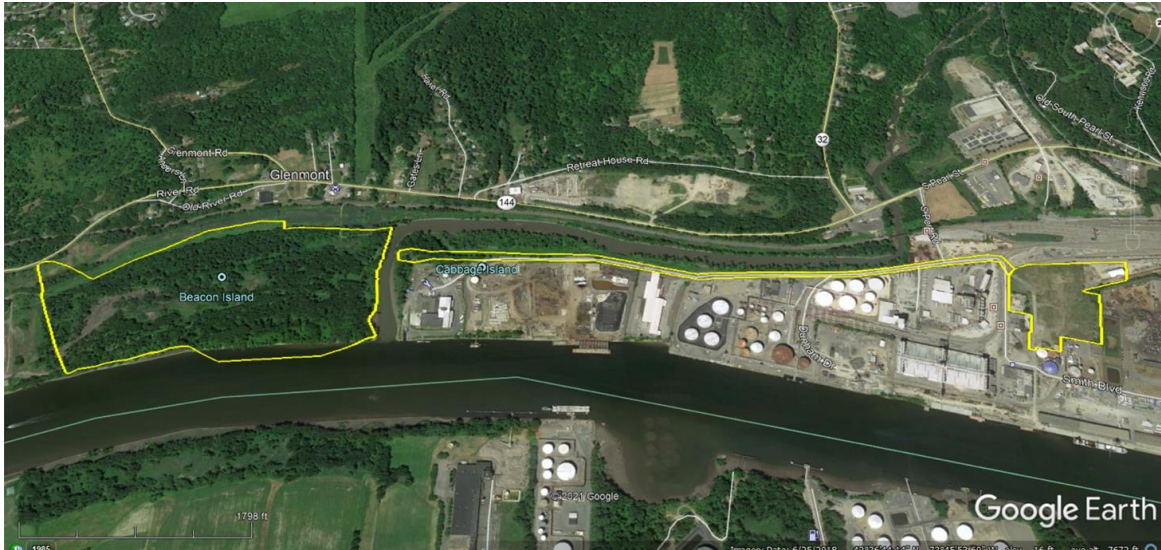


SUPPLEMENTAL FINAL ENVIRONMENTAL
IMPACT STATEMENT

FOR THE

ALBANY PORT DISTRICT COMMISSION
PORT OF ALBANY EXPANSION PROJECT



TOWN OF BETHLEHEM, NEW YORK

PREPARED FOR:

**Albany Port District Commission
106 Smith Boulevard
Albany, NY 12202**

PREPARED BY:



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**TOWN OF BETHLEHEM
PLANNING BOARD**

SUPPLEMENTAL FINAL ENVIRONMENTAL IMPACT STATEMENT

**For
ALBANY PORT DISTRICT COMMISSION PORT OF ALBANY
EXPANSION PROJECT**

Project Name: Albany Port District Commission (APDC) Port of Albany Expansion Project – Marmen/Welcon Tower Manufacturing Plant

Project Location: Beacon Island and 700 Smith Boulevard
Town of Bethlehem, Albany County, NY

SEQRA Classification: Type I

Lead Agency: Planning Board, Town of Bethlehem
Bethlehem Town Hall
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Applicant: Albany Port District Commission
106 Smith Boulevard
Albany, NY 12202

Date: February 2022

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- Appendix BB – Sturgeon Mitigation Memo and Impact Figure
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- Appendix DD – Noise Assessment Report and Data
- Appendix EE – Updated Photo Simulations
- Appendix FF – Emergency Services (Fire Flow) Memo

1. SFEIS INTRODUCTION

This Supplemental Final Environmental Impact Statement (SFEIS) is prepared for the Port of Albany Expansion Project - Marmen-Welcon Tower Manufacturing Plant. Pursuant to the State Environmental Quality Review Act (SEQRA), the purpose of the SFEIS is to respond to substantive comments on the Supplemental Draft Environmental Impact Statement (SDEIS) received by the general public and all interested and involved agencies.

The SDEIS for the Port Expansion Project was determined acceptable for public comment by the Town of Bethlehem Planning Board (the Town), acting as Lead Agency, on November 16, 2021. A public hearing was held on December 7, 2021, and the public comment period ended on December 17, 2021.

Pursuant to the requirements of SEQRA, the SFEIS includes the SDEIS in its entirety, all verbal and written comments received during the public hearing and throughout the comment period. The main purpose of this SFEIS is to respond to all substantive comments. The final step in the SEQRA process is the adoption of a SEQRA Findings Statement by the Lead Agency.

1.1. SUMMARY OF WRITTEN COMMENTS

Section 2 of the SFEIS provides a table of applicable written comments received during the comment period. Comments addressed herein include those received in writing from agencies and the general public. All written comments are included in **Appendix AA of the SFEIS**. **Note that no verbal comments were received during the Public Hearing held on December 7, 2021**, and therefore no transcript from the public hearing is included, however, the meeting minutes and video recording of the meeting is located on the Town web site.

2. Table of Comments Received on SDEIS

Commenter	Identifier
NYSDEC	A
MJ Engineering	B
Stockbridge-Munsee Tribal Historic Preservation	C
SHPO	D
NYS Attorney General's Office	E
RiverKeeper	F

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
A-1.1 to A-1.18	12/17/2021 NYSDEC Comments on Supplemental DEIS Letter	1.4.6 Climate and Air Quality	Enclosed with this letter are NYSDEC’s comments on Section 1.4.6 which were previously sent via email and included as Appendix E2 to the SDEIS.	Appendix E2
A-2	12/17/2021 NYSDEC Comments on Supplemental DEIS Letter	1.6.3 List of Required Permits and Approvals & 2.6 Required Approvals	It is NYSDEC’s understanding that a State Pollutant Discharge Elimination System (SPDES) permit is required for a proposed on-site wastewater treatment facility. Additionally, coverage under NYSDEC’s Multi-Sector General Permit (MSGP) may be required for the Proposed Action. Please update the list of NYSDEC permits and approvals accordingly.	Pages 4-22
A-3	12/17/2021 NYSDEC Comments on Supplemental DEIS Letter	2.3 Description of Proposed Action	Figure 2.3-1, and similar figures throughout the SDEIS, are confusing, especially where the 2020 Final GEIS Project Site line and Supplemental EIS Project Site line are depicted within the Hudson River. Based on the figure, it appears that the Supplemental EIS Project Site includes some but not all the area in the Hudson River, however, the SDEIS includes statements like, “supplemental Project Areas do not include any lands under water” and “the supplemental Project Area is not located within or adjacent to the Hudson River.” These discrepancies	No update to SFEIS corresponding to response

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
			should be clarified in the Supplemental Final Environmental Impact Statement (SFEIS), including updated figures, if necessary.	
A-4	12/17/2021 NYSDEC Comments on Supplemental DEIS Letter	3.1 Soils, Geology, & Topography	The SDEIS has a brief discussion in this section on noise impacts from construction and operation of the Proposed Action. The SDEIS states that there are, “no sensitive receptors (e.g., residential land uses) immediately adjacent to the property boundary.” However, the Proposed Action is directly across the river from Papscaanee Island, which is a significant cultural resource for the Stockbridge-Munsee Band of the Mohican Nation. NYSDEC recommends that the SFEIS include a noise assessment which considers potential impacts to Papscaanee Island from construction and operation of the Proposed Action.	Section 3.1.3, Page 4-43
A-5	12/17/2021 NYSDEC Comments on Supplemental DEIS Letter	3.2 Vegetation and Wildlife	The SDEIS states that there is no essential fish habitat (EFH) identified with the supplemental Project Area. The SFEIS should discuss the consultation process with the National Oceanic and Atmospheric Administration-National Marine Fisheries Service (NOAA-NMFS) that	Section 3.2.1, Page 4-48 to 4-49 Section 3.2-2, Page 4-51 to 4-53, 4-55 Section 3.2-3, Pages 4-56 to 4-57

