FILED WITH LAND COURT OCTOBER 23, 1969.

3. PLAN PREFERENCE ENTITLED "PLAN OF LAND IN NEW BEDFORD, MASS SURVEYED FOR POLAROID CORPORATION" PREPARED BY TIBBETTS ENGINEERING CORP., DATED JUNE 10, 1969, RECORDED AT THE BRISTOL COUNTY, REGISTRY OF DEEDS, NEW BEDFORD, MASS. IN PLAN BOOK 81 PAGE 78.

4. COORDINATE AND BEARING SYSTEM BASED ON THE MASSACHUSETTS STATE PLANE SYSTEM. ELEVATIONS ON USGS MSL 1929.

5. CONTOURS AND TOPOGRAPHIC INFORMATION PREPARED BY AERIAL TOPOGRAPHIC MAPPING METHODS BY AERODATA DIGITAL MAPPING (ADM) WOLFBOROUGH, N.H.

LEGEND:

- BOUNDARY OF RESIDENTIAL ZONING AREA
- N/F — NOW OR FORMERLY
- T.M.A.01 — TAX MAP & LOT
- EDGE OF WOODS
- CURB
- CHAIN LINK FENCE
- WETLANDS LINE
- MONITORING WELL
- TEST PIT
- BORING HOLE
- SEDIMENT SAMPLE LOCATION
- SURFACE WATER SAMPLE LOCATION

300' 0 300'

NOTES:

1. MAP ADAPTED FROM OWEN HASKELL, INC., 1995.

Title:

SITE VICINITY MAP

WASTEWATER TREATMENT FACILITY
100 DUCHAINE BLVD.
NEW BEDFORD, MASSACHUSETTS

Prepared For: POLAROID CORPORATION

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: CM	Date: 12/15/05	FIGURE
Prepared by: CRS	Scale: AS SHOWN	2
Project Mgr: IP	Office: MA	
File No. PDC20411103	Project: 111204M02	

Title:

SITE PLAN

WASTEWATER TREATMENT FACILITY
100 DUCHAINE BLVD.
NEW BEDFORD, MASSACHUSETTS

Prepared For:

POLAROID CORPORATION

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: CM/JV	Date: 12/15/05	FIGURE
Prepared by: CRS	Scale: AS SHOWN	3
Project Mgr: IP	Office: MA	
File No: PDC20411103	Project: 111204M03	

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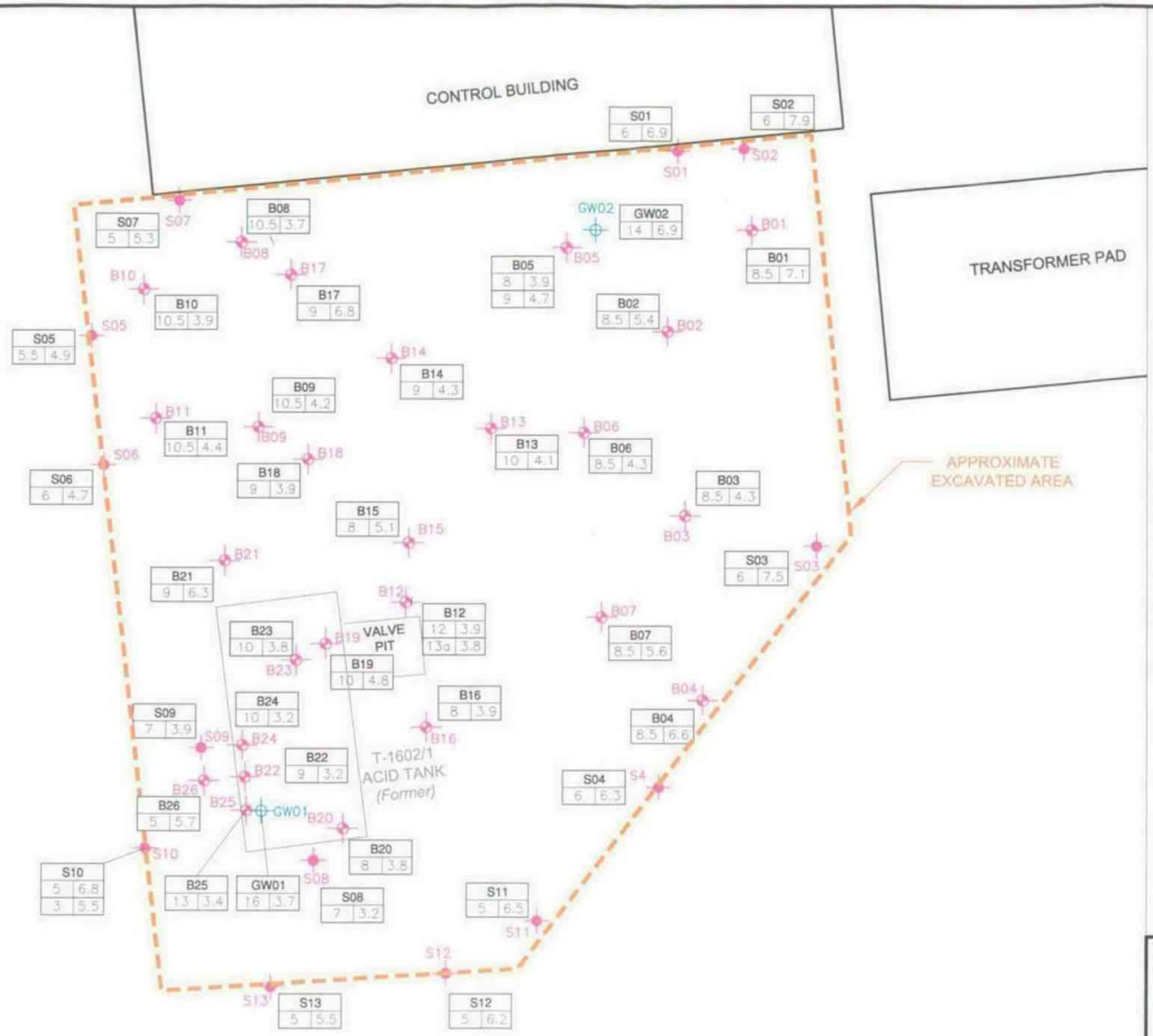

Title:

CONFIRMATORY SOIL pH RESULTS

WASTEWATER TREATMENT FACILITY
100 DUCHAINE BLVD.
NEW BEDFORD, MASSACHUSETTS

Prepared For:

POLAROID CORPORATION

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: CM		Date: 12/15/05	FIGURE
Prepared by: CRS		Scale: AS SHOWN	4
Project Mgr: JP		Office: MA	
File No: PDC20411104		Project: 111204M02	

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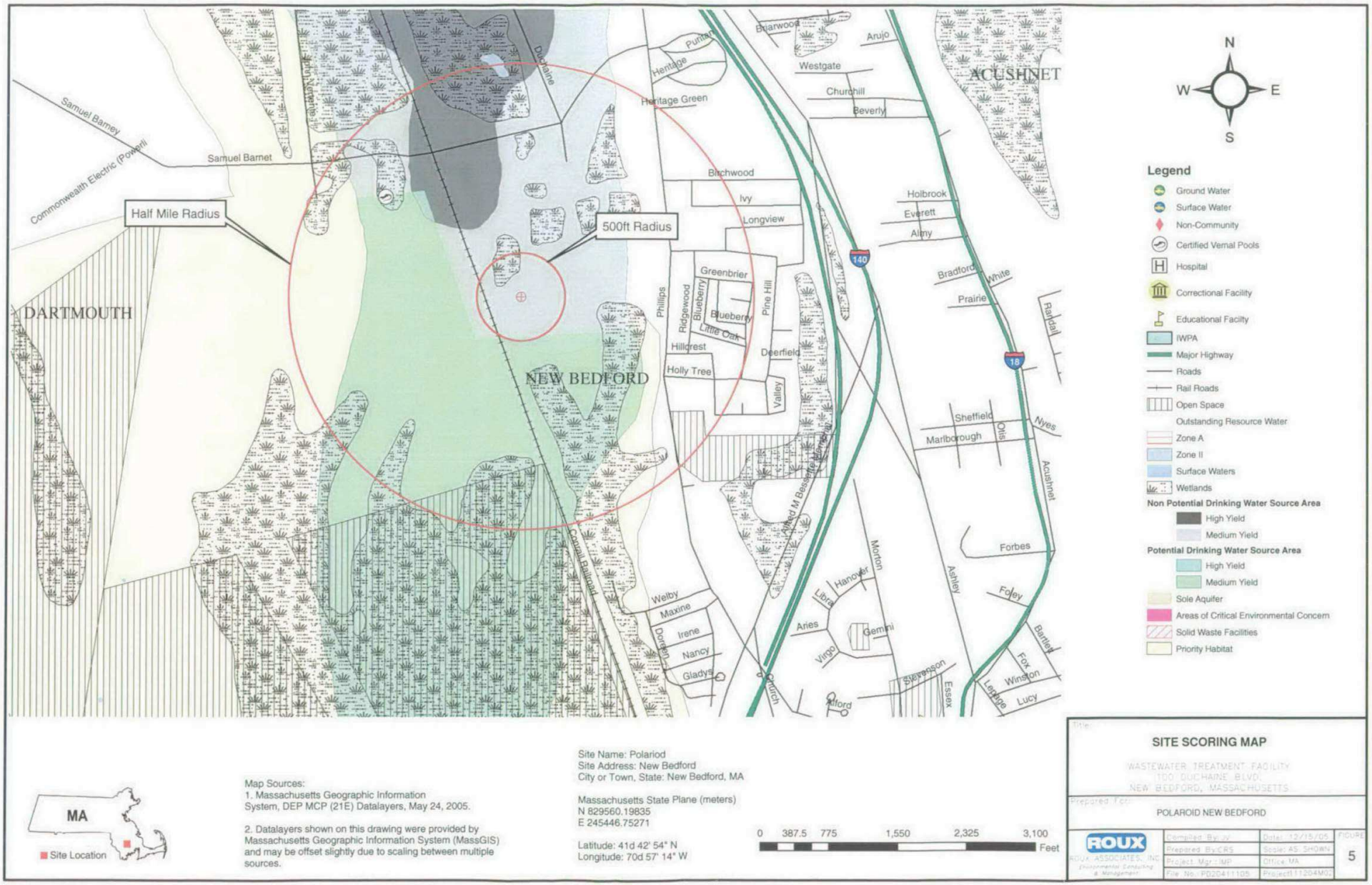


MA

Site Location

Map Sources:
1. Massachusetts Geographic Information System, DEP MCP (21E) Datalayers, May 24, 2005.

2. Datalayers shown on this drawing were provided by Massachusetts Geographic Information System (MassGIS) and may be offset slightly due to scaling between multiple sources.

Site Name: Polariod
Site Address: New Bedford
City or Town, State: New Bedford, MA

Massachusetts State Plane (meters)
N 829560.19835
E 245446.75271

Latitude: 41d 42' 54" N
Longitude: 70d 57' 14" W

0 387.5 775 1,550 2,325 3,100 Feet

Title:

SITE SCORING MAP

WASTEWATER TREATMENT FACILITY
100 DUCHAINE BLVD.
NEW BEDFORD, MASSACHUSETTS

Prepared For:

POLAROID NEW BEDFORD

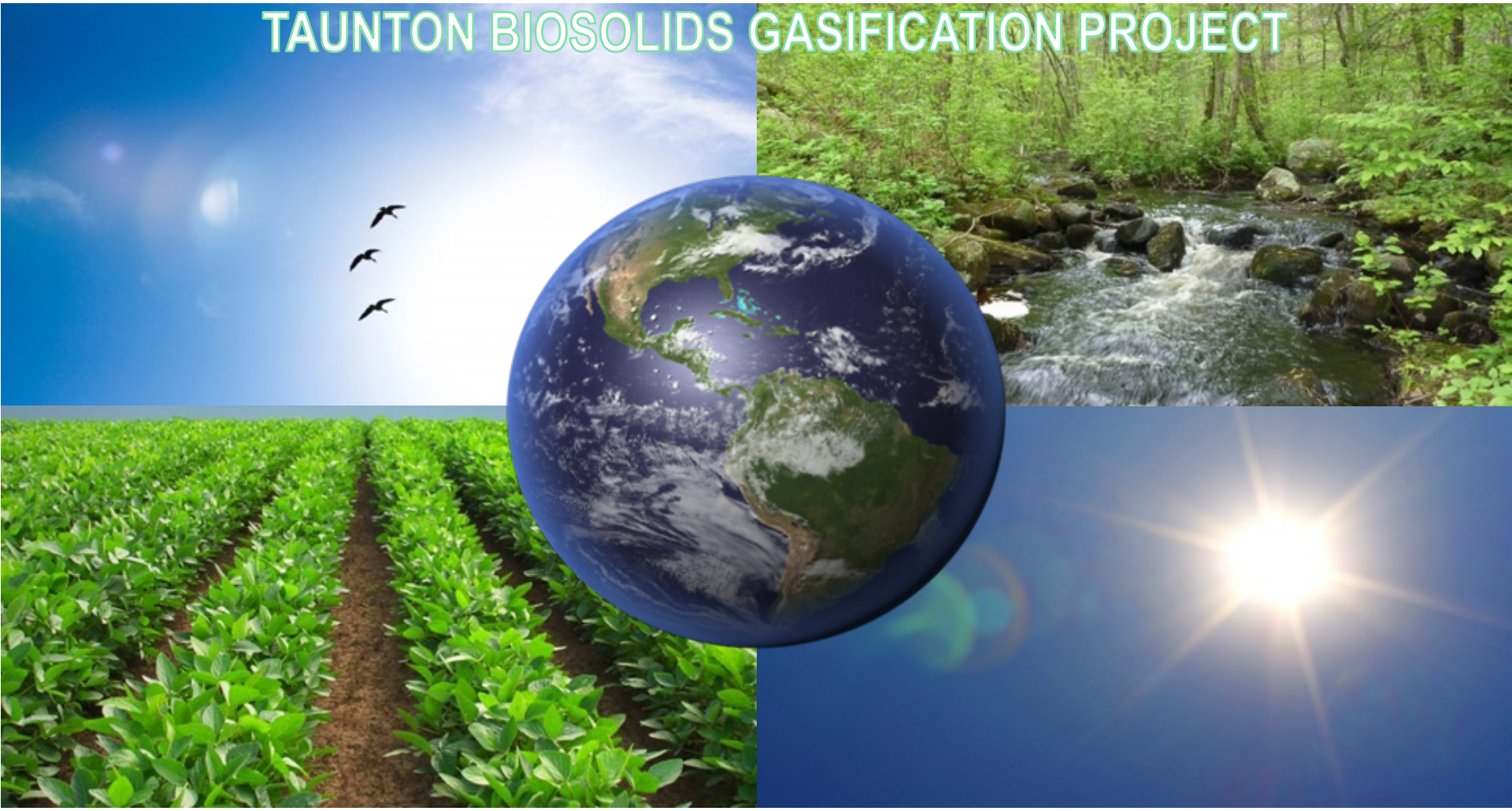
ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled By: JV	Date: 12/15/05
Prepared By:ERS	Scale: AS SHOWN
Project Mgr: MP	Office: MA
File No.: P020411105	Project:111204M02

FIGURE 5

T:\GIS\POLARIOD\POLARIOD 111204M\P020411105

ARIES CLEAN ENERGY

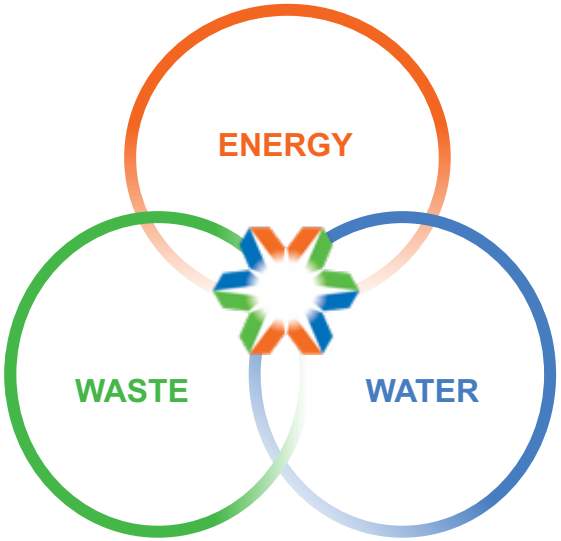


Presentation to Taunton City Council
December 29, 2020

Executive Summary – Aries Biosolids Gasification Technology

Aries Clean Energy

Based in Nashville, Tennessee, **Aries Clean Energy, LLC** is a patent holder, manufacturer and system integrator that develops projects using its **proven, proprietary downdraft and fluidized bed gasification systems for municipal and industrial customers.** Since 2010, Aries has been gasifying materials such as biosolids that would otherwise be landfilled while producing renewable and sustainable energy.



Lebanon, TN

Sanford, FL

- Closed loop energy neutral system
- 95% volumetric reduction of biosolids
- Sustainable long-term solution
- Reduces land application and incineration
- No odors from facility
- PFAS solution

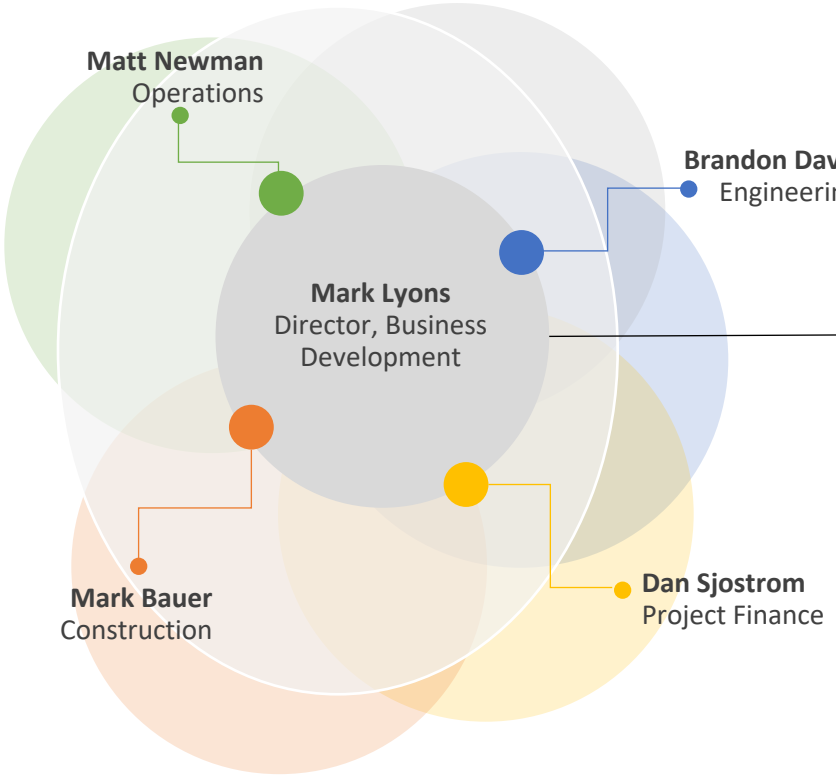
- Sustainable zero landfill solution
- Carbon neutral to negative
- Reduces biosolids hauling, reduces CO2 emissions
- Gasifier air emissions expected to be lower than existing SSI's in MA

- System produces clean, renewable heat energy from synthesis gas
- System produces a valuable biochar product that replaces coal fly ash in concrete applications

- Facility will be owned/operated by Aries
- Aries has 10+ years of technology development and operating history
- Full-scale commercial facility constructed and operating
- Fluidized bed gasifier -18 months of commercial operation
- Feedstock includes wood waste, biosolids, and agricultural waste
- Small/medium capital requirement that can be project financed
- Robust near-term project pipeline
- Experienced team with an average of 30 years in clean technology and energy

Aries Project Development Team - Massachusetts

ARIES CORE TEAM



ARIES EXTERNAL TEAM

Steve Richmond
Attorney; Beverage & Diamond

Jack Murphy
Government Affairs, Murphy Donoghue

Jack Bailey
Local Advisor

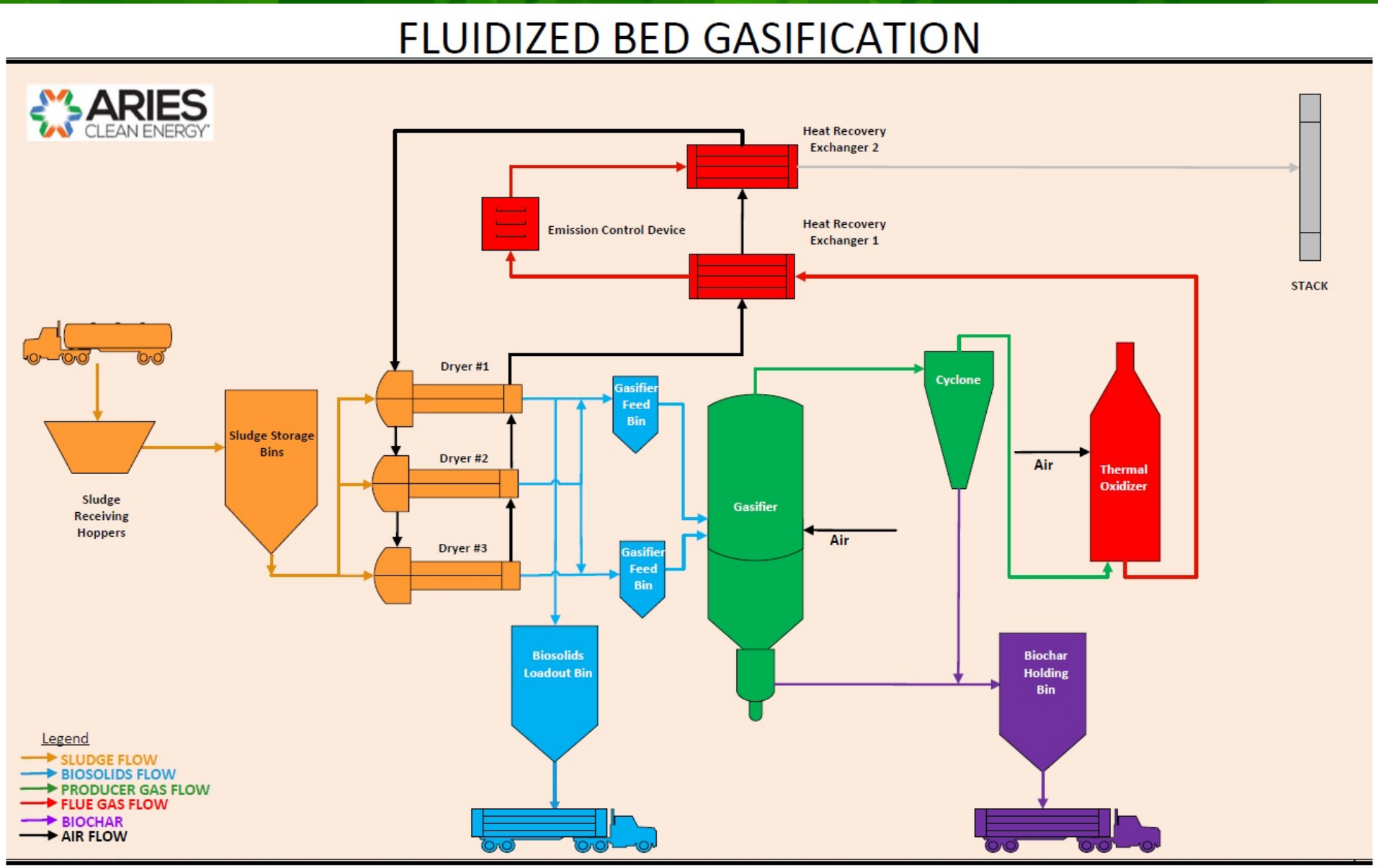
Tom Peacock
President
The Northport Group

Dale Raczynski
Permitting, Epsilon Associates

Barry VanLaarhoven
Civil Engineer
CEC

Internal Aries Project Support
Greg Bafalis – CEO
Mark Witt - CFO
Renus Kelfkens – VP Engineering
Ron Hudson - Permitting Director

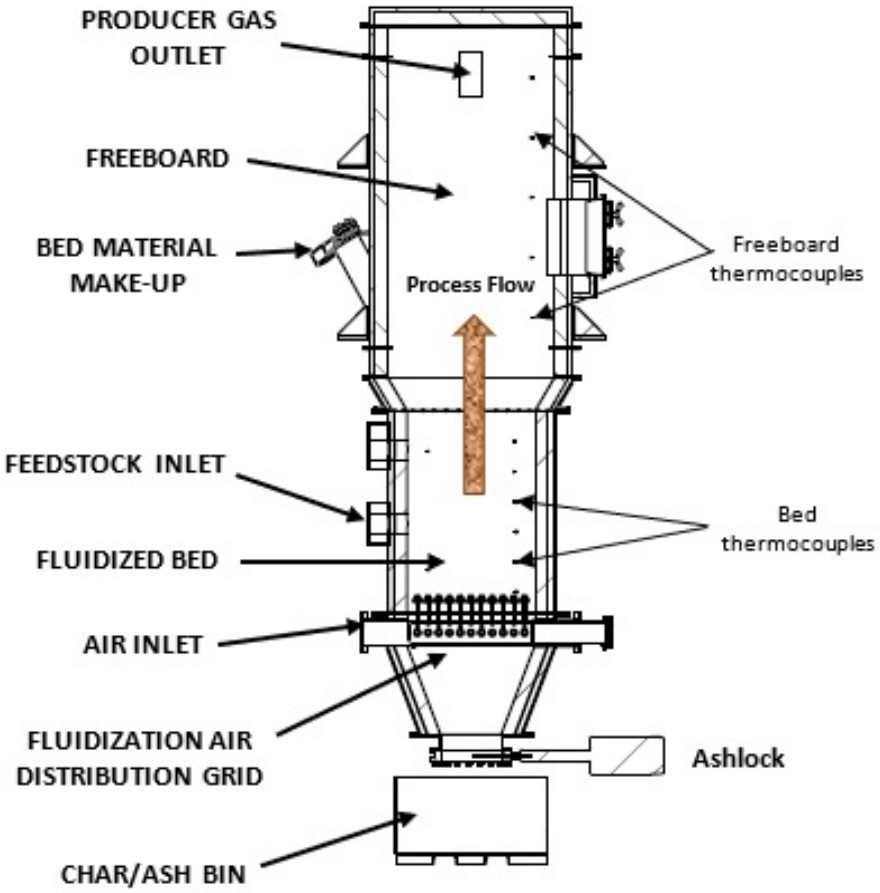
Process Flow Diagram



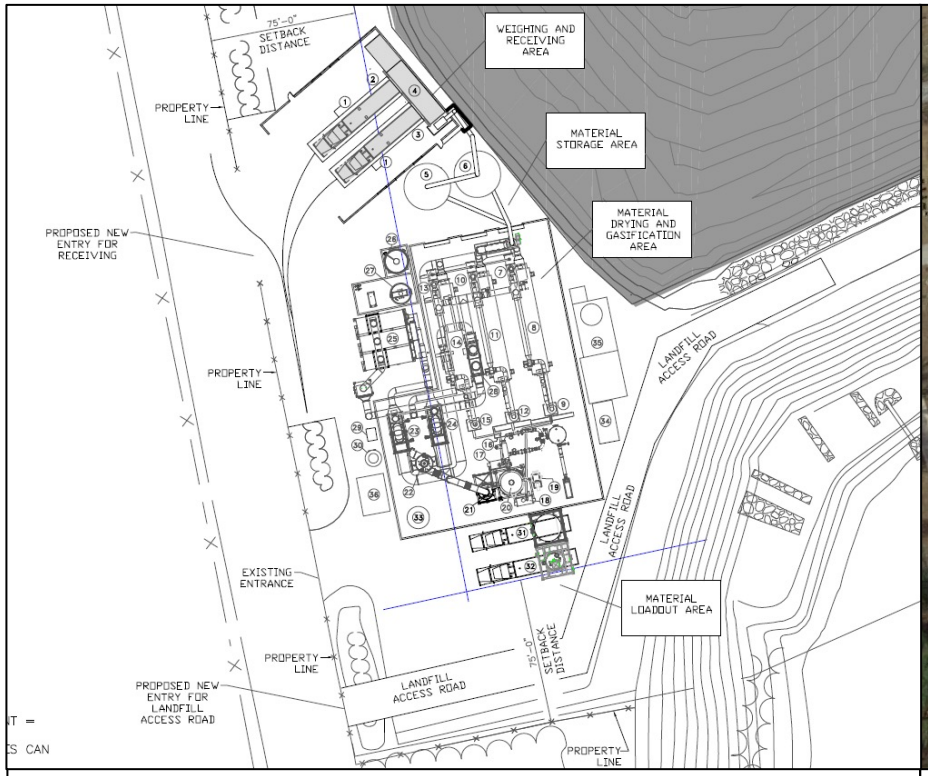
Fluidized Bed Gasification

- Conversion of biomass into a synthesis gas (syngas) in an oxygen-starved environment

- Thermo-chemical process
  - Heat generated through chemical reactions of biosolids and air
  - Bed temperature constant at 1,250°F through control of biosolids to air ratio
  - Self sustaining chemical reactions
  - Producer gas is primarily H_2, CO, CH_4 and CO_2
  - Controlled amount of air enters the gasifier so no combustion occurs in the gasifier- no potential for fires/explosions
  - Process does not require supplemental energy other than startup.



Aries Taunton – Project Site



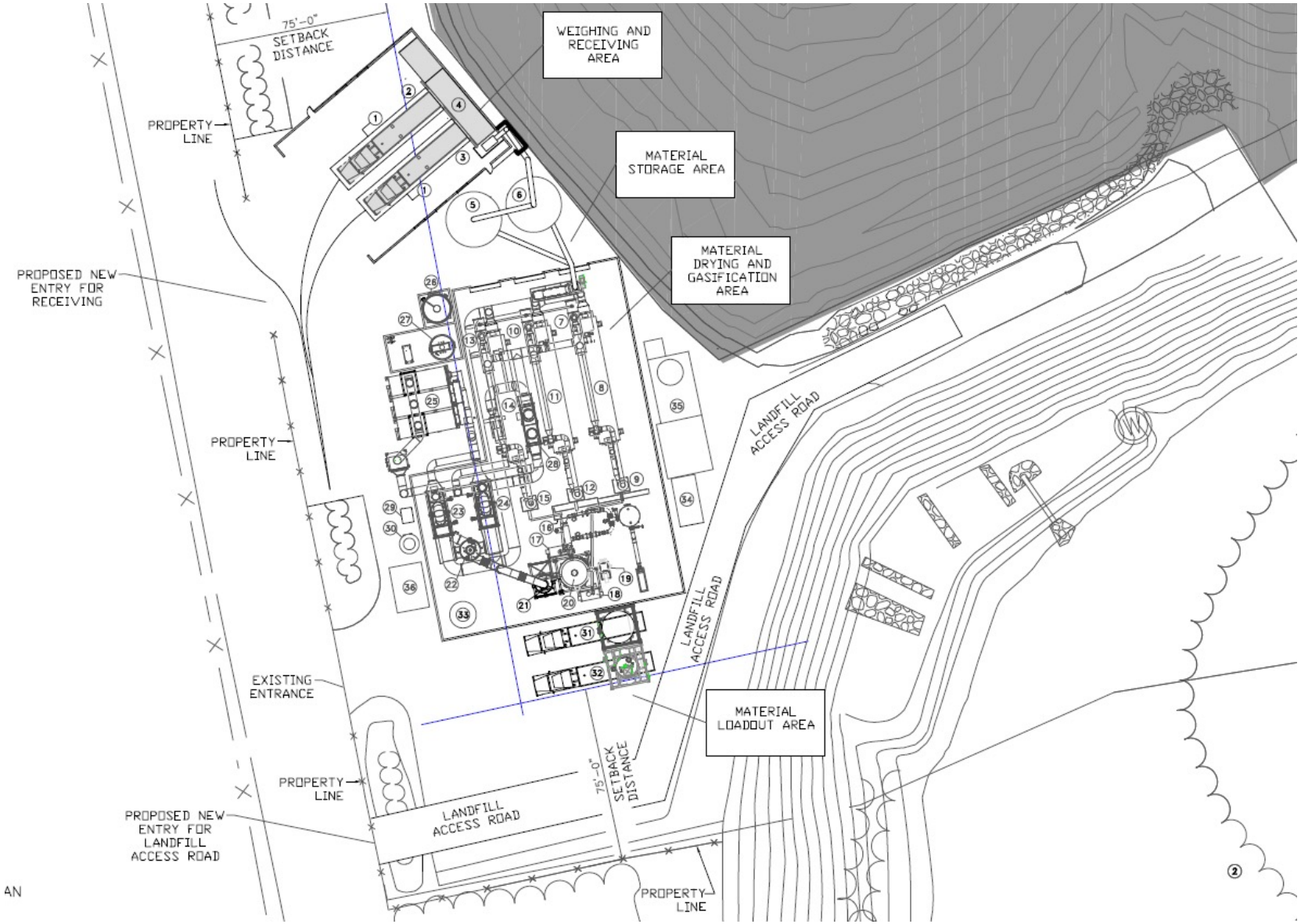
Project Milestones

- Execute Site Option Agreement – December 2020
- Execute Biosolids Supply Agreement –January 2020
- MEPA Approval: 9-12 months/ENF Filing – December 2020
- MassDEP Regulatory Permitting: ~ 6-9 months
- Financial Close – Q2 2022
- Construction – Q2/Q3 2022
- Commercial Operations – Q2/Q3 2023

System Description

- 470 TPD throughput
- 3 x 225 TPD biosolids dryers
- Dryers produce Type I biosolids used as gasifier feedstock
- 100 TPD Aries Patented Fluidized Bed Gasifier
- 25 TPD of biochar produced
- Heat recovery
- Air quality control equipment

Aries Taunton – Project Site



Aries Project Benefits to Taunton

- Substantial upfront payment to City
- Annual escalating lease payment
- Annual project revenues will be shared with City
- Most favored nation biosolids disposal pricing for City
- Relocation of landfill residential recycling drop-off area at no cost to City
- Productive use of difficult-to-develop site
- Safe/sustainable long-term biosolids solution
- 35 permanent well-paying jobs
- Purchases from local businesses by Aries
- $500,000 sewer I&I upfront payment

ARIES CLEAN ENERGY

Aries Project – Environmental Protection Features

- State-of-the-art odor control design
  - Totally enclosed biosolids receiving building under negative air pressure
  - Thermal oxidizer will destroy all VOC's/odor compounds
  - Biosolids delivery vehicles will be watertight and covered
  - No liquid biosolids will be accepted
- State-of-the-art air quality control system
  - Best Available Control Technology (BACT)
  - Better air quality than existing SSI's in MA
- Highly reduced truck traffic vs. landfill (20 trucks/day)
- No land disposal/no impact on existing landfill
- No water quality impacts
- State-of-the-art noise reduction

Aries Taunton Facility Renderings

Aries Taunton Facility Rendering

Project Profile - Aries Linden, LLC

System Description

- 430 TPD throughput
- 2 x 215 TPD biosolids dryers
- 100 TPD Aries Patented Fluidized Bed Gasifier
- 25 TPD of Biochar produced

Status

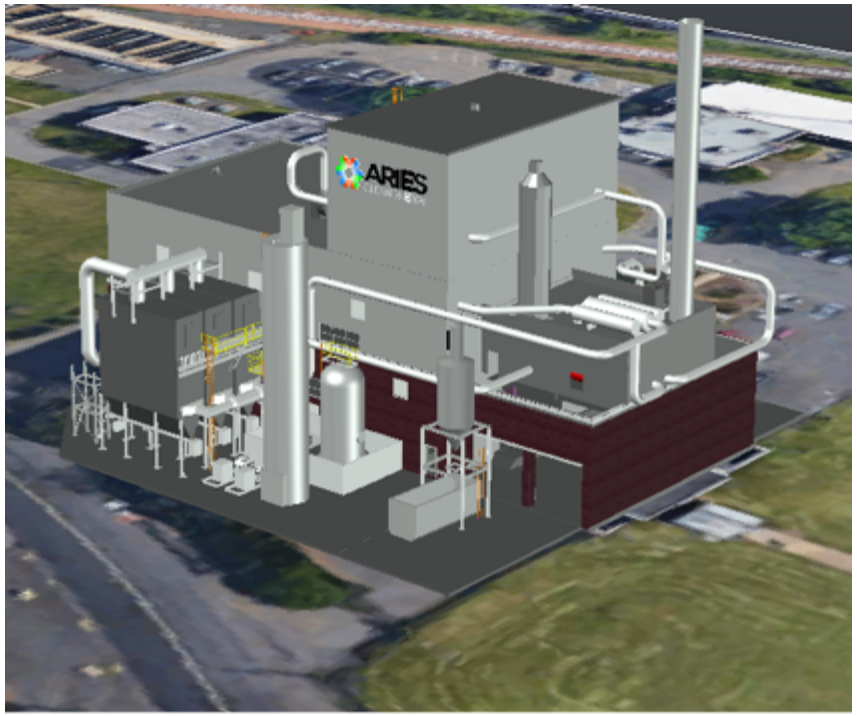
- Project achieved financial close on October 30, 2019
- Currently under construction
- Received all required operating permits through NJDEP
- Financed thru Union County Improvement Authority
  - Tax Exempt Private Activity Bonds (PABs) - $50 million
  - Bonds fully subscribed

Counterparties

- Feedstock fully contracted
- One main biosolids supplier (300 TPD)
- 125 TPD from LRSA
- Biochar – LOI to sell to local concrete company as a fly ash substitute
- Class A Biosolids – LOI in place to sell Class A biosolids produced to a soils remediation company

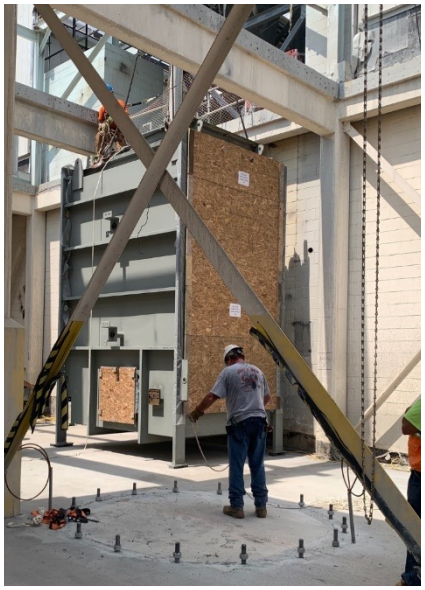
Upcoming Milestones

- Mechanical Completion – Q2 2021
- Commercial Operation – Q2/Q3 2021



Construction Update - Aries Linden, LLC







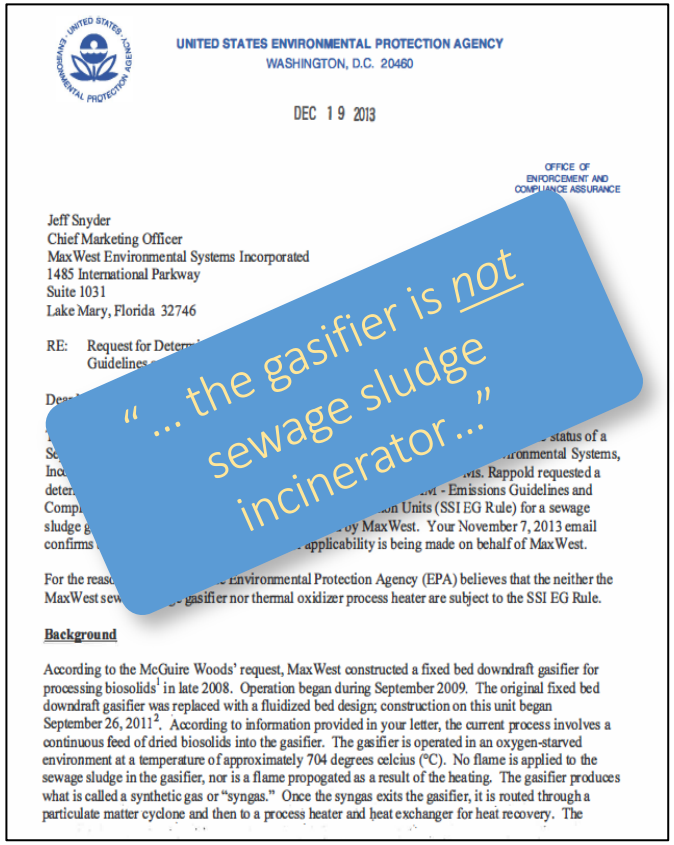

Gasification vs Incineration

Regulatory Treatment

- EPA ruled that the fluidized bed gasifier and thermal oxidizer combination is **NOT** classified as a sewage sludge incinerator
- Gasifiers are not regulated under the SSI rules
- Gasifier does not require supplemental energy other than startup
- NJDEP recently issued air permit for Aries Linden as a gasification facility, not incineration

Edward Messina, Director at the Office of Compliance issued a USEPA letter that determined the following:

> *"According to the information provided by MaxWest, no flame is applied or propagated in the gasifier and the gasifier prevents combustions by limiting the air-to-sludge ratio such that combustion cannot occur. Therefore, we do not believe that the gasifier is an SSI (sewage sludge incinerator), because it does not combust sewage sludge."*



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC 19 2013

OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE

Jeff Snyder
Chief Marketing Officer
MaxWest Environmental Systems Incorporated
1485 International Parkway
Suite 1031
Lake Mary, Florida 32746

RE: Request for Determ... Guidelines

Dear ...

... status of a ...ironmental Systems, ...Ms. Rappold requested a ...M - Emissions Guidelines and ...on Units (SSI EG Rule) for a sewage ... by MaxWest. Your November 7, 2013 email ... applicability is being made on behalf of MaxWest.

For the reas... Environmental Protection Agency (EPA) believes that the neither the MaxWest sew... gasifier nor thermal oxidizer process heater are subject to the SSI EG Rule.

Background

According to the McGuire Woods' request, MaxWest constructed a fixed bed downdraft gasifier for processing biosolids[1] in late 2008. Operation began during September 2009. The original fixed bed downdraft gasifier was replaced with a fluidized bed design; construction on this unit began September 26, 2011[2]. According to information provided in your letter, the current process involves a continuous feed of dried biosolids into the gasifier. The gasifier is operated in an oxygen-starved environment at a temperature of approximately 704 degrees celcius (°C). No flame is applied to the sewage sludge in the gasifier, nor is a flame propogated as a result of the heating. The gasifier produces what is called a synthetic gas or "syngas." Once the syngas exits the gasifier, it is routed through a particulate matter cyclone and then to a process heater and heat exchanger for heat recovery. The

Aries Taunton Project – Next Steps

- Execute Site Option Agreement with City
- Begin the MEPA Process
  - File Environmental Notification Form
  - Noise study
  - Air modeling
  - Traffic study
  - Public outreach/public comments on project
  - Evaluate/mitigate any potential impacts
- Aries is committed to being a good long-term neighbor in the City of Taunton

THANK YOU

KP | LAW
The Leader in Public Sector Law

101 Arch Street, Boston, MA 02110
Tel: 617.556.0007 | Fax: 617.654.1735
www.k-plaw.com

March 26, 2021

Mark R. Reich
mreich@k-plaw.com

BY ELECTRONIC MAIL (MEPA@mass.gov)
AND FIRST CLASS MAIL

Secretary Kathleen Theoharides
Executive Office of Energy and Environmental Affairs
Attn. MEPA Office
EEA No. 15990
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: Parallel Products of New England, LLC
100 Duchaine Boulevard, New Bedford, MA
Final Environmental Impact Report - EEA No. 15990

Dear Secretary Theoharides:

This firm serves as special counsel to the City of New Bedford (the "City"). On behalf of the City, Mayor Jonathan F. Mitchell, the City Council, and members of New Bedford's state legislative delegation the following comments are hereby submitted with regard to the Parallel Products of New England, LLC Final Environmental Impact Report ("FEIR"), EEA No. 15990, which concerns the construction of a municipal solid waste and construction and demolition debris processing and handling facility and a biosolids facility.

This project, as proposed by Parallel Products of New England ("PPNE"), is unsuited for the location in the City and within an environmental justice area. The project does not serve local interests; instead, it purports to address long-term solid waste and biosolids needs of the Commonwealth while placing a disproportionate burden upon environmental justice populations within the City. Additionally, the project would have a detrimental impact on existing users of the business park, which is an important economic resource for the City. To date, PPNE has not conducted meaningful outreach with the City or its residents to address how PPNE's proposed regional services will address local concerns, specifically how the burden the project will impose on the local community will be satisfactorily mitigated.

Further, PPNE has not properly analyzed impacts to public health, safety, or the environment from the combined facilities that make up the proposed project. While PPNE undertook studies during the MEPA review, many assumptions in those studies are inadequate for a solid waste transfer station or a biosolids drying project individually, much less for a project that combines both such operations. The studies segregate and thus underrepresent combined potential impacts related to air quality, noise, dust, and odor within each portion of the site from the dryer, the transfer station, the loading and unloading of materials, or mobile sources coming to and from the facility.

As a result, it is impossible for PPNE to properly characterize how this project would mitigate adverse health and environmental impacts, including specific impacts upon disadvantaged residents within the City. These unresolved concerns suggests that the project cannot be properly permitted or conditioned at this juncture.

Therefore, the City maintains its strong objection to the project as proposed, as it would have a clear negative impact on public health, safety, and the environment with little to no City need or City benefit demonstrated. The City requests that the MEPA office require PPNE to address the City's environmental justice concerns and the numerous deficiencies in the FEIR as part of the MEPA review process and require additional analysis of these impacts. As proposed, with the lack of adequate study and analysis, the project simply cannot be approved. A Supplemental Environmental Impact Report, answering each of the concerns listed in this letter, must be required from PPNE before a certificate may be issued for this proposed project.

Project Overview

As you are aware, the PPNE project site at 100 Duchaine Boulevard in the City of New Bedford is within a business park near full capacity with existing businesses. The site comprises 71 acres and currently contains 92,220 square feet of building space. The proposed project would include 150,175 square feet of additional building space and canopy space of 75,525 square feet, in addition to a 27,500 square foot expansion to the existing glass handling building. As noted in the FEIR, this would result in a two-acre increase in impervious area at the project site, or a total of 25.8% impervious surface lot coverage. Phase 1 of the project consists of expansion of a recycled glass handling facility, an associated rail spur for disposition of the glass product, and solar panels for generation of 1.9 MW of power. The rail spur was specifically proposed for Phase 1. Phase 1 is currently proceeding under a waiver included in the Final Record of Decision.

Phase 2 of the project would consist of construction of a municipal solid waste ("MSW") and construction and demolition debris ("C&D") processing and handling facility as well as a biosolids facility. A 5,000 square foot handling building would be constructed into which material would be delivered by truck in either baled or unbaled form, as well as loose material in trucks. C&D material and bulky waste would also be accepted. MSW would be processed in an existing building to allow for extraction of recyclable materials. Materials would be stored in rail cars on a rail spur and shipped from the facility by rail, or loaded on to trucks and shipped off-site. At full capacity, PPNE claims that the facility could produce 1300 tons per day of baled residual waste and up to 50 tons per day of dried biosolids, to be shipped from the site in rail cars or trucks. Up to 250 tons per day of recycled glass would also be shipped from the site by rail. However, the discussion in the studies and supplemental information provided by PPNE include additional options and operating scenarios. It is unclear how the proponent proposes that these variations in throughput could be conditioned or enforced.

Facility Need

The City is on the record declaring that this proposed facility was not solicited, desired, or needed as part of either the City's biosolids handling and disposal plan or its solid waste transfer station plans. In New Bedford alone, just a few miles to the south of the proposed facility, are two solid waste transfer stations with a combined capacity of up to 1,774 tons of solid waste per day (the City of New Bedford Transfer Station and the New Bedford Waste Services Transfer Station). Further, the City contracts for wastewater treatment processing and biosolids management on 20-year cycles and has already addressed those needs. Therefore, this project will provide little local benefit, but the City and the neighborhood will absorb the impacts. The need for the facility and its supposed benefit to the City must be properly balanced against the potential impacts. That balance has not been demonstrated by PPNE, with the proposed project imposing a disproportionate burden upon the City and the neighborhood.

The proponent's argument in support of this facility seems to center around the state's long-term solid-waste and biosolids handling needs. If a regional facility is the true purpose, then a regional or statewide site selection process should be undertaken to determine the optimal location for the facility to minimize potential local and regional environmental and greenhouse gas impacts. Such a process would surely result in a more favorable location elsewhere in the state where there is local, as well as state and regional, need.

Environmental Justice

Inextricably related to the above conclusion that there is no demonstrated need for the facility is concern that the facility will have disproportionate impacts on already overburdened environmental justice communities. The Executive Office of Energy and Environmental Affairs ("EEA") has mapped approximately one-half of the City of New Bedford as being composed of different and overlapping environmental justice populations, with the project itself located in a designated environmental justice area. The environmental justice populations are identified by the following characteristics: (i) income; (ii) income and minority characteristics; (iii) minority status; and (iv) income, minority and English isolation status. These populations have been burdened by a history of hosting a disproportionate share of solid waste facilities to support the economy and infrastructure of Massachusetts.

There are multiple active landfills and transfer stations in and near New Bedford, in addition to historical waste sites. Until a few years ago, just 14 miles to west was the BFI/Allied Waste landfill in Fall River, accepting up to 1,950 tons of solid waste per day. As identified by DEP on its list of inactive landfills, there are three closed landfills in the City of New Bedford, including the Hanford Demolition Dump, the New Bedford Landfill, and the Liberty Street Dump, that still must be monitored for potential off-gas and contaminant migration. Further, New Bedford is home to two Superfund sites, including Sullivan's Ledge, a former quarry where hazardous materials and other

wastes were deposited, and New Bedford Harbor, where manufacturers discharged PCBs into the harbor. Sullivan's Ledge has been permanently capped, and EPA has made significant progress toward reducing the concentration of PCBs in New Bedford Harbor. Now PPNE proposes to add significantly to this current and historic mix of waste disposal and processing.

This concentration of active and historical waste disposal and processing facilities created a disproportionate burden on the residents of the City historically, which continues to this day. Many thousands of tons of solid waste are transported through the streets of the City and adjacent communities every single day. The movement of wastes is well in excess of the wastes generated in the immediate region, with the attendant truck traffic, diesel emissions, odors, noise, air emissions and safety concerns. The City and its residents currently bear these burdens at a rate that is unfair in relation to other regions of the state that do not have environmental justice populations and that do not host this high concentration of waste facilities. This new facility would only add to that disproportionate burden.

Article 97 of the Massachusetts Constitution secures for residents of the Commonwealth the right to clean air and water and to freedom from excessive and unnecessary noise. The EEA Environmental Justice Policy explains how EEA will ensure these protections for members of environmental justice populations, committing to protect the environmental rights of Massachusetts residents, particularly those in urban neighborhoods in the Commonwealth's older industrial areas. The policy notes that residents in these communities are more likely to live near sources of pollution and old abandoned contaminated sites, which can pose risks to public health and the environment. The policy specifies that increased attention should be focused on communities located in older urban areas with a legacy of environmental pollution and, importantly, commits to promoting for environmental justice populations positive economic development that is consistent with environmental protections. For any projects triggering the MEPA environmental justice thresholds, the policy commits the MEPA Office to "ensure that appropriate measures are taken by project proponents to address any potential environmental impacts the project may have on the existing [environmental justice] populations."

In a community with significant environmental justice populations, it is a fundamental requirement of the Environmental Justice Policy that EEA take necessary steps to ensure these populations are protected. To achieve the appropriate protections, this project must pause, the applicant must engage with the City, there must be increased dialogue with concerned residents, and additional protections must be incorporated to address community concerns. EEA can require this engagement as a condition to completion of the MEPA review process, and the City requests that it do so now.

Insufficient Documentation Concerning Condition of Site

PPNE has not provided sufficient data to demonstrate that changes in intended use or construction activities at the site, given the current condition of the site soil and groundwater, will not adversely impact health, safety, or the environment. The existing site conditions and historical soil contamination, both surficial and sub-surface, must be fully analyzed before any proposed alterations may be considered and new uses could be properly conditioned. The FEIR review must be predicated upon the assumption there is contamination at the site given the known historical chemical usage by any camera and film producer.

The project site was operated for a number of years by the Polaroid Corporation. That historic use includes known contamination. While a Phase I Environmental Site Assessment was conducted by Sage Environmental, no favorable data or results were provided. Online data available from DEP includes two Release Tracking Numbers ("RTNs") related to former operations on the site. RTN 4-10113 was issued in 1993 and relates to a 1986 fuel oil release at the site. Notices of Noncompliance were issued in 1995. On September 3, 1998, Parsons Infrastructure & Technology Group informed former site owner Polaroid of potential outcomes of abandonment in place of concrete bunkers classified as underground storage tanks ("USTs") at the site. RTN 4-16316 addressed a limited release of sulfuric acid at the site in 2001. An audit was completed in 2008.

The City is unaware of the resolution of these RTNs, or the possibility of other undocumented releases or discharges at the site. No documentation presented to date in the DEIR or FEIR addresses concerns regarding residual site impacts, and there has been no known comprehensive soil, groundwater, or sediment data evaluation completed for the site. The absence of such documentation, given the past history, is a serious deficiency which must be addressed by PPNE before any new use may be considered. It is simply impossible to assess the potential environmental impact of site redevelopment without a thorough assessment of this industrial site, where complex organic compounds and specialty metal salts were used in vast quantities.

List of FEIR Deficiencies

In addition to the comments provided above, and those the City previously provided in response to the DEIR, the following is a listing of deficiencies with the FEIR. While many of these concerns are interrelated, these concerns should be addressed individually by PPNE through a Supplemental EIR. If they are not properly addressed, the proposed project cannot be approved with respect to potential adverse impacts to health, safety, and the environment. Project studies will need to clearly demonstrate that there is no undue burden placed upon an Environmental Justice area. Particularly, PPNE will need to properly explore the combined impacts upon health, safety, and the environment from existing facilities throughout the City and these two new co-located facilities proposed on the project site.

1. **The MEPA Environmental Justice Policy Requires an Enhanced Analysis of Impacts.** The proposed PPNE sludge facility triggered MEPA review because it exceeds the wastewater review threshold at 301 CMR 11.03 (5)(b)(5). Under the MEPA Environmental Justice Policy, a project exceeding a mandatory EIR threshold for solid waste or wastewater must be subject to an enhanced analysis of impacts, including but not limited to a mitigation measures assessment, I/I reduction assessment, and an analysis of any degradation of the stressed receiving water body, parts of which are still closed to shellfish harvesting because of the City's existing disproportionate burden of environmental pollution. The project simply cannot be considered without enhanced impact analyses.

2. **Added PFAS to the City's Wastewater Treatment System Must be Evaluated**. A major concern not addressed in the DEIR and given inadequate attention in the FEIR is the potential for polyfluoroalkyl substance ("PFAS") contamination present in the incoming waste materials. PFAS compounds have very low exposure thresholds because they do not break down easily inside or outside the human body, and the cumulative effect can be harmful to human health. PFAS compounds will be present in biosolids. PFAS compounds in leachate from the dewatering or sludge drying processes cannot be eliminated because of their high thermal destruction temperature. Thus, any wastewater created in processing, or cleaning, will transfer these compounds into the City's wastewater treatment system. The expected loading or partitioning must be explored and quantified, and the potential impact to the City must be explored, or the project simply cannot move forward. Further, PPNE does not evaluate the implications of being a Significant Categorical Industrial User. Without such evaluation, the project cannot be legally approved, nor approved with conditions.

3. **PPNE Wrongly Suggests a "Wait and See" PFAS Approach is Sufficient.** PPNE suggests that DEP is still developing regulations/restrictions for PFAS in biosolids and associated wastewater. PPNE states that it will develop the design of the biosolids processing facility in compliance with all new regulations that come into effect. Regulations are not needed to assess the potential exposure and risk from these compounds; therefore, at a minimum, these potential exposures and risks should be evaluated and predicted at the MEPA level before approval with PFAS conditions can even be considered. Without a full evaluation of proposed PFAS treatment and mitigation measures in the context of discharge to municipal wastewater treatment facilities, a substantial risk and cost liability burden is placed on the City. This "wait and see" approach cannot result in a favorable project finding.

4. **Added PFAS in the Air Must be Properly Mitigated.** The temperatures in a sludge drier are insufficient to break down any vaporized or adsorbed PFAS compounds. These compounds will be emitted from the drier and will touch down via standard dispersion characteristics or via wet deposition as the exhaust cools in the atmosphere. The emission and potential inhalation exposure must be explored, and an

assessment of this risk must be combined with the study of potential risks from other exposure pathways.

5. **Added PFAS to the Groundwater Must be Properly Mitigated.**
As mentioned above, a dryer does not have sufficient thermal energy to break down PFAS compounds, so any airborne PFAS will pass through a drier exhaust and settle out nearby via wet or dry deposition. It is notable that the site property is located on a potentially productive aquifer, which would be subject to PFAS contamination from the proposed project. Since PFAS compounds do not break down naturally and are very soluble in water, a large fraction would likely dissolve into the ground and make their way to groundwater. Further, any PFAS compounds that leach from the biosolids or solid waste materials on-site could be added to the surface water and eventually into the groundwater. It is imperative that potential groundwater exposure pathways be evaluated and that the potential for additional PFAS in the area be properly studied.

6. **Analysis of Potential Existing Background PFAS Must be Undertaken Before Any New Use May be Considered that Would Add to the Existing Background Conditions.**
PFAS compounds are not a single compound but a family of compounds that were created to protect and shield materials from water exposure. Polaroid made use of such chemicals when it operated at the site. In fact a former Polaroid employee is quoted as saying, "Polaroid film is, in my estimation, the world's most chemically complex completely man-made product ever" and included "brand new chemicals that have never been used before."[1] PFAS compounds were used in just about everything during Polaroid's peak popularity. Potential existing contamination by PFAS and other compounds at the project site must be fully explored by any potential new user, prior to redevelopment. Since this project could add more contaminants to a site that already is compromised and is located adjacent to a residential neighborhood, PPNE must be completely thorough and transparent in this analysis before MEPA approval can be considered.

7. **The Wastewater Analyses Erroneously Assume Loading and Flows Based Upon Treatment of City of New Bedford Biosolids.**
The City takes exception to any assumption that this facility will treat the City's biosolids. The City is under contract elsewhere and has no written agreement with PPNE. As a result, PPNE's wastewater, leachate, and filtrate loadings assumptions in its analyses are flawed. These studies cannot be considered valid and must be redone with the maximum potential for flows and loading based upon unknown and uncommitted sources.

[1] https://www.bostonglobe.com/lifestyle/2015/08/23/herchen/h0jiY73U0lEfdHES5aXopO/story.html

8. **With Missing and Erroneous Filtrate Composition, Dryer Condensate Composition, Blowdown Composition, Washdown Composition, Loadings, and Water Quality Parameters Provided, PPNE Cannot Discharge to the City.**
Without inclusion of loading and composition data or assumptions, and analyses of how this wastewater stream will not adversely impact the existing wastewater plant, PPNE cannot assume that it can discharge into the City's wastewater treatment plant. Further, since the traffic studies do not consider this waste stream being shipped elsewhere for treatment, this project cannot be approved as proposed.

9. **A Commitment to Pay the City for the Treatment of All Flows Does Not Eliminate Potential Wastewater Treatment Fatal Flaws.**
PPNE would be required to pay for the facility discharge into the City's wastewater treatment plant in the same manner as any industrial operator. However, the project cannot be deemed viable, and therefore cannot be approved or conditioned, without the proper wastewater treatment plant loading and impact assessment. With little loading information provided to determine whether PPNE would create EPA "Interference" or "Pass Through" concerns, it is impossible to know whether its discharge would create violations at the treatment plant.

10. **Discussing Dry Tons of Biosolids Does Not Address the Potential Adverse Impacts from the Amount of Materials in All Stages of Receiving, Processing, Packaging, Emissions, and Hauling.**
The purpose of a drier is to transform a wetter material into a drier product. While PPNE characterizes its operations and drying efficiency on a "dry ton" basis with respect to heat demand, the City is very concerned that the evaluation of adverse impacts is based upon a maximum throughput potential of 50 tons, since the incoming material can be anywhere from three to twenty times more than the mere "dry tons". The City previously noted this concern in its prior comment letter to the MEPA office. The City remains very concerned that the City and MEPA cannot fully understand the full scope and magnitude of the number of trucks, size of facility, and overall impacts with analyses and studies based upon dry tonnage.

11. **The Default Traffic Impact Must be Considered Significant, Meaning Typical "Screening Thresholds" for Level of Service, Accidents, and Traffic Noises Cannot be Applied to Two Co-located Facilities of These Sizes.**
The City is concerned with the traffic impacts from each of the two facilities proposed for this site. Negative traffic impacts increase exponentially with two regionally sized wastewater and solid waste facilities co-located in this one location. The size of these facilities create Level of Service (LOS) concerns in many areas, especially at times of congestion and with normal traffic avoidance tactics. Based upon existing traffic conditions and the size of the proposed facilities, MEPA should adopt the premise that there will be a significant increase in adverse impacts based on the more intensive uses proposed at the site. The traffic study provided is inadequate in that it dismisses intersections globally based upon

a typical screening threshold. Additional analysis must be required as part of the MEPA office review.

12. **Available Accident Data Indicating that the Baseline Accident Rate is Above Average is Ignored.**
The crash history presented in the Updated Traffic Impact Study included as Appendix 13 indicates that the intersection of Theodore Rice Boulevard and Duchaine Boulevard experiences a crash rate that currently exceeds both the District and Statewide crash rates for unsignalized intersections. Given the unique geometry of this intersection, the proposed project will likely create a significant increase in truck traffic using the westbound left turn movement and northbound right turn movement during both the AM and PM peak hours. Furthermore, given that there are two co-located facilities, there may be more than one AM and PM peak. PPNE should provide additional analysis regarding the safety of this unique intersection as a result of the increased traffic generated by the proposed project

13. **Previously Expressed City Concerns and Readily Available Accident Data from Individual Crashes Are Ignored.**
The City had recommended that PPNE obtain crash reports for crashes at the Theodore Rice Boulevard-Duchaine Boulevard intersection from the local Police Department in order to provide more information on the nature of the crashes. The City also asked that PPNE consider performing a Road Safety Audit with the City to determine if there is an existing issue with the current geometry, lighting, signage, or pavement markings that might be addressed as part of this project to improve safety at this location. While PPNE provided a new study updating traffic volumes for 2020, it is recommended that the crash data also be updated to reflect the most recent five years. An Audit may shed light on the higher-than-expected crash rate at this intersection. It was noted that the fatality that occurred is suspected to have resulted from a street race, but no source was cited for this speculation. There is also a known pedestrian injury which is not discussed in the FEIR. While traffic and traffic improvements are ultimately local issues, this intersection is currently a potential fatal flaw that must be addressed at the MEPA level. Without true fatal flaw traffic analyses, the project cannot be approved at the state level. The inadequate traffic review must be updated to address specific issues from two new co-located facilities and the significantly higher existing industrial traffic percentage in this area.

14. **Existing Traffic Assessment Demonstrates a Level of Service Fatal Flaw.**
The Capacity Analysis Results tables have been updated to include more information on actual delay values; however, once the delay values at the Route 140 ramps exceed 500 seconds, it appears the information was not deemed significant and was not shown. A comparison of the increase in delay between 2027 No-Build and Build cannot be performed without referring to the Synchro Analysis in the Appendix. Upon review of the Synchro Analysis, it appears that some of the movements at the Route 140 ramps will experience an

increase in delay of more than 100 seconds at one location and over 3000 seconds at another, which would be considered significant impacts of the project. This obvious stress on the traffic system will compromise public safety, and so adequate review and mitigation strategy are necessary.

15. **Current Roadway Layout, Markings, and Signage is not Adequate for any Increased Traffic.**
The intersection of the existing site driveway and Duchaine Boulevard currently lacks adequate travel lane markings and signage. The fact that this basic concern is not identified or addressed indicates that there was insufficient effort applied to the traffic study to date, and so needs to be completely reassessed. This is especially necessary given the impacts from two regionally-sized facilities, with trucks, trains, and passenger cars traversing the two locations on-site, and with different needs and objectives occurring simultaneously. This proposed project will add further confusion in the area. With no plan offered to address, fund, and improve the roadways in this area as part of the PPNE traffic mitigation plan, the project cannot be properly conditioned or approved.

16. **Proposed Truck Routes and Actual Truck Routes May Differ; Combined Traffic Impacts Must be Properly Assessed.**
Further examination and analysis of the expected truck routes must be provided by PPNE regarding all potential traffic patterns near residences or other sensitive receptors. It is insufficient to compartmentalize potential traffic impacts from the two stationary facility operations. The potential combined impacts of traffic from both facilities, as well as the cumulative impacts from the stationary and on-site facilities, and from on-road and non-road equipment, must be examined. PPNE makes a proposal in the draft Section 61 finding (mitigation commitment) to try to enforce truck routes by contract, which would be inadequate and does not result in a workable or sustainable solution.. To properly assess the potential impacts from two large regional projects proposed in a single trucking endpoint, all potential truck routes should be evaluated at the MEPA level for compliance with any DEP policies, and to determine the potential for adverse impacts to health safety, or the environment.

17. **No Rational Basis has been Provided for Trucking Hours outside of Normal Weekday Business Hours, Which Operations Will Have a Disproportionate Impact on Local Residents.**
Even if Truck Routes can be reasonably enforced, traffic from both facilities will result in noticeable impacts to nearby residents and sensitive receptors. Further evaluation of truck routes is necessary before potential hauling hours for the two facilities can even begin to be discussed. While most facilities would like the most flexibility in operations, PPNE's intention to deliver sludge to the facility seven days a week, 5 AM to 9 PM from Monday through Saturday, 6 AM to 6 PM on Sundays, has not been properly examined or justified.

Biosolids and trash do not have any specific weekend or evening hauling requirements. Many such facilities have significantly narrower windows of operation. PPNE has not justified why these atypical non-business hours are necessary in comparison to the added impact these hours will cause the City and its residents.

18. **Waste Handling Operations and Storage Quantities are not Adequately Defined to Prevent Adverse Operating Conditions.**
PPNE indicates waste receiving, tipping, handling, and loading will occur in an enclosed area; however, the handling of the waste material at the facility before it is placed inside requires further analysis. Waste must be placed somewhere, and then be moved, packaged, and ultimately removed. A throughput of 1,300 tons per day is a significant quantity of material at the facility that must arrive, be processed, and packed for outbound shipment (via either rail-car or truck). Each day approximately 26 million pounds of trash, equivalent to approximately 120,000 bags of household trash (or other materials) would pass through the facility. PPNE does not fully commit to a maximum allowable residual waste left at the end of each processing day, whether it is baled or freshly tipped waste. The project simply cannot proceed without definition of basic data assumptions that impact waste movement patterns, timing and duration of open doors, fugitive emissions, elevated emissions from aged waste, and the ability to deal with upset conditions. With the equivalent of 120,000 bags worth of trash coming through the facility a day, PPNE must provide a contingency plan to address any outbound issue or concern which may delay or prevent off-site transport, and how such events would impact the undefined quantity of material present in the MSW operations area. The proposed project simply cannot be assessed without this most basic waste assumption included in any PPNE supplemental EIR study.

19. **The MEPA Process is Not the Proper Venue to Review the Complex Air Quality Impact Potential from a Combined Sludge Drier and Solid Waste Transfer Station.**
In Section 5.10 of the FEIR, the applicability section suggests that the proposed facility may be subject to DEP Air Plan approval. This project must be subject to a permit application, submission, review, and conditioning due to emissions for the following reasons:

    a. Odor can cause a condition of air pollution pursuant to 310 CMR 7.00, Air Pollution Control. While there is no numerical threshold for permitting, a facility processing 1,300 tons of waste and hundreds of tons of wet sludge will likely trigger an Air Plan Approval review requirement for odor nuisance alone.
    b. Air toxics will be emitted in the drier process that, while not triggering a weight per year threshold, will be a local health concern.
    c. Noise will be emitted from the combined facilities, from on-site and off-site equipment, and from potential "Build versus No Build" traffic increases from trucks, train engines, rail cars, non-road equipment operating outside and inside buildings

with open doors, large odor control system fans and exhausts, and typical vehicular traffic.

d. Dust from the facilities can cause a condition of air pollution from both a respirable basis and from a nuisance basis. The proposed facilities will have combined dust potential from solid waste and wastewater biosolids receiving, processing, packaging and hauling, and as a result, a non-major Air Plan approval is required to properly define and explain how the nuisance potential for dust will be properly addressed.
e. The site location is depressed in elevation with respect to the surrounding neighborhood; therefore, the complex terrain should be addressed in the proper combined impact assessment.
f. The City has many other industrial sites, requiring proper analysis of background conditions. The combined facilities will result in incremental emissions increases in addition to those of other historical or current uses on-site or in the area.
g. PPNE made many assumptions in its studies that would typically be reviewed in a protocol with DEP as part of the permitting process.
h. The proposed facility is in a potential Environmental Justice Area, and therefore should be carefully examined and scrutinized. This is simply not a project that can skip the Air Plan Application and Review Process involving appropriate officials at DEP.

20. **All Studies or Evaluations Need to Consider Both Facilities, Stationary and Mobile Sources, and Non-Road and On-Road Sources.**
The project, composed of two facilities, must be reviewed and permitted as a whole, and not with respect to individual facility aspects. While individual combustion sources operating independently may be exempt from permitting, such a perspective is not sufficient to justify a limited or no Air Plan application. Furthermore, the result of these combustion sources providing heat to buildings and dryers creates additional air contaminants by increasing the vapor pressure and through separate fugitive, point, area, and volume releases of air pollutants or air toxics. Any assessment of permitting applicability, or review of potential impacts, must consider all emissions and releases from the two facilities acting together.

21. **The Odor Control Technology Discussion Does Not Justify the Atypically High Percentage Removals Provided.**
The odor control technologies proposed have not been fully described. The odor destruction/removal percentages presented would suggest that odor is simply eliminated, which is contrary to how odor control actually works. Converting odorous compounds to less odorous compounds in an effort to limit odors will still result in the presence of odors. It is unrealistic to assume a very high blanket removal of total odor from the technologies presented. The removal percentages and justifications should be discussed along with other options in a formal Best Available Control Technologies analysis.

22. **All Potential Waste Odor Sources are not Included.**
While PPNE provides an odor analysis, it is unclear what sources are considered beyond those associated with waste bags breaking open. Clearly, the quantity of waste and the age of waste transported to and stored on-site will factor into the potential odor emissions. These concerns are not addressed in the application. All potential odor emission sources should be formerly identified and the control technologies fully analyzed. As a result, the project currently cannot be properly assessed or conditioned with respect to odor control.

23. **Improper Capture Assumptions Result in Underestimating Fugitive Odor and Dust Emissions**.
PPNE provides a calculation that suggests with three doors open there is sufficient airflow to capture 90% of the odor and other emissions. The velocity through the open doors would be less than 1 mile per hour with a conservative assumption that all intake air came in through these doors. This general assumption is fatally flawed in that it drastically underestimates potential odor capture from this project as proposed. Any fugitive emissions occur with minimal to no dispersion potential, and 0% control efficiency. Reasonable fugitive emissions assumptions based upon the specific facility ventilation parameters need to be developed before an odor or dust assessment can be updated properly.

24. **A Total Odor Assessment is Intended to Examine Combined Odor from Multiple Facilities.**
PPNE analyzed odor from the two co-located facilities independently. The rationale provided was that the facilities will emit "different odors". It does not matter to an abutter whether an offensive odor has the characteristics of MSW or biosolids, trucks or waste stored outdoors. To someone experiencing a malodor, all odor experiences combine and count against any abutter's tolerance for odor as one net experience. In fact, the metric "total odor" or "D/T" is used specifically to combine different odors and evaluated the total or combined impact. The only way to properly assess odor is to "draw a box" around all sources on-site and off-site that currently add, or would add, additional odor potential, and assess the total odor potential from all combined sources. The independent odor studies are meaningless in assessing the potential for adverse impacts from the project as proposed.

25. **Noise is Unwanted Sound and its Nuisance Potential can Only be Assessed by Exploring the Incremental Change in Total Combined Sound for all Sources.**
PPNE analyzed noise from the stationary sources and mobile sources independently. The analysis should include all sources on-site and examine the total sound potential from all combined sources offsite, including backup beepers. A facility-wide sound study can be completed many different ways. The approach and assumptions in such a study should be formerly proposed to DEP as part of the permitting process prior to undertaking the study.

26. **The Background Sound Assumption Needs to be Protective of all Potential Time Periods.**
It is unclear why PPNE did not use the lowest measured background sound over the long-term monitoring period to determine noise impacts from the combined facilities. One week of sound monitoring merely provides a snapshot of sound, as there are likely days throughout the year when the sound is higher and lower than this data set suggests. An examination of the increase in total sound during the quietest time periods, which will be apparent to the residents, will likely indicate that the combined sound from the proposed project would exceed the DEP allowable incremental threshold. The noise analysis needs to consider the potential impact to abutters or neighbors with the lowest known background conditions.

27. **Dust from all Sources Impact Should be Analyzed Cumulatively.**
Again, as with the other air quality or nuisance parameters, the application should consider the cumulative impact from all dust sources on-site and examine the total dust potential from all combined sources offsite, including existing and new stationary and mobile on-road and off-road emissions. The facility-wide dust study should be formally proposed in a protocol to DEP as part of an air permitting process.

28. **Wetlands Spatial Impact Area Triggers Other Permit Requirements.**
The Order of Conditions for the project lists the impacts for the project at 4,095 square feet ("SF") permanent and 1,209 SF temporary bordering vegetated wetland ("BVW") impacts (total 5,304 SF of impact). At greater than 5,000 SF of impacts to BVW, typically both a 401 Water Quality Certificate and an Army Corps of Engineers Pre-Constriction Permit are triggered. No evidence has been presented of such permitting. PPNE must be required to provide that documentation for consideration and comment as part of this review process.

29. **Increased Rainfall Could Impact Stormwater Management.**
PPNE must also be required to evaluate stormwater management resilience in light of projected increases in springtime and annual total precipitation and intensity.

30. **The New Substantial Wetland Crossing Structure Proposed Requires Public Input.** The stream crossing has been revised from a culvert to a bridge. While this may be an appropriate proposal revision, PPNE should be required to conclude whether a Chapter 91 License is necessary for the stream crossing and, if so, there should be an analysis of this issue in the MEPA process so that public comment can be solicited and incorporated.

31. **Sludge Drying Greenhouse Gases (GHGs) can be Reduced via Heat Recovery.**
The GHG emission potential from sludge drying is directly related to the combustion of fuel to provide the energy necessary to achieve the desired drying temperature, and then to provide the heat of evaporation to vaporize moisture in the sludge. PPNE's GHG analysis addressing sludge processing was limited to energy use associated with lighting, ventilation

and heating. The energy required to reach temperature can be reduced via heat recovery. The analysis indicates that PPNE was considering gasification and heat recovery, and might install these options in the future, but was not doing so now. However, PPNE provided no GHG benefits analysis regarding inclusion of heat recovery as a design requirement. The MEPA GHG policy requires consideration of project alternatives with greater GHG emissions-related mitigation than the preferred option. A mitigation analysis must be included in this MEPA process.

32. **Sludge Drying Greenhouse Gases (GHGs) can be Reduced via Gasification.**
The GHG emission potential from sludge drying is directly related to the combustion of anthropogenic fuel to provide the energy necessary for drying. One way to reduce the fuel demand is to gasify or digest the natural sludge material to pull energy or heat value out of the sludge itself to offset some of the anthropogenic fuel demand and thereby reduce the GHG impacts. Again, the analysis indicates that PPNE was considering gasification and heat recovery, and might install these options in the future, but was not doing so now. However, PPNE provided no GHG benefits analysis regarding inclusion of gasification as a design requirement. The MEPA GHG policy requires the consideration of project alternatives with greater GHG emissions-related mitigation than the preferred option. A mitigation analysis must be included in this MEPA process.

33. **Sludge Drying is a Huge Contributor to Greenhouse Gases (GHGs).**
PPNE should provide a GHG analysis that explores the cradle-to-grave GHG potential from the proposed sludge drying process, which is an energy intensive process. Other biosolids stabilization alternatives that may create significantly less GHG potential impact must be considered.

34. **The City's GHG Commitment to its Residents is Contradicted by this Proposed Facility.**
The City strongly disagrees with PPNE's position that GHG reduction is a global rather than a local issue. While the impact from not reducing GHG emissions in local communities will be felt on a global basis, the mechanisms for GHG reductions can only be accomplished locally, on a site-by-site, and project-by-project basis. The City considers GHG emissions reduction to be a local responsibility and its Climate Action and Resilience Plan commits to net zero Green House Gas emissions from the City by 2050. A demonstration must be made to show that this commitment can still be achieved with this project added to the City's existing baseline GHG emissions.

35. **Construction Impact Assessments are Missing so the Proposed Project Studies and Information Provided are Incomplete.**
PPNE does not provide a description of how construction period impacts will be controlled. No details are provided regarding means and mechanisms to be used to protect abutting

parcels and resource areas from noise, air quality impacts, dust, or erosion. PPNE must be required to provide a detailed development impact statement and associated construction schedule and demolition plan outlining mitigations for noise, odor, and air quality. PPNE must be required to provide more detail in these areas and provide a Stormwater Pollution Prevention Plan and a site-specific construction stormwater management plan outlining all Best Management Practices from the DEP Stormwater Handbook and the Massachusetts Erosion and Sediment Control Guidelines and how they will be utilized on a project specific level.

The City reiterates the concerns raised in its letter of comment on the project DEIR and repeats its assertion that PPNE has not sufficiently estimated the facility's potential impacts on the City. PPNE has not provided the necessary studies and analyses to ensure that the residents of New Bedford will be adequately protected with the addition of this combined facility within a designated Environmental Justice area, and within a City that does not need or desire these facilities or the services PPNE proposes to provide.

PPNE's incomplete and inadequately substantiated assessments are problematic. PPNE's permitting approach compartmentalizes the project, so as to view each of the co-located facilities individually, creating a false demonstration of health, safety, and environmental compliance. The combined impact of the two proposed facilities has never been evaluated, and therefore the co-located facilities simply cannot be approved or conditioned as proposed, in a reasonable or responsible manner.

It remains the City's position that this project is not in the best interest of the residents of New Bedford. The City stands strongly opposed to this project and the significant negative impacts it will bring to the City and the region.

Your attention to this important matter is greatly appreciated.

Very truly yours,

Mark R. Reich

MRR/cqm
cc: Mayor Mitchell
City Council
Senator Mark Montigny
Representative Antonio Cabral
Representative Christopher Hendricks
Representative Christopher Markey
Representative Paul Schmid
Representative William Straus

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March 26, 2021

Kathleen A. Theoharides
Secretary of Environment and Energy
Executive Office of Energy &
Environmental Affairs
100 Cambridge Street, Suite 900,
ATTN: MEPA Office,
Boston, MA 02114

RE: FEIR Review EOEEA #15990
NEW BEDFORD. Parallel Products of New England (PPNE) at 100 Duchaine Boulevard

Dear Secretary Theoharides,

The Southeast Regional Office of the Department of Environmental Protection (MassDEP) has reviewed the Final Environmental Impact Report (FEIR) for the Parallel Products of New England (PPNE) Project at 100 Duchaine Boulevard, New Bedford, Massachusetts (EOEEA # 15990). The Project Proponent provides the following information for the Project:

The Site is an industrially zoned, approximately 71-acre parcel, located within the New Bedford Business Park. The Site location and property boundaries are shown in Figure 1 using an aerial view. The Site was previously developed by Polaroid and already includes access roads, parking areas, and various buildings. Much of the existing infrastructure will be used in developing the proposed Project. New buildings will be constructed for glass processing, municipal solid waste (MSW) and construction and demolition (C&D) waste tipping, and biosolids drying.

PPNE is proposing to develop the Site in two phases. Phase 1 construction will consist of the construction of a glass processing building and equipment and construction of a rail sidetrack from the main line rail to the 100 Duchaine Boulevard Site. The glass processing area will consist of a 27,500 sf building to house the processing equipment.

Phase 2 of the Project includes the construction of a municipal solid waste (MSW) processing/handling facility and the biosolids processing facility. Currently, significant quantities of MSW and biosolids are being trucked out of state for treatment and disposal. PPNE will construct a facility to collect and process this material in Massachusetts and then ship the residual waste out of state by rail for disposal.

The processing proposed will also significantly increase transportation efficiencies and reduce greenhouse gas emissions. The proposed solid waste handling facility will accept up to 1,500 tons per

day of MSW delivered to the facility by truck. The proposed facility will process the MSW to extract recyclable material from the MSW. PPNE expects to recover and recycle approximately 20% of the MSW received, which is supports the Massachusetts solid Waste Master Plan and is state-of-the-art for the Commonwealth. The non-recyclable fraction of the MSW along with the C&D residuals/bulky waste will be then loaded in rail cars for transport to out of state disposal sites, primarily landfills.

Bureau of Water Resources Comments

Wetlands. The FEIR addresses the Wetlands Program comments.

Waterways. Chapter 91 authorization is not required because the intermittent stream crossing is not considered a navigable waterway pursuant to the Waterways Regulations at 310 CMR 9.04(1)(e).

Underground Injection Control. The Proponent acknowledges the Project is subject to the requirements of the Underground Injection Program.

Wastewater Residuals. At the time of submittal of the FEIR, the Proponent is assuming that the wastewater residuals (biosolids) will be classified as a solid waste and disposed of at a permitted, out of state solid waste facility (personal communication with Gregory Wirsen, (Green Seal Environmental, Inc.). In the future, should the wastewater residuals be disposed, treated or beneficially reused at a facility that can only use or accept wastewater residuals (not a solid waste), the Proponent will be required to obtain a Certified Wastewater Treatment Operator at the appropriate grade to maintain continuity with state and federal wastewater regulations so that the material can be classified as a wastewater residual. This Certified Wastewater Treatment Operator may be a different grade or classification than that required by the Project's New Bedford Industrial Pretreatment Program Permit. To maintain the classification as a wastewater residual, the material cannot be mixed with a solid waste. This possibility will be addressed during the Solid Waste permitting process.

Bureau of Waste Site Cleanup Comments

Based upon the information provided, the Bureau of Waste Site Cleanup (BWSC) searched its databases for disposal sites and release notifications that have occurred at or might impact the proposed Project area. A disposal site is a location where there has been a release to the environment of oil and/or hazardous material that is regulated under M.G.L. c. 21E, and the Massachusetts Contingency Plan [MCP – 310 CMR 40.0000].