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
			is currently underway, including if there has been a determination by NOAA-NMFS that there is no EFH within the Proposed Action area.	
A-6	12/17/2021 NYSDEC Comments on Supplemental DEIS Letter	3.2 Vegetation and Wildlife	The SDEIS includes a brief discussion on the impacts to threatened and endangered species including Atlantic sturgeon and shortnose sturgeon. In addition to the potential impacts identified during in-water construction, the area in front of the new wharf will be dredged which may result in an adverse modification of habitat for both sturgeon species. APDC has applied to NYSDEC for an Incidental Take Permit. Under NYSDEC’s regulation, Part 182 of Title 6 of New York Codes, Rules and Regulations (6 NYCRR Part 182) a take of any listed endangered or threatened species includes lesser acts.1 Lesser acts include any adverse modification of habitat that supports an essential behavior of a listed species.	Section 3.2.1, Page 4-48 to 4-49 Section 3.2-2, Page 4-51 to 4-53, 4-55 Section 3.2-3, Pages 4-56 to 4-57
A-7	12/17/2021 NYSDEC Comments on Supplemental DEIS Letter		NYSDEC is currently working with the applicant on developing a mitigation plan that would provide a net conservation benefit to sturgeon as required in 6 NYCRR Part 182. The SFEIS should include the updated	Section 3.2.1, Page 4-48 to 4-49 Section 3.2-2, Page 4-51 to 4-53, 4-55 Section 3.2-3, Pages 4-56 to 4-57

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
			<p>information regarding the agreed upon impacts to sturgeon and measures that will be taken to avoid, minimize, and mitigate for those impacts, both for in-water construction and possible adverse modification of habitat. The SFEIS should also discuss the consultation process that is currently underway with NOAA-NMFS pursuant to Section 7 of the Endangered Species Act.</p>	
A-8	12/17/2021 NYSDEC Comments on Supplemental DEIS Letter	3.2 Vegetation and Wildlife	<p>The SDEIS states that, “all proposed impacts to and mitigation for significant coastal fish and wildlife habitat were addressed in the FGEIS.” It should be noted that the detailed project plans for the bridge across the Normans Kill were provided to NYSDEC and the New York State Department of State (NYSDOS) through the submission of the Joint Permit Application package in August 2021. At the time of the FGEIS in 2019, these detailed project plans were not available. Since the review of the Joint Permit Application is currently underway, there may be additional impacts identified to the significant coastal fish and wildlife habitat that would</p>	<p>Section 3.2.1, Page 4-48 to 4-49 Section 3.2-2, Page 4-51 to 4-53, 4-55 Section 3.2-3, Pages 4-56 to 4-57</p>

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
			need to be avoided, minimized, and/or mitigated. The SFEIS should provide updated information regarding impacts to and mitigation for significant coastal fish and wildlife habitat.	
A-9	12/17/2021 NYSDEC Comments on Supplemental DEIS Letter	3.6 Climate and Air	As of the date of this letter, NYSDEC has not received an Air State Facility permit application from the APDC. As part of the submission of the Air State Facility permit application to NYSDEC, the applicant will be required to use Climate Leadership and Community Protection Act (CLCPA) greenhouse gas (GHG) emissions accounting for NYSDEC to evaluate the project’s consistency with the CLCPA’s Statewide GHG emission limits established in Article 75 of the Environmental Conservation Law (ECL), as required pursuant to CLCPA Section 7(2).2 The estimation of GHG emissions in the SDEIS does not use the same accounting as New York State, per the CLCPA. The New York State accounting considers the impact of emissions that occur through the lifecycle of fuels used for such projects, not just the direct on-site emissions. For the Proposed Action	No update to SFEIS corresponding to response

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
			<p>that would include, for example, the leakage of methane in the natural gas system or the emissions generated in the production of transportation fuels. GHGs have a global impact, so these emissions harm New York communities. The CLCPA seeks to have these emissions mitigated alongside direct emissions. For consistency with the forthcoming Air State Facility permit application, the SFEIS should include the CLCPA accounting for greenhouse gas emissions.</p>	
A-10	12/17/2021 NYSDEC Comments on Supplemental DEIS Letter	3.6 Climate and Air	<p>In Table 1.3-1: Potential Impacts and Proposed Mitigation Measures, in row, SDEIS Section 3.6 Climate and Air Quality, column Proposed Mitigation, it states, “[c]onstruction impacts will be mitigated with dust suppression and monitoring by the NYSDEC at the perimeter of the property.” Please note that NYSDEC does not conduct air monitoring at the perimeter of the property, therefore, this should be removed as a mitigation measure for the Proposed Action.</p>	Section 1.3, Page 4-11

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
A-11	12/17/2021 NYSDEC Comments on Supplemental DEIS Letter	3.6 Climate and air	Section 1.4.6 Climate and Air Quality and Section 3.6 Climate and Air Quality should specify that “major source” is defined under 6 NYCRR Part 201-2.1(b)(21). Please add these references to the text of the SFEIS, where applicable.	Page 4-17
A-12	12/17/2021 NYSDEC Comments on Supplemental DEIS Letter	3.6 Climate and Air	Section 3.6.2 Potential Impacts should state that “facility-wide uncontrolled potential emissions” are also known as the Emission Rate Potential (ERP) as defined under 6 NYCRR Part 200.1(u) and the “facility-wide potential emissions after consideration of air pollution control” are also known as the Potential to Emit (PTE) as per 6 NYCRR 200.1(b). Please add these references to the text and tables in the SFEIS, where applicable.	Section 3.6.2, Page 4-74 & 4-75
A-13	12/17/2021 NYSDEC Comments on Supplemental DEIS Letter	3.6 Climate and Air	Section 3.6.3 Mitigation Measures states, “based on results from the Part 212 review and supporting air quality impact assessment, it is concluded that the project’s potential impacts to air quality will be minimal and acceptable.” It is premature to make this conclusion. Emissions details have not been	No update to SFEIS corresponding to response

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
			<p>provided and no verification of the emissions have been done by NYSDEC staff. Additionally, the enhanced public participation process is just beginning, and stakeholders should have the opportunity to review the project documentation and fully participate in the environmental permit review process before determinations are made on whether mitigation measures are appropriate or not.</p>	
A-14	12/17/2021 NYSDEC Comments on Supplemental DEIS Letter	3.2 Vegetation and Wildlife/3.7 Traffic and Transportation	<p>The Maritime Analysis indicates that the Proposed Action will result in an approximate 10% increase in maritime traffic. The SFEIS should discuss the consultation process that is currently underway with NOAA-NMFS pursuant to Section 7 of the Endangered Species Act for potential impacts to sturgeon species resulting from increased vessel traffic.</p>	<p>Section 3.2.1, Page 4-48 to 4-49 Section 3.2-2, Page 4-51 to 4-53, 4-55 Section 3.2-3, Pages 4-56 to 4-57</p>
A-15	12/17/2021 NYSDEC Comments on Supplemental DEIS Letter	3.11 Historic/Cultural Resources	<p>Subsequent to the issuance of the SDEIS, the New York State Historic Preservation Office (SHPO) issued a letter on December 9, 2021 stating, “[b]ased on the visual simulation, the SHPO concurs with the Stockbridge Munsee Community (SMC) [Tribal Historic Preservation Office] THPO that the</p>	3.11.2 & 3.11.3, Page 4-94 to 4-95

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
			<p>Marmen/Welcon Offshore Wind Tower Manufacturing Plant will have an adverse visual effect on the National Register eligible Papscaenee Island Historic District (08303.000130).” The SFEIS should include updated information on the Section 106 consultation process including how comments from the SMC THPO and SHPO are being addressed.</p>	
A-16	12/17/2021 NYSDEC Comments on Supplemental DEIS Letter	3.12 Aesthetic and Visual Resources	<p>Given the visual concerns raised by the SMC THPO and SHPO, it is recommended that the SFEIS include an updated discussion on impacts and mitigation measures for visual resources, including, but not limited to, the number and maximum height of cranes that will be utilized on the site and temporary storage areas for the transition pieces. This information should also be included in any revised visual assessments and photo/video simulations conducted for the site. Additionally, it is recommended that any revised photo/video simulations represent leaf-off condition since the existing trees to remain after construction are primarily deciduous.</p>	3.11.2 & 3.11.3, Page 4-97 Additionally, updated visuals have been included as an Appendix to this FSEIS

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
A-17	12/17/2021 NYSDEC Comments on Supplemental DEIS Letter	3.12 Aesthetic and Visual Resources	It is NYSDEC’s understanding that the APDC will retain a vegetated buffer along 2/3 of the shoreline of the Proposed Action. NYSDEC recommends that APDC conduct a survey of the vegetation that will be retained so that a vegetation management plan can be developed. At a minimum, the vegetation management plan should establish a protection zone (setback from construction) for the trees that will remain, and a replacement plan for dead trees.	No update to SFEIS corresponding to response
A-18	12/17/2021 NYSDEC Comments on Supplemental DEIS Letter	3.20 Environmental Justice	The SDEIS states, “CP 29 is initiated when a permit application is made to the NYSDEC. The Albany Port Expansion Project will require at a minimum the following DEC permits: SWPPP permit; ³ Article 15 and Water Quality Certification.” As noted above, the Proposed Action will also require an Air State Facility permit from NYSDEC pursuant to ECL Article 19 and a SPDES Permit from NYSDEC pursuant to ECL Article 17. Commissioner Policy 29 (CP-29) is applicable to major projects for the permits authorized by the	Page 4-110

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
			following sections of the ECL: titles 7 and 8 of article 17, state pollutant discharge elimination system (SPDES) (implemented by 6 NYCRR Part 750 et seq.), and article 19, air pollution control (implemented by 6 NYCRR Part 201 et seq.). These NYSDEC permits should be listed in Section 3.20 as they are the permits required for the Proposed Action that specifically require compliance with CP-29.	
B-1	12/17/2021 Technical Review Letter of SDEIS	Traffic Impact Statement	The City of Albany will need to provide review and comments on the property located within their jurisdiction	No update to SFEIS corresponding to response
B-2	12/17/2021 Technical Review Letter of SDEIS	Traffic Impact Statement	NYSDOT will need to provide review and comment as this project impacts NY Routes 32 and 144.	No update to SFEIS corresponding to response
B-3	12/17/2021 Technical Review Letter of SDEIS	Traffic Impact Statement	The modifications to the driveway access to and the additional left-turn lane on NY Route 144 will require review and approval by the NYSDOT.	No update to SFEIS corresponding to response
B-4	12/17/2021 Technical Review Letter of SDEIS	Traffic Impact Statement	Page 4: The improvements referenced from the FGEIS do not include the following intersections where signal timing changes were proposed: a. NY 32 and 1st Ave/787 Exit 2 b. NY 32 and US 9W	No update to SFEIS corresponding to response

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
			c. 787 and 87 Exit 23 Include a discussion why these are not included.	
B-5	12/17/2021 Technical Review Letter of SDEIS	Traffic Impact Statement	Figures 2A and 2B: The difference in volumes between intersections along the NYS Route 32 and 144 corridor do not match. It is understood the volumes will not balance due to data collected at different times, but the differences should match if all that has changed is the trip volumes. Volumes should be verified and updated accordingly.	No update to SFEIS corresponding to response
B-6	12/17/2021 Technical Review Letter of SDEIS	Traffic Impact Statement	Page 12, Trip Assignment: The report states that the traffic assessment from Marmen Welcon indicates the project will generate 324 trips during the largest shift change and references Appendix A for the assessment. The assessment in Appendix A is from March 2021 and was included in the July TIS submission that included 350 employees and not the increased 550 employees now proposed. Provide updated assessment to allow for review of trip generation volumes.	Updated Traffic Impact Statement included in Appendix CC
B-7	12/17/2021 Technical Review Letter of SDEIS	Traffic Impact Statement	Page 12, Trip Assignment: The report should include entering/existing trip distribution. If it matches what was	Updated Traffic Impact Statement included in Appendix CC

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
			in the GEIS, state this and reference the percentages. If they do not match, provide entering/existing trip volume distribution.	
B-8		Traffic Impact Statement	Page 12, Trip Assignment: The report states that a separate truck route is proposed during the construction phase of the project with trucks then using the proposed truck route. The proposed truck route shall be used by construction vehicles throughout the duration of construction of the proposed facility.	Updated Traffic Impact Statement included in Appendix CC
B-9	12/17/2021 Technical Review Letter of SDEIS	Traffic Impact Statement	Page 14, Figure 6: Modify legend to include AM and PM volume designation.	Updated Traffic Impact Statement included in Appendix CC
B-10	12/17/2021 Technical Review Letter of SDEIS	Traffic Impact Statement	Page 20: The driveway is proposed to be limited to right-turns for exiting vehicles due to available sight distance. There is a concern that drivers wanting to go south could use Old River Road, Anders Lane, or Glenmont Road to turn around and head south. The previous plan dispersed traffic leaving the Port and allowed for left turns out of South Port Road. Is there another alternative access location to NY Route 144 that would allow for a full access driveway with existing conditions? Some options could be	Updated Traffic Impact Statement included in Appendix CC

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
			to use the existing railroad underpass after improving the roadway, possible connection of the northern driveway to Normanskill Street by separating traffic on the bridge. If other alternative access is not feasible, what mitigation would be proposed to limit the use of Old River Road, Anders Lane, or Glenmont Road by southbound vehicles?	
B-11	12/17/2021 Technical Review Letter of SDEIS	Traffic Impact Statement	The report states that if the speed limit is reduced by NYSDOT in the vicinity of the proposed driveway, a full access driveway will be utilized. The sight distance table on page 22 only includes information for the right-out only condition. This table, or a separate table, should be included for the left turn and what mitigation is required to obtain the required sight distances for Case B1, Left Turn from Stop.	Updated Traffic Impact Statement included in Appendix CC
B-12	12/17/2021 Technical Review Letter of SDEIS	Traffic Impact Statement	Page 22: If clearing exceeds NYSDOT highway right-of-way, how will clearing be performed on land not owned by the Port on the north side of NY Route 144 to achieve required sight distances for the 55-mph speed as shown in Table 5?	Updated Traffic Impact Statement included in Appendix CC

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
B-13	12/17/2021 Technical Review Letter of SDEIS	Traffic Impact Study	Page 24, Rail Analysis, Table 9: Provide updated traffic assessment to verify proposed rail car data provided.	Updated Traffic Impact Statement included in Appendix CC
B-14	12/17/2021 Technical Review Letter of SDEIS	Traffic Impact Study	Page 25, Maritime Analysis, Table 10: Provide updated traffic assessment to verify proposed vessel and barge data provided.	Updated Traffic Impact Statement included in Appendix CC
B-15	12/17/2021 Technical Review Letter of SDEIS	Traffic Impact Study	Signal Warrant: The satisfaction of signal warrant thresholds by themselves do not mean a traffic signal should be installed. The traffic signal warrants will require NYSDOT review and approval.	Updated Traffic Impact Statement included in Appendix CC
B-16	12/17/2021 Technical Review Letter of SDEIS	Traffic Impact Study	Page 25, Conclusions: Third bullet states “additional traffic generated by the proposed Port of Albany expansion along River Road will have a negligible impact on the operations of the NYS Route 144 (River Road) corridor, as well as South Port Road.” Without including analysis results for all intersections within the study area, this conclusion can’t be verified. Include analysis results of all study area intersections with new distribution and volumes for this specific development. The impacts of the increased volumes and new trip distribution on the Glenmont Road	Updated Traffic Impact Statement included in Appendix CC