There are no listed MCP disposal sites located at or in the vicinity of the site that would appear to impact the proposed Project area. Interested parties may view a map showing the location of BWSC disposal sites using the MassGIS data viewer (Oliver) at: http://maps.massgis.state.ma.us/map_ol/oliver.php Under "Available Data Layers" select "Regulated Areas", and then "DEP Tier Classified 21E Sites". MCP reports and the compliance status of specific disposal sites may be viewed using the BWSC Waste Sites/Reportable Release Lookup at: https://eeaonline.eea.state.ma.us/portal#!/search/wastesite

The Project Proponent is advised that if oil and/or hazardous material are identified during the implementation of this Project, notification pursuant to the Massachusetts Contingency Plan (310 CMR 40.0000) must be made to MassDEP, if necessary. A Licensed Site Professional (LSP) should be retained to determine if notification is required and, if need be, to render appropriate opinions. The LSP may evaluate whether risk reduction measures are necessary if contamination is present. The BWSC may be contacted for guidance if questions arise regarding cleanup

Bureau and Air and Waste Comments

Solid Waste. MassDEP Solid Waste staff (Solid Waste) has reviewed the Final Environmental Impact Report ("FEIR") for the Parallel Products of New England Project at 100 Duchaine Blvd in New Bedford ("Project" or "Site" or "facility") EEA No. 15990.

Solid Waste Comments:

1. Based on its review of the FEIR for the Parallel Products of New England Project at 100 Duchaine Blvd in New, EEA No. 15990, the Massachusetts Department of Environmental Protection (MassDEP) Solid Waste Management Section has determined that the Proponent has adequately addressed its comments previously provided in Draft Environmental Impact Report. Additional detail will be required in the site assignment permit application and authorization to construct permit application should the Project site receive a positive site determination from the MassDEP and be granted a site assignment by the City of New Bedford Board of Health.

2. Solid Waste Permitting: The proposed Project will require the following solid waste permits:
   - Site Suitability Report for a New Site Assignment (BWP SW 01);
   - Authorization to Construct a Large Handling Facility (BWP SW 05); and
   - Authorization to Operate a Large Handling Facility (BWP SW 06).

3. The site assignment process is meant to determine if a parcel of land is a suitable location for a solid waste management facility. Anyone proposing to build a new solid waste landfill, combustion facility or transfer station is required to submit a site suitability report to MassDEP which reviews the report to determine whether the parcel of land meets specific criteria for use as the site for a solid waste management facility. The Agency forwards its findings to the local Board of Health, which then must decide whether or not to issue a Site Assignment for the facility being proposed. The Site Suitability Report for a New Site Assignment (BWP SW 01) is unlike all other MassDEP solid waste permits, in that MassDEP does not make the decision whether to site assign or not site assign a property. Ultimately the local Board of Health will decide whether to approve or deny a Site Assignment for a proposed facility.

4. MassDEP seeks input from the public - including individuals, communities, and groups - before it issues certain types of solid waste management permits or approvals. The following permits or decisions have public comment periods:
   - BWP SW 01 applications: There is a 21-day public comment period.
   - Board of Health Site Assignment Decisions: The Board of Health must hold a public hearing in accordance with 310 CMR 16.20.
   - BWP SW 05 applications: There is a minimum 30-day public comment period.
   - BWP SW 06 applications: Public comments are not required prior to issuing a decision, but MassDEP may issue provisional approval with a deferred effective date to allow for 21-day public notice/comment period.

   All solid waste applications may be reviewed online at: https://eeaonline.eea.state.ma.us/EEA/PublicApp/.

   See the following link to learn more about how to participate in MassDEP solid waste permitting decisions: https://www.mass.gov/service-details/how-to-participate-in-massdep-solid-waste-permitting-decisions

5. Outreach: MassDEP acknowledges the outreach performed by the Proponent which included the following:
    - Distribution of fact sheets and comment cards with pre-paid postage.
    - Public meetings at various locations.
    - Public meetings advertised on radio, social media, and newspapers including The Standard Times, Portuguese Times, and New Bedford Guide; and
    - Outreach to community leaders identified by MEPA.

    MassDEP recommends the Proponent continue the same level of outreach throughout the permitting process.

    If any future public meetings will be held virtually due to COVID-19, MassDEP recommends that the Proponent evaluate how a virtual format could impact public participation with additional consideration to residents who may not have access to a computer or broadband internet.

    Additionally, MassDEP recommends that Project-related air pollution and environmental impact information be shared with EJ communities in alternative format (translation, interpreter services) if applicable. This information should be provided using terms that are easily understood to ensure the community understands the Project, its potential impacts, and can provide meaningful input.

6. Pre-application Meeting: MassDEP will require the Proponent to attend a pre-application meeting prior to submission of the BWP SW 01 application to discuss comments received from the public on the FEIR and to ensure the facility design and operational measures will comply with solid waste regulations and applicable policies with an emphasis on odor, noise, and traffic mitigation. These measures may include facility changes such as negative air pressure, carbon filters, neutralization agents, and operational changes such as door opening and closing, facility cleaning regiment, waste load management, vehicle queuing, and MSW/C&D/biosolid storage. For the Proponent to demonstrate the facility operations will not result in a nuisance conditions, MassDEP reserves the right to require additional measures such as sound monitoring and odor surveys to demonstrate compliance with site assignment requirement to prevent and control nuisances at 310 CMR 16.40 and permit and operational requirement 310 CMR 19.000. Information pertaining to this requirement is available at: https://www.mass.gov/how-to/sw-01-38-site-suitability-report.

7. Biosolid Maximum Daily Tonnage: The FEIR states that "The facility will accept and process up to a maximum of 50 dry tons per day of biosolids". The Proponent should be aware that any future solid waste permits will establish a maximum daily tonnage rate based on inbound "wet" tons and not on outbound "dry" tons. The Proponent should propose a biosolid maximum daily tonnage rate before commencing solid waste permitting. It should be noted that the Traffic Impact Study (TIS) assumed that the proposed facility would accept 400 tons per day of biosolids.

8. Construction and Demolition Debris: The FEIR states that the proposed facility intends to accept Category 2 C&D (C&D processing residuals) and Category 3 C&D (bulky waste). The Proponent should be aware that MassDEP's Construction & Demolition (C&D) Minimum Performance Standard (MPS) applies to permitted C&D Processors and Large

C&D Transfer Stations (together referred to as C&D Handling Facilities) facilities. For more information about the C&D Minimum Performance Standard, please refer to the following:

- C&D Minimum Performance Standard: https://www.mass.gov/doc/minimum-performance-standard-for-construction-demolition-handling-facilities/download
- C&D Minimum Performance Standard FAQs: https://www.mass.gov/doc/frequently-asked-questions-faq-minimum-performance-standard-for-cd-handling-facilities/download

9. Noise: In general, the Proponent has addressed MassDEP's comments previously provided in Draft Environmental Impact Report regarding noise however, additional details will be required in MassDEP permit application submittals. The Proponent incorporated the following changes to the sound study and/or to the design of the proposed facility in response to MassDEP's comments on the DEIR:
    - The revised sound study in the FEIR evaluated short duration sounds including back-up alarms, idling locomotive, and railcar couplings. The revised sound study did not evaluate dump truck tailgates, however, MassDEP requires all solid waste facilities to implement Best Management Practices (BMPs) to prevent truck tailgates from slamming.
    - The revised sound study established background sound levels based on the lowest hourly L_{90} sound level data point rather than the average of the daily lowest hourly L_{90} sound levels. (Note, see comment 9.d below for a related comment)
    - The proposed biosolids building was increased in size such that all truck backing up to deliver biosolids will be within an enclosed building.
    - The noise wall was increased in size to minimize noise impacts from rail operations.
    - The proposed glass building extension was revised such that rail cars can be loaded with glass within an enclosed building.

10. The Proponent concluded that the revised sound study "documented that sound impacts will be avoided, minimized, and mitigated to the extent feasible." Based on a review of the revised sound study, MassDEP finds that there is not sufficient information to determine if sound impacts will be avoided, minimized, and mitigated to the extent feasible. MassDEP will require the Proponent to attend a pre-application meeting prior to submission of the BWP SW 01 application to discuss revisions to the sound study to address the following:

    a) The revised sound study in the FEIR evaluated short duration sounds or "intermittent sound" in addition to evaluating continuous sound sources. The revised sound study evaluated the following intermittent sound sources: back-up alarms, idling locomotive, and railcar couplings. The revised sound study evaluated the following continuous sound sources: two (2) biosolids rooftop fans with fan silencers; one (1) biofilter fan with 5 dBA additional reduction; one (1) biofilter stack with silencer; four (4) cooling towers with 5 dBA additional reduction; seven (7) 25,000 CFM rooftop exhaust fans with 5 dBA additional reduction; MSW handling with the MSW building with (three 3) open bay doors on the west side of the building and one (1) open railcar loading bay door; one (1) baghouse exhaust for the glass building with 2 dBA additional reduction; and one (1) ventilation opening for the baghouse exhaust.

    The revised sound study evaluated the impact of intermittent sound sources separately and independently from the continuous sound sources. The evaluation for

continuous sound sources predicted a maximum 8 dBA increase above background sound levels. The evaluation for intermittent sound sources for the idling locomotive predicted a maximum 10 dBA increase over background sound levels. The Proponent did not provide adequate information to justify the decision to evaluate continuous sound sources and intermittent sound sources separately. During MassDEP permitting, the Proponent must demonstrate that the sound study evaluates the cumulative noise impacts from the proposed Project.

b) The revised sound study evaluated the Project-related sound impacts at the nearest inhabited building(s). MassDEP will require the Proponent to evaluate the Project-related sound impacts at both the nearest inhabited building(s) and at the property line.

c) The revised sound study predicted Project-related sound impacts using "only whole numbers" and indicated that "calculations were performed using values with additional precision." The Proponent should clarify this statement.

d) The revised sound study states background sound levels were determined based on the lowest hourly L_{90} sound level data point. The revised sound study states that "the existing ambient sound level that corresponds to this lowest hour is 30 dBA" and that "data from the last day of monitoring, July 3rd, was not included in the analysis as it was a holiday weekend and thus was not representative of a typical day." Based on MassDEP's review of the existing ambient sound level data that was presented in the DEIR, the lowest hourly L_{90} data point is 28 dBA which occurred on July 3, 2018 at 3:00 A.M. The Proponent did not provide adequate justification for why data from July 3rd was excluded and did not demonstrate that the exclusion will not affect the outcomes and conclusions of the sound study. It should also be noted that July 3, 2018 was not a weekend day nor a state or federal holiday.

e) MassDEP previously commented that pursuant to 310 CMR 7.00 Air Pollution Control Section 7.10: U Noise, MassDEP regulates all sounds emanating from a solid waste facility operation, including waste delivery vehicles on-site and outside the building. MassDEP previously commented that the Proponent should revise their sound study to include waste delivery vehicles. The revised sound study presented in the FEIR did not appear to evaluate waste delivery vehicles as a sound source. During MassDEP permitting, the Proponent must demonstrate that the sound study evaluates the cumulative noise impacts from the proposed Project, including waste delivery vehicles on-site both inside and outside the building.

f) The revised sound study presented in the FEIR states that "operations from the Facility will not create any pure tones", however the Proponent did not provide any data to justify their conclusion.

g) The revised sound study states "PPNE has proposed mitigation measures to minimize sound levels at residences to the extent practicable" and that "further controls were considered but not deemed either available or practicable." The Proponent did not provide sufficient information for MassDEP to determine if the proposed facility is designed to mitigate noise to the maximum extent practical using a top-down approach. The Proponent did not identify the controls that were considered but deemed infeasible.

When proposing sound mitigation controls, similar to the traditional "top-down" BACT process, the "top case" sound mitigation controls which deliver the lowest sound level increase above background are required to be implemented, unless these measures can be eliminated based upon technological or economic infeasibility. An applicant cannot "model out" of the use of the "top case" sound controls and propose a less stringent sound control strategy by simply demonstrating that predicted sound levels at the property line will result in a sound level increase of less than or equal to the 10 dBA sound level increase criteria contained in the MassDEP Noise Policy. The 10 dBA noise policy is not a design standard - it is an enforcement standard, and it is not the sound level increase upon which the design of sound suppression/ mitigation strategies and techniques should be based. (DAQC Policy 90-001- https://www.mass.gov/doc/massdep-noise-policy/download).

h) Project related sound impacts should be evaluated both with and without mitigation to demonstrate the effectiveness of proposed sound mitigation controls.

i) All sound mitigation controls measures should be analyzed at a preliminary screening level to determine the feasibility of their implementation given the site constraints, if any, and whether the noise abatement provides a minimum reduction in noise levels. Impacts to wetlands, abutting landowners, stormwater, etc. should be considered. Safety factors should be considered including fire access and emergency vehicle needs. For the noise barrier to be technically feasible, it must be able to be constructed given the existing topography. The height of the noise barrier should be evaluated if it could sustain excessive wind loads. Maintenance of the noise barrier must be considered as well.

11. Traffic: In general, the Proponent has addressed MassDEP's comments previously provided in Draft Environmental Impact Report regarding traffic, however, additional details will be required in MassDEP permit application submittals. Regarding traffic, the Proponent concluded "the traffic impacts of the proposed development of this solid waste facility located at 100 Duchaine Boulevard do not constitute a danger to the public health, safety, or the environment with consideration to traffic congestion, pedestrian and vehicular safety, and roadway configuration." Based on a review of the FEIR, MassDEP finds that there is not sufficient information to verify this conclusion. MassDEP will require the Proponent to attend a pre-application meeting prior to submission of the BWP SW 01 application to discuss traffic, including but not limited to, the following:

- The Proponent conducted a traffic signal warrant analysis for the intersection of Braley Road at Phillips Road/Theodore Rice Blvd and concluded "the installation of a traffic signal at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard is warranted under 2020 Existing traffic volumes independent of the Project, as a result of existing development in the area."
- The traffic analysis indicates that the intersection of Route 140 SB at Braley Road is expected to degrade in level-of-service ("LOS") for some turning movements under the Build scenarios.
- The traffic analysis indicates that three intersections, Route 140 NB at Braley Road, Route 140 SB at Braley Road, and Braley Road at Phillips Road/Theodore Rice

Blvd, operate at LOS F for some turning movements under the 2020 Existing scenario.
- Potential impacts to delay time and queue lengths at some study area intersections under the Build scenario.
- Potential impacts to volume-to-capacity (v/c) ratio for some study area intersections under the Build scenario.
- Modeling various distribution scenarios that may occur to compensate for uncertainties regarding the normal hourly fluctuation in waste deliveries.

The Proponent indicated that they are having ongoing discussions with the City of New Bedford regarding potential mitigation, but nothing has been finalized. In accordance with MassDOT's Transportation Impact Assessment Guidelines Project-related impacts must be mitigated to the extent feasible.

12. MassDEP has recently promulgated regulations pertaining to the presence of per- and poly-fluoroalkyl substances (PFAS). Other regulations are under development in all programs to minimize human and ecological exposure to PFAS. As part of the Solid Waste permitting process, the Proponent will be required to describe what, if any, pathways exist for discharges of PFAS into air, soil and water resources as a result of the biosolids drying process and as a result of any potential uses of the dried biosolids. The permits may require the reduction and monitoring of PFAS impacts to the environment.

13. If you have any questions regarding the Solid Waste Management Program comments above, please contact Mark Dakers at (508) 946-2847.

Environmental Justice Comments

MassDEP's Environmental Justice (EJ) Program has reviewed the FEIR for the Parallel Products of New England Project and respectfully acknowledges PPNE's outreach to the EJ population. Yet the following issues, as presented in sections 3.0 Environmental Justice /Public Outreach and 3.1 Potential Public Health Impacts, remain unanswered for the Proponent's consideration and response:

- Was air dispersion modeling ever discussed and explained to the EJ Stakeholders for a clear understanding of its technology and use for decision making? If not, please explain.
- The section of the report that discusses "minor significance of the facility on conditions that can lead to air quality alerts" appears to suggest that the PPNE's contribution to air pollution, climate change and air quality is not significant. Is this what PPNE intended? Please explain the basis of this statement.
- Are the residents of the affected EJ community privy to the information that has been logged into the complaints log? If so, please explain how this information will be made known and shared and ultimately understood by New Bedford's diverse lay EJ residents/community members?
- Are the residents expected to ask if any complaints have been filed or will the complaints be shared with the community? If so, how often?
- How will all the complaints in the complaints log be handled in addressing everyone's expectations for follow-up?
- Was consideration made by the Proponent to explain the technical/scientific details of the FEIR? If so, the Proponent should present its findings and recommendations through words that are commonly used and understood by New Bedford's diverse lay EJ residents and community members - not through the FEIR's acronyms or scientific terminology.

- Outreach conducted by the Proponent during the pandemic is reported to have been of low interest and attendance at virtual meetings, etc. The Proponent should understand that communities of color were hardest hit with the COVID and were dealing with the impact of the virus - including food insecurity, evictions, and high rates of infection.

  The low attendance may not solely reflect disinterest but from being overwhelmed with life-threatening issues and by not having the band-with to participate in a virtual community meeting. It very important for the Proponent to be aware and sensitive to these possibilities.

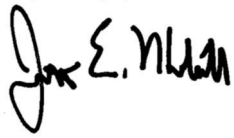
- Connecting with community leaders that the residents trust is helpful in order to obtain input and/or interest from the residents. Was outreach conducted to community leaders, EJ leaders and municipal officials? Again, COVID was and continues to be a priority for EJ populations and EJ organizations, therefore we need to be mindful and sensitive to this very important issue.

- The Proponent should demonstrate the continuing need to conduct outreach and community engagement throughout the project's duration for each to this area's diverse EJ community.

Other Comments/Guidance

The MassDEP Southeast Regional Office appreciates the opportunity to comment on this proposed Project. If you have any questions regarding these comments, please contact George Zoto at (508) 946-2820.

Very truly yours,



Jonathan E. Hobill,
Regional Engineer,
Bureau of Water Resources

JH/GZ

Cc: DEP/SERO

ATTN: Millie Garcia-Serrano, Regional Director
David Johnston, Deputy Regional Director, BWR
Gerard Martin, Deputy Regional Director, BWSC
Seth Pickering, Deputy Regional Director, BAW
Jennifer Viveiros, Deputy Regional Director, ADMIN
Daniel Gilmore, Chief, Wetlands and Waterways, BWR
Deneen M. Simpson, Environmental Justice Director & Program Manager/Boston
Daniel Gilmore, Wetlands and Waterways, BWR
Mark Dakers, Chief, Solid Waste, BAW
Elza Bystrom Solid Waste, BAW
Alison Cochrane, Solid Waste, BAW
Thomas Cushing, Chief, Air Quality Permitting, BAW
Allen Hemberger, Site Management, BWSC

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF
ENERGY AND ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENERGY RESOURCES
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BOSTON, MA 02114
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Charles D. Baker
Governor

Karyn E. Polito
Lt. Governor

Kathleen A. Theoharides
Secretary

Patrick C. Woodcock
Commissioner

2 April 2021

Kathleen Theoharides, Secretary
Executive Office of Energy & Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02114
Attn: MEPA Unit

RE: Parallel Products of New England, New Bedford, EEA #15990

Cc: Maggie McCarey, Director of Energy Efficiency, Department of Energy Resources
Patrick Woodcock, Commissioner, Department of Energy Resources

Dear Secretary Theoharides:

We've reviewed the Final Environmental Impact Report (FEIR) for the above project. The proposed project includes a 50,820-sf, conditioned glass processing building, a 41,000-sf, space-conditioned biosolids processing building, and an unconditioned 87,000-sf municipal solid waste facility. A small amount of office space is planned, to be located inside one or more of these buildings.

It is unclear in the submission the status of the glass processing building. In some places in the submission, it appears to suggest that this building is partially built (27,320-sf out of the 50,820-sf). In other places in the submission, it appears that this building is fully built.

Mitigation Level

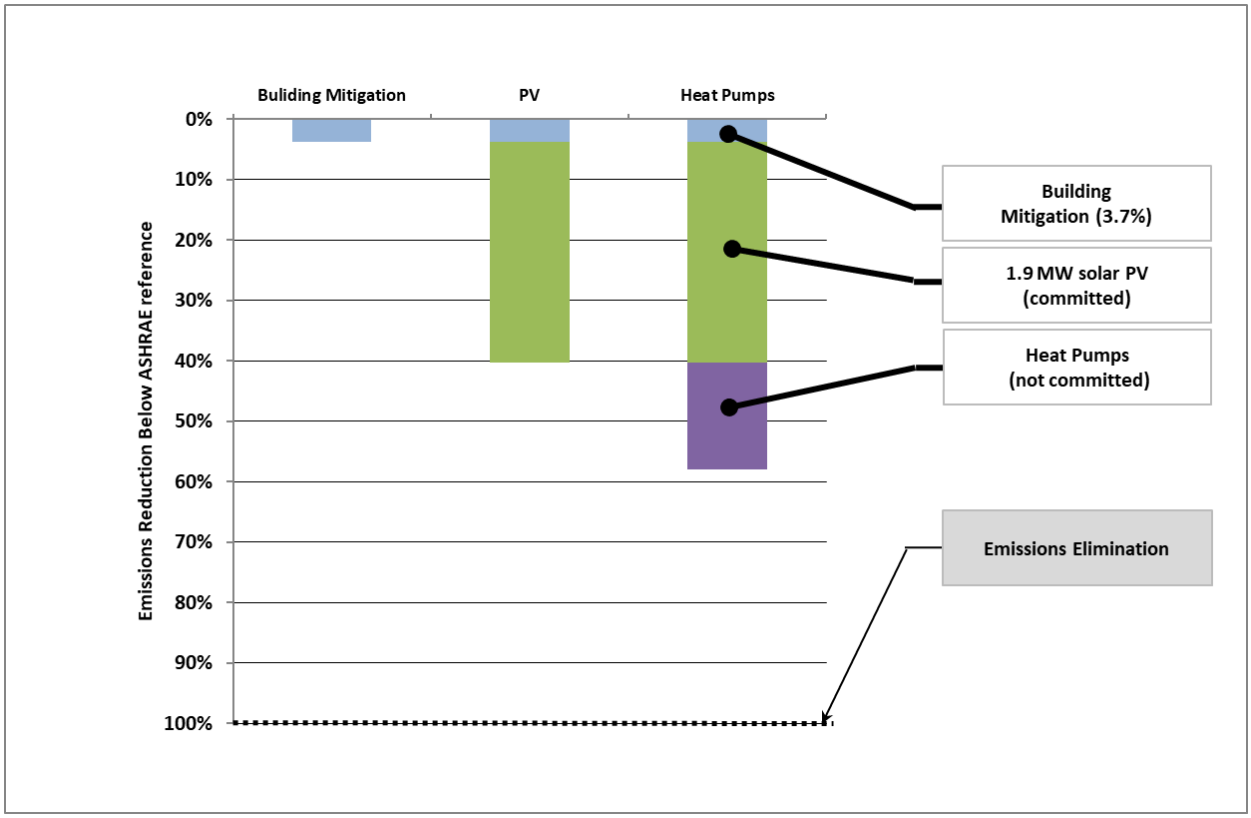
The overall project Mitigation Level[1] (ML) is 40%, however the buildings themselves have a ML of less than 3.7%. This value is described as "less than" because the project is using an incorrect baseline (more below). If this baseline were to be corrected, building ML could reduce to 0%.

[1] Mitigation Level is the percent GHG reduction beyond the reduction that would occur as a result of following state and local building codes. A Mitigation Level of 0% means that no mitigation is proposed. To estimate ML we have removed biosolids process loads.

Building mitigation is largely limited to a modest reduction in the lighting power density.

Addition of heat pumps for space heating could improve building ML to 21% and overall project (including committed 1.9 MW of new solar) to almost 60%.

ML could also improve with addition of ventilation energy recovery which was unevaluated.



Code Issues

We observed two significant code issues:

- The code requires three efficiency measures be included in the project (out of a list of 10 choices), per section C406 of the code. The project is using only two. Accordingly, one more C406 measure is required for all buildings yet to be constructed, just to meet Code. Because the baseline is based on two, rather than three, C406 measures, the reported ML is overstated.

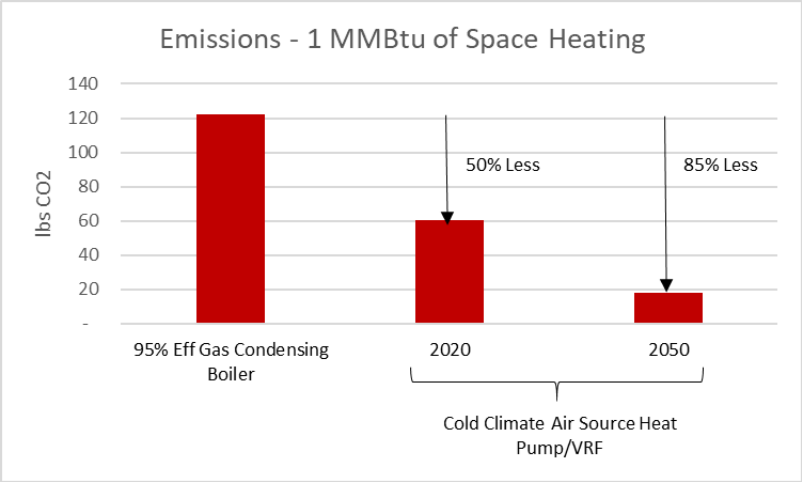
- The (partially or fully) built glass processing facility is missing a code-required rooftop liner insulation system for this metal building. The submission contains a request to "be allowed to forgo this design element". This liner system is required by code. This liner system should be installed in all portions of this building to be constructed (if any) and should also be installed in all built portions of this facility, as well.

Efficient Electrification – Space Heating

Efficient electrification of space heating entails the swapping of fossil fuels (natural gas, oil, and propane), or electric resistance systems, with cold-climate rated air source heat pumps or ground source heat pumps.

Electrification of space is a key mitigation strategy with significant short- and long-term implications on GHG emissions. Massachusetts grid emissions rates continue to decline with the implementation of clean energy policies that increase renewable electricity sources. The implication is that efficient electric space heating with cold climate air source heat pump (or ground source heat pump) has lower emissions than other fossil-fuel based heating options, including best-in-class (95% efficient) condensing natural gas equipment.

Currently, efficient electric heating has approximately **50% lower emissions** in Massachusetts than condensing natural gas heating. By 2050, and possibly sooner, efficient electric heating is expected to have approximately **85% lower emissions** in Massachusetts than condensing natural gas heating. See illustration below.



The project is proposing to utilize significant natural gas, committing this project to a high-emissions methods of space heating. Using gas and electric prices cited in the submission, estimating gas and electric operating costs exceed $3.7M/year (counting process loads). Swapping from currently planned gas space heating to electric heat pump space heating would increase operating costs by less than 1% while improving ML by almost x6.

Heat pumps can also be used for air conditioning, which can provide significant benefits to workers inside the buildings. (Currently, no air conditioning is proposed.)

The submission asserts that heat pumps and not available above 20 tons capacity, and thus a large number (17) would be required to meet the 333 ton ventilation load. This is not correct. Heat pumps twice as large (40 to 50 tons) are available. Based on this, the submission appears to be overestimating the number of units by a factor of about 2. DOER has reviewed numerous building

projects with larger ventilation loads which also use heat pumps. (These projects also maintain space heating at 72F. These buildings are planned to only maintain space heating to mid-50's F.)

Heat pumps can also be readily installed in the office space (currently proposed to be gas heated). Heat pump hot water heating can also be used for hot water service, as well.

Ventilation Energy Recovery

Ventilation energy recovery was unevaluated and could provide significant emissions reduction given the ventilation loads described in the submission.

Lighting Power Density Reduction

One of the chosen C406 measures was a 10% reduction in lighting power density (LPD). Accordingly, to meet code, lighting power density must be reduced by this amount. The project included this reduction in its Baseline model, correctly capturing this code minimum requirement.

As a mitigation measure, the project is proposing to increase LPD reduction from code-required 10% to 20%.

Solar PV

The project is also proposing to install 1.9 MW of new solar PV. This sized solar system would provide significant mitigation. We estimate that a 1.9 MW system would provide about 2,300 MWhrs per year and would offset about 745 tons of emissions.

Note that the facility currently has 1.6 MW of solar PV on site. Accordingly, total on site solar PV would be 3.5 MW.

It is also important to note that the building Code does not allow a "credit" to offset building code deficiencies. Accordingly, the code issues identified above need to be addressed despite the installation of this PV.

Summary of Findings

Code Issues

Two code issue require resolution:

- The buildings to be built require a third section C406 efficiency measure.
- For glass processing building:
    - The completed portion of this building is non-compliant and the code-required metal roof liner insulation system must be installed to bring this building into compliance.
    - The roof liner insulation system should also be installed on any portion of this building to be completed.

FEIR Mitigation Commitments

Project commitments are as follows:

- Installation of 1.9 MW of new solar PV, bringing total site solar PV to 3.5 MW of solar PV.
- Lighting power densities as follows:
    - Glass handling building: 0.69 watts/sf
    - Biosolids building: 0.98 watts/sf
    - Municipal solid waste building: 0.98 watts/sf

Recommended Additional Mitigation Measures

Recommended additional mitigation measures include:

- Electric heat pump for space heating, including office spaces.
- Electric heat pump hot water heating

- Ventilation energy recovery would likely provide significant cost and emissions benefits. This measure was unevaluated. We would recommend evaluation and likely implementation.

Sincerely,

Paul F. Ormond, P.E.
Energy Efficiency Engineer
Massachusetts Department of Energy Resources

Brendan Place
Clean Energy Engineer
Massachusetts Department of Energy Resources

EXHIBIT 11

FACT SHEET

Parallel Products of New England

Parallel Products of New England (PPNE) is proposing a project that is subject to Massachusetts Environmental Policy Act (MEPA) review for a new solid waste handling facility located in an environmental justice community. This fact sheet describes the PPNE project, the baseline health assessment of the communities surrounding the Project as well as air quality impacts from the PPNE project.

What is Parallel Products proposing to do?

PPNE is proposing a Project to be built in two Phases. Phase 1 is construction of a glass processing facility with solar panels (1.9 megawatts). Phase 2 is construction of a handling facility that will accept municipal solid waste (MSW) and construction and demolition (C&D) debris. Some of the glass processing facility has been built and is operating. The rest of Phase 1 will be completed early in 2022, and Phase 2 portions have not yet been built.

The glass processing includes crushing, sizing, and separation of glass by color. Processed glass is stored under cover until it is loaded into rail cars or trucks for shipment to bottle manufacturers.

MSW processing activities will include sorting equipment to remove recyclables. The facility is expected to process up to 1,500 tons per day of MSW with the residuals being shipped via rail to out-of-state disposal facilities. The C&D will not be processed and will be loading into railcars. The post processed waste may be loaded into railcars or baled, shrink-wrapped, and sent off-site via rail for disposal.

PPNE no longer proposes any biosolids drying operations. This change reduces on-site emissions by 50%.

Where is PPNE located?

The 71-acre PPNE project is located within the New Bedford Industrial Park at 100 Duchaine Boulevard (see Figure 1). The Project site was previously developed by Polaroid, and contains access roads, parking areas, and numerous buildings. The PPNE project is in an Environmental Justice area and is required to prepare an enhanced analysis of impacts and facilitate enhanced public participation.

As part of the PPNE MEPA filing for the Project an enhanced analysis of impacts has been prepared.

What is an enhanced analysis of impacts?

An enhanced analysis of impacts requires the Project to describe the existing baseline health of areas within one mile of the Project and requires an analysis of multiple air pollutants and a description of measures to reduce impacts proposed by the Project.

The existing baseline health of areas within one mile of the Project was described in MEPA filings for the following diseases:

- Pediatric Asthma (by school)
- Asthma Emergency Room (ER) visits
- Asthma Hospitalizations
- Cancer
- Chronic Obstructive Pulmonary Disease (COPD) ER Visits
- COPD Hospitalizations

- Acute Myocardial Infarctions Hospitalizations

The rate of disease in areas within 1 mile of the PPNE project were compared to statewide rates to assess whether these areas experience a higher rate of disease. Broadly, the baseline health analysis in the MEPA filings indicate that New Bedford has a higher rate of disease when compared to statewide rates.

How could the PPNE project impact me?

Operation of the PPNE project will release some air pollution from its proposed operations. Traffic traveling to and from the proposed facility will generate exhaust emissions. The glass processing releases dust during the processing of the glass and air pollution from heating the building.

The processing of MSW and handling of C&D can release dust, odor, and air pollution from the equipment used to process the material, such as front-end loaders.

Emissions from stationary sources are below permitting thresholds, and total emissions are less than one-tenth of one percent of county-wide emissions.

The PPNE MEPA filings includes an analysis of the potential impacts of the air emissions. Emissions from the PPNE project, were analyzed using an Environmental Protection Agency (EPA)-approved computer model to show what the air impacts could be from the Project under any weather.

Air modeling results are compared to EPA and Massachusetts Department of Environmental Protection (MassDEP) health-protective standards. For odor, model results are compared to a threshold that is unlikely to cause an off-site nuisance odor condition. The predicted air pollutant and odor concentrations shown to comply with the EPA and Massachusetts standards, and to comply with the protective odor dilution threshold at homes.

As a comparison for perspective, the additional particulate matter (dust) from year-long exposure to the worst-case impact would be like spending an additional 90 minutes in highway traffic, or 30 minutes in a kitchen cooking with a gas stove. Impacts at the nearest home will be much lower and would be like spending 20 minutes in highway traffic or 7 minutes in a kitchen cooking with a gas stove.

What is PPNE doing to mitigate its impacts?

PPNE will control air emissions, including odor, using best available technology and procedures, as follows:

- Dust will be minimized by indoor tipping, processing and handling practices.
- Dust will be mitigated using a high-pressure water misting system, and exhaust vents controlled with fabric filters.
- Exhaust from heaters and handling equipment will be minimized by using cleaner burning fuels (natural gas for heaters, electricity and ultra-low sulfur diesel for handling equipment).

MSW odor will be minimized through best management practices to minimize decomposition onsite, including handling inside buildings, daily cleanup and sweeping, and following first in/first out procedures to minimize the time MSW spends onsite.

How can I learn more about the PPNE project and who can I contact with questions?

PPNE is in the process of preparing a Supplemental Final Environmental Impact Report, as part of this report, a public hearing will occur, and MEPA will ask for public comment. Information about PPNE including the filings made for MEPA can be found at: https://parallelproductssustainability.com/#new-bedford

The public meetings held to discuss the PPNE Project can be found here:

https://parallelproductssustainability.com/meetings/

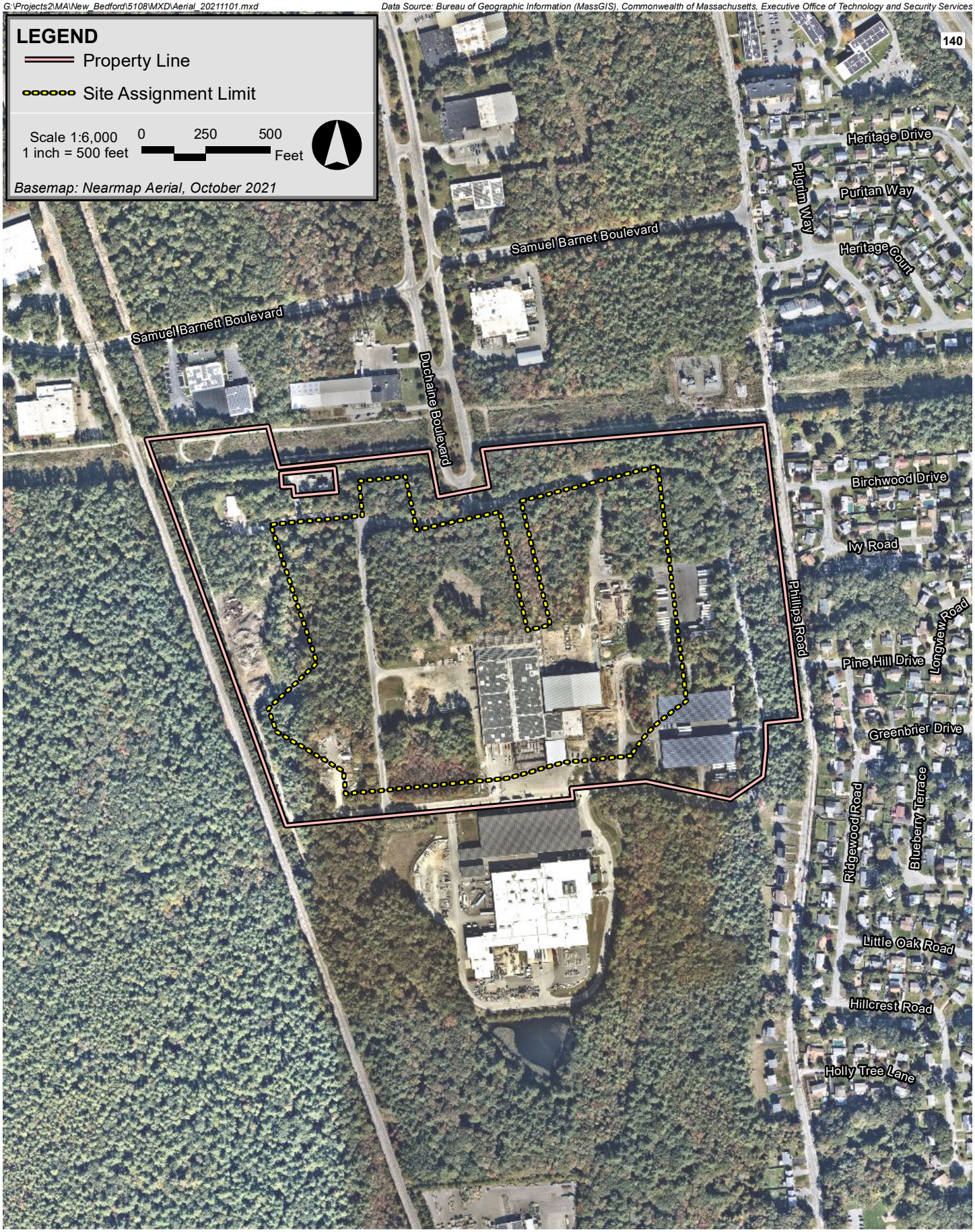
A link to frequently asked questions about the PPNE Project can be found here:

http://pps2021.flywheelsites.com/q-and-a/

Should you have questions about the PPNE project or require material to be translated contact:

newbedford@parallelproducts.com

Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services



Parallel Products **New Bedford, Massachusetts**

Epsilon ASSOCIATES INC.

Figure 1

Aerial Locus Map

EXHIBIT 12

UPDATED TRAFFIC IMPACT STUDY

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

Updated Traffic Impact Study

Solid Waste Handling Facility

100 Duchaine Boulevard
New Bedford, MA

Prepared by
McMahon Associates, Inc.
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508.823.2245

Prepared for
Green Seal Environmental, Inc.

July 2018
Revised January 2022

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INTRODUCTION

McMahon Associates, Inc. has reviewed the existing traffic operations and potential traffic impacts associated with the proposed solid waste facility at 100 Duchaine Boulevard in New Bedford, Massachusetts, as shown in Figure 1. The purpose of this revised study was to reevaluate existing and projected traffic operational and safety conditions in the vicinity of the site and identify mitigating measures to offset potential project-related traffic impacts on the surrounding roadways, if determined to be necessary based on safety and/or operational conditions. In summary, this study has determined that the proposed project, when developed and operational, will allow for safe and efficient access to and from the facility.

Our assessment is based on a review of current traffic volumes and crash data collected for this study, a review of readily accessible traffic analyses, and the anticipated traffic generating characteristics of the proposed development. This study examines existing and projected traffic operations (both with and without the proposed project) at key intersections in the vicinity of the project site. The study area was chosen based on a review of the surrounding roadway network and anticipated traffic generating characteristics of the proposed project. It provides a detailed analysis of traffic operations during the weekday morning, weekday afternoon school dismissal, and weekday afternoon commuter peak hours, when the combination of adjacent roadway volumes and potential traffic increases associated with the project would be greatest.

Based on the analysis presented in this study, McMahon Associates concludes that the projected traffic increases associated with both the background traffic growth and the project-related traffic generated by the proposed facility do not result in a significant impact to the operations of the surrounding roadway network. To mitigate existing congestion at the all-way stop sign controlled Braley Road at Phillips Road/Theodore Rice Boulevard intersection, which meets traffic signal warrants under existing conditions, Parallel Products proposes to provide funding for a fully actuated traffic signal subject to approval by the City of New Bedford. In addition, Parallel Products proposes to contribute up to $5,000 toward a Heavy Commercial Vehicle Exclusion (HCVE) study should the City of New Bedford choose to pursue a HCVE along Phillips Road between Route 140 and Braley Road.

This report documents our findings and recommendations. It should be noted that these conclusions conservatively assume all inbound and outbound materials will be transported via truck without incorporating alternative modes or methods of waste disposal such as the use of rail, and does not account for reduction in vehicular trips due to the Transportation Demand Management (TDM) measures proposed by Parallel Products described in this study. Additionally, the traffic associated with the biosolids facility has remained in this study although the biosolids component is no longer being proposed. These trips have been moved to the solid waste handling activities so that the trips are similar to what was accounted for in the previous Draft and Final Environmental Impact Reports (DEIR & FEIR) filing.

Project Description

The project site is bounded by a rail line to the west, Phillips Road to the east with residential neighborhoods beyond, industrial properties to the north and property owned by Eversource to the south. The project is expected to be completed in two phases. Phase 1 includes the construction of glass processing facilities, construction of 1.9MW of rooftop and canopy solar power installation and the construction of a rail sidetrack to service the site. This portion of the project is partially completed and final completion will occur in early 2022. Phase 2 includes the constructing of a solid waste handling and processing facility that will accept municipal solid waste (MSW) and construction and demolition (C&D) materials for handling at a proposed maximum of 1,500 tons per day (tpd). As noted in the DEIR and FEIR for the proposed project, the site previously proposed to process an additional 400 tpd of biosolids. As mentioned in the introduction above, the biosolids component has since been removed from the proposed expansion. However, the trip generation estimates in this study include vehicle trips associated with the biosolids operation and no use of backhauls or use of rail, consistent with the DEIR and FEIR, in an effort to evaluate impacts with a highly conservative approach.

Access to the proposed site would be provided by one full-access driveway from Duchaine Boulevard, which leads to an internal one-way loop roadway surrounding the proposed facility which also provides access to Eversource, Farland Construction, and the City's wastewater pumping station. To date, Phase 1 of the project is partially completed, with glass processing operations currently taking place at the site, in accordance with a waiver issued on February 20, 2019 as part of the Massachusetts Environmental Policy Act (MEPA) review for this project. Glass beneficiating and the installation of the rail spur is allowed in Phase 1 under the MEPA waiver. All solid waste handling operations (e.g. handling of MSW and C&D) will be implemented in Phase 2.

Study Methodology

This study reevaluates existing and projected traffic operations at study area intersections for the weekday morning, weekday afternoon school dismissal, and weekday afternoon commuter peak hour traffic conditions when the combination of adjacent roadway volumes and potential traffic increases associated with the project would be greatest.

The study was conducted in three steps. The first step involved an inventory of existing traffic conditions in the vicinity of the site. As part of this inventory, traffic counts were collected at key intersections during the weekday morning and weekday afternoon peak periods and adjusted to reflect the Base 2021 conditions prior to the completion of Phase 1 of the project, and to reflect the Existing 2021 conditions with Phase 1 included. Crash data was obtained from the Massachusetts Department of Transportation (MassDOT) to evaluate existing safety conditions within the study area.

The second step of the study builds upon data collected in the first phase and establishes the basis for evaluating the transportation impacts associated with future conditions. In this step, the Existing 2021 traffic volumes were projected to 2028 No Build (without Phase 2 of the project)

conditions and 2028 Build (with Phase 2 of the project) conditions. In this phase, the projected traffic demands of other future developments that could influence traffic volumes at the study area intersections were also assessed.

The final step identifies measures, if necessary, to improve existing and future traffic operations and safety, minimize potential traffic impacts, and provide safe and efficient access to the project site.

Study Area Intersections

The area identified for detailed analysis in this study was determined based on a review of the anticipated traffic generating characteristics of the proposed project and a review of the surrounding roadway network serving the project site. The study area intersections include the following:

- Route 140 Northbound on/off-ramp at Braley Road
- Route 140 Southbound on/off-ramp at Braley Road
- Braley Road/Theodore Rice Boulevard at Phillips Road
- Theodore Rice Boulevard at Duchaine Boulevard
- Duchaine Boulevard at Samuel Barnet Boulevard
- Phillips Road at Samuel Barnet Boulevard
- Duchaine Boulevard at Site Driveway

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Figure 1
Study Intersections
Solid Waste Handling Facility
New Bedford, MA

EXISTING CONDITIONS

Effective evaluation of potential traffic impacts associated with the proposed development requires a thorough understanding of the existing traffic conditions on the roadways and intersections serving the project site. The assessment of existing conditions consists of an inventory of the roadway and intersection geometries including off-ramps and traffic control devices, collection of peak-period traffic volumes, and a review of recent crash history. A discussion of this information is presented below.

Roadway Network

The project site benefits from access via the local and regional roadway systems. A brief description of the principal roadways serving or surrounding the project site is presented below.

Alfred Bessette Memorial Highway (Route 140)
Alfred Bessette Memorial Highway (Route 140) is a limited access roadway that is classified as an urban principal arterial under MassDOT jurisdiction. Route 140 runs in the north-south direction throughout southeastern Massachusetts, providing two lanes of travel in each direction separated by a grass median. Route 140 has exits adjacent to the study area at Philips Road (Exit 5) and Braley Road (Exit 7). Route 140 northbound and southbound ramps are under two-way stop sign control with both Philips Road and Braley Road.

Braley Road
Braley Road is classified as an urban minor arterial under City of New Bedford jurisdiction within the study area, and primarily provides access to residential and industrial properties, Casimir Pulaski Elementary School, and to Route 140 via a diamond interchange. Braley Road generally runs in the east-west direction between Acushnet Avenue to the east and Phillips Road to the west, providing a single travel lane measuring 12 feet in width and a bicycle lane measuring 6.5 feet in width in each direction. At its intersection with Phillips Road and Theodore Rice Boulevard, Braley Road continues to the north toward the Freetown Town Line. North of the Phillips Road/Theodore Rice Boulevard intersection, Braley Road is approximately 40 feet in width with a double yellow center line and no striped travel lanes or shoulders. A cement concrete sidewalk is provided along the south side of Braley Road east of the Phillips Road/Theodore Rice Boulevard intersection.

Theodore Rice Boulevard
Theodore Rice Boulevard continues west from the intersection of Braley Road and Phillips Road as the east-west connection between Route 140 and Philips Road to the east and Duchaine Boulevard to the west, which provides access to industrial and commercial land uses within the New Bedford Business Park. Theodore Rice Boulevard is classified as a local roadway under City of New Bedford jurisdiction and provides a 20-foot-wide travel lane in each direction, separated by a 12-foot wide raised, grass median. There are no sidewalks provided on either side of the roadway. The posted speed limit on Theodore Rice Boulevard is 30 mph, which does not appear to be supported by an approved Special Speed Regulation.

Phillips Road

Phillips Road is classified as an urban collector under City of New Bedford jurisdiction and runs in the north-south direction between Braley Road/Theodore Rice Boulevard to the north and Church Street to the south. Phillips Road is a two lane, two-way roadway, providing a 15-foot-wide travel lane and 5-foot-wide bicycle lane in each direction. Within the study area, a four-foot-wide cement concrete sidewalk is provided on the east side of the roadway. The posted speed limit on Phillips Road is 30 mph; however, according to MassDOT Special Speed Regulation No. 4044, the approved speed limit is 25 mph northbound approaching the Braley Road/Theodore Rice Boulevard intersection, and otherwise 40 mph between Braley Road and Church Street.

Duchaine Boulevard

Duchaine Boulevard is classified as a local roadway under City of New Bedford jurisdiction and provides access to industrial and commercial land uses within the New Bedford Business Park. Duchaine Boulevard runs in the north-south direction and provides two 14-foot-wide travel lanes in each direction separated by a grass median. Shoulders measuring 11 feet in width are provided on both sides of the roadway. Since the roadway is median divided, there are multiple u-turn locations along the corridor. The posted speed limit on Duchaine Boulevard is 30 mph, which does not appear to be supported by an approved Special Speed Regulation.

Samuel Barnet Boulevard

Samuel Barnet Boulevard is a local roadway under City of New Bedford jurisdiction and runs in the east-west direction, providing a connection between Phillips Road to the east and Duchaine Boulevard to the west. Samuel Barnet Boulevard provides access to industrial and commercial land uses and serves the New Bedford Business Park. Samuel Barnet Boulevard is a two-way, two-lane roadway generally providing a 13-foot-wide travel lane in each direction, with seven-foot-wide shoulders on either side of the roadway. The posted speed limit on Samuel Barnet Boulevard is 30 mph, which does not appear to be supported by an approved Special Speed Regulation.

Existing Traffic Volumes

Existing Peak Hour Traffic Volumes

Manual turning movement counts (MTMC) were collected at the study area intersections on Saturday, April 10 and Tuesday, April 13, 2021. The MTMCs were collected while public schools, including the nearby Casimir Pulaski School, were in session and had returned to full in-person learning following the COVID-19 pandemic guidelines. The MTMCs were conducted from 6:00 AM to 7:00 PM. The traffic counts are summarized in 15-minute intervals and are provided in Appendix A of this report.

The four highest consecutive 15-minute intervals of combined traffic within the study area during the peak periods constitutes as the peak hour for the study area network. Based on the count data, the weekday morning peak hour was identified to occur from 6:30 AM to 7:30 AM. Due to a high volume of traffic activity at the Casimir Pulaski Elementary School following dismissal at 3:00 PM, separate weekday afternoon school dismissal peak (3:15 PM to 4:15 PM) and commuter peak (4:00 PM to 5:00 PM) hours were identified.

Saturday Traffic Volumes

To determine if Saturday traffic analysis was warranted, peak hour traffic volumes collected on Saturday, April 10, 2021 were compared with traffic volumes collected on Tuesday, April 13, 2021. The peak hour of Saturday traffic was determined to occur between 10:15 a.m. and 11:15 a.m. Based on the April 2021 MTMCs, the Saturday midday peak hour and daily volumes were found to be significantly lower than weekday peak hour volumes. To illustrate this comparison, the two-way peak hour and daily traffic volumes collected along Braley Road between Phillips Road and the Route 140 Southbound Ramps on Saturday, April 10 and Tuesday, April 13, 2021 are shown in Table 1 below.

Table 1: Weekday vs. Saturday Traffic Volumes

	Saturday, April 10, 2021	**Tuesday, April 13, 2021**		
Peak Hour	Midday	Morning	Afternoon School	Afternoon Commuter
Peak Hour Traffic Volume	658	886	1,066	969
Daily Traffic Volume	5,543	10,082		

As shown in Table 1 above, Saturday midday peak hour and daily volumes are significantly lower than the weekday morning peak hour and daily volumes. As the weekday peak hour analysis presents an assessment of traffic conditions under more conservative baseline volumes, a Saturday midday peak hour analysis is not required.

Seasonal Variation

In order to determine seasonal variation in the area of the project, 2019 MassDOT weekday seasonal adjustment factors were referenced in accordance with the April 2020 MassDOT *Guidance on Traffic Count Data*. Based on the published seasonal adjustment factors, traffic volumes in the month of April on urban principal arterials such as Route 140, urban minor

arterials such as Braley Road, urban collectors such as Phillips Road, and local roadways such as Theodore Rice Boulevard, Duchaine Boulevard, and Samuel Barnet Boulevard are higher than an average month. To present a conservative analysis, traffic volumes were not adjusted downward to represent an average month.

COVID Traffic Volume Adjustment

Due to COVID-19 conditions traffic volumes are not considered to be normal at this time. To adjust the April 2021 traffic volume counts previously collected to pre-COVID conditions, MTMCs were supplemented with MassDOT permanent count station data obtained from the MassDOT Mobility Dashboard[1], which continuously monitors the impacts of the COVID-19 pandemic on the State's transportation network. The Mobility Dashboard presents average weekly traffic volumes in 2019, 2020, and 2021, as well as percent change from 2019 to 2020, 2020 to 2021, and 2019 to 2021.

For this study, the percent change in traffic volumes on an average weekday during April 2019 and April 2021 at MassDOT Count Station #38 I-195 in New Bedford, the closest count station to the project site, were referenced to determine an adjustment factor to estimate traffic volumes prior to the COVID-19 pandemic using the April 2021 MTMCs. The 2019 traffic counts were selected as it is considered to represent Existing pre-COVID conditions without additional adjustment, per the April 2020 MassDOT *Guidance on Traffic Count Data*. MTMCs were collected on April 13, 2021. Traffic volumes for the same week in 2019 were not available on the Mobility Dashboard. Data from the week prior indicate that 2021 weekday traffic volumes are 4.83 percent higher than the same week in 2019, while data from the following week indicate that traffic volumes in 2021 are 4.31 percent lower than the same week in 2019. To conservatively estimate the impact of the COVID-19 pandemic, the April 2021 MTMCs were increased by 5 percent to account for possible reduced volume in the study area network in April 2021 compared with pre-COVID conditions.

The MassDOT Mobility Dashboard data sets are included in Appendix B.

[1] https://mobility-massdot.hub.arcgis.com/

Automatic Traffic Recorder Data

A 48-hour automatic traffic recorder (ATR) count including speed and vehicle classification was conducted on Duchaine Boulevard on Wednesday, June 13, 2018 and Thursday, June 14, 2018. The results of the counts are tabulated in 15-minute periods and are provided in Appendix C of this report. The four highest consecutive 15-minute intervals during the weekday morning and weekday afternoon peak periods constitutes as the peak hours for Duchaine Boulevard.

In accordance with the April 2020 MassDOT *Guidance on Traffic Count Data*, historic traffic data may be adjusted based on published yearly adjustment factors to 2019 to represent pre-COVID baseline conditions. However, as the MassDOT adjustment factors indicate that traffic on local roadways such as Duchaine Boulevard decreased 0.4% from 2018 to 2019, no adjustment was applied to present a conservative analysis. The resulting 2018 ATR data on Duchaine Boulevard are summarized in Table 2 below.

Table 2: Duchaine Boulevard 2018 ATR Summary

	ADT[1]	HV%[2]	85th Percentile Speed[3] (mph)
Duchaine Boulevard			
North of Samuel Barnet Boulevard			
Northbound	2010	25.0	37
Southbound	2130	24.0	36
TOTAL	**4,140**	**24.5**	**37**

1 ADT - Average Daily Traffic (Vehicles per Day)

2 HV% - Percentage of Heavy Vehicles based on TMC completed on June 13, 2018

3 Based on Field Speed Study completed July 13, 2018

4 Based on 2018 data, the AM peak hour occurred between 7:00 AM and 8:00 AM

5 Based on 2018 data, the PM peak hour occurred between 3:00 PM and 4:00 PM

2021 Base Traffic Volumes

To reflect the 2021 Base conditions prior to the glass operations currently occupying the site under the Phase 1 waiver, the traffic associated with the glass operations was removed from the 2021 Existing traffic volumes to calculate the 2021 Base traffic conditions. The 2021 Base traffic volumes would reflect the operations of the site prior to the Phase 1 waiver, which includes the removal of the trips associated with the trucking facility previously on site, and the addition of the glass operations previously operating at the former Parallel Products facility at 969 Shawmut Avenue in New Bedford. MTMCs collected at the site driveway were utilized to determine the trips associated with the existing glass operations. These trips were then removed from the 2020 Existing traffic volumes to determine the 2021 Base traffic volumes. Employee trips associated with the glass operations were also removed. The facility currently employs 75 daily employees, operating in three 8-hour shifts each consisting of 25 employees. The shifts are scheduled to run from 6:00 AM to 2:30 PM, 2:00 PM to 10:30PM, and 10:00PM to 6:30AM. Based on these shifts, it is expected that all employees will be arriving to the site outside of the peak hour. However, as employees may not depart the site precisely at the end of the assigned shifts, to present a conservative analysis it was assumed that the employees from 10:00 AM to 6:30 AM shift would leave the site during the weekday morning peak hour, and employees from the 6:00 AM to 2:30 PM shift would leave the site during the weekday afternoon school peak hour.

Although the Phase 1 waiver permits expanded glass operations with additional employees, the expansion was assumed to occur with Phase 2 of the project. The data collected at the facility used to determine the trips associated with Phase 1 of the project are provided in Table 3 below.

Table 3: Vehicular Trip Generation, Existing Site Operations

Description	Weekday			Weekday AM Peak Hour			Weekday PM School Peak Hour			Weekday PM Commuter Peak Hour		
	In	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Parallel Products Existing Truck Trips	45	45	90	4	4	8	4	4	8	4	4	8
NWD Trucking	-38	-38	-76	-3	-3	-6	-3	-3	-6	-3	-3	-6
Net Change vs Baseline	**7**	**7**	**14**	**1**	**1**	**2**	**1**	**1**	**2**	**1**	**1**	**2**
Parallel Products Existing Employee Trips	75	75	150	0	25	25	0	25	25	0	0	0

The resulting 2021 Base traffic conditions for the weekday morning peak hour, weekday afternoon school peak hour, and weekday afternoon commuter peak hour are presented in Figures 2, 3, and 4 respectively. The 2021 Existing traffic peak hour traffic volumes are presented in Figures 4, 5, and 6 for the weekday morning peak hour, weekday afternoon school peak hour, and weekday afternoon commuter peak hour, respectively.

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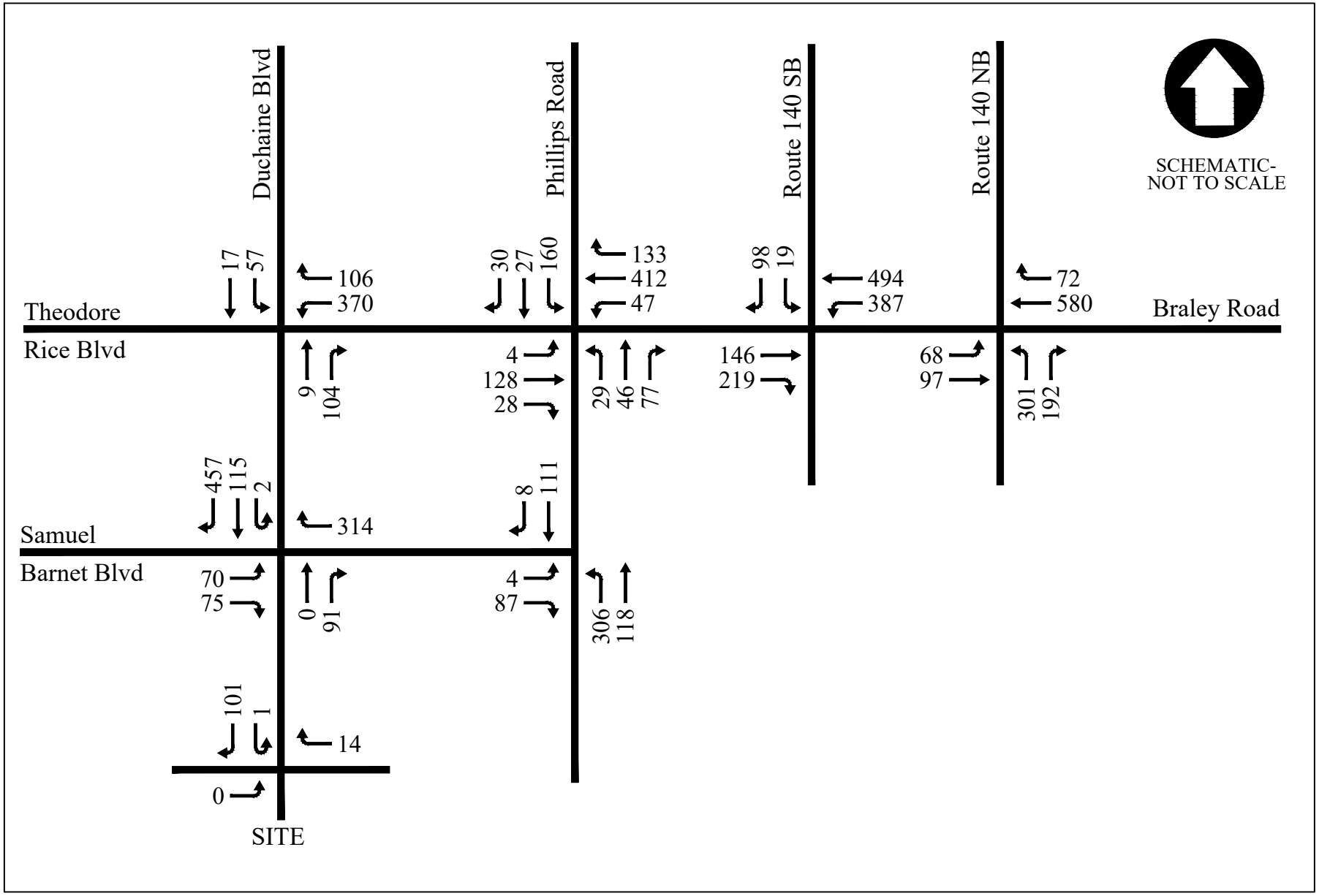

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Figure 2
2021 Base Weekday AM
Transfer Station
New Bedford, MA

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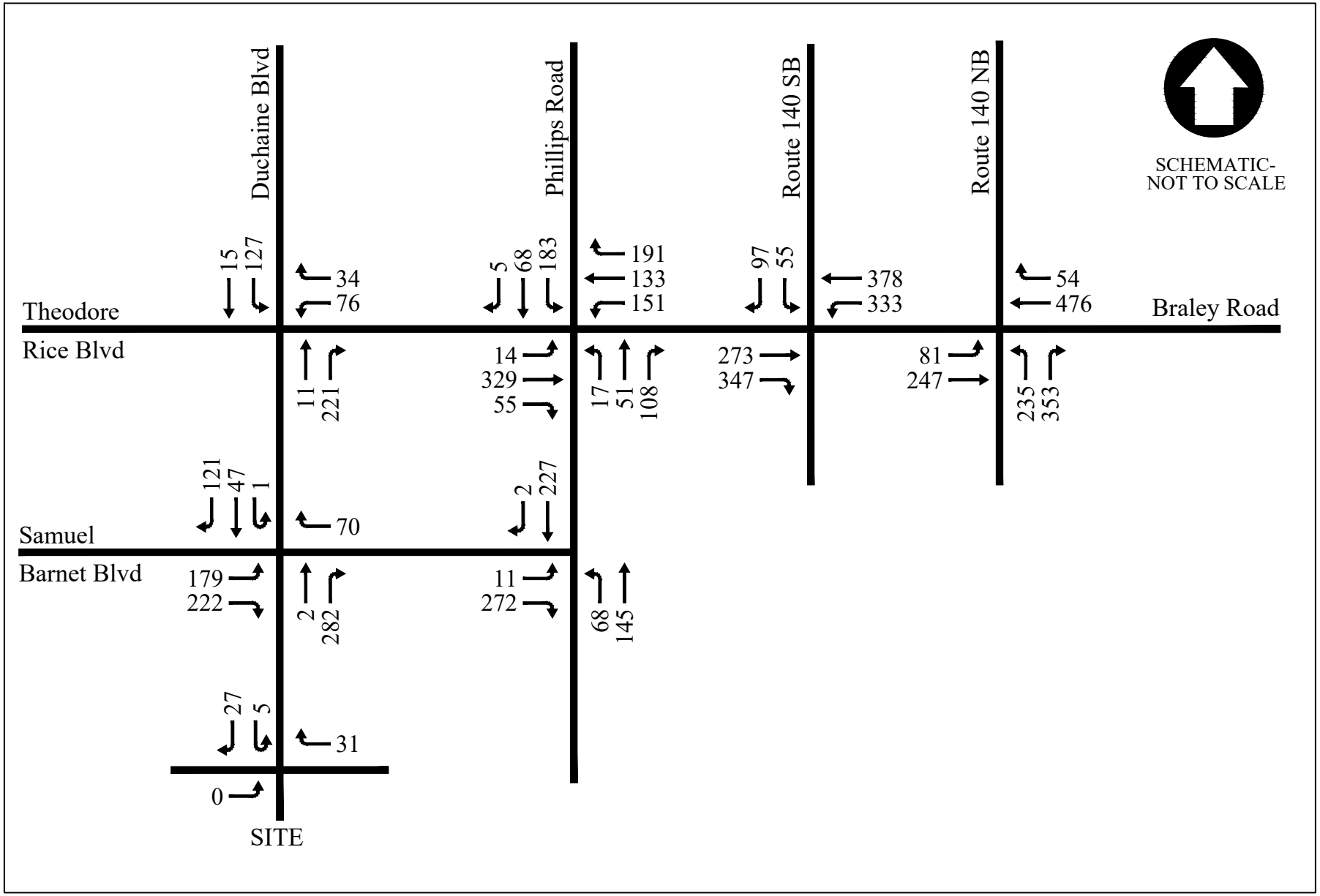

Figure 3
2021 Base Weekday School Dismissal Peak
Transfer Station
New Bedford, MA

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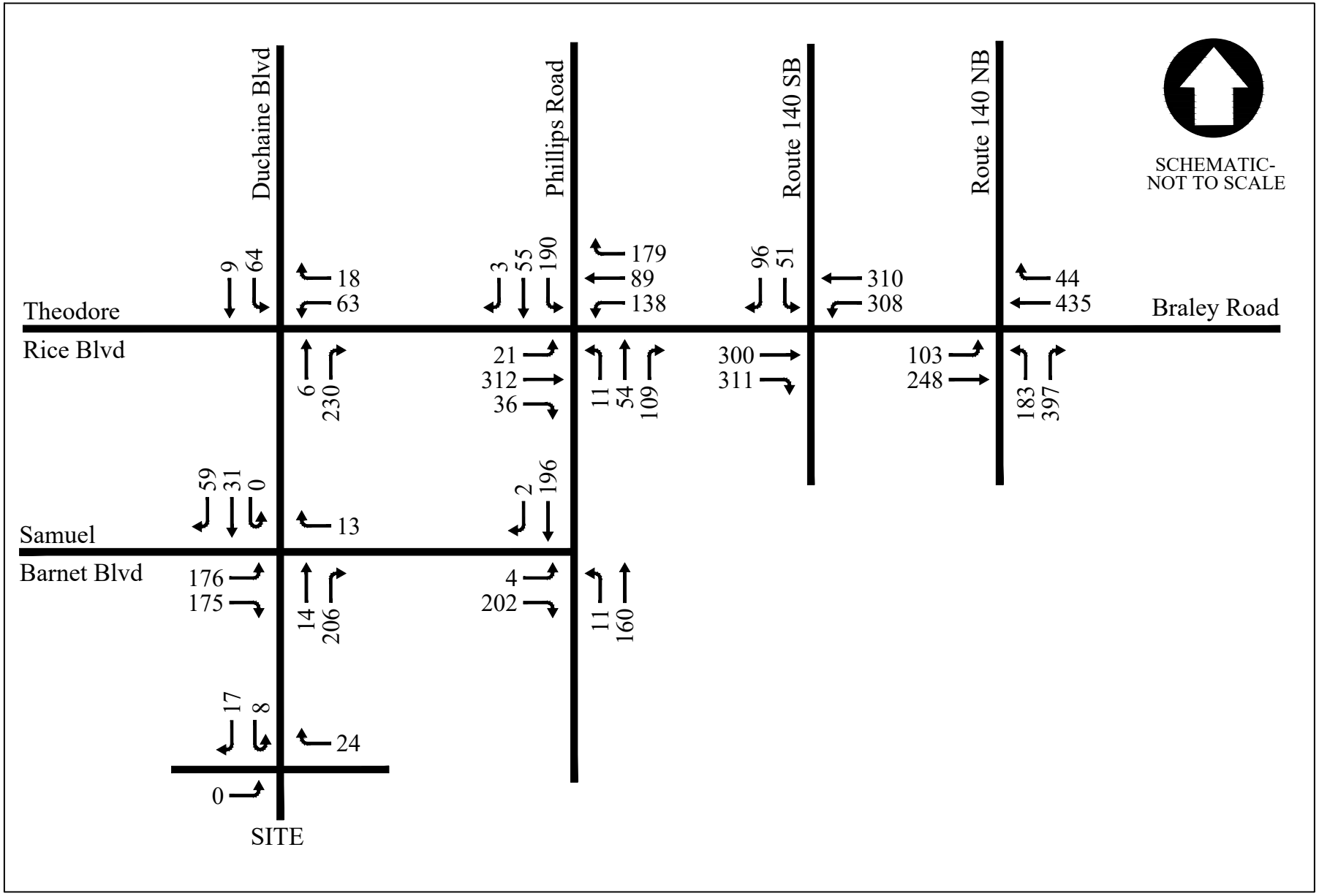

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Figure 4
2021 Base Weekday PM
Transfer Station
New Bedford, MA

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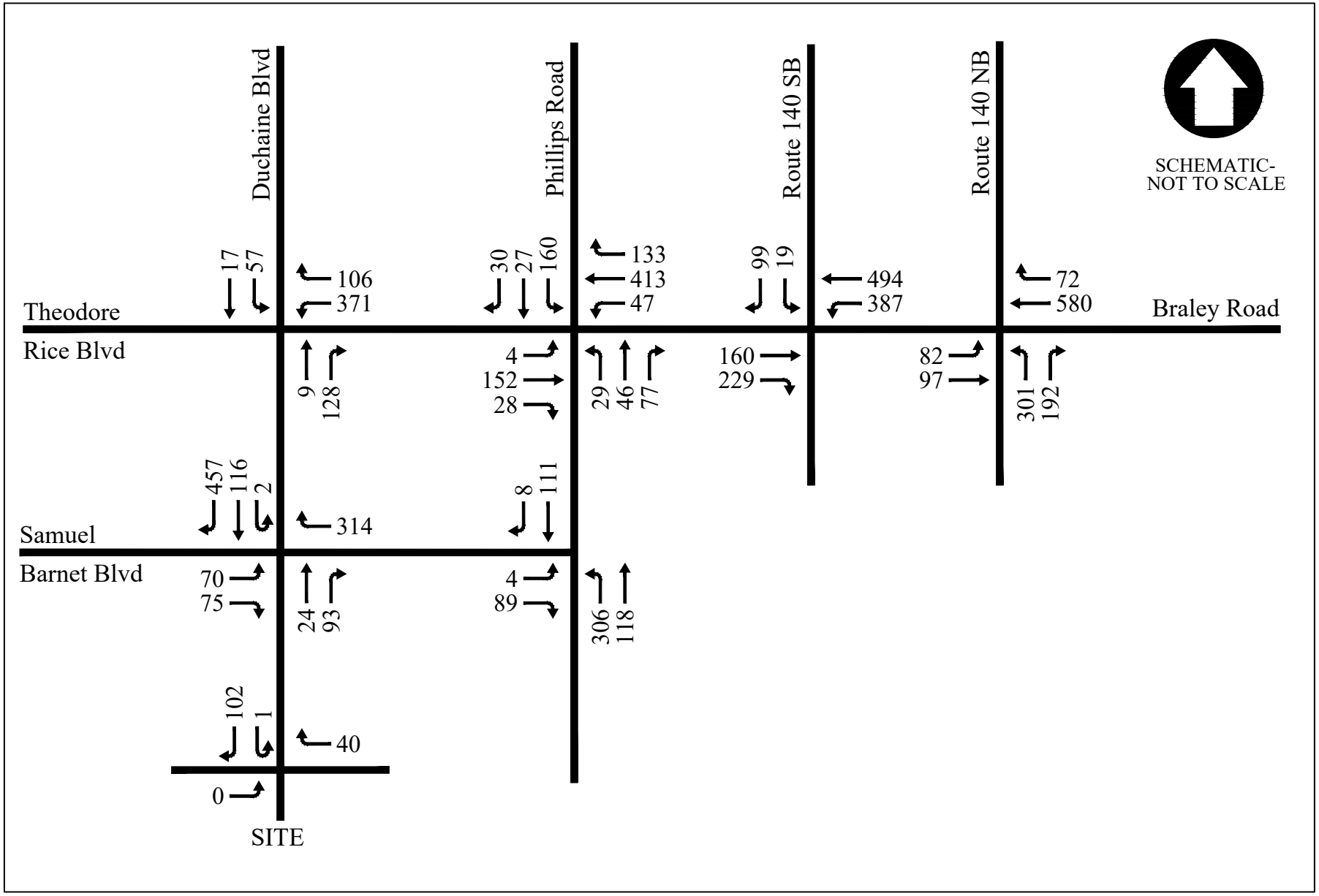

Figure 5
2021 Existing Weekday AM
Transfer Station
New Bedford, MA

\\bosfs\dept\Analysis\Green Seal Environmental\New Bedford\Report\Graphics\New Bedford_TIS Schematic 2021-09-22.dwg 01/12/22

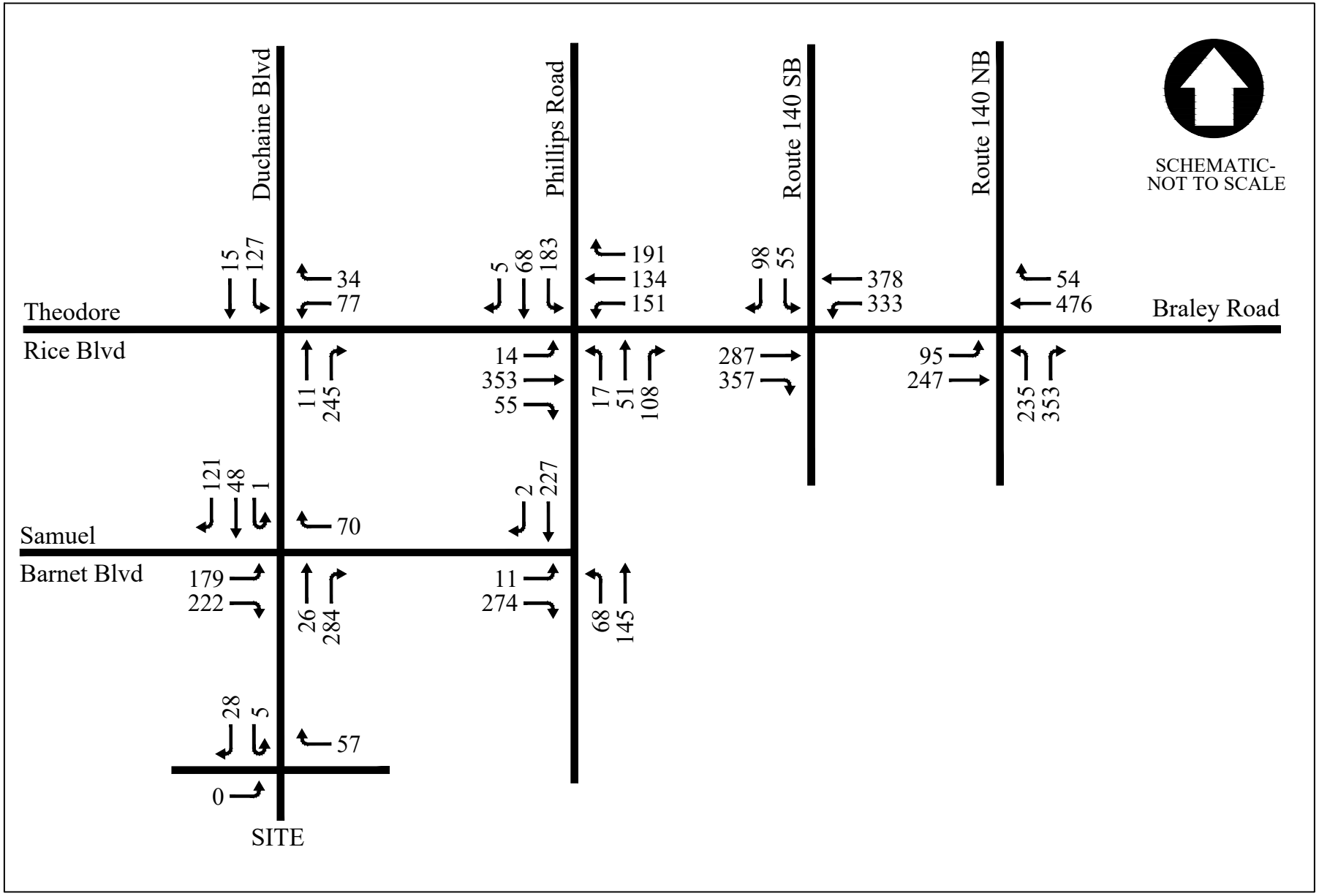

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Figure 6
2021 Existing School Dismissal Peak
Transfer Station
New Bedford, MA

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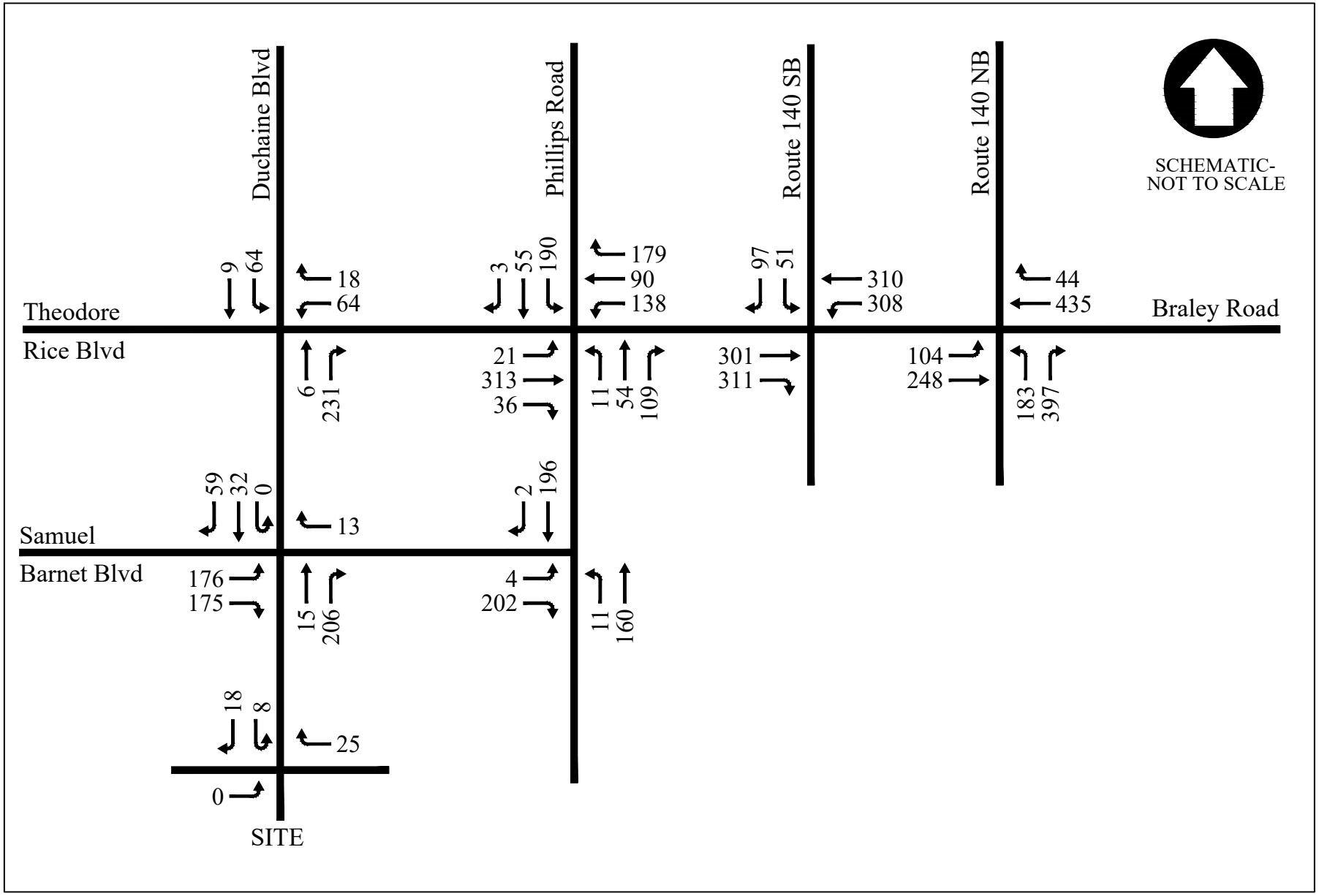

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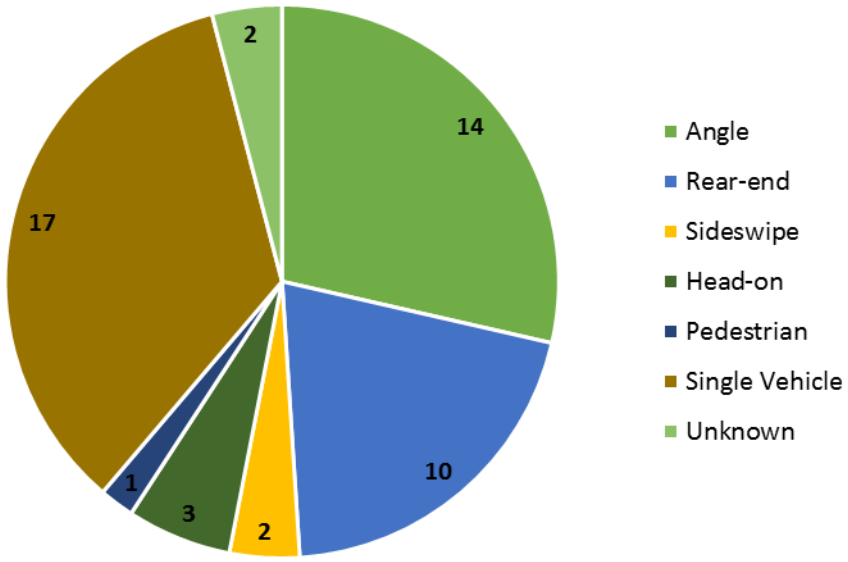
Figure 7
2021 Existing Weekday PM
Transfer Station
New Bedford, MA

Crash Summary

Crash data for the study area intersections was obtained from MassDOT for the most recent five-year period available. This data includes complete yearly crash summaries for 2013, 2014, 2015, 2016, and 2017. The MassDOT Crash Rate Worksheet was used to determine whether the crash frequencies at the study area intersections were unusually high given the travel demands at each location. The MassDOT Crash Rate Worksheet calculates a crash rate expressed in crashes per million entering vehicles. The calculated rate was then compared to the average rate for unsignalized intersections statewide and within MassDOT District 5. For unsignalized intersections, the statewide and MassDOT District 5 average crash rates are 0.57 crashes per million entering vehicles.

The crash data is summarized in Figure 8 below by crash type and a detailed summary is provided in Appendix D.

Figure 8: Crash Summary



Over the five-year period analyzed, the unsignalized intersection of the Route 140 Northbound on/off ramps at Braley Road had a total of 15 reported crashes, resulting in a crash rate of 0.49 crashes per million vehicles entering which is lower than both the Statewide and District 5 average crash rate. The reported crashes were angle, rear-end, and single vehicle collisions with six of the reported crashes resulting in personal injury.

The unsignalized intersection of the Route 140 Southbound on/off ramps at Braley Road had a total of two reported crashes, resulting in a crash rate of 0.06 crashes per million vehicles entering which is lower than both the District 5 and Statewide average. One of the reported crashes was a

single vehicle collision and one was a sideswipe collision. Both of the reported crashes resulted in property damage only.

The unsignalized intersection of Braley Road/Theodore Rice Boulevard at Phillips Road had a total of 14 reported crashes over the five-year period analyzed, resulting in a crash rate of 0.48 crashes per million vehicles entering, which is lower than the Statewide and District 5 average crash rate. The majority of the 14 reported crashes were single vehicle collisions and rear-emd collisions, and five crashes resulted in personal injury.

The unsignalized intersection of Theodore Rice Boulevard at Duchaine Boulevard had a total of ten crashes over the five-year period analyzed resulting in a crash rate of 1.01 crashes per million vehicles entering, which is higher than the statewide and District 5 average crash rate. Four of the 11 reported crashes were single vehicle collisions, one of which, in 2014, resulted in a fatality. Based on reports, speed was a prominent factor in this fatal crash and it is suspected that the operator of the vehicle was street racing and the fatal crash was believed to be an isolated incident.

The intersection of Duchaine Boulevard at Samuel Barnet Boulevard had a total of five reported crashes, resulting in a crash rate of 0.24 crashes per million vehicles entering which is lower than both the Statewide and District 5 average crash rate. All five reported crashes were single vehicle collisions resulting. One of the reported crashes resulted in personal injury, three resulted in property damage only, and the severity of one of the crashes was not reported.

The intersection of Phillips Road at Samuel Barnet Boulevard had a total of three reported crashes which resulted in a crash rate of 0.18 crashes per million vehicles entering, two of which resulted in personal injury with the third crash involving property damage only. The resulting crash rate is lower than both the Statewide and District 5 average crash rate.

Public Transportation

The Southeastern Regional Transit Agency (SRTA) operates two routes within the study area. An extension of Route 4-Ashley Boulevard operates three weekday inbound trips within the New Bedford Business Park, at 6:24 AM, 6:49 AM, and 4:15 PM. The North End Shuttle operates via westbound Braley Road and southbound Phillips Road every 40 minutes from approximately 9:30 AM to 4:45 PM Monday through Saturday. The SRTA New Bedford system map and schedules for Route 4 and the North End Shuttle are included in Appendix E of this report.

FUTURE CONDITIONS

To analyze the traffic impacts associated with the proposed project, MassDOT standards state that future year traffic volumes should be projected based on a seven-year project horizon. The 2021 Existing traffic volumes were projected to the future year 2028, when the both phases of the development are expected to be fully built and occupied. Independent of the proposed project, traffic volumes on the roadways in 2028 are assumed to include existing traffic, as well as new traffic resulting from general growth in the study area and from other planned development projects. The potential background traffic growth unrelated to the proposed project was considered in the development of the 2028 No Build (without project) peak hour traffic volumes. The anticipated traffic increases associated with the proposed development were then added to the 2028 No Build volumes to reflect the 2028 Build (with project) traffic conditions. A more detailed description of the development of the 2028 No Build and 2028 Build traffic volume networks follows.

Future Roadway Improvements

Planned roadway improvement projects can affect area travel patterns and future traffic operations. There are no planned roadway improvements that would impact traffic on the study area roadways.

Background Traffic Growth

Traffic growth is primarily a function of changes in motor vehicle use and expected land redevelopment in the region. To predict a rate at which traffic on the roadways in the vicinity of the site can be expected to grow during the seven-year forecast period (2021 to 2028), both historic traffic growth and planned area redevelopments were examined.

Historic Traffic Growth

A background growth rate of one percent per year was confirmed with the Southeastern Regional Planning and Economic Development District (SPREDD) in order to forecast increases in general traffic volumes on the study area roadways and intersections for our future analysis. This rate captures growth associated with general changes in population and accounts for other small developments in the vicinity of the study area.

Site-Specific Growth

There are no known planned/permitted developments adjacent to the project study area to be added as site specific growth.

2028 No Build Traffic Volumes

The 2021 Existing peak hour traffic volumes were grown by one percent per year over the seven-year study horizon (2021 to 2028) to establish the 2028 base future traffic volumes. The 2028 No Build weekday morning peak hour, weekday afternoon school peak hour, and weekday afternoon commuter peak hour traffic volume networks are illustrated in Figures 9 through 11, and are documented in the traffic projection model presented in Appendix F of this report.

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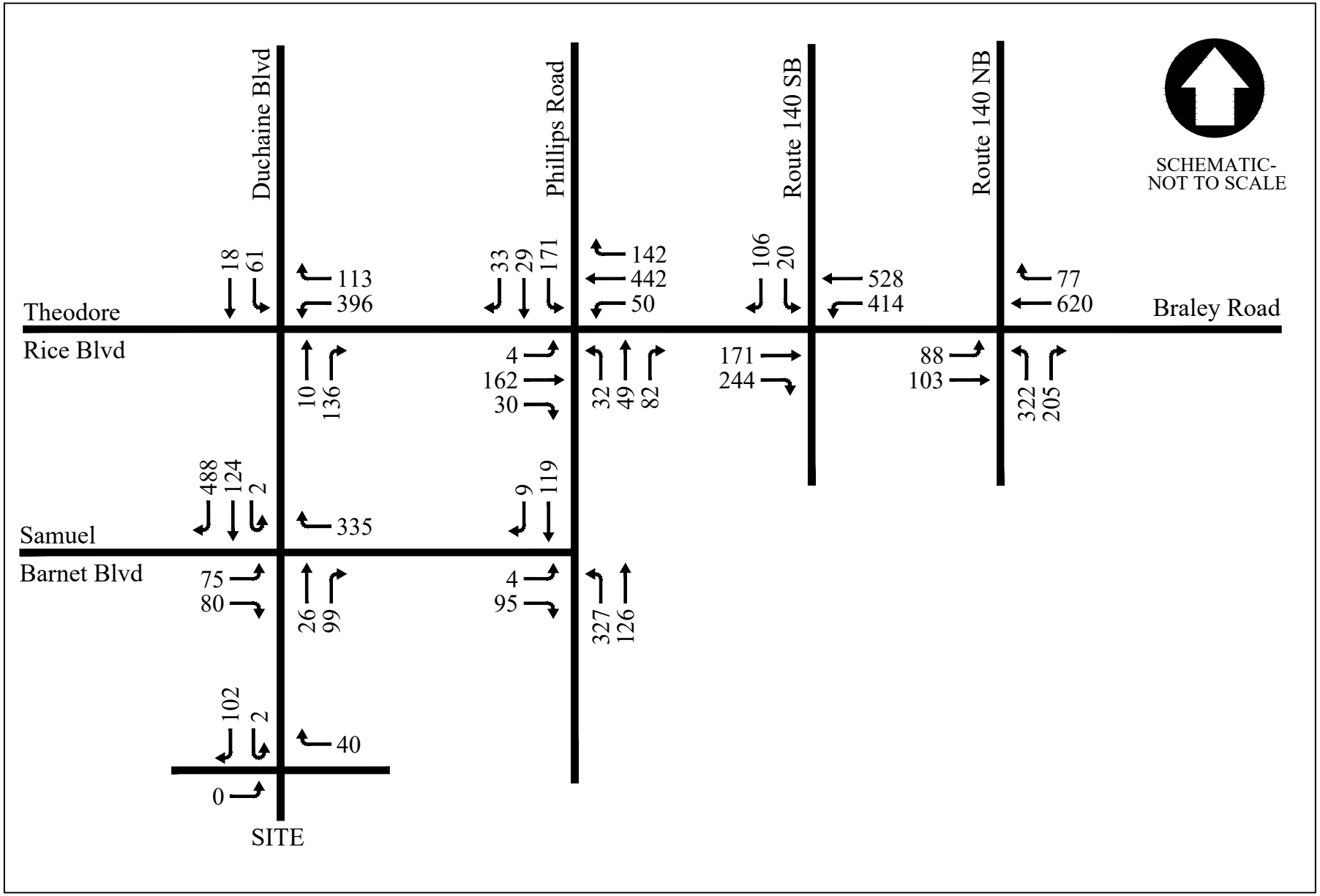

Figure 9
2028 No Build Weekday AM
Transfer Station
New Bedford, MA

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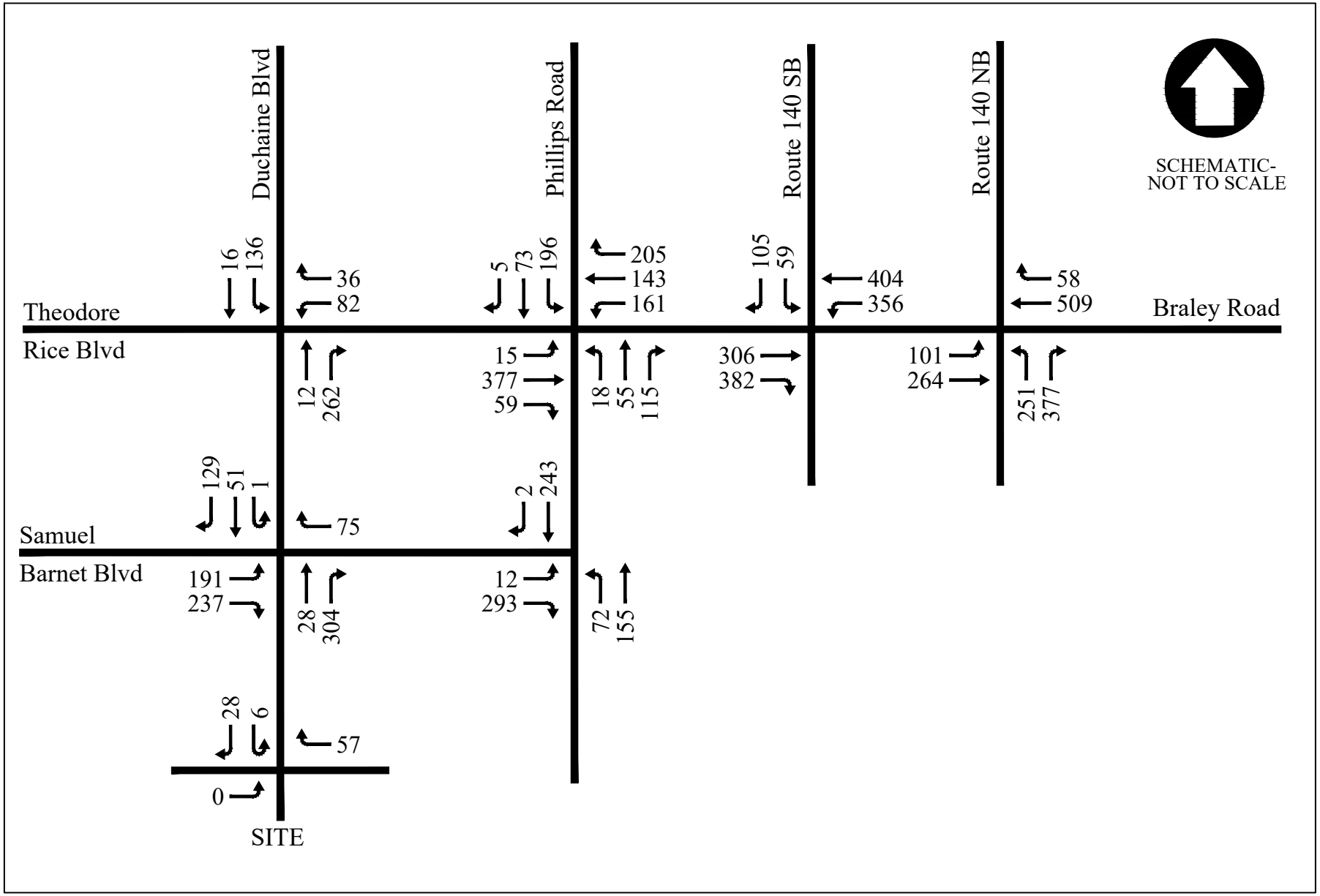

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Figure 10
2028 No Build School Dismissal Peak
Transfer Station
New Bedford, MA

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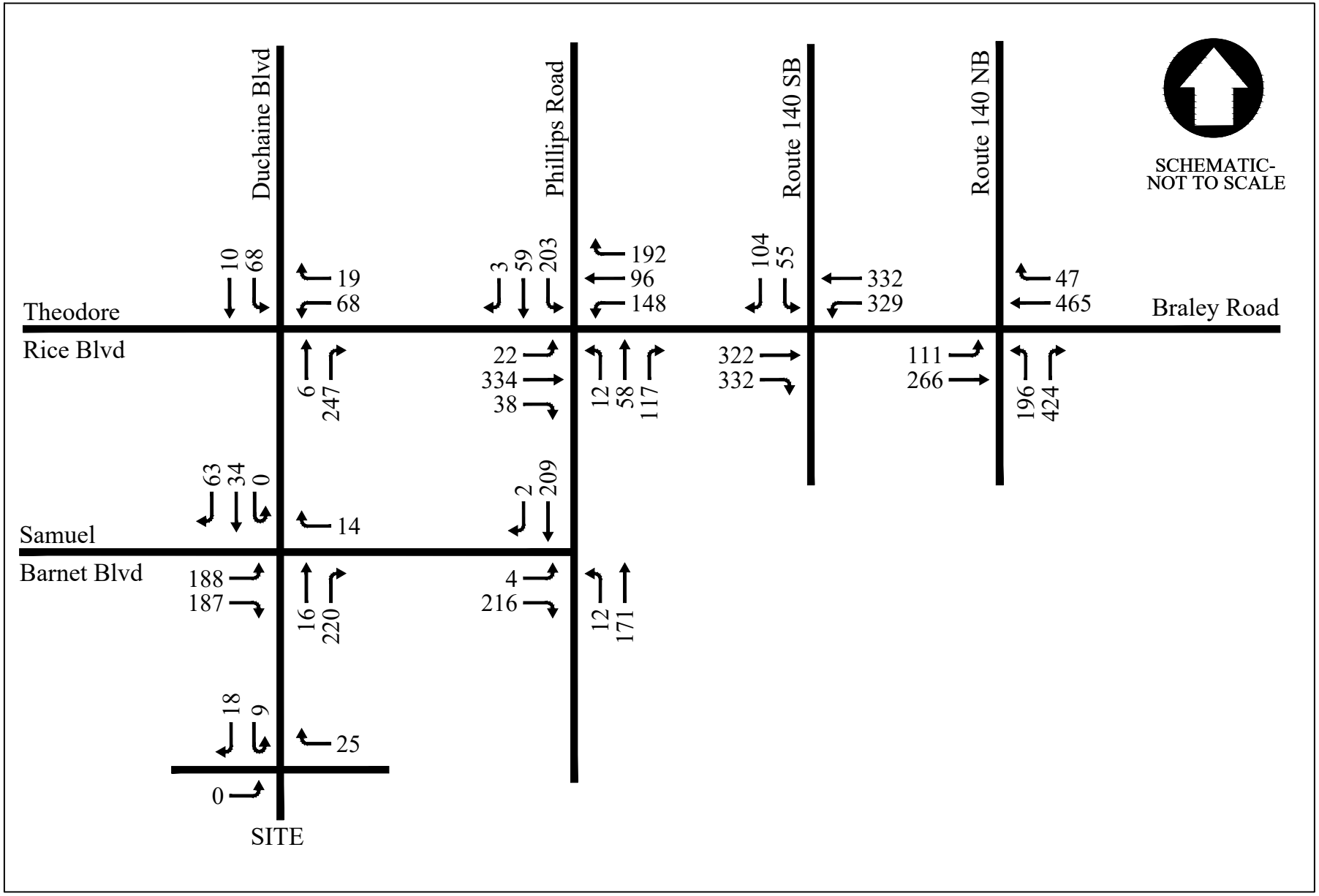

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Figure 11
2028 No Build Weekday PM
Transfer Station
New Bedford, MA

Site-Generated Traffic

The site proposes to receive a maximum of 1,500 tpd of solid waste (MSW and C&D) as part of Phase 2 of the project. To estimate the trip generation for the proposed site, data provided by the proponent on the allowable material tonnage and the maximum capacities of delivery vehicles were utilized. Based on information received, the inbound MSW to the proposed site includes approximately 1,065 tons per day in transfer trailers (approximately 28 tons per load), and 295 tons per day in packer trucks (approximately 9 tons per load). Inbound C&D to the proposed site includes approximately 140 tons per day, all of which will be transported in transfer trailers (approximately 28 tons per load). Inbound MSW and C&D is expected to add 152 daily truck trips (76 entering and 76 exiting).

In addition to the 1,500 tpd of solid waste (MSW and C&D), the analysis presented in the FEIR includes processing of up to 400 tpd of biosolids, expected to consist of 280 wet tons per day of biosolids slurry and 120 wet tons per day of biosolids cake. This material would be processed into approximately 50 dry tons per day, which would be transported from the site mixed with processed MSW and C&D. The traffic associated with the biosolids facility has remained in this study although the biosolids component is no longer being proposed. These trips have been moved to solid waste handling activities so that the trips are similar to what was accounted for in the previous Draft and Final Environmental Impact Reports (DEIR & FEIR) filing.

The inbound biosolids slurry would have been expected to be transported primarily in large tanker trucks (approximately 28 tons per truck), although smaller tanker trucks with an average capacity of 3,000 gallons (approximately 12 tons per truck) would have also been used. Trip generation for inbound biosolids slurry is based on 9 large tanker trucks and 2 smaller tanker trucks. Biosolids cake would have been transported to the facility in roll-off containers with an average weight of 10-12 tons per truck load. Twelve trucks per day would have been required to deliver 120 wet tons per day of biosolids cake. The total number of trucks delivering biosolids slurry and biosolids cake would be 23 trucks per day. After processing, the weight of biosolids would have been reduced to approximately 50 dry tons per day, which would then be sent for disposal.

It is expected that the majority of outbound transportation of materials from the site will be done via rail. In addition, when outbound materials are transported by truck, it is standard industry practice to use backhauls, where a truck delivering inbound materials reloads and removes material from the site rather than departing empty. To present a conservative analysis, it was assumed that all outbound materials would be transported by truck, and outbound materials would not use backhauls; i.e., all trucks transporting inbound materials were assumed to leave the site empty, and all trucks transporting outbound material were assumed to arrive at the site empty. Trip generation for outbound material is based on 1,550 tons of material (1,500 tpd of MSW and C&D, and 50 tpd of dry biosolids) transported in transfer trailers (approximately 28 tons per truck). Based on these assumptions, the transportation of outbound materials would generate 112 truck trips per day (56 entering, 56 exiting).

As previously noted, the proposed facility expansion also includes expanded glass recycling operations already approved under the Phase 1 waiver for the project. The expansion would allow for an additional 20,000 tons of glass processing annually, or approximately 80 tons per day based on an annual operating schedule of 250 operating days. This additional glass would be transported to the site in dump trailers typically carrying 13 to 15 tons per truck. Based on an average capacity of 13.5 tons per truck, the expanded glass operations would result in an additional 6 daily inbound truck trips, which would then depart the site empty. Processed glass would typically depart the site via rail; however, as a conservative measure, it can be assumed that material may depart the site via 28-ton dump trailers. This results in an additional 3 daily outbound truckloads, which would arrive at the site empty. In total, the expanded glass processing operation would result in additional 18 daily truck trips (9 entering, 9 exiting).

Employment at the facility is proposed to increase from 75 to approximately 150 daily employees, operating in three 8-hour shifts each consisting of 50 employees. The shifts are scheduled to run from 6:00 AM to 2:30 PM, 2:00 PM to 10:30PM, and 10:00PM to 6:30AM. Based on these shifts, it is expected that all employees will be arriving to the site outside of the peak hour. However, as employees may not depart the site precisely at the end of the assigned shifts, to present a conservative analysis it was assumed that the employees from the 10:00 PM to 6:30 AM shift would leave the site during the weekday morning peak hour, and employees from the 6:00 AM to 2:30 PM shift would leave the site during the weekday afternoon school peak hour. No employee trips are anticipated during the weekday commuter peak hour. Although the removal of biosolids processing will reduce the number of employee trips to the facility, the 2028 Build analysis assumes the biosolids operation would be in place to present a highly conservative analysis.

The facility has revised their operating hours and is now proposing to accept truck deliveries between 6:00 AM and 7:00 PM on weekdays and between 7:00 AM and 4:00 PM on Saturday. The facility will not accept waste on Sundays. Data from two comparable sites, one in Rochester, MA and one in Taunton, MA were utilized to determine the hourly distribution of truck traffic entering the site and the estimated number of trips expected to access the site during both the weekday morning and weekday afternoon peak hours. The hourly distribution data is provided in Table 4 below. To account for shorter tipping hours, truck trips which would otherwise arrive prior to 6:00 AM or later than 7:00 PM were combined with the 6:00 to 7:00 AM and 6:00 to 7:00 PM hours, respectively. Additional data used to develop the hourly distribution is provided in Appendix G.

Table 4: Hourly Distribution of Truck Trips

Time	Hourly distribution of truck trips (%)	Inbound MSW/C&D (Truck Round Trips)	Total One-Way Truck Trips - Inbound MSW/C&D	Inbound Biosolids (Truck Round Trips)	Total One-Way Truck Trips - Inbound Biosolids	Outbound Materials (Truck Round Trips)	Total One-Way Truck Trips - Outbound Material	Total One-Way Truck Trips
6-7 AM	10%	8	**16**	2	**4**	6	**12**	**32**
7-8 AM	8%	6	**12**	2	**4**	4	**8**	**24**
8-9 AM	8%	6	**12**	2	**4**	4	**8**	**24**
9-10 AM	9%	7	**14**	2	**4**	5	**10**	**28**
10-11 AM	10%	8	**16**	2	**4**	6	**12**	**32**
11-12 AM	10%	8	**16**	2	**4**	6	**12**	**32**
12-1 PM	11%	8	**16**	2	**4**	6	**12**	**32**
1-2 PM	10%	8	**16**	2	**4**	6	**12**	**32**
2-3 PM	10%	8	**16**	2	**4**	6	**12**	**32**
3-4 PM	7%	5	**10**	2	**4**	4	**8**	**22**
4-5 PM	3%	2	**4**	1	**2**	1	**2**	**8**
5-6 PM	2%	1	**2**	1	**2**	1	**2**	**6**
6-7 PM	2%	1	**2**	1	**2**	1	**2**	**6**
	100%	**76**	**152**	**23**	**46**	**56**	**112**	**310**

As previously noted, the peak hours of traffic volume along the study area roadway network occur from 6:30 AM to 7:30 AM (weekday morning peak hour), 3:15 PM to 4:15 PM (weekday afternoon school peak hour), and 4:00 PM to 5:00 PM (weekday afternoon commuter peak hour). Therefore, it is estimated that 8% to 10% of daily truck trips accessing the site would occur during the weekday morning peak hour, 3% to 7% of daily truck trips accessing the site would occur during the weekday afternoon school peak hour, and 3% of daily truck trips accessing the site would occur during the weekday afternoon commuter peak hour. However, to present a conservative analysis and account for hourly fluctuation in deliveries throughout a given day, it was assumed that the peak hour of site generated truck traffic, 11%, which is projected to typically occur between 12:00 PM and 1:00 PM, would occur during all three surrounding roadway network peak hours. Details on the trip generation calculations for Phases 1 and 2 of the project are provided in Appendix H of this report.

A summary of the expected peak hour trip generation for Phase 2 is shown in Table 5 below.

Table 5: Vehicular Trip Generation

Description	Weekday Daily			Weekday AM Peak Hour			Weekday PM School Peak			Weekday PM Commuter Peak		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Inbound MSW/C&D Trips												
Packer	33	33	66	4	4	8	4	4	8	4	4	8
Transfer Trailer	43	43	86	4	4	8	4	4	8	4	4	8
Inbound Biosolid Trips[1]	23	23	46	2	2	4	2	2	2	4	2	4
Outbound MSW/C&D/Biosolids[1]	56	56	112	6	6	12	6	6	12	6	6	12
Truck Trip Total (MSW, C&D, and Biosolids)	***155***	***155***	***310***	***16***	***16***	***32***	***16***	***16***	***32***	***16***	***16***	***32***
Expanded Glass Trips (Approved under Phase 1)	9	9	18	1	1	2	1	1	2	1	1	2
Truck Trip Total	***164***	***164***	***328***	***17***	***17***	***34***	***17***	***17***	***34***	***17***	***17***	***34***
Facility Employees	75	75	150	0	25	25	0	25	25	0	0	0
Total	**239**	**239**	**478**	**17**	**42**	**59**	**17**	**42**	**59**	**17**	**17**	**34**

[1] Although the facility no longer proposed to process biosolids, the trips associated with biosolids operations have been included in 2028 Build conditions to present a conservative analysis consistent with the DEIR and FEIR filings.

As shown in Table 5, Phase 2 of the proposed facility, including trips associated with expanded glass operations previously approved under the Phase 1 waiver, is expected to generate a total of 59 vehicle trips (17 entering and 42 exiting) during the weekday morning peak hour, 59 vehicle trips (17 entering and 42 exiting) during the weekday afternoon school peak hour, and 34 vehicle trips (17 entering and 17 exiting) during the weekday afternoon commuter peak hour. Over the course of an average weekday, the proposed project is estimated to result in approximately 478 vehicle trips (239 entering and 239 exiting). The total number of daily vehicle trips projected to be generated by the proposed project does not exceed the MEPA threshold for transportation review.

As stated in Table 3, the existing facility generates up to 90 truck trips per day. With addition of up to 18 one-way daily truck trips related to the expansion of Phase 1 glass operations and the addition of up to 310 one-way daily truck trips related to MSW, C&D, and biosolids processing under Phase 2, the facility is estimated to generate a maximum of up to 418 one-way daily truck trips. Per MassDEP, the maximum daily **truck trip** generation of the facility will not exceed 418 one-way trips. The total number of maximum daily one-way truck trips is summarized in Table 6 below.

Table 6: Maximum Daily One-Way Truck Trips

	Existing Operations	Phase 1 Glass Processing	Phase 2 Expansion	Total One-Way Truck Trips
One-Way Truck Trips	90	18	310	**418**

Project Trip Distribution and Assignment

The traffic expected to be generated by the proposed development was distributed onto the study area roadways and intersections based on expected access to/from Route 140. It was assumed that all of the truck traffic entering the site will utilize Route 140 to Braley Road. A small portion of the employee trips are assumed to access the site from the south, utilizing Phillips Road. The resulting arrival and departure patterns are presented in Figure 12. The resulting distributed new project trips during the weekday morning peak hour, weekday afternoon school peak hour, and weekday afternoon commute peak hour are shown in Figures 13, 14, and 15, respectively.

2028 Future Build Peak Hour Traffic Volumes

To establish the 2028 Build peak hour traffic volumes, the project-related traffic was assigned to the surrounding roadway network based on the project distribution patterns discussed above. These project trips were then added to the 2028 No Build peak hour traffic volumes to reflect the 2028 Build peak hour traffic volumes. The resulting 2028 Build weekday morning peak hour, weekday afternoon school peak hour, and weekday afternoon commuter peak hour traffic volumes for the proposed project are presented in Figures 16, 17, and 18, respectively.

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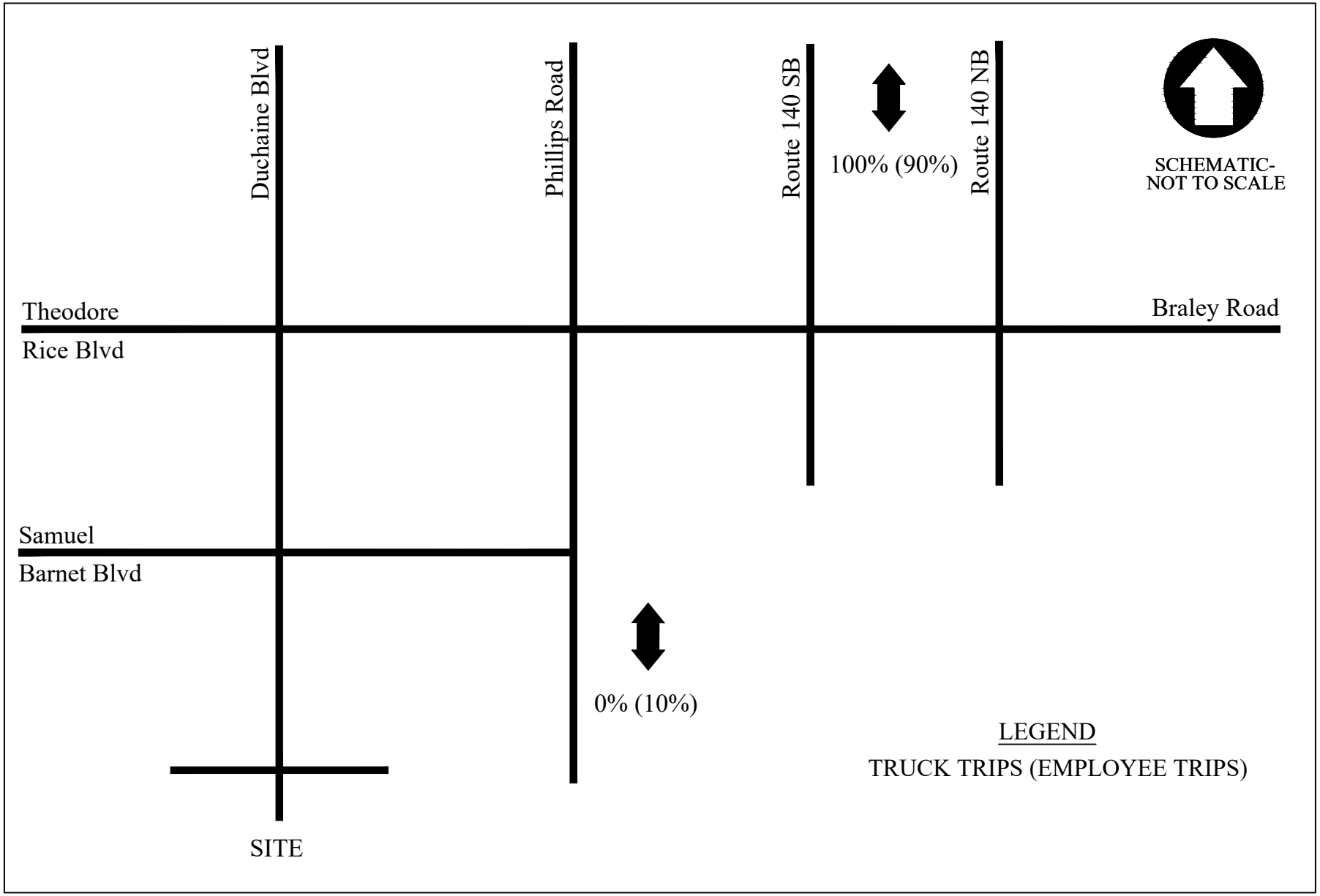

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Figure 12
Direction of Arrivals and Departures
Transfer Station
New Bedford, MA

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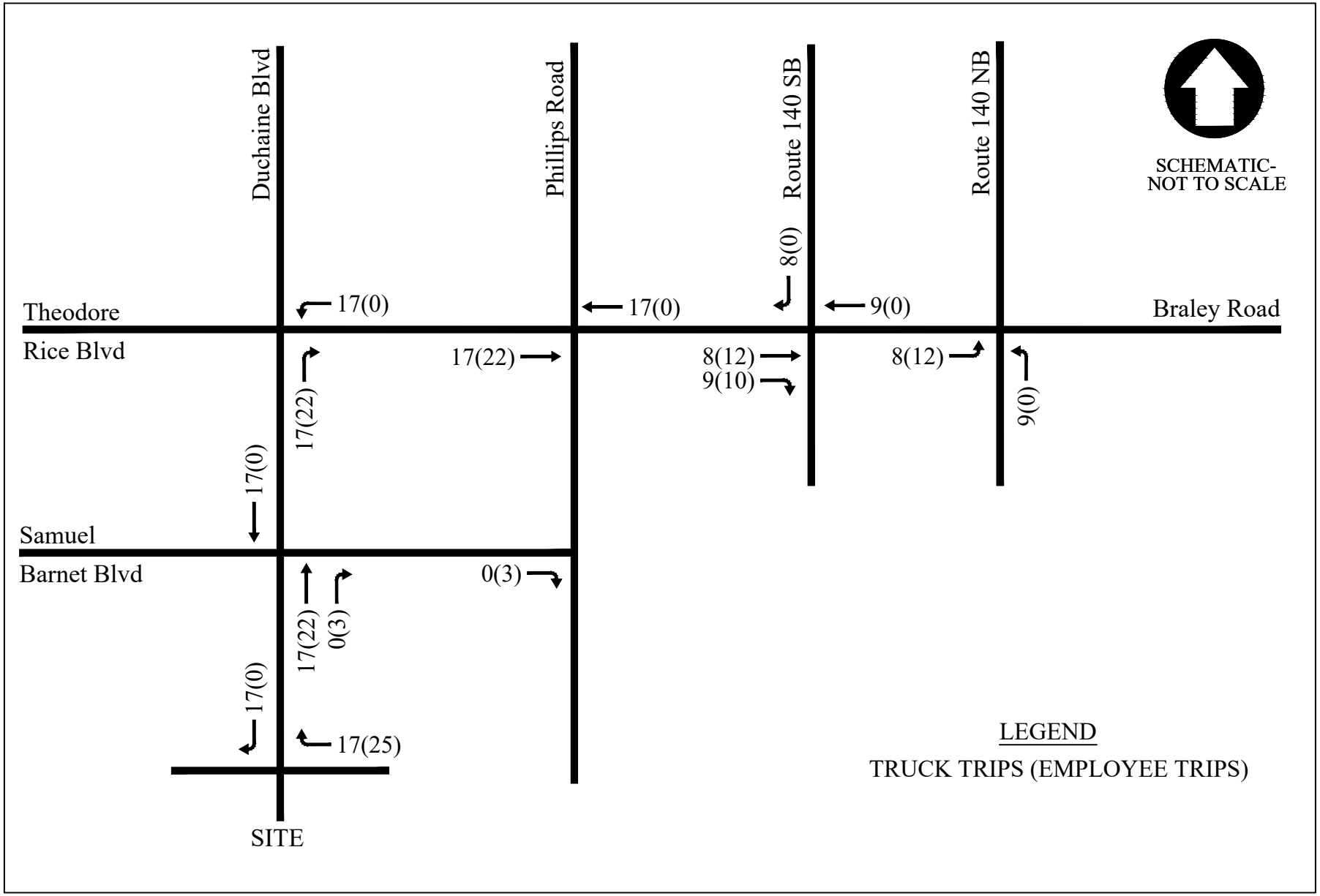

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Figure 13
Weekday AM Project Generated Trips
Transfer Station
New Bedford, MA

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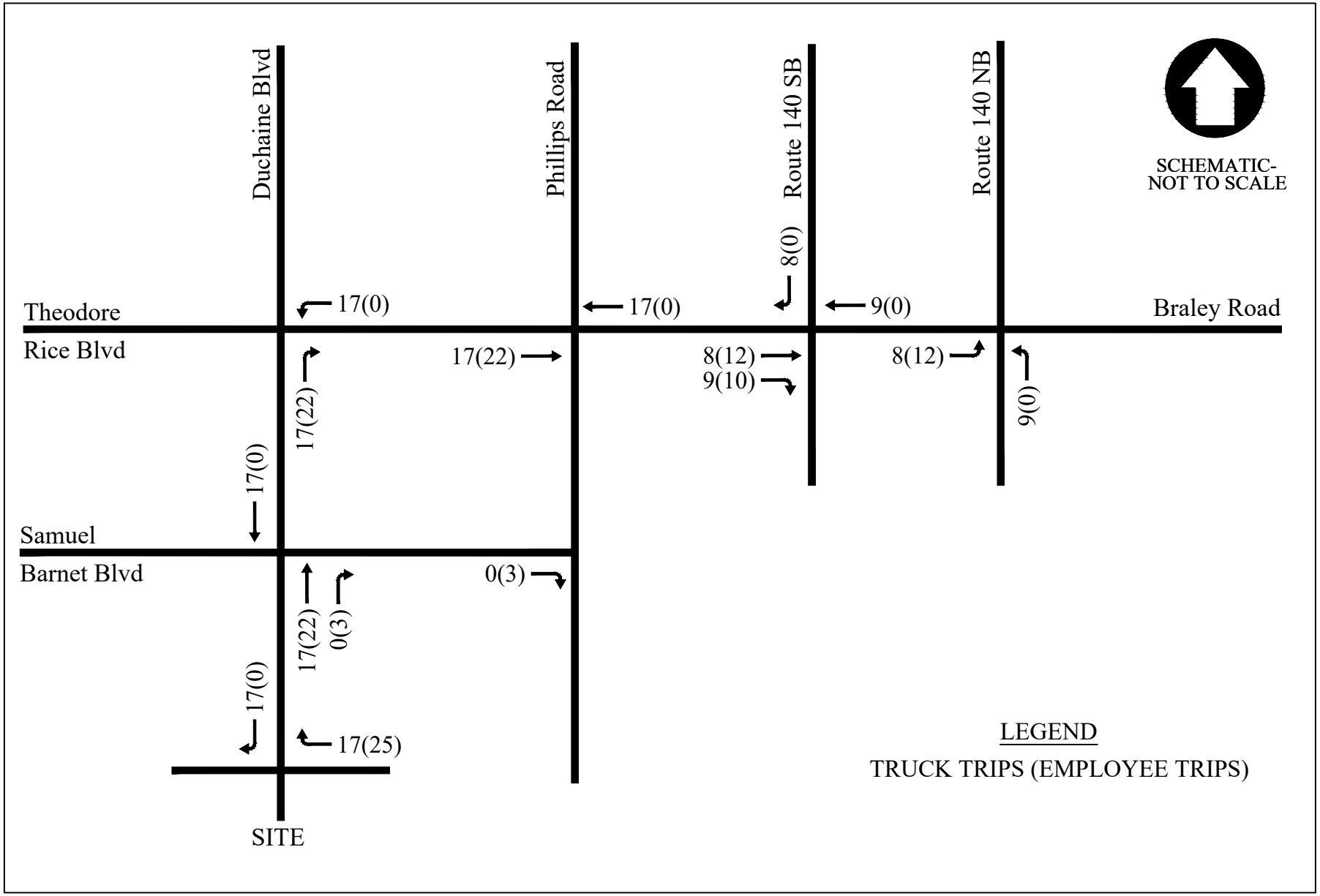

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Figure 14
School Dismissal Peak Project Generated Trips
Transfer Station
New Bedford, MA

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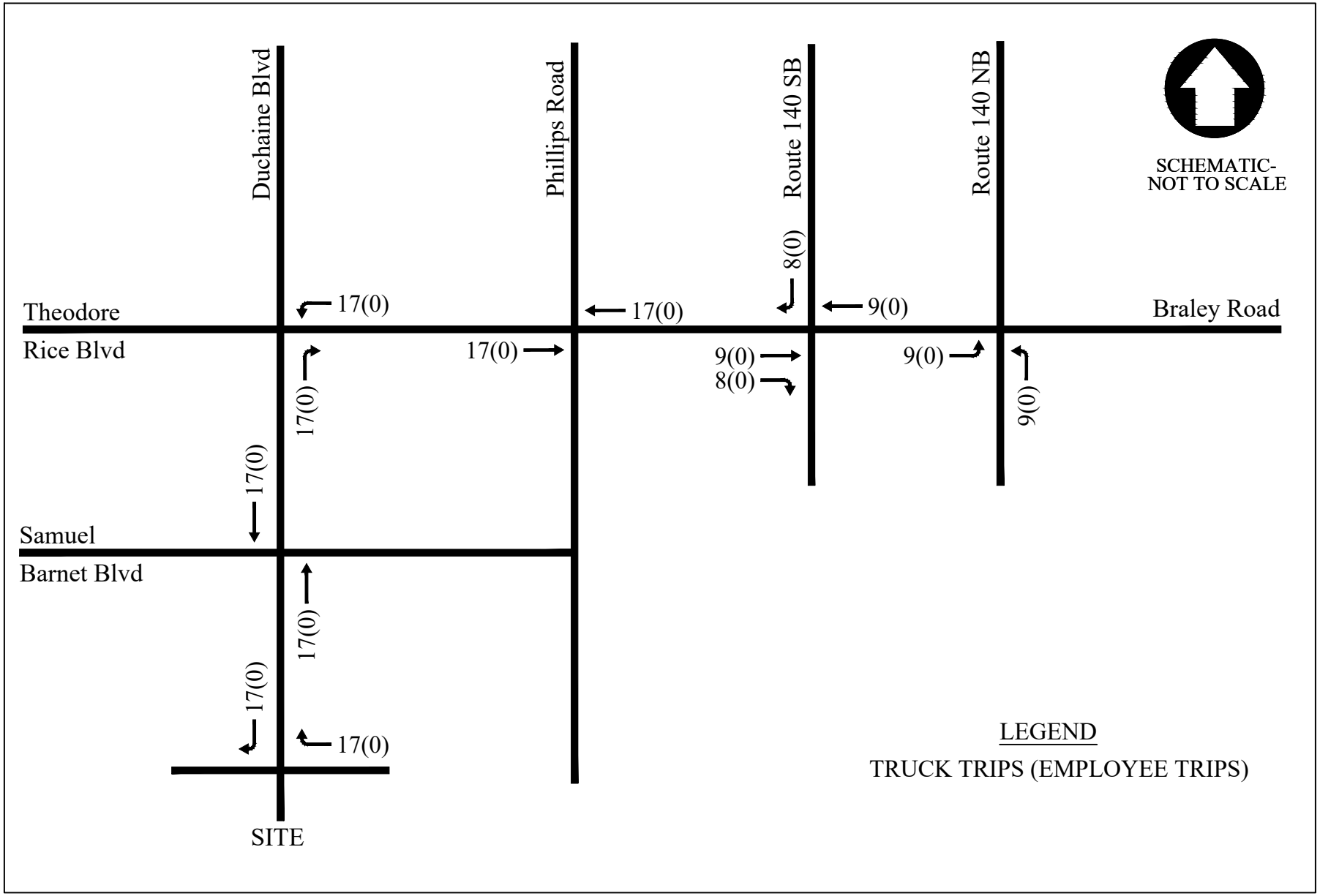

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Figure 15
Weekday PM Project Generated Trips
Transfer Station
New Bedford, MA

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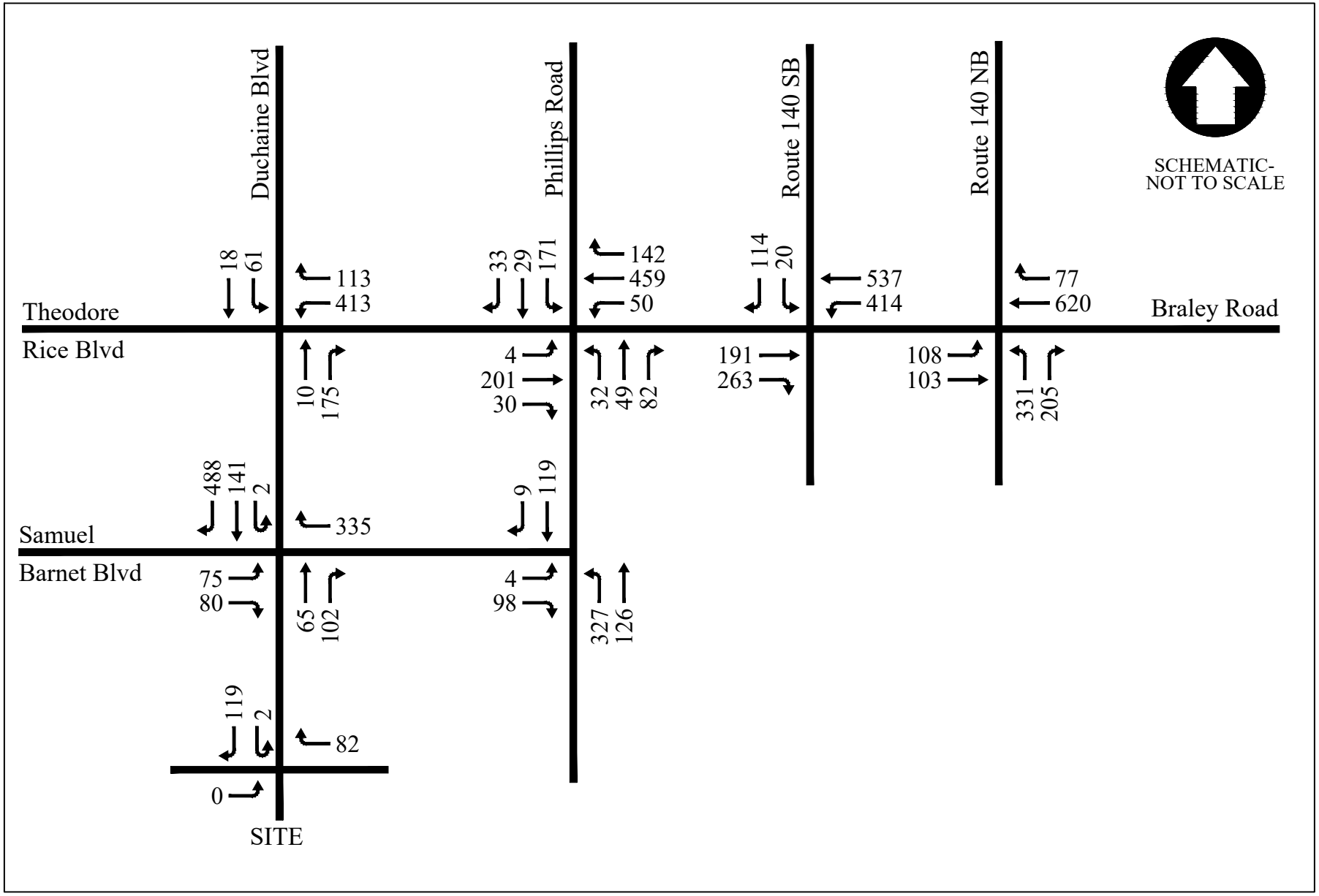

Figure 16
2028 Build Weekday AM
Transfer Station
New Bedford, MA

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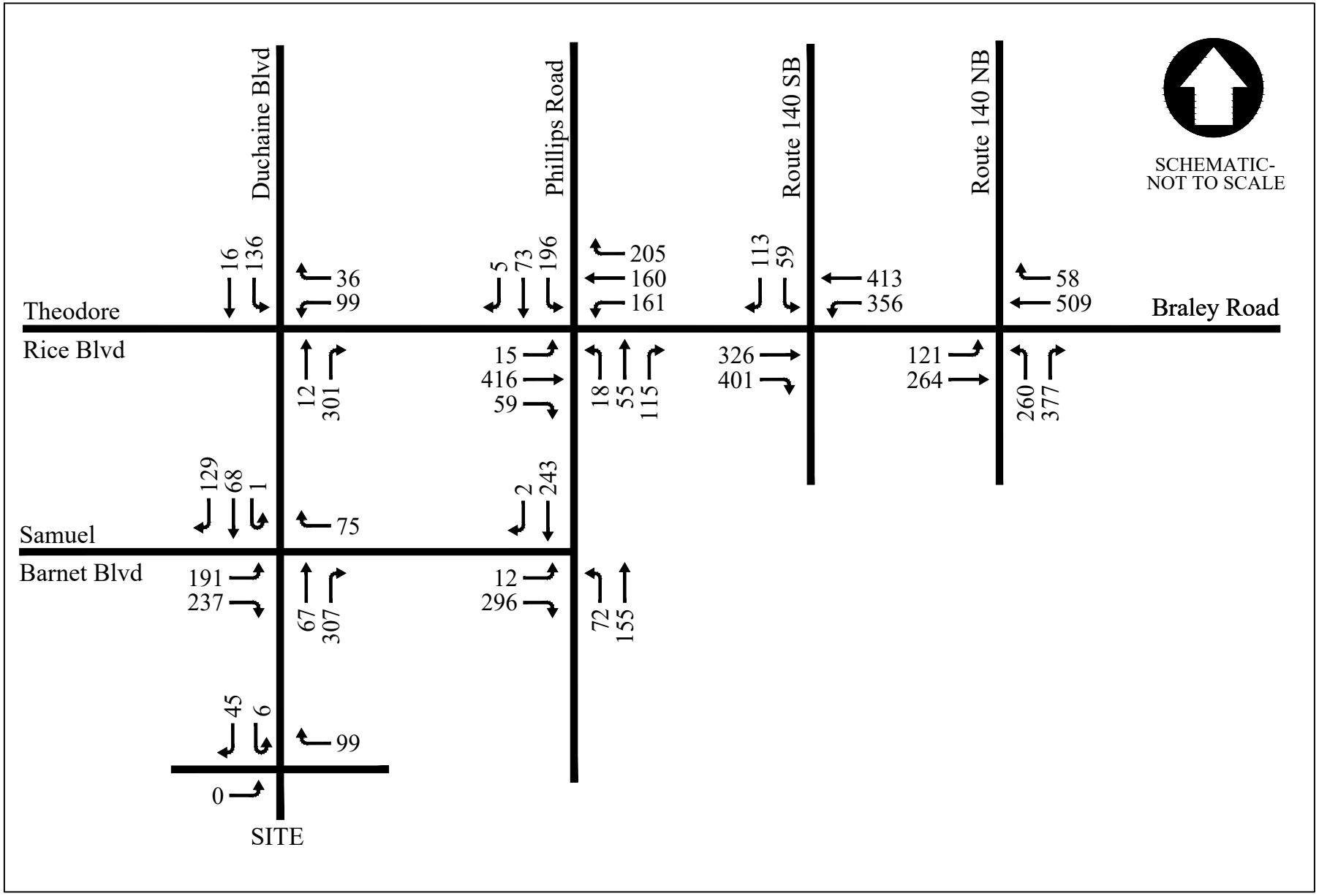

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Figure 17
2028 Build School Dismissal Peak
Transfer Station
New Bedford, MA

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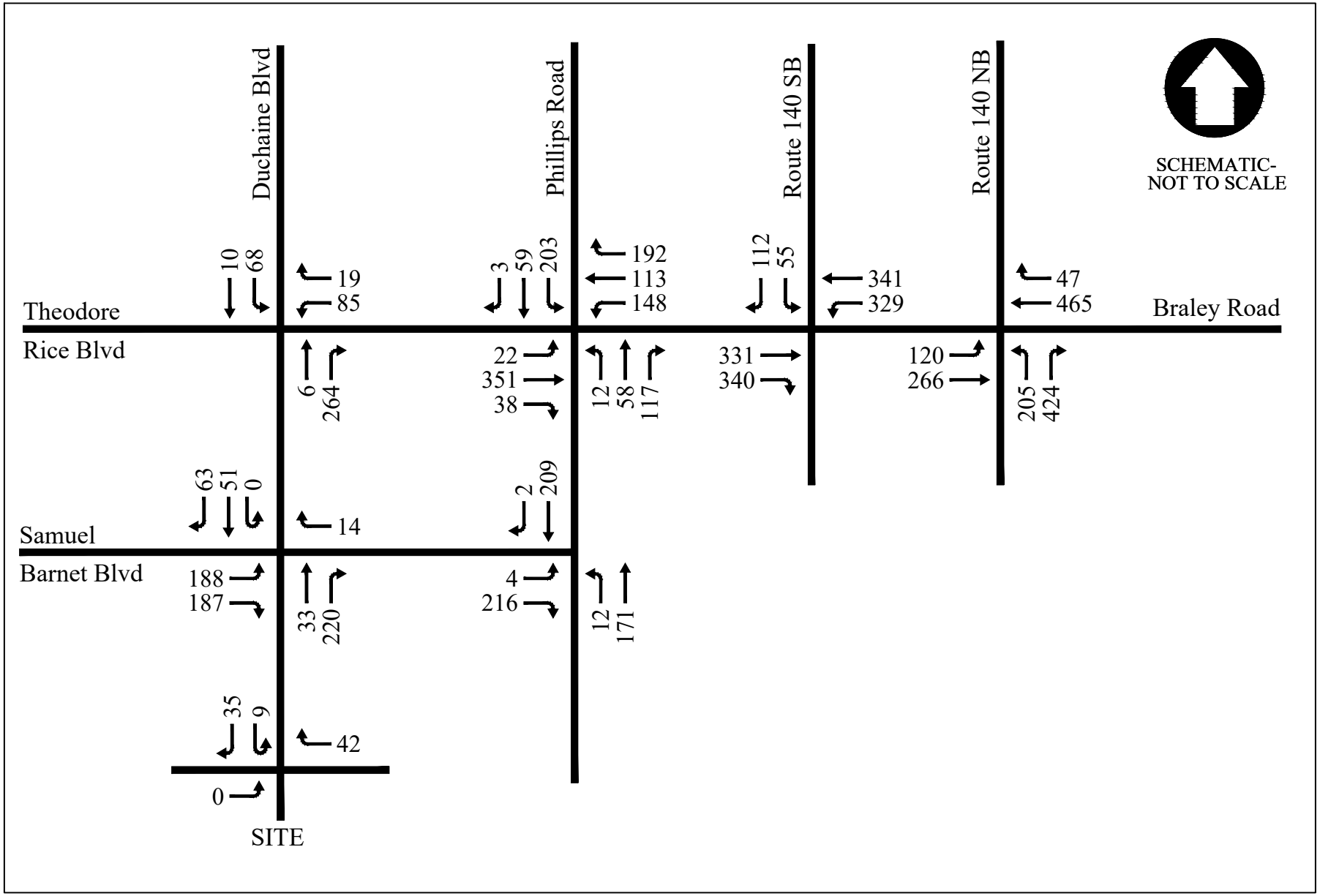

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Figure 18
2028 Build Weekday PM
Transfer Station
New Bedford, MA

TRAFFIC OPERATIONS ANALYSIS

In previous sections of this report, the quantity of traffic on the study area roadways was described. The following section describes the quality of traffic flow at the study area intersections for the given travel demands. As a basis for this assessment, intersection capacity analyses were conducted using Synchro capacity analysis software for the study area intersections under the 2021 Base, 2021 Existing, 2028 No Build, and 2028 Build peak hour traffic conditions. The weekday morning, weekday afternoon school peak, and weekday afternoon commuter peak hours were analyzed for the study area intersections under the three conditions. This analysis is based on procedures contained in the *Highway Capacity Manual* (HCM) which are summarized in Appendix I. A discussion of the evaluation criteria and a summary of the results of the capacity analyses are presented below.

Level-of-Service Criteria

Operating levels of service (LOS) are reported on a scale of A to F with A representing the best conditions (with little or no delay) and F representing the worst operating conditions (long delays).

Capacity Analysis

Intersection capacity analyses were conducted for the study area intersections to evaluate the 2021 Base, 2021 Existing, 2028 No Build, and 2028 Build peak hour traffic conditions. Based on the analysis, the network peak hour of the adjacent street traffic occurs between 6:30 AM and 7:30 AM for the weekday morning peak, between 3:15 PM and 4:15 PM for the weekday afternoon school dismissal peak, and between 4:00 PM and 5:00 PM for the weekday afternoon commuter peak.

As previously noted, the 2028 Build conditions analysis assumes all inbound and outbound material will transported by truck, and that the proposed facility expansion will include processing of up to 400 tpd of biosolids. In practice, the proposed expansion no longer includes biosolids processing, and the majority of outbound MSW and C&D will be transported from the site by rail. As a result, the 2028 Build analysis presented conservatively estimates the effect of project generated trips on the surrounding roadway network.

Traffic Model Calibration

The traffic analysis model was calibrated to reflect observed field conditions under raw counted 2021 traffic volumes. Critical gap times for the unsignalized approaches at the intersections of Braley Road at the Route 140 Northbound Ramps, Braley Road at the Route 140 Southbound Ramps, and Braley Road at Phillips Road/Theodore Rice Boulevard intersections were adjusted based on measured accepted gap times and observed vehicle queues. Traffic volumes were then adjusted to estimated pre-COVID conditions based on the methodology previously discussed in this report.

Peak hour factors (PHFs)[2] were applied to all hourly traffic volumes to account for traffic flow during the peak 15 minutes of the hour. Due to uses with concentrated activity such as arrival and dismissal at Casmir Pulaski elementary school and shift changes in the New Bedford Business Park, very low PHFs were calculated on several intersection approaches in the study area. As a result, applying PHFs on an approach-by-approach basis in accordance with typical MassDOT practice would result in peak flow rates on intersecting approaches that do not normally occur simultaneously. Therefore, PHFs for 2021 Base and 2021 Existing conditions were calculated on an overall intersection basis rather than on an approach-by-approach basis to more accurately reflect typical peak hour conditions in the study area. In accordance with *MassDOT Traffic and Safety Engineering 25% Design Submission Guidelines*, all PHFs were assumed to be 0.92 under 2028 No-Build and 2028 Build conditions. As a result of increases in PHF under future conditions at selected locations, there may be movements which show a reduction in delay under 2028 No-Build conditions when compared with 2021 Existing conditions.

Capacity Analysis Results

The capacity analysis results for the 2021 Base, 2021 Existing, 2028 No Build, and 2028 Build conditions are presented in Appendix J, Appendix K, Appendix L, and Appendix M, respectively. The results of the unsignalized intersection capacity analyses for the critical approaches are presented in Table 7 below and in Appendix N. The projected queue lengths at the intersections of Braley Road at the Route 140 Northbound Ramps, Braley Road at the Route 140 Southbound Ramps, Braley Road/Theodore Rice Boulevard at Phillips Road, and Theodore Rice Boulevard at Duchaine Boulevard are presented graphically in Figures 19A through 19L. The specific capacity analysis results of the study area intersections are discussed following Figure 19L.

[2] PHF = Total hourly volume / (4 x Peak 15-minute volume). The hourly volume is divided by the PHF to express the flow rate during the peak 15 minutes as an hourly flow rate.

Table 7: Capacity Analysis Results

Intersection	Movement		Peak Period	2021 Base LOS[1]	2021 Base Delay[2]	2021 Base V/C[3]	2021 Existing LOS	2021 Existing Delay	2021 Existing V/C	2028 No Build LOS	2028 No Build Delay	2028 No Build V/C	2028 Build LOS	2028 Build Delay	2028 Build V/C
Route 140 Northbound	NB	L	AM	D	28.7	0.69	D	32.1	0.72	F	61.3	0.92	F	89.0	1.02
Ramps at Braley Road			School	F	69.8	0.90	F	83.2	0.95	F	147.3	1.15	F	214.6	1.31
			PM	E	45.7	0.73	E	46.5	0.73	F	59.8	0.82	F	76.6	0.90
		R	AM	A	9.8	0.21	A	9.8	0.21	B	10.1	0.24	B	10.1	0.24
			School	B	14.1	0.49	B	14.1	0.49	C	15.4	0.55	C	15.4	0.55
			PM	C	16.1	0.58	C	16.1	0.58	C	17.2	0.62	C	17.2	0.62
Route 140 Southbound	SB	L	AM	F	56.8	0.24	F	60.8	0.26	F	60.5	0.25	F	68.1	0.28
Ramps at Braley Road			School	F	213.5	0.97	F	235.1	1.02	F	381.0	1.34	F	460.8	1.49
			PM	F	205.4	0.96	F	211.9	0.97	F	135.3	0.77	F	150.3	0.81
		R	AM	B	14.3	0.23	B	14.3	0.23	B	14.3	0.23	C	15.0	0.26
			School	B	12.0	0.17	B	12.0	0.18	B	12.3	0.19	B	12.8	0.21
			PM	B	11.8	0.18	B	11.8	0.18	B	11.5	0.17	B	11.9	0.19
Braley Road/	EB	LT	AM	B	14.1	0.33	C	15.2	0.39	C	15.2	0.39	C	17.4	0.49
Theodore Rice Boulevard			School	E	39.4	0.85	E	48.8	0.92	F	59.0	0.98	F	82.6	1.09
at Phillips Road			PM	F	57.4	0.95	F	58.3	0.96	E	40.5	0.83	E	46.9	0.88
		R	AM	A	10.0	0.06	A	10.0	0.06	A	10.0	0.06	B	10.3	0.07
			School	B	10.9	0.13	B	11.0	0.13	B	11.4	0.13	B	11.6	0.14
			PM	B	11.2	0.10	B	11.2	0.10	B	10.5	0.08	B	10.8	0.08
	WB	LTR	AM	F	108.7	1.14	F	116.5	1.16	F	116.5	1.16	F	141.7	1.22
			School	F	85.3	1.05	F	92.5	1.06	F	113.9	1.14	F	128.5	1.20
			PM	F	93.3	1.07	F	95.0	1.08	F	55.5	0.94	F	68.0	0.99
	NB	LTR	AM	B	13.9	0.36	B	14.2	0.36	B	14.2	0.36	B	14.8	0.38
			School	C	17.8	0.46	C	18.4	0.47	C	19.7	0.50	C	20.5	0.52
			PM	C	21.7	0.55	C	21.8	0.55	C	18.7	0.47	C	19.3	0.48
	SB	LTR	AM	C	16.8	0.51	C	17.3	0.52	C	17.3	0.52	C	18.2	0.54
			School	C	25.0	0.66	D	26.0	0.68	D	28.9	0.72	D	30.3	0.74
			PM	D	31.9	0.75	D	32.2	0.75	D	25.4	0.65	D	26.5	0.67

Intersection	Movement		Peak Period	2021 Base LOS[1]	2021 Base Delay[2]	2021 Base V/C[3]	2021 Existing LOS	2021 Existing Delay	2021 Existing V/C	2028 No Build LOS	2028 No Build Delay	2028 No Build V/C	2028 Build LOS	2028 Build Delay	2028 Build V/C
Theodore Rice Boulevard	NB	TR	AM	A	0.0	0.04	A	0.0	0.04	A	0.0	0.03	A	0.0	0.03
at Duchaine Boulevard			School	A	0.0	0.01	A	0.0	0.01	A	0.0	0.01	A	0.0	0.01
			PM	A	0.0	0.01	A	0.0	0.01	A	0.0	0.01	A	0.0	0.01
	SB	L	AM	E	44.4	0.49	E	44.8	0.50	D	31.6	0.36	D	34.6	0.39
			School	B	12.1	0.26	B	12.1	0.26	B	11.5	0.22	B	12.1	0.24
			PM	B	10.9	0.14	B	10.9	0.14	B	10.3	0.11	B	10.7	0.11
		T	AM	D	26.7	0.06	D	26.8	0.06	C	22.8	0.05	C	24.1	0.05
			School	B	11.3	0.02	B	11.4	0.02	B	11.1	0.02	B	11.6	0.02
			PM	B	10.7	0.01	B	10.7	0.01	B	10.4	0.01	B	10.7	0.01
Duchaine Boulevard at	EB	L	AM	C	21.4	0.29	C	23.1	0.31	C	20.0	0.25	C	23.1	0.29
Samuel Barnet Boulevard			School	B	13.3	0.38	B	14.2	0.41	B	11.9	0.29	B	13.0	0.32
			PM	B	11.7	0.35	B	11.8	0.35	B	10.4	0.24	B	10.9	0.25
		R	AM	B	11.7	0.15	B	11.7	0.15	B	11.3	0.13	B	11.4	0.13
			School	B	11.3	0.37	B	11.3	0.37	B	10.3	0.27	B	10.4	0.28
			PM	B	10.2	0.29	B	10.2	0.29	A	9.5	0.20	A	9.6	0.21
Phillips Road at	EB	LR	AM	B	10.2	0.13	B	10.2	0.13	B	10.2	0.14	B	10.2	0.14
Samuel Barnet Boulevard			School	C	15.2	0.51	C	15.2	0.52	B	13.5	0.44	B	13.6	0.45
			PM	B	12.6	0.38	B	13.3	0.46	B	11.3	0.30	B	11.3	0.30
Duchaine Boulevard at	WB	R	AM	A	8.6	0.02	A	8.7	0.05	A	8.8	0.08	A	9.3	0.16
Site Driveway			School	A	8.5	0.04	A	8.6	0.08	A	8.6	0.06	A	8.9	0.10
			PM	A	8.5	0.03	A	8.5	0.03	A	8.5	0.03	A	8.9	0.05

1 Level-of-Service

2 Average vehicle delay in seconds

3 Volume to capacity ratio

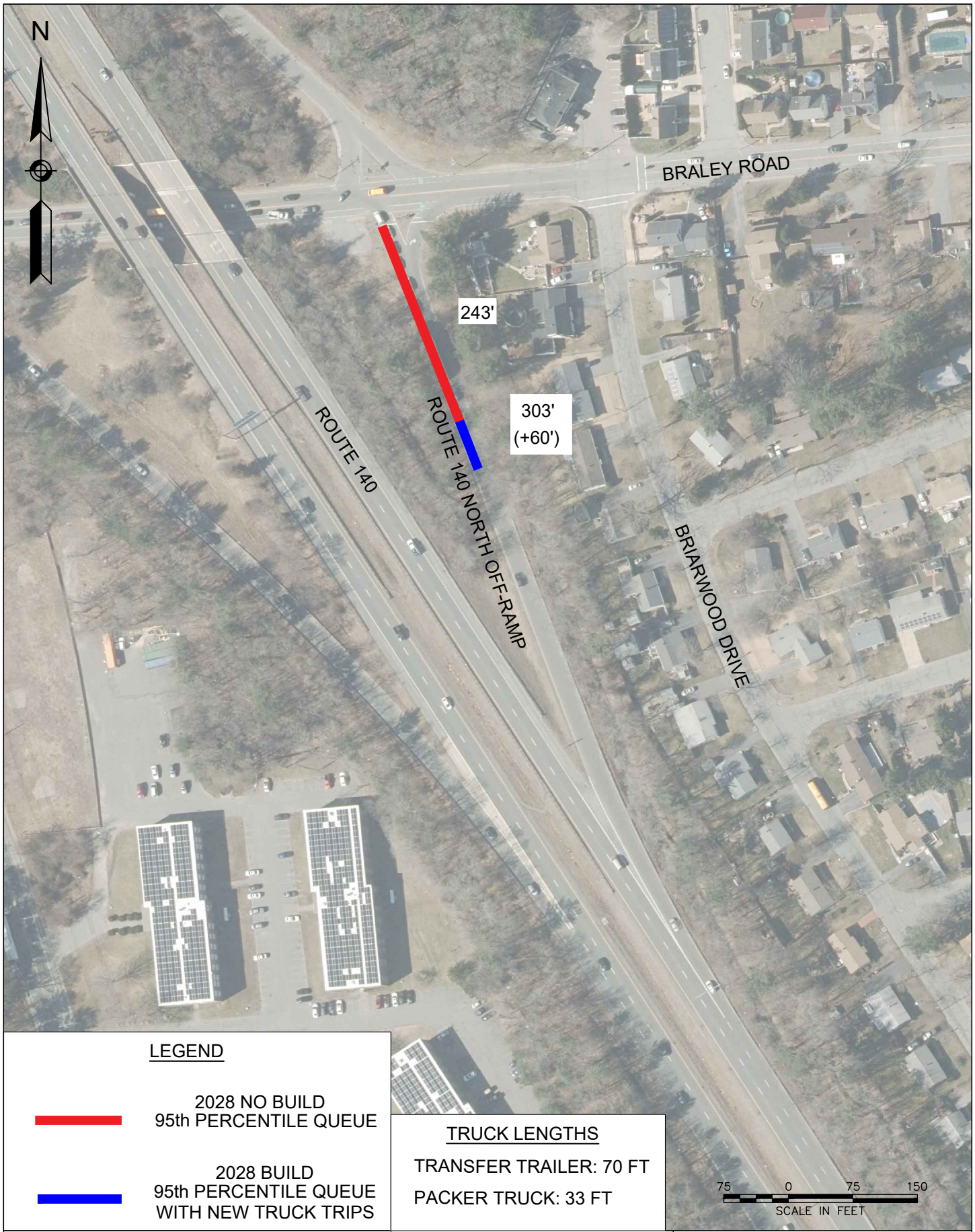


Figure 19A: Weekday Morning Peak Hour Queue Lengths
BRALEY ROAD AT ROUTE 140 NORTH OFF-RAMP

NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

Figure 19B: Weekday Morning Peak Hour Queue Lengths
BRALEY ROAD AT ROUTE 140 SOUTH OFF-RAMP

NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

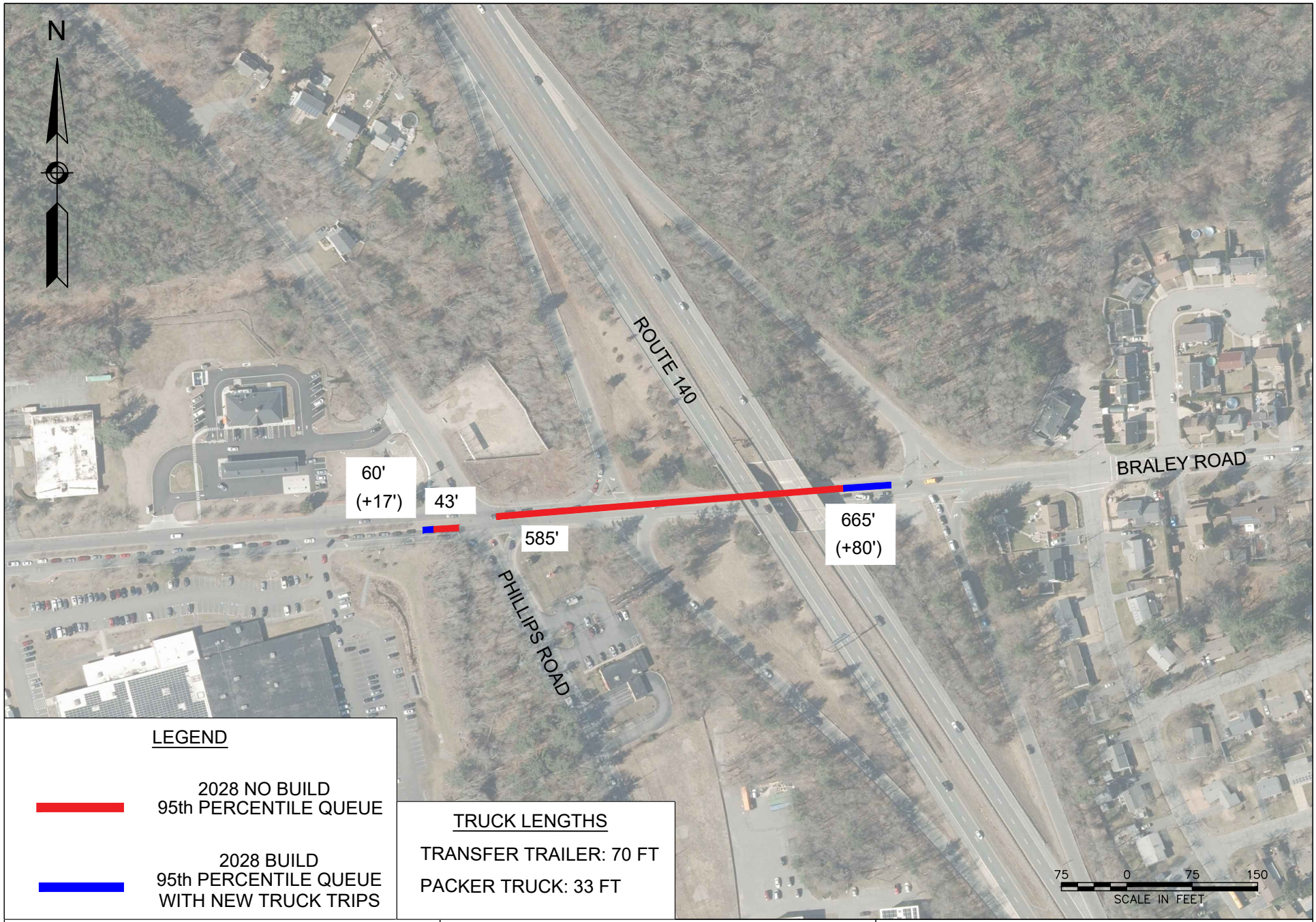


Figure 19C: Weekday Morning Peak Hour Queue Lengths

THEODORE RICE BLVD/BRALEY ROAD AT PHILLIPS ROAD

NEW BEDFORD TRANSFER STATION

NEW BEDFORD, MA

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

LEGEND

2028 NO BUILD
95th PERCENTILE QUEUE

2028 BUILD
95th PERCENTILE QUEUE
WITH NEW TRUCK TRIPS

TRUCK LENGTHS

TRANSFER TRAILER: 70 FT

PACKER TRUCK: 33 FT

75 0 75 150
SCALE IN FEET

Figure 19D: Weekday Morning Peak Hour Queue Lengths
THEODORE RICE BOULEVARD AT DUCHAINE BOULEVARD

NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

Figure 19E: Weekday Afternoon School Dismissal Queue Lengths
BRALEY ROAD AT ROUTE 140 NORTH OFF-RAMP

NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

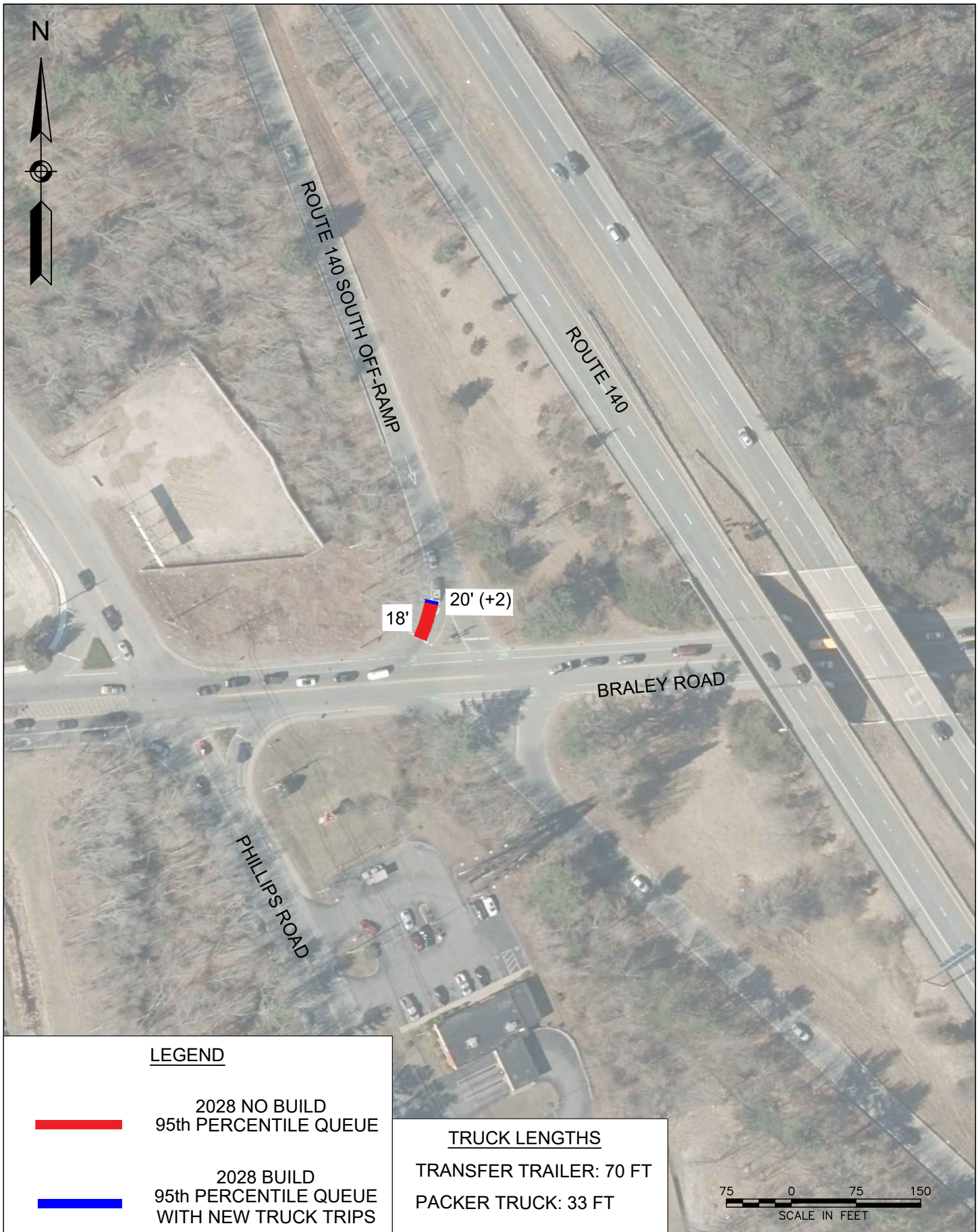


Figure 19F: Weekday Afternoon School Dismissal Queue Lengths
BRALEY ROAD AT ROUTE 140 SOUTH OFF-RAMP

NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

Figure 19G: Weekday Afternoon School Dismissal Queue Lengths
THEODORE RICE BLVD/BRALEY ROAD AT PHILLIPS ROAD

NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

Figure 19H: Weekday Afternoon School Dismissal Queue Lengths
THEODORE RICE BOULEVARD AT DUCHAINE BOULEVARD

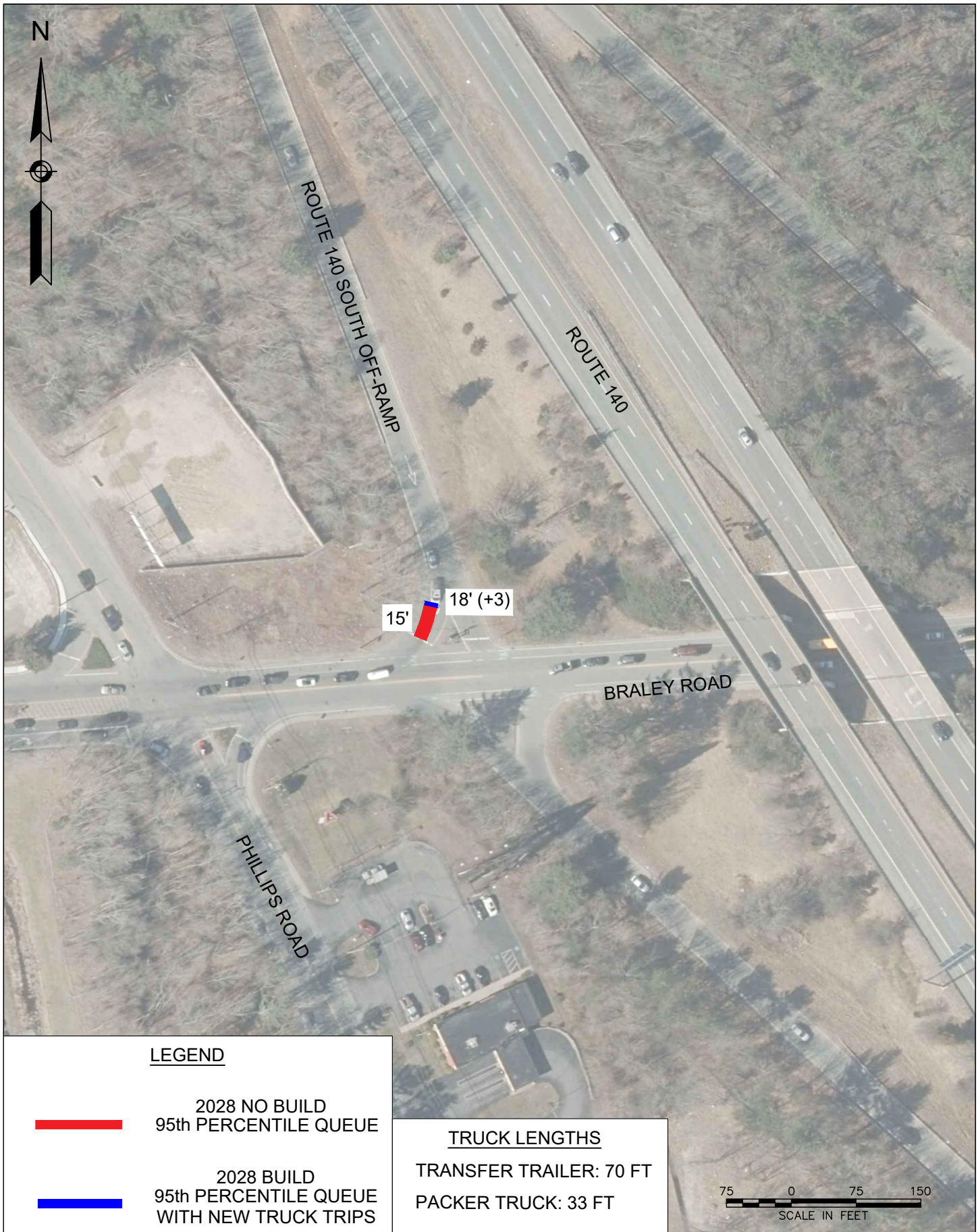
NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

Figure 19I: Weekday Afternoon Commuter Peak Hour Queue Lengths
BRALEY ROAD AT ROUTE 140 NORTH OFF-RAMP

NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS



LEGEND

2028 NO BUILD
95th PERCENTILE QUEUE

2028 BUILD
95th PERCENTILE QUEUE
WITH NEW TRUCK TRIPS

TRUCK LENGTHS

TRANSFER TRAILER: 70 FT

PACKER TRUCK: 33 FT

75 0 75 150
SCALE IN FEET

Figure 19J: Weekday Afternoon Commuter Peak Hour Queue Lengths
BRALEY ROAD AT ROUTE 140 SOUTH OFF-RAMP

NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

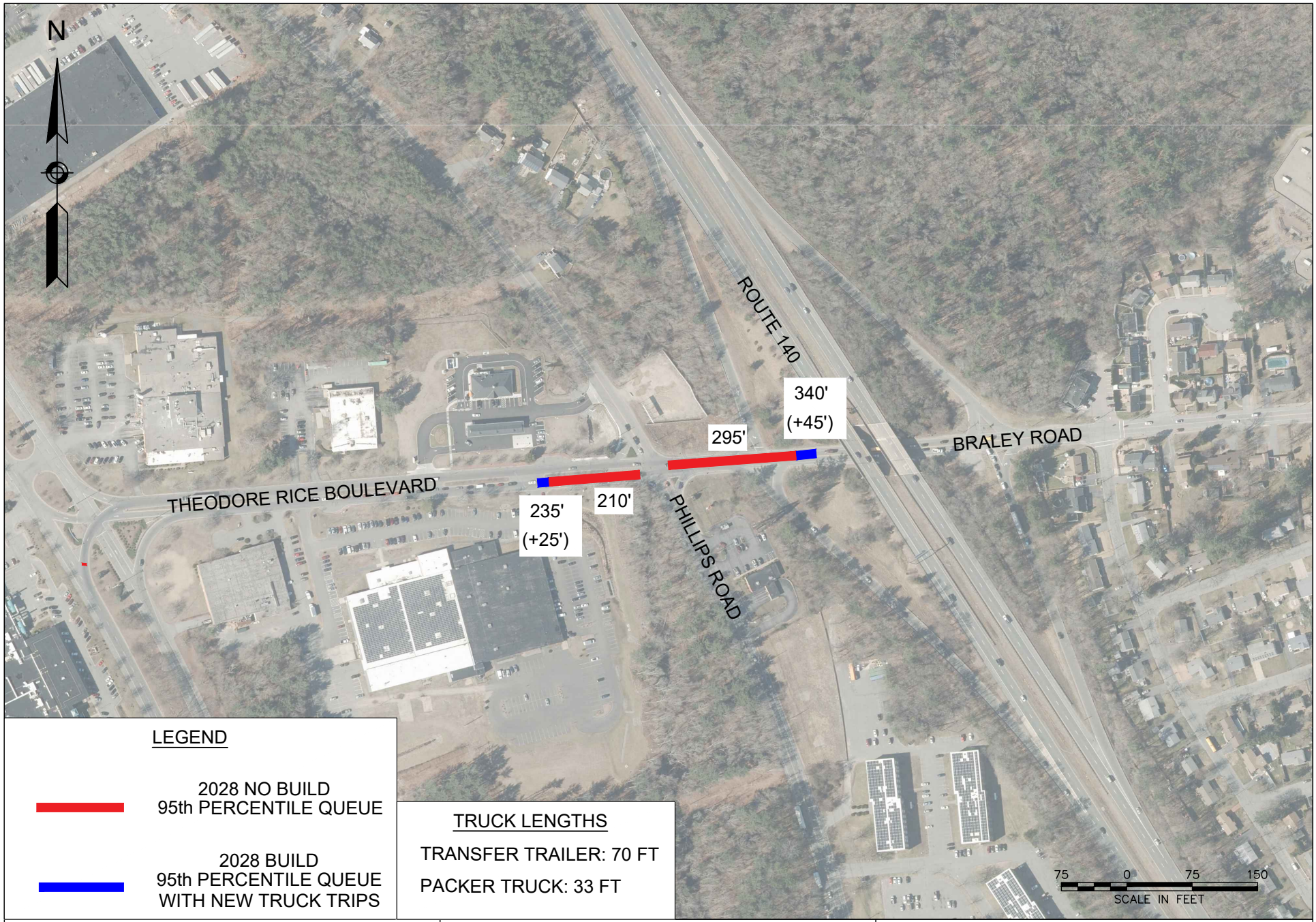


Figure 19K: Weekday Afternoon Commuter Peak Hour Queue Lengths

THEODORE RICE BLVD/BRALEY ROAD AT PHILLIPS ROAD

NEW BEDFORD TRANSFER STATION

NEW BEDFORD, MA

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

LEGEND

2028 NO BUILD
95th PERCENTILE QUEUE

2028 BUILD
95th PERCENTILE QUEUE
WITH NEW TRUCK TRIPS

TRUCK LENGTHS

TRANSFER TRAILER: 70 FT

PACKER TRUCK: 33 FT

75 0 75 150
SCALE IN FEET

Figure 19L: Weekday Afternoon Commuter Peak Hour Queue Lengths
THEODORE RICE BOULEVARD AT DUCHAINE BOULEVARD

NEW BEDFORD TRANSFER STATION
NEW BEDFORD, MA

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

Route 140 Northbound on/off-ramp at Braley Road

As shown in Table 7, the stop-controlled northbound left turn movement at the Route 140 Northbound off-ramp operates at LOS D during the weekday morning peak hour, LOS F during the weekday afternoon school dismissal peak hour, and LOS E during the weekday afternoon commuter peak hour under 2021 Base and Existing conditions. The stop-controlled northbound right -turn movement operates at LOS C or better during all three peak periods reviewed.