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
			intersection are of particular concern.	
B-17	12/17/2021 Technical Review Letter of SDEIS	Traffic Impact Study	Page 25, Conclusions: Fifth bullet states a coordinate signal is recommended at the intersection of NY Route 144 (River Road) with NY Route 32 (Corning Hill Road). If NYSDOT denies the signal, would the Port and/or Marmon Welcon consider a contribution in the amount required to construct the traffic signal into an escrow account to be used solely for the purpose of installation of a traffic signal at this location. An estimate for the amount would be required to be submitted for review, and potential adjustment, prior to agreement of the amount.	Updated Traffic Impact Statement included in Appendix CC
B-18	12/17/2021 Technical Review Letter of SDEIS	Traffic Impact Study	Page A1-A3, Figures 7A, 7B, and 7C: Provide figures with text that is readable. The text is blurry and difficult to read. Figure 7C uses 60 mph speed compared to 45/55 mph used in other parts of the report. Explain why this is different at this location than other locations in the report.	Updated Traffic Impact Statement included in Appendix CC
B-19	12/17/2021 Technical Review Letter of SDEIS	Traffic Impact Study	Comments provided on the Traffic Impact Study should be carried through to the text in Section 3.7.	Updated Traffic Impact Statement included in Appendix CC

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
B-20	12/17/2021 Technical Review Letter of SDEIS	3.3 Wetlands and Surface Waters	Section 3.3 Wetlands and Surface Waters – This section is claiming that the wetlands on the National Grid Property are Palestrina emergent wetlands. However, the SWPPP and the storm water design is based upon the wetlands being tidal. The wetland maps and delineation both show the wetland as no- tidal. These documents and design approaches need to be coordinated and compliant with each other. This issue is a very large issue that needs to be addressed to move the stormwater design forward.	No update to SFEIS corresponding to response, however, the SWPPP was updated to be consistent with the wetland delineation report and SEIS.
B-21	12/17/2021 Technical Review Letter of SDEIS	3.8 Drainage	Section 3.8.1 Drainage – as in Section 3.3, this section is claiming that the wetlands on the National Grid Property are Palestrina emergent wetlands. However, the SWPPP and the storm water design is based upon the wetlands being tidal. The wetland maps and delineation both show the wetland as no- tidal. These documents and design approaches need to be coordinated and compliant with each other. This issue is a very large issue that needs to be addressed to move the stormwater design forward.	No update to SFEIS corresponding to response, however, the SWPPP was updated to be consistent with the wetland delineation report and SEIS.

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
B-22	12/17/2021 Technical Review Letter of SDEIS	3.12 Aesthetic and Visual Resources	Section 3.12 - Aesthetic and Visual Resources – add discussion about seasonal visual impact and consider photo simulations with existing conditions photos during leaf-off season (Appendix H) to better illustrate potential impacts during leaf off season.	3.11.2 & 3.11.3, Page 3-53 Additionally, updated visuals have been included as an Appendix to this FSEIS
B-23	12/17/2021 Technical Review Letter of SDEIS	3.15 Emergency Services	Section 3.15 – Emergency Services – more clearly address potential impacts and mitigation to emergency services, specifically the Selkirk Fire Department.	
B-24	12/17/2021 Technical Review Letter of SDEIS	N/A	Address comments from NYS Department of Environmental Conservation (letter dated August 13, 2021 and subsequent communication) regarding 3.2 Vegetation and Wildlife; 3.4 Floodplains and Floodways; 3.6 Climate and Air; 3.7 Traffic and Transportation; and 3.20 Environmental Justice Policy.	These comments were addressed already in the DSEIS.
B-25	12/17/2021 Technical Review Letter of SDEIS	3.11 Historic/Cultural Resources	Address comments from the Stockbridge-Munsee Tribal Historic Preservation office (letter dated December 6, 2021) related to visual impacts and noise impacts on Papscanee Island.	3.11.2 & 3.11.3, Page 4-94 to 4-95
C-1	12/06/2021 Letter	3.11 Historic/Cultural Resources	SMC THPO finds that the plant as currently proposed would have an	3.11.2 & 3.11.3, Page 4-94 to 4-95

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
			Adverse Effect on the visual and scenic attributes of the landscape from Papscanee Island for any Tribal member visiting. These impacts include the visual contrasts of the building structures and yellow color scheme of the respective installation components of the wind tower piers at their current staging area as compared to the natural landscape.	
C-2	12/06/2021 Letter	3.11 Historic/Cultural Resources	There is concern over the size of the building structures as compared to the surrounding landscape. The revised project scope now includes 100'+ tall structures as compared to the original 80'. The size of these structures will certainly be visible from not only the shoreline of Papscanee Island but the interior as well.	3.11.2 & 3.11.3, Page 4-94 to 4-95
C-3	12/06/2021 Letter	3.11 Historic/Cultural Resources	The visual impact simulation depicts the proposed project during a day time scenario. The manufacturing plant will be operating 24/7. Lighting associated with these operating activities would also be a visual impact concern.	3.11.2 & 3.11.3, Page 4-94 to 4-95
C-4	12/06/2021 Letter	3.11 Historic/Cultural Resources	SMC THPO requests an acoustic noise assessment to be conducted that includes projected levels experienced from multiple points	3.11.2 & 3.11.3, Page 4-94 to 4-95

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
			<p>across Papscaanee Island. This assessment should include ambient noise levels recorded from Papscaanee Island as well as what would be projected operating decibels experienced from the Island, not just 75' and 50' from the manufacturing structures. We ask the assessment to cover a 24-hour period considering the projected operating hours of the manufacturing plant and port activities. Perceptible increase in noise levels, regardless of time of day, location on Papscaanee Island, and or frequency of visitors, would be an Adverse Effect. Whether at sporadic times, when Tribal community members visit Papscaanee today due to its significant cultural importance, there would be discernable noise impacts associated with operating activities being proposed by the Port of Albany Expansion Marmen-Welcon Tower Manufacturing Plant project.</p>	
C-5	12/06/2021 Letter	3.11 Historic/Cultural Resources	<p>SMC THPO asks for more clarity on the buffer of natural vegetation and trees to be kept in place on the southern extent of the project area. How wide is that buffer planned to</p>	3.11.2 & 3.11.3, Page 4-94 to 4-95

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
			<p>be? Are the existing trees intended to be maintained and or what is planned to be placed there? What if the natural vegetation and trees die? What is the plan for replacement? There is concern that the natural barrier of trees will not be sufficient to dampen any acoustics associated with manufacturing processes and or appropriate coverage to mitigate the visual impacts of the larger structures. If the trees die due to various construction and or manufacturing activities or environmental factors, the proposed building structures would be very clear on the landscape.</p>	
D-1	12/09/2021 SHPO Response Letter	3.11 Historic/Cultural Resources	<p>Based on the visual simulation, the SHPO concurs with the Stockbridge Munsee Community (SMC) THPO that the Marmen/Welcon Offshore Wind Tower Manufacturing Plant will have an adverse visual effect on the National Register eligible Papscaanee Island Historic District (08303.000130).</p>	3.11.2 & 3.11.3, Page 4-94 to 4-95
D-2	12/09/2021 Letter	3.11 Historic/Cultural Resources	<p>SHPO will provide additional comments once the Acoustic Noise Assessment has been completed to measure the proposed project's noise impacts at the Papscaanee</p>	3.11.2 & 3.11.3, Page 4-94 to 4-95