Under 2028 No-Build conditions the northbound left-turn movement is projected to operate at LOS F during all three peak periods reviewed, indicating congestion would be present for this movement due to background growth in traffic volumes, independent of the proposed project. The northbound right-turn movement is projected to operate at LOS B during the weekday morning peak hour and LOS C during the weekday afternoon school dismissal and commuter peak hours.

Under 2028 Build conditions, the northbound left-turn movement is projected to continue to operate at LOS F under all three peak period analyzed with incremental increases in average delay. The northbound right-turn movement is projected to continue to operate at LOS B during the weekday morning peak hour and LOS C during the weekday afternoon school and commuter peak hours. The 95th percentile queue length along the Route 140 northbound off-ramp is projected to increase by 60 feet (approximately two packer trucks or one transfer trailer) during the weekday morning peak hour as shown in Figure 19A, by 72 feet (approximately two packer trucks or one transfer trailer) during the weekday afternoon school dismissal peak hour as shown in Figure 19E, and by 33 feet (approximately one packer truck) during the weekday afternoon commuter peak hour as shown in Figure 19I.

Route 140 Southbound on/off-ramp at Braley Road

The capacity analysis results show that under the 2021 Base and Existing conditions, the stop-controlled southbound left-turn movement at the Route 140 southbound off-ramp operates at LOS F during all three peak hours analyzed, indicating congestion is present for this movement independent of the proposed project. The southbound right-turn movement is shown to operate at LOS B during all three peak hours reviewed under 2021 Existing and Base conditions.

Under 2028 No-Build conditions, the southbound left-turn movement is projected to continue to operate at LOS F during all three peak periods reviewed due to background growth in traffic volumes, independent of the proposed project. The southbound right-turn movement is projected to operate at LOS B during all three peak hours reviewed under 2028 No-Build conditions.

Under 2028 Build conditions, left-turn movement is projected to continue to operate at LOS F under all three peak period analyzed with incremental increases in average delay. The southbound right-turn movement is projected to operate at LOS C during the weekday morning peak hour due to an increase in average delay of 0.7 seconds per vehicle. During the weekday afternoon school dismissal and commuter peak hours, the southbound right-turn movement is projected to continue to operate at LOS B. The Route 140 southbound off-ramp is projected to

experience a negligible increase in queues as a result of project generated trips. The 95th percentile queue length is projected to increase by 2 feet during the weekday morning peak hour and weekday afternoon school dismissal peak hour as shown in Figures 19B and 19F, respectively, and by 3 feet during the weekday afternoon commuter peak hour as shown in Figure 19I.

Braley Road/Theodore Rice Boulevard at Phillips Road

The intersection of Braley Road/Theodore Rice Boulevard at Phillips Road operates under all-way stop sign control. Under 2021 Base and Existing conditions, congestion is experienced on the eastbound Theodore Rice Boulevard and westbound Braley Road approaches during one or more of the peak periods analyzed. The left-turn/through lane on the eastbound approach is shown to operate at acceptable LOS B during the weekday morning peak hour under 2021 Base conditions and LOS C under Existing conditions, but experiences delays during the weekday afternoon school and commuter peaks, operating at LOS E during the weekday afternoon school peak under both 2021 Base and Existing conditions, and LOS F during the weekday afternoon commuter peak hour under both 2021 Base and Existing conditions. The eastbound Theodore Rice Boulevard right-turn movement operates at LOS B or better under both 2021 Base and Existing conditions during all three peak hours reviewed. The westbound Braley Road approach is shown to operate at LOS F during all three peak hours reviewed under both 2021 Base and Existing conditions, indicating existing congestion independent of the proposed project. The northbound Phillips Road and southbound Braley Road approaches operate at LOS D or better during all three peak hours reviewed under under both 2021 Base and Existing conditions, indicating operations with acceptable levels of delay.

Under 2028 No Build conditions, the eastbound Theodore Rice Boulevard left-turn/though movement operates at LOS C during the weekday morning peak hour as under 2021 Existing conditions, but experiences congestion in the afternoon. During the weekday afternoon school dismissal peak hour, the eastbound left-turn/through movement degrades from LOS E under 2021 Existing conditions to LOS F under 2028 No-Build conditions. During the weekday afternoon commuter peak hour, the eastbound left-turn/through movement shows a minor improvement from LOS F under 2021 Existing conditions to LOS E under 2028 No-Build conditions due to the increase in peak hour factor (PHF) used in the analysis of forecasted conditions discussed previously. The westbound Braley Road approach is shown to continue to operate at LOS F during all three peak hours reviewed. Similarly, the northbound Phillips Road and southbound Braley Road approaches and the eastbound Theodore Rice Boulevard right-turn movement are expected to continue to operate at the same LOS as 2021 Existing conditions with acceptable levels of delay (LOS D or better).

Under 2028 Build conditions, the left-turn/through movement along the eastbound Theodore Rice Boulevard approach is projected to continue to operate at LOS F during the weekday afternoon school dismissal peak hour and LOS E during the weekday afternoon commuter peak hour due to existing congestion independent of the proposed project, with incremental increases in delay due the addition of project-generated trips. Similarly, the westbound Braley Road approach is projected to continue to operate at LOS F during all three peak hours reviewed. All other

movements at the Braley Road/Theodore Rice Boulevard at Phillips Road intersection are projected to operate at LOS D or better with acceptable levels of delay under 2028 Build conditions during all three peak hours reviewed. The 95th percentile queue lengths are projected to increase by 17 feet (less than one packer truck) along the eastbound Theodore Rice Boulevard approach and by 80 feet (approximately three packer trucks or one transfer trailer) along the westbound Braley Road approach during the weekday morning peak hour as shown in Figure 19C; by 72 feet (approximately two packer trucks or one transfer trailer) along the eastbound Theodore Rice Boulevard approach and by 35 feet (approximately one packer truck) along the westbound Braley Road approach during the weekday afternoon school dismissal peak hour as shown in Figure 19G; and by 25 feet (approximately one packer truck) along the eastbound Theodore Rice Boulevard approach and by 45 feet (approximately one packer truck) along the westbound Braley Road approach during the weekday afternoon commuter peak hour as shown in Figure 19K.

Theodore Rice Boulevard at Duchaine Boulevard

The stop-controlled northbound approach at the intersection of Theodore Rice Boulevard at Duchaine Boulevard is shown to operate at LOS A during all three peak hours analyzed under the 2021 Base and Existing conditions. The southbound left-turn movement is shown to operate at LOS E during the weekday morning peak hour and LOS B during the weekday afternoon school dismissal and commuter peak hours during both 2021 Base and Existing conditions, while the southbound through movement is shown to operate at LOS D during the weekday morning peak hour and LOS B during the weekday afternoon school and commuter peak hours. LOS B during the weekday afternoon school dismissal and commuter peak hours during both 2021 Base and Existing conditions, while the southbound through movement is shown to operate at LOS D during the weekday morning peak hour and LOS B during both the weekday afternoon school dismissal and commuter peak hours under 2021 Base and Existing conditions.

Under the 2028 No Build conditions, the stop-controlled northbound approach is projected to continue to operate at LOS A during all three peak hours reviewed. The southbound left-turn movement is shown to operate at LOS D during the weekday morning peak hour, with reduced delay compared with 2021 Existing conditions due to the increase in PHF used in the analysis of forecasted conditions discussed previously. During the weekday afternoon school dismissal and commuter peak hours, the southbound left-turn movement is projected to continue to operate at LOS B. Similarly, the southbound through movement is projected to operate at LOS C during the weekday morning peak hour with a reduction in delay compared with 2021 Existing conditions due to the increase in PHF assumed under forecasted conditions, and is projected to continue to operate at LOS B during the weekday afternoon school dismissal and commuter peak hours.

Under 2028 Build conditions, all movements are projected to operate at equivalent LOS with minor incremental increases in delay of 3 seconds or less compared with 2028 No Build conditions during all three peak hours reviewed. Similarly, 95th percentile queue lengths are projected to remain largely unchanged from No-Build conditions during the weekday morning, weekday

afternoon school dismissal, and weekday afternoon commuter peak hours, as shown in Figures 19D, 19H, and 19L, respectively.

Duchaine Boulevard at Samuel Barnet Boulevard

Under the 2021 Base and Existing conditions, the left-turn and right-turn movements along the stop-controlled eastbound Samuel Barnet Boulevard approach are shown to operate at LOS C or better during all three peak hours reviewed, and are projected to continue to operate at LOS C or better under both 2028 No Build and 2028 Build conditions.

Phillips Road at Samuel Barnet Boulevard

The stop-controlled eastbound Samuel Barnet Boulevard approach is shown to operate at LOS C or better during all three peak hours reviewed under 2021 Base and Existing conditions.

Under the 2028 No Build conditions, the stop controlled eastbound approach is expected to operate at LOS B during all three peak hours reviewed, with slight reductions in delay compared with 2021 Existing conditions due to the increase in PHF assumed under forecasted conditions. With the addition of project-generated trips under 2028 Build conditions, all movement are projected to continue to operate at LOS B during all three peak hours reviewed.

Duchaine Boulevard at Site Driveway

The stop-controlled westbound approach is shown to operate at LOS A during all three peak hours reviewed under 2021 Base and Existing conditions, and is projected to continue to operate at LOS A under both 2028 No Build and Build conditions.

MITIGATION

Potential measures were analyzed to evaluate mitigation to the study area intersections. Mitigation alternatives analyzed included signalizing the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard if approved by the City. To determine if signalization is appropriate, a signal warrant analysis was completed for this intersection. In addition, PPNE will consider Transportation Demand Management (TDM) measures and will allocate up to $5,000 toward a Heavy Commercial Vehicle Exclusion study for Phillips Road from Route 140 to Braley Road should the City of New Bedford choose to pursue a HCVE through MassDOT.

MassDOT has been contacted to request a meeting, but the meeting has not yet been scheduled. Although the proposed project does not meet the MEPA threshold for transportation review, MassDOT provided a comment letter to the Expanded Environmental Notification Form (EENF) dated March 19, 2019. The MassDOT comment letter moted that "The additional traffic volumes associated with the project is not expected to significantly impact safety" and "2025 Build conditions experience slightly increased delays compared to the 2025 No-Build conditions, but the delays were not significant enough to impact LOS in most cases." Mitigation recommended in the MassDOT comment letter was limited to providing a Transportation Demand Management program, which is discussed below. The MassDOT EENF comment letter is included in Appendix O of this report.

Traffic Signal Warrant Analysis

A traffic signal warrant analysis was performed for the study area intersection of Braley Road at Phillips Road/Theodore Rice Boulevard analysis was based on procedures outlined in the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD) as amended. The MUTCD establishes nine criteria, referred to as warrants, for the installation of traffic signals. The warrants are based upon traffic volumes, existing roadway conditions, crash history, pedestrian volumes, and proximity to schools. The manual states that satisfaction of these warrants does not in itself require the installation of a traffic signal. However, a traffic signal should not be installed unless one or more of the warrants is met.

The analyses performed are based on the criteria for Warrant 1 (Eight-Hour), Warrant 2 (Four-Hour) and Warrant 3 (Peak Hour) volume warrants. The following warrants were not applicable to this project: Warrant 4 (Pedestrian Volumes), Warrant 5 (School Crossing), Warrant 6 (Coordinated Signal System), Warrant 7 (Crash Experience), Warrant 8 (Roadway Network), and Warrant 9 (Intersection Near a Grade Crossing).

The Warrant 1 (Eight-Hour) and Warrant 2 (Four-Hour) vehicular volume signal warrants are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing traffic signal control at an intersection. Warrant 1 is separated into Conditions A and B. According to the MUTCD, "the Minimum Vehicular Volume, Condition A, is intended for application at locations where a large volume of intersection traffic is the principal reason to

consider installing a traffic control signal." The MUTCD also sets forth guidelines for Condition B, stating "the Interruption of Continuous Traffic, Condition B is intended for application at locations where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street. In order for this warrant to be met, minimum vehicular volumes for the major street and minor street, found in Table 4C-1 of the MUTCD, must be exceeded. If any one condition is satisfied, Warrant 1 is met.

To satisfy Warrant 2, the plotted points representing the hourly volumes on the major street and minor street intersection approaches during any four hours of an average weekday must fall above the applicable curve in Figure 4C-2 of the MUTCD.

The Warrant 3 (Peak Hour) vehicular volume signal warrant is intended for use at a location where traffic conditions are such that for a minimum of one hour of an average day, the minor-street traffic experiences undue delay when entering or crossing the major street. Warrant 3 is satisfied when the plotted point representing the total hourly traffic volume of both approaches on the major street and the corresponding hourly volume of the higher-volume minor street approach for one hour of an average day falls above the applicable curve in Figure 4C-4 of the MUTCD.

Analyses for Warrants 1, 2, and 3 were performed using the adjusted 2021 Existing, 2028 No Build, and 2028 Build traffic volumes at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard. The results of the signal warrant analysis are provided in Appendix P, and a summary of the results of the signal warrant analysis is shown in Table 8.

Table 8: Traffic Signal Warrant Summary

Braley Road at Phillips Road/Theodore Rice Boulevard	Warrant 1: Eight-Hour	Warrant 2: Four-Hour	Warrant 3: Peak Hour
2021 Existing	☑		
2028 No Build	☑	☑	
2028 Build	☑	☑	

According to the warrant analysis results, the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard warrants the installation of a traffic signal based on Warrants 1 and 2 under 2028 No Build conditions, ***independent of the proposed project***.

Subject to approval by the City of New Bedford, PPNE proposes to construct a fully actuated traffic signal at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard to mitigate congestion. It is anticipated that the signal will operate with three phases: one vehicle phase for eastbound Theodore Rice Boulevard and westbound Braley Road, one vehicle phase

for northbound Phillips Road and southbound Braley Road, and an exclusive pedestrian phase. It is anticipated that marked crosswalks will be provided across the northern and eastern Braley Road legs of the intersection, as there is no sidewalk on the southwest corner of the intersection. The results of the signalized intersection capacity analyses for the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard are presented in Table 9 below and in Appendix Q.

Table 9: Capacity Analysis Results with Mitigation

				2028 Build			2028 Build with Mitigation		
Intersection	**Movement**		**Peak Period**	**LOS[1]**	**Delay[2]**	**V/C[3]**	**LOS**	**Delay**	**V/C**
Braley Road/	EB	LT	AM	C	17.4	0.49	A	8.2	0.27
Theodore Rice Boulevard at			School	F	82.6	1.09	B	14.0	0.49
Phillips Road			PM	E	46.9	0.88	B	13.1	0.44
		R	AM	B	10.3	0.07	A	1.1	0.04
			School	B	11.6	0.14	A	3.8	0.07
			PM	B	10.8	0.08	A	2.4	0.05
	WB	LTR	AM	F	141.7	1.22	B	19.0	0.81
			School	F	128.5	1.20	E	58.0	1.00
			PM	F	68.0	0.99	C	24.1	0.78
	NB	LTR	AM	B	14.8	0.38	C	22.0	0.42
			School	C	20.5	0.52	B	17.0	0.41
			PM	C	19.3	0.48	B	15.9	0.38
	SB	LTR	AM	C	18.2	0.38	D	50.4	0.84
			School	D	30.3	0.74	E	78.4	0.98
			PM	D	26.5	0.67	E	78.7	0.98
	Overall		*AM*	*F*	*80.2*	*n/a*	*C*	*23.0*	*0.82*
			School	*F*	*78.5*	*n/a*	*D*	*41.5*	*0.92*
			PM	*E*	*45.1*	*n/a*	*C*	*30.2*	*0.84*

1 Level-of-Service

2 Average vehicle delay in seconds

3 Volume to capacity ratio (Intersection capacity utilization reported for overall)

The intersection of Braley Road/Theodore Rice Boulevard at Phillips Road is currently unsignalized but is proposed to be signalized as potential mitigation for the proposed project. As shown in Table 9, operations for the eastbound Theodore Rice Boulevard left-turn/through movement are projected to improve from LOS F to LOS B during the weekday school dismissal peak hour and from LOS E to LOS B during the weekday afternoon commuter peak hour. The westbound Braley Road approach is projected to improve from LOS F during all three peak hours reviewed to LOS B during the weekday morning peak hour, LOS E during the weekday afternoon school dismissal peak hour, and LOS C during the weekday afternoon commuter peak hour. Operations along the northbound Phillips Road approach are projected to operate at LOS C or better during all three peak hours reviewed. Operations along the southbound Braley Road approach are projected to worsen compared with unsignalized conditions, operating at LOS D during the weekday morning peak hour and LOS E during the weekday afternoon school dismissal and commuter peak hours. The degradation in LOS for the southbound approach is primarily due to the change from all-way STOP control, where each approach is given equal priority, to traffic signal control, where the higher-volume eastbound and westbound approaches are given more green time. Overall intersection operations are projected to improve from LOS F during the weekday morning and afternoon school dismissal peak hours and LOS E during the weekday afternoon commuter peak hour under unsignalized conditions to LOS C during the weekday morning peak hour, LOS D during the weekday afternoon school dismissal peak hour, and LOS C during the weekday afternoon commuter peak hour under signalized conditions. Based on the analyses presented, signalization mitigates project generated impacts to the greatest extent feasible and satisfies the MassDOT Traffic Impact Assessment Guidelines.

Braley Road at Route 140 Ramps

As indicated in the Traffic Operations Analysis section above, the addition of project generated trips at the intersections of Braley Road at the Route 140 Northbound and Southbound Ramps increases average vehicle delay and v/c ratios on the STOP-controlled ramp movements, which already operate at LOS F under existing conditions. 95th percentile queues on the ramps are projected to increase by a maximum of 72 feet (approximately two packer trucks or one transfer trailer) on the Route 140 northbound ramp, and a maximum of 3 feet on the Route 140 southbound ramp with the addition of project generated trips. As the incremental impact on the Route 140 ramps due to the proposed project is minimal and the installation of traffic signals at the intersections of Braley Road with the Route 140 ramps would adversely impact currently uncontrolled traffic on the eastbound and westbound Braley Road approaches, there is no feasible mitigation to reduce project generated impacts at the Route 140 ramp intersections.

Transportation Demand Management

A Transportation Demand management (TDM) plan is proposed to further mitigate the project's traffic impacts to the surrounding roadway network. These measures are anticipated to reduce single occupancy vehicle (SOV) trips among employees, and to encourage the use of alternative modes of transportation to the site, the project proponent is proposing to apply the following TDM measures:

- Providing opportunities for employees to participate in transit subsidy or reimbursement programs.
- Informing employees of nearby transit stops and bicycle and pedestrian amenities.
- Coordinate with SRTA to consider revising existing transit service to better service the project site.
- Implementing a carpool system among employees.
- Direct deposit offered to employees.
- Providing preferential parking for carpools and vanpools.
- Providing incentives to encourage bicycle ridership to the site, such as bike racks and other storage facilities on site.
- Subject to request and subsequent approval by the City of New Bedford and New Bedford Business Park, providing striped bicycle lanes along Duchaine Boulevard and shared bicycle markings along Theodore Rice Boulevard to provide connectivity to the existing bicycle amenities along Braley Road.

CONCLUSION AND RECOMMENDATIONS

Phase 2 of the proposed project consists of expanding the existing facility at 100 Duchaine Boulevard to accommodate a receiving capacity of approximately 1,500 tons per day (tpd) of MSW. The site is currently utilizing the existing buildings on the site to process plastic, aluminum, and recyclable glass as part of Phase 1 of the project. The site is proposed to be accessed via the existing site driveway on Duchaine Boulevard, which leads to an internal one-way loop roadway surrounding the proposed facility.

The estimated trip generation for Phase 2 incorporated several assumptions to present a conservative analysis, including no reduction in trips for backhauls or outbound material being transported by rail. In addition, the traffic associated with the previously proposed biosolids facility has remained in this study although the biosolids component is no longer being proposed. Based on these assumptions, Phase 2 of the proposed project is expected to generate a total of 59 vehicle trips (17 entering and 42 exiting) during the weekday morning peak hour, 59 vehicle trips (17 entering and 42 exiting) during the school dismissal peak hour, and 59 vehicle trips (17 entering and 42 exiting) during the weekday afternoon peak hour. Over the course of an average weekday, Phase 2 of the proposed project is estimated to result in of approximately 478 vehicle trips (239 entering and 239 exiting) during the typical weekday.

Based on the capacity analysis results, the approaches under stop control at the Route 140 off-ramps onto Braley Road and at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard operate over capacity and with high delays under the 2021 Base conditions. These movements carry a majority of the traffic accessing the industrial park on Duchaine Boulevard during the peak hours. The proposed project would result in minor increases in delay on these over-capacity movements within the study area.

Based on the MUTCD traffic signal warrant analysis, the installation of a traffic signal at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard is warranted under 2021 Existing traffic volumes independent of the project, as a result of existing development in the area. Subject to approval by the City of New Bedford, PPNE proposes to construct a fully actuated traffic signal at the intersection of Braley Road at Phillips Road/Theodore Rice Boulevard to mitigate congestion experienced under existing conditions. With the installation of a traffic signal, overall intersection operations are projected to improve from LOS F to LOS C during the weekday morning peak hour, from LOS F to LOS D during the weekday afternoon school dismissal peak hour, and from LOS E to LOS C during the weekday afternoon commuter peak hour. In addition, PPNE will consider Transportation Demand Management (TDM) measures and will allocate up to $5,000 toward a Heavy Commercial Vehicle Exclusion study for Phillips Road from Route 140 to Braley Road should the City of New Bedford choose to pursue a HCVE through MassDOT.

Based on the analyses presented, the proposed mitigation measures mitigate project generated impacts to the greatest extent feasible and satisfies the MassDOT Traffic Impact Assessment Guidelines. Additionally, it is our opinion that the traffic impacts of the proposed development

of this solid waste facility located at 100 Duchaine Boulevard do not constitute a danger to the public health, safety, or the environment with consideration to traffic congestion, pedestrian and vehicular safety, and roadway configuration.

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

Appendix for Updated Traffic Impact Study

Solid Waste Handling Facility

100 Duchaine Boulevard
New Bedford, MA

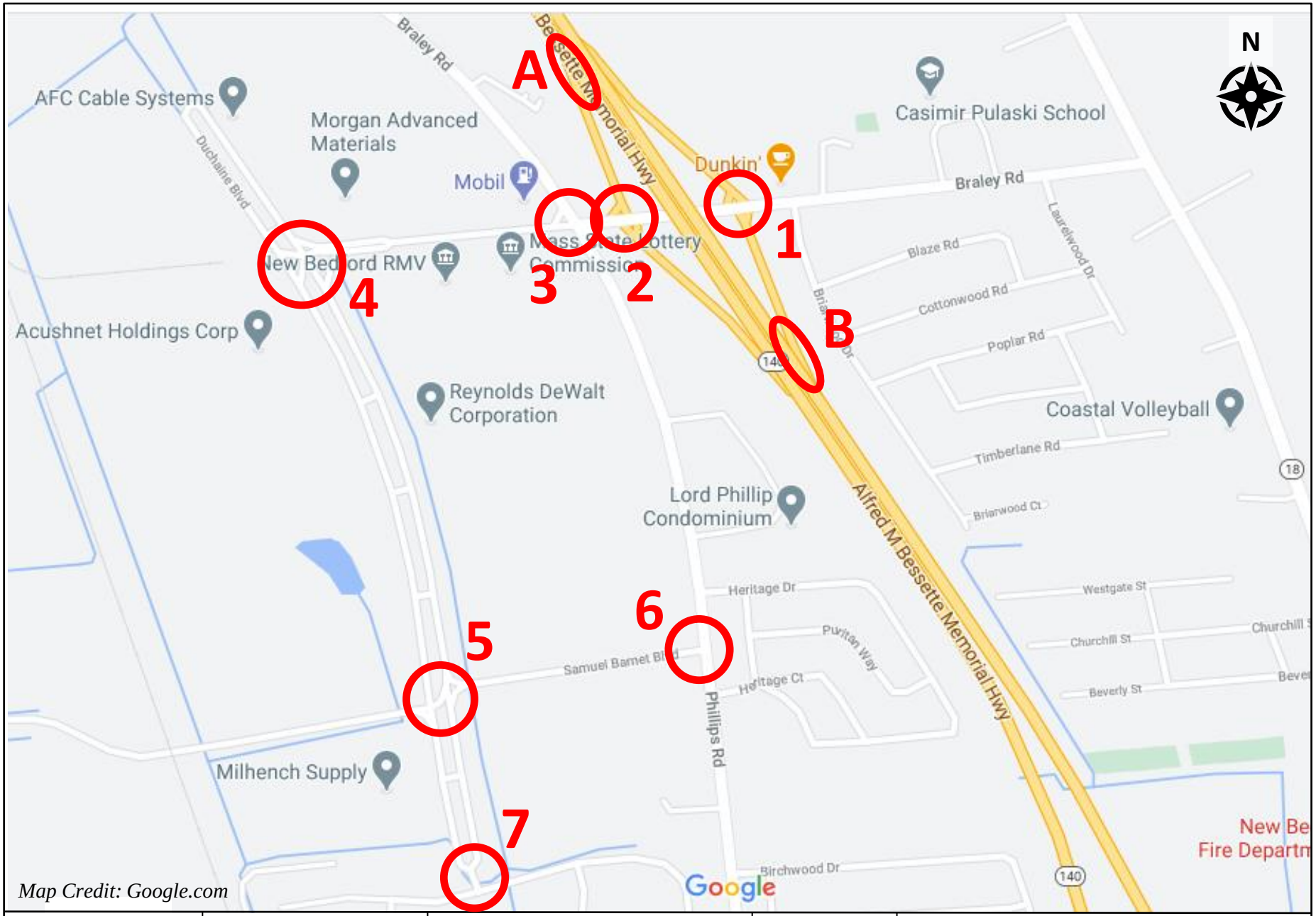
Prepared by
McMahon Associates, Inc.
350 Myles Standish Boulevard, Suite 103
Taunton, MA 02780
508.823.2245

Prepared for
Green Seal Environmental, Inc.

July 2018
Revised January 2022

APPENDIX A

Manual Turning Movement Count Data



Map Credit: Google.com

BOSTON TRAFFIC DATA	BTD ID: 693_010_MM	New Bedford, MA	# of TMC's: 07	Client: McMahon Associates, Inc.
		Collected on April 10 & 13, 2021	# of Videos: 02	Contact: Michael Pompili

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 1
Location:	New Bedford, MA
Street 1:	Braley Road
Street 2:	Route 140 NB On/Off Ramps
Count Date:	4/10/2021
Day of Week:	Saturday
Weather:	Mostly Sunny, 65°F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

PASSENGER CARS & HEAVY VEHICLES COMBINED

	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	8	0	9	0	0	0	0	0	4	9	0	0	0	25	9
6:15 AM	0	18	0	8	0	0	0	0	0	5	10	0	0	0	34	7
6:30 AM	0	27	0	17	0	0	0	0	0	9	10	0	0	0	36	10
6:45 AM	0	26	0	29	0	0	0	0	0	2	12	0	0	0	50	5
7:00 AM	0	18	0	28	0	0	0	0	0	3	18	0	0	0	44	10
7:15 AM	0	16	0	26	0	0	0	0	0	6	17	0	0	0	51	10
7:30 AM	0	18	0	25	0	0	0	0	0	6	22	0	0	0	75	11
7:45 AM	0	17	0	20	0	0	0	0	0	9	15	0	0	0	74	6
8:00 AM	0	21	0	30	0	0	0	0	0	13	22	0	0	0	78	4
8:15 AM	0	10	0	37	0	0	0	0	0	9	29	0	0	0	75	13
8:30 AM	0	13	0	35	0	0	0	0	0	13	22	0	0	0	92	10
8:45 AM	0	25	0	37	0	0	0	0	0	11	20	0	0	0	87	8
9:00 AM	0	18	0	32	0	0	0	0	0	14	24	0	0	0	84	9
9:15 AM	0	15	0	42	0	0	0	0	0	13	28	0	0	0	94	15
9:30 AM	0	18	0	56	0	0	0	0	0	7	29	0	0	0	88	10
9:45 AM	0	35	0	42	0	0	0	0	0	7	36	0	0	0	88	12
10:00 AM	0	26	0	58	0	0	0	0	0	17	43	0	0	0	123	11
10:15 AM	0	32	1	59	0	0	0	0	0	10	40	0	0	0	101	9
10:30 AM	0	48	0	60	0	0	0	0	0	10	37	0	0	0	99	16
10:45 AM	0	43	0	68	0	0	0	0	0	10	35	0	0	0	89	6
11:00 AM	0	24	0	60	0	0	0	0	0	18	44	0	0	0	80	13
11:15 AM	0	28	0	77	0	0	0	0	0	9	42	0	0	0	92	8
11:30 AM	0	42	0	76	0	0	0	0	0	10	37	0	0	0	77	14
11:45 AM	0	33	0	67	0	0	0	0	0	8	46	0	0	0	67	8
12:00 PM	0	25	0	66	0	0	0	0	0	8	56	0	0	0	91	9
12:15 PM	0	26	0	78	0	0	0	0	0	5	29	0	0	0	87	6
12:30 PM	0	20	0	85	0	0	0	0	0	11	38	0	0	0	70	13
12:45 PM	0	38	0	59	0	0	0	0	0	11	35	0	0	0	66	16
1:00 PM	0	25	0	60	0	0	0	0	0	5	39	0	0	0	88	10
1:15 PM	0	29	0	72	0	0	0	0	0	7	32	0	0	0	79	10
1:30 PM	0	35	0	81	0	0	0	0	0	3	41	0	0	0	65	7
1:45 PM	0	23	0	80	0	0	0	0	0	16	34	0	0	0	71	9
2:00 PM	0	28	0	74	0	0	0	0	0	10	40	0	0	0	76	10
2:15 PM	0	18	0	87	0	0	0	0	0	8	29	0	0	0	58	16
2:30 PM	0	32	0	61	0	0	0	0	0	6	44	0	0	0	85	8
2:45 PM	0	39	0	77	0	0	0	0	0	5	39	0	0	0	61	7
3:00 PM	0	31	0	70	0	0	0	0	0	8	35	0	0	0	59	13
3:15 PM	0	25	0	75	0	0	0	0	0	10	35	0	0	0	59	11
3:30 PM	0	22	0	64	0	0	0	0	0	6	39	0	0	0	88	9
3:45 PM	0	28	0	60	0	0	0	0	0	7	42	0	0	0	61	5
4:00 PM	0	33	0	59	0	0	0	0	0	4	36	0	0	0	50	10
4:15 PM	0	24	0	74	0	0	0	0	0	5	32	0	0	0	50	8
4:30 PM	0	19	1	62	0	0	0	0	0	3	28	0	0	0	51	11
4:45 PM	0	17	0	50	0	0	0	0	0	6	40	0	0	0	78	6
5:00 PM	0	19	0	81	0	0	0	0	0	3	33	0	0	0	52	10
5:15 PM	0	26	0	58	0	0	0	0	0	2	39	0	0	0	54	8
5:30 PM	0	24	0	56	0	0	0	0	0	9	26	0	0	0	69	6
5:45 PM	0	15	0	66	0	0	0	0	0	2	30	0	0	0	74	10
6:00 PM	0	20	0	41	0	0	0	0	0	3	27	0	0	0	45	18
6:15 PM	0	34	0	62	0	0	0	0	0	4	39	0	0	0	44	23
6:30 PM	0	25	0	61	0	0	0	0	0	5	32	0	0	0	39	4
6:45 PM	0	18	0	72	0	0	0	0	0	5	27	0	0	0	29	6

AM PEAK HOUR	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
9:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
10:00 AM	**0**	**86**	**0**	**172**	**0**	**0**	**0**	**0**	**0**	**41**	**117**	**0**	**0**	**0**	**354**	**46**
PHF		**0.84**				**0.00**				**0.92**				**0.92**		
HV %	**0.0%**	**3.5%**	**0.0%**	**2.3%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**7.3%**	**0.9%**	**0.0%**	**0.0%**	**0.0%**	**1.1%**	**0.0%**

MID PEAK HOUR	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
10:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	**0**	**149**	**1**	**245**	**0**	**0**	**0**	**0**	**0**	**47**	**155**	**0**	**0**	**0**	**412**	**42**
PHF		**0.89**				**0.00**				**0.84**				**0.85**		
HV %	**0.0%**	**2.7%**	**0.0%**	**1.2%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**6.4%**	**1.3%**	**0.0%**	**0.0%**	**0.0%**	**1.0%**	**4.8%**

PM PEAK HOUR	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
2:00 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:00 PM	**0**	**117**	**0**	**299**	**0**	**0**	**0**	**0**	**0**	**29**	**152**	**0**	**0**	**0**	**280**	**41**
PHF		**0.90**				**0.00**				**0.91**				**0.86**		
HV %	**0.0%**	**3.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.7%**	**0.0%**	**0.0%**	**0.0%**	**1.8%**	**0.0%**

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 1
Location:	New Bedford, MA
Street 1:	Braley Road
Street 2:	Route 140 NB On/Off Ramps
Count Date:	4/10/2021
Day of Week:	Saturday
Weather:	Mostly Sunny, 65°F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
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HEAVY VEHICLES

	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0
6:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	2	0	0	0	0	0	0	0	1	1	0	0	0	0	0
6:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	2	0	2	0	0	0	0	0	0	2	0	0	0	0	0
7:30 AM	0	1	0	1	0	0	0	0	0	2	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
8:00 AM	0	2	0	0	0	0	0	0	0	1	0	0	0	0	1	0
8:15 AM	0	1	0	0	0	0	0	0	0	2	1	0	0	0	1	0
8:30 AM	0	3	0	2	0	0	0	0	0	0	1	0	0	0	1	1
8:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0
9:00 AM	0	2	0	0	0	0	0	0	0	1	0	0	0	0	2	0
9:15 AM	0	0	0	2	0	0	0	0	0	1	1	0	0	0	2	0
9:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0
10:00 AM	0	0	0	1	0	0	0	0	0	1	1	0	0	0	2	0
10:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
10:30 AM	0	2	0	1	0	0	0	0	0	1	0	0	0	0	0	0
10:45 AM	0	1	0	1	0	0	0	0	0	1	1	0	0	0	2	0
11:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0
11:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0
11:45 AM	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
12:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0
12:30 PM	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
1:00 PM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0
1:15 PM	0	1	0	0	0	0	0	0	0	1	1	0	0	0	2	1
1:30 PM	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	3	0
2:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
2:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
2:45 PM	0	2	0	0	0	0	0	0	0	0	1	0	0	0	1	0
3:00 PM	0	2	0	0	0	0	0	0	0	0	1	0	0	0	2	0
3:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
3:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

AM PEAK HOUR	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
8:30 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:30 AM	**0**	**6**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**6**	**1**
PHF	**0.55**				**0.00**				**0.50**				**0.88**			

MID PEAK HOUR	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
10:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	**0**	**4**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**3**	**2**	**0**	**0**	**0**	**4**	**2**
PHF	**0.58**				**0.00**				**0.63**				**0.75**			

PM PEAK HOUR	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
2:30 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:30 PM	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**5**	**1**
PHF	**0.75**				**0.00**				**0.50**				**0.75**			

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 1
Location:	New Bedford, MA
Street 1:	Braley Road
Street 2:	Route 140 NB On/Off Ramps
Count Date:	4/10/2021
Day of Week:	Saturday
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BOSTON TRAFFIC DATA
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PEDESTRIANS & BICYCLES

	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	2	0	0	0	1	0	0	0	0	0	1	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
9:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
10:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	9	0	0	0	0	0	1	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 9:00 AM to 10:00 AM	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0

MID PEAK HOUR 10:00 AM to 11:00 AM	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0

PM PEAK HOUR 2:00 PM to 3:00 PM	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	2	0	0	0	1	0	0	0	0	0	2	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 1
Location:	New Bedford, MA
Street 1:	Braley Road
Street 2:	Route 140 NB On/Off Ramps
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	38	0	12	0	0	0	0	0	11	9	0	0	0	49	17
6:15 AM	0	57	0	29	0	0	0	0	0	8	20	0	0	0	63	16
6:30 AM	0	79	0	34	0	0	0	0	0	20	23	0	0	0	124	19
6:45 AM	0	88	0	45	0	0	0	0	0	15	16	0	0	0	139	10
7:00 AM	0	59	0	29	0	0	0	0	0	26	35	0	0	0	138	21
7:15 AM	0	61	0	53	0	0	0	0	0	17	18	0	0	0	151	19
7:30 AM	0	74	0	56	0	0	0	0	0	11	34	0	0	0	131	15
7:45 AM	0	80	0	64	0	0	0	0	0	11	41	0	0	0	138	17
8:00 AM	0	58	0	53	0	0	0	0	0	15	44	0	0	0	95	18
8:15 AM	0	64	0	69	0	0	0	0	0	18	40	0	0	0	102	8
8:30 AM	0	50	0	99	0	0	0	0	0	13	52	0	0	0	141	10
8:45 AM	0	53	0	58	0	0	0	0	0	6	28	0	0	0	167	18
9:00 AM	0	57	0	41	0	0	0	0	0	19	35	0	0	0	116	14
9:15 AM	0	33	0	49	0	0	0	0	0	14	35	0	0	0	83	16
9:30 AM	0	39	0	33	0	0	0	0	0	11	26	0	0	0	89	8
9:45 AM	0	38	0	37	0	0	0	0	0	11	32	0	0	0	83	10
10:00 AM	0	36	0	41	0	0	0	0	0	13	16	0	0	0	68	10
10:15 AM	0	44	0	29	0	0	0	0	0	17	24	0	0	0	66	6
10:30 AM	0	35	0	43	0	0	0	0	0	11	28	0	0	0	68	9
10:45 AM	0	41	0	47	0	0	0	0	0	12	29	0	0	0	69	9
11:00 AM	0	33	1	42	0	0	0	0	0	16	30	0	0	0	59	8
11:15 AM	0	44	0	54	0	0	0	0	0	11	13	0	0	0	65	7
11:30 AM	0	40	0	50	0	0	0	0	0	10	29	0	0	0	79	4
11:45 AM	0	60	0	50	0	0	0	0	0	10	25	0	0	0	71	4
12:00 PM	0	43	0	49	0	0	0	0	0	19	63	0	0	0	71	12
12:15 PM	0	44	0	44	0	0	0	0	0	11	34	0	0	0	91	13
12:30 PM	0	38	0	53	0	0	0	0	0	10	38	0	0	0	78	7
12:45 PM	0	58	0	57	0	0	0	0	0	11	27	0	0	0	70	6
1:00 PM	0	47	0	41	0	0	0	0	0	10	41	0	0	0	75	6
1:15 PM	0	42	1	43	0	0	0	0	0	14	24	0	0	0	85	8
1:30 PM	0	56	0	52	0	0	0	0	0	10	35	0	0	0	84	10
1:45 PM	0	56	0	51	0	0	0	0	0	18	18	0	0	0	69	6
2:00 PM	0	52	0	69	0	0	0	0	0	22	39	0	0	0	79	10
2:15 PM	0	74	0	81	0	0	0	0	0	16	45	0	0	0	75	7
2:30 PM	0	83	0	94	0	0	0	0	0	21	42	0	0	0	114	11
2:45 PM	0	75	1	79	0	0	0	0	0	20	34	0	0	0	165	17
3:00 PM	0	51	0	83	0	0	0	0	0	26	74	0	0	0	117	8
3:15 PM	0	57	0	88	0	0	0	0	0	13	59	0	0	0	123	15
3:30 PM	0	47	0	78	0	0	0	0	0	27	57	0	0	0	113	15
3:45 PM	0	62	0	77	0	0	0	0	0	21	50	0	0	0	104	11
4:00 PM	0	58	0	93	0	0	0	0	0	29	69	0	0	0	113	10
4:15 PM	0	47	0	96	0	0	0	0	0	19	65	0	0	0	112	10
4:30 PM	0	40	0	95	0	0	0	0	0	29	54	0	0	0	96	13
4:45 PM	0	29	0	94	0	0	0	0	0	22	48	0	0	0	93	9
5:00 PM	0	59	0	87	0	0	0	0	0	36	45	0	0	0	98	8
5:15 PM	0	29	0	89	0	0	0	0	0	20	47	0	0	0	78	4
5:30 PM	0	40	0	74	0	0	0	0	0	11	45	0	0	0	67	6
5:45 PM	0	34	0	66	0	0	0	0	0	10	35	0	0	0	59	10
6:00 PM	0	32	0	60	0	0	0	0	0	12	41	0	0	0	61	5
6:15 PM	0	28	0	67	0	0	0	0	0	12	33	0	0	0	65	4
6:30 PM	0	28	0	56	0	0	0	0	0	10	26	0	0	0	54	9
6:45 PM	0	28	0	64	0	0	0	0	0	5	16	0	0	0	38	2

AM PEAK HOUR	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
7:45 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:45 AM	**0**	**252**	**0**	**285**	**0**	**0**	**0**	**0**	**0**	**57**	**177**	**0**	**0**	**0**	**476**	**53**
PHF		**0.90**				**0.00**				**0.90**				**0.85**		
HV %	**0.0%**	**8.3%**	**0.0%**	**4.9%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**15.8%**	**5.1%**	**0.0%**	**0.0%**	**0.0%**	**5.3%**	**1.9%**

MID PEAK HOUR	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
12:00 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
1:00 PM	**0**	**183**	**0**	**203**	**0**	**0**	**0**	**0**	**0**	**51**	**162**	**0**	**0**	**0**	**310**	**38**
PHF		**0.84**				**0.00**				**0.65**				**0.84**		
HV %	**0.0%**	**8.2%**	**0.0%**	**4.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**21.6%**	**4.9%**	**0.0%**	**0.0%**	**0.0%**	**2.6%**	**10.5%**

PM PEAK HOUR	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
2:30 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:30 PM	**0**	**266**	**1**	**344**	**0**	**0**	**0**	**0**	**0**	**80**	**209**	**0**	**0**	**0**	**519**	**51**
PHF		**0.86**				**0.00**				**0.72**				**0.78**		
HV %	**0.0%**	**10.9%**	**0.0%**	**2.3%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**8.8%**	**4.8%**	**0.0%**	**0.0%**	**0.0%**	**3.3%**	**2.0%**

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 1
Location:	New Bedford, MA
Street 1:	Braley Road
Street 2:	Route 140 NB On/Off Ramps
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
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Office: 978-746-1259
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HEAVY VEHICLES

	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	2	0	0	0	0	0	0	0	1	0	0	0	0	1	1
6:15 AM	0	3	0	1	0	0	0	0	0	1	0	0	0	0	0	1
6:30 AM	0	2	0	2	0	0	0	0	0	0	2	0	0	0	4	0
6:45 AM	0	4	0	2	0	0	0	0	0	3	2	0	0	0	0	0
7:00 AM	0	5	0	2	0	0	0	0	0	4	0	0	0	0	0	0
7:15 AM	0	8	0	6	0	0	0	0	0	3	2	0	0	0	1	1
7:30 AM	0	7	0	1	0	0	0	0	0	2	3	0	0	0	1	0
7:45 AM	0	3	0	0	0	0	0	0	0	1	1	0	0	0	5	0
8:00 AM	0	4	0	3	0	0	0	0	0	3	4	0	0	0	3	0
8:15 AM	0	7	0	4	0	0	0	0	0	3	3	0	0	0	3	1
8:30 AM	0	7	0	7	0	0	0	0	0	2	1	0	0	0	14	0
8:45 AM	0	8	0	1	0	0	0	0	0	4	2	0	0	0	5	0
9:00 AM	0	10	0	3	0	0	0	0	0	9	1	0	0	0	3	0
9:15 AM	0	6	0	3	0	0	0	0	0	3	0	0	0	0	7	2
9:30 AM	0	10	0	4	0	0	0	0	0	4	2	0	0	0	2	0
9:45 AM	0	4	0	2	0	0	0	0	0	4	3	0	0	0	3	1
10:00 AM	0	8	0	4	0	0	0	0	0	6	0	0	0	0	2	0
10:15 AM	0	6	0	0	0	0	0	0	0	2	1	0	0	0	3	1
10:30 AM	0	2	0	2	0	0	0	0	0	0	1	0	0	0	1	1
10:45 AM	0	5	0	2	0	0	0	0	0	2	0	0	0	0	2	1
11:00 AM	0	6	0	0	0	0	0	0	0	3	2	0	0	0	1	1
11:15 AM	0	13	0	2	0	0	0	0	0	1	0	0	0	0	2	0
11:30 AM	0	6	0	0	0	0	0	0	0	4	0	0	0	0	3	1
11:45 AM	0	7	0	1	0	0	0	0	0	3	1	0	0	0	1	0
12:00 PM	0	5	0	2	0	0	0	0	0	1	5	0	0	0	1	1
12:15 PM	0	3	0	0	0	0	0	0	0	3	0	0	0	0	1	2
12:30 PM	0	5	0	4	0	0	0	0	0	4	2	0	0	0	2	0
12:45 PM	0	2	0	3	0	0	0	0	0	3	1	0	0	0	4	1
1:00 PM	0	4	0	2	0	0	0	0	0	2	2	0	0	0	3	1
1:15 PM	0	4	1	1	0	0	0	0	0	3	0	0	0	0	2	1
1:30 PM	0	7	0	0	0	0	0	0	0	3	0	0	0	0	0	0
1:45 PM	0	6	0	2	0	0	0	0	0	3	0	0	0	0	3	0
2:00 PM	0	3	0	2	0	0	0	0	0	2	1	0	0	0	1	1
2:15 PM	0	5	0	7	0	0	0	0	0	0	2	0	0	0	2	0
2:30 PM	0	3	0	2	0	0	0	0	0	3	3	0	0	0	8	0
2:45 PM	0	10	0	3	0	0	0	0	0	1	1	0	0	0	2	0
3:00 PM	0	9	0	0	0	0	0	0	0	3	3	0	0	0	0	0
3:15 PM	0	7	0	3	0	0	0	0	0	0	3	0	0	0	7	1
3:30 PM	0	5	0	1	0	0	0	0	0	1	0	0	0	0	2	1
3:45 PM	0	4	0	0	0	0	0	0	0	0	1	0	0	0	3	1
4:00 PM	0	8	0	0	0	0	0	0	0	0	0	0	0	0	6	0
4:15 PM	0	3	0	2	0	0	0	0	0	2	1	0	0	0	0	0
4:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	5	0
5:00 PM	0	4	0	1	0	0	0	0	0	3	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
5:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0
6:00 PM	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0
6:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
6:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
6:45 PM	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 8:15 AM to 9:15 AM	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**32**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**18**	**7**	**0**	**0**	**0**	**25**	**1**
PHF	**0.84**				**0.00**				**0.63**				**0.46**			

MID PEAK HOUR 11:15 AM to 12:15 PM	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**31**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**9**	**6**	**0**	**0**	**0**	**7**	**2**
PHF	**0.60**				**0.00**				**0.63**				**0.56**			

PM PEAK HOUR 2:30 PM to 3:30 PM	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**29**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**7**	**10**	**0**	**0**	**0**	**17**	**1**
PHF	**0.71**				**0.00**				**0.71**				**0.56**			

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 1
Location:	New Bedford, MA
Street 1:	Braley Road
Street 2:	Route 140 NB On/Off Ramps
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
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PEDESTRIANS & BICYCLES

	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
6:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0
7:15 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:45 AM to 8:45 AM	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

MID PEAK HOUR 12:00 PM to 1:00 PM	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0

PM PEAK HOUR 2:30 PM to 3:30 PM	Route 140 Northbound Off Ramp Northbound				Route 140 Northbound On Ramp Southbound				Braley Road Eastbound				Braley Road Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 2
Location:	New Bedford, MA
Street 1:	Theodore Rice Blvd & Braley Road
Street 2:	Route 140 SB On/Off Ramps
Count Date:	4/10/2021
Day of Week:	Saturday
Weather:	Mostly Sunny, 65°F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	0	0	0	0	0	0	0	0	13	12	0	20	13	0
6:15 AM	0	0	0	0	0	7	0	3	0	0	8	5	0	22	30	0
6:30 AM	0	0	0	0	0	2	0	1	0	0	17	16	0	26	37	0
6:45 AM	0	0	0	0	0	6	0	5	0	0	8	16	0	28	48	0
7:00 AM	0	0	0	0	0	2	0	4	0	0	19	39	0	34	28	0
7:15 AM	0	0	0	0	0	4	0	4	0	0	19	20	0	34	33	0
7:30 AM	0	0	0	0	0	3	0	5	0	0	25	22	0	54	39	0
7:45 AM	0	0	0	0	0	6	0	5	0	0	18	17	0	58	33	0
8:00 AM	0	0	0	0	0	7	0	8	0	0	28	36	0	46	53	0
8:15 AM	0	0	0	0	0	4	0	3	0	0	34	26	0	52	33	0
8:30 AM	0	0	0	0	0	2	0	5	0	0	33	28	0	64	41	0
8:45 AM	0	0	0	0	0	1	0	5	0	0	30	24	0	70	42	0
9:00 AM	0	0	0	0	0	3	0	5	0	0	35	41	0	57	45	0
9:15 AM	0	0	0	0	0	5	0	5	0	0	36	29	0	55	54	0
9:30 AM	0	0	0	0	0	5	0	8	0	0	31	27	0	60	46	0
9:45 AM	0	0	0	0	0	12	0	3	0	0	31	37	0	63	60	0
10:00 AM	0	0	0	0	0	7	0	7	0	0	53	44	0	84	65	0
10:15 AM	0	0	0	0	0	7	0	8	0	0	43	42	0	67	66	0
10:30 AM	0	0	0	0	0	6	1	10	0	0	41	27	0	59	88	0
10:45 AM	0	0	0	0	0	7	0	6	0	0	38	28	0	62	70	0
11:00 AM	0	0	0	0	0	7	0	4	0	0	55	96	0	68	36	0
11:15 AM	0	0	0	0	0	7	0	8	0	0	44	48	0	79	41	0
11:30 AM	0	0	0	0	0	11	0	12	0	0	36	35	0	63	56	0
11:45 AM	0	0	0	0	0	9	0	6	0	0	45	42	0	56	44	0
12:00 PM	0	0	0	0	0	10	0	11	0	0	54	51	0	71	45	0
12:15 PM	0	0	0	0	0	6	0	12	0	0	28	32	0	71	42	0
12:30 PM	0	0	0	0	0	7	0	12	0	0	42	32	0	60	30	0
12:45 PM	0	0	0	0	0	7	0	10	0	0	39	29	0	52	52	0
1:00 PM	0	0	0	0	0	11	0	9	0	0	33	32	0	77	36	0
1:15 PM	0	0	0	0	0	15	0	6	0	0	24	32	0	73	35	0
1:30 PM	0	0	0	0	0	16	0	6	0	0	28	46	0	53	47	0
1:45 PM	0	0	0	0	0	5	0	6	0	0	45	18	0	59	35	0
2:00 PM	0	0	0	0	0	9	0	4	0	0	41	27	0	70	34	0
2:15 PM	0	0	0	0	0	7	0	6	0	0	30	35	0	56	20	0
2:30 PM	0	0	0	0	0	12	0	17	0	0	38	20	0	76	41	0
2:45 PM	0	0	0	0	0	14	0	10	0	0	30	23	0	60	40	0
3:00 PM	0	0	0	0	0	9	0	11	0	0	34	38	0	55	35	0
3:15 PM	0	0	0	0	0	8	0	13	0	0	37	24	0	53	31	0
3:30 PM	0	0	0	0	0	10	0	9	0	0	35	22	0	78	32	0
3:45 PM	0	0	0	0	0	14	0	14	0	0	35	26	0	58	31	0
4:00 PM	0	0	0	0	0	8	0	13	0	0	32	32	0	58	25	0
4:15 PM	0	0	0	0	0	13	0	11	1	0	24	24	0	44	30	0
4:30 PM	0	0	0	0	0	8	0	11	0	0	23	40	0	54	16	0
4:45 PM	0	0	0	0	0	4	0	5	0	0	42	22	0	64	31	0
5:00 PM	0	0	0	0	0	6	0	9	0	0	30	26	0	50	21	0
5:15 PM	0	0	0	0	0	12	0	5	0	0	29	18	0	52	28	0
5:30 PM	0	0	0	0	0	10	1	7	0	0	24	21	1	59	33	0
5:45 PM	0	0	0	0	0	8	0	9	0	0	24	23	0	61	28	0
6:00 PM	0	0	0	0	0	11	0	10	0	0	19	26	0	50	15	0
6:15 PM	0	0	0	0	0	12	0	13	0	0	31	16	0	57	21	0
6:30 PM	0	0	0	0	0	10	0	8	0	0	27	16	0	42	22	0
6:45 PM	0	0	0	0	0	6	0	13	0	0	26	15	0	28	19	0

AM PEAK HOUR 9:00 AM to 10:00 AM	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**25**	**0**	**21**	**0**	**0**	**133**	**134**	**0**	**235**	**205**	**0**
PHF		**0.00**				**0.77**				**0.88**				**0.89**		
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**4.0%**	**0.0%**	**4.8%**	**0.0%**	**0.0%**	**2.3%**	**6.0%**	**0.0%**	**0.9%**	**2.4%**	**0.0%**

MID PEAK HOUR 10:15 AM to 11:15 AM	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**27**	**1**	**28**	**0**	**0**	**177**	**193**	**0**	**256**	**260**	**0**
PHF		**0.00**				**0.82**				**0.61**				**0.88**		
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**3.7%**	**0.0%**	**7.1%**	**0.0%**	**0.0%**	**1.1%**	**1.0%**	**0.0%**	**0.4%**	**2.3%**	**0.0%**

PM PEAK HOUR 2:30 PM to 3:30 PM	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**0**	**0**	**0**	**43**	**0**	**51**	**0**	**0**	**139**	**105**	**0**	**244**	**147**	**0**
PHF		**0.00**				**0.81**				**0.85**				**0.84**		
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**2.3%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.7%**	**1.9%**	**0.0%**	**0.8%**	**6.1%**	**0.0%**

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 2
Location:	New Bedford, MA
Street 1:	Theodore Rice Blvd & Braley Road
Street 2:	Route 140 SB On/Off Ramps
Count Date:	4/10/2021
Day of Week:	Saturday
Weather:	Mostly Sunny, 65°F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
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HEAVY VEHICLES

	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
7:15 AM	0	0	0	0	0	2	0	0	0	0	0	2	0	0	1	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	2	4	0	0	1	0
7:45 AM	0	0	0	0	0	1	0	2	0	0	0	1	0	1	0	0
8:00 AM	0	0	0	0	0	0	0	1	0	0	1	4	0	1	2	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	3	1	0	1	1	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	2	0	1	3	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0
9:00 AM	0	0	0	0	0	0	0	1	0	0	1	2	0	2	2	0
9:15 AM	0	0	0	0	0	1	0	0	0	0	1	2	0	0	2	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0
10:00 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	1	1	0
10:15 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0
10:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2	0
10:45 AM	0	0	0	0	0	1	0	0	0	0	1	0	0	1	2	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	1	3	0
11:30 AM	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0
12:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	1	2	0	0	2	0
1:15 PM	0	0	0	0	0	0	0	1	0	0	2	0	0	1	2	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	2	2	0
2:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
2:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	3	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:15 PM	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
6:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
7:30 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:30 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**6**	**10**	**0**	**3**	**4**	**0**
PHF	**0.00**				**0.33**				**0.67**				**0.58**			

MID PEAK HOUR	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
10:45 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:45 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**6**	**0**	**2**	**10**	**0**
PHF	**0.00**				**0.50**				**0.58**				**0.75**			

PM PEAK HOUR	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
2:30 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**2**	**9**	**0**
PHF	**0.00**				**0.25**				**0.38**				**0.69**			

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 2
Location:	New Bedford, MA
Street 1:	Theodore Rice Blvd & Braley Road
Street 2:	Route 140 SB On/Off Ramps
Count Date:	4/10/2021
Day of Week:	Saturday
Weather:	Mostly Sunny, 65°F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
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PEDESTRIANS & BICYCLES

	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
9:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
10:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	9	0	0	0	0	0	1	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 9:00 AM to 10:00 AM	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0

MID PEAK HOUR 10:15 AM to 11:15 AM	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0

PM PEAK HOUR 2:30 PM to 3:30 PM	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 2
Location:	New Bedford, MA
Street 1:	Theodore Rice Blvd & Braley Road
Street 2:	Route 140 SB On/Off Ramps
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	0	0	0	2	0	14	0	0	18	22	0	39	48	0
6:15 AM	0	0	0	0	0	3	0	13	0	0	25	26	0	36	84	0
6:30 AM	0	0	0	0	0	5	0	17	0	0	38	27	0	66	137	0
6:45 AM	0	0	0	0	0	3	0	32	0	0	28	36	0	80	147	0
7:00 AM	0	0	0	0	0	6	0	19	0	0	55	105	0	100	97	0
7:15 AM	0	0	0	0	0	4	0	26	0	0	31	50	0	123	89	0
7:30 AM	0	0	0	0	0	7	0	24	0	0	38	54	0	103	102	0
7:45 AM	0	0	0	0	0	7	0	34	0	0	45	45	0	107	111	0
8:00 AM	0	0	0	0	0	8	0	25	0	0	51	52	0	66	87	0
8:15 AM	0	0	0	0	0	5	0	19	0	0	53	42	0	70	96	0
8:30 AM	0	0	0	0	0	7	0	31	0	0	58	48	0	100	91	0
8:45 AM	0	0	0	0	0	5	0	24	0	0	29	43	0	111	109	0
9:00 AM	0	0	0	0	0	6	0	23	0	0	48	46	0	75	98	0
9:15 AM	0	0	0	0	0	5	0	13	0	0	44	37	0	54	62	0
9:30 AM	0	0	0	0	0	6	0	15	0	0	31	45	0	56	72	0
9:45 AM	0	0	0	0	0	3	0	14	0	0	40	40	0	56	65	0
10:00 AM	0	0	0	0	0	2	0	22	0	0	27	36	0	42	62	0
10:15 AM	0	0	0	0	0	2	0	12	0	0	39	40	0	49	61	0
10:30 AM	0	0	0	0	0	6	0	19	0	0	33	52	0	43	60	0
10:45 AM	0	0	0	0	0	4	0	15	0	0	37	42	0	45	65	0
11:00 AM	0	0	0	0	0	6	0	15	0	0	40	38	0	36	56	0
11:15 AM	0	0	0	0	0	2	0	12	0	0	22	49	0	40	69	0
11:30 AM	0	0	0	0	0	7	0	14	0	0	32	51	0	51	68	0
11:45 AM	0	0	0	0	0	7	0	11	0	0	28	49	0	39	92	0
12:00 PM	0	0	0	0	0	7	1	13	0	0	75	64	0	49	65	0
12:15 PM	0	0	0	0	0	7	1	18	0	0	38	41	0	53	82	0
12:30 PM	0	0	0	0	0	11	0	13	0	0	37	43	0	53	63	0
12:45 PM	0	0	0	0	0	7	0	18	0	0	31	47	0	43	85	0
1:00 PM	0	0	0	0	0	5	0	11	0	0	46	50	0	49	73	0
1:15 PM	0	0	0	0	0	4	0	10	0	0	34	54	0	53	74	0
1:30 PM	0	0	0	0	0	2	0	15	0	0	43	55	0	64	76	0
1:45 PM	0	0	0	0	0	4	1	18	0	0	32	40	0	44	81	0
2:00 PM	0	0	0	0	0	5	0	17	0	0	56	48	0	57	74	0
2:15 PM	0	0	0	0	0	9	0	19	0	0	52	43	0	47	102	0
2:30 PM	0	0	0	0	0	11	0	22	0	0	52	58	0	66	131	0
2:45 PM	0	0	0	0	0	5	0	18	0	0	49	46	0	97	143	0
3:00 PM	0	0	0	0	0	19	0	27	0	0	81	102	0	88	80	0
3:15 PM	0	0	0	0	0	12	0	23	0	0	60	74	0	93	87	0
3:30 PM	0	0	0	0	0	17	0	18	0	0	67	110	0	77	83	0
3:45 PM	0	0	0	0	0	11	0	23	0	0	60	55	0	67	99	0
4:00 PM	0	0	0	0	0	12	0	29	0	0	86	101	0	80	91	0
4:15 PM	0	0	0	0	0	21	0	18	0	0	63	75	0	86	73	0
4:30 PM	0	0	0	0	0	8	0	19	0	0	75	62	0	59	77	0
4:45 PM	0	0	0	0	0	8	0	26	0	0	62	58	0	68	54	0
5:00 PM	0	0	0	0	0	5	0	14	0	0	76	102	0	71	86	0
5:15 PM	0	0	0	0	0	10	0	10	0	0	57	69	0	47	60	0
5:30 PM	0	0	0	0	0	15	0	16	0	0	41	44	0	43	64	0
5:45 PM	0	0	0	0	0	16	0	14	0	0	29	40	0	42	51	0
6:00 PM	0	0	0	0	0	21	0	13	0	0	32	32	0	43	50	0
6:15 PM	0	0	0	0	0	11	0	13	0	0	34	29	0	43	50	0
6:30 PM	0	0	0	0	0	7	0	13	0	0	29	33	0	36	46	0
6:45 PM	0	0	0	0	0	6	0	11	0	0	15	27	0	33	33	0

AM PEAK HOUR	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
7:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:00 AM	**0**	**0**	**0**	**0**	**0**	**24**	**0**	**103**	**0**	**0**	**169**	**254**	**0**	**433**	**399**	**0**
PHF		**0.00**				**0.77**				**0.66**				**0.95**		
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**12.5%**	**0.0%**	**7.8%**	**0.0%**	**0.0%**	**7.7%**	**9.1%**	**0.0%**	**2.1%**	**5.3%**	**0.0%**

MID PEAK HOUR	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
12:00 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
1:00 PM	**0**	**0**	**0**	**0**	**0**	**32**	**2**	**62**	**0**	**0**	**181**	**195**	**0**	**198**	**295**	**0**
PHF		**0.00**				**0.92**				**0.68**				**0.91**		
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**3.1%**	**0.0%**	**21.0%**	**0.0%**	**0.0%**	**9.4%**	**10.8%**	**0.0%**	**3.5%**	**5.4%**	**0.0%**

PM PEAK HOUR	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
2:45 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:45 PM	**0**	**0**	**0**	**0**	**0**	**53**	**0**	**86**	**0**	**0**	**257**	**332**	**0**	**355**	**393**	**0**
PHF		**0.00**				**0.76**				**0.80**				**0.78**		
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**9.4%**	**0.0%**	**15.1%**	**0.0%**	**0.0%**	**2.7%**	**5.4%**	**0.0%**	**3.7%**	**7.4%**	**0.0%**

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 2
Location:	New Bedford, MA
Street 1:	Theodore Rice Blvd & Braley Road
Street 2:	Route 140 SB On/Off Ramps
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
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HEAVY VEHICLES

	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	2	0
6:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	0
6:30 AM	0	0	0	0	0	1	0	2	0	0	1	4	0	3	3	0
6:45 AM	0	0	0	0	0	2	0	3	0	0	3	1	0	1	3	0
7:00 AM	0	0	0	0	0	1	0	2	0	0	3	3	0	1	4	0
7:15 AM	0	0	0	0	0	2	0	3	0	0	3	4	0	1	8	0
7:30 AM	0	0	0	0	0	0	0	1	0	0	5	6	0	3	5	0
7:45 AM	0	0	0	0	0	0	0	2	0	0	2	10	0	4	4	0
8:00 AM	0	0	0	0	0	0	0	3	0	0	7	8	0	2	5	0
8:15 AM	0	0	0	0	0	0	0	1	0	0	6	5	0	4	6	0
8:30 AM	0	0	0	0	0	2	0	3	0	0	1	6	0	13	8	0
8:45 AM	0	0	0	0	0	1	0	3	0	0	5	5	0	5	8	0
9:00 AM	0	0	0	0	0	1	0	5	0	0	9	11	0	4	9	0
9:15 AM	0	0	0	0	0	0	0	4	0	0	2	3	0	5	8	0
9:30 AM	0	0	0	0	0	2	0	1	0	0	4	2	0	4	8	0
9:45 AM	0	0	0	0	0	2	0	4	0	0	5	8	0	2	5	0
10:00 AM	0	0	0	0	0	0	0	6	0	0	6	4	0	1	9	0
10:15 AM	0	0	0	0	0	0	0	4	0	0	3	10	0	4	5	0
10:30 AM	0	0	0	0	0	0	0	2	0	0	1	9	0	1	2	0
10:45 AM	0	0	0	0	0	0	0	2	0	0	1	8	0	0	7	0
11:00 AM	0	0	0	0	0	2	0	6	0	0	3	9	0	2	5	0
11:15 AM	0	0	0	0	0	0	0	2	0	0	1	9	0	1	14	0
11:30 AM	0	0	0	0	0	0	0	3	0	0	4	5	0	2	7	0
11:45 AM	0	0	0	0	0	1	0	1	0	0	3	10	0	2	6	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	6	3	0	1	5	0
12:15 PM	0	0	0	0	0	0	0	6	0	0	2	5	0	0	4	0
12:30 PM	0	0	0	0	0	0	0	5	0	0	6	5	0	2	5	0
12:45 PM	0	0	0	0	0	1	0	2	0	0	3	8	0	4	2	0
1:00 PM	0	0	0	0	0	0	0	5	0	0	4	4	0	1	6	0
1:15 PM	0	0	0	0	0	0	0	2	0	0	2	7	0	1	5	0
1:30 PM	0	0	0	0	0	0	0	1	0	0	3	4	0	1	6	0
1:45 PM	0	0	0	0	0	0	0	2	0	0	3	3	0	1	8	0
2:00 PM	0	0	0	0	0	0	0	3	0	0	3	5	0	0	4	0
2:15 PM	0	0	0	0	0	1	0	5	0	0	1	5	0	2	5	0
2:30 PM	0	0	0	0	0	0	0	2	0	0	6	4	0	7	4	0
2:45 PM	0	0	0	0	0	0	0	2	0	0	2	3	0	2	10	0
3:00 PM	0	0	0	0	0	4	0	8	0	0	2	2	0	2	7	0
3:15 PM	0	0	0	0	0	0	0	2	0	0	3	8	0	7	7	0
3:30 PM	0	0	0	0	0	1	0	1	0	0	0	5	0	2	5	0
3:45 PM	0	0	0	0	0	0	0	1	0	0	1	1	0	1	6	0
4:00 PM	0	0	0	0	0	0	0	3	0	0	0	7	0	4	10	0
4:15 PM	0	0	0	0	0	1	0	4	0	0	2	5	0	1	2	0
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	3	0	1	1	0
4:45 PM	0	0	0	0	0	0	0	2	0	0	1	3	0	4	1	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	3	2	0	0	3	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	2	0	0	1	0
5:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0
5:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0
6:00 PM	0	0	0	0	0	0	0	2	0	0	1	0	0	0	3	0
6:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0
6:30 PM	0	0	0	0	0	0	0	1	0	0	0	3	0	0	1	0
6:45 PM	0	0	0	0	0	0	0	1	0	0	0	2	0	0	2	0

AM PEAK HOUR	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
8:15 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
9:15 AM	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**12**	**0**	**0**	**21**	**27**	**0**	**26**	**31**	**0**
PHF	**0.00**				**0.67**				**0.60**				**0.68**			

MID PEAK HOUR	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
11:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
12:00 PM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**12**	**0**	**0**	**11**	**33**	**0**	**7**	**32**	**0**
PHF	**0.00**				**0.47**				**0.85**				**0.65**			

PM PEAK HOUR	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
2:30 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:30 PM	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**14**	**0**	**0**	**13**	**17**	**0**	**18**	**28**	**0**
PHF	**0.00**				**0.38**				**0.68**				**0.82**			

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 2
Location:	New Bedford, MA
Street 1:	Theodore Rice Blvd & Braley Road
Street 2:	Route 140 SB On/Off Ramps
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
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PEDESTRIANS & BICYCLES

	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
6:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0
7:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
7:00 AM																
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
8:00 AM	0	0	0	2	0	0	0	1	0	1	0	0	0	0	0	0

MID PEAK HOUR	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
12:00 PM																
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0

PM PEAK HOUR	Route 140 Southbound On Ramp Northbound				Route 140 Southbound Off Ramp Southbound				Theodore Rice Blvd Eastbound				Braley Road Westbound			
2:45 PM																
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 3
Location:	New Bedford, MA
Street 1:	Theodore Rice Blvd
Street 2:	Phillips Road
Count Date:	4/10/2021
Day of Week:	Saturday
Weather:	Mostly Sunny, 65°F

BOSTON TRAFFIC DATA
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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	7	7	0	11	2	1	0	0	7	0	0	0	7	6
6:15 AM	0	1	4	4	0	6	1	0	0	0	3	0	0	4	14	15
6:30 AM	0	2	3	6	0	19	2	3	0	0	8	0	0	4	26	8
6:45 AM	0	1	3	5	0	14	2	2	0	0	5	1	0	8	27	18
7:00 AM	0	1	7	6	0	12	3	1	0	0	40	2	0	4	14	14
7:15 AM	0	1	8	13	0	21	4	1	0	1	5	4	0	6	12	19
7:30 AM	0	1	10	14	0	24	6	4	0	1	9	1	0	7	16	21
7:45 AM	0	2	12	11	0	21	9	1	0	3	3	1	0	10	7	21
8:00 AM	0	1	8	20	0	31	7	2	0	0	13	0	0	27	11	23
8:15 AM	0	0	8	12	0	40	3	0	0	0	8	1	0	14	6	16
8:30 AM	0	0	9	13	0	33	7	1	0	3	14	0	1	16	9	20
8:45 AM	0	0	13	17	0	29	13	0	0	0	8	2	0	12	10	25
9:00 AM	0	1	6	20	1	41	8	2	0	1	15	6	0	13	6	31
9:15 AM	0	1	14	21	0	34	8	0	0	1	10	0	0	18	13	28
9:30 AM	0	1	7	14	0	35	9	0	0	0	9	0	0	23	5	26
9:45 AM	0	2	16	24	0	29	10	1	0	3	15	1	0	21	11	31
10:00 AM	0	1	8	27	0	42	7	0	0	2	28	6	0	22	13	37
10:15 AM	0	2	12	26	0	45	8	1	0	0	13	3	1	20	18	35
10:30 AM	0	5	11	30	0	27	13	1	0	2	11	1	0	28	28	42
10:45 AM	0	2	16	19	0	36	17	4	0	0	11	1	0	21	27	28
11:00 AM	0	1	17	28	0	37	15	0	0	5	86	23	0	31	5	4
11:15 AM	0	1	13	36	0	38	10	0	0	1	18	2	0	28	10	11
11:30 AM	0	3	15	23	0	39	12	2	0	4	9	3	0	28	20	20
11:45 AM	0	1	10	25	0	49	14	2	0	1	13	9	0	29	11	10
12:00 PM	0	2	16	29	0	40	10	1	0	6	36	3	0	38	9	9
12:15 PM	0	2	11	20	0	22	10	1	0	1	18	6	0	30	12	12
12:30 PM	0	7	23	24	0	37	15	2	0	0	13	6	0	25	7	10
12:45 PM	0	3	16	29	0	30	15	1	0	3	9	2	0	32	15	15
1:00 PM	1	0	29	21	0	33	8	0	0	3	11	2	0	27	9	9
1:15 PM	0	3	11	16	0	28	18	1	0	0	12	9	0	23	9	9
1:30 PM	0	1	11	26	0	41	6	0	0	0	7	4	0	27	13	13
1:45 PM	0	2	12	27	0	32	7	0	0	1	4	1	0	26	8	7
2:00 PM	0	4	13	26	0	25	12	5	0	1	17	1	0	24	7	7
2:15 PM	0	2	15	18	0	34	14	0	0	1	13	3	0	17	5	4
2:30 PM	0	2	17	20	0	27	5	1	0	0	11	5	0	31	13	14
2:45 PM	0	0	7	19	0	26	13	1	0	2	8	2	0	26	11	13
3:00 PM	0	2	19	24	0	31	13	0	0	0	17	1	0	30	8	8
3:15 PM	0	1	9	27	0	24	11	1	0	0	10	0	0	27	8	9
3:30 PM	0	0	14	20	0	30	7	0	0	1	6	2	1	25	8	7
3:45 PM	0	0	12	23	0	30	9	2	0	0	8	2	0	31	7	7
4:00 PM	0	2	9	25	0	29	9	0	0	0	10	1	0	31	4	3
4:15 PM	0	1	14	17	0	25	8	1	0	2	7	4	0	24	10	8
4:30 PM	0	1	8	13	0	43	7	0	0	2	7	0	0	18	4	5
4:45 PM	0	1	6	15	0	46	3	0	0	1	3	1	0	21	7	8
5:00 PM	0	2	9	17	0	30	10	0	0	0	9	0	0	22	4	4
5:15 PM	0	2	8	16	0	26	12	0	0	0	5	1	0	25	4	4
5:30 PM	0	1	8	21	0	19	9	0	0	1	5	1	0	21	9	10
5:45 PM	0	1	7	18	0	26	8	0	0	0	3	3	0	31	3	3
6:00 PM	0	6	13	8	0	27	3	0	0	4	10	1	0	21	2	2
6:15 PM	0	4	5	22	0	22	11	1	0	0	3	1	0	30	2	2
6:30 PM	0	1	7	22	0	17	13	0	0	1	4	2	0	21	5	4
6:45 PM	0	1	13	18	0	22	5	0	0	0	1	1	0	22	5	5

AM PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
9:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
10:00 AM	**0**	**5**	**43**	**79**	**1**	**139**	**35**	**3**	**0**	**5**	**49**	**7**	**0**	**75**	**35**	**116**
PHF		**0.76**				**0.86**				**0.69**				**0.90**		
HV %	**0.0%**	**0.0%**	**0.0%**	**1.3%**	**0.0%**	**4.3%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**8.2%**	**0.0%**	**0.0%**	**1.3%**	**5.7%**	**2.6%**

MID PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
10:15 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:15 AM	**0**	**10**	**56**	**103**	**0**	**145**	**53**	**6**	**0**	**7**	**121**	**28**	**1**	**100**	**78**	**109**
PHF		**0.92**				**0.89**				**0.34**				**0.73**		
HV %	**0.0%**	**10.0%**	**0.0%**	**0.0%**	**0.0%**	**1.4%**	**1.9%**	**16.7%**	**0.0%**	**14.3%**	**1.7%**	**0.0%**	**0.0%**	**1.0%**	**6.4%**	**1.8%**

PM PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
2:30 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:30 PM	**0**	**5**	**52**	**90**	**0**	**108**	**42**	**3**	**0**	**2**	**46**	**8**	**0**	**114**	**40**	**44**
PHF		**0.82**				**0.87**				**0.78**				**0.85**		
HV %	**0.0%**	**0.0%**	**0.0%**	**1.1%**	**0.0%**	**0.9%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**2.2%**	**0.0%**	**0.0%**	**2.6%**	**5.0%**	**9.1%**

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 3
Location:	New Bedford, MA
Street 1:	Theodore Rice Blvd
Street 2:	Phillips Road
Count Date:	4/10/2021
Day of Week:	Saturday
Weather:	Mostly Sunny, 65°F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
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HEAVY VEHICLES

	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	2	0	0	0	1	0
7:30 AM	0	0	0	1	0	1	0	0	0	0	4	0	0	0	1	0
7:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1
8:00 AM	0	0	1	0	0	2	0	0	0	0	3	0	0	1	2	0
8:15 AM	0	0	0	0	0	2	0	0	0	0	2	0	0	0	1	0
8:30 AM	0	0	0	0	0	1	0	0	0	0	2	0	0	0	2	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
9:00 AM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	2
9:15 AM	0	0	0	0	0	2	0	0	0	0	1	0	0	1	1	0
9:30 AM	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0
9:45 AM	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1
10:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
10:15 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1
10:30 AM	0	1	0	0	0	1	0	1	0	0	0	0	0	0	3	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1
11:00 AM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0
11:15 AM	0	0	1	0	0	0	0	0	0	0	2	0	0	0	1	2
11:30 AM	0	0	0	0	0	3	0	1	0	0	0	0	0	1	2	2
11:45 AM	0	0	0	0	0	1	0	0	0	0	1	2	0	0	1	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
12:30 PM	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2
12:45 PM	0	1	0	1	0	0	1	0	0	1	0	0	0	1	0	0
1:00 PM	0	0	0	1	0	2	0	0	0	0	0	0	0	0	1	1
1:15 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	1	1	1
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
1:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0
2:00 PM	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1
2:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
3:00 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	1	1	1
3:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1
3:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
4:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1
5:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
7:30 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:30 AM	**0**	**0**	**1**	**1**	**0**	**6**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**2**	**4**	**1**
PHF	**0.50**				**0.75**				**0.56**				**0.58**			

MID PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
11:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
12:00 PM	**0**	**0**	**1**	**0**	**0**	**4**	**0**	**1**	**0**	**1**	**4**	**2**	**0**	**1**	**5**	**4**
PHF	**0.25**				**0.31**				**0.58**				**0.50**			

PM PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
2:45 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:45 PM	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**3**	**3**	**3**
PHF	**0.25**				**0.25**				**0.50**				**0.75**			

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 3
Location:	New Bedford, MA
Street 1:	Theodore Rice Blvd
Street 2:	Phillips Road
Count Date:	4/10/2021
Day of Week:	Saturday
Weather:	Mostly Sunny, 65°F

BOSTON TRAFFIC DATA
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PEDESTRIANS & BICYCLES

	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
8:30 AM	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	5	0	0	0	0	0	1	0	0	0	0	0	0	0	0
1:15 PM	0	2	0	0	0	0	0	0	0	0	5	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
2:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 9:00 AM to 10:00 AM	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR 10:15 AM to 11:15 AM	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0

PM PEAK HOUR 2:30 PM to 3:30 PM	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 3
Location:	New Bedford, MA
Street 1:	Theodore Rice Blvd
Street 2:	Phillips Road
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	4	7	7	0	26	1	0	0	0	7	2	0	4	30	28
6:15 AM	0	7	12	16	0	27	7	2	0	0	8	2	0	9	56	32
6:30 AM	0	9	12	15	0	41	7	7	0	0	9	1	0	8	120	26
6:45 AM	0	12	17	12	0	37	6	9	0	0	15	3	0	4	151	24
7:00 AM	0	3	4	25	0	33	3	7	0	3	102	23	0	9	67	40
7:15 AM	0	4	11	21	0	41	10	6	0	1	19	0	0	24	55	36
7:30 AM	0	5	12	25	0	48	6	8	0	2	19	3	0	10	79	37
7:45 AM	0	2	10	20	0	49	4	8	0	6	21	2	0	17	98	30
8:00 AM	0	3	19	28	0	36	10	7	0	1	39	5	0	16	55	41
8:15 AM	0	6	7	37	0	43	16	6	0	1	15	4	0	16	72	27
8:30 AM	0	3	7	32	0	49	9	5	0	3	25	5	0	23	64	35
8:45 AM	0	4	12	17	0	33	12	6	0	1	22	5	0	35	53	45
9:00 AM	0	1	8	20	0	41	11	2	0	3	33	5	0	24	56	41
9:15 AM	0	4	8	18	0	31	13	2	0	3	32	6	0	19	35	21
9:30 AM	0	2	10	22	0	27	6	4	0	2	27	2	0	29	38	20
9:45 AM	0	5	6	26	0	25	9	1	0	2	29	7	0	17	42	20
10:00 AM	0	4	11	10	0	23	10	3	0	1	30	3	0	19	42	23
10:15 AM	0	1	8	25	0	22	6	2	0	1	32	4	0	14	38	21
10:30 AM	0	7	8	25	0	32	9	2	0	2	28	3	0	23	40	16
10:45 AM	0	1	9	23	0	23	6	4	0	3	33	4	0	15	39	26
11:00 AM	0	0	6	13	0	26	11	2	0	0	39	3	0	20	22	29
11:15 AM	0	3	12	15	0	21	13	3	0	5	35	13	0	19	37	25
11:30 AM	0	7	10	20	0	27	15	0	0	2	35	7	1	18	40	23
11:45 AM	0	2	9	22	0	20	7	3	0	5	35	9	0	20	51	32
12:00 PM	0	4	8	31	0	33	10	2	0	3	75	14	0	18	42	18
12:15 PM	0	3	12	16	0	24	13	2	0	2	39	12	0	29	44	27
12:30 PM	0	8	9	21	0	24	8	1	0	1	35	2	0	18	40	18
12:45 PM	0	3	14	22	0	16	10	3	0	1	40	6	0	20	57	26
1:00 PM	0	5	16	27	0	31	9	1	0	3	38	9	0	13	40	31
1:15 PM	0	2	8	19	0	26	8	2	0	2	41	5	2	14	41	27
1:30 PM	0	3	9	16	0	34	6	1	0	1	48	4	0	16	46	29
1:45 PM	0	2	10	20	0	17	9	2	0	4	35	2	0	20	47	32
2:00 PM	0	5	10	30	0	30	14	3	0	2	44	7	0	24	35	32
2:15 PM	0	7	6	33	0	24	14	6	0	3	38	8	0	25	69	27
2:30 PM	0	7	11	31	0	29	14	3	0	2	50	5	0	31	89	33
2:45 PM	0	3	20	26	0	23	13	6	0	2	46	6	0	44	70	47
3:00 PM	0	3	16	32	0	44	15	2	0	4	107	54	0	42	29	36
3:15 PM	0	12	11	31	0	41	13	2	0	3	62	6	0	39	38	33
3:30 PM	0	2	14	22	0	36	16	2	0	6	119	27	0	32	27	42
3:45 PM	0	0	15	21	0	42	18	0	0	1	52	5	0	30	28	64
4:00 PM	0	2	9	29	0	55	18	1	0	3	103	14	0	43	35	42
4:15 PM	0	5	14	30	0	53	15	1	0	2	55	7	0	28	17	46
4:30 PM	0	2	14	24	0	39	12	0	0	10	74	10	0	32	20	44
4:45 PM	0	1	14	21	0	34	7	1	0	5	65	3	0	28	14	38
5:00 PM	0	0	16	26	0	47	13	0	0	6	105	16	0	32	13	55
5:15 PM	0	2	6	27	0	34	12	1	0	1	65	5	0	34	5	31
5:30 PM	0	1	13	17	0	31	9	0	0	2	37	2	0	32	12	36
5:45 PM	0	1	5	20	0	27	9	0	0	2	22	2	0	27	15	23
6:00 PM	0	0	8	15	0	26	12	0	0	1	23	2	0	23	9	31
6:15 PM	0	3	8	21	0	27	6	1	0	1	15	3	0	34	7	22
6:30 PM	0	1	11	21	0	24	5	0	0	1	17	0	0	20	13	26
6:45 PM	0	1	6	10	0	23	6	0	0	1	9	1	0	10	10	24

AM PEAK HOUR 7:00 AM to 8:00 AM	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**14**	**37**	**91**	**0**	**171**	**23**	**29**	**0**	**12**	**161**	**28**	**0**	**60**	**299**	**143**
PHF		**0.85**				**0.90**				**0.39**				**0.87**		
HV %	**0.0%**	**0.0%**	**2.7%**	**3.3%**	**0.0%**	**2.9%**	**13.0%**	**6.9%**	**0.0%**	**33.3%**	**17.4%**	**0.0%**	**0.0%**	**11.7%**	**6.0%**	**2.8%**

MID PEAK HOUR 11:30 AM to 12:30 PM	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**16**	**39**	**89**	**0**	**104**	**45**	**7**	**0**	**12**	**184**	**42**	**1**	**85**	**177**	**100**
PHF		**0.84**				**0.87**				**0.65**				**0.88**		
HV %	**0.0%**	**6.3%**	**0.0%**	**5.6%**	**0.0%**	**6.7%**	**4.4%**	**14.3%**	**0.0%**	**16.7%**	**14.1%**	**0.0%**	**0.0%**	**2.4%**	**15.3%**	**3.0%**

PM PEAK HOUR 2:45 PM to 3:45 PM	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**20**	**61**	**111**	**0**	**144**	**57**	**12**	**0**	**15**	**334**	**93**	**0**	**157**	**164**	**158**
PHF		**0.89**				**0.87**				**0.67**				**0.74**		
HV %	**0.0%**	**10.0%**	**13.1%**	**7.2%**	**0.0%**	**5.6%**	**3.5%**	**33.3%**	**0.0%**	**13.3%**	**2.7%**	**1.1%**	**0.0%**	**5.7%**	**17.1%**	**3.2%**

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 3
Location:	New Bedford, MA
Street 1:	Theodore Rice Blvd
Street 2:	Phillips Road
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
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HEAVY VEHICLES

	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	1	0	0	0	0	0	0	0	0	2	0	0	0	1	1
6:15 AM	0	1	0	0	0	0	0	0	0	0	0	1	0	0	2	2
6:30 AM	0	1	0	2	0	0	1	0	0	0	3	0	0	2	2	1
6:45 AM	0	0	1	0	0	2	1	1	0	0	2	1	0	0	4	2
7:00 AM	0	0	0	0	0	0	0	0	0	1	6	0	0	0	3	3
7:15 AM	0	0	1	0	0	1	2	0	0	0	6	0	0	4	6	1
7:30 AM	0	0	0	2	0	2	1	1	0	2	7	0	0	1	5	0
7:45 AM	0	0	0	1	0	2	0	1	0	1	9	0	0	2	4	0
8:00 AM	0	1	3	2	0	4	2	0	0	0	9	1	0	2	6	0
8:15 AM	0	1	0	4	0	1	0	2	0	0	6	2	0	0	6	1
8:30 AM	0	0	0	0	0	2	0	0	0	1	5	1	0	0	9	2
8:45 AM	0	1	0	0	0	3	1	1	0	0	7	0	0	1	9	1
9:00 AM	0	0	0	0	0	3	0	0	0	1	17	0	0	0	13	1
9:15 AM	0	0	1	0	0	1	0	0	0	0	4	1	0	2	8	2
9:30 AM	0	0	0	0	0	1	0	3	0	0	5	0	0	0	6	3
9:45 AM	0	0	0	0	0	5	0	0	0	0	8	0	0	0	8	1
10:00 AM	0	0	0	0	0	0	0	1	0	0	10	0	0	2	12	1
10:15 AM	0	0	0	2	0	0	0	1	0	0	11	0	0	0	9	0
10:30 AM	0	1	0	2	0	2	2	1	0	0	6	0	0	0	4	0
10:45 AM	0	0	0	0	0	0	0	0	0	2	8	0	0	1	4	4
11:00 AM	0	0	1	0	0	4	0	1	0	0	8	2	0	0	8	3
11:15 AM	0	0	1	2	0	1	0	1	0	1	6	2	0	1	15	0
11:30 AM	0	1	0	1	0	1	1	0	0	1	7	0	0	0	9	1
11:45 AM	0	0	0	0	0	4	0	0	0	0	9	0	0	0	5	2
12:00 PM	0	0	0	2	0	2	0	1	0	1	5	0	0	1	4	0
12:15 PM	0	0	0	2	0	0	1	0	0	0	5	0	0	1	9	0
12:30 PM	0	1	1	1	0	1	0	0	0	0	9	0	0	0	9	1
12:45 PM	0	0	0	1	0	1	1	1	0	0	9	0	0	2	2	0
1:00 PM	0	0	0	2	0	1	0	0	0	0	5	1	0	0	8	3
1:15 PM	0	0	0	0	0	3	0	1	0	2	5	0	0	1	5	1
1:30 PM	0	0	0	1	0	3	0	0	0	1	3	0	0	0	7	0
1:45 PM	0	0	0	0	0	0	0	0	0	1	6	0	0	1	7	2
2:00 PM	0	1	0	2	0	1	2	1	0	0	5	2	0	2	3	2
2:15 PM	0	0	0	1	0	0	1	2	0	1	5	1	0	0	9	1
2:30 PM	0	0	0	2	0	1	2	0	0	1	7	0	0	0	6	0
2:45 PM	0	0	3	2	0	2	1	2	0	0	1	0	0	2	10	0
3:00 PM	0	1	1	2	0	1	1	1	0	1	1	0	0	3	9	3
3:15 PM	0	1	2	4	0	4	0	0	0	0	3	0	0	3	6	0
3:30 PM	0	0	2	0	0	1	0	1	0	1	4	1	0	1	3	2
3:45 PM	0	0	0	1	0	0	1	0	0	0	1	0	0	2	3	2
4:00 PM	0	0	1	0	0	2	0	1	0	0	5	0	0	1	8	4
4:15 PM	0	2	1	0	0	2	0	0	0	0	5	0	0	0	6	0
4:30 PM	0	0	1	0	0	1	0	0	0	0	2	1	0	0	0	1
4:45 PM	0	0	0	0	0	2	0	1	0	0	1	0	0	1	2	0
5:00 PM	0	0	0	1	0	1	0	0	0	0	3	0	0	0	3	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5	0
6:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0
6:30 PM	0	0	0	0	0	1	0	0	0	0	2	0	0	0	1	1
6:45 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	1	1	1

AM PEAK HOUR 8:15 AM to 9:15 AM	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**2**	**0**	**4**	**0**	**9**	**1**	**3**	**0**	**2**	**35**	**3**	**0**	**1**	**37**	**5**
PHF	**0.30**				**0.65**				**0.56**				**0.77**			

MID PEAK HOUR 11:00 AM to 12:00 PM	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**1**	**2**	**3**	**0**	**10**	**1**	**2**	**0**	**2**	**30**	**4**	**0**	**1**	**37**	**6**
PHF	**0.50**				**0.65**				**0.90**				**0.69**			

PM PEAK HOUR 2:30 PM to 3:30 PM	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**2**	**6**	**10**	**0**	**8**	**4**	**3**	**0**	**2**	**12**	**0**	**0**	**8**	**31**	**3**
PHF	**0.64**				**0.75**				**0.44**				**0.70**			

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 3
Location:	New Bedford, MA
Street 1:	Theodore Rice Blvd
Street 2:	Phillips Road
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
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PEDESTRIANS & BICYCLES

	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
6:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0
7:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0
1:00 PM	0	0	0	3	0	0	0	0	0	0	0	3	0	0	0	0
1:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
5:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	4	0	0	0	0	0	0	0	4	0	0	0	0
5:45 PM	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
6:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1

AM PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
7:00 AM																
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
8:00 AM	0	0	0	3	0	0	0	1	0	1	0	1	0	0	0	0

MID PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
11:30 AM																
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
12:30 PM	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0

PM PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Theodore Rice Blvd Eastbound				Theodore Rice Blvd Westbound			
2:45 PM																
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 4
Location:	New Bedford, MA
Street 1:	Duchaine Blvd
Street 2:	Theodore Rice Blvd
Count Date:	4/10/2021
Day of Week:	Saturday
Weather:	Mostly Sunny, 65°F

BOSTON TRAFFIC DATA
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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	0	7	0	0	0	0	0	0	0	0	0	8	0	2
6:15 AM	0	0	0	7	0	2	2	0	0	0	0	0	0	13	0	2
6:30 AM	0	0	1	7	0	1	0	0	0	0	0	0	0	25	0	4
6:45 AM	0	0	0	3	0	2	0	0	0	0	0	0	0	36	0	3
7:00 AM	0	0	0	31	0	11	0	0	0	0	0	0	0	12	0	3
7:15 AM	0	0	2	3	0	0	2	0	0	0	0	0	0	11	0	2
7:30 AM	0	0	1	11	0	0	6	0	0	0	0	0	0	17	0	4
7:45 AM	0	0	0	3	0	0	1	0	0	0	0	0	0	7	0	2
8:00 AM	0	0	0	8	0	1	0	0	0	0	0	0	0	10	0	0
8:15 AM	0	0	0	4	0	0	0	0	0	0	0	0	0	3	0	0
8:30 AM	0	0	0	9	0	1	0	0	0	0	0	0	0	5	0	2
8:45 AM	0	0	2	6	0	3	1	0	0	0	0	0	0	8	0	0
9:00 AM	0	0	2	8	0	5	2	0	0	0	0	0	0	3	0	2
9:15 AM	0	0	1	3	0	0	3	0	0	0	0	0	0	8	0	3
9:30 AM	0	0	0	4	0	1	0	0	0	0	0	0	0	1	0	1
9:45 AM	0	0	2	10	0	3	4	0	0	0	0	0	0	2	0	1
10:00 AM	0	0	1	11	0	13	4	0	0	0	0	0	0	7	0	0
10:15 AM	0	0	2	2	0	2	2	0	0	0	0	0	0	13	0	4
10:30 AM	0	0	1	8	0	1	3	0	0	0	0	0	0	24	0	3
10:45 AM	0	0	2	6	0	1	7	0	0	0	0	0	0	27	0	3
11:00 AM	0	0	3	78	0	45	1	0	0	0	0	0	0	5	0	0
11:15 AM	0	0	1	14	0	2	1	0	0	0	0	0	0	6	0	3
11:30 AM	0	0	1	8	0	1	1	0	0	0	0	0	0	12	0	2
11:45 AM	0	0	3	6	0	7	2	0	0	0	0	0	0	10	0	3
12:00 PM	0	0	1	26	0	7	3	0	0	0	0	0	0	1	0	1
12:15 PM	0	0	0	14	0	2	1	0	0	0	0	0	0	4	0	2
12:30 PM	0	0	2	8	0	3	3	0	0	0	0	0	0	4	0	2
12:45 PM	0	0	1	6	0	3	5	0	0	0	0	0	0	6	0	3
1:00 PM	0	0	2	4	0	4	2	0	0	0	0	0	0	3	0	2
1:15 PM	0	0	1	5	0	1	1	0	0	0	0	0	0	4	0	4
1:30 PM	0	0	0	5	0	1	1	0	0	0	0	0	0	8	0	2
1:45 PM	0	0	1	4	0	1	2	0	0	0	0	0	0	4	0	1
2:00 PM	0	0	5	11	0	5	10	0	0	0	0	0	0	7	0	3
2:15 PM	0	0	2	14	0	0	4	0	0	0	0	0	0	2	0	1
2:30 PM	0	0	0	5	0	3	2	0	0	0	0	0	0	8	0	2
2:45 PM	0	0	2	7	0	1	3	0	0	0	0	0	0	8	0	1
3:00 PM	0	0	1	14	0	8	1	0	0	0	0	0	0	3	0	0
3:15 PM	0	0	0	4	0	0	2	0	0	0	0	0	0	5	0	1
3:30 PM	0	0	1	4	0	0	0	0	0	0	0	0	0	3	0	0
3:45 PM	0	0	0	3	0	0	2	0	0	0	0	0	0	4	0	0
4:00 PM	0	0	0	3	0	4	1	0	0	0	0	0	0	5	0	1
4:15 PM	0	0	0	5	0	0	0	0	0	0	0	0	0	6	0	0
4:30 PM	0	0	0	4	0	0	0	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	3	2	0	2	2	0	0	0	0	0	0	3	0	1
5:00 PM	0	0	2	8	0	0	2	0	0	0	0	0	0	3	0	1
5:15 PM	0	0	0	4	0	1	1	0	0	0	0	0	0	3	0	2
5:30 PM	0	0	1	3	0	1	1	0	0	0	0	0	0	2	0	1
5:45 PM	0	0	0	2	0	0	1	0	0	0	0	0	1	1	0	0
6:00 PM	0	0	0	11	0	2	0	0	0	0	0	0	1	4	0	1
6:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0	2
6:30 PM	0	0	1	7	0	2	2	0	0	0	0	0	0	3	0	3
6:45 PM	0	0	1	0	0	2	1	0	0	0	0	0	0	2	0	1

AM PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
7:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:00 AM	**0**	**0**	**3**	**48**	**0**	**11**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**47**	**0**	**11**
PHF		**0.41**				**0.45**				**0.00**				**0.69**		
HV %	**0.0%**	**0.0%**	**66.7%**	**16.7%**	**0.0%**	**0.0%**	**44.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**4.3%**	**0.0%**	**0.0%**

MID PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
10:30 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:30 AM	**0**	**0**	**7**	**106**	**0**	**49**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**62**	**0**	**9**
PHF		**0.35**				**0.33**				**0.00**				**0.59**		
HV %	**0.0%**	**0.0%**	**0.0%**	**2.8%**	**0.0%**	**2.0%**	**8.3%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**6.5%**	**0.0%**	**11.1%**

PM PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
2:00 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:00 PM	**0**	**0**	**9**	**37**	**0**	**9**	**19**	**0**	**0**	**0**	**0**	**0**	**0**	**25**	**0**	**7**
PHF		**0.72**				**0.47**				**0.00**				**0.80**		
HV %	**0.0%**	**0.0%**	**44.4%**	**2.7%**	**0.0%**	**0.0%**	**36.8%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**12.0%**	**0.0%**	**0.0%**

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 4
Location:	New Bedford, MA
Street 1:	Duchaine Blvd
Street 2:	Theodore Rice Blvd
Count Date:	4/10/2021
Day of Week:	Saturday
Weather:	Mostly Sunny, 65°F

BOSTON TRAFFIC DATA
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HEAVY VEHICLES

	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
6:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	2	0	0	2	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	1	6	0	0	2	0	0	0	0	0	0	2	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	2	0	1	0	0	0	0	0	0	0	2	0	0
8:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0
8:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0
9:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
9:30 AM	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
10:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0
11:15 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
11:45 AM	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	1
12:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
1:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
1:45 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	1
2:00 PM	0	0	3	0	0	0	6	0	0	0	0	0	0	2	0	0
2:15 PM	0	0	1	1	0	0	1	0	0	0	0	0	0	1	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
4:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
6:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
7:15 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:15 AM	**0**	**0**	**2**	**10**	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**
PHF	**0.43**				**0.63**				**0.00**				**0.50**			

MID PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
11:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
12:00 PM	**0**	**0**	**1**	**4**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**
PHF	**0.63**				**0.50**				**0.00**				**1.00**			

PM PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
2:00 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:00 PM	**0**	**0**	**4**	**1**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**
PHF	**0.42**				**0.29**				**0.00**				**0.38**			

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 4
Location:	New Bedford, MA
Street 1:	Duchaine Blvd
Street 2:	Theodore Rice Blvd
Count Date:	4/10/2021
Day of Week:	Saturday
Weather:	Mostly Sunny, 65°F

BOSTON TRAFFIC DATA
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PEDESTRIANS & BICYCLES

	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	1
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:00 AM to 8:00 AM	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR 10:30 AM to 11:30 AM	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	3	0	2	0	2	0	0	0	0	0	0	0	0	0	4

PM PEAK HOUR 2:00 PM to 3:00 PM	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 4
Location:	New Bedford, MA
Street 1:	Duchaine Blvd
Street 2:	Theodore Rice Blvd
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	0	5	0	0	2	0	0	0	0	0	0	34	0	8
6:15 AM	0	0	0	4	0	1	2	0	0	0	0	0	1	51	0	14
6:30 AM	0	0	2	8	0	0	5	0	0	0	0	0	0	102	0	35
6:45 AM	0	0	1	13	0	4	3	0	0	0	0	0	0	132	0	43
7:00 AM	0	0	3	83	0	49	3	0	0	0	0	0	0	63	0	13
7:15 AM	0	0	3	18	0	1	5	0	0	0	0	0	0	56	0	10
7:30 AM	0	0	1	19	0	4	1	0	0	0	0	0	0	73	0	21
7:45 AM	0	0	2	23	0	2	2	0	0	0	0	0	0	77	0	22
8:00 AM	0	0	2	30	0	10	1	0	0	0	0	0	0	45	0	12
8:15 AM	0	0	0	17	0	3	2	0	0	0	0	0	0	56	0	7
8:30 AM	0	0	1	15	0	8	2	0	0	0	0	0	0	40	0	5
8:45 AM	0	0	3	23	0	1	1	0	0	0	0	0	0	32	0	3
9:00 AM	0	0	1	32	0	8	2	0	0	0	0	0	0	37	0	8
9:15 AM	0	0	1	16	0	3	4	0	0	0	0	0	0	32	0	5
9:30 AM	0	0	3	18	0	0	4	0	0	0	0	0	0	21	0	3
9:45 AM	0	0	2	14	0	4	5	0	0	0	0	0	0	28	0	4
10:00 AM	0	0	1	19	0	2	2	0	0	0	0	0	0	25	0	5
10:15 AM	0	0	2	18	0	6	3	0	0	0	0	0	0	21	0	6
10:30 AM	0	0	4	19	0	2	2	0	0	0	0	0	0	24	0	2
10:45 AM	0	0	2	26	0	5	7	0	0	0	0	0	0	15	0	11
11:00 AM	0	0	3	20	0	11	5	0	0	0	0	0	0	11	0	9
11:15 AM	0	0	2	31	0	8	1	0	0	0	0	0	0	22	0	5
11:30 AM	0	0	4	24	0	15	3	0	0	0	0	0	0	29	0	9
11:45 AM	0	0	6	27	0	7	3	0	0	0	0	0	0	30	0	8
12:00 PM	0	0	3	58	0	25	5	0	0	0	0	0	0	25	0	8
12:15 PM	0	0	6	31	0	11	6	0	0	0	0	0	0	41	0	10
12:30 PM	0	0	4	38	0	8	3	0	0	0	0	0	0	36	0	14
12:45 PM	0	0	4	30	0	7	5	0	0	0	0	0	0	41	0	10
1:00 PM	0	0	1	30	0	5	4	0	0	0	0	0	0	32	0	2
1:15 PM	0	0	0	36	0	4	5	0	0	0	0	0	0	24	0	9
1:30 PM	0	0	3	29	0	10	3	0	0	0	0	0	0	32	0	12
1:45 PM	0	0	0	28	0	6	3	0	0	0	0	0	0	31	0	1
2:00 PM	0	0	4	40	0	8	0	0	0	0	0	0	0	31	0	8
2:15 PM	0	0	1	25	0	7	3	0	0	0	0	0	0	66	0	15
2:30 PM	0	0	2	32	0	11	9	0	0	0	0	0	0	83	0	14
2:45 PM	0	0	1	32	0	8	7	0	0	0	0	0	0	55	0	12
3:00 PM	0	0	1	119	0	49	4	0	0	0	0	0	0	29	0	8
3:15 PM	0	0	3	41	0	28	4	0	0	0	0	0	0	26	0	13
3:30 PM	0	0	3	68	0	61	6	0	0	0	0	0	0	12	0	9
3:45 PM	0	0	1	43	0	8	2	0	0	0	0	0	0	16	0	5
4:00 PM	0	0	3	81	0	24	2	0	0	0	0	0	0	19	0	5
4:15 PM	0	0	2	36	0	10	2	0	0	0	0	0	0	14	0	7
4:30 PM	0	0	0	55	0	17	1	0	0	0	0	0	0	19	0	3
4:45 PM	0	0	1	48	0	10	4	0	0	0	0	0	0	9	0	2
5:00 PM	0	0	1	52	0	45	10	0	0	0	0	0	0	10	0	5
5:15 PM	0	0	2	54	0	16	4	0	0	0	0	0	0	6	0	0
5:30 PM	0	0	0	30	0	9	1	0	0	0	0	0	0	7	0	2
5:45 PM	0	0	1	17	0	6	1	0	0	0	0	0	0	10	0	1
6:00 PM	0	0	2	18	0	8	1	0	0	0	0	0	0	9	0	1
6:15 PM	0	0	1	14	0	2	2	0	0	0	0	0	0	4	0	4
6:30 PM	0	0	0	20	0	2	2	0	0	0	0	0	0	9	0	1
6:45 PM	0	0	0	6	0	3	2	0	0	0	0	0	0	11	0	3

AM PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
7:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:00 AM	**0**	**0**	**9**	**143**	**0**	**56**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**269**	**0**	**66**
PHF		**0.44**				**0.32**				**0.00**				**0.85**		
HV %	**0.0%**	**0.0%**	**44.4%**	**26.6%**	**0.0%**	**5.4%**	**27.3%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**3.7%**	**0.0%**	**4.5%**

MID PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
12:00 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
1:00 PM	**0**	**0**	**17**	**157**	**0**	**51**	**19**	**0**	**0**	**0**	**0**	**0**	**0**	**143**	**0**	**42**
PHF		**0.71**				**0.58**				**0.00**				**0.91**		
HV %	**0.0%**	**0.0%**	**64.7%**	**15.3%**	**0.0%**	**13.7%**	**63.2%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**15.4%**	**0.0%**	**21.4%**

PM PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
2:45 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:45 PM	**0**	**0**	**8**	**260**	**0**	**146**	**21**	**0**	**0**	**0**	**0**	**0**	**0**	**122**	**0**	**42**
PHF		**0.56**				**0.62**				**0.00**				**0.61**		
HV %	**0.0%**	**0.0%**	**62.5%**	**3.5%**	**0.0%**	**3.4%**	**38.1%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**22.1%**	**0.0%**	**23.8%**

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 4
Location:	New Bedford, MA
Street 1:	Duchaine Blvd
Street 2:	Theodore Rice Blvd
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
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HEAVY VEHICLES

	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	0	1	0	0	2	0	0	0	0	0	0	2	0	1
6:15 AM	0	0	0	3	0	0	1	0	0	0	0	0	0	2	0	2
6:30 AM	0	0	0	3	0	0	0	0	0	0	0	0	0	1	0	1
6:45 AM	0	0	0	4	0	0	0	0	0	0	0	0	0	2	0	1
7:00 AM	0	0	0	8	0	0	0	0	0	0	0	0	0	1	0	0
7:15 AM	0	0	2	8	0	0	1	0	0	0	0	0	0	3	0	2
7:30 AM	0	0	1	9	0	2	1	0	0	0	0	0	0	5	0	1
7:45 AM	0	0	1	13	0	1	1	0	0	0	0	0	0	1	0	0
8:00 AM	0	0	0	9	0	1	0	0	0	0	0	0	0	5	0	1
8:15 AM	0	0	0	6	0	0	0	0	0	0	0	0	0	8	0	1
8:30 AM	0	0	0	6	0	1	0	0	0	0	0	0	0	8	0	0
8:45 AM	0	0	2	9	0	1	0	0	0	0	0	0	0	6	0	2
9:00 AM	0	0	0	16	0	2	0	0	0	0	0	0	0	12	0	1
9:15 AM	0	0	1	4	0	1	3	0	0	0	0	0	0	9	0	1
9:30 AM	0	0	3	6	0	0	2	0	0	0	0	0	0	6	0	2
9:45 AM	0	0	2	7	0	1	2	0	0	0	0	0	0	9	0	0
10:00 AM	0	0	0	8	0	1	0	0	0	0	0	0	0	12	0	2
10:15 AM	0	0	0	10	0	2	0	0	0	0	0	0	0	7	0	3
10:30 AM	0	0	3	6	0	1	1	0	0	0	0	0	0	5	0	0
10:45 AM	0	0	2	12	0	2	2	0	0	0	0	0	0	5	0	1
11:00 AM	0	0	3	7	0	1	1	0	0	0	0	0	0	7	0	2
11:15 AM	0	0	0	8	0	3	0	0	0	0	0	0	0	13	0	4
11:30 AM	0	0	1	5	0	3	1	0	0	0	0	0	0	10	0	1
11:45 AM	0	0	3	9	0	0	2	0	0	0	0	0	0	5	0	1
12:00 PM	0	0	3	6	0	1	4	0	0	0	0	0	0	4	0	3
12:15 PM	0	0	3	5	0	2	2	0	0	0	0	0	0	9	0	2
12:30 PM	0	0	3	7	0	2	2	0	0	0	0	0	0	6	0	3
12:45 PM	0	0	2	6	0	2	4	0	0	0	0	0	0	3	0	1
1:00 PM	0	0	1	7	0	1	1	0	0	0	0	0	0	8	0	0
1:15 PM	0	0	0	7	0	1	1	0	0	0	0	0	0	6	0	1
1:30 PM	0	0	3	5	0	1	0	0	0	0	0	0	0	7	0	0
1:45 PM	0	0	0	10	0	1	1	0	0	0	0	0	0	8	0	0
2:00 PM	0	0	3	7	0	0	0	0	0	0	0	0	0	2	0	2
2:15 PM	0	0	0	5	0	4	1	0	0	0	0	0	0	11	0	4
2:30 PM	0	0	0	9	0	1	1	0	0	0	0	0	0	6	0	0
2:45 PM	0	0	1	1	0	0	2	0	0	0	0	0	0	9	0	3
3:00 PM	0	0	0	3	0	1	0	0	0	0	0	0	0	10	0	3
3:15 PM	0	0	2	2	0	1	3	0	0	0	0	0	0	6	0	2
3:30 PM	0	0	2	3	0	3	3	0	0	0	0	0	0	2	0	2
3:45 PM	0	0	1	3	0	0	1	0	0	0	0	0	0	4	0	0
4:00 PM	0	0	0	7	0	3	0	0	0	0	0	0	0	5	0	3
4:15 PM	0	0	2	5	0	0	1	0	0	0	0	0	0	6	0	4
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	1
4:45 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	1
5:00 PM	0	0	0	3	0	1	6	0	0	0	0	0	0	2	0	2
5:15 PM	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
5:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0	0
6:00 PM	0	0	1	1	0	1	0	0	0	0	0	0	0	6	0	0
6:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0
6:30 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0
6:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0

AM PEAK HOUR 9:00 AM to 10:00 AM	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**6**	**33**	**0**	**4**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**36**	**0**	**4**
PHF	**0.61**				**0.69**				**0.00**				**0.77**			

MID PEAK HOUR 10:45 AM to 11:45 AM	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**6**	**32**	**0**	**9**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**35**	**0**	**8**
PHF	**0.68**				**0.81**				**0.00**				**0.63**			

PM PEAK HOUR 2:15 PM to 3:15 PM	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**1**	**18**	**0**	**6**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**36**	**0**	**10**
PHF	**0.53**				**0.50**				**0.00**				**0.77**			

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 4
Location:	New Bedford, MA
Street 1:	Duchaine Blvd
Street 2:	Theodore Rice Blvd
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
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PEDESTRIANS & BICYCLES

	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
6:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

AM PEAK HOUR 7:00 AM to 8:00 AM	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR 12:00 PM to 1:00 PM	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8

PM PEAK HOUR 2:45 PM to 3:45 PM	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Eastbound				Theodore Rice Blvd Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 5
Location:	New Bedford, MA
Street 1:	Duchaine Blvd
Street 2:	Samuel Barnet Blvd
Count Date:	4/10/2021
Day of Week:	Saturday
Weather:	Mostly Sunny, 65°F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	0	13	1	0	2	8	0	7	0	13	0	0	0	5
6:15 AM	0	0	1	3	0	0	5	13	0	6	0	3	0	0	0	8
6:30 AM	0	0	3	4	0	0	4	38	0	4	0	4	0	0	0	29
6:45 AM	0	0	0	5	0	0	10	60	0	3	0	4	0	0	0	45
7:00 AM	0	0	0	19	0	0	5	12	0	19	0	16	0	0	0	7
7:15 AM	0	0	2	6	0	0	6	13	0	1	0	1	0	0	0	4
7:30 AM	0	0	9	5	0	0	7	16	0	3	0	1	0	0	0	5
7:45 AM	0	0	0	6	0	0	4	12	0	3	0	0	0	0	0	4
8:00 AM	0	0	1	4	0	0	1	10	0	4	0	3	0	0	0	3
8:15 AM	0	0	1	5	0	0	0	10	0	2	0	2	0	0	0	7
8:30 AM	0	0	2	5	0	0	1	5	0	7	0	4	0	0	0	3
8:45 AM	0	0	1	6	0	0	1	6	0	7	0	3	0	0	0	3
9:00 AM	0	0	0	5	0	0	0	7	0	6	0	5	0	0	0	4
9:15 AM	0	0	0	5	0	0	5	7	0	1	0	1	0	0	0	4
9:30 AM	0	0	0	1	0	0	1	3	0	4	0	0	0	0	0	2
9:45 AM	0	0	0	8	0	0	2	7	0	9	0	5	0	0	0	6
10:00 AM	0	0	2	14	0	0	2	8	0	7	0	17	0	0	0	5
10:15 AM	0	0	3	10	0	0	5	14	0	1	0	6	0	0	0	9
10:30 AM	0	0	3	7	0	0	3	6	0	7	0	6	0	0	0	3
10:45 AM	0	0	1	4	0	0	2	21	0	2	0	4	0	0	0	17
11:00 AM	0	0	3	71	0	0	7	8	0	43	0	67	0	0	0	5
11:15 AM	0	0	3	11	0	0	1	9	0	7	0	12	0	0	0	7
11:30 AM	0	0	1	17	0	0	4	20	0	8	0	17	0	0	0	9
11:45 AM	0	0	2	10	0	0	2	16	0	4	0	8	0	0	0	8
12:00 PM	0	0	2	60	1	0	5	6	0	24	0	59	0	0	0	8
12:15 PM	0	0	2	8	0	0	3	5	0	11	0	8	0	0	0	4
12:30 PM	0	0	3	2	0	0	3	2	0	4	0	3	0	0	0	1
12:45 PM	0	0	3	3	0	0	4	1	0	5	0	2	0	0	0	0
1:00 PM	0	0	5	3	0	0	4	4	0	0	0	4	0	0	0	1
1:15 PM	0	0	3	7	0	0	4	2	0	2	0	5	0	0	0	3
1:30 PM	0	0	1	4	0	0	6	6	0	2	0	3	0	0	0	6
1:45 PM	0	0	1	1	0	0	4	4	0	2	0	0	0	0	0	2
2:00 PM	0	0	7	8	1	0	12	2	0	6	0	2	0	0	0	2
2:15 PM	0	0	6	9	0	0	5	4	0	9	0	7	0	0	0	6
2:30 PM	0	0	1	7	0	0	2	2	0	2	0	3	0	0	0	5
2:45 PM	0	0	6	2	0	0	1	5	0	2	0	3	0	0	0	1
3:00 PM	0	0	2	1	0	0	3	2	0	2	0	1	0	0	0	2
3:15 PM	0	0	0	2	0	0	4	4	0	2	0	0	0	0	0	1
3:30 PM	0	0	5	2	0	0	2	3	0	1	0	3	0	0	0	0
3:45 PM	0	0	2	1	1	0	1	4	0	1	0	0	0	0	0	1
4:00 PM	0	0	1	4	0	0	3	4	0	2	0	2	0	0	0	3
4:15 PM	0	0	0	0	1	0	3	4	0	2	0	0	0	0	0	3
4:30 PM	0	0	2	8	0	0	0	2	0	2	0	8	0	0	0	3
4:45 PM	0	0	2	3	0	0	6	2	0	1	0	0	0	0	0	2
5:00 PM	0	0	3	14	1	0	5	1	0	7	0	12	0	0	0	0
5:15 PM	0	0	4	0	0	0	5	1	0	3	0	0	0	0	0	1
5:30 PM	0	0	1	4	0	0	2	1	0	2	0	3	0	0	0	1
5:45 PM	0	0	1	2	0	0	1	0	0	0	0	1	0	0	0	2
6:00 PM	0	0	1	15	0	0	0	4	0	7	0	15	0	0	0	0
6:15 PM	0	0	0	7	0	0	3	3	0	1	0	4	0	0	0	1
6:30 PM	0	0	3	5	0	0	2	3	0	3	0	3	0	0	0	2
6:45 PM	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0

AM PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
7:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:00 AM	**0**	**0**	**11**	**36**	**0**	**0**	**22**	**53**	**0**	**26**	**0**	**18**	**0**	**0**	**0**	**20**
PHF	**0.62**				**0.82**				**0.31**				**0.71**			
HV %	**0.0%**	**0.0%**	**81.8%**	**16.7%**	**0.0%**	**0.0%**	**22.7%**	**7.5%**	**0.0%**	**7.7%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**10.0%**

MID PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
10:45 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:45 AM	**0**	**0**	**8**	**103**	**0**	**0**	**14**	**58**	**0**	**60**	**0**	**100**	**0**	**0**	**0**	**38**
PHF	**0.38**				**0.75**				**0.36**				**0.56**			
HV %	**0.0%**	**0.0%**	**25.0%**	**1.0%**	**0.0%**	**0.0%**	**7.1%**	**8.6%**	**0.0%**	**3.3%**	**0.0%**	**1.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
2:00 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:00 PM	**0**	**0**	**20**	**26**	**1**	**0**	**20**	**13**	**0**	**19**	**0**	**15**	**0**	**0**	**0**	**14**
PHF	**0.77**				**0.57**				**0.53**				**0.58**			
HV %	**0.0%**	**0.0%**	**25.0%**	**0.0%**	**0.0%**	**0.0%**	**55.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 5
Location:	New Bedford, MA
Street 1:	Duchaine Blvd
Street 2:	Samuel Barnet Blvd
Count Date:	4/10/2021
Day of Week:	Saturday
Weather:	Mostly Sunny, 65°F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

HEAVY VEHICLES

	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
7:15 AM	0	0	2	2	0	0	2	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	7	2	0	0	2	2	0	1	0	0	0	0	0	1
7:45 AM	0	0	0	2	0	0	1	2	0	0	0	0	0	0	0	1
8:00 AM	0	0	1	0	0	0	0	3	0	1	0	0	0	0	0	1
8:15 AM	0	0	0	2	0	0	0	0	0	1	0	1	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	2	0	2	0	1	0	0	0	1
8:45 AM	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	1
9:30 AM	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	1
9:45 AM	0	0	0	1	0	0	0	1	0	1	0	1	0	0	0	1
10:00 AM	0	0	1	2	0	0	0	2	0	0	0	3	0	0	0	1
10:15 AM	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0
10:30 AM	0	0	0	1	0	0	1	1	0	0	0	1	0	0	0	0
10:45 AM	0	0	0	1	0	0	0	3	0	0	0	1	0	0	0	0
11:00 AM	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
11:30 AM	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
11:45 AM	0	0	2	0	0	0	0	1	0	0	0	1	0	0	0	0
12:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
1:15 PM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1
1:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1
1:45 PM	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	1
2:00 PM	0	0	3	0	0	0	8	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
3:15 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	1	2	0	1	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
7:15 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:15 AM	**0**	**0**	**10**	**6**	**0**	**0**	**5**	**7**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**3**
PHF	**0.44**				**0.75**				**0.50**				**0.75**			

MID PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
10:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	**0**	**0**	**1**	**4**	**0**	**0**	**1**	**8**	**0**	**1**	**0**	**5**	**0**	**0**	**0**	**1**
PHF	**0.42**				**0.75**				**0.50**				**0.25**			

PM PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
2:00 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:00 PM	**0**	**0**	**5**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.42**				**0.34**				**0.00**				**0.00**			

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 5
Location:	New Bedford, MA
Street 1:	Duchaine Blvd
Street 2:	Samuel Barnet Blvd
Count Date:	4/10/2021
Day of Week:	Saturday
Weather:	Mostly Sunny, 65°F

BOSTON TRAFFIC DATA
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PEDESTRIANS & BICYCLES

	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:00 AM to 8:00 AM	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR 10:45 AM to 11:45 AM	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PM PEAK HOUR 2:00 PM to 3:00 PM	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 5
Location:	New Bedford, MA
Street 1:	Duchaine Blvd
Street 2:	Samuel Barnet Blvd
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

PASSENGER CARS & HEAVY VEHICLES COMBINED

	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	2	4	1	0	13	33	0	4	0	2	0	0	0	19
6:15 AM	0	0	3	1	0	0	15	41	0	2	0	1	0	0	0	36
6:30 AM	0	0	2	8	1	0	27	129	0	4	0	7	0	0	0	99
6:45 AM	0	0	7	9	1	0	22	171	0	10	0	10	0	0	0	115
7:00 AM	0	0	6	56	0	0	29	76	0	40	0	45	0	0	0	38
7:15 AM	0	0	8	16	0	0	32	59	0	13	0	9	0	0	0	47
7:30 AM	0	0	9	18	2	0	10	94	0	10	0	7	0	0	0	37
7:45 AM	0	0	10	13	1	0	5	108	0	15	0	4	0	0	0	50
8:00 AM	0	0	9	31	0	0	11	60	0	21	0	20	0	0	0	33
8:15 AM	0	0	6	17	0	0	8	64	0	10	0	8	0	0	0	22
8:30 AM	0	0	5	15	0	0	11	42	0	8	0	5	0	0	0	25
8:45 AM	0	0	6	8	0	0	7	31	0	19	0	2	0	0	0	12
9:00 AM	0	0	7	18	0	0	23	31	0	23	0	3	0	0	0	18
9:15 AM	0	0	5	6	0	0	16	31	0	9	0	2	0	0	0	19
9:30 AM	0	0	6	8	0	0	5	25	0	13	0	5	0	0	0	10
9:45 AM	0	0	7	10	0	0	12	23	0	12	0	10	0	0	0	7
10:00 AM	0	0	4	8	0	0	9	30	0	12	0	6	0	0	0	11
10:15 AM	0	0	8	17	0	0	10	22	0	18	0	7	0	0	0	8
10:30 AM	0	0	5	12	0	0	3	29	0	10	0	9	0	0	0	12
10:45 AM	0	0	3	8	0	0	4	19	0	16	0	8	0	0	0	11
11:00 AM	0	0	6	18	0	0	7	20	0	14	0	16	0	0	0	12
11:15 AM	0	0	5	18	0	0	6	23	0	19	0	13	0	0	0	14
11:30 AM	0	0	7	18	0	0	6	40	0	16	0	18	0	0	0	16
11:45 AM	0	0	9	24	0	0	18	33	0	22	0	13	0	0	0	19
12:00 PM	0	0	6	32	0	0	12	33	0	43	0	27	0	0	0	15
12:15 PM	0	0	9	21	1	0	17	42	0	22	0	18	0	0	0	19
12:30 PM	0	0	12	21	0	0	7	38	0	35	0	16	0	0	0	15
12:45 PM	0	0	7	15	0	0	5	46	0	19	0	16	0	0	0	17
1:00 PM	0	0	5	18	0	0	11	46	0	22	0	16	0	0	0	23
1:15 PM	0	0	2	14	1	0	7	32	0	23	0	11	0	0	0	17
1:30 PM	0	0	2	34	0	0	8	31	0	30	0	29	0	0	0	13
1:45 PM	0	0	3	22	0	0	14	40	0	23	0	15	0	0	0	20
2:00 PM	0	0	6	40	0	0	13	19	0	26	0	16	0	0	0	16
2:15 PM	0	0	2	10	0	0	21	47	0	20	0	6	0	0	0	20
2:30 PM	0	0	4	32	0	0	15	72	0	18	0	17	0	0	0	34
2:45 PM	0	0	8	23	0	0	13	57	0	18	0	15	0	0	0	31
3:00 PM	0	0	8	106	0	0	25	22	0	47	0	83	0	0	0	15
3:15 PM	0	0	3	32	0	0	12	46	0	24	0	21	0	0	0	28
3:30 PM	0	0	7	118	1	0	13	25	0	58	0	97	0	0	0	19
3:45 PM	0	0	9	34	0	0	6	28	0	26	0	22	0	0	0	17
4:00 PM	0	0	6	86	0	0	15	16	0	62	0	71	0	0	0	2
4:15 PM	0	0	2	28	0	0	6	11	0	25	0	22	0	0	0	2
4:30 PM	0	0	4	46	0	0	3	18	0	45	0	40	0	0	0	5
4:45 PM	0	0	2	36	0	0	6	11	0	36	0	34	0	0	0	3
5:00 PM	0	0	5	47	0	0	13	9	0	41	0	42	0	0	0	3
5:15 PM	0	0	5	40	0	0	8	2	0	42	0	31	0	0	0	6
5:30 PM	0	0	2	22	0	0	4	8	0	25	0	14	0	0	0	7
5:45 PM	0	0	0	13	0	0	2	8	0	16	0	10	0	0	0	2
6:00 PM	0	0	1	14	0	0	4	6	0	16	0	6	0	0	0	1
6:15 PM	0	0	2	13	0	0	3	7	0	12	0	10	0	0	0	4
6:30 PM	0	0	1	4	0	0	4	7	0	13	0	4	0	0	0	4
6:45 PM	0	0	1	3	0	0	2	12	0	4	0	2	0	0	0	5

AM PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
7:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:00 AM	**0**	**0**	**33**	**103**	**3**	**0**	**76**	**337**	**0**	**78**	**0**	**65**	**0**	**0**	**0**	**172**
PHF		**0.55**				**0.91**				**0.42**				**0.86**		
HV %	**0.0%**	**0.0%**	**60.6%**	**16.5%**	**0.0%**	**0.0%**	**9.2%**	**6.5%**	**0.0%**	**24.4%**	**0.0%**	**4.6%**	**0.0%**	**0.0%**	**0.0%**	**2.9%**

MID PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
11:45 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
12:45 PM	**0**	**0**	**36**	**98**	**1**	**0**	**54**	**146**	**0**	**122**	**0**	**74**	**0**	**0**	**0**	**68**
PHF		**0.88**				**0.84**				**0.70**				**0.89**		
HV %	**0.0%**	**0.0%**	**50.0%**	**10.2%**	**0.0%**	**0.0%**	**25.9%**	**17.8%**	**0.0%**	**18.0%**	**0.0%**	**10.8%**	**0.0%**	**0.0%**	**0.0%**	**14.7%**

PM PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
2:45 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:45 PM	**0**	**0**	**26**	**279**	**1**	**0**	**63**	**150**	**0**	**147**	**0**	**216**	**0**	**0**	**0**	**93**
PHF		**0.61**				**0.76**				**0.59**				**0.75**		
HV %	**0.0%**	**0.0%**	**7.7%**	**2.5%**	**0.0%**	**0.0%**	**33.3%**	**15.3%**	**0.0%**	**6.1%**	**0.0%**	**4.2%**	**0.0%**	**0.0%**	**0.0%**	**16.1%**

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 5
Location:	New Bedford, MA
Street 1:	Duchaine Blvd
Street 2:	Samuel Barnet Blvd
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
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HEAVY VEHICLES

	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	1	0	0	0	1	3	0	1	0	1	0	0	0	0
6:15 AM	0	0	2	1	0	0	1	4	0	1	0	1	0	0	0	2
6:30 AM	0	0	0	0	0	0	1	2	0	3	0	1	0	0	0	3
6:45 AM	0	0	4	0	0	0	0	5	0	0	0	0	0	0	0	1
7:00 AM	0	0	4	2	0	0	3	4	0	3	0	1	0	0	0	1
7:15 AM	0	0	6	3	0	0	3	3	0	5	0	1	0	0	0	1
7:30 AM	0	0	4	8	0	0	1	9	0	5	0	0	0	0	0	1
7:45 AM	0	0	6	4	0	0	0	6	0	6	0	1	0	0	0	2
8:00 AM	0	0	4	6	0	0	2	6	0	3	0	1	0	0	0	2
8:15 AM	0	0	1	4	0	0	1	5	0	5	0	1	0	0	0	0
8:30 AM	0	0	2	3	0	0	4	5	0	3	0	2	0	0	0	1
8:45 AM	0	0	2	1	0	0	3	3	0	7	0	0	0	0	0	0
9:00 AM	0	0	5	2	0	0	8	5	0	10	0	1	0	0	0	2
9:15 AM	0	0	1	2	0	0	6	7	0	4	0	0	0	0	0	5
9:30 AM	0	0	3	3	0	0	2	7	0	6	0	2	0	0	0	1
9:45 AM	0	0	4	3	0	0	5	10	0	7	0	5	0	0	0	1
10:00 AM	0	0	3	2	0	0	4	10	0	4	0	2	0	0	0	2
10:15 AM	0	0	3	1	0	0	3	7	0	9	0	2	0	0	0	2
10:30 AM	0	0	4	4	0	0	2	8	0	4	0	2	0	0	0	6
10:45 AM	0	0	0	0	0	0	1	4	0	7	0	1	0	0	0	1
11:00 AM	0	0	4	2	0	0	4	7	0	4	0	3	0	0	0	6
11:15 AM	0	0	4	5	0	0	5	8	0	2	0	4	0	0	0	2
11:30 AM	0	0	4	5	0	0	2	13	0	1	0	7	0	0	0	3
11:45 AM	0	0	6	1	0	0	3	8	0	7	0	2	0	0	0	5
12:00 PM	0	0	3	3	0	0	4	5	0	5	0	1	0	0	0	1
12:15 PM	0	0	5	2	0	0	6	7	0	3	0	3	0	0	0	3
12:30 PM	0	0	4	4	0	0	1	6	0	7	0	2	0	0	0	1
12:45 PM	0	0	3	1	0	0	2	3	0	4	0	3	0	0	0	3
1:00 PM	0	0	5	5	0	0	2	10	0	4	0	5	0	0	0	2
1:15 PM	0	0	2	1	0	0	0	6	0	4	0	1	0	0	0	1
1:30 PM	0	0	0	2	0	0	1	7	0	8	0	2	0	0	0	3
1:45 PM	0	0	1	1	0	0	1	10	0	9	0	2	0	0	0	2
2:00 PM	0	0	0	3	0	0	2	2	0	6	0	3	0	0	0	3
2:15 PM	0	0	1	1	0	0	7	7	0	6	0	0	0	0	0	1
2:30 PM	0	0	2	3	0	0	2	4	0	2	0	2	0	0	0	2
2:45 PM	0	0	0	3	0	0	5	8	0	2	0	3	0	0	0	2
3:00 PM	0	0	0	2	0	0	8	4	0	1	0	2	0	0	0	5
3:15 PM	0	0	2	2	0	0	6	8	0	2	0	3	0	0	0	6
3:30 PM	0	0	0	0	0	0	2	3	0	4	0	1	0	0	0	2
3:45 PM	0	0	3	2	0	0	3	5	0	1	0	1	0	0	0	3
4:00 PM	0	0	1	0	0	0	2	4	0	4	0	0	0	0	0	1
4:15 PM	0	0	0	1	0	0	2	4	0	7	0	0	0	0	0	0
4:30 PM	0	0	0	2	0	0	2	2	0	0	0	1	0	0	0	2
4:45 PM	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	1	0	0	4	2	0	1	0	1	0	0	0	0
5:15 PM	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0
5:30 PM	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0
6:00 PM	0	0	1	0	0	0	2	3	0	1	0	0	0	0	0	0
6:15 PM	0	0	1	1	0	0	0	3	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	1	2	0	1	0	0	0	0	0	0

AM PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
9:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
10:00 AM	**0**	**0**	**13**	**10**	**0**	**0**	**21**	**29**	**0**	**27**	**0**	**8**	**0**	**0**	**0**	**9**
PHF	**0.82**				**0.83**				**0.73**				**0.45**			

MID PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
11:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
12:00 PM	**0**	**0**	**18**	**13**	**0**	**0**	**14**	**36**	**0**	**14**	**0**	**16**	**0**	**0**	**0**	**16**
PHF	**0.86**				**0.83**				**0.83**				**0.67**			

PM PEAK HOUR	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
2:30 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:30 PM	**0**	**0**	**4**	**10**	**0**	**0**	**21**	**24**	**0**	**7**	**0**	**10**	**0**	**0**	**0**	**15**
PHF	**0.70**				**0.80**				**0.85**				**0.63**			

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 5
Location:	New Bedford, MA
Street 1:	Duchaine Blvd
Street 2:	Samuel Barnet Blvd
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
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PEDESTRIANS & BICYCLES

	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:00 AM to 8:00 AM	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR 11:45 AM to 12:45 PM	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PM PEAK HOUR 2:45 PM to 3:45 PM	Duchaine Blvd Northbound				Duchaine Blvd Southbound				Samuel Barnet Blvd Eastbound				Samuel Barnet Blvd Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 6
Location:	New Bedford, MA
Street 1:	Phillips Road
Street 2:	Samuel Barnet Blvd
Count Date:	4/10/2021
Day of Week:	Saturday
Weather:	Mostly Sunny, 65°F

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	5	10	0	0	0	4	0	0	0	0	13	0	0	0	0
6:15 AM	0	8	9	0	0	0	6	0	0	0	0	3	0	0	0	0
6:30 AM	0	28	10	0	0	0	6	0	0	0	0	4	0	0	0	0
6:45 AM	0	44	4	0	0	0	11	1	0	0	0	4	0	0	0	0
7:00 AM	0	7	9	0	0	0	13	0	0	1	0	18	0	0	0	0
7:15 AM	0	4	13	0	0	0	10	0	0	0	0	6	0	0	0	0
7:30 AM	0	5	21	0	0	0	15	0	0	0	0	5	0	0	0	0
7:45 AM	0	5	20	0	0	0	22	0	0	1	0	5	0	0	0	0
8:00 AM	0	3	17	0	0	0	27	0	0	0	0	4	0	0	0	0
8:15 AM	0	7	17	0	0	0	20	0	0	0	0	5	0	0	0	0
8:30 AM	0	3	14	0	0	0	24	0	0	1	0	3	0	0	0	0
8:45 AM	0	3	23	0	0	0	19	0	0	1	0	5	0	0	0	0
9:00 AM	0	4	17	0	0	0	27	0	0	0	0	6	0	0	0	0
9:15 AM	0	4	30	0	0	0	23	0	0	0	0	5	0	0	0	0
9:30 AM	0	2	18	0	0	0	31	0	0	0	0	1	0	0	0	0
9:45 AM	0	6	30	0	0	0	25	0	0	0	0	8	0	0	0	0
10:00 AM	0	4	26	0	0	0	27	0	0	0	0	13	0	0	0	0
10:15 AM	0	9	26	0	0	0	26	0	0	1	0	7	0	0	0	0
10:30 AM	0	5	29	0	0	0	36	0	0	1	0	8	0	0	0	0
10:45 AM	0	16	35	0	0	0	37	2	0	0	0	4	0	0	0	0
11:00 AM	0	5	25	0	0	0	53	0	0	2	0	71	0	0	0	0
11:15 AM	0	6	40	0	0	0	42	1	0	2	0	7	0	0	0	0
11:30 AM	0	9	34	0	0	0	35	0	0	0	0	20	0	0	0	0
11:45 AM	0	9	32	0	0	0	41	0	0	2	0	7	0	0	0	0
12:00 PM	0	6	35	0	0	0	45	2	0	1	0	60	0	0	0	0
12:15 PM	0	4	35	0	0	0	37	0	0	0	0	7	0	0	0	0
12:30 PM	0	0	45	0	0	0	43	1	0	0	0	4	0	0	0	0
12:45 PM	0	0	38	0	0	0	43	0	0	0	0	3	0	0	0	0
1:00 PM	0	1	42	0	0	0	32	0	0	0	0	4	0	0	0	0
1:15 PM	0	3	24	0	0	0	42	0	0	0	0	5	0	0	0	0
1:30 PM	0	6	32	0	0	0	32	0	0	0	0	6	0	0	0	0
1:45 PM	0	2	36	0	0	0	27	0	0	0	0	1	0	0	0	0
2:00 PM	0	3	28	0	0	0	29	0	0	1	0	7	0	0	0	0
2:15 PM	0	6	78	0	0	0	27	0	0	0	0	7	0	0	0	0
2:30 PM	0	5	33	0	0	0	40	0	0	0	0	10	0	0	0	0
2:45 PM	0	1	25	0	0	0	36	0	0	0	0	2	0	0	0	0
3:00 PM	0	2	38	0	0	0	35	0	0	0	0	1	0	0	0	0
3:15 PM	0	1	36	0	0	0	34	0	0	0	0	2	0	0	0	0
3:30 PM	0	0	25	0	0	0	28	0	0	0	0	2	0	0	0	0
3:45 PM	0	1	33	0	0	0	37	0	0	0	0	1	0	0	0	0
4:00 PM	0	3	28	0	0	0	34	0	0	0	0	4	0	0	0	0
4:15 PM	0	3	31	0	0	0	34	0	0	0	0	1	0	0	0	0
4:30 PM	0	4	17	0	0	0	20	1	0	1	0	6	0	0	0	0
4:45 PM	0	0	18	0	0	0	26	0	0	2	0	2	0	0	0	0
5:00 PM	0	0	30	0	0	0	26	0	0	0	0	14	0	0	0	0
5:15 PM	0	1	25	0	0	0	34	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	33	0	0	0	31	0	0	0	0	4	0	0	0	0
5:45 PM	0	2	20	0	0	0	33	0	0	0	0	2	0	0	0	0
6:00 PM	0	0	25	0	0	0	22	0	0	0	0	14	0	0	0	0
6:15 PM	0	1	26	0	0	0	34	0	0	3	0	4	0	0	0	0
6:30 PM	0	2	24	0	0	0	31	0	0	1	0	4	0	0	0	0
6:45 PM	0	0	24	0	0	0	20	0	0	0	0	1	0	0	0	0

AM PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
9:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
10:00 AM	**0**	**16**	**95**	**0**	**0**	**0**	**106**	**0**	**0**	**0**	**0**	**20**	**0**	**0**	**0**	**0**
PHF		**0.77**				**0.85**				**0.63**				**0.00**		
HV %	**0.0%**	**56.3%**	**1.1%**	**0.0%**	**0.0%**	**0.0%**	**0.9%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**10.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

MID PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
10:45 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:45 AM	**0**	**36**	**134**	**0**	**0**	**0**	**167**	**3**	**0**	**4**	**0**	**102**	**0**	**0**	**0**	**0**
PHF		**0.83**				**0.80**				**0.36**				**0.00**		
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**1.8%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**1.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
2:15 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:15 PM	**0**	**14**	**174**	**0**	**0**	**0**	**138**	**0**	**0**	**0**	**0**	**20**	**0**	**0**	**0**	**0**
PHF		**0.56**				**0.86**				**0.50**				**0.00**		
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**2.2%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**5.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 6
Location:	New Bedford, MA
Street 1:	Phillips Road
Street 2:	Samuel Barnet Blvd
Count Date:	4/10/2021
Day of Week:	Saturday
Weather:	Mostly Sunny, 65°F

BOSTON TRAFFIC DATA
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HEAVY VEHICLES

	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
7:30 AM	0	1	2	0	0	0	0	0	0	0	0	2	0	0	0	0
7:45 AM	0	1	0	0	0	0	1	0	0	0	0	2	0	0	0	0
8:00 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
8:30 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
9:15 AM	0	7	0	0	0	0	1	0	0	0	0	0	0	0	0	0
9:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0
10:00 AM	0	1	0	0	0	0	1	0	0	0	0	2	0	0	0	0
10:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0
10:45 AM	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
12:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
1:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
2:00 PM	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
2:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
7:15 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:15 AM	**0**	**3**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**
PHF	**0.50**				**0.25**				**0.75**				**0.00**			

MID PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
10:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	**0**	**1**	**1**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**
PHF	**0.50**				**0.63**				**0.50**				**0.00**			

PM PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
2:00 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:00 PM	**0**	**1**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**
PHF	**0.25**				**0.75**				**0.25**				**0.00**			

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 6
Location:	New Bedford, MA
Street 1:	Phillips Road
Street 2:	Samuel Barnet Blvd
Count Date:	4/10/2021
Day of Week:	Saturday
Weather:	Mostly Sunny, 65°F

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PEDESTRIANS & BICYCLES

	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 9:00 AM to 10:00 AM	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR 10:45 AM to 11:45 AM	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PM PEAK HOUR 2:15 PM to 3:15 PM	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 6
Location:	New Bedford, MA
Street 1:	Phillips Road
Street 2:	Samuel Barnet Blvd
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	19	14	0	0	0	5	1	0	1	0	3	0	0	0	0
6:15 AM	0	39	19	0	0	0	14	0	0	0	0	1	0	0	0	0
6:30 AM	0	100	30	0	0	0	20	2	0	0	0	7	0	0	0	0
6:45 AM	0	108	36	0	0	0	15	3	0	1	0	8	0	0	0	0
7:00 AM	0	36	20	0	0	0	39	0	0	3	0	53	0	0	0	0
7:15 AM	0	43	26	0	0	0	32	3	0	0	0	17	0	0	0	0
7:30 AM	0	38	32	0	0	0	21	1	0	1	0	18	0	0	0	0
7:45 AM	0	44	26	0	0	0	19	2	0	0	0	11	0	0	0	0
8:00 AM	0	33	35	0	0	0	23	0	0	2	0	30	0	0	0	0
8:15 AM	0	21	42	0	0	0	32	1	0	2	0	16	0	0	0	0
8:30 AM	0	20	27	0	0	0	32	5	0	1	0	13	0	0	0	0
8:45 AM	0	10	22	0	0	0	39	2	0	0	0	9	0	0	0	0
9:00 AM	0	20	19	0	0	0	34	0	0	0	0	18	0	0	0	0
9:15 AM	0	16	23	0	0	0	31	2	0	1	0	6	0	0	0	0
9:30 AM	0	9	18	0	0	0	19	1	0	0	0	8	0	0	0	0
9:45 AM	0	5	19	0	0	0	22	1	0	3	0	7	0	0	0	0
10:00 AM	0	11	18	0	0	0	29	0	0	0	0	8	0	0	0	0
10:15 AM	0	8	21	0	0	0	23	0	0	2	0	15	0	0	0	0
10:30 AM	0	11	31	0	0	0	26	2	0	2	0	10	0	0	0	0
10:45 AM	0	12	24	0	0	0	16	0	0	1	0	7	0	0	0	0
11:00 AM	0	11	14	0	0	0	35	0	0	0	0	17	0	0	0	0
11:15 AM	0	15	19	0	0	0	41	0	0	6	0	12	0	0	0	0
11:30 AM	0	14	34	0	0	0	31	1	0	3	0	15	0	0	0	0
11:45 AM	0	18	20	0	0	0	34	1	0	0	0	23	0	0	0	0
12:00 PM	0	13	28	0	0	0	38	1	0	4	0	29	0	0	0	0
12:15 PM	0	18	25	0	0	0	44	1	0	1	0	20	0	0	0	0
12:30 PM	0	14	37	0	0	0	30	2	0	3	0	19	0	0	0	0
12:45 PM	0	15	40	0	0	0	25	1	0	1	0	12	0	0	0	0
1:00 PM	0	22	35	0	0	0	28	2	0	2	0	18	0	0	0	0
1:15 PM	0	14	18	0	0	0	28	2	0	2	0	11	0	0	0	0
1:30 PM	0	15	26	0	0	0	20	2	0	2	0	33	0	0	0	0
1:45 PM	0	17	25	0	0	0	23	0	0	1	0	18	0	0	0	0
2:00 PM	0	16	36	0	0	0	43	1	0	4	0	39	0	0	0	0
2:15 PM	0	18	31	0	0	0	26	1	0	1	0	10	0	0	0	0
2:30 PM	0	33	41	0	0	0	40	3	0	1	0	30	0	0	0	0
2:45 PM	0	31	41	0	0	0	49	0	0	0	0	22	0	0	0	0
3:00 PM	0	15	47	0	0	0	96	0	0	5	0	100	0	0	0	0
3:15 PM	0	27	34	0	0	0	45	1	0	2	0	30	0	0	0	0
3:30 PM	0	19	28	0	0	0	59	0	0	7	0	111	0	0	0	0
3:45 PM	0	16	33	0	0	0	55	1	0	0	0	34	0	0	0	0
4:00 PM	0	3	43	0	0	0	57	0	0	1	0	86	0	0	0	0
4:15 PM	0	2	44	0	0	0	40	0	0	1	0	26	0	0	0	0
4:30 PM	0	2	28	0	0	0	52	2	0	2	0	44	0	0	0	0
4:45 PM	0	3	37	0	0	0	38	0	0	0	0	36	0	0	0	0
5:00 PM	0	3	39	0	0	0	45	0	0	3	0	42	0	0	0	0
5:15 PM	0	5	27	0	0	0	41	0	0	1	0	41	0	0	0	0
5:30 PM	0	5	32	0	0	0	34	2	0	3	0	19	0	0	0	0
5:45 PM	0	2	26	0	0	0	25	0	0	0	0	12	0	0	0	0
6:00 PM	0	1	19	0	0	0	33	0	0	1	0	15	0	0	0	0
6:15 PM	0	3	25	0	0	0	40	1	0	0	0	12	0	0	0	0
6:30 PM	0	4	26	0	0	0	25	0	0	0	0	3	0	0	0	0
6:45 PM	0	5	28	0	0	0	25	0	0	0	0	4	0	0	0	0

AM PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
7:00 AM to 8:00 AM	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**161**	**104**	**0**	**0**	**0**	**111**	**6**	**0**	**4**	**0**	**99**	**0**	**0**	**0**	**0**
PHF		**0.95**				**0.75**				**0.46**				**0.00**		
HV %	**0.0%**	**3.1%**	**3.8%**	**0.0%**	**0.0%**	**0.0%**	**8.1%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**15.2%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

MID PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
11:45 AM to 12:45 PM	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**63**	**110**	**0**	**0**	**0**	**146**	**5**	**0**	**8**	**0**	**91**	**0**	**0**	**0**	**0**
PHF		**0.85**				**0.84**				**0.75**				**0.00**		
HV %	**0.0%**	**17.5%**	**0.9%**	**0.0%**	**0.0%**	**0.0%**	**2.1%**	**0.0%**	**0.0%**	**50.0%**	**0.0%**	**6.6%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
2:45 PM to 3:45 PM	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**92**	**150**	**0**	**0**	**0**	**249**	**1**	**0**	**14**	**0**	**263**	**0**	**0**	**0**	**0**
PHF		**0.84**				**0.65**				**0.59**				**0.00**		
HV %	**0.0%**	**16.3%**	**10.0%**	**0.0%**	**0.0%**	**0.0%**	**4.0%**	**0.0%**	**0.0%**	**7.1%**	**0.0%**	**2.3%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 6
Location:	New Bedford, MA
Street 1:	Phillips Road
Street 2:	Samuel Barnet Blvd
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
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HEAVY VEHICLES

	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	1	1	0	0	0	1	0	0	0	0	1	0	0	0	0
6:30 AM	0	1	3	0	0	0	2	2	0	0	0	0	0	0	0	0
6:45 AM	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0
7:15 AM	0	1	1	0	0	0	6	0	0	0	0	3	0	0	0	0
7:30 AM	0	1	1	0	0	0	2	0	0	0	0	8	0	0	0	0
7:45 AM	0	2	2	0	0	0	1	0	0	0	0	2	0	0	0	0
8:00 AM	0	2	2	0	0	0	4	0	0	1	0	6	0	0	0	0
8:15 AM	0	0	4	0	0	0	1	0	0	1	0	2	0	0	0	0
8:30 AM	0	1	0	0	0	0	1	0	0	0	0	3	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
9:00 AM	0	2	1	0	0	0	1	0	0	0	0	2	0	0	0	0
9:15 AM	0	4	1	0	0	0	2	1	0	0	0	2	0	0	0	0
9:30 AM	0	1	0	0	0	0	1	0	0	0	0	3	0	0	0	0
9:45 AM	0	1	0	0	0	0	1	0	0	1	0	2	0	0	0	0
10:00 AM	0	2	0	0	0	0	1	0	0	0	0	2	0	0	0	0
10:15 AM	0	2	1	0	0	0	0	0	0	0	0	1	0	0	0	0
10:30 AM	0	6	2	0	0	0	2	0	0	1	0	2	0	0	0	0
10:45 AM	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0
11:00 AM	0	5	1	0	0	0	2	0	0	0	0	2	0	0	0	0
11:15 AM	0	2	0	0	0	0	3	0	0	2	0	3	0	0	0	0
11:30 AM	0	3	0	0	0	0	1	0	0	1	0	4	0	0	0	0
11:45 AM	0	5	0	0	0	0	0	0	0	0	0	1	0	0	0	0
12:00 PM	0	1	0	0	0	0	1	0	0	2	0	1	0	0	0	0
12:15 PM	0	4	1	0	0	0	2	0	0	1	0	1	0	0	0	0
12:30 PM	0	1	0	0	0	0	0	0	0	1	0	3	0	0	0	0
12:45 PM	0	3	1	0	0	0	2	0	0	0	0	1	0	0	0	0
1:00 PM	0	3	0	0	0	0	1	0	0	1	0	4	0	0	0	0
1:15 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0
1:30 PM	0	3	0	0	0	0	0	1	0	1	0	1	0	0	0	0
1:45 PM	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0
2:00 PM	0	4	5	0	0	0	6	0	0	1	0	2	0	0	0	0
2:15 PM	0	1	3	0	0	0	0	0	0	0	0	1	0	0	0	0
2:30 PM	0	2	1	0	0	0	3	0	0	1	0	2	0	0	0	0
2:45 PM	0	2	5	0	0	0	3	0	0	0	0	3	0	0	0	0
3:00 PM	0	5	3	0	0	0	2	0	0	1	0	1	0	0	0	0
3:15 PM	0	6	5	0	0	0	3	0	0	0	0	2	0	0	0	0
3:30 PM	0	2	2	0	0	0	2	0	0	0	0	0	0	0	0	0
3:45 PM	0	4	1	0	0	0	2	0	0	0	0	2	0	0	0	0
4:00 PM	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0
4:30 PM	0	2	0	0	0	0	1	0	0	1	0	1	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
7:15 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:15 AM	**0**	**6**	**6**	**0**	**0**	**0**	**13**	**0**	**0**	**1**	**0**	**19**	**0**	**0**	**0**	**0**
PHF	**0.75**				**0.54**				**0.63**				**0.00**			

MID PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
10:30 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:30 AM	**0**	**15**	**3**	**0**	**0**	**0**	**8**	**0**	**0**	**3**	**0**	**7**	**0**	**0**	**0**	**0**
PHF	**0.56**				**0.67**				**0.50**				**0.00**			

PM PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
2:30 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:30 PM	**0**	**15**	**14**	**0**	**0**	**0**	**11**	**0**	**0**	**2**	**0**	**8**	**0**	**0**	**0**	**0**
PHF	**0.66**				**0.92**				**0.83**				**0.00**			

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 6
Location:	New Bedford, MA
Street 1:	Phillips Road
Street 2:	Samuel Barnet Blvd
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

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PEDESTRIANS & BICYCLES

	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
7:00 AM																
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
11:45 AM																
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PM PEAK HOUR	Phillips Road Northbound				Phillips Road Southbound				Samuel Barnet Blvd Eastbound				Westbound			
2:45 PM																
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 7
Location:	New Bedford, MA
Street 1:	Duchaine Blvd
Street 2:	Site Drive
Count Date:	4/10/2021
Day of Week:	Saturday
Weather:	Mostly Sunny, 65°F

BOSTON TRAFFIC DATA
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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1
6:30 AM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	1
6:45 AM	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	1	0	0	3	0	0	0	0	0	0	0	5
7:30 AM	0	0	0	0	3	0	0	5	0	0	0	0	0	0	0	10
7:45 AM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	5
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	3
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
9:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
10:00 AM	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	1
10:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
10:30 AM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	1
10:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	2
11:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
11:30 AM	0	0	0	0	1	0	0	3	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
12:00 PM	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	1
12:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	2	0	0	3	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1
1:00 PM	0	0	0	0	3	0	0	1	0	0	0	0	0	0	0	1
1:15 PM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	3
1:30 PM	0	0	0	0	1	0	0	7	0	0	0	0	0	0	0	1
1:45 PM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	3	0	0	8	0	0	0	0	0	0	0	6
2:15 PM	0	0	0	0	2	0	0	4	0	0	0	0	0	0	0	6
2:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	6
2:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
3:00 PM	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	1
3:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	4	0	0	1	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1
6:30 PM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	1
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
7:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:00 AM	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**21**
PHF		**0.00**				**0.59**				**0.00**				**0.53**		
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**75.0%**	**0.0%**	**0.0%**	**13.3%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**57.1%**

MID PEAK HOUR	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
1:00 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
2:00 PM	**0**	**0**	**0**	**0**	**8**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**
PHF		**0.00**				**0.63**				**0.00**				**0.42**		
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**25.0%**	**0.0%**	**0.0%**	**75.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

PM PEAK HOUR	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
2:00 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:00 PM	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**21**
PHF		**0.00**				**0.48**				**0.00**				**0.88**		
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**57.1%**	**0.0%**	**0.0%**	**14.3%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 7
Location:	New Bedford, MA
Street 1:	Duchaine Blvd
Street 2:	Site Drive
Count Date:	4/10/2021
Day of Week:	Saturday
Weather:	Mostly Sunny, 65°F

BOSTON TRAFFIC DATA
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HEAVY VEHICLES

	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
7:30 AM	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	7
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	2	0	0	5	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
7:15 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:15 AM	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**13**
PHF	**0.00**				**0.42**				**0.00**				**0.46**			

MID PEAK HOUR	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
1:00 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
2:00 PM	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.39**				**0.00**				**0.00**			

PM PEAK HOUR	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
2:00 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:00 PM	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PHF	**0.00**				**0.38**				**0.00**				**0.00**			

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 7
Location:	New Bedford, MA
Street 1:	Duchaine Blvd
Street 2:	Site Drive
Count Date:	4/10/2021
Day of Week:	Saturday
Weather:	Mostly Sunny, 65°F

BOSTON TRAFFIC DATA
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PEDESTRIANS & BICYCLES

	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
7:00 AM																
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
1:00 PM																
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PM PEAK HOUR	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
2:00 PM																
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 7
Location:	New Bedford, MA
Street 1:	Duchaine Blvd
Street 2:	Site Drive
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
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PASSENGER CARS & HEAVY VEHICLES COMBINED

	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	0	0	1	0	0	11	0	0	0	0	0	0	0	3
6:15 AM	0	0	0	0	1	0	0	11	0	0	0	0	0	0	4	2
6:30 AM	0	0	0	0	1	0	0	27	0	0	0	0	0	0	0	3
6:45 AM	0	0	0	0	0	0	0	23	0	0	0	0	0	0	1	6
7:00 AM	0	0	0	0	0	0	0	21	0	0	0	0	0	0	2	9
7:15 AM	0	0	0	0	0	0	0	26	0	0	0	0	0	0	0	20
7:30 AM	0	0	0	0	0	0	0	9	0	0	0	0	0	0	3	28
7:45 AM	0	0	0	0	2	0	0	1	0	0	0	0	0	0	1	17
8:00 AM	0	0	0	0	3	0	0	5	0	0	0	0	0	0	1	17
8:15 AM	0	0	0	0	0	0	0	5	0	0	0	0	0	0	1	12
8:30 AM	0	0	0	0	1	0	0	8	0	0	0	0	0	0	1	14
8:45 AM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	1	9
9:00 AM	0	0	0	0	3	0	0	14	0	0	0	0	0	0	1	12
9:15 AM	0	0	0	0	3	0	0	11	0	0	0	0	0	0	0	5
9:30 AM	0	0	0	0	3	0	0	2	0	0	0	0	0	0	2	6
9:45 AM	0	0	0	0	4	0	0	10	0	0	0	0	0	0	1	4
10:00 AM	0	0	0	0	7	0	0	9	0	0	0	0	0	0	1	6
10:15 AM	0	0	0	0	3	0	0	9	0	0	0	0	0	0	0	13
10:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	8
10:45 AM	0	0	0	0	1	0	0	5	0	0	0	0	0	0	0	4
11:00 AM	0	0	0	0	1	0	0	6	0	0	0	0	0	0	1	9
11:15 AM	0	0	0	0	0	0	0	6	0	0	0	0	0	0	1	10
11:30 AM	0	0	0	0	2	0	0	9	0	0	0	0	0	0	1	10
11:45 AM	0	0	0	0	4	0	0	8	0	0	0	0	0	0	0	2
12:00 PM	0	0	0	0	4	0	0	5	0	0	0	0	0	0	0	6
12:15 PM	0	0	0	0	11	0	0	7	0	0	0	0	0	0	0	12
12:30 PM	0	0	0	0	6	0	0	1	0	0	0	0	0	0	0	7
12:45 PM	0	0	0	0	1	0	0	4	0	0	0	0	0	0	0	3
1:00 PM	0	0	0	0	0	0	0	10	0	0	0	0	0	0	1	5
1:15 PM	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6
1:30 PM	0	0	0	0	2	0	0	4	0	0	0	0	0	0	0	4
1:45 PM	0	0	0	0	1	0	0	8	0	0	0	0	0	0	0	7
2:00 PM	0	0	0	0	1	0	0	11	0	0	0	0	0	0	0	5
2:15 PM	0	0	0	0	1	0	0	17	0	0	0	0	0	0	0	3
2:30 PM	0	0	0	0	1	0	0	10	0	0	0	0	0	0	0	12
2:45 PM	0	0	0	0	2	0	0	12	0	0	0	0	0	0	1	14
3:00 PM	0	0	0	0	2	0	0	15	0	0	0	0	0	0	1	23
3:15 PM	0	0	0	0	2	0	0	10	0	0	0	0	0	0	2	8
3:30 PM	0	0	0	0	3	0	0	6	0	0	0	0	0	0	2	23
3:45 PM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	1	16
4:00 PM	0	0	0	0	0	0	0	7	0	0	0	0	0	0	1	7
4:15 PM	0	0	0	0	1	0	0	4	0	0	0	0	0	0	0	7
4:30 PM	0	0	0	0	2	0	0	3	0	0	0	0	0	0	1	8
4:45 PM	0	0	0	0	5	0	0	3	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	1	0	0	12	0	0	0	0	0	0	1	7
5:15 PM	0	0	0	0	2	0	0	6	0	0	0	0	0	0	0	7
5:30 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	5
5:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	4
6:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	7
6:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1
6:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2

AM PEAK HOUR	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
7:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:00 AM	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**57**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**74**
PHF		**0.00**				**0.57**				**0.00**				**0.65**		
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**50.0%**	**0.0%**	**0.0%**	**12.3%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**83.3%**	**28.4%**

MID PEAK HOUR	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
11:30 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
12:30 PM	**0**	**0**	**0**	**0**	**21**	**0**	**0**	**29**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**30**
PHF		**0.00**				**0.69**				**0.00**				**0.65**		
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**38.1%**	**0.0%**	**0.0%**	**41.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**40.0%**

PM PEAK HOUR	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
2:45 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
3:45 PM	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**43**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**68**
PHF		**0.00**				**0.76**				**0.00**				**0.74**		
HV %	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**46.5%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**50.0%**	**1.5%**

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 7
Location:	New Bedford, MA
Street 1:	Duchaine Blvd
Street 2:	Site Drive
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

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HEAVY VEHICLES

	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
6:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4	0
6:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4
7:00 AM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	2	2
7:15 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	3
7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	10
7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	6
8:00 AM	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	10
8:15 AM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:45 AM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	1	1
9:00 AM	0	0	0	0	2	0	0	1	0	0	0	0	0	0	1	5
9:15 AM	0	0	0	0	2	0	0	5	0	0	0	0	0	0	0	1
9:30 AM	0	0	0	0	2	0	0	4	0	0	0	0	0	0	2	1
9:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
10:00 AM	0	0	0	0	0	0	0	6	0	0	0	0	0	0	1	3
10:15 AM	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	4
10:30 AM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	5
10:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	1	0	0	2	0	0	0	0	0	0	1	5
11:15 AM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	1	5
11:30 AM	0	0	0	0	1	0	0	4	0	0	0	0	0	0	0	5
11:45 AM	0	0	0	0	2	0	0	5	0	0	0	0	0	0	0	2
12:00 PM	0	0	0	0	3	0	0	2	0	0	0	0	0	0	0	3
12:15 PM	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	2
12:30 PM	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	2
12:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
1:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	5
1:15 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	3
2:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
3:00 PM	0	0	0	0	0	0	0	5	0	0	0	0	0	0	1	0
3:15 PM	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	1
3:30 PM	0	0	0	0	0	0	0	7	0	0	0	0	0	0	1	0
3:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
4:00 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
6:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

AM PEAK HOUR	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
7:30 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
8:30 AM	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**28**
PHF	**0.00**				**0.56**				**0.00**				**0.60**			

MID PEAK HOUR	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
11:00 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
12:00 PM	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**17**
PHF	**0.00**				**0.68**				**0.00**				**0.79**			

PM PEAK HOUR	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
3:00 PM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**21**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**3**
PHF	**0.00**				**0.75**				**0.00**				**0.63**			

Client:	Michael Pompili
Project #:	693_010_MM
BTD #:	Location 7
Location:	New Bedford, MA
Street 1:	Duchaine Blvd
Street 2:	Site Drive
Count Date:	4/13/2021
Day of Week:	Tuesday
Weather:	Clouds & Sun, 60°F

BOSTON TRAFFIC DATA
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PEDESTRIANS & BICYCLES

	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
7:00 AM																
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