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
			Island Historic District and the SMC THPO's comments regarding noise impacts have been provided.	
E-1	12/17/2021 Letter	3.20 Environmental Justice/Air Quality	Absent from the SDEIS are enforcement provisions. There is no mention of tenant leases or video monitoring that were conditions in the Generic Findings Statement. Accordingly, the Attorney General recommends that the final SEIS and its finding statement provide that the policy of avoiding truck traffic at Ezra Prentice be enforced by provisions in tenant leases and video-monitoring, as previously set forth in the Generic Findings Statement.	Section 3.7, Page 4-87
E-2	12/17/2021 Letter	3.20 Environmental Justice/3.7 Traffic	To mitigate that risk, the internal port road should be constructed at the outset of the Project and with a capacity to accommodate the newly configured project.	No update to SFEIS corresponding to response
E-3	12/17/2021 Letter	3.7 Traffic and Transportation	Improved road signage can help ensure that trucks avoid Ezra Prentice. Current signage along Interstates 87 and 787, Routes 32 and 144, and nearby streets is not sufficiently informative to direct heavy-duty vehicles to the Port and can be confusing. The enhanced signage (see attachment), created	No update to SFEIS corresponding to response

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
			for illustrative purposes, is intended to help direct drivers to access and egress from the Port of Albany on routes that avoid South Pearl Street where Ezra Prentice is located. The proposed signage directs drivers to use the Northern Port entrance via Church Street when travelling along Interstate 787 in any direction and when utilizing Interstate 87 west. It also directs drivers to the Southern Port entrance when travelling from the South (or if they miss their exits off the interstates needed to access the Northern Port Entrance), also avoiding Ezra Prentice.	
F-1	12/17/2021 Letter	3.2 Vegetation and Wildlife	We are requesting revision to the SDEIS to better promote the protection and restoration of Submerged Aquatic Vegetation (“SAV”), an important habitat component of the Hudson River Estuary. Specifically, as required by law, the applicant must firstly avoid impacts to SAV if possible, and then mitigate residual impacts by: 1. obtaining the cumulative extent of potentially affected SAV beds from all past surveys to establish baseline extent;	Section 3.2.1, Page 4-48 to 4-49 Section 3.2-2, Page 4-51 to 4-53, 4-55 Section 3.2-3, Pages 4-56 to 4-57

Comment #	Comment Source and Date	Topic	Comment	Corresponding SFEIS Page # (if applicable)
			2. avoiding all possible impacts to existing SAV or areas suitable to SAV; and, 3. supplementing the replanting of disturbed beds with planting of additional SAV in historically occupied beds and/or with restoration of shallows suitable for SAV, to allow for some contingency for areas where the restoration does not achieve baseline conditions.	

3. RESPONSE TO COMMENTS ON SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT

In accordance with 6 NYCRR Part 617.9(b)(8), the SFEIS must respond to substantive comments received. The following section identifies substantive comments received during the public comment period specific to the environmental impacts associated with the Albany Port District Commission Port of Albany Expansion Project – Marmen – Welcon Tower Manufacturing Plant and their associated responses. Comments received during the public comment period that are not relevant to the evaluation and identification of environmental impacts, the development of appropriate mitigation measures or comments that concur with or object to the proposed action without elaboration are not included in this section. However, such comments are considered by the Lead agency and are incorporated into the public record.

Comments have been organized and numbered as they relate to the SDEIS sections, with the SDEIS section heading listed, and the responses follow in **bolded text**. Similar comments are responded to the first comment in that group and then all subsequent duplicates will reference the original response that addresses their comment.

The following are the comments and responses to the public review process.

1.0 Executive Summary

1.1 Summary Description of Project Area

No comments received on this section

1.2 Proposed Action

No comments received on this section

1.3 Potential Significant Beneficial and Adverse Impacts

No comments received on this section

1.4 Proposed Mitigation Measures

No comments received on this section

1.5 Considered Alternatives

No comments received on this section

1.6 Matters To Be Decided

Comment A-2: It is NYSDEC's understanding that a State Pollutant Discharge Elimination System (SPDES) permit is required for a proposed on-site wastewater treatment facility. Additionally, coverage under NYSDEC's Multi-Sector General Permit (MSGP) may be required for the Proposed Action. Please update the list of NYSDEC permits and approvals accordingly.

Response: Comments acknowledge. Project permit list have been updated and summary is provided below.

Town of Bethlehem

- | | |
|--|------------------------------|
| - SEQR EIS Acceptance | - In progress / under review |
| - General Permit for SWPPP and 5-acre Waiver approval | - Under review |
| - Water main connection permit | - Subject to design phase |
| - Building permit | - Subject to final design |
| - Development Permit for construction within a FEMA regulated Floodplain | - Subject to Final Design |

New York State Department of Environmental Conservation

- | | |
|---|---------------------------------|
| - Joint Application Permit | - Under review by NYSDEC |
| o Article 15 Protection of Waters Permit | |
| o Section 401 Water Quality Certification | |
| - Air State Facility Permit | - Application in progress |
| o Application in process as per NYSDEC meeting held on 01/24/22 | |
| o As per NYSDEC communication via email on 12/02/22, the definition of construction under 6 NYCRR 201-2.1(b)(9), specifically excludes site clearing and excavation activities. | |
| o As per NYSDEC communication via email on 12/02/22, operational permits would not need to be issued prior to the commencement of clearing and excavation activities. | |
| - SPDES for Wastewater Treatment Plan | - Subject to final design phase |

- Application in process as per NYSDEC meeting held on 01/24/22
- As per NYSDEC communication via email on 12/02/22, operational permits would not need to be issued prior to the commencement of clearing and excavation activities.
- Protection of Waters permit approval for proposed shoreline features
- General Permit for Stormwater Discharges

- SPDES for Wastewater Treatment Plan - Subject to final design phase
 - As per NYSDEC communication via email on 12/02/22, operational permits would not need to be issued prior to the commencement of clearing and excavation activities.
- Soil Management Plan - Accepted

New York State Department of Transportation

- Highway work permit - Subject to final design

NYS Department of State

- Consistency with Coastal Zone Management Program - Under review

U. S. Army Corps of Engineers

- Joint Application Permit - Under review by USACE
 - Section 404 / Section 10 Permit
 - SHPO / THPO Section 106 Consultation - Coordination in progress
 - NMFS ESA Section 7 - Coordination in progress

NYSOGS

- State Lands Underwater Application - Concurrence issued 11/04/21

2.0 Description of Proposed Action

2.1 Project Location

No comments received on this section

2.2 Site Description

No comments received on this section

2.3 Description of Proposed Action

Comment A-3: Figure 2.3-1, and similar figures throughout the SDEIS, are confusing, especially where the 2020 Final GEIS Project Site line and Supplemental EIS Project Site line are depicted within the Hudson River. Based on the figure, it appears that the Supplemental EIS Project Site includes some but not all the area in the Hudson River, however, the SDEIS includes statements like, “supplemental Project Areas do not include any lands under water” and “the supplemental Project Area is not located within or adjacent to the Hudson River.” These discrepancies should be clarified in the Supplemental Final Environmental Impact Statement (SFEIS), including updated figures, if necessary.

Response: As stated in the SDEIS, the SDEIS only evaluated the project components that were not contemplated and therefore not evaluated as part of the Generic DEIS or SDGEIS. However, to provide clarity, the “Supplemental EIS Project Site” shows the entirety of the project as it is needed to distinguish the parts of the project that were covered in the Generic EIS compared to the areas that were not. Both project areas provides clarity in regarding to the full extent of the project. The portion of the project located within the Hudson River (e.g., wharf and dredging) is entirely within the project area that was evaluated as part of the Generic EIS, as the figures shows.