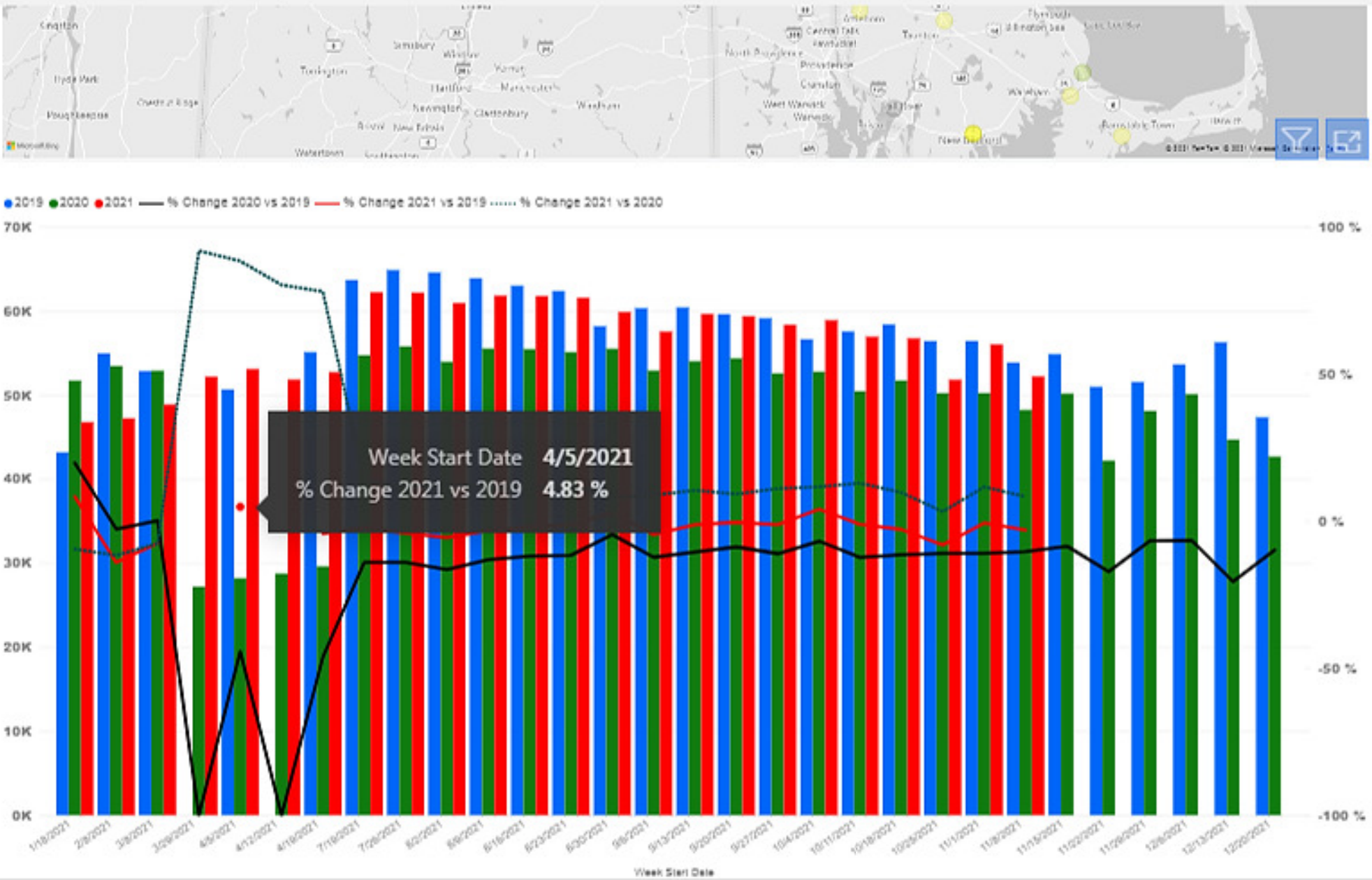
MID PEAK HOUR	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
11:30 AM																
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

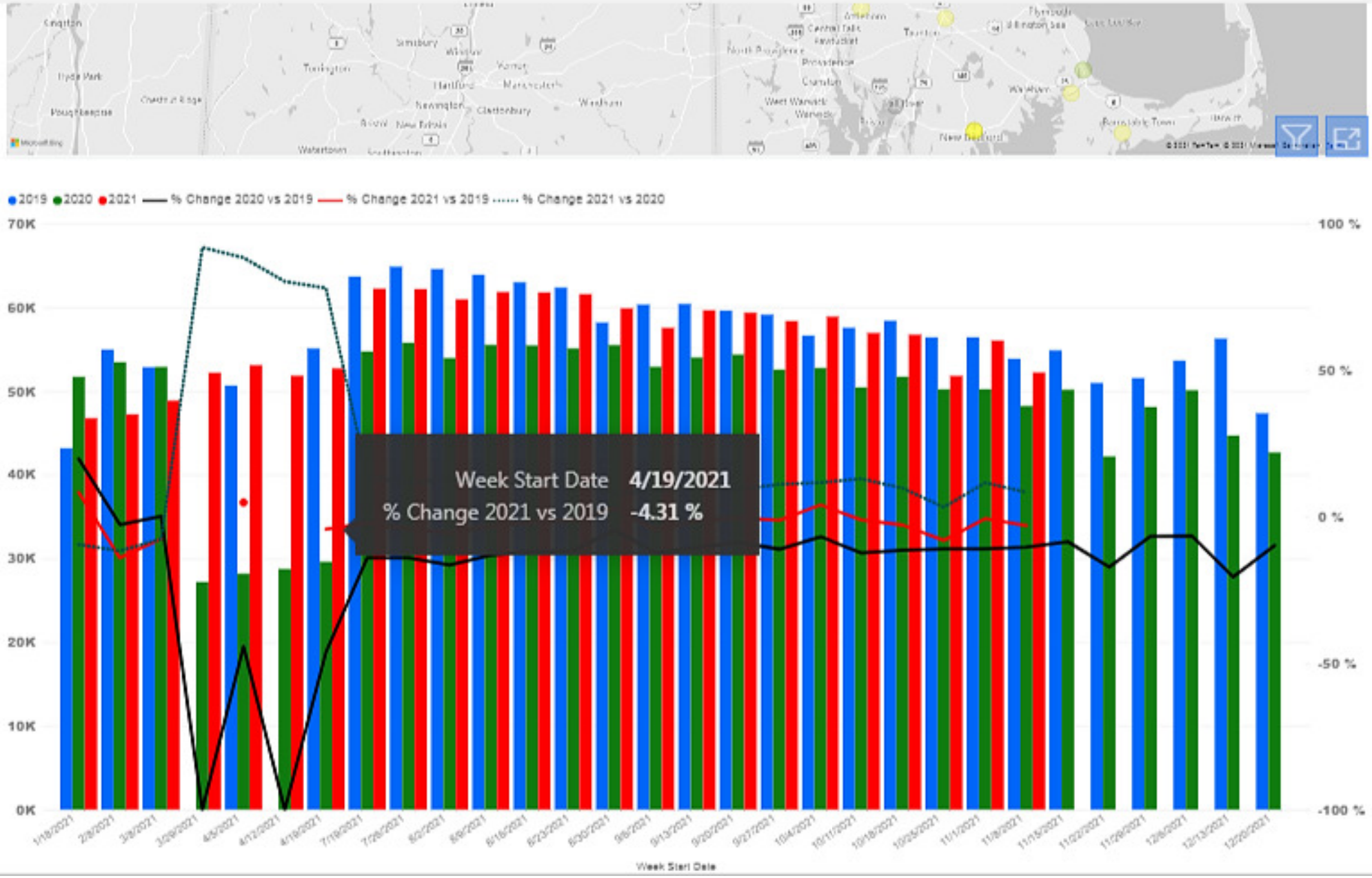
PM PEAK HOUR	Northbound				Duchaine Blvd Southbound				Site Drive Eastbound				Site Drive Westbound			
2:45 PM																
to	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

APPENDIX B

MassDOT Mobility Dashboard Data


2019
2020
2021
% Change 2020 vs 2019
% Change 2021 vs 2019
% Change 2021 vs 2020
70K
60K
50K
40K
30K
20K
10K
0K
100 %
50 %
0 %
-50 %
-100 %
Week Start Date 4/5/2021
% Change 2021 vs 2019 4.83 %
Week Start Date


2019
2020
2021
% Change 2020 vs 2019
% Change 2021 vs 2019
% Change 2021 vs 2020
70K
60K
50K
40K
30K
20K
10K
0K
100 %
50 %
0 %
-50 %
-100 %
Week Start Date 4/19/2021
% Change 2021 vs 2019 -4.31 %
1/18/2021
2/8/2021
3/8/2021
3/29/2021
4/5/2021
4/12/2021
4/19/2021
7/19/2021
7/26/2021
8/2/2021
8/9/2021
8/16/2021
8/23/2021
8/30/2021
9/6/2021
9/13/2021
9/20/2021
9/27/2021
10/4/2021
10/11/2021
10/18/2021
10/25/2021
11/1/2021
11/8/2021
11/15/2021
11/22/2021
11/29/2021
12/6/2021
12/13/2021
12/20/2021
Week Start Date

APPENDIX C

Automatic Traffic Recorder Data

Transportation Data Corporation

Mario Perone, mperone1@verizon.net
tel (781) 587-0086 cell (781) 439-4999

Duchaine Boulevard north of
U-turn, north of Sam Barnet Boulevard
City, State: New Bedford, MA
Client: McM/S. Hawkins

05063Avolume
Site Code: Y-18215.11

Start Time	13-Jun-18 Wed	NB A.M.	NB P.M.	SB A.M.	SB P.M.	Combined A.M.	Combined P.M.	14-Jun Thu	NB A.M.	NB P.M.	SB A.M.	SB P.M.	Combined A.M.	Combined P.M.
12:00		16	57	4	***41***	20	***98***		16	69	1	***50***	17	***119***
12:15		2	29	0	***48***	2	***77***		2	46	3	***49***	5	***95***
12:30		0	38	2	***44***	2	***82***		0	30	0	***31***	0	***61***
12:45		4	44	0	***47***	4	***91***		1	34	0	***64***	1	***98***
01:00		2	39	1	37	3	76		1	43	1	46	2	89
01:15		1	22	0	27	1	49		1	37	0	36	1	73
01:30		1	26	2	59	3	85		3	35	3	29	6	64
01:45		2	44	2	25	4	69		1	33	0	54	1	87
02:00		1	30	0	48	1	78		6	40	1	37	7	77
02:15		4	46	2	35	6	81		1	36	0	27	1	63
02:30		1	34	3	43	4	77		1	39	2	39	3	78
02:45		4	30	2	51	6	81		0	25	2	40	2	65
03:00		3	66	1	29	4	95		1	56	2	36	3	92
03:15		1	***54***	8	31	9	85		6	***40***	5	25	11	65
03:30		2	***51***	2	31	4	82		5	***42***	5	37	10	79
03:45		9	***31***	7	30	16	61		13	***40***	3	28	16	68
04:00		9	***75***	2	16	11	91		3	***77***	6	25	9	102
04:15		10	36	5	12	15	48		8	36	5	20	13	56
04:30		2	44	16	19	18	63		6	43	14	23	20	66
04:45		14	42	25	16	39	58		5	39	27	20	32	59
05:00		23	49	12	13	35	62		26	59	20	13	46	72
05:15		10	29	10	16	20	45		17	34	23	13	40	47
05:30		19	29	35	12	54	41		8	31	30	21	38	52
05:45		11	16	31	13	42	29		19	19	36	27	55	46
06:00		9	16	17	13	26	29		5	24	18	9	23	33
06:15		16	17	35	4	51	21		9	16	27	8	36	24
06:30		28	8	59	5	87	13		24	18	57	7	81	25
06:45		24	13	84	10	108	23		25	6	92	15	117	21
07:00		44	9	55	8	***99***	17		32	9	54	10	86	19
07:15		23	5	48	15	***71***	20		19	17	46	12	65	29
07:30		27	14	***95***	5	***122***	19		16	8	***68***	7	***84***	15
07:45		42	9	***71***	10	***113***	19		34	10	***93***	7	***127***	17
08:00		27	5	***67***	2	94	7		19	6	***60***	2	***79***	8
08:15		16	3	***57***	0	73	3		23	3	***54***	7	***77***	10
08:30		15	2	31	5	46	7		15	10	55	6	70	16
08:45		41	2	51	4	92	6		49	4	34	5	83	9
09:00		32	1	39	2	71	3		30	2	37	6	67	8
09:15		17	3	27	3	44	6		27	4	22	2	49	6
09:30		32	6	28	6	60	12		26	10	32	5	58	15
09:45		27	12	25	4	52	16		25	2	30	7	55	9
10:00		35	19	28	4	63	23		34	4	24	1	58	5
10:15		28	3	38	6	66	9		22	4	25	6	47	10
10:30		31	10	25	14	56	24		13	7	31	19	44	26
10:45		19	10	30	22	49	32		26	8	31	18	57	26
11:00		***43***	24	37	9	80	33		***42***	25	29	14	71	39
11:15		***27***	6	35	1	62	7		***28***	2	35	0	63	2
11:30		***49***	3	35	2	84	5		***24***	1	20	6	44	7
11:45		***42***	4	44	3	86	7		***48***	6	43	5	91	11
Total		845	1165	1233	900	2078	2065		765	1189	1206	974	1971	2163
Day Total		2010		2133		4143			1954		2180		4134	
% Total		20.4%	28.1%	29.8%	21.7%				18.5%	28.8%	29.2%	23.6%		
Peak	-	11:00	03:15	07:30	12:00	07:00	12:00	-	11:00	03:15	07:30	12:00	07:30	12:00
Vol.	-	161	211	290	180	405	348	-	142	199	275	194	367	373
P.H.F.		0.821	0.703	0.763	0.938	0.830	0.888		0.740	0.646	0.739	0.758	0.722	0.784

ADT	ADT 4,138	AADT 4,138

Transportation Data Corporation

Mario Perone, mperone1@verizon.net
tel (781) 587-0086 cell (781) 439-4999

Duchaine Boulevard north of U-turn, north of Sam Barnet Boulevard
City, State: New Bedford, MA
Client: McM/S. Hawkins

05063Avolume
Site Code: Y-18215.11

Start Time	13-Jun-18 Wed	NB Morning	NB Afternoon	Hour Totals Morning	Hour Totals Afternoon	SB Morning	SB Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		16	57			4	41				
12:15		2	29			0	48				
12:30		0	38			2	44				
12:45		4	44	22	168	0	47	6	180	28	348
01:00		2	39			1	37				
01:15		1	22			0	27				
01:30		1	26			2	59				
01:45		2	44	6	131	2	25	5	148	11	279
02:00		1	30			0	48				
02:15		4	46			2	35				
02:30		1	34			3	43				
02:45		4	30	10	140	2	51	7	177	17	317
03:00		3	66			1	29				
03:15		1	54			8	31				
03:30		2	51			2	31				
03:45		9	31	15	202	7	30	18	121	33	323
04:00		9	75			2	16				
04:15		10	36			5	12				
04:30		2	44			16	19				
04:45		14	42	35	197	25	16	48	63	83	260
05:00		23	49			12	13				
05:15		10	29			10	16				
05:30		19	29			35	12				
05:45		11	16	63	123	31	13	88	54	151	177
06:00		9	16			17	13				
06:15		16	17			35	4				
06:30		28	8			59	5				
06:45		24	13	77	54	84	10	195	32	272	86
07:00		44	9			55	8				
07:15		23	5			48	15				
07:30		27	14			95	5				
07:45		42	9	136	37	71	10	269	38	405	75
08:00		27	5			67	2				
08:15		16	3			57	0				
08:30		15	2			31	5				
08:45		41	2	99	12	51	4	206	11	305	23
09:00		32	1			39	2				
09:15		17	3			27	3				
09:30		32	6			28	6				
09:45		27	12	108	22	25	4	119	15	227	37
10:00		35	19			28	4				
10:15		28	3			38	6				
10:30		31	10			25	14				
10:45		19	10	113	42	30	22	121	46	234	88
11:00		43	24			37	9				
11:15		27	6			35	1				
11:30		49	3			35	2				
11:45		42	4	161	37	44	3	151	15	312	52
Total		845	1165			1233	900			2078	2065
Combined Total		2010				2133				4143	
Percentage	0.0%										

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Duchaine Boulevard north of U-turn, north of Sam Barnet Boulevard
City, State: New Bedford, MA
Client: McM/S. Hawkins

05063Avolume
Site Code: Y-18215.11

Start Time	14-Jun-18 Thu	NB Morning	NB Afternoon	Hour Totals Morning	Hour Totals Afternoon	SB Morning	SB Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		16	69			1	50				
12:15		2	46			3	49				
12:30		0	30			0	31				
12:45		1	34	19	179	0	64	4	194	23	373
01:00		1	43			1	46				
01:15		1	37			0	36				
01:30		3	35			3	29				
01:45		1	33	6	148	0	54	4	165	10	313
02:00		6	40			1	37				
02:15		1	36			0	27				
02:30		1	39			2	39				
02:45		0	25	8	140	2	40	5	143	13	283
03:00		1	56			2	36				
03:15		6	40			5	25				
03:30		5	42			5	37				
03:45		13	40	25	178	3	28	15	126	40	304
04:00		3	77			6	25				
04:15		8	36			5	20				
04:30		6	43			14	23				
04:45		5	39	22	195	27	20	52	88	74	283
05:00		26	59			20	13				
05:15		17	34			23	13				
05:30		8	31			30	21				
05:45		19	19	70	143	36	27	109	74	179	217
06:00		5	24			18	9				
06:15		9	16			27	8				
06:30		24	18			57	7				
06:45		25	6	63	64	92	15	194	39	257	103
07:00		32	9			54	10				
07:15		19	17			46	12				
07:30		16	8			68	7				
07:45		34	10	101	44	93	7	261	36	362	80
08:00		19	6			60	2				
08:15		23	3			54	7				
08:30		15	10			55	6				
08:45		49	4	106	23	34	5	203	20	309	43
09:00		30	2			37	6				
09:15		27	4			22	2				
09:30		26	10			32	5				
09:45		25	2	108	18	30	7	121	20	229	38
10:00		34	4			24	1				
10:15		22	4			25	6				
10:30		13	7			31	19				
10:45		26	8	95	23	31	18	111	44	206	67
11:00		42	25			29	14				
11:15		28	2			35	0				
11:30		24	1			20	6				
11:45		48	6	142	34	43	5	127	25	269	59
Total		765	1189			1206	974			1971	2163
Combined Total		1954				2180				4134	
Percentage	0.0%										
Total		1610	2354			2439	1874			4049	4228
Percent		40.6%	59.4%			56.5%	43.5%			48.9%	51.1%
ADT		ADT 4,138		AADT 4,138							

APPENDIX D

Crash Summary

Crash Summary

	Rte 140 NB Ramp at Braley Rd	Rte 140 SB Ramp at Braley Rd	Braley Rd/ Theodore Rice Blvd at Phillips Rd	Theodore Rive Blvd at Duchaine Blvd	Duchaine Blvd at Samuel Barnet Blvd	Phillips Rd at Samuel Barnet Blvd
Year						
2013	5	0	1	5	2	0
2014	0	0	4	3	0	1
2015	3	1	4	0	0	2
2016	5	1	2	0	2	0
2017	2	0	3	2	1	0
Total	15	2	14	10	5	3
Type						
Angle	7	0	2	4	0	1
Rear-end	5	0	3	1	0	1
Sideswipe	0	1	1	0	0	0
Head-on	0	0	2	0	0	1
Pedestrian	0	0	0	1	0	0
Bicycle	0	0	0	0	0	0
Single Vehicle	3	1	4	4	5	0
Unknown	0	0	2	0	0	0
Total	15	2	14	10	5	3
Severity						
Property Damage	8	2	9	7	3	1
Personal Injury	6	0	5	2	1	2
Fatality	0	0	0	1	0	0
Unknown	1	0	0	0	1	0
Total	15	2	14	10	5	3
Weather						
Clear	12	1	9	6	4	3
Cloudy	1	0	2	0	0	0
Rain	0	1	1	2	0	0
Snow	1	0	1	1	1	0
Sleet	0	0	1	1	0	0
Fog	0	0	0	0	0	0
Unknown	1	0	0	0	0	0
Total	15	2	14	10	5	3
Time						
7:00 AM to 9:00 AM	2	0	0	2	0	0
9:00 AM to 4:00 PM	6	1	0	2	1	1
4:00 PM to 6:00 PM	3	1	0	1	2	0
6:00 PM to 7:00 AM	4	0	14	5	2	2
Total	15	2	14	10	5	3
Crash Rate	0.49	0.06	0.48	1.01	0.24	0.18
Statewide Average	0.57	0.57	0.57	0.57	0.57	0.57
District 5 Average	0.57	0.57	0.57	0.57	0.57	0.57

Source: MassDOT

APPENDIX E

SRTA Map and Schedules

NEW BEDFORD SYSTEM MAP

SRTA

Downtown New Bedford

New Bedford / Freetown Town Line

Acushnet Ave

Braley Rd

Duchaine Blvd

John Vertente Blvd

New Bedford Business Park

Samuel Barnet Blvd

North End

Phillips Road

Phillips Rd

Dottin Apartments

Trucchi's

Chaffee St

NB Voc HS

Church Street

Ashley Blvd

Tarkiln Hill Road

Jireh St

Lund's Corner

Normandin Middle School

Stop & Shop

Kings Highway

Fieldstone Marketplace

Howard Ave

Cliftex Acushnet Rubber

Belleville Ave

Belleville Rd

Riverside Ave

Whaler's Cove

Davis St

Phillips Ave

Mount Pleasant Street

Nashmont Public Housing

Taber Mill Apartments

Coffin Ave

Deane St

Presidential Heights

Holly St

Market Basket

Sawyer St

Coggeshall St

Hawthorn Medical Associates

Boston Children's Hospital at North Dartmouth

Bristol County Jail & House of Corrections

Vanity Fair Outlet

UMass Law

Women and Infants Hospital

Faunce Corner Road

Cross Road Apartments

Cross Road

Ann & Hope Plaza

Walmart

Dartmouth Mall

Target

To Wesport/Fall River

Intercity

University Ring Road

UMass Dartmouth

Hathaway Road

Rockway St

Rosanne

Granite

Tradewind St.

Rockdale West Ext

West Hill Rd

Pamela Dr

Bryant Ln

Potter St

Keith MS

Hathaway Blvd

Rockdale Ave

New Bedford HS

Parker St

Shawmut Ave

Mount Pleasant Street

Park St

Logan

North Front St

Herman Melville

Purchase St

Aushnet Ave

Career Center

Main St

Southcoast Health System

Mill Rd

Bridge St

Huttleson Ave

Walmart

Alden Rd

Kmart/Staples

Stop & Shop

David A Drown Blvd

Hillman St

Mill St

Kempton St

Buttonwood Community Center

Lake St

Court St

Union St

Spring School

Walnut

Russell

Pleasant St

Acushnet Ave

Second St

MacArthur Dr

Roch

Hawthorn St

St. Luke's Hospital

Page St

Allen St

Grape St

Grinnell

County

Potomska

Rivet St

Rockdale Ave

Stop & Shop

Bolton St

Howland Green Library

Cove St

Tripp Towers

Ruth St

David St

Roosevelt Jr. High School

Brock Ave

Dartmouth St

Edgeworth

Big Value Plaza

Seabreeze

Sol-E-Mar

Sol E Mar Apartments

UMass/SMAST

1 Fort Rodman
2 Lund's Corner
3 Dartmouth Street
4 Ashley Boulevard
5 Rivet Street
6 Shawmut/Rockdale
8 Mount Pleasant
10 Dartmouth Mall
11 Fairhaven
North End North End Shuttle
Intercity New Bedford / Fall River
Main Line Service
Deviation Service
SRTA Terminal

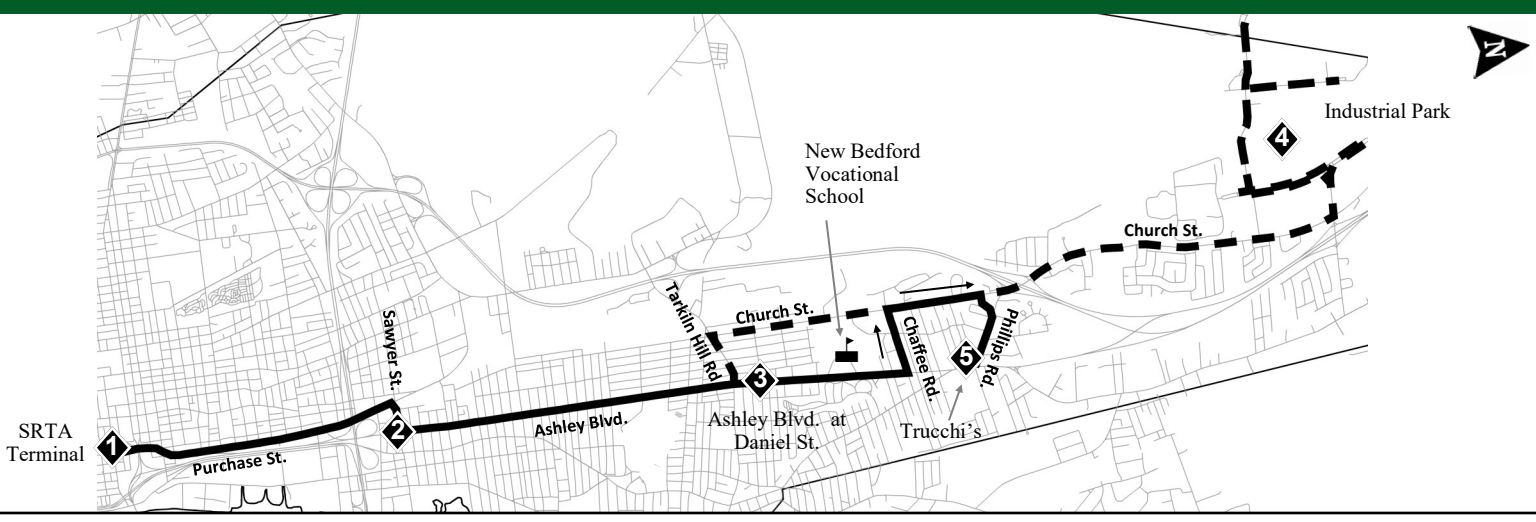
Southeastern Regional Transit Authority
700 Pleasant Street- Suite 320
New Bedford, MA 02740
508-999-5211
info@srtabus.com

August 2019

ROUTE 4

OUTBOUND

ROUTE 4



1	2	3	4	5
SRTA Terminal	Ashley Blvd. at Sawyer St.	Ashley Blvd. at Daniel St.	Industrial Park	Trucchi's
WEEKDAYS				
AM 5:40	5:47	5:52	6:24	
6:05	6:12	6:17	6:49	
6:50	6:57	7:02		7:10
7:15	7:22	7:27		7:35
7:45	7:52	7:57		8:05
8:15	8:22	8:27		8:35
8:45	8:52	8:57		9:05
9:15	9:22	9:27		9:35
9:45	9:52	9:57		10:05
10:15	10:22	10:27		10:35
10:45	10:52	10:57		11:05
11:15	11:22	11:27		11:35
11:45	11:52	11:57		12:05
PM 12:15	12:22	12:27		12:35
12:45	12:52	12:57		1:05
1:15	1:22	1:27		1:35
1:45	1:52	1:57		2:05
2:15	2:22	2:27		2:35
2:45	2:52	2:57		3:05
3:15	3:22	3:27		3:35
3:45	3:52	3:27		4:05
4:15	4:22	4:27		4:35
4:45	4:52	4:57		5:05
5:15	5:22	5:27		5:35
5:45	5:52	5:57		6:05
6:15	6:22	6:27		6:35
6:45	6:52	6:57		7:05
7:15	7:22	7:27		7:35
7:45	7:52	7:57		8:05
8:15	8:22	8:27		8:35
SATURDAY				
AM 7:45	7:52	7:57		8:05
8:15	8:22	8:27		8:35
8:45	8:52	8:57		9:05
9:15	9:22	9:27		9:35
9:45	9:52	9:57		10:05
10:15	10:22	10:27		10:35
10:45	10:52	10:57		11:05
11:15	11:22	11:27		11:35
11:45	11:52	11:57		12:05
PM 12:15	12:22	12:27		12:35
12:45	12:52	12:57		1:05
1:15	1:22	1:27		1:35
1:45	1:52	1:57		2:05
2:15	14:22	2:27		2:35
2:45	14:52	2:57		3:05
3:15	3:22	3:27		3:35
3:45	3:52	3:27		4:05
4:15	4:22	4:27		4:35
4:45	4:52	4:57		5:05
5:15	5:22	5:27		5:35

Please note that schedule times are approximate.

FARES

- **Regular Fare**—$1.50 per trip
- **Children under 6**—Free when accompanied by adult (Limit 2 children per adult)
- **6-11 Yrs. Old**—$0.75 per trip
- **Senior Citizens**—$0.75 per trip
- **Registered Disabled**—$0.75 per trip
- **Medicare Recipients**—$0.75 per trip

Charlie Card Fares

- **Regular Fare**—$1.40 per trip
- **Reduced Fare**—$0.70 per trip

All buses are wheelchair accessible.

NO SUNDAY SERVICE

SMOKING: Smoking is prohibited on all buses.

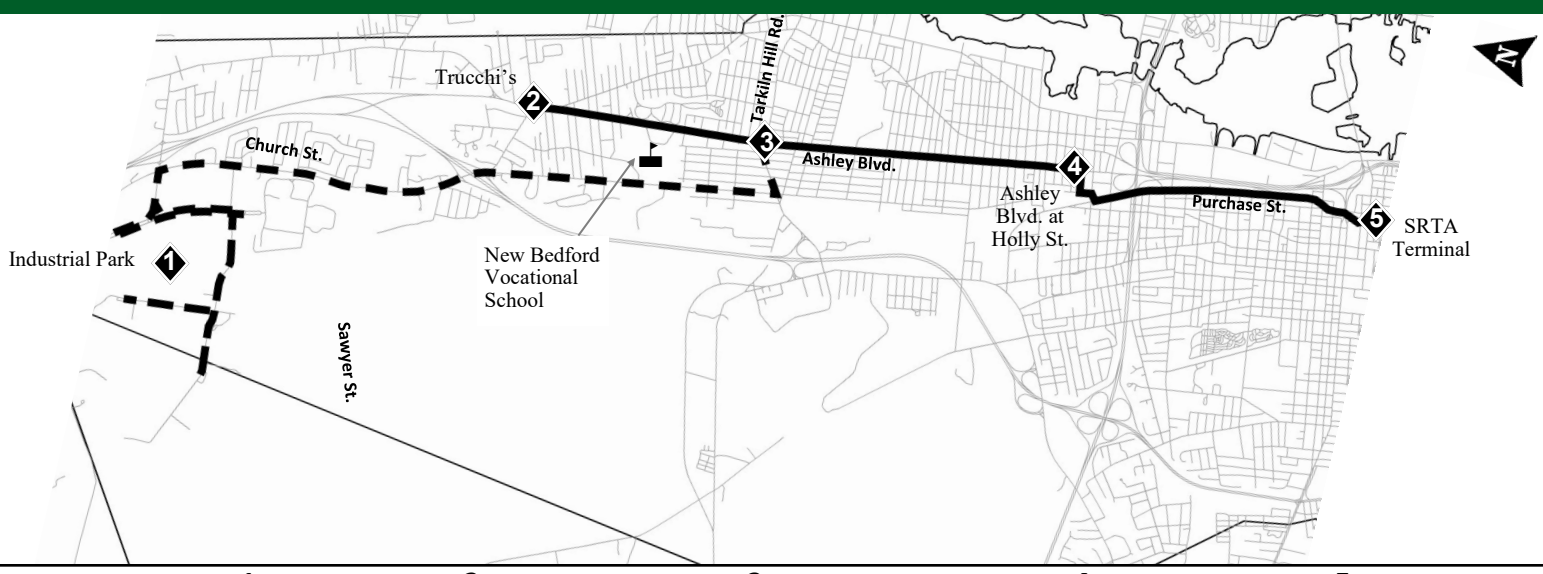
FOOD AND BEVERAGES: The consuming of food or beverage of any kind on the bus is prohibited. Serious injury may occur when trash is left aboard the vehicle.

OBJECTIONABLE PERSONS: This Authority and its Operator reserve the right to refuse to transport a person under the influence of alcohol or drugs, or who is incapable of taking care of him or herself, or whose conduct is such or likely to be such as to make him or her objectionable to other passengers or prospective passengers.

ROUTE 4

INBOUND

ROUTE 4



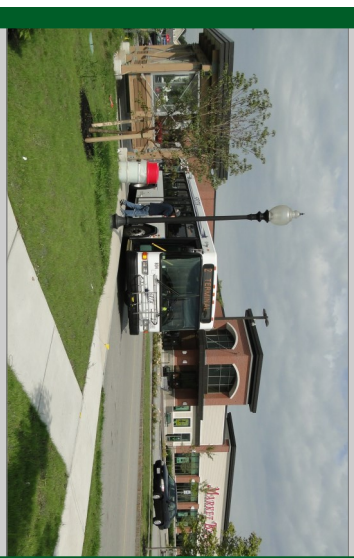
	1 Industrial Park	2 Trucchi's	3 Ashley Blvd. at Tarkiln Hill Rd.	4 Ashley Blvd. at Holly St.	5 SRTA Terminal
WEEKDAYS					
AM	6:24	6:30	6:33	6:38	6:46
	6:49	6:55	6:58	7:03	7:11
		7:15	7:18	7:23	7:31
		7:40	7:43	7:48	7:56
		8:10	8:13	8:18	8:26
		8:40	8:43	8:48	8:56
		9:10	9:13	9:18	9:26
		9:40	9:43	9:48	9:56
		10:10	10:13	10:18	10:26
		10:40	10:43	10:48	10:56
		11:10	11:13	11:18	11:26
		11:40	11:43	11:48	11:56
PM		12:10	12:13	12:18	12:26
		12:40	12:43	12:48	12:56
		1:10	1:13	1:18	1:26
		1:40	1:43	1:48	1:56
		2:10	2:13	2:18	2:26
		2:40	2:43	2:48	2:56
		3:10	3:13	3:18	3:26
		3:40	3:43	3:48	3:56
	3:35	3:41	3:45	3:50	3:58
		4:10	4:13	4:18	4:26
		4:40	4:43	4:48	4:56
		5:10	5:13	5:18	5:26
		5:40	5:43	5:48	5:56
		6:10	6:13	6:18	6:26
		6:40	6:43	6:48	6:56
		7:10	7:13	7:18	7:26
		7:40	7:43	7:48	7:56
		8:10	8:13	8:18	8:26
		8:40	8:43	8:48	8:56
SATURDAY					
AM		8:10	8:13	8:18	8:26
		8:40	8:43	8:48	8:56
		9:10	9:13	9:18	9:26
		9:40	9:43	9:48	9:56
		10:10	10:13	10:18	10:26
		10:40	10:43	10:48	10:56
		11:10	11:13	11:18	11:26
		11:40	11:43	11:48	11:56
PM		12:10	12:13	12:18	12:26
		12:40	12:43	12:48	12:56
		1:10	1:13	1:18	1:26
		1:40	1:43	1:48	1:56
		2:10	2:13	2:18	2:26
		2:40	2:43	2:48	2:56
		3:10	3:13	3:18	3:26
		3:40	3:43	3:48	3:56
		4:10	4:13	4:18	4:26
		4:40	4:43	4:48	4:56
		5:10	5:13	5:18	5:26
		5:40	5:43	5:48	5:56

Please note that schedule times are approximate.

Route 4

Ashley Blvd.

Southeastern Regional Transit Authority

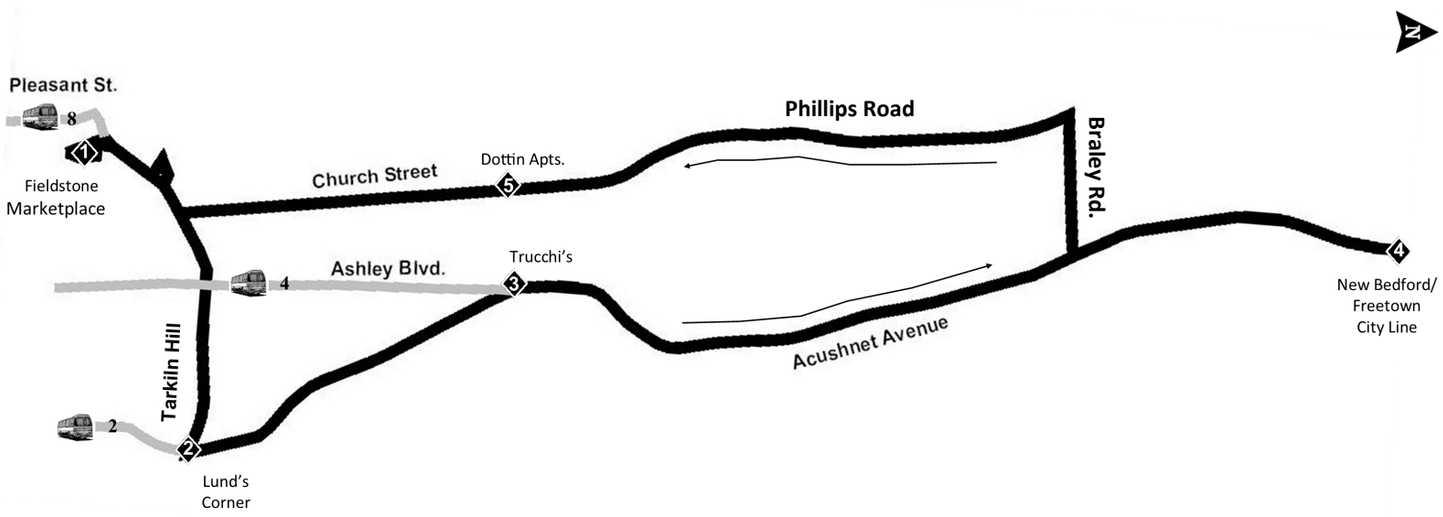


April 12, 2021

134Elm Street
New Bedford, MA 02740
508-999-5211
www.srtabus.com

Operated by SouthCoast Transit Management, Inc.

NORTH END SHUTTLE



	1 Fieldstone Marketplace	2 Lund's Corner	3 Acushnet Ave. at Phillips Road	4 City Line	5 Dottin Apartments	1 Fieldstone Marketplace
WEEKDAY						
AM	9:05	9:15	9:20	9:26	9:36	9:41
	9:45	9:55	10:00	10:06	10:16	10:21
	10:25	10:35	10:40	10:46	10:56	11:01
	11:05	11:15	11:20	11:26	11:36	11:41
	11:45	11:55	12:00	12:06	12:16	12:21
PM	12:25	12:35	12:40	12:46	12:56	1:01
	1:05	1:15	1:20	1:26	1:36	1:41
	1:45	1:55	2:00	2:06	2:16	2:21
	2:25	2:35	2:40	2:46	2:56	3:01
	3:05	3:15	3:20	3:26	3:36	3:41
	3:45	3:55	4:00	4:06	4:16	4:21
	4:25	4:35	4:40	4:46	4:56	5:01
SATURDAY						
AM	9:05	9:13	9:16	9:21	9:30	9:35
	9:45	9:53	9:56	10:01	10:10	10:15
	10:25	10:33	10:36	10:41	10:50	10:55
	11:05	11:13	11:16	11:21	11:30	11:35
	11:45	11:53	11:56	12:01	12:10	12:15
PM	12:25	12:33	12:36	12:41	12:50	12:55
	1:05	1:13	1:16	1:21	1:30	1:35
	1:45	1:53	1:56	2:01	2:10	2:15
	2:25	2:33	2:36	2:41	2:50	2:55
	3:05	3:13	3:16	3:21	3:30	3:35
	3:45	3:53	3:56	4:01	4:10	4:15
	4:25	4:33	4:36	4:41	4:50	4:55

Please note that schedule times are approximate.

FARES

- **Regular Fare**—$1.50 per trip
- **Children under 6**—Free when accompanied by adult (Limit 2 children per adult)
- **6-11 Yrs. Old**—$0.75 per trip
- **Senior Citizens**—$0.75 per trip
- **Registered Disabled**—$0.75 per trip
- **Medicare Recipients**—$0.75 per trip

Charlie Card Fares

- **Regular Fare**—$1.40 per trip
- **Reduced Fare**—$0.70 per trip

All buses are wheelchair accessible.

NO SUNDAY SERVICE

SMOKING: Smoking is prohibited on all buses.

FOOD AND BEVERAGES: The consuming of food or beverage of any kind on the bus is prohibited. Serious injury may occur when trash is left aboard the vehicle.

OBJECTIONABLE PERSONS: This Authority and its Operator reserve the right to refuse to transport a person under the influence of alcohol or drugs, or who is incapable of taking care of him or herself, or whose conduct is such or likely to be such as to make him or her objectionable to other passengers or prospective passengers.

NORTH END SHUTTLE

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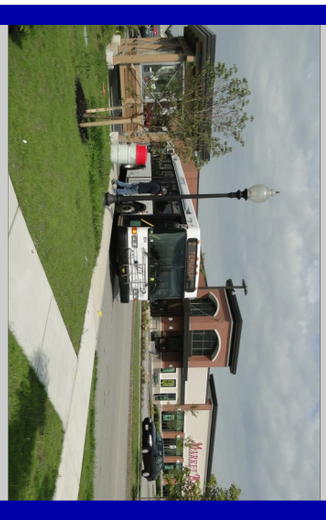
North End Shuttle

Southeastern Regional Transit Authority



April 12, 2021

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APPENDIX F

Traffic Projection Model

	PP truck in	4	PP employee in	0	NWD in	3		COVID ADJ	In Park	0.05		Phase 2	**ENTER VOL**	17	**EXIT VOL**	17										
	PP truck out	4	PP employee out	25	NWD out	3			Out of Park	0.05		w/Biosolids	**EMPLOYEE IN**	0	**EMPLOYEE OUT**	25										

TRAFFIC PROJECTION MODEL

Transfer Station Traffic Study
Weekday Morning Peak Hour
New Bedford, MA

Intersection	Dir.	Turn	Parallel Products Existing Trips	NWD Trucking Trips	2021 Base Volumes	2021 Existing Counted Volumes	COVID-19 Adjustment	Balancing Adjustment	2021 Existing Volumes[1]	Background Growth 7 yrs (at 1% per year)	2028 No-Build Volumes	New Project Trucks PERCENT ENTER	New Project Truck Trips ENTER	New Project Trucks PERCENT EXIT	New Project Truck Trips EXIT	New Project Employee PERCENT ENTER	New Project Employee Trips ENTER	New Project Employee PERCENT EXIT	New Project Employee Trips EXIT	New Project Trips TOTAL	2028 Build Volumes w/ Biosolids	PHF (Approach)	PHF (Intersection)	2021 Existing Counted HV Volumes	%HV Existing	%HV Build w/ Biosolids	%HV Build w/o Biosolids
Route 140 Northbound Ramps	EB	L	15	1	68	78	4		82	6	88		0	50%	8		0	50%	12	20	108	0.70	0.97	10	13%	18%	18%
at Braley Road		T	0	0	97	92	5		97	6	103		0		0		0		0	0	103	0.70	0.97	6	7%	7%	7%
	WB	T	0	0	580	552	28		580	40	620		0		0		0		0	0	620	0.91	0.97	5	1%	1%	1%
		R	0	0	72	69	3		72	5	77		0		0		0		0	0	77	0.91	0.97	1	1%	1%	1%
	NB	L	2	2	301	287	14		301	21	322	50%	9		0	40%	0		0	9	331	0.84	0.97	19	7%	9%	9%
		R	0	0	192	183	9		192	13	205		0		0		0		0	0	205	0.84	0.97	11	6%	6%	6%
Route 140 Southbound Ramps	EB	T	15	1	146	152	8		160	11	171		0	50%	8		0	50%	12	20	191	0.58	0.86	10	7%	10%	10%
at Braley Road		R	12	2	219	218	11		229	15	244		0	50%	9		0	40%	10	19	263	0.58	0.86	12	6%	8%	8%
	WB	L	0	0	387	369	18		387	27	414		0		0		0		0	0	414	0.92	0.86	6	2%	2%	2%
		T	2	2	494	470	24		494	34	528	50%	9		0	40%	0		0	9	537	0.92	0.86	18	4%	5%	5%
	SB	L	0	0	19	18	1		19	1	20		0		0		0		0	0	20	0.80	0.86	6	33%	35%	35%
		R	2	1	98	94	5		99	7	106	50%	8		0	50%	0		0	8	114	0.80	0.86	10	11%	17%	16%
Braley Road/	EB	L	0	0	4	4	0		4	0	4		0		0		0		0	0	4	0.34	0.86	1	25%	25%	25%
Theodore Rice Boulevard at		T	27	3	128	145	7		152	10	162		0	100%	17		0	90%	22	39	201	0.34	0.86	17	12%	18%	17%
Phillips Road		R	0	0	28	27	1		28	2	30		0		0		0		0	0	30	0.34	0.86	1	4%	3%	3%
	WB	L	0	0	47	45	2		47	3	50		0		0		0		0	0	50	0.79	0.86	6	13%	14%	14%
		T	4	3	412	393	20		413	29	442	100%	17		0	90%	0		0	17	459	0.79	0.86	15	4%	7%	7%
		R	0	0	133	126	7		133	9	142		0		0		0		0	0	142	0.79	0.86	7	6%	6%	6%
	NB	L	0	0	29	28	1		29	3	32		0		0		0		0	0	32	0.88	0.86	1	4%	3%	3%
		T	0	0	46	44	2		46	3	49		0		0		0		0	0	49	0.88	0.86	2	5%	4%	4%
		R	0	0	77	73	4		77	5	82		0		0		0		0	0	82	0.88	0.86	2	3%	2%	2%
	SB	L	0	0	160	152	8		160	11	171		0		0		0		0	0	171	0.91	0.86	3	2%	2%	2%
		T	0	0	27	26	1		27	2	29		0		0		0		0	0	29	0.91	0.86	4	15%	14%	14%
		R	0	0	30	29	1		30	3	33		0		0		0		0	0	33	0.91	0.86	1	3%	3%	3%
Theodore Rice Boulevard at	WB	L	4	3	370	353	18		371	25	396	100%	17		0	90%	0		0	17	413	0.65	0.77	7	2%	6%	6%
Duchaine Boulevard		R	0	0	106	101	5		106	7	113		0		0		0		0	0	113	0.65	0.77	4	4%	4%	4%
	NB	T	0	0	9	9	0		9	1	10		0		0		0		0	0	10	0.38	0.77	2	22%	20%	20%
		R	27	3	104	122	6		128	8	136		0	100%	17		0	90%	22	39	175	0.38	0.77	23	19%	25%	24%
	SB	L	0	0	57	54	3		57	4	61		0		0		0		0	0	61	0.34	0.77	0	0%	0%	0%
		T	0	0	17	16	1		17	1	18		0		0		0		0	0	18	0.34	0.77	1	6%	6%	6%
Duchaine Boulevard at	EB	L	0	0	70	67	3		70	5	75		0		0		0		0	0	75	0.41	0.79	11	16%	16%	16%
Samuel Barnet Boulevard		R	0	0	75	71	4		75	5	80		0		0		0		0	0	80	0.41	0.79	3	4%	4%	4%
	WB	R	0	0	314	299	15		314	21	335		0		0	10%	0		0	0	335	0.65	0.79	6	2%	2%	2%
	NB	T	27	3	0	23	1		24	2	26		0	100%	17		0	90%	22	39	65	0.45	0.79	14	61%	51%	49%
		R	2	0	91	89	4		93	6	99		0		0		0	10%	3	3	102	0.45	0.79	5	6%	6%	6%
	SB	U	0	0	2	2	0		2	0	2		0		0		0		0	0	2	0.70	0.79	0	0%	0%	0%
		T	4	3	115	110	6		116	8	124	100%	17		0	100%	0		0	17	141	0.70	0.79	7	6%	18%	17%
		R	0	0	457	435	22		457	31	488		0		0		0		0	0	488	0.70	0.79	14	3%	3%	3%
Phillips Road at	EB	L	0	0	4	4	0		4	0	4		0		0		0		0	0	4	0.40	0.88	0	0%	0%	0%
Samuel Barnet Boulevard		R	2	0	87	85	4		89	6	95		0		0		0	10%	3	3	98	0.40	0.88	5	6%	6%	6%
	NB	L	0	0	306	287	14	5	306	21	327		0		0	10%	0		0	0	327	0.69	0.88	4	1%	2%	2%
		T	0	0	118	112	6		118	8	126		0		0		0		0	0	126	0.69	0.88	5	4%	5%	5%
	SB	T	0	0	111	106	5		111	8	119		0		0		0		0	0	119	0.73	0.88	10	9%	9%	9%
		R	0	0	8	8	0		8	1	9		0		0		0		0	0	9	0.73	0.88	2	25%	22%	22%
Duchaine Boulevard at	EB	L	0	0	0	0	0		0	0	0		0		0		0		0	0	0	-	0.76	0	#DIV/0!	#DIV/0!	#DIV/0!
Site Driveway	WB	R	29	3	14	38	2		40	0	40		0	100%	17		0	100%	25	42	82	0.51	0.76	9	24%	32%	30%
	SB	R	4	3	101	97	5		102	0	102	100%	17		0	100%	0		0	17	119	0.88	0.76	8	8%	21%	20%
		U	0	0	1	1	0		1	1	2		0		0		0		0	0	2	0.88	0.76	0	0%	0%	0%
			0	0	0																						

Peak Hour: 6:30 AM - 7:30 AM

1 - Includes volumes associated with Phase 1

	PP truck in	4	PP employee in	0	NWD in	3		COVID ADJ	In Park	0.05		Phase 2	**ENTER VOL**	17	**EXIT VOL**	17										
	PP truck out	4	PP employee out	25	NWD out	3			Out of Park	0.05		w/Biosolids	**EMPLOYEE IN**	0	**EMPLOYEE OUT**	25										

TRAFFIC PROJECTION MODEL

Transfer Station Traffic Study
Weekday School Dismissal Peak Hour
New Bedford, MA

Intersection	Dir.	Turn	Parallel Products Existing Trips	NWD Trucking Trips	2021 Base Volumes	2021 Existing Counted Volumes	COVID-19 Adjustment	Balancing Adjustment	2021 Existing Volumes[1]	Background Growth 7 yrs (at 1% per year)	2028 No-Build Volumes	New Project Trucks PERCENT ENTER	New Project Truck Trips ENTER	New Project Trucks PERCENT EXIT	New Project Truck Trips EXIT	New Project Employee PERCENT ENTER	New Project Employee Trips ENTER	New Project Employee PERCENT EXIT	New Project Employee Trips EXIT	New Project Trips TOTAL	2028 Build Volumes w/ Biosolids	PHF (Approach)	PHF (Intersection)	2021 Existing Counted HV Volumes	%HV Existing	%HV Build w/ Biosolids	%HV Build w/o Biosolids
Route 140 Northbound Ramps	EB	L	15	1	81	90	5		95	6	101		0	50%	8		0	50%	12	20	121	0.83	0.93	1	1%	7%	7%
at Braley Road		T	0	0	247	235	12		247	17	264		0		0		0		0	0	264	0.83	0.93	4	2%	2%	2%
	WB	T	0	0	476	453	23		476	33	509		0		0		0		0	0	509	0.91	0.93	18	4%	4%	4%
		R	0	0	54	51	3		54	4	58		0		0		0		0	0	58	0.91	0.93	3	6%	5%	5%
	NB	L	2	2	235	224	11		235	16	251	50%	9		0	40%	0		0	9	260	0.93	0.93	24	11%	14%	14%
		R	0	0	353	336	17		353	24	377		0		0		0		0	0	377	0.93	0.93	11	3%	3%	3%
Route 140 Southbound Ramps	EB	T	15	1	273	273	14		287	19	306		0	50%	8		0	50%	12	20	326	0.82	0.90	4	1%	4%	4%
at Braley Road		R	12	2	347	340	17		357	25	382		0	50%	9		0	40%	10	19	401	0.82	0.90	21	6%	8%	8%
	WB	L	0	0	333	317	16		333	23	356		0		0		0		0	0	356	0.94	0.90	14	4%	4%	4%
		T	2	2	378	360	18		378	26	404	50%	9		0	40%	0		0	9	413	0.94	0.90	28	8%	10%	9%
	SB	L	0	0	55	52	3		55	4	59		0		0		0		0	0	59	0.88	0.90	1	2%	2%	2%
		R	2	1	97	93	5		98	7	105	50%	8		0	50%	0		0	8	113	0.88	0.90	7	8%	14%	13%
Braley Road/	EB	L	0	0	14	13	1		14	1	15		0		0		0		0	0	15	0.66	0.89	1	8%	7%	7%
Theodore Rice Boulevard at		T	27	3	329	336	17		353	24	377		0	100%	17		0	90%	22	39	416	0.66	0.89	13	4%	8%	7%
Phillips Road		R	0	0	55	52	3		55	4	59		0		0		0		0	0	59	0.66	0.89	1	2%	2%	2%
	WB	L	0	0	151	144	7		151	10	161		0		0		0		0	0	161	0.93	0.89	7	5%	5%	5%
		T	4	3	133	128	6		134	9	143	100%	17		0	90%	0		0	17	160	0.93	0.89	20	16%	24%	23%
		R	0	0	191	181	9	1	191	14	205		0		0		0		0	0	205	0.93	0.89	8	4%	4%	4%
	NB	L	0	0	17	16	1		17	1	18		0		0		0		0	0	18	0.78	0.89	1	6%	6%	6%
		T	0	0	51	49	2		51	4	55		0		0		0		0	0	55	0.78	0.89	5	10%	11%	11%
		R	0	0	108	103	5		108	7	115		0		0		0		0	0	115	0.78	0.89	5	5%	5%	5%
	SB	L	0	0	183	174	9		183	13	196		0		0		0		0	0	196	0.82	0.89	7	4%	4%	4%
		T	0	0	68	65	3		68	5	73		0		0		0		0	0	73	0.82	0.89	1	2%	1%	1%
		R	0	0	5	5	0		5	0	5		0		0		0		0	0	5	0.82	0.89	2	40%	40%	40%
Theodore Rice Boulevard at	WB	L	4	3	76	73	4		77	5	82	100%	17		0	90%	0		0	17	99	0.67	0.76	17	23%	36%	35%
Duchaine Boulevard		R	0	0	34	32	2		34	2	36		0		0		0		0	0	36	0.67	0.76	7	22%	22%	22%
	NB	T	0	0	11	10	1		11	1	12		0		0		0		0	0	12	0.72	0.76	5	50%	50%	50%
		R	27	3	221	233	12		245	17	262		0	100%	17		0	90%	22	39	301	0.72	0.76	15	6%	11%	11%
	SB	L	0	0	127	121	6		127	9	136		0		0		0		0	0	136	0.50	0.76	7	6%	6%	6%
		T	0	0	15	14	1		15	1	16		0		0		0		0	0	16	0.50	0.76	7	50%	50%	50%
Duchaine Boulevard at	EB	L	0	0	179	170	9		179	12	191		0		0		0		0	0	191	0.61	0.67	11	6%	6%	6%
Samuel Barnet Boulevard		R	0	0	222	211	11		222	15	237		0		0		0		0	0	237	0.61	0.67	5	2%	3%	3%
	WB	R	0	0	70	66	4		70	5	75		0		0	10%	0		0	0	75	0.59	0.67	12	18%	19%	19%
	NB	T	27	3	2	25	1		26	2	28		0	100%	17		0	90%	22	39	67	0.59	0.67	6	24%	36%	34%
		R	2	0	282	270	14		284	20	304		0		0		0	10%	3	3	307	0.59	0.67	4	1%	2%	2%
	SB	U	0	0	1	1	0		1	0	1		0		0		0		0	0	1	0.70	0.67	0	0%	0%	0%
		T	4	3	47	46	2		48	3	51	100%	17		0	100%	0		0	17	68	0.70	0.67	13	28%	46%	44%
		R	0	0	121	115	6		121	8	129		0		0		0		0	0	129	0.70	0.67	20	17%	17%	17%
Phillips Road at	EB	L	0	0	11	10	1		11	1	12		0		0		0		0	0	12	0.57	0.77	0	0%	0%	0%
Samuel Barnet Boulevard		R	2	0	272	261	13		274	19	293		0		0		0	10%	3	3	296	0.57	0.77	4	2%	1%	1%
	NB	L	0	0	68	65	3		68	4	72		0		0	10%	0		0	0	72	0.83	0.77	13	20%	19%	19%
		T	0	0	145	138	7		145	10	155		0		0		0		0	0	155	0.83	0.77	9	7%	6%	6%
	SB	T	0	0	227	216	11		227	16	243		0		0		0		0	0	243	0.92	0.77	8	4%	4%	4%
		R	0	0	2	2	0		2	0	2		0		0		0		0	0	2	0.92	0.77	0	0%	0%	0%
Duchaine Boulevard at	EB	L	0	0	0	0	0		0	0	0		0		0		0		0	0	0	-	0.68	0	#DIV/0!	#DIV/0!	#DIV/0!
Site Driveway	WB	R	29	3	31	54	3		57	0	57		0	100%	17		0	100%	25	42	99	0.60	0.68	4	7%	21%	20%
	SB	R	4	3	27	27	1		28	0	28	100%	17		0	100%	0		0	17	45	0.67	0.68	18	67%	80%	79%
		U	0	0	5	5	0		5	1	6		0		0		0		0	0	6	0.67	0.68	0	0%	0%	0%
			0	0	0																						

Peak Hour: 3:15 PM - 4:15 PM

1 - Includes volumes associated with Phase 1

		PP truck in	4	PP employee in	0	NWD in	3		COVID ADJ	In Park	0.05			Phase 2	**ENTER VOL**	17	**EXIT VOL**	17												
		PP truck out	4	PP employee out	0	NWD out	3			Out of Park	0.05			w/Biosolids	**EMPLOYEE IN**	0	**EMPLOYEE OUT**	0												

TRAFFIC PROJECTION MODEL

Transfer Station Traffic Study
Weekday Afternoon Commuter Peak Hour
New Bedford, MA

Intersection	Dir.	Turn	Parallel Products Existing Trips	NWD Trucking Trips	2021 Base Volumes	2021 Existing Counted Volumes	COVID-19 Adjustment	Balancing Adjustment	2021 Existing Volumes[1]	Background Growth 7 yrs (at 1% per year)	2028 No-Build Volumes	New Project Trucks PERCENT ENTER	New Project Truck Trips ENTER	New Project Trucks PERCENT EXIT	New Project Truck Trips EXIT	New Project Employee PERCENT ENTER	New Project Employee Trips ENTER	New Project Employee PERCENT EXIT	New Project Employee Trips EXIT	New Project Trips TOTAL	2028 Build Volumes w/ Biosolids	PHF (Approach)	PHF (Intersection)	2021 Existing Counted HV Volumes	%HV Existing	%HV Build w/ Biosolids	%HV Build w/o Biosolids
Route 140 Northbound Ramps	EB	L	2	1	103	99	5		104	7	111		0	50%	9		0	50%	0	9	120	0.85	0.90	3	3%	10%	9%
at Braley Road		T	0	0	248	236	12		248	18	266		0		0		0		0	0	266	0.85	0.90	1	0%	0%	0%
	WB	T	0	0	435	414	21		435	30	465		0		0		0		0	0	465	0.93	0.90	11	3%	3%	3%
		R	0	0	44	42	2		44	3	47		0		0		0		0	0	47	0.93	0.90	0	0%	0%	0%
	NB	L	2	2	183	174	9		183	13	196	50%	9		0	40%	0		0	9	205	0.91	0.90	13	7%	12%	11%
		R	0	0	397	378	19		397	27	424		0		0		0		0	0	424	0.91	0.90	11	3%	3%	3%
Route 140 Southbound Ramps	EB	T	2	1	300	286	15		301	21	322		0	50%	9		0	50%	0	9	331	0.78	0.82	3	1%	4%	3%
at Braley Road		R	2	2	311	296	15		311	21	332		0	50%	8		0	40%	0	8	340	0.78	0.82	18	6%	8%	8%
	WB	L	0	0	308	293	15		308	21	329		0		0		0		0	0	329	0.86	0.82	10	3%	3%	3%
		T	2	2	310	295	15		310	22	332	50%	9		0	40%	0		0	9	341	0.86	0.82	14	5%	7%	7%
	SB	L	0	0	51	49	2		51	4	55		0		0		0		0	0	55	0.86	0.82	1	2%	2%	2%
		R	2	1	96	92	5		97	7	104	50%	8		0	50%	0		0	8	112	0.86	0.82	10	11%	17%	16%
Braley Road/	EB	L	0	0	21	20	1		21	1	22		0		0		0		0	0	22	0.73	0.80	0	0%	0%	0%
Theodore Rice Boulevard at		T	4	3	312	297	15	1	313	21	334		0	100%	17		0	90%	0	17	351	0.73	0.80	13	4%	9%	9%
Phillips Road		R	0	0	36	34	2		36	2	38		0		0		0		0	0	38	0.73	0.80	1	3%	3%	3%
	WB	L	0	0	138	131	7		138	10	148		0		0		0		0	0	148	0.81	0.80	2	2%	1%	1%
		T	4	3	89	86	4		90	6	96	100%	17		0	90%	0		0	17	113	0.81	0.80	16	19%	31%	30%
		R	0	0	179	170	9		179	13	192		0		0		0		0	0	192	0.81	0.80	5	3%	3%	3%
	NB	L	0	0	11	10	1		11	1	12		0		0		0		0	0	12	0.84	0.80	2	20%	17%	17%
		T	0	0	54	51	3		54	4	58		0		0		0		0	0	58	0.84	0.80	3	6%	5%	5%
		R	0	0	109	104	5		109	8	117		0		0		0		0	0	117	0.84	0.80	0	0%	0%	0%
	SB	L	0	0	190	181	9		190	13	203		0		0		0		0	0	203	0.80	0.80	7	4%	4%	4%
		T	0	0	55	52	3		55	4	59		0		0		0		0	0	59	0.80	0.80	0	0%	0%	0%
		R	0	0	3	3	0		3	0	3		0		0		0		0	0	3	0.80	0.80	2	67%	67%	67%
Theodore Rice Boulevard at	WB	L	4	3	63	61	3		64	4	68	100%	17		0	90%	0		0	17	85	0.81	0.70	15	25%	40%	39%
Duchaine Boulevard		R	0	0	18	17	1		18	1	19		0		0		0		0	0	19	0.81	0.70	9	53%	53%	53%
	NB	T	0	0	6	6	0		6	0	6		0		0		0		0	0	6	0.67	0.70	2	33%	33%	33%
		R	4	3	230	220	11		231	16	247		0	100%	17		0	90%	0	17	264	0.67	0.70	12	5%	11%	11%
	SB	L	0	0	64	61	3		64	4	68		0		0		0		0	0	68	0.67	0.70	5	8%	9%	9%
		T	0	0	9	9	0		9	1	10		0		0		0		0	0	10	0.67	0.70	2	22%	20%	20%
Duchaine Boulevard at	EB	L	0	0	176	168	8		176	12	188		0		0		0		0	0	188	0.63	0.62	11	7%	6%	6%
Samuel Barnet Boulevard		R	0	0	175	167	8		175	12	187		0		0		0		0	0	187	0.63	0.62	1	1%	1%	1%
	WB	R	0	0	13	12	1		13	1	14		0		0	10%	0		0	0	14	0.60	0.62	3	25%	29%	29%
	NB	T	4	3	14	14	1		15	1	16		0	100%	17		0	90%	0	17	33	0.57	0.62	1	7%	55%	52%
		R	0	0	206	196	10		206	14	220		0		0		0	10%	0	0	220	0.57	0.62	3	2%	1%	1%
	SB	U	0	0	0	0	0		0	0	0		0		0		0		0	0	0	0.69	0.62	0	#DIV/0!	#DIV/0!	#DIV/0!
		T	4	3	31	30	2		32	2	34	100%	17		0	100%	0		0	17	51	0.69	0.62	7	23%	49%	47%
		R	0	0	59	56	3		59	4	63		0		0		0		0	0	63	0.69	0.62	12	21%	22%	22%
Phillips Road at	EB	L	0	0	4	4	0		4	0	4		0		0		0		0	0	4	0.56	0.72	1	25%	25%	25%
Samuel Barnet Boulevard		R	0	0	202	192	10		202	14	216		0		0		0	10%	0	0	216	0.56	0.72	2	1%	1%	1%
	NB	L	0	0	11	10	1		11	1	12		0		0	10%	0		0	0	12	0.88	0.72	3	30%	33%	33%
		T	0	0	160	152	8		160	11	171		0		0		0		0	0	171	0.88	0.72	3	2%	2%	2%
	SB	T	0	0	196	187	9		196	13	209		0		0		0		0	0	209	0.83	0.72	3	2%	1%	1%
		R	0	0	2	2	0		2	0	2		0		0		0		0	0	2	0.83	0.72	0	0%	0%	0%
Duchaine Boulevard at	EB	L	0	0	0	0	0		0	0	0		0		0		0		0	0	0	-	0.85	0	#DIV/0!	#DIV/0!	#DIV/0!
Site Driveway	WB	R	4	3	24	24	1		25	0	25		0	100%	17		0	100%	0	17	42	0.72	0.85	3	13%	48%	45%
	SB	R	4	3	17	17	1		18	0	18	100%	17		0	100%	0		0	17	35	0.78	0.85	7	41%	69%	67%
		U	0	0	8	8	0		8	1	9		0		0		0		0	0	9	0.78	0.85	0	0%	0%	0%
			0	0	0																						

Peak Hour: 4:00 PM - 5:00 PM

1 - Includes volumes associated with Phase 1

APPENDIX G

Hourly Distribution Data

Hourly Trip Distribution				Inbound MSW and C&D (# vehicles)	Inbound MSW and C&D (one-way trips)	Inbound Biosolid Deliveries (# vehicles)	Inbound Biosolid Deliveries (one-way trips)	Outbound Materials (# vehicles)	Outbound Materials (one-way trips)
Time	**Taunton**	**Covanta**	**Assumed for TIS**						
5-6 AM	0%	8%	0%	0	0	0	0	0	0
6-7 AM	5%	7%	10%	8	16	2	4	6	12
7-8 AM	10%	6%	8%	6	12	2	4	4	8
8-9 AM	10%	7%	8%	6	12	2	4	4	8
9-10 AM	11%	8%	9%	7	14	2	4	5	10
10-11 AM	11%	10%	10%	8	16	2	4	6	12
11-12 AM	11%	9%	10%	8	16	2	4	6	12
12-1 PM	12%	10%	11%	8	16	2	4	6	12
1-2 PM	12%	8%	10%	8	16	2	4	6	12
2-3 PM	10%	10%	10%	8	16	2	4	6	12
3-4 PM	6%	8%	7%	5	10	2	4	4	8
4-5 PM	1%	5%	3%	2	4	1	2	1	2
5-6 PM	1%	2%	2%	1	2	1	2	1	2
6-7 PM	0%	1%	2%	1	2	1	2	1	2
7-8 PM	0%	1%	0%	0	0	0	0	0	0
8-9 PM	0%	1%	0%	0	0	0	0	0	0
	100%	100%	100%	**76**	**152**	**23**	**46**	**56**	**112**

APPENDIX H

Trip Generation Calculations

Truck Type	Tons per day	Truck Weight (tons)	No. of Trucks per day (inbound)
MSW (1,360 Tons/Day)			
Packer	295	9	33
Transfer	1065	28	38
C & D (140 Tons/Day)			
Transfer	140	28	5
Biosolids (400 Tons/Day)			
Large	220	28	8
Rolloffs	120	12	10
Small	60	12	5
Outbound Trailers (1,550 Tons/Day)			
Transfer	1,550	28	56

Time	Hourly distribution of trucks (%)	No of trucks-Inbound MSW and C&D	Total No of Truck Trips (MSW and C&D)	Number of Biosolid Trips Inbound	Total Number of Biosolids Trips	Outbound Materials Inbound	Total Number of Outbound Material Trips
5-6 AM	4%	3	6	1	2	2	4
6-7 AM	6%	5	10	2	4	3	6
7-8 AM	8%	6	12	2	4	4	8
8-9 AM	8%	6	12	2	4	5	10
9-10 AM	9%	7	14	2	4	6	12
10-11 AM	10%	8	16	2	4	6	12
11-12 AM	10%	7	14	2	4	5	10
12-1 PM	11%	8	16	2	4	6	12
1-2 PM	10%	8	16	2	4	6	12
2-3 PM	10%	8	16	2	4	6	12
3-4 PM	7%	5	10	2	4	4	8
4-5 PM	3%	2	4	1	2	2	4
5-6 PM	2%	1	2	1	2	1	2
6-7 PM	1%	1	2	0	0	0	0
7-8 PM	1%	1	2	0	0	0	0
8-9 PM	0%	0	0	0	0	0	0
	100%	76	152	23	46	56	112

APPENDIX I

Highway Capacity Manual Methodologies

CAPACITY/LEVEL-OF-SERVICE ANALYSES METHODOLOGY

The detailed capacity/level-of-service analysis contained in this traffic impact study was performed in accordance with the standard techniques contained in the *Highway Capacity Manual*.(1) By definition, capacity represents "the maximum rate of flow that can reasonably be expected to pass a point on a uniform section of a lane or roadway under prevailing roadway, traffic, and control conditions." The level of functioning of an intersection or a uniform section of a lane or roadway can be expressed in terms of levels of service. Level of service (LOS) is defined as "a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers". Such measures include "speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety."

At unsignalized intersections, a methodology for evaluating the relative functioning of intersections controlled by stop or yield signs has been developed, and is based on several assumptions, including:

- Major street flows are not affected by the minor (stop-sign controlled) street movements.
- Left turns from the major street to the minor street are influenced only by opposing major street through flow.
- Minor street left turns are impeded by all major street traffic plus opposing minor street traffic.
- Minor street through traffic is impeded by all major street traffic.
- Minor street right turns are impeded only by the major street traffic coming from the left.

The concept of stop-controlled or yield-controlled intersection analysis is based on the estimate of average total delay on minor streets. The methodology of analysis relies on three elements: the size and distribution of gaps in the major traffic stream, the usefulness of these gaps to the minor stream drivers, and the relative priority of the various traffic streams at the intersection. The results of the analysis provide an estimate of average total delay for the various critical movements at the unsignalized intersections. Correlation between average total delay and the respective levels of service are provided for unsignalized intersections as follows:

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(1) *Transportation Research Board, Highway Capacity Manual, 6th Edition, published by the Transportation Research Board, Washington, DC, 2016.*

Unsignalized Intersections

Level of Service	Control Delay Per Vehicle (seconds)
A	0 – 10
B	>10 – 15
C	>15 – 25
D	>25 – 35
E	>35 – 50
F	> 50

At signalized intersections, an additional element must be considered: time allocation. Level of service is based on the average control delay per vehicle for various movements within the intersection. Volume/capacity relationships also affect the operations of signalized intersections. Thus, both volume/capacity and delay must be considered to evaluate the overall operation of a signalized intersection. Correlation between average delay per vehicle and the respective levels of service are provided for signalized intersections as follows:

Signalized Intersections

Level of Service	Control Delay Per Vehicle (seconds)
A	$\leq$ 10
B	>10 – 20
C	>20 – 35
D	>35 – 55
E	>55 – 80
F	> 80

APPENDIX J

2021 Base Capacity/Level-of-Service Analysis

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	68	97	0	0	580	72	301	0	192	0	0	0
Future Vol, veh/h	68	97	0	0	580	72	301	0	192	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	-	-	-	-	0	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	13	7	0	0	1	1	7	0	6	2	2	2
Mvmt Flow	70	100	0	0	598	74	310	0	198	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	672	0	-	-	-	0	875	-	100
Stage 1	-	-	-	-	-	-	240	-	-
Stage 2	-	-	-	-	-	-	635	-	-
Critical Hdwy	4.23	-	-	-	-	-	4.6	-	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	5.47	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.47	-	-
Follow-up Hdwy	2.317	-	-	-	-	-	3.563	-	3.354
Pot Cap-1 Maneuver	869	-	0	0	-	-	494	0	945
Stage 1	-	-	0	0	-	-	788	0	-
Stage 2	-	-	0	0	-	-	519	0	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	869	-	-	-	-	-	452	0	945
Mov Cap-2 Maneuver	-	-	-	-	-	-	452	0	-
Stage 1	-	-	-	-	-	-	721	0	-
Stage 2	-	-	-	-	-	-	519	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3.9	0	21.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	452	945	869	-	-	-
HCM Lane V/C Ratio	0.687	0.209	0.081	-	-	-
HCM Control Delay (s)	28.7	9.8	9.5	0	-	-
HCM Lane LOS	D	A	A	A	-	-
HCM 95th %tile Q(veh)	5.1	0.8	0.3	-	-	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	146	219	387	494	0	0	0	0	19	0	98
Future Vol, veh/h	0	146	219	387	494	0	0	0	0	19	0	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Stop
Storage Length	-	-	-	-	-	-	-	-	-	0	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	7	6	2	4	0	2	2	2	33	0	11
Mvmt Flow	0	170	255	450	574	0	0	0	0	22	0	114

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	425	0	0		1772	-	574
Stage 1	-	-	-	-	-	-		1474	-	-
Stage 2	-	-	-	-	-	-		298	-	-
Critical Hdwy	-	-	-	4.12	-	-		4.6	-	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-		5.73	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.73	-	-
Follow-up Hdwy	-	-	-	2.218	-	-		3.797	-	3.399
Pot Cap-1 Maneuver	0	-	-	1134	-	0		218	0	502
Stage 1	0	-	-	-	-	0		179	0	-
Stage 2	0	-	-	-	-	0		688	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	1134	-	-		91	0	502
Mov Cap-2 Maneuver	-	-	-	-	-	-		91	0	-
Stage 1	-	-	-	-	-	-		179	0	-
Stage 2	-	-	-	-	-	-		287	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	4.5	21.2
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1134	-	91	502
HCM Lane V/C Ratio	-	-	0.397	-	0.243	0.227
HCM Control Delay (s)	-	-	10.2	0	56.8	14.3
HCM Lane LOS	-	-	B	A	F	B
HCM 95th %tile Q(veh)	-	-	1.9	-	0.9	0.9

Intersection	
Intersection Delay, s/veh	64.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	128	28	47	412	133	29	46	77	160	27	30
Future Vol, veh/h	4	128	28	47	412	133	29	46	77	160	27	30
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	25	12	4	13	4	6	4	5	3	2	15	3
Mvmt Flow	5	149	33	55	479	155	34	53	90	186	31	35
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	13.4	108.7	13.9	16.8
HCM LOS	B	F	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	19%	3%	0%	8%	74%
Vol Thru, %	30%	97%	0%	70%	12%
Vol Right, %	51%	0%	100%	22%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	152	132	28	592	217
LT Vol	29	4	0	47	160
Through Vol	46	128	0	412	27
RT Vol	77	0	28	133	30
Lane Flow Rate	177	153	33	688	252
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.334	0.317	0.059	1.151	0.48
Departure Headway (Hd)	7.265	7.787	6.824	6.021	7.292
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	498	465	528	606	497
Service Time	5.265	5.487	4.524	4.079	5.292
HCM Lane V/C Ratio	0.355	0.329	0.063	1.135	0.507
HCM Control Delay	13.9	14.1	10	108.7	16.8
HCM Lane LOS	B	B	A	F	C
HCM 95th-tile Q	1.5	1.3	0.2	22.5	2.6

Intersection	
Int Delay, s/veh	13.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	370	0	106	0	9	104	57	17	0
Future Vol, veh/h	0	0	0	370	0	106	0	9	104	57	17	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Free	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	4	2	22	19	0	6	2
Mvmt Flow	0	0	0	481	0	138	0	12	135	74	22	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	1	0	0	-	963	-	969	963	-
Stage 1	-	-	-	-	-	-	-	1	-	962	962	-
Stage 2	-	-	-	-	-	-	-	962	-	7	1	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	6.72	-	7.1	6.56	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.72	-	6.1	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.72	-	6.1	5.56	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	4.198	-	3.5	4.054	-
Pot Cap-1 Maneuver	-	-	-	1622	-	0	0	237	0	235	252	0
Stage 1	-	-	-	-	-	0	0	857	0	310	329	0
Stage 2	-	-	-	-	-	0	0	309	0	1020	887	0
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1622	-	-	-	167	-	172	177	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	167	-	172	177	-
Stage 1	-	-	-	-	-	-	-	857	-	310	231	-
Stage 2	-	-	-	-	-	-	-	217	-	1006	887	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	8.2		42.4
HCM LOS			-	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	167	-	-	-	-	1622	-	173	177
HCM Lane V/C Ratio	0.035	-	-	-	-	0.296	-	0.492	0.062
HCM Control Delay (s)	27.3	-	0	-	-	8.2	0	44.4	26.7
HCM Lane LOS	D	-	A	-	-	A	A	E	D
HCM 95th %tile Q(veh)	0.1	-	-	-	-	1.3	-	2.4	0.2

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	70	0	75	0	0	314	0	1	91	2	0	115	457
Future Vol, veh/h	70	0	75	0	0	314	0	1	91	2	0	115	457
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	-	None
Storage Length	0	-	50	-	-	0	-	-	0	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	16	0	4	0	0	2	0	61	6	0	0	6	3
Mvmt Flow	89	0	95	0	0	397	0	1	115	3	0	146	578

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	442	-	362	-	-	1	-	0	-	-	1	0	0
Stage 1	441	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	-	6.96	-	-	6.23	-	-	-	-	4.1	-	-
Critical Hdwy Stg 1	6.74	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.34	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.652	-	3.338	-	-	3.319	-	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	485	0	631	0	0	1083	0	-	0	-	1635	-	-
Stage 1	535	0	-	0	0	-	0	-	0	-	-	-	-
Stage 2	985	0	-	0	0	-	0	-	0	-	-	-	-
Platoon blocked, %								-				-	-
Mov Cap-1 Maneuver	307	-	631	-	-	1083	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	307	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	535	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	623	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.4	10.2	0	
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	307	631	1083	-	-	-
HCM Lane V/C Ratio	-	0.289	0.15	0.367	-	-	-
HCM Control Delay (s)	-	21.4	11.7	10.2	-	-	-
HCM Lane LOS	-	C	B	B	-	-	-
HCM 95th %tile Q(veh)	-	1.2	0.5	1.7	-	-	-

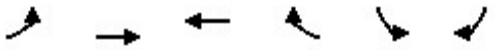
Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	87	306	118	111	8
Future Vol, veh/h	4	87	306	118	111	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	6	1	4	9	25
Mvmt Flow	5	99	348	134	126	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	961	131	135	0	-	0
Stage 1	131	-	-	-	-	-
Stage 2	830	-	-	-	-	-
Critical Hdwy	6.4	6.26	4.11	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.354	2.209	-	-	-
Pot Cap-1 Maneuver	287	908	1456	-	-	-
Stage 1	900	-	-	-	-	-
Stage 2	432	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	213	908	1456	-	-	-
Mov Cap-2 Maneuver	213	-	-	-	-	-
Stage 1	668	-	-	-	-	-
Stage 2	432	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1456	-	794	-	-
HCM Lane V/C Ratio	0.239	-	0.13	-	-
HCM Control Delay (s)	8.2	0	10.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.9	-	0.4	-	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	14	1	101
Future Volume (Veh/h)	0	0	0	14	1	101
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	0	0	0	18	1	133
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	20	2	135	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	20	2	135	0	0	
tC, single (s)	7.1	6.5	6.5	6.4	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.5	2.2	
p0 queue free %	100	100	100	98	100	
cM capacity (veh/h)	980	897	759	1024	1636	

Direction, Lane #	WB 1	SB 1
Volume Total	18	134
Volume Left	0	1
Volume Right	18	133
cSH	1024	1636
Volume to Capacity	0.02	0.00
Queue Length 95th (ft)	1	0
Control Delay (s)	8.6	0.1
Lane LOS	A	A
Approach Delay (s)	8.6	0.1
Approach LOS	A	

Intersection Summary				
Average Delay	1.1			
Intersection Capacity Utilization	Err%	ICU Level of Service	H	
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	15.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	81	247	0	0	476	54	235	0	353	0	0	0
Future Vol, veh/h	81	247	0	0	476	54	235	0	353	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	-	-	-	-	0	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	1	2	0	0	4	6	11	0	3	0	0	0
Mvmt Flow	87	266	0	0	512	58	253	0	380	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	570	0	-	-	-	0	981	-	266
Stage 1	-	-	-	-	-	-	440	-	-
Stage 2	-	-	-	-	-	-	541	-	-
Critical Hdwy	4.11	-	-	-	-	-	5.9	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	5.51	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.51	-	-
Follow-up Hdwy	2.209	-	-	-	-	-	3.599	-	3.327
Pot Cap-1 Maneuver	1007	-	0	0	-	-	314	0	770
Stage 1	-	-	0	0	-	-	630	0	-
Stage 2	-	-	0	0	-	-	566	0	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1007	-	-	-	-	-	282	0	770
Mov Cap-2 Maneuver	-	-	-	-	-	-	282	0	-
Stage 1	-	-	-	-	-	-	566	0	-
Stage 2	-	-	-	-	-	-	566	0	-

Approach	EB	WB	NB
HCM Control Delay, s	2.2	0	36.4
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	282	770	1007	-	-	-
HCM Lane V/C Ratio	0.896	0.493	0.086	-	-	-
HCM Control Delay (s)	69.8	14.1	8.9	0	-	-
HCM Lane LOS	F	B	A	A	-	-
HCM 95th %tile Q(veh)	8.1	2.8	0.3	-	-	-

Intersection	
Int Delay, s/veh	11.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	273	347	333	378	0	0	0	0	55	0	97
Future Vol, veh/h	0	273	347	333	378	0	0	0	0	55	0	97
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Stop
Storage Length	-	-	-	-	-	-	-	-	-	0	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	1	6	4	8	0	2	2	2	2	0	8
Mvmt Flow	0	303	386	370	420	0	0	0	0	61	0	108