2.4 Purpose and Need

No comments received on this section

2.5 Construction Activities

No comments received on this section

2.6 Required Approvals

Comment A-2: see above in section 1.6

2.7 Purpose and Process of SEQRA

3.0 Environmental Setting, Impacts, and Mitigation

3.1 Soils, Geology, & Topography

Comment A-4: The SDEIS has a brief discussion in this section on noise impacts from construction and operation of the Proposed Action. The SDEIS states that there are, “no sensitive receptors (e.g., residential land uses) immediately adjacent to the property boundary.” However, the Proposed Action is directly across the river from Papscanee Island, which is a significant cultural resource for the Stockbridge-Munsee Band of the Mohican Nation. NYSDEC recommends that the SFEIS include a noise assessment which considers potential impacts to Papscanee Island from construction and operation of the Proposed Action.

Response: In response to the Stockbridge-Munsee Tribal Historic Preservation Office letter dated December 6, 2021 and the NYS Department of Parks, Recreation, and Historic Preservation letter dated December 9, 2021, noise data was collected by Proactive Environmental Solutions to establish baseline noise conditions in the vicinity of the project area. Please see details in response to comments for Section 3.11 below.

3.2 Vegetation and Wildlife

Comment A-5: The SDEIS states that there is no essential fish habitat (EFH) identified with the supplemental Project Area. The SFEIS should discuss the consultation process with the National Oceanic and Atmospheric Administration-National Marine Fisheries Service (NOAA-NMFS) that is currently underway, including if there has been a determination by NOAA-NMFS that there is no EFH within the Proposed Action area.

Response: The NOAA-NMFS ESA Section 7 Consultation process is part of the CWA Section 404 / RHA Section 10 permitting process under the U.S. Army Corps of Engineers (USACE). Note that the Supplemental EIS addressed only areas of the project or project components that were not

contemplated during in the Generic EIS; however, the consultation process began in August 2021, and is on-going.

A Joint Permit Application and Part 182 Application have both been prepared for the project and are currently being reviewed by the USACE, NYSDEC, and NOAA-NMFS. The impacts over jurisdiction areas or naturales resources are being evaluated in the permitting phase, including consultation with NOAA-NMFS and NYSDEC for protected fish species and habitat within the proposed wharf and dredging locations. As part of the permitting phase appropriate final mitigation strategy would be established to offset impacts to freshwater wetlands, Sturgeon, SAVs, and freshwater mussels.

Comment A-6: The SDEIS includes a brief discussion on the impacts to threatened and endangered species including Atlantic sturgeon and Shortnose sturgeon. In addition to the potential impacts identified during in-water construction, the area in front of the new wharf will be dredged which may result in an adverse modification of habitat for both sturgeon species. APDC has applied to NYSDEC for an Incidental Take Permit. Under NYSDEC's regulation, Part 182 of Title 6 of New York Codes, Rules and Regulations (6 NYCRR Part 182) a take of any listed endangered or threatened species includes lesser acts.¹ Lesser acts include any adverse modification of habitat that supports an essential behavior of a listed species.

Response: See response to Comment A-5. An Incidental Take Permit would be obtained prior dredging activities in the Hudson River. The following table presents foreseeable impacts as per most recent design information and coordination meeting held on January 19, 2022, among APDC, NYSDEC and other regulatory agencies.

Zones	Existing Habitat	Existing Elevations (Feet)	Proposed Elevations (Feet)	MAIN IMPACTS / HABITAT CONVERSION (ACRES)			Impacts / Mitigation Considerations
				Dredging	Shading from Wharf	Rip-Rap for slope protection	
1	Intertidal zones and shore structures (existing timber revetment)	MHHW to 0	Varies	0.31	0.06	0.25	Area lacking SAV bottom, deep pools or soft substrate area to be permanently converted and will no longer be useful for foraging activities.
2	SAV Bed # 3	-2 to -5	-33 ft	0.21	--	0.05	Shallow habitat of concern with low density / sparse vegetated bottom. Area to be permanently converted and will no longer be useful for foraging activities.
3	Natural River Bottom (Silt Clay, Sand and Some Trace Of Gravel)	0 to -5	-33 ft	0.29	--	--	Slight area to be permanently converted and will no longer be useful for foraging activities. Rip-rap impacts shown under Zone 2.
4	Natural River Bottom (Silt Clay, Sand and Some Trace Of Gravel)	-5 to -10	-33 ft	0.24	--	--	Area to be periodically / temporarily impacted by dredging activities. No gravel or vegetated bottom
5	Natural River Bottom (Silt Clay, Sand and Some Trace Of Gravel)	-10 to -15	-33 ft	0.24	--	--	Area to be periodically / temporarily impacted by dredging activities. No gravel / vegetated bottom
6	Natural River Bottom (Silt Clay, Sand and Some Trace Of Gravel)	-15 to -28	-33 ft	0.79	--	--	Area to be periodically / temporarily impacted by dredging activities. No gravel / vegetated bottom
7	Natural River Bottom (Silt Clay, Sand and Some Trace Of Gravel)	-28 to -33	-33 ft	0.65	--	--	Area to be periodically / temporarily impacted by dredging activities. No gravel / vegetated bottom
Total				2.73	0.06	0.30	
Estimated Permanent Impacts							0.36
Estimated Temporary Impacts				2.37	--	--	

See Appendix X for Figure 4-2A and 4-2B.

Comment A-7: NYSDEC is currently working with the applicant on developing a mitigation plan that would provide a net conservation benefit to sturgeon as required in 6 NYCRR Part 182. The SFEIS should include the updated information regarding the agreed upon impacts to sturgeon and measures that will be taken to avoid, minimize, and mitigate for those impacts, both for in-water construction and possible adverse modification of habitat. The SFEIS should also discuss the consultation process that is currently underway with NOAA-NMFS pursuant to Section 7 of the Endangered Species Act.

Response: See response to Comment A6. NMFS-ESA Consultation is part of the USACE Section 404 / Section 10 permitting process. The APCD and consultants are currently coordinating the mitigation plan with USACE, NMFS and NYSDEC.

Please note that during the permitting phase potential impacts would continue being further evaluated and detailed mitigation actions would continue to be developed to satisfy applicable regulations from NYSDEC, USACE, and other agencies, as applicable. However, this is not anticipated to change findings and conclusions presented in the Final SGEIS.

Refer to Appendix BB of the SFEIS for more details pertaining to the mitigation strategy.

Comment A-8: The SFEIS states that, “all proposed impacts to and mitigation for significant coastal fish and wildlife habitat were addressed in the FGEIS.” It should be noted that the detailed project plans for the bridge across the Normans Kill were provided to NYSDEC and the New York State Department of

State (NYSDOS) through the submission of the Joint Permit Application package in August 2021. At the time of the FGEIS in 2019, these detailed project plans were not available. Since the review of the Joint Permit Application is currently underway, there may be additional impacts identified to the significant coastal fish and wildlife habitat that would need to be avoided, minimized, and/or mitigated. The SFEIS should provide updated information regarding impacts to and mitigation for significant coastal fish and wildlife habitat.

Response: Foreseeable environmental impacts were addressed in the FGEIS for project components included as the Proposed Action. The proposed bridge over Normanskill was acknowledge as part of the Proposed Action and included in various sections of the FGEIS, such as 1.1, 2.5, 3.3 and 3.4. As discussed in the FGEIS, wetland impacts were estimated in 0.04 acre (Wetland 9), which is equal to the foreseeable impacts over Wetland 9 as depicted in the SDEIS and detailed drawings presented in the Joint Permit Application (DEC#4-0122-00322/00002; USACE # NAN-2021-00948-UDA. Based on current design and latest information presented in the Joint Permit Application no additional impacts are anticipated from proposed bridge over Normans kill.