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	689	0	0			1656	-	420
Stage 1	-	-	-	-	-	-			1160	-	-
Stage 2	-	-	-	-	-	-			496	-	-
Critical Hdwy	-	-	-	4.14	-	-			5.9	-	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	-	-
Follow-up Hdwy	-	-	-	2.236	-	-			3.518	-	3.372
Pot Cap-1 Maneuver	0	-	-	896	-	0			137	0	621
Stage 1	0	-	-	-	-	0			298	0	-
Stage 2	0	-	-	-	-	0			612	0	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	896	-	-			63	0	621
Mov Cap-2 Maneuver	-	-	-	-	-	-			63	0	-
Stage 1	-	-	-	-	-	-			298	0	-
Stage 2	-	-	-	-	-	-			282	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.5	84.9
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	896	-	63	621
HCM Lane V/C Ratio	-	-	0.413	-	0.97	0.174
HCM Control Delay (s)	-	-	11.8	0	213.5	12
HCM Lane LOS	-	-	B	A	F	B
HCM 95th %tile Q(veh)	-	-	2	-	4.7	0.6

Intersection	
Intersection Delay, s/veh	49.2
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	329	55	151	133	191	17	51	108	183	68	5
Future Vol, veh/h	14	329	55	151	133	191	17	51	108	183	68	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	8	4	2	5	16	4	6	10	5	4	2	10
Mvmt Flow	16	370	62	170	149	215	19	57	121	206	76	6
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	35.5	85.3	17.8	25
HCM LOS	E	F	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	10%	4%	0%	32%	71%
Vol Thru, %	29%	96%	0%	28%	27%
Vol Right, %	61%	0%	100%	40%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	176	343	55	475	256
LT Vol	17	14	0	151	183
Through Vol	51	329	0	133	68
RT Vol	108	0	55	191	5
Lane Flow Rate	198	385	62	534	288
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.44	0.83	0.12	1.065	0.639
Departure Headway (Hd)	8.397	8.062	7.248	7.181	8.353
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	431	451	497	507	434
Service Time	6.397	5.762	4.948	5.181	6.353
HCM Lane V/C Ratio	0.459	0.854	0.125	1.053	0.664
HCM Control Delay	17.8	39.4	10.9	85.3	25
HCM Lane LOS	C	E	B	F	C
HCM 95th-tile Q	2.2	8	0.4	16.3	4.3

Intersection	
Int Delay, s/veh	10

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	76	0	34	0	11	221	127	15	0
Future Vol, veh/h	0	0	0	76	0	34	0	11	221	127	15	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Free	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	23	2	22	2	50	6	6	50	2
Mvmt Flow	0	0	0	100	0	45	0	14	291	167	20	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	1	0	0	-	201	-	208	201	-
Stage 1	-	-	-	-	-	-	-	1	-	200	200	-
Stage 2	-	-	-	-	-	-	-	200	-	8	1	-
Critical Hdwy	4.12	-	-	4.33	-	-	-	7	-	7.16	7	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6	-	6.16	6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6	-	6.16	6	-
Follow-up Hdwy	2.218	-	-	2.407	-	-	-	4.45	-	3.554	4.45	-
Pot Cap-1 Maneuver	-	-	-	1494	-	0	0	618	0	741	618	0
Stage 1	-	-	-	-	-	0	0	808	0	793	654	0
Stage 2	-	-	-	-	-	0	0	654	0	1003	808	0
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1494	-	-	-	577	-	690	577	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	577	-	690	577	-
Stage 1	-	-	-	-	-	-	-	808	-	793	610	-
Stage 2	-	-	-	-	-	-	-	610	-	985	808	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	7.6		12.1
HCM LOS			-	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	577	-	-	-	-	1494	-	683	577
HCM Lane V/C Ratio	0.013	-	-	-	-	0.067	-	0.259	0.017
HCM Control Delay (s)	11.3	-	0	-	-	7.6	0	12.1	11.3
HCM Lane LOS	B	-	A	-	-	A	A	B	B
HCM 95th %tile Q(veh)	0	-	-	-	-	0.2	-	1	0.1

Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	179	0	222	0	0	70	0	2	282	1	47	121
Future Vol, veh/h	179	0	222	0	0	70	0	2	282	1	47	121
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	None
Storage Length	0	-	50	-	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	6	0	2	0	0	18	0	24	1	0	28	17
Mvmt Flow	267	0	331	0	0	104	0	3	421	1	70	181

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	166	-	126	-	-	3	-	0	-	3	0	0
Stage 1	163	-	-	-	-	-	-	-	-	-	-	-
Stage 2	3	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.39	-	6.93	-	-	6.47	-	-	-	4.1	-	-
Critical Hdwy Stg 1	6.59	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.19	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.557	-	3.319	-	-	3.471	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	780	0	901	0	0	1033	0	-	0	1632	-	-
Stage 1	813	0	-	0	0	-	0	-	0	-	-	-
Stage 2	1008	0	-	0	0	-	0	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	700	-	901	-	-	1033	-	-	-	1632	-	-
Mov Cap-2 Maneuver	700	-	-	-	-	-	-	-	-	-	-	-
Stage 1	813	-	-	-	-	-	-	-	-	-	-	-
Stage 2	906	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.2	8.9	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	700	901	1033	1632	-	-
HCM Lane V/C Ratio	-	0.382	0.368	0.101	0.001	-	-
HCM Control Delay (s)	-	13.3	11.3	8.9	7.2	0	-
HCM Lane LOS	-	B	B	A	A	A	-
HCM 95th %tile Q(veh)	-	1.8	1.7	0.3	0	-	-

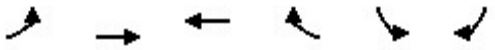
Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	272	68	145	227	2
Future Vol, veh/h	11	272	68	145	227	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	0	2	20	7	4	0
Mvmt Flow	14	353	88	188	295	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	661	297	298	0	-	0
Stage 1	297	-	-	-	-	-
Stage 2	364	-	-	-	-	-
Critical Hdwy	6.4	6.22	4.3	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	2.38	-	-	-
Pot Cap-1 Maneuver	431	742	1167	-	-	-
Stage 1	758	-	-	-	-	-
Stage 2	707	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	395	742	1167	-	-	-
Mov Cap-2 Maneuver	395	-	-	-	-	-
Stage 1	694	-	-	-	-	-
Stage 2	707	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.2	2.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1167	-	718	-	-
HCM Lane V/C Ratio	0.076	-	0.512	-	-
HCM Control Delay (s)	8.3	0	15.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	2.9	-	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	31	5	27
Future Volume (Veh/h)	0	0	0	31	5	27
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68
Hourly flow rate (vph)	0	0	0	46	7	40
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	60	14	54	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	60	14	54	0	0	
tC, single (s)	7.1	6.5	6.5	6.3	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.4	2.2	
p0 queue free %	100	100	100	96	100	
cM capacity (veh/h)	897	881	838	1070	1636	

Direction, Lane #	WB 1	SB 1
Volume Total	46	47
Volume Left	0	7
Volume Right	46	40
cSH	1070	1636
Volume to Capacity	0.04	0.00
Queue Length 95th (ft)	3	0
Control Delay (s)	8.5	1.1
Lane LOS	A	A
Approach Delay (s)	8.5	1.1
Approach LOS	A	

Intersection Summary				
Average Delay	4.8			
Intersection Capacity Utilization	Err%	ICU Level of Service		H
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	11.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	103	248	0	0	435	44	183	0	397	0	0	0
Future Vol, veh/h	103	248	0	0	435	44	183	0	397	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	-	-	-	-	0	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	0	0	0	3	0	7	0	3	0	0	0
Mvmt Flow	114	276	0	0	483	49	203	0	441	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	532	0	-	-	-	0	1012	-	276
Stage 1	-	-	-	-	-	-	504	-	-
Stage 2	-	-	-	-	-	-	508	-	-
Critical Hdwy	4.13	-	-	-	-	-	5.7	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	5.47	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.47	-	-
Follow-up Hdwy	2.227	-	-	-	-	-	3.563	-	3.327
Pot Cap-1 Maneuver	1030	-	0	0	-	-	322	0	760
Stage 1	-	-	0	0	-	-	597	0	-
Stage 2	-	-	0	0	-	-	594	0	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1030	-	-	-	-	-	280	0	760
Mov Cap-2 Maneuver	-	-	-	-	-	-	280	0	-
Stage 1	-	-	-	-	-	-	519	0	-
Stage 2	-	-	-	-	-	-	594	0	-

Approach	EB	WB	NB
HCM Control Delay, s	2.6	0	25.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	280	760	1030	-	-	-
HCM Lane V/C Ratio	0.726	0.58	0.111	-	-	-
HCM Control Delay (s)	45.7	16.1	8.9	0	-	-
HCM Lane LOS	E	C	A	A	-	-
HCM 95th %tile Q(veh)	5.2	3.8	0.4	-	-	-

Intersection	
Int Delay, s/veh	11.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	300	311	308	310	0	0	0	0	51	0	96
Future Vol, veh/h	0	300	311	308	310	0	0	0	0	51	0	96
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Stop
Storage Length	-	-	-	-	-	-	-	-	-	0	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	1	6	3	5	0	2	2	2	2	0	11
Mvmt Flow	0	366	379	376	378	0	0	0	0	62	0	117

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	745	0	0			1686	-	378
Stage 1	-	-	-	-	-	-			1130	-	-
Stage 2	-	-	-	-	-	-			556	-	-
Critical Hdwy	-	-	-	4.13	-	-			5.7	-	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	-	-
Follow-up Hdwy	-	-	-	2.227	-	-			3.518	-	3.399
Pot Cap-1 Maneuver	0	-	-	858	-	0			145	0	649
Stage 1	0	-	-	-	-	0			308	0	-
Stage 2	0	-	-	-	-	0			574	0	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	858	-	-			65	0	649
Mov Cap-2 Maneuver	-	-	-	-	-	-			65	0	-
Stage 1	-	-	-	-	-	-			308	0	-
Stage 2	-	-	-	-	-	-			255	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	6.2	79
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	858	-	65	649
HCM Lane V/C Ratio	-	-	0.438	-	0.957	0.18
HCM Control Delay (s)	-	-	12.4	0	205.4	11.8
HCM Lane LOS	-	-	B	A	F	B
HCM 95th %tile Q(veh)	-	-	2.3	-	4.7	0.7

Intersection	
Intersection Delay, s/veh	57.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	312	36	138	89	179	11	54	109	190	55	3
Future Vol, veh/h	21	312	36	138	89	179	11	54	109	190	55	3
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles, %	0	4	3	2	19	3	20	6	0	4	0	67
Mvmt Flow	26	390	45	173	111	224	14	68	136	238	69	4
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	52.9	93.3	21.7	31.9
HCM LOS	F	F	C	D

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	6%	6%	0%	34%	77%
Vol Thru, %	31%	94%	0%	22%	22%
Vol Right, %	63%	0%	100%	44%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	174	333	36	406	248
LT Vol	11	21	0	138	190
Through Vol	54	312	0	89	55
RT Vol	109	0	36	179	3
Lane Flow Rate	218	416	45	508	310
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.525	0.934	0.092	1.083	0.727
Departure Headway (Hd)	9.102	8.385	7.697	7.685	8.803
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	398	437	468	477	412
Service Time	7.102	6.085	5.397	5.685	6.803
HCM Lane V/C Ratio	0.548	0.952	0.096	1.065	0.752
HCM Control Delay	21.7	57.4	11.2	93.3	31.9
HCM Lane LOS	C	F	B	F	D
HCM 95th-tile Q	2.9	10.6	0.3	16.4	5.7

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	63	0	18	0	6	230	64	9	0
Future Vol, veh/h	0	0	0	63	0	18	0	6	230	64	9	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Free	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	25	2	53	2	33	5	8	22	2
Mvmt Flow	0	0	0	90	0	26	0	9	329	91	13	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	1	0	0	-	181	-	186	181	-
Stage 1	-	-	-	-	-	-	-	1	-	180	180	-
Stage 2	-	-	-	-	-	-	-	180	-	6	1	-
Critical Hdwy	4.12	-	-	4.35	-	-	-	6.83	-	7.18	6.72	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.83	-	6.18	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.83	-	6.18	5.72	-
Follow-up Hdwy	2.218	-	-	2.425	-	-	-	4.297	-	3.572	4.198	-
Pot Cap-1 Maneuver	-	-	-	1483	-	0	0	661	0	762	679	0
Stage 1	-	-	-	-	-	0	0	837	0	808	714	0
Stage 2	-	-	-	-	-	0	0	696	0	1000	857	0
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1483	-	-	-	621	-	719	638	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	621	-	719	638	-
Stage 1	-	-	-	-	-	-	-	837	-	808	670	-
Stage 2	-	-	-	-	-	-	-	654	-	990	857	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	7.6		10.9
HCM LOS			-	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	621	-	-	-	-	1483	-	713	638
HCM Lane V/C Ratio	0.007	-	-	-	-	0.061	-	0.137	0.01
HCM Control Delay (s)	10.8	-	0	-	-	7.6	0	10.9	10.7
HCM Lane LOS	B	-	A	-	-	A	A	B	B
HCM 95th %tile Q(veh)	0	-	-	-	-	0.2	-	0.5	0

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	176	0	175	0	0	13	0	14	206	0	31	59
Future Vol, veh/h	176	0	175	0	0	13	0	14	206	0	31	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	None
Storage Length	0	-	50	-	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	62	62	62	62	62	62	62	62	62	62	62	62
Heavy Vehicles, %	7	2	1	0	0	25	0	7	2	0	23	21
Mvmt Flow	284	0	282	0	0	21	0	23	332	0	50	95

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	121	-	73	-	-	23	-	0	-	-	-	0
Stage 1	98	-	-	-	-	-	-	-	-	-	-	-
Stage 2	23	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.405	-	6.915	-	-	6.575	-	-	-	-	-	-
Critical Hdwy Stg 1	6.605	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.205	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5665	-	3.3095	-	-	3.5375	-	-	-	-	-	-
Pot Cap-1 Maneuver	835	0	978	0	0	987	0	-	0	0	-	-
Stage 1	885	0	-	0	0	-	0	-	0	0	-	-
Stage 2	981	0	-	0	0	-	0	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	817	-	978	-	-	987	-	-	-	-	-	-
Mov Cap-2 Maneuver	817	-	-	-	-	-	-	-	-	-	-	-
Stage 1	885	-	-	-	-	-	-	-	-	-	-	-
Stage 2	960	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	8.7	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	WBLn1	SBT	SBR
Capacity (veh/h)	-	817	978	987	-	-
HCM Lane V/C Ratio	-	0.347	0.289	0.021	-	-
HCM Control Delay (s)	-	11.7	10.2	8.7	-	-
HCM Lane LOS	-	B	B	A	-	-
HCM 95th %tile Q(veh)	-	1.6	1.2	0.1	-	-

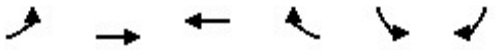
Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	202	11	160	196	2
Future Vol, veh/h	4	202	11	160	196	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	25	1	30	2	2	0
Mvmt Flow	6	281	15	222	272	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	526	274	275	0	-	0
Stage 1	274	-	-	-	-	-
Stage 2	252	-	-	-	-	-
Critical Hdwy	6.65	6.21	4.4	-	-	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.309	2.47	-	-	-
Pot Cap-1 Maneuver	474	767	1143	-	-	-
Stage 1	722	-	-	-	-	-
Stage 2	739	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	467	767	1143	-	-	-
Mov Cap-2 Maneuver	467	-	-	-	-	-
Stage 1	711	-	-	-	-	-
Stage 2	739	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.6	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1143	-	758	-	-
HCM Lane V/C Ratio	0.013	-	0.377	-	-
HCM Control Delay (s)	8.2	0	12.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	1.8	-	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	24	8	17
Future Volume (Veh/h)	0	0	0	24	8	17
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	28	9	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	46	18	38	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	46	18	38	0	0	
tC, single (s)	7.1	6.5	6.5	6.3	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.4	2.2	
p0 queue free %	100	100	100	97	99	
cM capacity (veh/h)	931	875	853	1054	1636	

Direction, Lane #	WB 1	SB 1
Volume Total	28	29
Volume Left	0	9
Volume Right	28	20
cSH	1054	1636
Volume to Capacity	0.03	0.01
Queue Length 95th (ft)	2	0
Control Delay (s)	8.5	2.3
Lane LOS	A	A
Approach Delay (s)	8.5	2.3
Approach LOS	A	

Intersection Summary				
Average Delay	5.3			
Intersection Capacity Utilization	Err%	ICU Level of Service	H	
Analysis Period (min)	15			

APPENDIX K

2021 Existing Capacity/Level-of-Service Analysis

Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	82	97	0	0	580	72	301	0	192	0	0	0
Future Vol, veh/h	82	97	0	0	580	72	301	0	192	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	-	-	-	-	0	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	13	7	0	0	1	1	7	0	6	2	2	2
Mvmt Flow	85	100	0	0	598	74	310	0	198	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	672	0	-	-	-	0	905	-	100
Stage 1	-	-	-	-	-	-	270	-	-
Stage 2	-	-	-	-	-	-	635	-	-
Critical Hdwy	4.23	-	-	-	-	-	4.6	-	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	5.47	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.47	-	-
Follow-up Hdwy	2.317	-	-	-	-	-	3.563	-	3.354
Pot Cap-1 Maneuver	869	-	0	0	-	-	481	0	945
Stage 1	-	-	0	0	-	-	764	0	-
Stage 2	-	-	0	0	-	-	519	0	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	869	-	-	-	-	-	431	0	945
Mov Cap-2 Maneuver	-	-	-	-	-	-	431	0	-
Stage 1	-	-	-	-	-	-	685	0	-
Stage 2	-	-	-	-	-	-	519	0	-

Approach	EB	WB	NB
HCM Control Delay, s	4.4	0	23.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	431	945	869	-	-	-
HCM Lane V/C Ratio	0.72	0.209	0.097	-	-	-
HCM Control Delay (s)	32.1	9.8	9.6	0	-	-
HCM Lane LOS	D	A	A	A	-	-
HCM 95th %tile Q(veh)	5.6	0.8	0.3	-	-	-

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	160	229	387	494	0	0	0	0	19	0	99
Future Vol, veh/h	0	160	229	387	494	0	0	0	0	19	0	99
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Stop
Storage Length	-	-	-	-	-	-	-	-	-	0	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	7	6	2	4	0	2	2	2	33	0	11
Mvmt Flow	0	186	266	450	574	0	0	0	0	22	0	115

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	452	0	0			1793	-	574
Stage 1	-	-	-	-	-	-			1474	-	-
Stage 2	-	-	-	-	-	-			319	-	-
Critical Hdwy	-	-	-	4.12	-	-			4.6	-	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-			5.73	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.73	-	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.797	-	3.399
Pot Cap-1 Maneuver	0	-	-	1109	-	0			214	0	502
Stage 1	0	-	-	-	-	0			179	0	-
Stage 2	0	-	-	-	-	0			672	0	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	1109	-	-			86	0	502
Mov Cap-2 Maneuver	-	-	-	-	-	-			86	0	-
Stage 1	-	-	-	-	-	-			179	0	-
Stage 2	-	-	-	-	-	-			271	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	4.6	21.8
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1109	-	86	502
HCM Lane V/C Ratio	-	-	0.406	-	0.257	0.229
HCM Control Delay (s)	-	-	10.4	0	60.8	14.3
HCM Lane LOS	-	-	B	A	F	B
HCM 95th %tile Q(veh)	-	-	2	-	0.9	0.9

Intersection	
Intersection Delay, s/veh	67.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	152	28	47	413	133	29	46	77	160	27	30
Future Vol, veh/h	4	152	28	47	413	133	29	46	77	160	27	30
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	25	12	4	13	4	6	4	5	3	2	15	3
Mvmt Flow	5	177	33	55	480	155	34	53	90	186	31	35
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	14.4	116.5	14.2	17.3
HCM LOS	B	F	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	19%	3%	0%	8%	74%
Vol Thru, %	30%	97%	0%	70%	12%
Vol Right, %	51%	0%	100%	22%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	152	156	28	593	217
LT Vol	29	4	0	47	160
Through Vol	46	152	0	413	27
RT Vol	77	0	28	133	30
Lane Flow Rate	177	181	33	690	252
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.339	0.376	0.059	1.171	0.487
Departure Headway (Hd)	7.427	7.839	6.878	6.114	7.436
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	488	463	524	593	487
Service Time	5.427	5.539	4.578	4.179	5.436
HCM Lane V/C Ratio	0.363	0.391	0.063	1.164	0.517
HCM Control Delay	14.2	15.2	10	116.5	17.3
HCM Lane LOS	B	C	A	F	C
HCM 95th-tile Q	1.5	1.7	0.2	23.4	2.6

Intersection	
Int Delay, s/veh	13.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	371	0	106	0	9	128	57	17	0
Future Vol, veh/h	0	0	0	371	0	106	0	9	128	57	17	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Free	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	4	2	22	19	0	6	2
Mvmt Flow	0	0	0	482	0	138	0	12	166	74	22	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	1	0	0	-	965	-	971	965	-
Stage 1	-	-	-	-	-	-	-	1	-	964	964	-
Stage 2	-	-	-	-	-	-	-	964	-	7	1	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	6.72	-	7.1	6.56	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.72	-	6.1	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.72	-	6.1	5.56	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	4.198	-	3.5	4.054	-
Pot Cap-1 Maneuver	-	-	-	1622	-	0	0	236	0	234	251	0
Stage 1	-	-	-	-	-	0	0	857	0	309	328	0
Stage 2	-	-	-	-	-	0	0	309	0	1020	887	0
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1622	-	-	-	166	-	171	176	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	166	-	171	176	-
Stage 1	-	-	-	-	-	-	-	857	-	309	231	-
Stage 2	-	-	-	-	-	-	-	217	-	1006	887	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	8.2		42.7
HCM LOS			-	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	166	-	-	-	-	1622	-	172	176
HCM Lane V/C Ratio	0.035	-	-	-	-	0.297	-	0.495	0.063
HCM Control Delay (s)	27.5	-	0	-	-	8.2	0	44.8	26.8
HCM Lane LOS	D	-	A	-	-	A	A	E	D
HCM 95th %tile Q(veh)	0.1	-	-	-	-	1.3	-	2.4	0.2

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	70	0	75	0	0	314	0	24	93	2	0	116	457
Future Vol, veh/h	70	0	75	0	0	314	0	24	93	2	0	116	457
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	-	None
Storage Length	0	-	50	-	-	0	-	-	0	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	16	0	4	0	0	2	0	61	6	0	0	6	3
Mvmt Flow	89	0	95	0	0	397	0	30	118	3	0	147	578

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	472	-	363	-	-	30	-	0	-	-	30	0	0
Stage 1	442	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	30	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	-	6.96	-	-	6.23	-	-	-	-	4.1	-	-
Critical Hdwy Stg 1	6.74	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.34	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.652	-	3.338	-	-	3.319	-	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	462	0	630	0	0	1044	0	-	0	-	1596	-	-
Stage 1	535	0	-	0	0	-	0	-	0	-	-	-	-
Stage 2	949	0	-	0	0	-	0	-	0	-	-	-	-
Platoon blocked, %								-				-	-
Mov Cap-1 Maneuver	286	-	630	-	-	1044	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	286	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	535	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	588	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.2	10.6	0	
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	286	630	1044	-	-	-
HCM Lane V/C Ratio	-	0.31	0.151	0.381	-	-	-
HCM Control Delay (s)	-	23.1	11.7	10.6	-	-	-
HCM Lane LOS	-	C	B	B	-	-	-
HCM 95th %tile Q(veh)	-	1.3	0.5	1.8	-	-	-

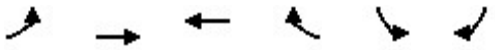
Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	89	306	118	111	8
Future Vol, veh/h	4	89	306	118	111	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	6	1	4	9	25
Mvmt Flow	5	101	348	134	126	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	961	131	135	0	-	0
Stage 1	131	-	-	-	-	-
Stage 2	830	-	-	-	-	-
Critical Hdwy	6.4	6.26	4.11	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.354	2.209	-	-	-
Pot Cap-1 Maneuver	287	908	1456	-	-	-
Stage 1	900	-	-	-	-	-
Stage 2	432	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	213	908	1456	-	-	-
Mov Cap-2 Maneuver	213	-	-	-	-	-
Stage 1	668	-	-	-	-	-
Stage 2	432	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1456	-	796	-	-
HCM Lane V/C Ratio	0.239	-	0.133	-	-
HCM Control Delay (s)	8.2	0	10.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.9	-	0.5	-	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	40	0	102
Future Volume (Veh/h)	0	0	0	40	0	102
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	0	0	0	53	0	134
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	53	0	134	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	53	0	134	0	0	
tC, single (s)	7.1	6.5	6.5	6.4	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.5	2.2	
p0 queue free %	100	100	100	95	100	
cM capacity (veh/h)	901	900	760	1024	1636	

Direction, Lane #	WB 1	SB 1
Volume Total	53	134
Volume Left	0	0
Volume Right	53	134
cSH	1024	1700
Volume to Capacity	0.05	0.08
Queue Length 95th (ft)	4	0
Control Delay (s)	8.7	0.0
Lane LOS	A	
Approach Delay (s)	8.7	0.0
Approach LOS	A	

Intersection Summary				
Average Delay	2.5			
Intersection Capacity Utilization	9.6%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	17.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	95	247	0	0	476	54	235	0	353	0	0	0
Future Vol, veh/h	95	247	0	0	476	54	235	0	353	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	-	-	-	-	0	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	1	2	0	0	4	6	11	0	3	0	0	0
Mvmt Flow	102	266	0	0	512	58	253	0	380	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	570	0	-	-	-	0	1011	-	266
Stage 1	-	-	-	-	-	-	470	-	-
Stage 2	-	-	-	-	-	-	541	-	-
Critical Hdwy	4.11	-	-	-	-	-	5.9	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	5.51	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.51	-	-
Follow-up Hdwy	2.209	-	-	-	-	-	3.599	-	3.327
Pot Cap-1 Maneuver	1007	-	0	0	-	-	303	0	770
Stage 1	-	-	0	0	-	-	611	0	-
Stage 2	-	-	0	0	-	-	566	0	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1007	-	-	-	-	-	267	0	770
Mov Cap-2 Maneuver	-	-	-	-	-	-	267	0	-
Stage 1	-	-	-	-	-	-	538	0	-
Stage 2	-	-	-	-	-	-	566	0	-

Approach	EB	WB	NB
HCM Control Delay, s	2.5	0	41.7
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	267	770	1007	-	-	-
HCM Lane V/C Ratio	0.946	0.493	0.101	-	-	-
HCM Control Delay (s)	83.2	14.1	9	0	-	-
HCM Lane LOS	F	B	A	A	-	-
HCM 95th %tile Q(veh)	8.9	2.8	0.3	-	-	-

Intersection	
Int Delay, s/veh	12

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	287	357	333	378	0	0	0	0	55	0	98
Future Vol, veh/h	0	287	357	333	378	0	0	0	0	55	0	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Stop
Storage Length	-	-	-	-	-	-	-	-	-	0	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	1	6	4	8	0	2	2	2	2	0	8
Mvmt Flow	0	319	397	370	420	0	0	0	0	61	0	109

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	716	0	0		1678	-	420
Stage 1	-	-	-	-	-	-		1160	-	-
Stage 2	-	-	-	-	-	-		518	-	-
Critical Hdwy	-	-	-	4.14	-	-		5.9	-	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-		5.42	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.42	-	-
Follow-up Hdwy	-	-	-	2.236	-	-		3.518	-	3.372
Pot Cap-1 Maneuver	0	-	-	875	-	0		133	0	621
Stage 1	0	-	-	-	-	0		298	0	-
Stage 2	0	-	-	-	-	0		598	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	875	-	-		~ 60	0	621
Mov Cap-2 Maneuver	-	-	-	-	-	-		~ 60	0	-
Stage 1	-	-	-	-	-	-		298	0	-
Stage 2	-	-	-	-	-	-		268	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.7	92.2
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	875	-	60	621
HCM Lane V/C Ratio	-	-	0.423	-	1.019	0.175
HCM Control Delay (s)	-	-	12.1	0	235.1	12
HCM Lane LOS	-	-	B	A	F	B
HCM 95th %tile Q(veh)	-	-	2.1	-	4.9	0.6

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	54.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	353	55	151	134	191	17	51	108	183	68	5
Future Vol, veh/h	14	353	55	151	134	191	17	51	108	183	68	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	8	4	2	5	16	4	6	10	5	4	2	10
Mvmt Flow	16	397	62	170	151	215	19	57	121	206	76	6
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	43.9	92.5	18.4	26
HCM LOS	E	F	C	D

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	10%	4%	0%	32%	71%
Vol Thru, %	29%	96%	0%	28%	27%
Vol Right, %	61%	0%	100%	40%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	176	367	55	476	256
LT Vol	17	14	0	151	183
Through Vol	51	353	0	134	68
RT Vol	108	0	55	191	5
Lane Flow Rate	198	412	62	535	288
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.448	0.893	0.12	1.086	0.649
Departure Headway (Hd)	8.589	8.135	7.321	7.313	8.52
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	421	449	493	503	426
Service Time	6.589	5.835	5.021	5.313	6.52
HCM Lane V/C Ratio	0.47	0.918	0.126	1.064	0.676
HCM Control Delay	18.4	48.8	11	92.5	26
HCM Lane LOS	C	E	B	F	D
HCM 95th-tile Q	2.3	9.6	0.4	17.1	4.5

Intersection	
Int Delay, s/veh	10

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	77	0	34	0	11	245	127	15	0
Future Vol, veh/h	0	0	0	77	0	34	0	11	245	127	15	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Free	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	23	2	22	2	50	6	6	50	2
Mvmt Flow	0	0	0	101	0	45	0	14	322	167	20	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	1	0	0	-	203	-	210	203	-
Stage 1	-	-	-	-	-	-	-	1	-	202	202	-
Stage 2	-	-	-	-	-	-	-	202	-	8	1	-
Critical Hdwy	4.12	-	-	4.33	-	-	-	7	-	7.16	7	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6	-	6.16	6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6	-	6.16	6	-
Follow-up Hdwy	2.218	-	-	2.407	-	-	-	4.45	-	3.554	4.45	-
Pot Cap-1 Maneuver	-	-	-	1494	-	0	0	616	0	739	616	0
Stage 1	-	-	-	-	-	0	0	808	0	791	653	0
Stage 2	-	-	-	-	-	0	0	653	0	1003	808	0
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1494	-	-	-	574	-	687	574	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	574	-	687	574	-
Stage 1	-	-	-	-	-	-	-	808	-	791	609	-
Stage 2	-	-	-	-	-	-	-	609	-	985	808	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	7.6		12.1
HCM LOS			-	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	574	-	-	-	-	1494	-	680	574
HCM Lane V/C Ratio	0.013	-	-	-	-	0.068	-	0.26	0.017
HCM Control Delay (s)	11.4	-	0	-	-	7.6	0	12.1	11.4
HCM Lane LOS	B	-	A	-	-	A	A	B	B
HCM 95th %tile Q(veh)	0	-	-	-	-	0.2	-	1	0.1

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	179	0	222	0	0	70	0	26	284	1	48	121
Future Vol, veh/h	179	0	222	0	0	70	0	26	284	1	48	121
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	None
Storage Length	0	-	50	-	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	6	0	2	0	0	18	0	24	1	0	28	17
Mvmt Flow	267	0	331	0	0	104	0	39	424	1	72	181

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	204	-	127	-	-	39	-	0	-	39	0	0
Stage 1	165	-	-	-	-	-	-	-	-	-	-	-
Stage 2	39	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.39	-	6.93	-	-	6.47	-	-	-	4.1	-	-
Critical Hdwy Stg 1	6.59	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.19	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.557	-	3.319	-	-	3.471	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	735	0	900	0	0	985	0	-	0	1584	-	-
Stage 1	811	0	-	0	0	-	0	-	0	-	-	-
Stage 2	965	0	-	0	0	-	0	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	656	-	900	-	-	985	-	-	-	1584	-	-
Mov Cap-2 Maneuver	656	-	-	-	-	-	-	-	-	-	-	-
Stage 1	811	-	-	-	-	-	-	-	-	-	-	-
Stage 2	863	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.6	9.1	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	656	900	985	1584	-	-
HCM Lane V/C Ratio	-	0.407	0.368	0.106	0.001	-	-
HCM Control Delay (s)	-	14.2	11.3	9.1	7.3	-	-
HCM Lane LOS	-	B	B	A	A	-	-
HCM 95th %tile Q(veh)	-	2	1.7	0.4	0	-	-

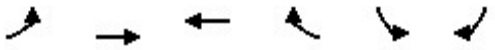
Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	274	68	145	227	2
Future Vol, veh/h	11	274	68	145	227	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	0	2	20	7	4	0
Mvmt Flow	14	356	88	188	295	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	661	297	298	0	-	0
Stage 1	297	-	-	-	-	-
Stage 2	364	-	-	-	-	-
Critical Hdwy	6.4	6.22	4.3	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	2.38	-	-	-
Pot Cap-1 Maneuver	431	742	1167	-	-	-
Stage 1	758	-	-	-	-	-
Stage 2	707	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	395	742	1167	-	-	-
Mov Cap-2 Maneuver	395	-	-	-	-	-
Stage 1	694	-	-	-	-	-
Stage 2	707	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.2	2.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1167	-	718	-	-
HCM Lane V/C Ratio	0.076	-	0.516	-	-
HCM Control Delay (s)	8.3	0	15.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	3	-	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	57	0	28
Future Volume (Veh/h)	0	0	0	57	0	28
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68
Hourly flow rate (vph)	0	0	0	84	0	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	84	0	41	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	84	0	41	0	0	
tC, single (s)	7.1	6.5	6.5	6.3	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.4	2.2	
p0 queue free %	100	100	100	92	100	
cM capacity (veh/h)	836	900	855	1070	1636	

Direction, Lane #	WB 1	SB 1
Volume Total	84	41
Volume Left	0	0
Volume Right	84	41
cSH	1070	1700
Volume to Capacity	0.08	0.02
Queue Length 95th (ft)	6	0
Control Delay (s)	8.6	0.0
Lane LOS	A	
Approach Delay (s)	8.6	0.0
Approach LOS	A	

Intersection Summary				
Average Delay	5.8			
Intersection Capacity Utilization	6.9%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	11.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	104	248	0	0	435	44	183	0	397	0	0	0
Future Vol, veh/h	104	248	0	0	435	44	183	0	397	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	-	-	-	-	0	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	0	0	0	3	0	7	0	3	0	0	0
Mvmt Flow	116	276	0	0	483	49	203	0	441	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	532	0	-	-	-	0	1016	-	276
Stage 1	-	-	-	-	-	-	508	-	-
Stage 2	-	-	-	-	-	-	508	-	-
Critical Hdwy	4.13	-	-	-	-	-	5.7	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	5.47	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.47	-	-
Follow-up Hdwy	2.227	-	-	-	-	-	3.563	-	3.327
Pot Cap-1 Maneuver	1030	-	0	0	-	-	321	0	760
Stage 1	-	-	0	0	-	-	594	0	-
Stage 2	-	-	0	0	-	-	594	0	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1030	-	-	-	-	-	278	0	760
Mov Cap-2 Maneuver	-	-	-	-	-	-	278	0	-
Stage 1	-	-	-	-	-	-	515	0	-
Stage 2	-	-	-	-	-	-	594	0	-

Approach	EB	WB	NB
HCM Control Delay, s	2.6	0	25.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	278	760	1030	-	-	-
HCM Lane V/C Ratio	0.731	0.58	0.112	-	-	-
HCM Control Delay (s)	46.5	16.1	8.9	0	-	-
HCM Lane LOS	E	C	A	A	-	-
HCM 95th %tile Q(veh)	5.2	3.8	0.4	-	-	-

Intersection	
Int Delay, s/veh	11.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	301	311	308	310	0	0	0	0	51	0	97
Future Vol, veh/h	0	301	311	308	310	0	0	0	0	51	0	97
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Stop
Storage Length	-	-	-	-	-	-	-	-	-	0	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	1	6	3	5	0	2	2	2	2	0	11
Mvmt Flow	0	367	379	376	378	0	0	0	0	62	0	118

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	746	0	0			1687	-	378
Stage 1	-	-	-	-	-	-			1130	-	-
Stage 2	-	-	-	-	-	-			557	-	-
Critical Hdwy	-	-	-	4.13	-	-			5.7	-	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	-	-
Follow-up Hdwy	-	-	-	2.227	-	-			3.518	-	3.399
Pot Cap-1 Maneuver	0	-	-	858	-	0			144	0	649
Stage 1	0	-	-	-	-	0			308	0	-
Stage 2	0	-	-	-	-	0			574	0	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	858	-	-			64	0	649
Mov Cap-2 Maneuver	-	-	-	-	-	-			64	0	-
Stage 1	-	-	-	-	-	-			308	0	-
Stage 2	-	-	-	-	-	-			255	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	6.2	80.8
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	858	-	64	649
HCM Lane V/C Ratio	-	-	0.438	-	0.972	0.182
HCM Control Delay (s)	-	-	12.4	0	211.9	11.8
HCM Lane LOS	-	-	B	A	F	B
HCM 95th %tile Q(veh)	-	-	2.3	-	4.7	0.7

Intersection	
Intersection Delay, s/veh	58.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	313	36	138	90	179	11	54	109	190	55	3
Future Vol, veh/h	21	313	36	138	90	179	11	54	109	190	55	3
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles, %	0	4	3	2	19	3	20	6	0	4	0	67
Mvmt Flow	26	391	45	173	113	224	14	68	136	238	69	4
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	53.7	95	21.8	32.2
HCM LOS	F	F	C	D

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	6%	6%	0%	34%	77%
Vol Thru, %	31%	94%	0%	22%	22%
Vol Right, %	63%	0%	100%	44%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	174	334	36	407	248
LT Vol	11	21	0	138	190
Through Vol	54	313	0	90	55
RT Vol	109	0	36	179	3
Lane Flow Rate	218	418	45	509	310
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.526	0.938	0.092	1.088	0.729
Departure Headway (Hd)	9.127	8.4	7.712	7.699	8.823
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	398	434	468	473	412
Service Time	7.127	6.1	5.412	5.699	6.823
HCM Lane V/C Ratio	0.548	0.963	0.096	1.076	0.752
HCM Control Delay	21.8	58.3	11.2	95	32.2
HCM Lane LOS	C	F	B	F	D
HCM 95th-tile Q	3	10.7	0.3	16.6	5.7

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	64	0	18	0	6	231	64	9	0
Future Vol, veh/h	0	0	0	64	0	18	0	6	231	64	9	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Free	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	25	2	53	2	33	5	8	22	2
Mvmt Flow	0	0	0	91	0	26	0	9	330	91	13	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	1	0	0	-	183	-	188	183	-
Stage 1	-	-	-	-	-	-	-	1	-	182	182	-
Stage 2	-	-	-	-	-	-	-	182	-	6	1	-
Critical Hdwy	4.12	-	-	4.35	-	-	-	6.83	-	7.18	6.72	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.83	-	6.18	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.83	-	6.18	5.72	-
Follow-up Hdwy	2.218	-	-	2.425	-	-	-	4.297	-	3.572	4.198	-
Pot Cap-1 Maneuver	-	-	-	1483	-	0	0	659	0	759	677	0
Stage 1	-	-	-	-	-	0	0	837	0	806	713	0
Stage 2	-	-	-	-	-	0	0	694	0	1000	857	0
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1483	-	-	-	619	-	716	636	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	619	-	716	636	-
Stage 1	-	-	-	-	-	-	-	837	-	806	670	-
Stage 2	-	-	-	-	-	-	-	652	-	990	857	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	7.6		10.9
HCM LOS			-	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	619	-	-	-	-	1483	-	710	636
HCM Lane V/C Ratio	0.007	-	-	-	-	0.062	-	0.138	0.01
HCM Control Delay (s)	10.9	-	0	-	-	7.6	0	10.9	10.7
HCM Lane LOS	B	-	A	-	-	A	A	B	B
HCM 95th %tile Q(veh)	0	-	-	-	-	0.2	-	0.5	0

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	176	0	175	0	0	13	0	15	206	0	32	59
Future Vol, veh/h	176	0	175	0	0	13	0	15	206	0	32	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	None
Storage Length	0	-	50	-	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	62	62	62	62	62	62	62	62	62	62	62	62
Heavy Vehicles, %	7	2	1	0	0	25	0	7	2	0	23	21
Mvmt Flow	284	0	282	0	0	21	0	24	332	0	52	95

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	124	-	74	-	-	24	-	0	-	-	-	0
Stage 1	100	-	-	-	-	-	-	-	-	-	-	-
Stage 2	24	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.405	-	6.915	-	-	6.575	-	-	-	-	-	-
Critical Hdwy Stg 1	6.605	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.205	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5665	-	3.3095	-	-	3.5375	-	-	-	-	-	-
Pot Cap-1 Maneuver	831	0	976	0	0	986	0	-	0	0	-	-
Stage 1	882	0	-	0	0	-	0	-	0	0	-	-
Stage 2	980	0	-	0	0	-	0	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	814	-	976	-	-	986	-	-	-	-	-	-
Mov Cap-2 Maneuver	814	-	-	-	-	-	-	-	-	-	-	-
Stage 1	882	-	-	-	-	-	-	-	-	-	-	-
Stage 2	959	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	8.7	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	WBLn1	SBT	SBR
Capacity (veh/h)	-	814	976	986	-	-
HCM Lane V/C Ratio	-	0.349	0.289	0.021	-	-
HCM Control Delay (s)	-	11.8	10.2	8.7	-	-
HCM Lane LOS	-	B	B	A	-	-
HCM 95th %tile Q(veh)	-	1.6	1.2	0.1	-	-

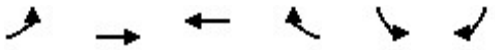
Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	202	11	160	196	2
Future Vol, veh/h	4	202	11	160	196	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	56	56	88	88	83	83
Heavy Vehicles, %	25	1	30	2	2	0
Mvmt Flow	7	361	13	182	236	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	445	237	238	0	-	0
Stage 1	237	-	-	-	-	-
Stage 2	208	-	-	-	-	-
Critical Hdwy	6.65	6.21	4.4	-	-	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.309	2.47	-	-	-
Pot Cap-1 Maneuver	530	804	1181	-	-	-
Stage 1	751	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	524	804	1181	-	-	-
Mov Cap-2 Maneuver	524	-	-	-	-	-
Stage 1	742	-	-	-	-	-
Stage 2	775	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.3	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1181	-	796	-	-
HCM Lane V/C Ratio	0.011	-	0.462	-	-
HCM Control Delay (s)	8.1	0	13.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	2.5	-	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	25	0	18
Future Volume (Veh/h)	0	0	0	25	0	18
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	29	0	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	29	0	21	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	29	0	21	0	0	
tC, single (s)	7.1	6.5	6.5	6.3	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.4	2.2	
p0 queue free %	100	100	100	97	100	
cM capacity (veh/h)	958	900	877	1054	1636	

Direction, Lane #	WB 1	SB 1
Volume Total	29	21
Volume Left	0	0
Volume Right	29	21
cSH	1054	1700
Volume to Capacity	0.03	0.01
Queue Length 95th (ft)	2	0
Control Delay (s)	8.5	0.0
Lane LOS	A	
Approach Delay (s)	8.5	0.0
Approach LOS	A	

Intersection Summary				
Average Delay	4.9			
Intersection Capacity Utilization	6.7%	ICU Level of Service		A
Analysis Period (min)	15			

APPENDIX L

2028 No-Build Capacity/Level-of-Service Analysis

Intersection	
Int Delay, s/veh	16

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	88	103	0	0	620	77	322	0	205	0	0	0
Future Vol, veh/h	88	103	0	0	620	77	322	0	205	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	-	-	-	-	0	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	13	7	0	0	1	1	7	0	6	2	2	2
Mvmt Flow	96	112	0	0	674	84	350	0	223	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	758	0	-	-	-	0	1020	-	112
Stage 1	-	-	-	-	-	-	304	-	-
Stage 2	-	-	-	-	-	-	716	-	-
Critical Hdwy	4.23	-	-	-	-	-	4.6	-	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	5.47	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.47	-	-
Follow-up Hdwy	2.317	-	-	-	-	-	3.563	-	3.354
Pot Cap-1 Maneuver	806	-	0	0	-	-	436	0	930
Stage 1	-	-	0	0	-	-	737	0	-
Stage 2	-	-	0	0	-	-	475	0	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	806	-	-	-	-	-	381	0	930
Mov Cap-2 Maneuver	-	-	-	-	-	-	381	0	-
Stage 1	-	-	-	-	-	-	643	0	-
Stage 2	-	-	-	-	-	-	475	0	-

Approach	EB	WB	NB
HCM Control Delay, s	4.6	0	41.4
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	381	930	806	-	-	-
HCM Lane V/C Ratio	0.919	0.24	0.119	-	-	-
HCM Control Delay (s)	61.3	10.1	10.1	0	-	-
HCM Lane LOS	F	B	B	A	-	-
HCM 95th %tile Q(veh)	9.7	0.9	0.4	-	-	-

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	171	244	414	528	0	0	0	0	20	0	106
Future Vol, veh/h	0	171	244	414	528	0	0	0	0	20	0	106
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Stop
Storage Length	-	-	-	-	-	-	-	-	-	0	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	7	6	2	4	0	2	2	2	33	0	11
Mvmt Flow	0	186	265	450	574	0	0	0	0	22	0	115

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	451	0	0		1793	-	574
Stage 1	-	-	-	-	-	-		1474	-	-
Stage 2	-	-	-	-	-	-		319	-	-
Critical Hdwy	-	-	-	4.12	-	-		4.6	-	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-		5.73	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.73	-	-
Follow-up Hdwy	-	-	-	2.218	-	-		3.797	-	3.399
Pot Cap-1 Maneuver	0	-	-	1109	-	0		214	0	502
Stage 1	0	-	-	-	-	0		179	0	-
Stage 2	0	-	-	-	-	0		672	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	1109	-	-		86	0	502
Mov Cap-2 Maneuver	-	-	-	-	-	-		86	0	-
Stage 1	-	-	-	-	-	-		179	0	-
Stage 2	-	-	-	-	-	-		271	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	4.6	21.6
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1109	-	86	502
HCM Lane V/C Ratio	-	-	0.406	-	0.253	0.23
HCM Control Delay (s)	-	-	10.4	0	60.5	14.3
HCM Lane LOS	-	-	B	A	F	B
HCM 95th %tile Q(veh)	-	-	2	-	0.9	0.9

Intersection	
Intersection Delay, s/veh	67.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	162	30	50	442	142	32	49	82	171	29	33
Future Vol, veh/h	4	162	30	50	442	142	32	49	82	171	29	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	25	12	4	13	4	6	4	5	3	2	15	3
Mvmt Flow	4	176	33	54	480	154	35	53	89	186	32	36
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	14.4	116.5	14.2	17.3
HCM LOS	B	F	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	20%	2%	0%	8%	73%
Vol Thru, %	30%	98%	0%	70%	12%
Vol Right, %	50%	0%	100%	22%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	163	166	30	634	233
LT Vol	32	4	0	50	171
Through Vol	49	162	0	442	29
RT Vol	82	0	30	142	33
Lane Flow Rate	177	180	33	689	253
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.34	0.374	0.059	1.171	0.489
Departure Headway (Hd)	7.431	7.847	6.886	6.119	7.432
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	487	462	523	593	489
Service Time	5.431	5.547	4.586	4.182	5.432
HCM Lane V/C Ratio	0.363	0.39	0.063	1.162	0.517
HCM Control Delay	14.2	15.2	10	116.5	17.3
HCM Lane LOS	B	C	A	F	C
HCM 95th-tile Q	1.5	1.7	0.2	23.4	2.6

Intersection	
Int Delay, s/veh	11.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	396	0	113	0	10	136	61	18	0
Future Vol, veh/h	0	0	0	396	0	113	0	10	136	61	18	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Free	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	4	2	22	19	0	6	2
Mvmt Flow	0	0	0	430	0	123	0	11	148	66	20	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	1	0	0	-	861	-	867	861	-
Stage 1	-	-	-	-	-	-	-	1	-	860	860	-
Stage 2	-	-	-	-	-	-	-	860	-	7	1	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	6.72	-	7.1	6.56	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.72	-	6.1	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.72	-	6.1	5.56	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	4.198	-	3.5	4.054	-
Pot Cap-1 Maneuver	-	-	-	1622	-	0	0	272	0	275	289	0
Stage 1	-	-	-	-	-	0	0	857	0	353	367	0
Stage 2	-	-	-	-	-	0	0	346	0	1020	887	0
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1622	-	-	-	200	-	210	212	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	200	-	210	212	-
Stage 1	-	-	-	-	-	-	-	857	-	353	270	-
Stage 2	-	-	-	-	-	-	-	254	-	1007	887	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	8		30.6
HCM LOS			-	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	200	-	-	-	-	1622	-	210	212
HCM Lane V/C Ratio	0.027	-	-	-	-	0.265	-	0.362	0.046
HCM Control Delay (s)	23.5	-	0	-	-	8	0	31.6	22.8
HCM Lane LOS	C	-	A	-	-	A	A	D	C
HCM 95th %tile Q(veh)	0.1	-	-	-	-	1.1	-	1.6	0.1

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	75	0	80	0	0	336	0	26	99	2	0	124	488
Future Vol, veh/h	75	0	80	0	0	336	0	26	99	2	0	124	488
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	-	None
Storage Length	0	-	50	-	-	0	-	-	0	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	16	0	4	0	0	2	0	61	6	0	0	6	3
Mvmt Flow	82	0	87	0	0	365	0	28	108	2	0	135	530

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	432	-	333	-	-	28	-	0	-	-	28	0	0
Stage 1	404	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	28	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	-	6.96	-	-	6.23	-	-	-	-	4.1	-	-
Critical Hdwy Stg 1	6.74	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.34	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.652	-	3.338	-	-	3.319	-	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	493	0	658	0	0	1047	0	-	0	-	1599	-	-
Stage 1	564	0	-	0	0	-	0	-	0	-	-	-	-
Stage 2	952	0	-	0	0	-	0	-	0	-	-	-	-
Platoon blocked, %								-				-	-
Mov Cap-1 Maneuver	321	-	658	-	-	1047	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	321	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	564	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	620	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.5	10.3	0	
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	321	658	1047	-	-	-
HCM Lane V/C Ratio	-	0.254	0.132	0.349	-	-	-
HCM Control Delay (s)	-	20	11.3	10.3	-	-	-
HCM Lane LOS	-	C	B	B	-	-	-
HCM 95th %tile Q(veh)	-	1	0.5	1.6	-	-	-

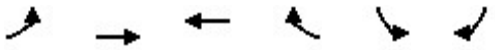
Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	95	327	126	119	9
Future Vol, veh/h	4	95	327	126	119	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	6	1	4	9	25
Mvmt Flow	4	103	355	137	129	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	981	134	139	0	-	0
Stage 1	134	-	-	-	-	-
Stage 2	847	-	-	-	-	-
Critical Hdwy	6.4	6.26	4.11	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.354	2.209	-	-	-
Pot Cap-1 Maneuver	279	904	1451	-	-	-
Stage 1	897	-	-	-	-	-
Stage 2	424	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	205	904	1451	-	-	-
Mov Cap-2 Maneuver	205	-	-	-	-	-
Stage 1	659	-	-	-	-	-
Stage 2	424	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1451	-	795	-	-
HCM Lane V/C Ratio	0.245	-	0.135	-	-
HCM Control Delay (s)	8.3	0	10.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	1	-	0.5	-	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	40	0	102
Future Volume (Veh/h)	0	0	0	40	0	102
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.51	0.51	0.88	0.88
Hourly flow rate (vph)	0	0	0	78	0	116
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	78	0	116	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	78	0	116	0	0	
tC, single (s)	7.1	6.5	6.5	6.4	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.5	2.2	
p0 queue free %	100	100	100	92	100	
cM capacity (veh/h)	846	900	778	1024	1636	

Direction, Lane #	WB 1	SB 1
Volume Total	78	116
Volume Left	0	0
Volume Right	78	116
cSH	1024	1700
Volume to Capacity	0.08	0.07
Queue Length 95th (ft)	6	0
Control Delay (s)	8.8	0.0
Lane LOS	A	
Approach Delay (s)	8.8	0.0
Approach LOS	A	

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	9.6%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	28

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	101	264	0	0	509	58	251	0	377	0	0	0
Future Vol, veh/h	101	264	0	0	509	58	251	0	377	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	-	-	-	-	0	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	2	0	0	4	6	11	0	3	0	0	0
Mvmt Flow	110	287	0	0	553	63	273	0	410	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	616	0	-	-	-	0	1092	-	287
Stage 1	-	-	-	-	-	-	507	-	-
Stage 2	-	-	-	-	-	-	585	-	-
Critical Hdwy	4.11	-	-	-	-	-	5.9	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	5.51	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.51	-	-
Follow-up Hdwy	2.209	-	-	-	-	-	3.599	-	3.327
Pot Cap-1 Maneuver	969	-	0	0	-	-	275	0	750
Stage 1	-	-	0	0	-	-	587	0	-
Stage 2	-	-	0	0	-	-	540	0	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	969	-	-	-	-	-	~ 238	0	750
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 238	0	-
Stage 1	-	-	-	-	-	-	508	0	-
Stage 2	-	-	-	-	-	-	540	0	-

Approach	EB	WB	NB
HCM Control Delay, s	2.5	0	68.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	238	750	969	-	-	-
HCM Lane V/C Ratio	1.146	0.546	0.113	-	-	-
HCM Control Delay (s)	147.3	15.4	9.2	0	-	-
HCM Lane LOS	F	C	A	A	-	-
HCM 95th %tile Q(veh)	12.5	3.4	0.4	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	17.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	306	382	356	404	0	0	0	0	59	0	105
Future Vol, veh/h	0	306	382	356	404	0	0	0	0	59	0	105
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Stop
Storage Length	-	-	-	-	-	-	-	-	-	0	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	6	4	8	0	2	2	2	2	0	8
Mvmt Flow	0	333	415	387	439	0	0	0	0	64	0	114

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	748	0	0		1754	-	439
Stage 1	-	-	-	-	-	-		1213	-	-
Stage 2	-	-	-	-	-	-		541	-	-
Critical Hdwy	-	-	-	4.14	-	-		5.9	-	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-		5.42	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.42	-	-
Follow-up Hdwy	-	-	-	2.236	-	-		3.518	-	3.372
Pot Cap-1 Maneuver	0	-	-	852	-	0		121	0	605
Stage 1	0	-	-	-	-	0		281	0	-
Stage 2	0	-	-	-	-	0		583	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	852	-	-		~ 48	0	605
Mov Cap-2 Maneuver	-	-	-	-	-	-		~ 48	0	-
Stage 1	-	-	-	-	-	-		281	0	-
Stage 2	-	-	-	-	-	-		233	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.9	144.9
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	852	-	48	605
HCM Lane V/C Ratio	-	-	0.454	-	1.336	0.189
HCM Control Delay (s)	-	-	12.7	0	$ 381	12.3
HCM Lane LOS	-	-	B	A	F	B
HCM 95th %tile Q(veh)	-	-	2.4	-	6	0.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	65.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	377	59	161	143	205	18	55	115	196	73	5
Future Vol, veh/h	15	377	59	161	143	205	18	55	115	196	73	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	8	4	2	5	16	4	6	10	5	4	2	40
Mvmt Flow	16	410	64	175	155	223	20	60	125	213	79	5
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	52.8	113.9	19.7	28.9
HCM LOS	F	F	C	D

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	10%	4%	0%	32%	72%
Vol Thru, %	29%	96%	0%	28%	27%
Vol Right, %	61%	0%	100%	40%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	188	392	59	509	274
LT Vol	18	15	0	161	196
Through Vol	55	377	0	143	73
RT Vol	115	0	59	205	5
Lane Flow Rate	204	426	64	553	298
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.475	0.942	0.128	1.146	0.685
Departure Headway (Hd)	8.918	8.378	7.563	7.454	8.795
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	407	435	477	487	414
Service Time	6.918	6.078	5.263	5.54	6.795
HCM Lane V/C Ratio	0.501	0.979	0.134	1.136	0.72
HCM Control Delay	19.7	59	11.4	113.9	28.9
HCM Lane LOS	C	F	B	F	D
HCM 95th-tile Q	2.5	10.9	0.4	19.3	5

Intersection	
Int Delay, s/veh	9.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	82	0	36	0	12	262	136	16	0
Future Vol, veh/h	0	0	0	82	0	36	0	12	262	136	16	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Free	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	23	2	22	2	50	6	6	50	2
Mvmt Flow	0	0	0	89	0	39	0	13	285	148	17	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	1	0	0	-	179	-	186	179	-
Stage 1	-	-	-	-	-	-	-	1	-	178	178	-
Stage 2	-	-	-	-	-	-	-	178	-	8	1	-
Critical Hdwy	4.12	-	-	4.33	-	-	-	7	-	7.16	7	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6	-	6.16	6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6	-	6.16	6	-
Follow-up Hdwy	2.218	-	-	2.407	-	-	-	4.45	-	3.554	4.45	-
Pot Cap-1 Maneuver	-	-	-	1494	-	0	0	637	0	766	637	0
Stage 1	-	-	-	-	-	0	0	808	0	815	670	0
Stage 2	-	-	-	-	-	0	0	670	0	1003	808	0
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1494	-	-	-	599	-	719	599	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	599	-	719	599	-
Stage 1	-	-	-	-	-	-	-	808	-	815	630	-
Stage 2	-	-	-	-	-	-	-	630	-	987	808	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	7.6		11.5
HCM LOS			-	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	599	-	-	-	-	1494	-	711	599
HCM Lane V/C Ratio	0.011	-	-	-	-	0.06	-	0.22	0.015
HCM Control Delay (s)	11.1	-	0	-	-	7.6	0	11.5	11.1
HCM Lane LOS	B	-	A	-	-	A	A	B	B
HCM 95th %tile Q(veh)	0	-	-	-	-	0.2	-	0.8	0

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	191	0	237	0	0	75	0	28	304	1	51	129
Future Vol, veh/h	191	0	237	0	0	75	0	28	304	1	51	129
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	None
Storage Length	0	-	50	-	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	6	0	2	0	0	18	0	24	1	0	28	17
Mvmt Flow	208	0	258	0	0	82	0	30	330	1	55	140

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	157	-	98	-	-	30	-	0	-	30	0	0
Stage 1	127	-	-	-	-	-	-	-	-	-	-	-
Stage 2	30	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.39	-	6.93	-	-	6.47	-	-	-	4.1	-	-
Critical Hdwy Stg 1	6.59	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.19	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.557	-	3.319	-	-	3.471	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	792	0	939	0	0	997	0	-	0	1596	-	-
Stage 1	854	0	-	0	0	-	0	-	0	-	-	-
Stage 2	976	0	-	0	0	-	0	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	727	-	939	-	-	997	-	-	-	1596	-	-
Mov Cap-2 Maneuver	727	-	-	-	-	-	-	-	-	-	-	-
Stage 1	854	-	-	-	-	-	-	-	-	-	-	-
Stage 2	896	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	8.9	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	727	939	997	1596	-	-
HCM Lane V/C Ratio	-	0.286	0.274	0.082	0.001	-	-
HCM Control Delay (s)	-	11.9	10.3	8.9	7.3	-	-
HCM Lane LOS	-	B	B	A	A	-	-
HCM 95th %tile Q(veh)	-	1.2	1.1	0.3	0	-	-

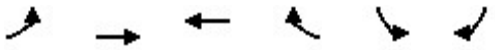
Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	293	73	155	243	2
Future Vol, veh/h	12	293	73	155	243	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	20	7	4	0
Mvmt Flow	13	318	79	168	264	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	591	265	266	0	-	0
Stage 1	265	-	-	-	-	-
Stage 2	326	-	-	-	-	-
Critical Hdwy	6.4	6.22	4.3	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	2.38	-	-	-
Pot Cap-1 Maneuver	473	774	1201	-	-	-
Stage 1	784	-	-	-	-	-
Stage 2	736	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	438	774	1201	-	-	-
Mov Cap-2 Maneuver	438	-	-	-	-	-
Stage 1	727	-	-	-	-	-
Stage 2	736	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.5	2.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1201	-	751	-	-
HCM Lane V/C Ratio	0.066	-	0.441	-	-
HCM Control Delay (s)	8.2	0	13.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	2.3	-	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	57	0	28
Future Volume (Veh/h)	0	0	0	57	0	28
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	62	0	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	62	0	30	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	62	0	30	0	0	
tC, single (s)	7.1	6.5	6.5	6.3	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.4	2.2	
p0 queue free %	100	100	100	94	100	
cM capacity (veh/h)	884	900	867	1070	1636	

Direction, Lane #	WB 1	SB 1
Volume Total	62	30
Volume Left	0	0
Volume Right	62	30
cSH	1070	1700
Volume to Capacity	0.06	0.02
Queue Length 95th (ft)	5	0
Control Delay (s)	8.6	0.0
Lane LOS	A	
Approach Delay (s)	8.6	0.0
Approach LOS	A	

Intersection Summary				
Average Delay	5.8			
Intersection Capacity Utilization	6.9%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	13.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	111	266	0	0	465	47	196	0	424	0	0	0
Future Vol, veh/h	111	266	0	0	465	47	196	0	424	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	-	-	-	-	0	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	0	0	0	3	0	7	0	3	0	0	0
Mvmt Flow	121	289	0	0	505	51	213	0	461	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	556	0	-	-	-	0	1062	-	289
Stage 1	-	-	-	-	-	-	531	-	-
Stage 2	-	-	-	-	-	-	531	-	-
Critical Hdwy	4.13	-	-	-	-	-	5.7	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	5.47	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.47	-	-
Follow-up Hdwy	2.227	-	-	-	-	-	3.563	-	3.327
Pot Cap-1 Maneuver	1010	-	0	0	-	-	304	0	748
Stage 1	-	-	0	0	-	-	580	0	-
Stage 2	-	-	0	0	-	-	580	0	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1010	-	-	-	-	-	261	0	748
Mov Cap-2 Maneuver	-	-	-	-	-	-	261	0	-
Stage 1	-	-	-	-	-	-	497	0	-
Stage 2	-	-	-	-	-	-	580	0	-

Approach	EB	WB	NB
HCM Control Delay, s	2.7	0	30.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	261	748	1010	-	-	-
HCM Lane V/C Ratio	0.816	0.616	0.119	-	-	-
HCM Control Delay (s)	59.8	17.2	9	0	-	-
HCM Lane LOS	F	C	A	A	-	-
HCM 95th %tile Q(veh)	6.4	4.3	0.4	-	-	-

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	322	332	329	332	0	0	0	0	55	0	104
Future Vol, veh/h	0	322	332	329	332	0	0	0	0	55	0	104
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Stop
Storage Length	-	-	-	-	-	-	-	-	-	0	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	6	3	5	0	2	2	2	2	0	11
Mvmt Flow	0	350	361	358	361	0	0	0	0	60	0	113

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	711	0	0			1608	-	361
Stage 1	-	-	-	-	-	-			1077	-	-
Stage 2	-	-	-	-	-	-			531	-	-
Critical Hdwy	-	-	-	4.13	-	-			5.7	-	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	-	-
Follow-up Hdwy	-	-	-	2.227	-	-			3.518	-	3.399
Pot Cap-1 Maneuver	0	-	-	884	-	0			159	0	664
Stage 1	0	-	-	-	-	0			327	0	-
Stage 2	0	-	-	-	-	0			590	0	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	884	-	-			78	0	664
Mov Cap-2 Maneuver	-	-	-	-	-	-			78	0	-
Stage 1	-	-	-	-	-	-			327	0	-
Stage 2	-	-	-	-	-	-			291	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.9	54.3
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	884	-	78	664
HCM Lane V/C Ratio	-	-	0.405	-	0.766	0.17
HCM Control Delay (s)	-	-	11.8	0	135.3	11.5
HCM Lane LOS	-	-	B	A	F	B
HCM 95th %tile Q(veh)	-	-	2	-	3.7	0.6

Intersection	
Intersection Delay, s/veh	38.4
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	334	38	148	96	192	12	58	117	203	59	3
Future Vol, veh/h	22	334	38	148	96	192	12	58	117	203	59	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	4	3	2	19	3	20	6	0	4	0	67
Mvmt Flow	24	363	41	161	104	209	13	63	127	221	64	3
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	37.6	55.5	18.7	25.4
HCM LOS	E	F	C	D

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	6%	6%	0%	34%	77%
Vol Thru, %	31%	94%	0%	22%	22%
Vol Right, %	63%	0%	100%	44%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	187	356	38	436	265
LT Vol	12	22	0	148	203
Through Vol	58	334	0	96	59
RT Vol	117	0	38	192	3
Lane Flow Rate	203	387	41	474	288
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.471	0.844	0.082	0.949	0.653
Departure Headway (Hd)	8.344	7.856	7.172	7.209	8.162
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	431	464	501	507	441
Service Time	6.425	5.578	4.894	5.228	6.231
HCM Lane V/C Ratio	0.471	0.834	0.082	0.935	0.653
HCM Control Delay	18.7	40.5	10.5	55.5	25.4
HCM Lane LOS	C	E	B	F	D
HCM 95th-tile Q	2.5	8.4	0.3	11.8	4.6

Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	68	0	19	0	6	247	68	10	0
Future Vol, veh/h	0	0	0	68	0	19	0	6	247	68	10	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Free	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	25	2	53	2	33	5	8	22	2
Mvmt Flow	0	0	0	74	0	21	0	7	268	74	11	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	1	0	0	-	149	-	153	149	-
Stage 1	-	-	-	-	-	-	-	1	-	148	148	-
Stage 2	-	-	-	-	-	-	-	148	-	5	1	-
Critical Hdwy	4.12	-	-	4.35	-	-	-	6.83	-	7.18	6.72	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.83	-	6.18	5.72	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.83	-	6.18	5.72	-
Follow-up Hdwy	2.218	-	-	2.425	-	-	-	4.297	-	3.572	4.198	-
Pot Cap-1 Maneuver	-	-	-	1483	-	0	0	689	0	801	707	0
Stage 1	-	-	-	-	-	0	0	837	0	841	738	0
Stage 2	-	-	-	-	-	0	0	719	0	1002	857	0
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1483	-	-	-	655	-	765	672	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	655	-	765	672	-
Stage 1	-	-	-	-	-	-	-	837	-	841	701	-
Stage 2	-	-	-	-	-	-	-	683	-	994	857	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	7.6		10.3
HCM LOS			-	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	655	-	-	-	-	1483	-	758	672
HCM Lane V/C Ratio	0.005	-	-	-	-	0.05	-	0.105	0.008
HCM Control Delay (s)	10.5	-	0	-	-	7.6	0	10.3	10.4
HCM Lane LOS	B	-	A	-	-	A	A	B	B
HCM 95th %tile Q(veh)	0	-	-	-	-	0.2	-	0.3	0

Intersection	
Int Delay, s/veh	7.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	188	0	187	0	0	14	0	16	220	0	34	63
Future Vol, veh/h	188	0	187	0	0	14	0	16	220	0	34	63
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	None
Storage Length	0	-	50	-	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	7	2	1	0	0	25	0	7	2	0	23	21
Mvmt Flow	204	0	203	0	0	15	0	17	239	0	37	68

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	88	-	53	-	-	17	-	0	-	-	-	0
Stage 1	71	-	-	-	-	-	-	-	-	-	-	-
Stage 2	17	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.405	-	6.915	-	-	6.575	-	-	-	-	-	-
Critical Hdwy Stg 1	6.605	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.205	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5665	-	3.3095	-	-	3.5375	-	-	-	-	-	-
Pot Cap-1 Maneuver	880	0	1007	0	0	995	0	-	0	0	-	-
Stage 1	918	0	-	0	0	-	0	-	0	0	-	-
Stage 2	989	0	-	0	0	-	0	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	867	-	1007	-	-	995	-	-	-	-	-	-
Mov Cap-2 Maneuver	867	-	-	-	-	-	-	-	-	-	-	-
Stage 1	918	-	-	-	-	-	-	-	-	-	-	-
Stage 2	974	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	8.7	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	WBLn1	SBT	SBR
Capacity (veh/h)	-	867	1007	995	-	-
HCM Lane V/C Ratio	-	0.236	0.202	0.015	-	-
HCM Control Delay (s)	-	10.4	9.5	8.7	-	-
HCM Lane LOS	-	B	A	A	-	-
HCM 95th %tile Q(veh)	-	0.9	0.8	0	-	-

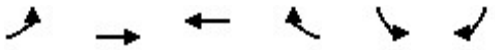
Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	216	12	171	209	2
Future Vol, veh/h	4	216	12	171	209	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	25	1	30	2	2	0
Mvmt Flow	4	235	13	186	227	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	440	228	229	0	-	0
Stage 1	228	-	-	-	-	-
Stage 2	212	-	-	-	-	-
Critical Hdwy	6.65	6.21	4.4	-	-	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.309	2.47	-	-	-
Pot Cap-1 Maneuver	534	814	1190	-	-	-
Stage 1	759	-	-	-	-	-
Stage 2	772	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	528	814	1190	-	-	-
Mov Cap-2 Maneuver	528	-	-	-	-	-
Stage 1	750	-	-	-	-	-
Stage 2	772	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1190	-	806	-	-
HCM Lane V/C Ratio	0.011	-	0.297	-	-
HCM Control Delay (s)	8.1	0	11.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	1.2	-	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	25	0	18
Future Volume (Veh/h)	0	0	0	25	0	18
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	27	0	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	27	0	20	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	27	0	20	0	0	
tC, single (s)	7.1	6.5	6.5	6.3	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.4	2.2	
p0 queue free %	100	100	100	97	100	
cM capacity (veh/h)	963	900	878	1054	1636	

Direction, Lane #	WB 1	SB 1
Volume Total	27	20
Volume Left	0	0
Volume Right	27	20
cSH	1054	1700
Volume to Capacity	0.03	0.01
Queue Length 95th (ft)	2	0
Control Delay (s)	8.5	0.0
Lane LOS	A	
Approach Delay (s)	8.5	0.0
Approach LOS	A	

Intersection Summary				
Average Delay	4.9			
Intersection Capacity Utilization	6.7%	ICU Level of Service	A	
Analysis Period (min)	15			

APPENDIX M

2028 Build Capacity/Level-of-Service Analysis

Intersection	
Int Delay, s/veh	22.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	108	103	0	0	620	77	331	0	205	0	0	0
Future Vol, veh/h	108	103	0	0	620	77	331	0	205	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	-	-	-	-	0	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	19	6	0	0	1	1	9	0	6	2	2	2
Mvmt Flow	117	112	0	0	674	84	360	0	223	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	758	0	-	-	-	0	1062	-	112
Stage 1	-	-	-	-	-	-	346	-	-
Stage 2	-	-	-	-	-	-	716	-	-
Critical Hdwy	4.29	-	-	-	-	-	4.6	-	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	5.49	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.49	-	-
Follow-up Hdwy	2.371	-	-	-	-	-	3.581	-	3.354
Pot Cap-1 Maneuver	782	-	0	0	-	-	419	0	930
Stage 1	-	-	0	0	-	-	701	0	-
Stage 2	-	-	0	0	-	-	472	0	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	782	-	-	-	-	-	~ 352	0	930
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 352	0	-
Stage 1	-	-	-	-	-	-	589	0	-
Stage 2	-	-	-	-	-	-	472	0	-

Approach	EB	WB	NB
HCM Control Delay, s	5.3	0	58.8
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	352	930	782	-	-	-
HCM Lane V/C Ratio	1.022	0.24	0.15	-	-	-
HCM Control Delay (s)	89	10.1	10.4	0	-	-
HCM Lane LOS	F	B	B	A	-	-
HCM 95th %tile Q(veh)	12.1	0.9	0.5	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	191	263	414	537	0	0	0	0	20	0	114
Future Vol, veh/h	0	191	263	414	537	0	0	0	0	20	0	114
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Stop
Storage Length	-	-	-	-	-	-	-	-	-	0	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	11	9	2	5	0	2	2	2	32	0	17
Mvmt Flow	0	208	286	450	584	0	0	0	0	22	0	124

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	494	0	0		1835	-	584
Stage 1	-	-	-	-	-	-		1484	-	-
Stage 2	-	-	-	-	-	-		351	-	-
Critical Hdwy	-	-	-	4.12	-	-		4.6	-	6.37
Critical Hdwy Stg 1	-	-	-	-	-	-		5.72	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.72	-	-
Follow-up Hdwy	-	-	-	2.218	-	-		3.788	-	3.453
Pot Cap-1 Maneuver	0	-	-	1070	-	0		206	0	485
Stage 1	0	-	-	-	-	0		178	0	-
Stage 2	0	-	-	-	-	0		651	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	1070	-	-		78	0	485
Mov Cap-2 Maneuver	-	-	-	-	-	-		78	0	-
Stage 1	-	-	-	-	-	-		178	0	-
Stage 2	-	-	-	-	-	-		246	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	4.7	22.9
HCM LOS			C

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1070	-	78	485
HCM Lane V/C Ratio	-	-	0.421	-	0.279	0.255
HCM Control Delay (s)	-	-	10.8	0	68.1	15
HCM Lane LOS	-	-	B	A	F	C
HCM 95th %tile Q(veh)	-	-	2.1	-	1	1

Intersection	
Intersection Delay, s/veh	80.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	201	30	50	459	142	32	49	82	171	29	33
Future Vol, veh/h	4	201	30	50	459	142	32	49	82	171	29	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	25	18	3	13	8	6	3	4	3	2	14	3
Mvmt Flow	4	218	33	54	499	154	35	53	89	186	32	36
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	16.5	141.7	14.8	18.2
HCM LOS	C	F	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	20%	2%	0%	8%	73%
Vol Thru, %	30%	98%	0%	71%	12%
Vol Right, %	50%	0%	100%	22%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	163	205	30	651	233
LT Vol	32	4	0	50	171
Through Vol	49	201	0	459	29
RT Vol	82	0	30	142	33
Lane Flow Rate	177	223	33	708	253
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.348	0.465	0.061	1.235	0.499
Departure Headway (Hd)	7.735	7.968	7.114	6.281	7.721
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	468	455	506	580	471
Service Time	5.735	5.668	4.814	4.341	5.721
HCM Lane V/C Ratio	0.378	0.49	0.065	1.221	0.537
HCM Control Delay	14.8	17.4	10.3	141.7	18.2
HCM Lane LOS	B	C	B	F	C
HCM 95th-tile Q	1.5	2.4	0.2	26.6	2.7

Intersection	
Int Delay, s/veh	11.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	413	0	113	0	10	175	61	18	0
Future Vol, veh/h	0	0	0	413	0	113	0	10	175	61	18	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Free	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	6	4	2	20	25	0	6	2
Mvmt Flow	0	0	0	449	0	123	0	11	190	66	20	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	1	0	0	-	899	-	905	899	-
Stage 1	-	-	-	-	-	-	-	1	-	898	898	-
Stage 2	-	-	-	-	-	-	-	898	-	7	1	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	6.7	-	7.1	6.56	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.7	-	6.1	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.7	-	6.1	5.56	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	4.18	-	3.5	4.054	-
Pot Cap-1 Maneuver	-	-	-	1622	-	0	0	260	0	260	274	0
Stage 1	-	-	-	-	-	0	0	860	0	337	353	0
Stage 2	-	-	-	-	-	0	0	335	0	1020	887	0
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1622	-	-	-	188	-	196	198	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	188	-	196	198	-
Stage 1	-	-	-	-	-	-	-	860	-	337	255	-
Stage 2	-	-	-	-	-	-	-	242	-	1007	887	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	8.1		33.4
HCM LOS			-	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	188	-	-	-	-	1622	-	196	198
HCM Lane V/C Ratio	0.029	-	-	-	-	0.277	-	0.388	0.049
HCM Control Delay (s)	24.7	-	0	-	-	8.1	0	34.6	24.1
HCM Lane LOS	C	-	A	-	-	A	A	D	C
HCM 95th %tile Q(veh)	0.1	-	-	-	-	1.1	-	1.7	0.2

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	75	0	80	0	0	336	0	65	102	2	0	141	488
Future Vol, veh/h	75	0	80	0	0	336	0	65	102	2	0	141	488
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	-	None
Storage Length	0	-	50	-	-	0	-	-	0	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	17	0	4	0	0	2	0	50	5	0	0	19	3
Mvmt Flow	82	0	87	0	0	365	0	71	111	2	0	153	530

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	493	-	342	-	-	71	-	0	-	-	71	0	0
Stage 1	422	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	71	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.555	-	6.96	-	-	6.23	-	-	-	-	4.1	-	-
Critical Hdwy Stg 1	6.755	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.355	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.6615	-	3.338	-	-	3.319	-	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	444	0	650	0	0	991	0	-	0	-	1542	-	-
Stage 1	548	0	-	0	0	-	0	-	0	-	-	-	-
Stage 2	899	0	-	0	0	-	0	-	0	-	-	-	-
Platoon blocked, %								-				-	-
Mov Cap-1 Maneuver	280	-	650	-	-	991	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	280	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	548	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	568	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.1	10.7	0	
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	280	650	991	-	-	-
HCM Lane V/C Ratio	-	0.291	0.134	0.369	-	-	-
HCM Control Delay (s)	-	23.1	11.4	10.7	-	-	-
HCM Lane LOS	-	C	B	B	-	-	-
HCM 95th %tile Q(veh)	-	1.2	0.5	1.7	-	-	-

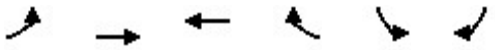
Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	98	327	126	119	9
Future Vol, veh/h	4	98	327	126	119	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	5	1	4	10	22
Mvmt Flow	4	107	355	137	129	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	981	134	139	0	-	0
Stage 1	134	-	-	-	-	-
Stage 2	847	-	-	-	-	-
Critical Hdwy	6.4	6.25	4.11	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.345	2.209	-	-	-
Pot Cap-1 Maneuver	279	907	1451	-	-	-
Stage 1	897	-	-	-	-	-
Stage 2	424	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	205	907	1451	-	-	-
Mov Cap-2 Maneuver	205	-	-	-	-	-
Stage 1	659	-	-	-	-	-
Stage 2	424	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1451	-	800	-	-
HCM Lane V/C Ratio	0.245	-	0.139	-	-
HCM Control Delay (s)	8.3	0	10.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	1	-	0.5	-	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	82	0	119
Future Volume (Veh/h)	0	0	0	82	0	119
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.51	0.51	0.88	0.88
Hourly flow rate (vph)	0	0	0	161	0	135
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	161	0	135	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	161	0	135	0	0	
tC, single (s)	7.1	6.5	6.5	6.5	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.6	2.2	
p0 queue free %	100	100	100	84	100	
cM capacity (veh/h)	679	900	760	1001	1636	

Direction, Lane #	WB 1	SB 1
Volume Total	161	135
Volume Left	0	0
Volume Right	161	135
cSH	1001	1700
Volume to Capacity	0.16	0.08
Queue Length 95th (ft)	14	0
Control Delay (s)	9.3	0.0
Lane LOS	A	
Approach Delay (s)	9.3	0.0
Approach LOS	A	

Intersection Summary				
Average Delay	5.1			
Intersection Capacity Utilization	10.7%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	39.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	121	264	0	0	509	58	260	0	377	0	0	0
Future Vol, veh/h	121	264	0	0	509	58	260	0	377	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	-	-	-	-	0	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	9	2	0	0	4	5	14	0	3	0	0	0
Mvmt Flow	132	287	0	0	553	63	283	0	410	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	616	0	-	-	-	0	1136	-	287
Stage 1	-	-	-	-	-	-	551	-	-
Stage 2	-	-	-	-	-	-	585	-	-
Critical Hdwy	4.19	-	-	-	-	-	5.9	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	5.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.54	-	-
Follow-up Hdwy	2.281	-	-	-	-	-	3.626	-	3.327
Pot Cap-1 Maneuver	931	-	0	0	-	-	~ 259	0	750
Stage 1	-	-	0	0	-	-	554	0	-
Stage 2	-	-	0	0	-	-	534	0	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	931	-	-	-	-	-	~ 215	0	750
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 215	0	-
Stage 1	-	-	-	-	-	-	460	0	-
Stage 2	-	-	-	-	-	-	534	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3	0	96.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	215	750	931	-	-	-
HCM Lane V/C Ratio	1.314	0.546	0.141	-	-	-
HCM Control Delay (s)	214.6	15.4	9.5	0	-	-
HCM Lane LOS	F	C	A	A	-	-
HCM 95th %tile Q(veh)	15.4	3.4	0.5	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	20

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	326	401	356	413	0	0	0	0	59	0	113
Future Vol, veh/h	0	326	401	356	413	0	0	0	0	59	0	113
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Stop
Storage Length	-	-	-	-	-	-	-	-	-	0	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	4	8	4	10	0	2	2	2	2	0	15
Mvmt Flow	0	354	436	387	449	0	0	0	0	64	0	123

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	0	790	0	0		1795	-	449
Stage 1	-	-	-	-	-	-		1223	-	-
Stage 2	-	-	-	-	-	-		572	-	-
Critical Hdwy	-	-	-	4.14	-	-		5.9	-	6.35
Critical Hdwy Stg 1	-	-	-	-	-	-		5.42	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.42	-	-
Follow-up Hdwy	-	-	-	2.236	-	-		3.518	-	3.435
Pot Cap-1 Maneuver	0	-	-	821	-	0		115	0	584
Stage 1	0	-	-	-	-	0		278	0	-
Stage 2	0	-	-	-	-	0		565	0	-
Platoon blocked, %		-	-		-					
Mov Cap-1 Maneuver	-	-	-	821	-	-		~ 43	0	584
Mov Cap-2 Maneuver	-	-	-	-	-	-		~ 43	0	-
Stage 1	-	-	-	-	-	-		278	0	-
Stage 2	-	-	-	-	-	-		210	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	6.1	166.5
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	821	-	43	584
HCM Lane V/C Ratio	-	-	0.471	-	1.491	0.21
HCM Control Delay (s)	-	-	13.2	0$	460.8	12.8
HCM Lane LOS	-	-	B	A	F	B
HCM 95th %tile Q(veh)	-	-	2.6	-	6.4	0.8

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	78.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	416	59	161	160	205	18	55	115	196	73	5
Future Vol, veh/h	15	416	59	161	160	205	18	55	115	196	73	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	7	8	2	5	25	5	6	9	5	4	1	40
Mvmt Flow	16	452	64	175	174	223	20	60	125	213	79	5
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	74.1	128.5	20.5	30.3
HCM LOS	F	F	C	D

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	10%	3%	0%	31%	72%
Vol Thru, %	29%	97%	0%	30%	27%
Vol Right, %	61%	0%	100%	39%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	188	431	59	526	274
LT Vol	18	15	0	161	196
Through Vol	55	416	0	160	73
RT Vol	115	0	59	205	5
Lane Flow Rate	204	468	64	572	298
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.483	1.036	0.129	1.184	0.696
Departure Headway (Hd)	9.218	8.463	7.737	7.731	9.05
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	394	431	466	475	402
Service Time	7.218	6.163	5.437	5.731	7.05
HCM Lane V/C Ratio	0.518	1.086	0.137	1.204	0.741
HCM Control Delay	20.5	82.6	11.6	128.5	30.3
HCM Lane LOS	C	F	B	F	D
HCM 95th-tile Q	2.5	13.8	0.4	20.7	5.1

Intersection	
Int Delay, s/veh	9.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	99	0	36	0	12	301	136	16	0
Future Vol, veh/h	0	0	0	99	0	36	0	12	301	136	16	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Free	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	37	2	21	2	55	11	6	53	2
Mvmt Flow	0	0	0	108	0	39	0	13	327	148	17	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	1	0	0	-	217	-	224	217	-
Stage 1	-	-	-	-	-	-	-	1	-	216	216	-
Stage 2	-	-	-	-	-	-	-	216	-	8	1	-
Critical Hdwy	4.12	-	-	4.47	-	-	-	7.05	-	7.16	7.03	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.05	-	6.16	6.03	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.05	-	6.16	6.03	-
Follow-up Hdwy	2.218	-	-	2.533	-	-	-	4.495	-	3.554	4.477	-
Pot Cap-1 Maneuver	-	-	-	1420	-	0	0	598	0	723	601	0
Stage 1	-	-	-	-	-	0	0	800	0	777	639	0
Stage 2	-	-	-	-	-	0	0	636	0	1003	803	0
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1420	-	-	-	553	-	669	555	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	553	-	669	555	-
Stage 1	-	-	-	-	-	-	-	800	-	777	590	-
Stage 2	-	-	-	-	-	-	-	588	-	987	803	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	7.7		12.1
HCM LOS			-	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	553	-	-	-	-	1420	-	661	555
HCM Lane V/C Ratio	0.012	-	-	-	-	0.076	-	0.237	0.016
HCM Control Delay (s)	11.6	-	0	-	-	7.7	0	12.1	11.6
HCM Lane LOS	B	-	A	-	-	A	A	B	B
HCM 95th %tile Q(veh)	0	-	-	-	-	0.2	-	0.9	0

Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	191	0	237	0	0	75	0	67	307	1	68	129
Future Vol, veh/h	191	0	237	0	0	75	0	67	307	1	68	129
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	None
Storage Length	0	-	50	-	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	7	0	2	0	0	18	0	35	1	0	47	17
Mvmt Flow	208	0	258	0	0	82	0	73	334	1	74	140

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	219	-	107	-	-	73	-	0	-	73	0	0
Stage 1	146	-	-	-	-	-	-	-	-	-	-	-
Stage 2	73	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.405	-	6.93	-	-	6.47	-	-	-	4.1	-	-
Critical Hdwy Stg 1	6.605	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.205	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5665	-	3.319	-	-	3.471	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	716	0	927	0	0	942	0	-	0	1540	-	-
Stage 1	829	0	-	0	0	-	0	-	0	-	-	-
Stage 2	923	0	-	0	0	-	0	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	654	-	927	-	-	942	-	-	-	1540	-	-
Mov Cap-2 Maneuver	654	-	-	-	-	-	-	-	-	-	-	-
Stage 1	829	-	-	-	-	-	-	-	-	-	-	-
Stage 2	843	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	9.2	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	654	927	942	1540	-	-
HCM Lane V/C Ratio	-	0.317	0.278	0.087	0.001	-	-
HCM Control Delay (s)	-	13	10.4	9.2	7.3	-	-
HCM Lane LOS	-	B	B	A	A	-	-
HCM 95th %tile Q(veh)	-	1.4	1.1	0.3	0	-	-

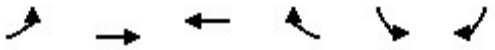
Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	296	73	155	243	2
Future Vol, veh/h	12	296	73	155	243	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	20	7	4	0
Mvmt Flow	13	322	79	168	264	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	591	265	266	0	-	0
Stage 1	265	-	-	-	-	-
Stage 2	326	-	-	-	-	-
Critical Hdwy	6.4	6.21	4.3	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	2.38	-	-	-
Pot Cap-1 Maneuver	473	776	1201	-	-	-
Stage 1	784	-	-	-	-	-
Stage 2	736	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	438	776	1201	-	-	-
Mov Cap-2 Maneuver	438	-	-	-	-	-
Stage 1	727	-	-	-	-	-
Stage 2	736	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.6	2.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1201	-	753	-	-
HCM Lane V/C Ratio	0.066	-	0.445	-	-
HCM Control Delay (s)	8.2	0	13.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	2.3	-	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	99	0	45
Future Volume (Veh/h)	0	0	0	99	0	45
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	108	0	49
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	108	0	49	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	108	0	49	0	0	
tC, single (s)	7.1	6.5	6.5	6.4	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.5	2.2	
p0 queue free %	100	100	100	90	100	
cM capacity (veh/h)	784	900	846	1029	1636	

Direction, Lane #	WB 1	SB 1
Volume Total	108	49
Volume Left	0	0
Volume Right	108	49
cSH	1029	1700
Volume to Capacity	0.10	0.03
Queue Length 95th (ft)	9	0
Control Delay (s)	8.9	0.0
Lane LOS	A	
Approach Delay (s)	8.9	0.0
Approach LOS	A	

Intersection Summary				
Average Delay	6.1			
Intersection Capacity Utilization	9.5%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	15.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	120	266	0	0	465	47	205	0	424	0	0	0
Future Vol, veh/h	120	266	0	0	465	47	205	0	424	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	-	-	-	-	0	-	75	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	0	0	0	3	0	12	0	3	0	0	0
Mvmt Flow	130	289	0	0	505	51	223	0	461	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	556	0	-	-	-	0	1080	-	289
Stage 1	-	-	-	-	-	-	549	-	-
Stage 2	-	-	-	-	-	-	531	-	-
Critical Hdwy	4.2	-	-	-	-	-	5.7	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	5.52	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.52	-	-
Follow-up Hdwy	2.29	-	-	-	-	-	3.608	-	3.327
Pot Cap-1 Maneuver	976	-	0	0	-	-	295	0	748
Stage 1	-	-	0	0	-	-	559	0	-
Stage 2	-	-	0	0	-	-	570	0	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	976	-	-	-	-	-	248	0	748
Mov Cap-2 Maneuver	-	-	-	-	-	-	248	0	-
Stage 1	-	-	-	-	-	-	470	0	-
Stage 2	-	-	-	-	-	-	570	0	-

Approach	EB	WB	NB
HCM Control Delay, s	2.9	0	36.6
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	248	748	976	-	-	-
HCM Lane V/C Ratio	0.898	0.616	0.134	-	-	-
HCM Control Delay (s)	76.6	17.2	9.3	0	-	-
HCM Lane LOS	F	C	A	A	-	-
HCM 95th %tile Q(veh)	7.7	4.3	0.5	-	-	-

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	331	340	329	341	0	0	0	0	55	0	112
Future Vol, veh/h	0	331	340	329	341	0	0	0	0	55	0	112
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Stop
Storage Length	-	-	-	-	-	-	-	-	-	0	-	75
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	4	9	4	7	0	2	2	2	2	0	18
Mvmt Flow	0	360	370	358	371	0	0	0	0	60	0	122

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	730	0	0			1632	-	371
Stage 1	-	-	-	-	-	-			1087	-	-
Stage 2	-	-	-	-	-	-			545	-	-
Critical Hdwy	-	-	-	4.14	-	-			5.7	-	6.38
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	-	-
Follow-up Hdwy	-	-	-	2.236	-	-			3.518	-	3.462
Pot Cap-1 Maneuver	0	-	-	865	-	0			155	0	641
Stage 1	0	-	-	-	-	0			323	0	-
Stage 2	0	-	-	-	-	0			581	0	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	865	-	-			74	0	641
Mov Cap-2 Maneuver	-	-	-	-	-	-			74	0	-
Stage 1	-	-	-	-	-	-			323	0	-
Stage 2	-	-	-	-	-	-			278	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.9	57.5
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	865	-	74	641
HCM Lane V/C Ratio	-	-	0.413	-	0.808	0.19
HCM Control Delay (s)	-	-	12.1	0	150.3	11.9
HCM Lane LOS	-	-	B	A	F	B
HCM 95th %tile Q(veh)	-	-	2	-	3.9	0.7

Intersection	
Intersection Delay, s/veh	45.1
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	351	38	148	113	192	12	58	117	203	59	3
Future Vol, veh/h	22	351	38	148	113	192	12	58	117	203	59	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	9	3	1	31	3	18	5	0	4	0	67
Mvmt Flow	24	382	41	161	123	209	13	63	127	221	64	3
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	43.6	68	19.3	26.5
HCM LOS	E	F	C	D

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	6%	6%	0%	33%	77%
Vol Thru, %	31%	94%	0%	25%	22%
Vol Right, %	63%	0%	100%	42%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	187	373	38	453	265
LT Vol	12	22	0	148	203
Through Vol	58	351	0	113	59
RT Vol	117	0	38	192	3
Lane Flow Rate	203	405	41	492	288
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.478	0.885	0.085	1.001	0.663
Departure Headway (Hd)	8.613	7.992	7.371	7.316	8.426
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	421	458	487	497	432
Service Time	6.613	5.692	5.096	5.322	6.426
HCM Lane V/C Ratio	0.482	0.884	0.084	0.99	0.667
HCM Control Delay	19.3	46.9	10.8	68	26.5
HCM Lane LOS	C	E	B	F	D
HCM 95th-tile Q	2.5	9.4	0.3	13.6	4.7

Intersection	
Int Delay, s/veh	8.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	85	0	19	0	6	264	68	10	0
Future Vol, veh/h	0	0	0	85	0	19	0	6	264	68	10	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	Free	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	40	2	56	2	33	12	8	20	2
Mvmt Flow	0	0	0	92	0	21	0	7	287	74	11	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	1	0	0	-	185	-	189	185	-
Stage 1	-	-	-	-	-	-	-	1	-	184	184	-
Stage 2	-	-	-	-	-	-	-	184	-	5	1	-
Critical Hdwy	4.12	-	-	4.5	-	-	-	6.83	-	7.18	6.7	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.83	-	6.18	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.83	-	6.18	5.7	-
Follow-up Hdwy	2.218	-	-	2.56	-	-	-	4.297	-	3.572	4.18	-
Pot Cap-1 Maneuver	-	-	-	1405	-	0	0	657	0	758	678	0
Stage 1	-	-	-	-	-	0	0	837	0	804	715	0
Stage 2	-	-	-	-	-	0	0	693	0	1002	860	0
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1405	-	-	-	614	-	715	634	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	614	-	715	634	-
Stage 1	-	-	-	-	-	-	-	837	-	804	669	-
Stage 2	-	-	-	-	-	-	-	648	-	994	860	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	7.7		10.7
HCM LOS			-	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	614	-	-	-	-	1405	-	709	634
HCM Lane V/C Ratio	0.005	-	-	-	-	0.066	-	0.112	0.009
HCM Control Delay (s)	10.9	-	0	-	-	7.7	0	10.7	10.7
HCM Lane LOS	B	-	A	-	-	A	A	B	B
HCM 95th %tile Q(veh)	0	-	-	-	-	0.2	-	0.4	0

Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	188	0	187	0	0	14	0	33	220	0	51	63
Future Vol, veh/h	188	0	187	0	0	14	0	33	220	0	51	63
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	Free	-	-	None
Storage Length	0	-	50	-	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	7	2	1	0	0	23	0	56	1	0	49	22
Mvmt Flow	204	0	203	0	0	15	0	36	239	0	55	68

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	125	-	62	-	-	36	-	0	-	-	-	0
Stage 1	89	-	-	-	-	-	-	-	-	-	-	-
Stage 2	36	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.405	-	6.915	-	-	6.545	-	-	-	-	-	-
Critical Hdwy Stg 1	6.605	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.205	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5665	-	3.3095	-	-	3.5185	-	-	-	-	-	-
Pot Cap-1 Maneuver	830	0	993	0	0	975	0	-	0	0	-	-
Stage 1	896	0	-	0	0	-	0	-	0	0	-	-
Stage 2	966	0	-	0	0	-	0	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	817	-	993	-	-	975	-	-	-	-	-	-
Mov Cap-2 Maneuver	817	-	-	-	-	-	-	-	-	-	-	-
Stage 1	896	-	-	-	-	-	-	-	-	-	-	-
Stage 2	951	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	8.8	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	WBLn1	SBT	SBR
Capacity (veh/h)	-	817	993	975	-	-
HCM Lane V/C Ratio	-	0.25	0.205	0.016	-	-
HCM Control Delay (s)	-	10.9	9.6	8.8	-	-
HCM Lane LOS	-	B	A	A	-	-
HCM 95th %tile Q(veh)	-	1	0.8	0	-	-

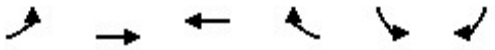
Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	216	12	171	209	2
Future Vol, veh/h	4	216	12	171	209	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	25	1	27	2	2	0
Mvmt Flow	4	235	13	186	227	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	440	228	229	0	-	0
Stage 1	228	-	-	-	-	-
Stage 2	212	-	-	-	-	-
Critical Hdwy	6.65	6.21	4.37	-	-	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.309	2.443	-	-	-
Pot Cap-1 Maneuver	534	814	1205	-	-	-
Stage 1	759	-	-	-	-	-
Stage 2	772	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	528	814	1205	-	-	-
Mov Cap-2 Maneuver	528	-	-	-	-	-
Stage 1	750	-	-	-	-	-
Stage 2	772	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1205	-	806	-	-
HCM Lane V/C Ratio	0.011	-	0.297	-	-
HCM Control Delay (s)	8	0	11.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	1.2	-	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	42	0	35
Future Volume (Veh/h)	0	0	0	42	0	35
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	46	0	38
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	46	0	38	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	46	0	38	0	0	
tC, single (s)	7.1	6.5	6.5	6.7	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.7	2.2	
p0 queue free %	100	100	100	95	100	
cM capacity (veh/h)	915	900	858	962	1636	

Direction, Lane #	WB 1	SB 1
Volume Total	46	38
Volume Left	0	0
Volume Right	46	38
cSH	962	1700
Volume to Capacity	0.05	0.02
Queue Length 95th (ft)	4	0
Control Delay (s)	8.9	0.0
Lane LOS	A	
Approach Delay (s)	8.9	0.0
Approach LOS	A	

Intersection Summary				
Average Delay	4.9			
Intersection Capacity Utilization	6.7%	ICU Level of Service		A
Analysis Period (min)	15			

APPENDIX N

Capacity/Level-of-Service Analysis Summary

Capacity Analysis Summary
New Bedford Transfer Station
New Bedford, MA

Weekday Morning Peak Hour																	
			2021 Base			2021 Existing			2028 No Build			2028 Build			2028 Build w/ Mitigation		
Intersection	**Movement**		**LOS[1]**	**Delay[2]**	**V/C[3]**	**LOS**	**Delay**	**V/C**	**LOS**	**Delay**	**V/C**	**LOS**	**Delay**	**V/C**	**LOS**	**Delay**	**V/C**
Route 140 Northbound Ramps	EB	LT	A	3.9	0.08	A	4.4	0.10	A	4.6	0.12	A	5.3	0.15	A	5.3	0.15
at Braley Road	WB	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
	NB	L	D	28.7	0.69	D	32.1	0.72	F	61.3	0.92	F	89.0	1.02	F	89.0	1.02
		R	A	9.8	0.21	A	9.8	0.21	B	10.1	0.24	B	10.1	0.24	B	10.1	0.24
Route 140 Southbound Ramps	EB	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
at Braley Road	WB	LT	B	10.2	0.40	A	4.6	0.41	A	4.6	0.41	A	4.7	0.42	A	4.7	0.42
	SB	L	F	56.8	0.24	F	60.8	0.26	F	60.5	0.25	F	68.1	0.28	F	68.1	0.28
		R	B	14.3	0.23	B	14.3	0.23	B	14.3	0.23	C	15.0	0.26	C	15.0	0.26
Braley Road/	EB	LT	B	14.1	0.33	C	15.2	0.39	C	15.2	0.39	C	17.4	0.49	A	8.2	0.27
Theodore Rice Boulevard at		R	A	10.0	0.06	A	10.0	0.06	A	10.0	0.06	B	10.3	0.07	A	1.1	0.04
Phillips Road	WB	LTR	F	108.7	1.14	F	116.5	1.16	F	116.5	1.16	F	141.7	1.22	B	19.0	0.81
	NB	LTR	B	13.9	0.36	B	14.2	0.36	B	14.2	0.36	B	14.8	0.38	C	22.0	0.42
	SB	LTR	C	16.8	0.51	C	17.3	0.52	C	17.3	0.52	C	18.2	0.54	D	50.4	0.84
		Overall	*F*	*64.5*	*n/a*	*F*	*67.8*	*n/a*	*F*	*67.7*	*n/a*	*F*	*80.2*	*n/a*	*C*	*23.0*	*0.82*
Theodore Rice Boulevard at	WB	LR	A	8.2	0.30	A	8.2	0.30	A	8.0	0.27	A	8.1	0.28	A	8.1	0.28
Duchaine Boulevard	NB	TR	A	0.0	0.04	A	0.0	0.04	A	0.0	0.03	A	0.0	0.03	A	0.0	0.03
	SB	L	E	44.4	0.49	E	44.8	0.50	D	31.6	0.36	D	34.6	0.39	D	34.6	0.39
		T	D	26.7	0.06	D	26.8	0.06	C	22.8	0.05	C	24.1	0.05	C	24.1	0.05
Duchaine Boulevard at	EB	L	C	21.4	0.29	C	23.1	0.31	C	20.0	0.25	C	23.1	0.29	C	23.1	0.29
Samuel Barnet Boulevard		R	B	11.7	0.15	B	11.7	0.15	B	11.3	0.13	B	11.4	0.13	B	11.4	0.13
	WB	R	B	10.2	0.37	B	10.6	0.38	B	10.3	0.35	B	10.7	0.37	B	10.7	0.37
	NB	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
	SB	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
Phillips Road at	EB	LR	B	10.2	0.13	B	10.2	0.13	B	10.2	0.14	B	10.2	0.14	B	10.2	0.14
Samuel Barnet Boulevard	NB	LT	A	6.0	0.24	A	6.0	0.24	A	6.0	0.25	A	6.0	0.25	A	6.0	0.25
	SB	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
Duchaine Boulevard at	WB	R	A	8.6	0.02	A	8.7	0.05	A	8.8	0.08	A	9.3	0.16	A	9.3	0.16
Site Driveway	SB	R	A	0.1	0.00	A	0.0	0.08	A	0.0	0.07	A	0.0	0.08	A	0.0	0.08

1 Level-of-Service
2 Average vehicle delay in seconds
3 Volume to capacity ratio; intersection capacity utilization reported for overall
n/a Not Applicable

Queue Summary
New Bedford Transfer Station
New Bedford, MA

Weekday Morning Peak Hour												
			2021 Base		2021 Existing		2028 No Build		2028 Build		2028 Build w/ Mitigation	
Intersection	Movement		50th Queue[1]	95th Queue[2]	50th Queue	95th Queue	50th Queue	95th Queue	50th Queue	95th Queue	50th Queue	95th Queue
Route 140 Northbound Ramps	EB	LT	n/a	8	n/a	8	n/a	10	n/a	13	n/a	13
at Braley Road	WB	TR	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0
	NB	L	n/a	128	n/a	140	n/a	243	n/a	303	n/a	303
		R	n/a	20	n/a	20	n/a	23	n/a	23	n/a	23
Route 140 Southbound Ramps	EB	TR	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0
at Braley Road	WB	LT	n/a	48	n/a	50	n/a	50	n/a	53	n/a	53
	SB	L	n/a	23	n/a	23	n/a	23	n/a	25	n/a	25
		R	n/a	23	n/a	23	n/a	23	n/a	25	n/a	25
Braley Road/	EB	LT	n/a	33	n/a	43	n/a	43	n/a	60	23	108
Theodore Rice Boulevard at		R	n/a	5	n/a	5	n/a	5	n/a	5	0	6
Phillips Road	WB	LTR	n/a	563	n/a	585	n/a	585	n/a	665	107	465
	NB	LTR	n/a	38	n/a	38	n/a	38	n/a	38	25	176
	SB	LTR	n/a	65	n/a	65	n/a	65	n/a	68	54	361
Theodore Rice Boulevard at	WB	LR	n/a	33	n/a	33	n/a	28	n/a	28	n/a	28
Duchaine Boulevard	NB	TR	n/a	3	n/a	3	n/a	3	n/a	3	n/a	3
	SB	L	n/a	60	n/a	60	n/a	40	n/a	43	n/a	43
		T	n/a	5	n/a	5	n/a	3	n/a	5	n/a	5
Duchaine Boulevard at	EB	L	n/a	30	n/a	33	n/a	25	n/a	30	n/a	30
Samuel Barnet Boulevard		R	n/a	13	n/a	13	n/a	13	n/a	13	n/a	13
	WB	R	n/a	43	n/a	45	n/a	40	n/a	43	n/a	43
	NB	TR	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0
	SB	TR	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0
Phillips Road at	EB	LR	n/a	10	n/a	13	n/a	13	n/a	13	n/a	13
Samuel Barnet Boulevard	NB	LT	n/a	23	n/a	23	n/a	25	n/a	25	n/a	25
	SB	TR	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0
Duchaine Boulevard at	WB	R	n/a	1	n/a	4	n/a	6	n/a	14	n/a	14
Site Driveway	SB	R	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0

1 50th Percentile Queue Length (ft)
2 95th Percentile Queue Length (ft)
n/a Not Applicable

Capacity Analysis Summary
New Bedford Transfer Station
New Bedford, MA

Weekday Afternoon School Dismissal Peak Hour																
			2021 Base			2021 Existing			2028 No Build			2028 Build			2028 Build w/ Mitigation		
Intersection	**Movement**		**LOS[1]**	**Delay[2]**	**V/C[3]**	**LOS**	**Delay**	**V/C**	**LOS**	**Delay**	**V/C**	**LOS**	**Delay**	**V/C**	**LOS**	**Delay**	**V/C**
Route 140 Northbound Ramps	EB	LT	A	2.2	0.09	A	2.5	0.10	A	2.5	0.11	A	3.0	0.14	A	9.5	0.14
at Braley Road	WB	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
	NB	L	F	69.8	0.90	F	83.2	0.95	F	147.3	1.15	F	214.6	1.31	F	214.6	1.31
		R	B	14.1	0.49	B	14.1	0.49	C	15.4	0.55	C	15.4	0.55	C	15.4	0.55
Route 140 Southbound Ramps	EB	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
at Braley Road	WB	LT	B	5.5	0.41	B	5.7	0.42	B	5.9	0.45	B	6.1	0.47	B	6.1	0.47
	SB	L	F	213.5	0.97	F	235.1	1.02	F	381.0	1.34	F	460.8	1.49	F	460.8	1.49
		R	B	12.0	0.17	B	12.0	0.18	B	12.3	0.19	B	12.8	0.21	B	12.8	0.21
Braley Road/	EB	LT	E	39.4	0.85	E	48.8	0.92	F	59.0	0.98	F	82.6	1.09	B	14.0	0.49
Theodore Rice Boulevard at		R	B	10.9	0.13	B	11.0	0.13	B	11.4	0.13	B	11.6	0.14	A	3.8	0.07
Phillips Road	WB	LTR	F	85.3	1.05	F	92.5	1.06	F	113.9	1.14	F	128.5	1.20	E	58.0	1.00
	NB	LTR	C	17.8	0.46	C	18.4	0.47	C	19.7	0.50	C	20.5	0.52	B	17.0	0.41
	SB	LTR	C	25.0	0.66	D	26.0	0.68	D	28.9	0.72	D	30.3	0.74	E	78.4	0.98
		Overall	*E*	*49.2*	*n/a*	*F*	*54.5*	*n/a*	*F*	*65.7*	*n/a*	*F*	*78.5*	*n/a*	*D*	*41.5*	*0.919*
Theodore Rice Boulevard at	WB	LR	A	7.6	0.07	A	7.6	0.07	A	7.6	0.06	A	7.7	0.08	A	7.7	0.08
Duchaine Boulevard	NB	TR	A	0.0	0.01	A	0.0	0.01	A	0.0	0.01	A	0.0	0.01	A	0.0	0.01
	SB	L	B	12.1	0.26	B	12.1	0.26	B	11.5	0.22	B	12.1	0.24	B	12.1	0.24
		T	B	11.3	0.02	B	11.4	0.02	B	11.1	0.02	B	11.6	0.02	B	11.6	0.02
Duchaine Boulevard at	EB	L	B	13.3	0.38	B	14.2	0.41	B	11.9	0.29	B	13.0	0.32	B	13.0	0.32
Samuel Barnet Boulevard		R	B	11.3	0.37	B	11.3	0.37	B	10.3	0.27	B	10.4	0.28	B	10.4	0.28
	WB	R	A	8.9	0.10	A	9.1	0.11	A	8.9	0.08	A	9.2	0.09	A	9.2	0.09
	NB	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
	SB	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
Phillips Road at	EB	LR	C	15.2	0.51	C	15.2	0.52	B	13.5	0.44	B	13.6	0.45	B	13.6	0.45
Samuel Barnet Boulevard	NB	LT	A	2.7	0.08	A	2.7	0.08	A	2.6	0.07	A	2.6	0.07	A	8.2	0.07
	SB	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
Duchaine Boulevard at	WB	R	A	8.5	0.04	A	8.6	0.08	A	8.6	0.06	A	8.9	0.10	A	8.9	0.10
Site Driveway	SB	R	A	1.1	0.00	A	0.0	0.02	A	0.0	0.02	A	0.0	0.03	A	0.0	0.03

1 Level-of-Service
2 Average vehicle delay in seconds
3 Volume to capacity ratio; intersection capacity utilization reported for overall
n/a Not Applicable

Queue Summary
New Bedford Transfer Station
New Bedford, MA

Weekday Afternoon School Dismissal Peak Hour												
			2021 Base		2021 Existing		2028 No Build		2028 Build		2028 Build w/ Mitigation	
Intersection	**Movement**		**50th Queue[1]**	**95th Queue[2]**	**50th Queue**	**95th Queue**	**50th Queue**	**95th Queue**	**50th Queue**	**95th Queue**	**50th Queue**	**95th Queue**
Route 140 Northbound Ramps	EB	LT	n/a	8	n/a	8	n/a	10	n/a	13	n/a	13
at Braley Road	WB	TR	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0
	NB	L	n/a	203	n/a	223	n/a	313	n/a	385	n/a	385
		R	n/a	70	n/a	70	n/a	85	n/a	85	n/a	85
Route 140 Southbound Ramps	EB	TR	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0
at Braley Road	WB	LT	n/a	50	n/a	53	n/a	60	n/a	65	n/a	65
	SB	L	n/a	118	n/a	123	n/a	150	n/a	160	n/a	160
		R	n/a	15	n/a	15	n/a	18	n/a	20	n/a	20
Braley Road/	EB	LT	n/a	200	n/a	240	n/a	273	n/a	345	98	306
Theodore Rice Boulevard at		R	n/a	10	n/a	10	n/a	10	n/a	10	0	22
Phillips Road	WB	LTR	n/a	408	n/a	428	n/a	483	n/a	518	185	602
	NB	LTR	n/a	55	n/a	58	n/a	63	n/a	63	39	129
	SB	LTR	n/a	108	n/a	113	n/a	125	n/a	128	117	375
Theodore Rice Boulevard at	WB	LR	n/a	5	n/a	5	n/a	5	n/a	5	n/a	5
Duchaine Boulevard	NB	TR	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0
	SB	L	n/a	25	n/a	25	n/a	20	n/a	23	n/a	23
		T	n/a	3	n/a	3	n/a	0	n/a	0	n/a	0
Duchaine Boulevard at	EB	L	n/a	45	n/a	50	n/a	30	n/a	35	n/a	35
Samuel Barnet Boulevard		R	n/a	43	n/a	43	n/a	28	n/a	28	n/a	28
	WB	R	n/a	8	n/a	10	n/a	8	n/a	8	n/a	8
	NB	TR	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0
	SB	TR	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0
Phillips Road at	EB	LR	n/a	73	n/a	75	n/a	58	n/a	58	n/a	58
Samuel Barnet Boulevard	NB	LT	n/a	5	n/a	5	n/a	5	n/a	5	n/a	5
	SB	TR	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0
Duchaine Boulevard at	WB	R	n/a	3	n/a	6	n/a	5	n/a	9	n/a	9
Site Driveway	SB	R	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0

1 50th Percentile Queue Length (ft)
2 95th Percentile Queue Length (ft)
n/a Not Applicable

Capacity Analysis Summary
New Bedford Transfer Station
New Bedford, MA

Weekday Afternoon Commuter Peak Hour																
			2021 Base			2021 Existing			2028 No Build			2028 Build			2028 Build w/ Mitigation		
Intersection	**Movement**		**LOS[1]**	**Delay[2]**	**V/C[3]**	**LOS**	**Delay**	**V/C**	**LOS**	**Delay**	**V/C**	**LOS**	**Delay**	**V/C**	**LOS**	**Delay**	**V/C**
Route 140 Northbound Ramps	EB	LT	A	2.6	0.11	A	2.6	0.11	A	2.7	0.12	A	2.9	0.13	A	2.9	0.13
at Braley Road	WB	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
	NB	L	E	45.7	0.73	E	46.5	0.73	F	59.8	0.82	F	76.6	0.90	F	76.6	0.90
		R	C	16.1	0.58	C	16.1	0.58	C	17.2	0.62	C	17.2	0.62	C	17.2	0.62
Route 140 Southbound Ramps	EB	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
at Braley Road	WB	LT	C	6.2	0.44	B	6.2	0.44	A	5.9	0.41	B	5.9	0.41	B	5.9	0.41
	SB	L	F	205.4	0.96	F	211.9	0.97	F	135.3	0.77	F	150.3	0.81	F	150.3	0.81
		R	B	11.8	0.18	B	11.8	0.18	B	11.5	0.17	B	11.9	0.19	B	11.9	0.19
Braley Road/	EB	LT	F	57.4	0.95	F	58.3	0.96	E	40.5	0.83	E	46.9	0.88	B	13.1	0.44
Theodore Rice Boulevard at		R	B	11.2	0.10	B	11.2	0.10	B	10.5	0.08	B	10.8	0.08	A	2.4	0.05
Phillips Road	WB	LTR	F	93.3	1.07	F	95.0	1.08	F	55.5	0.94	F	68.0	0.99	C	24.1	0.78
	NB	LTR	C	21.7	0.55	C	21.8	0.55	C	18.7	0.47	C	19.3	0.48	B	15.9	0.38
	SB	LTR	D	31.9	0.75	D	32.2	0.75	D	25.4	0.65	D	26.5	0.67	E	78.7	0.98
		Overall	*F*	*57.7*	*n/a*	*F*	*58.6*	*n/a*	*E*	*38.4*	*n/a*	*E*	*45.1*	*n/a*	*C*	*30.2*	*0.84*
Theodore Rice Boulevard at	WB	LR	A	7.6	0.06	A	7.6	0.06	A	7.6	0.05	A	7.7	0.07	A	7.7	0.07
Duchaine Boulevard	NB	TR	A	0.0	0.01	A	0.0	0.01	A	0.0	0.01	A	0.0	0.01	A	0.0	0.00
	SB	L	B	10.9	0.14	B	10.9	0.14	B	10.3	0.11	B	10.7	0.11	B	10.7	0.11
		T	B	10.7	0.01	B	10.7	0.01	B	10.4	0.01	B	10.7	0.01	B	10.7	0.01
Duchaine Boulevard at	EB	L	B	11.7	0.35	B	11.8	0.35	B	10.4	0.24	B	10.9	0.25	B	10.9	0.25
Samuel Barnet Boulevard		R	B	10.2	0.29	B	10.2	0.29	A	9.5	0.20	A	9.6	0.21	A	9.6	0.21
	WB	R	A	8.7	0.02	A	8.7	0.02	A	8.7	0.02	A	8.8	0.02	A	8.8	0.02
	NB	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
	SB	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
Phillips Road at	EB	LR	B	12.6	0.38	B	13.3	0.46	B	11.3	0.30	B	11.3	0.30	B	11.3	0.30
Samuel Barnet Boulevard	NB	LT	A	0.5	0.01	A	0.5	0.01	A	0.5	0.01	A	0.5	0.01	A	8.0	0.01
	SB	TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
Duchaine Boulevard at	WB	R	A	8.5	0.03	A	8.5	0.03	A	8.5	0.03	A	8.9	0.05	A	8.9	0.05
Site Driveway	SB	R	A	2.3	0.01	A	0.0	0.01	A	0.0	0.01	A	0.0	0.02	A	0.0	0.02

1 Level-of-Service
2 Average vehicle delay in seconds
3 Volume to capacity ratio; intersection capacity utilization reported for overall
n/a Not Applicable

Queue Summary
New Bedford Transfer Station
New Bedford, MA

Weekday Afternoon Commuter Peak Hour												
			2021 Base		2021 Existing		2028 No Build		2028 Build		2028 Build w/ Mitigation	
Intersection	Movement		50th Queue[1]	95th Queue[2]	50th Queue	95th Queue	50th Queue	95th Queue	50th Queue	95th Queue	50th Queue	95th Queue
Route 140 Northbound Ramps	EB	LT	n/a	10	n/a	10	n/a	10	n/a	13	n/a	13
at Braley Road	WB	TR	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0
	NB	L	n/a	130	n/a	130	n/a	160	n/a	193	n/a	193
		R	n/a	95	n/a	95	n/a	108	n/a	108	n/a	108
Route 140 Southbound Ramps	EB	TR	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0
at Braley Road	WB	LT	n/a	58	n/a	58	n/a	50	n/a	50	n/a	50
	SB	L	n/a	118	n/a	118	n/a	93	n/a	98	n/a	98
		R	n/a	18	n/a	18	n/a	15	n/a	18	n/a	18
Braley Road/	EB	LT	n/a	265	n/a	268	n/a	210	n/a	235	82	258
Theodore Rice Boulevard at		R	n/a	8	n/a	8	n/a	8	n/a	8	0	12
Phillips Road	WB	LTR	n/a	410	n/a	415	n/a	295	n/a	340	118	460
	NB	LTR	n/a	73	n/a	75	n/a	63	n/a	63	36	122
	SB	LTR	n/a	143	n/a	143	n/a	115	n/a	118	113	368
Theodore Rice Boulevard at	WB	LR	n/a	5	n/a	5	n/a	5	n/a	5	n/a	5
Duchaine Boulevard	NB	TR	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0
	SB	L	n/a	13	n/a	13	n/a	8	n/a	10	n/a	10
		T	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0
Duchaine Boulevard at	EB	L	n/a	40	n/a	40	n/a	23	n/a	25	n/a	25
Samuel Barnet Boulevard		R	n/a	30	n/a	30	n/a	20	n/a	20	n/a	20
	WB	R	n/a	3	n/a	3	n/a	0	n/a	0	n/a	0
	NB	TR	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0
	SB	TR	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0
Phillips Road at	EB	LR	n/a	45	n/a	63	n/a	30	n/a	30	n/a	30
Samuel Barnet Boulevard	NB	LT	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0
	SB	TR	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0
Duchaine Boulevard at	WB	R	n/a	2	n/a	2	n/a	2	n/a	4	n/a	4
Site Driveway	SB	R	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0

1 50th Percentile Queue Length (ft)
2 95th Percentile Queue Length (ft)
n/a Not Applicable

APPENDIX O

MassDOT EENF Comment Letter

Charles D. Baker, Governor
Karyn E. Polito, Lieutenant Governor
Stephanie Pollack, MassDOT Secretary & CEO

massDOT
Massachusetts Department of Transportation

March 29, 2019

Matthew Beaton, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114-2150

RE: New Bedford – Parallel Products of New England, Inc. - EENF
(EEA #15990)

ATTN: MEPA Unit
Page Czepiga

Dear Secretary Beaton:

On behalf of the Massachusetts Department of Transportation, I am submitting comments regarding the proposed Parallel Products of New England, Inc project in New Bedford, as prepared by the Office of Transportation Planning. If you have any questions regarding these comments, please contact J. Lionel Lucien, P.E., Manager of the Public/Private Development Unit, at (857) 368-8862.

Sincerely,

FOR

David J. Mohler
Executive Director
Office of Transportation Planning

DJM/jll

Ten Park Plaza, Suite 4150, Boston, MA 02116
Tel: 857-368-4636, TTY: 857-368-0655
www.mass.gov/massdot

cc: Jonathan Gulliver, Administrator, Highway Division
Astrid Glynn, Administrator, Rail and Transit
Patricia Leavenworth, P.E., Chief Engineer, Highway Division
Mary-Joe Perry, District 5 Highway Director
Neil Boudreau, Assistant Administrator of Traffic and Safety Engineering
Planning Department, City of New Bedford
Southeastern Regional Transit Authority
Southeast Regional Planning and Economic Development District
PPDU Files

Charles D. Baker, Governor
Karyn E. Polito, Lieutenant Governor
Stephanie Pollack, MassDOT Secretary & CEO

massDOT
Massachusetts Department of Transportation

MEMORANDUM

TO: David Mohler, Executive Director
Office of Transportation Planning

FROM: J. Lionel Lucien, P.E, Manager
Public/Private Development Unit

DATE: March 29, 2019

RE: New Bedford: Parallel Products of New England – EENF
(EEA #15990)

The Public/Private Development Unit (PPDU) has reviewed the Expanded Environmental Notification Form (EENF) for the Parallel Products of New England, Inc. project in New Bedford. The project entails the construction of a solid waste facility to process municipal solid waste (MSW) and construction and demolition (C&D) of materials. The existing site consists of the NWD Trucking facility located at 100 Duchaine Boulevard and is bounded by a CSX rail line to the east, Phillips Road to the west, industrial properties to the north and undeveloped land to the south. The project is expected to be built over time in two phases. Phase I development consists of building a glass Beneficiation operation and the construction of approximately 1.9 MW of solar power energy generation. Phase II entails the construction of a MSW transfer station and biosolids drying facility. Phase II is expected to be constructed approximately two years after the construction of Phase I.

The project is expected to generate approximately 418 new truck trips per day (209 truck trips entering, 209 truck trips existing) based on empirical data collected from a similar solid waste facility operations. In addition, employees will contribute approximately 150 vehicle trips (75 entering, 75 exiting) for a total of 568 vehicle trips accessing the site on an average weekday.

The project does not exceed any transportation thresholds but exceeds MEPA thresholds for wastewater and solid waste and therefore is required to prepare an Environment Impact Report (EIR). The Proponent has requested a waiver to proceed with the construction of Phase I, pending the completion of the Environment Impact Report (EIR) for the project.

The project does not require a Vehicular Access Permit from MassDOT but has applied for an Industrial Rail Access Program (IRAP) grant in the amount of $500,000. The grant will be used for the construction of a rail side track along the CSX Transportation line to meet the needs of the glass processing facilities as part of Phase I. The rail side will be expanded in Phase II to meet the needs for transport of solid waste. The Proponent will use the rail side for the outbound shipment of MSW, glass and dried biosolids.

Ten Park Plaza, Suite 4150, Boston, MA 02116
Tel: 857-368-4636, TTY: 857-368-0655
www.mass.gov/massdot

The facility, when at full capacity, expects to ship 1200 tons per day (tpd) of MSW residuals, 50 tpd of dried biosolids and 250 tpd of glass. The rail side track at full operations could reduce by up to 110 the number of truck trips in and out of the site.

The EENF includes a Transportation Impact Assessment (TIA) that includes an evaluation of the study area transportation network and presents an analysis of existing and future build conditions for each intersection. The TIA is in general conformance with MassDOT/EOEEA Guidelines for *EIR/EIS Traffic Impact Assessment.*

Study Area

The study locations for which traffic analyses were conducted are as follows:

- Route 140 Northbound on/off Ramps/Braley Road intersection;
- Route 140 Southbound on/off Ramps/Braley Road intersection;
- Braley Road/Theodore Rice Boulevard at Phillip Road intersection;
- Theodore Rice Boulevard/Duchaine Road intersection;
- Duchaine Boulevard/Samuel Barner Boulevard intersection;
- Phillips Road/Samuel Barner Boulevard intersection; and
- Duchaine Boulevard/Site Driveway intersection.

The study area is adequate for capturing the traffic impacts of this development.

Trip Distribution

The project trip distribution on the study area network was based on expected access to/from Route 140. The majority of traffic entering the site is expected to use Route 140 to Braley Road with a small portion of traffic coming from the site expected to use Phillips Road to access the proposed site.

Safety

Crash rates for the study area intersection were calculated using MassDOT data for the five-year period from 2011-2015. Based on the data, the crash rates for all study area intersections are below the state and district averages for signalized intersection. Two unsignalized intersections are experienced crash rates slightly higher than the state and district averages. The additional traffic volumes associated with the project is not expected to significantly impact safety at these intersections. There are no Highway Safety Improvement Program (HSIP) high crash cluster intersections in the study area.

Traffic Operations

Capacity analyses were conducted for the weekday AM and PM peak hours for 2018 Existing, 2025 No-Build, and 2025 Build (full build) conditions, for the study area intersections.

In the 2025 No-Build, traffic operating conditions at most intersections are expected to experience no significant changes, except for one approach movement where level of service will worsen from B to C. Likewise, 2025 Build conditions experience slightly increased delays compared to the 2025 No-Build conditions, but the delays were not significant enough to impact LOS in most cases.

Parking

The project will provide 428 parking spaces to accommodate both trucks and employees on site. The proposed number of parking spaces is a reduction from the current number of existing parking spaces.

Multimodal Access and Facilities

Despite the proposed land use primarily oriented towards truck traffic, the Proponent should seek the opportunity to provide multimodal accommodations to access the site. The roadway network in the vicinity of the site provide sufficient shoulder widths to encourage bicycle travel. We note that the Southeastern Regional Transit Authority (SRTA) provides bus service along Duchaine Boulevard and Phillips Road, with bus stops located within walking distance to the site along Duchaine Boulevard and at the intersection of Phillips Road with Heritage Court. Pedestrian accommodations exist along Phillips Boulevard. We encourage the Proponent to design their site drive in accordance to Complete Streets standards to facilitate opportunities to walk and bike to the site. DOT-1

Transportation Demand Management Program

The Proponent should develop a Transportation Demand Management (TDM) program aimed at reducing site trip generation. MassDOT understands that the project primarily generate truck traffic; nevertheless, the following TDM measures are recommended with the goal of reducing vehicle trips by employees of the development: DOT-2

- Offer direct deposit for payroll transactions;
- Implement off-peak shift start/end times for employees;
- Provide preferential parking for carpools and vanpools;
- Offer onsite employee services such as a cafeteria.
- Provide information on transit options as a mean of travel to the site.

MassDOT does not object to the Proponent's request for a Phase I waiver for the project. The proponent should address the details of the above comments in the SEIR and submit a copy of the MEPA Certificate for this project as part of their grant application for the IRAP funding. If you have any questions regarding these comments, please contact me at (857) 368-8862.

APPENDIX P

Traffic Signal Warrant Analysis

HCS7 Warrants Report

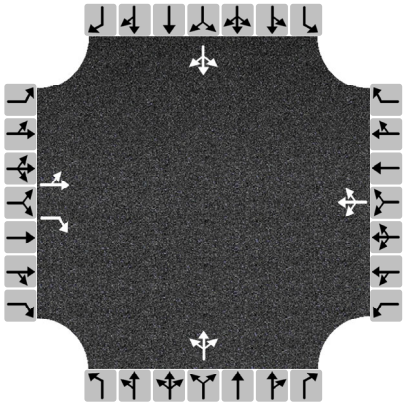
Project Information

Analyst	ZRD	Date	12/2/2021
Agency	McMahon Associates	Analysis Year	2021 Existing
Jurisdiction	New Bedford, MA	Time Period Analyzed	Weekday
Project Description	New Bedford Transfer Station		

General

Major Street Direction	East-West	Population < 10,000	No
Starting Time Interval	7	Coordinated Signal System	No
Median Type	Divided	Crashes (crashes/year)	4
Major Street Speed (mi/h)	30	Adequate Trials of Crash Exp. Alt.	No
Nearest Signal (ft)	2700		

Geometry and Traffic



Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Number of Lanes, N	0	1	1	0	1	0	0	1	0	0	1	0
Lane Usage		LT	R		LTR			LTR			LTR	
Vehicle Volumes Averages (veh/h)	8	139	24	70	142	99	11	31	68	101	31	9
Pedestrian Averages (peds/h)	0			0			1			0		
Gap Averages (gaps/h)	0			0			0			0		
Delay (s/veh)	0.0			0.0			0.0			0.0		
Delay (veh-hrs)	0.0			0.0			0.0			0.0		

School Crossing and Roadway Network

Number of Students in Highest Hour	0	Two or More Major Routes	No
Number of Adequate Gaps in Period	0	Weekend Counts	No
Number of Minutes in Period	0	5-year Growth Factor (%)	0

Railroad Crossing

Grade Crossing Approach	None	Rail Traffic (trains/day)	0
Highest Volume Hour with Trains	Unknown	High Occupancy Buses (%)	0
Distance to Stop Line (ft)		Tractor-Trailer Trucks (%)	0

HCS7 Warrants Report

Volume Summary

Hour	Major Volume	Minor Volume	Total Volume	Peds/h	Gaps/h	1A (100%)	1A (80%)	1B (100%)	1B (80%)	2 (100%)	3A (100%)	3B (100%)	4A (100%)	4B (100%)

07 - 08	776	217	1145	4	0	Yes	Yes	No	Yes	Yes	No	No	No	No
08 - 09	648	253	1084	4	0	Yes	Yes	No	No	No	No	No	No	No
09 - 10	624	225	990	1	0	Yes	Yes	No	No	No	No	No	No	No
10 - 11	0	0	0	0	0	No	No	No	No	No	No	No	No	No
11 - 12	630	163	944	6	0	Yes	Yes	No	No	No	No	No	No	No
12 - 13	0	0	0	0	0	No	No	No	No	No	No	No	No	No
13 - 14	0	0	0	0	0	No	No	No	No	No	No	No	No	No
14 - 15	697	181	1052	1	0	Yes	Yes	No	No	No	No	No	No	No
15 - 16	968	224	1394	0	0	Yes	Yes	Yes	Yes	Yes	No	No	No	No
16 - 17	804	266	1243	0	0	Yes	Yes	No	Yes	Yes	No	No	No	No
17 - 18	674	198	1023	9	0	Yes	Yes	No	No	No	No	No	No	No
18 - 19	0	0	0	0	0	No	No	No	No	No	No	No	No	No
Total	5821	1727	8875	25	0	8	8	1	3	3	0	0	0	0

Warrants

Warrant 1: Eight-Hour Vehicular Volume	✓
A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	✓
B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	
80% Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	
Warrant 2: Four-Hour Vehicular Volume	
Four-Hour Vehicular Volume (Both major approaches --and-- higher minor approach)	
Warrant 3: Peak Hour	
A. Peak-Hour Conditions (Minor delay -- and-- minor volume --and-- total volume) --or--	
B. Peak-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	
Warrant 4: Pedestrian Volume	
A. Four Hour Volumes --or--	
B. One-Hour Volumes	
Warrant 5: School Crossing	
Gaps Same Period --and--	
Student Volumes	
Nearest Traffic Control Signal (optional)	✓
Warrant 6: Coordinated Signal System	
Degree of Platooning (Predominant direction or both directions)	
Warrant 7: Crash Experience	
A. Adequate trials of alternatives, observance and enforcement failed --and--	
B. Reported crashes susceptible to correction by signal (12-month period) --and--	
C. 80% Volumes for Warrants 1A, 1B, --or-- 4 are satisfied	✓
Warrant 8: Roadway Network	
A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2, or 3) --or--	
B. Weekend Volume (Five hours total)	
Warrant 9: Grade Crossing	
A. Grade Crossing within 140 ft --and--	
B. Peak-Hour Vehicular Volumes	

HCS7 Warrants Report

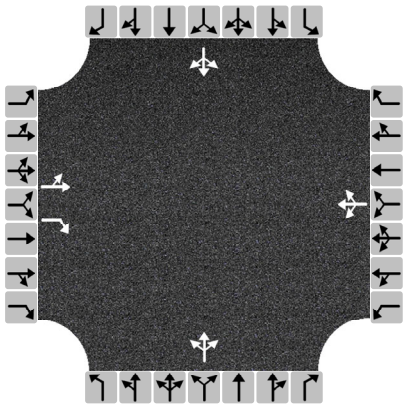
Project Information

Analyst	ZRD	Date	12/2/2021
Agency	McMahon Associates	Analysis Year	2028 No Build
Jurisdiction	New Bedford, MA	Time Period Analyzed	Weekday
Project Description	New Bedford Transfer Station		

General

Major Street Direction	East-West	Population < 10,000	No
Starting Time Interval	7	Coordinated Signal System	No
Median Type	Divided	Crashes (crashes/year)	4
Major Street Speed (mi/h)	30	Adequate Trials of Crash Exp. Alt.	No
Nearest Signal (ft)	2700		

Geometry and Traffic



Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Number of Lanes, N	0	1	1	0	1	0	0	1	0	0	1	0
Lane Usage		LT	R		LTR			LTR			LTR	
Vehicle Volumes Averages (veh/h)	8	148	26	75	152	106	12	34	72	109	34	10
Pedestrian Averages (peds/h)	0			0			1			0		
Gap Averages (gaps/h)	0			0			0			0		
Delay (s/veh)	0.0			0.0			0.0			0.0		
Delay (veh-hrs)	0.0			0.0			0.0			0.0		

School Crossing and Roadway Network

Number of Students in Highest Hour	0	Two or More Major Routes	No
Number of Adequate Gaps in Period	0	Weekend Counts	No
Number of Minutes in Period	0	5-year Growth Factor (%)	0

Railroad Crossing

Grade Crossing Approach	None	Rail Traffic (trains/day)	0
Highest Volume Hour with Trains	Unknown	High Occupancy Buses (%)	0
Distance to Stop Line (ft)		Tractor-Trailer Trucks (%)	0

HCS7 Warrants Report

Volume Summary

Hour	Major Volume	Minor Volume	Total Volume	Peds/h	Gaps/h	1A (100%)	1A (80%)	1B (100%)	1B (80%)	2 (100%)	3A (100%)	3B (100%)	4A (100%)	4B (100%)
07 - 08	829	233	1225	4	0	Yes	Yes	No	Yes	Yes	No	No	No	No
08 - 09	693	272	1161	4	0	Yes	Yes	No	No	Yes	No	No	No	No
09 - 10	668	241	1060	1	0	Yes	Yes	No	No	No	No	No	No	No
10 - 11	0	0	0	0	0	No	No	No	No	No	No	No	No	No
11 - 12	673	175	1010	6	0	Yes	Yes	No	No	No	No	No	No	No
12 - 13	0	0	0	0	0	No	No	No	No	No	No	No	No	No
13 - 14	0	0	0	0	0	No	No	No	No	No	No	No	No	No
14 - 15	746	194	1127	1	0	Yes	Yes	No	Yes	No	No	No	No	No
15 - 16	1034	239	1489	0	0	Yes	Yes	Yes	Yes	Yes	No	No	No	No
16 - 17	860	286	1332	0	0	Yes	Yes	No	Yes	Yes	No	No	No	No
17 - 18	722	213	1098	9	0	Yes	Yes	No	Yes	No	No	No	No	No
18 - 19	0	0	0	0	0	No	No	No	No	No	No	No	No	No
Total	6225	1853	9502	25	0	8	8	1	5	4	0	0	0	0

Warrants

Warrant 1: Eight-Hour Vehicular Volume	✔
A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	✓
B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	
80% Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	
Warrant 2: Four-Hour Vehicular Volume	✔
Four-Hour Vehicular Volume (Both major approaches --and-- higher minor approach)	✓
Warrant 3: Peak Hour	
A. Peak-Hour Conditions (Minor delay -- and-- minor volume --and-- total volume) --or--	
B. Peak-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	
Warrant 4: Pedestrian Volume	
A. Four Hour Volumes --or--	
B. One-Hour Volumes	
Warrant 5: School Crossing	
Gaps Same Period --and--	
Student Volumes	
Nearest Traffic Control Signal (optional)	✓
Warrant 6: Coordinated Signal System	
Degree of Platooning (Predominant direction or both directions)	
Warrant 7: Crash Experience	
A. Adequate trials of alternatives, observance and enforcement failed --and--	
B. Reported crashes susceptible to correction by signal (12-month period) --and--	
C. 80% Volumes for Warrants 1A, 1B, --or-- 4 are satisfied	✓
Warrant 8: Roadway Network	
A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2, or 3) --or--	
B. Weekend Volume (Five hours total)	
Warrant 9: Grade Crossing	
A. Grade Crossing within 140 ft --and--	
B. Peak-Hour Vehicular Volumes	

HCS7 Warrants Report

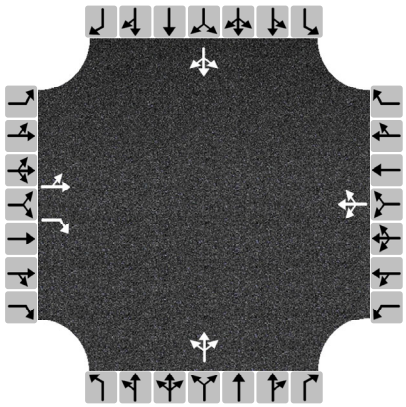
Project Information

Analyst	ZRD	Date	12/2/2021
Agency	McMahon Associates	Analysis Year	2028 Build
Jurisdiction	New Bedford, MA	Time Period Analyzed	Weekday
Project Description	New Bedford Transfer Station		

General

Major Street Direction	East-West	Population < 10,000	No
Starting Time Interval	7	Coordinated Signal System	No
Median Type	Divided	Crashes (crashes/year)	4
Major Street Speed (mi/h)	30	Adequate Trials of Crash Exp. Alt.	No
Nearest Signal (ft)	2700		

Geometry and Traffic



Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Number of Lanes, N	0	1	1	0	1	0	0	1	0	0	1	0
Lane Usage		LT	R		LTR			LTR			LTR	
Vehicle Volumes Averages (veh/h)	8	162	26	75	161	106	12	34	72	109	34	10
Pedestrian Averages (peds/h)	0			0			1			0		
Gap Averages (gaps/h)	0			0			0			0		
Delay (s/veh)	0.0			0.0			0.0			0.0		
Delay (veh-hrs)	0.0			0.0			0.0			0.0		

School Crossing and Roadway Network

Number of Students in Highest Hour	0	Two or More Major Routes	No
Number of Adequate Gaps in Period	0	Weekend Counts	No
Number of Minutes in Period	0	5-year Growth Factor (%)	0

Railroad Crossing

Grade Crossing Approach	None	Rail Traffic (trains/day)	0
Highest Volume Hour with Trains	Unknown	High Occupancy Buses (%)	0
Distance to Stop Line (ft)		Tractor-Trailer Trucks (%)	0

HCS7 Warrants Report

Volume Summary

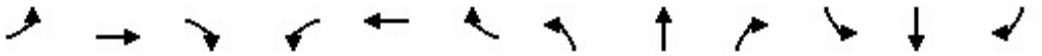
Hour	Major Volume	Minor Volume	Total Volume	Peds/h	Gaps/h	1A (100%)	1A (80%)	1B (100%)	1B (80%)	2 (100%)	3A (100%)	3B (100%)	4A (100%)	4B (100%)
07 - 08	885	233	1281	4	0	Yes	Yes	No	Yes	Yes	No	No	No	No
08 - 09	717	272	1185	4	0	Yes	Yes	No	No	Yes	No	No	No	No
09 - 10	696	241	1088	1	0	Yes	Yes	No	No	No	No	No	No	No
10 - 11	0	0	0	0	0	No	No	No	No	No	No	No	No	No
11 - 12	705	175	1042	6	0	Yes	Yes	No	No	No	No	No	No	No
12 - 13	0	0	0	0	0	No	No	No	No	No	No	No	No	No
13 - 14	0	0	0	0	0	No	No	No	No	No	No	No	No	No
14 - 15	801	194	1182	1	0	Yes	Yes	No	Yes	No	No	No	No	No
15 - 16	1072	239	1527	0	0	Yes	Yes	Yes	Yes	Yes	No	No	No	No
16 - 17	890	286	1362	0	0	Yes	Yes	No	Yes	Yes	No	No	No	No
17 - 18	728	213	1104	9	0	Yes	Yes	No	Yes	No	No	No	No	No
18 - 19	0	0	0	0	0	No	No	No	No	No	No	No	No	No
Total	6494	1853	9771	25	0	8	8	1	5	4	0	0	0	0

Warrants

Warrant 1: Eight-Hour Vehicular Volume	✔
A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	✓
B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	
80% Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	
Warrant 2: Four-Hour Vehicular Volume	✔
Four-Hour Vehicular Volume (Both major approaches --and-- higher minor approach)	✓
Warrant 3: Peak Hour	
A. Peak-Hour Conditions (Minor delay -- and-- minor volume --and-- total volume) --or--	
B. Peak-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	
Warrant 4: Pedestrian Volume	
A. Four Hour Volumes --or--	
B. One-Hour Volumes	
Warrant 5: School Crossing	
Gaps Same Period --and--	
Student Volumes	
Nearest Traffic Control Signal (optional)	✓
Warrant 6: Coordinated Signal System	
Degree of Platooning (Predominant direction or both directions)	
Warrant 7: Crash Experience	
A. Adequate trials of alternatives, observance and enforcement failed --and--	
B. Reported crashes susceptible to correction by signal (12-month period) --and--	
C. 80% Volumes for Warrants 1A, 1B, --or-- 4 are satisfied	✓
Warrant 8: Roadway Network	
A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2, or 3) --or--	
B. Weekend Volume (Five hours total)	
Warrant 9: Grade Crossing	
A. Grade Crossing within 140 ft --and--	
B. Peak-Hour Vehicular Volumes	

APPENDIX Q

2028 Build Capacity/Level-of-Service Analysis with Mitigation



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	201	30	50	459	142	32	49	82	171	29	33
Future Volume (vph)	4	201	30	50	459	142	32	49	82	171	29	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		225	0		0	0		0	0		75
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1607	1568	0	1702	0	0	1697	0	0	1735	0
Flt Permitted		0.991			0.964			0.922			0.671	
Satd. Flow (perm)	0	1594	1568	0	1648	0	0	1581	0	0	1207	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			61		24			46			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1311			261			2131			367	
Travel Time (s)		29.8			5.9			48.4			8.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	25%	18%	3%	13%	8%	6%	3%	4%	3%	2%	14%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	222	33	0	707	0	0	177	0	0	254	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0		14.0	14.0		14.0	14.0	
Total Split (s)	52.0	52.0	52.0	52.0	52.0		15.0	15.0		15.0	15.0	
Total Split (%)	57.8%	57.8%	57.8%	57.8%	57.8%		16.7%	16.7%		16.7%	16.7%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0			0.0	
Total Lost Time (s)		4.0	4.0		4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	Min	Min		None	None		None	None	
Act Effct Green (s)		26.2	26.2		26.2			12.3			12.3	
Actuated g/C Ratio		0.52	0.52		0.52			0.25			0.25	
v/c Ratio		0.27	0.04		0.81			0.42			0.84	
Control Delay		8.2	1.1		19.0			22.0			50.4	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		8.2	1.1		19.0			22.0			50.4	

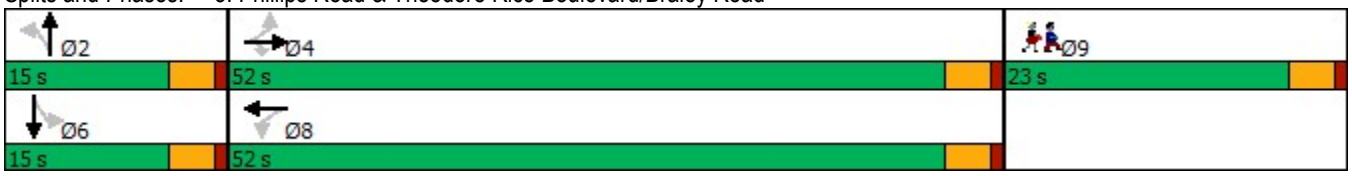
Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	23.0
Total Split (s)	23.0
Total Split (%)	26%
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

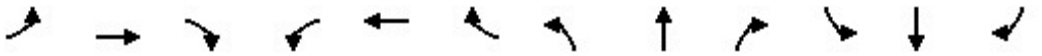
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		A	A		B			C			D	
Approach Delay		7.3			19.0			22.0			50.4	
Approach LOS		A			B			C			D	
Queue Length 50th (ft)		23	0		107			25			54	
Queue Length 95th (ft)		108	6		465			#176			#361	
Internal Link Dist (ft)		1231			181			2051			287	
Turn Bay Length (ft)			225									
Base Capacity (vph)		1445	1427		1496			424			303	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.15	0.02		0.47			0.42			0.84	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 50.1			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 23.0		Intersection LOS: C	
Intersection Capacity Utilization 82.1%		ICU Level of Service E	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Phillips Road & Theodore Rice Boulevard/Braley Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	416	59	161	160	205	18	55	115	196	73	5
Future Volume (vph)	15	416	59	161	160	205	18	55	115	196	73	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		225	0		0	0		0	0		75
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1756	1583	0	1595	0	0	1633	0	0	1763	0
Flt Permitted		0.978			0.615			0.961			0.582	
Satd. Flow (perm)	0	1721	1583	0	996	0	0	1577	0	0	1063	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			64		45			80			1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1311			261			2131			367	
Travel Time (s)		29.8			5.9			48.4			8.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	8%	2%	5%	25%	5%	6%	9%	5%	4%	1%	40%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	468	64	0	572	0	0	205	0	0	297	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0		14.0	14.0		14.0	14.0	
Total Split (s)	43.0	43.0	43.0	43.0	43.0		24.0	24.0		24.0	24.0	
Total Split (%)	47.8%	47.8%	47.8%	47.8%	47.8%		26.7%	26.7%		26.7%	26.7%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0			0.0	
Total Lost Time (s)		4.0	4.0		4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	Min	Min		None	None		None	None	
Act Effct Green (s)		39.5	39.5		39.5			20.3			20.3	
Actuated g/C Ratio		0.55	0.55		0.55			0.28			0.28	
v/c Ratio		0.49	0.07		1.00			0.41			0.98	
Control Delay		14.0	3.8		58.0			17.0			78.4	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		14.0	3.8		58.0			17.0			78.4	

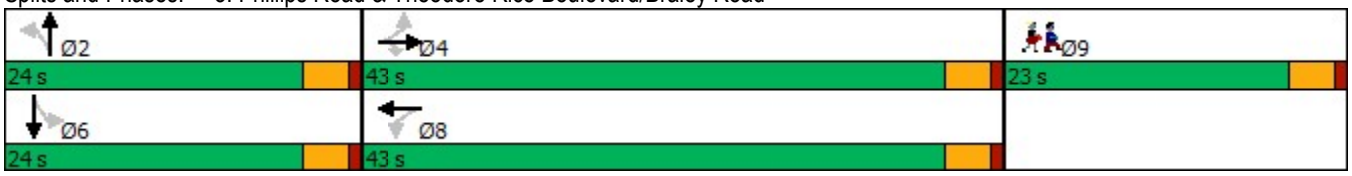
Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	23.0
Total Split (s)	23.0
Total Split (%)	26%
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

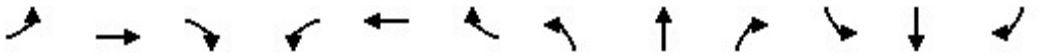
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		B	A		E			B			E	
Approach Delay		12.7			58.0			17.0			78.4	
Approach LOS		B			E			B			E	
Queue Length 50th (ft)		98	0		185			39			117	
Queue Length 95th (ft)		306	22		#602			129			#375	
Internal Link Dist (ft)		1231			181			2051			287	
Turn Bay Length (ft)			225									
Base Capacity (vph)		950	903		570			503			302	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.49	0.07		1.00			0.41			0.98	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 71.6			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 41.5		Intersection LOS: D	
Intersection Capacity Utilization 91.9%		ICU Level of Service F	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Phillips Road & Theodore Rice Boulevard/Braley Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	351	38	148	113	192	12	58	117	203	59	3
Future Volume (vph)	22	351	38	148	113	192	12	58	117	203	59	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		225	0		0	0		0	0		75
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1746	1568	0	1613	0	0	1689	0	0	1762	0
Flt Permitted		0.963			0.677			0.973			0.565	
Satd. Flow (perm)	0	1687	1568	0	1109	0	0	1649	0	0	1033	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			61		52			86			1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1311			261			2131			367	
Travel Time (s)		29.8			5.9			48.4			8.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	9%	3%	1%	31%	3%	18%	5%	0%	4%	0%	67%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	406	41	0	493	0	0	203	0	0	288	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0	14.0	14.0	14.0		14.0	14.0		14.0	14.0	
Total Split (s)	43.0	43.0	43.0	43.0	43.0		24.0	24.0		24.0	24.0	
Total Split (%)	47.8%	47.8%	47.8%	47.8%	47.8%		26.7%	26.7%		26.7%	26.7%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0			0.0			0.0	
Total Lost Time (s)		4.0	4.0		4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	Min	Min		None	None		None	None	
Act Effct Green (s)		39.5	39.5		39.5			20.3			20.3	
Actuated g/C Ratio		0.55	0.55		0.55			0.28			0.28	
v/c Ratio		0.44	0.05		0.78			0.38			0.98	
Control Delay		13.1	2.4		24.1			15.9			78.7	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		13.1	2.4		24.1			15.9			78.7	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	23.0
Total Split (s)	23.0
Total Split (%)	26%
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		B	A		C			B			E	
Approach Delay		12.1			24.1			15.9			78.7	
Approach LOS		B			C			B			E	
Queue Length 50th (ft)		82	0		118			36			113	
Queue Length 95th (ft)		258	12		#460			122			#368	
Internal Link Dist (ft)		1231			181			2051			287	
Turn Bay Length (ft)			225									
Base Capacity (vph)		931	893		636			528			293	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.44	0.05		0.78			0.38			0.98	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 71.6			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 30.2		Intersection LOS: C	
Intersection Capacity Utilization 84.3%		ICU Level of Service E	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Phillips Road & Theodore Rice Boulevard/Braley Road

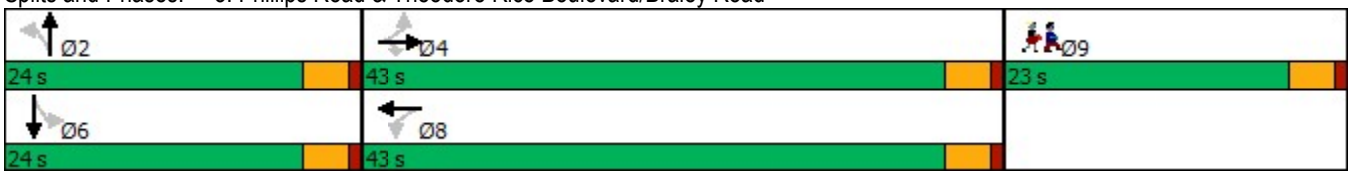


EXHIBIT 13

HEAT PUMP ANALYSIS

ENERGY ANALYSIS

TO: Massachusetts Dept. of Energy Resources

FROM: WSP

SUBJECT: **Parallel Products / New Bedford, MA – MEPA Energy Analysis DRAFT**

DATE: **July 29, 2020**

Project Overview

The purpose of this analysis is to evaluate gas and electric heating systems at Parallel Product's new recycling facility in New Bedford, MA. The project will consist of multiple structures, including (3) conditioned buildings as follows:

1. Glass Processing Building (27,200 SF) – a conditioned space per ASHRAE due to the heating load calculations (15 Btu/hr./s.f.). Mechanical systems to maintain space at approximately 50 degrees F.
    - Estimated Envelope Heating Load: 454,000 Btu/hr for space heating,
    - Estimated Ventilation Load: 1,463,000 Btu/hr for process ventilation heating due to baghouse fans
        - End-of-process fans will be located at two baghouse exhausts. These fans will draw a total of approximately 27,100 cfm on a 24/7 operational basis. The impact of the makeup air heating necessary to operate the baghouses is now included in the heating load of the building.
    - Total required heat = 1,917,000 Btu/hr
2. Bunker Building Section (23,320 SF) – a conditioned space per ASHRAE due to the anticipated heating load. Mechanical systems to maintain space at approximately 50 degrees F.
    - Estimated Heating Load – 375,000 Btu/hr for space heating
3. Bio-Solids Building (30,000 SF) – a conditioned space per ASHRAE due to the anticipated heating load. Processing floor to be maintained at 50 degrees F and approximately 1,500 sf of office/restroom suite to be maintained at approximately 70 degrees F with both heat & A/C.
    - Estimated Envelope Heating Load: 425,000 Btu/hr for space heating,
    - Estimated Ventilation Load: 3,923,000 Btu/hr process ventilation heating
        - Includes 68,000 cfm of process ventilation operating 24/7/365
    - Total required heat = 4,348,000 Btu/hr

    Note: The heating loads presented in this report are for MEPA purposes only and are based on conceptual design. Final load calculations shall be produced by the Engineer of Record.

WSP USA
Suite 210
88 Black Falcon Avenue
Boston, MA 02210

Tel.: +1 617 210-1600
Fax: +1 617 210-1800
wsp.com

HVAC System Options

The code-compliant baseline heating system is assumed to be an 80% efficient gas-fired packaged heating unit. This unit will heat the space to 50°F in the winter, and will also provide minimum code-required ventilation year-round. No cooling will be provided to the space, except for a small 1,500 SF office area within the Bio-solids building. The proposed design options are as follows

- Proposed Design = Gas-fired Furnace Heating and Ventilating Unit with 82% Efficiency
- Proposed Alternate Design = Electric Packaged Heat Pump Unit with 3.4 COP at 47°F OA

Heating Energy Analysis

For each option, WSP estimated the annual energy consumption, greenhouse gas (GHG) emissions, and energy cost using spreadsheet calculations based on weather bin data. The results of this analysis are shown in the tables below:

Table 1: Annual Heating Energy Consumption

Glass Processing Building	Annual Energy Consumption				GHG Emissons		Annual Energy Cost	
	Electricity (kWh)	Natural Gas (therm)	Total Energy (MMBtu)	Energy Savings (%)	GHG Emissions (tons/year)	GHG Savings (%)	Energy Cost ($)	Energy Cost Savings ($)
Baseline - Gas Heating 80% Efficient:	47,936	29,836	3,147	-	192	-	$46,349	-
Proposed Design - Gas Heating 82% Efficient:	47,936	29,108	3,074	2.3%	187	2.2%	$45,475	$873
Proposed Alternative - Heat Pump Heating:	327,090	0	1,116	64.5%	116	39.4%	$71,960	-$25,611

Glass Bunker Building	Annual Energy Consumption				GHG Emissons		Annual Energy Cost	
	Electricity (kWh)	Natural Gas (therm)	Total Energy (MMBtu)	Energy Savings (%)	GHG Emissions (tons/year)	GHG Savings (%)	Energy Cost ($)	Energy Cost Savings ($)
Baseline - Gas Heating 80% Efficient:	9,346	5,817	614	-	37	-	$9,037	-
Proposed Design - Gas Heating 82% Efficient:	9,346	5,675	599	2.3%	37	2.2%	$8,867	$170
Proposed Alternative - Heat Pump Heating:	63,775	0	218	64.5%	23	39.4%	$14,031	-$4,994

Bio-solids Building	Annual Energy Consumption				GHG Emissons		Annual Energy Cost	
	Electricity (kWh)	Natural Gas (therm)	Total Energy (MMBtu)	Energy Savings (%)	GHG Emissions (tons/year)	GHG Savings (%)	Energy Cost ($)	Energy Cost Savings ($)
Baseline	112,254	67,664	7,149	-	436	-	$105,893	-
Proposed Design - Gas Heating 82% Efficient:	112,254	66,014	6,984	2.31%	426	2.2%	$103,912	$1,980
Proposed Alternative - Heat Pump Heating:	745,347	0	2,543	64.4%	265	39.3%	$163,976	-$58,084

As shown in the table above, the heat pump system would reduce site energy and GHG emissions; however, it would increase annual energy costs. The heat pump system would cost an additional $91,713 per year to operate compared to the proposed gas furnace heating system.

Utility rates used in the analysis are $0.22/kWh and $1.2/therm.

Construction Costs

The following construction costs were developed using RS Means:

Table 2: RS Means Cost Estimates for Air Handling Equipment (Material + Labor)

	RS Means Cost ($/MBH of installed heating capacity)
Gas Rooftop Unit 80% Efficiency ($/MBH Cost)	$70
Gas Rooftop Unit 82% Efficiency ($/MBH Cost)	$72
Rooftop Heat Pump ($/MBH Cost)	$134

Using the costs developed above, the heating system costs were calculated for each building based on floor area:

Table 3: Estimated Air Handling Equipment Cost by Building

	Glass Processing	Glass Bunker	Bio-Solids	TOTAL
Baseline - Gas Heating 82% Efficient:	$134,220	$26,170	$304,397	**$464,787**
Proposed Design - Gas Heating 82% Efficient:	$137,576	$26,824	$312,007	**$476,406**
Proposed Alternative - Heat Pump Heating:	$256,936	$50,097	$582,702	**$889,735**
Overall Construction Cost Increase for Heat Pump Heating = $413,328				

Alternative Energy Credits and Utility Incentives

Alternative energy certificates (AECs) are financial incentives available to businesses that use air-source heat pump systems, which take advantage of the naturally occurring temperature differences in the air to provide heating/cooling.

Air-source heat pumps with efficiencies that exceed code are also eligible for incentives through the Mass Save Utility Program. For purposes of this analysis the following assumptions were made:

- Project would pursue Mass Save Custom Incentive Approach
- Estimated Incentive is $0.35/kWh saved
- The heat pump system would save 20% energy compared to code

Table 4 below outlines the potential AECs and incentives available for air-source heat pumps.

Table 4: AEC and Incentive Summary

Incentives	Glass Processing	Glass Bunker	Bio-Solids
Alternative Energy Credits for Heat Pump System	$2,862	$559	$6,489
Mass Save Incentives for Heat Pump System	$22,896	$4,464	$52,174

Conclusion

Table 5 and 6 below summarize the first cost, incentives, and net operating cost for each building. The proposed gas heating system has a simple payback of 3.8 years, while the heat pump system does not payback.

The heat pump system would reduce GHG emissions by 40%; however, it would cost an additional $78,779 per year to operate when compared to the proposed gas heating system.

Additionally, the heat pump systems provide both heating and cooling; however, only heating is required at the building. Therefore, the owner would pay a premium for a heat pump system with cooling capabilities that are not needed. Overall it would increase construction cost by approximately $345,413.

The project team reach out to several vendors that indicated air source heat pump units are currently available in sizes up to ~240,000 Btu/hr. For example, one (1) proposed gas heating make-up air unit for the Bio-solids is currently 47,500 CFM, and approximately 4,000,000 Btu/hr. This would need to be replaced with (17) air-source heat pumps, which is not a realistic design or approach to heating a high-bay warehouse or manufacturing facility.

For the reasons outlined above, a heat pump system was not selected for this project.

Table 5: Annual First Cost and Operating Cost (By Building)

Glass Processing Building	Incentives and Construction Costs				Net First Cost	Net Annual Operating Cost Savings	Simple Payback (years)
	Construction Cost ($)	Incremental First Cost ($)	Alt. Energy Credits ($)	Mass Save Incentive*			
Baseline - Gas Heating 80% Efficient:	$134,220	$0	$0	$0	-	-	-
Proposed Design - Gas Heating 82% Efficient:	$137,576	$3,356	$0	$0	**$3,356**	**$873**	**3.8**
Proposed Alternative - Heat Pump Heating:	$256,936	$122,715	$2,862	$22,896	**$99,819**	**-$22,749**	**Does Not Payback**

Glass Bunker Building	Incentives and Construction Costs				Net First Cost	Net Annual Operating Cost Savings	Simple Payback (years)
	Construction Cost ($)	Incremental First Cost ($)	Alt. Energy Credits ($)	Mass Save Incentive*			
Baseline - Gas Heating 80% Efficient:	$26,170	$0	$0	$0	-	-	-
Proposed Design - Gas Heating 82% Efficient:	$26,824	$654	$0	$0	**$654**	**$170**	**3.8**
Proposed Alternative - Heat Pump Heating:	$50,097	$23,927	$559	$4,464	**$19,463**	**-$4,435**	**Does Not Payback**

Bio-solids Building	Incentives and Construction Costs				Net First Cost	Net Annual Operating Cost Savings	Simple Payback (years)
	Construction Cost ($)	Incremental First Cost ($)	Alt. Energy Credits ($)	Mass Save Incentive*			
Baseline	$304,397	$0	$0	$0	-	-	-
Proposed Design - Gas Heating 82% Efficient:	$312,007	$7,610	$0	$0	**$7,610**	**$1,980**	**3.8**
Proposed Alternative - Heat Pump Heating:	$582,702	$278,306	$6,489	$52,174	**$226,131**	**-$51,595**	**Does Not Payback**

Table 6: Added First Cost and Operating Cost for Heat Pump System (Total – all 3 buildings)

	Net First Cost	Net Annual Operating Cost Savings
Heat Pump Heating System for entire site	$345,413	-$78,779

--END--

EXHIBIT 14

SAMPLE ODOR NEUTRALIZING AGENT PRODUCT LITERATURE

AirSolution®
Odor Counteractant

AirSolution 23

Ideal for trash or recycling rooms

***AirSolution™ 23* is a concentrated non-toxic liquid odor counteractant for treating airborne odors that originate from solid waste materials including, trash rooms, dumpsters, compactors, recycling areas, landfills, transfer stations, material recovery facilities and food waste disposal.**

AirSolution™ 23 is a water soluble liquid, with a distinct scent, used to neutralize and completely eliminate various organic odors arising from a multitude of sources. The basis of AirSolution is a complex blend of essential oils and odoriferous organic compounds found in plants. AirSolution also contains surfactant, isopropyl alcohol, dyes (product class: FD&C color) and water. When the diluted product is misting in contact with odorous air it effectively reduces the concentration and intensity of airborne odors by converting odor molecules into non-volatile compounds.

AirSolution™ 23 is safe to handle and apply in areas where there may be human contact.

Product Specification on AirSolution Concentrate
Properties: Transparent liquid
Color: Green
Odor: Citrus blend
Gravity at 20°C: 0.935-0.950
pH at 25°C: 5.5-7.0

Instructions for Use

Dilution Range: 4:1 to 10:1 for trash rooms,
200:1 to 500:1 outdoor misting systems
Application Method: Atomization / Misting
Application Areas: Trash chutes, trash rooms, compactors, dumpster areas, food waste areas, landfills, transfer stations.

- Mix product with clean potable water before use.
- Mixed product should be used within 30 days for optimal performance.
- Guidelines for calculating chemical usage are estimates only. Actual usage is affected by odor concentration, temperature, particulate levels, etc.

Ordering Information: AirSolution™ #23 Concentrate

Code	Size	Wt.	Dimensions
50-AIR-0830-C20	20 L 5.28 gal	21.8 kg. 48 lbs.	23 x 28 x 38 cm 9" x 11" x 15"
50-AIR-0830-D20	200 L 52.8 gal	228 kg. 500 lbs.	57 x 57 x 89 cm 23" x 23" x 35"

TDG Classification: Flammable liquid class 3, packing group III

Odor Neutralizer
Concentrated Liquid
Air-Contact Technology
Safe & Effective

Applications

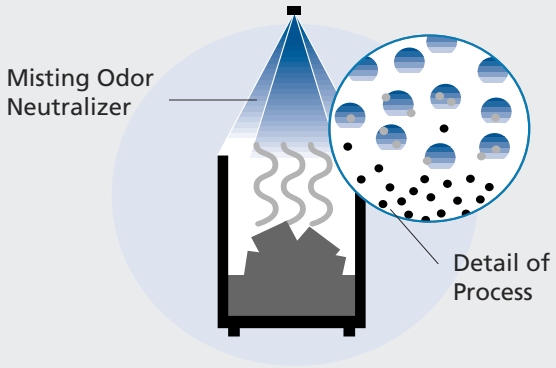
- Trash rooms
- Compactors
- Dumpster storage
- Trash chutes
- Recycling areas
- Organics collection

Types of Odors Treated

- Hydrogen sulfide
- Mercaptans
- Reduced sulfur compounds
- Organic Acid Odors
- Decay

ECOLO®
ODOR CONTROL TECHNOLOGIES INC.

Airborne Odor Control

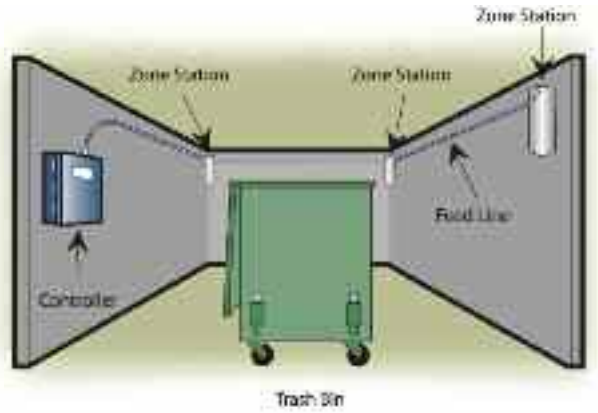


Airborne Misting Odor Neutralizer

Neutralized Odor
Odor

Our misting odor neutralizers contain powerful reactants made from essential oils, surfactants and aromatics. Airborne droplets attract and neutralize odors through active chemical processes.

Trash Room Installation



Types of Odors Treated

- Garbage
- Food waste areas
- Trash chutes
- Building perimeters

Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling. Optimal Storage: 8 °C to 21 °C. Storage below 8 °C or greater than 28 °C can adversely affect product properties. Material removed from containers may be contaminated during use. Do not return product to the original container. Ecolo cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local representative or Ecolo Technical Support Department.

Material Specification

Test reports for each batch are available for the indicated properties. Test reports include selected QC test parameters considered appropriate to specifications for customer use. Additionally, comprehensive controls are in place to assure product quality and consistency.
Special customer specification requirements may be coordinated through Ecolo.

Conversions

(°C x 1.8) + 32 = °F
L / 3.785 = Gal
cm / 2.54 = inch

Note

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