Currently, there is no changes or updated to foreseeable environmental impacts such as:

- Freshwater wetlands
- Submerged aquatic vegetation
- Freshwater mussels

As part of the overall development, the Albany Port District Commission (APDC) intends to undertake the construction of a marginal wharf along the eastern edge of Beacon Island (81.6-acre parcel) on the Hudson River. Dredging is required to match current depth of Hudson River navigation channel providing adequate separation and safe draft to vessels at the proposed wharf, which will travel along the existing federal navigational channel (Hudson River). However, due to design revisions, the originally estimated dredging area below mean higher high water (MHHW) line has been reduced from 4.4 acres to 2.73 acres. The proposed depth is 33 feet below the mean lower low water (MLLW) line, plus approximately two (2) feet of allowable overdredge, for an approximate dredging volume of 105,000 cubic yards.

According to the Endangered Species Act (ESA) Section 7 Mapper from the National Oceanic and Atmospheric Administration (NOAA) Fisheries Greater Atlantic Region, the Hudson River is identified as spawning and foraging grounds for the Shortnose sturgeon and Atlantic Sturgeon. The Project is located within designated critical habitat for these species (New York Bight DPS, Hudson River Unit).

There are various conditions that the aforementioned listed species may be subject during the Project's in-water work activities (i.e., wharf construction and dredging). These are mainly an increase in turbidity during the maintenance dredge operation, underwater noise, the risk of an incidental involuntary strikes (unlikely) and entrapment with dredging equipment to an individual of a protected species during in-water work activities. However, this is a short-term / temporary in-water work construction within a well define and limited area.

Concerning habitat modification and effects on critical habitat, the habitat to be affected is depicted in the following table. For the purposed of the impact analysis, seven (7) zones were evaluated within

the project boundaries below the MHHW line. See Appendix BB for Figure 4-2A(General Proposed Wharf Layout) and Figure 4-2B (Proposed Wharf Typical Section).

Zones	Existing Habitat	Existing Elevations (Feet)	Proposed Elevations (Feet)	MAIN IMPACTS / HABITAT CONVERSION (ACRES)			Impacts / Mitigation Considerations
				Dredging	Shading from Wharf	Rip-Rap for slope protection	
1	Intertidal zones and shore structures (existing timber revetment)	MHHW to 0	Varies	0.31	0.06	0.25	Area lacking SAV bottom, deep pools or soft substrate area to be permanently converted and will no longer be useful for foraging activities.
2	SAV Bed # 3	-2 to -5	-33 ft	0.21	--	0.05	Shallow habitat of concern with low density / sparse vegetated bottom. Area to be permanently converted and will no longer be useful for foraging activities.
3	Natural River Bottom (Silt Clay, Sand and Some Trace Of Gravel)	0 to -5	-33 ft	0.29	--	--	Slight area to be permanently converted and will no longer be useful for foraging activities. Rip-rap impacts shown under Zone 2.
4	Natural River Bottom (Silt Clay, Sand and Some Trace Of Gravel)	-5 to -10	-33 ft	0.24	--	--	Area to be periodically / temporarily impacted by dredging activities. No gravel or vegetated bottom
5	Natural River Bottom (Silt Clay, Sand and Some Trace Of Gravel)	-10 to -15	-33 ft	0.24	--	--	Area to be periodically / temporarily impacted by dredging activities. No gravel / vegetated bottom
6	Natural River Bottom (Silt Clay, Sand and Some Trace Of Gravel)	-15 to -28	-33 ft	0.79	--	--	Area to be periodically / temporarily impacted by dredging activities. No gravel / vegetated bottom
7	Natural River Bottom (Silt Clay, Sand and Some Trace Of Gravel)	-28 to -33	-33 ft	0.65	--	--	Area to be periodically / temporarily impacted by dredging activities. No gravel / vegetated bottom
Total				2.73	0.06	0.30	
Estimated Permanents Impacts							0.36
Estimated Temporary Impacts				2.37	--	--	

Section 3.2 of the SFEIS has been updated accordingly to reflect latest available information as per coordination with regulatory agencies under the Joint Permit Application process.

Please note that during the permitting phase potential impacts would continue being further evaluated and detailed mitigation actions would continue to be developed to satisfy applicable regulations from NYSDEC, USACE, and other agencies, as applicable. However, this is not anticipated to change findings and conclusions presented in the Final SGEIS. The Project is committed to maintain collaborative actions with NYSDEC in finding a potential mitigation project in accordance with The Hudson River Comprehensive Restoration Plan that could serve to offset impacts due to habitat modification.

Compensatory mitigation for permanent freshwater wetland impacts would be satisfied via In-Lieu Fee Mitigation (ILF) Program. Wetland credits would be purchased at a ratio equivalent to wetland habitats (function and value) as per the USACE New England District Compensation Mitigation Guidance.

Comment F-1: We are requesting revision to the SDEIS to better promote the protection and restoration of Submerged Aquatic Vegetation (“SAV”), an important habitat component of the Hudson River Estuary. Specifically, as required by law, the applicant must firstly avoid impacts to SAV if possible, and then mitigate residual impacts by:

1. obtaining the cumulative extent of potentially affected SAV beds from all past surveys to establish baseline extent;
2. avoiding all possible impacts to existing SAV or areas suitable to SAV; and,
3. supplementing the replanting of disturbed beds with planting of additional SAV in historically occupied beds and/or with restoration of shallows suitable for SAV, to allow for some contingency for areas where the restoration does not achieve baseline conditions.

Response: One of the first priority of the Project design was avoidance and minimization impacts to SAV bed. ADPC has avoided and minimized project impacts to the maximum extent practicable by conducting project reconfiguration, design changes, the addition of stabilization features to protect nearby resources, and the incorporation of BMPs into the project construction requirements. Design elements implemented to avoid and minimize environmental impacts include:

- ✓ Relocation of proposed wharf and reduce size to avoid dredging in SAV beds with moderate to high density of *Vallisneria americana* in the Hudson River
- ✓ General layout of the proposed wharf places the riverside face of structure coincident with the face of the existing timber revetment (landward construction)
- ✓ Proposed bridge over Normans Kill was redesigned and to be constructed outside MHHW line to meet NYSDEC and DOS criteria
- ✓ Construction of a fill type retaining wall to minimize the need of fill in wetland area
- ✓ Improvements to Normanskill Street avoiding wetland areas
- ✓ Proposed site grading or fill above the existing MHHW line

During the impact analysis historical extent of SAV beds was taken into consideration. Historic survey data of SAV habitat were obtained from the NYSDEC evaluated using GIS tools, and compared to the most recent field SAV delineation conducted by Biodiversity, LLC, in June 2020 where three (3) SAV beds were delineated in the Hudson River. The Project will only disturb approximately 0.21 acre of very low density SAV bed (sparse). The other two (2) SAV beds are to remain.

The Project is committed to maintain collaborative actions with NYSDEC in finding a potential mitigation project and provide a net conservation benefit in accordance with The Hudson River Comprehensive Restoration Plan that could serve to offset impacts due to habitat modification.

3.3 Regulated Wetlands and Surface Waters

Comment B-20: Section 3.3 Wetlands and Surface Waters – This section is claiming that the wetlands on the National Grid Property are Palestrina emergent wetlands. However, the SWPPP and the storm water design is based upon the wetlands being tidal. The wetland maps and delineation both show the wetland as no- tidal. These documents and design approaches need to be coordinated and compliant with each other. This issue is a very large issue that needs to be addressed to move the stormwater design forward.

Response: According to the Wetland Delineation Report included as Appendix F of SDEIS, the wetlands within the National Grid property are classified as Palestrine emergent wetlands. The language in the

SWPPP has been updated to be consistent with the wetland delineation that was completed. The drainage design has been significantly altered based on requests from National Grid that no runoff from the project site regularly drain onto their property. The preliminary design drainage system has been re-vamped to ensure all direct outlets will discharge to the Normanskill and Hudson River. Overflows and low flow outlets from the two detention ponds will drain into the National Grid property, which was deemed acceptable by their review team. Please see the updated Expansion Site SWPPP and Stormwater Design Report that details the current proposed drainage system and stormwater treatment.

3.4 Floodplains and Floodways

No comments received on this section

3.5 Groundwater

No comments received on this section

3.6 Climate and Air Quality

Comment A-9: As of the date of this letter, NYSDEC has not received an Air State Facility permit application from the APDC. As part of the submission of the Air State Facility permit application to NYSDEC, the applicant will be required to use Climate Leadership and Community Protection Act (CLCPA) greenhouse gas (GHG) emissions accounting for NYSDEC to evaluate the project's consistency with the CLCPA's Statewide GHG emission limits established in Article 75 of the Environmental Conservation Law (ECL), as required pursuant to CLCPA Section 7(2).2 The estimation of GHG emissions in the SDEIS does not use the same accounting as New York State, per the CLCPA. The New York State accounting considers the impact of emissions that occur through the lifecycle of fuels used for such projects, not just the direct on-site emissions. For the Proposed Action that would include, for example, the leakage of methane in the natural gas system or the emissions generated in the production of transportation fuels. GHGs have a global impact, so these emissions harm New York communities. The CLCPA seeks to have these emissions mitigated alongside direct emissions. For consistency with the forthcoming Air State Facility permit application, the SFEIS should include the CLCPA accounting for greenhouse gas emissions.

Response: Proactive Environmental Solutions believes the DSEIS correctly employs the same emissions accounting techniques as New York State requires, as per CLCPA. For this analysis, please refer to the greenhouse gas emissions accounting analyses, which are shown in DSEIS Section 1.4.6.3 "Greenhouse Gas Emissions, Climate Leadership and Community Protection Act (CLCPA) Compliance. As shown in Table 1.4.6-4: Project Direct and Indirect CO₂e Emissions, where estimates of greenhouse gas emissions are presented using the latest emission factors recommended by NYSDEC for purposes of CLCPA (these were provided in a document titled, "Preliminary Interim Draft Emission Factors for Use by State Agencies and Project Proponents, NYDEC Version 02/2021").

Of course, in terms of presenting the facility emission rate potential (ERP) and potential to emit (PTE), the analysis has relied upon more traditional greenhouse gas emission factors (USEPA AP-42) and greenhouse warming potentials (6 NYCRR 231-13.9 Table 9 Global warming potential values for calculating CO₂ equivalents), which are used to establish a facility-wide PTE for purposes of evaluating permitting and New Source Review (NSR) applicability. These estimates are presented earlier in the

DSEIS, under Section 1.4.6.2 “Air Permitting Requirements for the Project” as Tables 1.4.6-1 and 1.4.6-2, and are not meant to address CLCPA compliance.

Comment A-10: In Table 1.3-1: Potential Impacts and Proposed Mitigation Measures, in row, SDEIS Section 3.6 Climate and Air Quality, column Proposed Mitigation, it states, “[c]onstruction impacts will be mitigated with dust suppression and monitoring by the NYSDEC at the perimeter of the property.” Please note that NYSDEC does not conduct air monitoring at the perimeter of the property, therefore, this should be removed as a mitigation measure for the Proposed Action.

Response: Duly noted, updated in SFEIS.

Comment A-11: Section 1.4.6 Climate and Air Quality and Section 3.6 Climate and Air Quality should specify that “major source” is defined under 6 NYCRR Part 201-2.1(b)(21). Please add these references to the text of the SFEIS, where applicable.

Response: Duly noted, updated in SFEIS.

Comment A-12: Section 3.6.2 Potential Impacts should state that “facility-wide uncontrolled potential emissions” are also known as the Emission Rate Potential (ERP) as defined under 6 NYCRR Part 200.1(u) and the “facility-wide potential emissions after consideration of air pollution control” are also known as the Potential to Emit (PTE) as per 6 NYCRR 200.1(b). Please add these references to the text and tables in the SFEIS, where applicable.

Response: Duly noted, updated in SFEIS.

Comment A-13: Section 3.6.3 Mitigation Measures states, “based on results from the Part 212 review and supporting air quality impact assessment, it is concluded that the project’s potential impacts to air quality will be minimal and acceptable.” It is premature to make this conclusion. Emissions details have not been provided and no verification of the emissions have been done by NYSDEC staff. Additionally, the enhanced public participation process is just beginning, and stakeholders should have the opportunity to review the project documentation and fully participate in the environmental permit review process before determinations are made on whether mitigation measures are appropriate or not.

Response: Comment acknowledge, an Air State Permit Application will be submitted to NYSDEC for review and approval.

Appendix E Comments (Air Emissions Analysis)

Comment A-1.1: (Page 2, Regarding production of 150 towers per year or a combination of 100 towers and 100 transition pieces) The analysis will need to be updated if there is an increase in production. This will need to be addressed in the air permit application.

Response: Comment acknowledged. At this time, Marmen has no plans to increase the proposed number of manufactured Tower and/or Transition Pieces (i.e., 150 Towers per year or a combination of 100 Towers and 100 Transition Pieces). It is understood that any proposed increase above these values will require an update to the analysis and modification of the Air State Permit.

Comment A-1.2: (Page 2, Regarding oxy cutting emissions) Is there a ventilation system that will be capturing the emissions? If emissions escape to outside environment, they are then considered emissions sources to be regulated.

Response: This comment was raised with respect to both oxyfuel cutting and welding equipment. At the time the DSEIS was prepared, it was anticipated that emissions associated with these activities could be contained indoors. However, new information recently became available indicating the buildings (in which these activities will occur) will be equipped with ventilation system(s), with several exhaust points located on the sides of the buildings. Furthermore, based on additional recently available information, in addition to abrasive blast activities being subject to NESHAP 40 CFR 63 Subpart XXXXXX, we now expect all machining (oxyfuel cutting, preheating, rolling), welding, and grinding (belt sanding) activities to be subject to NESHAP Subpart XXXXXX.

Comment A-1.3: (Page 2, regarding emissions from welding activities) Is there a ventilation system that will be capturing the emissions? If emissions escape to outside environment, they are then considered emissions sources to be regulated.

Response: This comment was raised with respect to both oxyfuel cutting and welding equipment. At the time the DSEIS was prepared, it was anticipated that emissions associated with these activities could be contained indoors. However, new information recently became available indicating the buildings (in which these activities will occur) will be equipped with ventilation system(s), with several exhaust points located on the sides of the buildings. Furthermore, based on additional recently available information, in addition to abrasive blast activities being subject to NESHAP 40 CFR 63 Subpart XXXXXX, it is expected all machining (oxyfuel cutting, preheating, rolling), welding, and grinding (belt sanding) activities to be subject to NESHAP Subpart XXXXXX.

Comment A-1.4: (Page 4, Table 1.4.6-1) Uncontrolled Potential Emissions are also known as the Emission Rate Potential (ERP) as defined under 6 NYCRR 200.1(u).

Response: This comment was raised with respect to SDEIS Table 1.4.6-1: Facility-wide Uncontrolled Potential Emissions. The comment is acknowledged and reference to Emission Rate Potential (ERP) as defined under 6 NYCRR 200.1(u) will be incorporated in the pending Air State Facilities permit application.

Comment A-1.5: (Page 5, Table 1.4.6.2) Potential Emissions After Control are known as potential to emit (PTE). Listed under 6 NYCRR 200.01 (b)

Response: This comment was raised with respect to SDEIS Table 1.4.6-2: Facility-wide Uncontrolled Potential Emissions. The comment is acknowledged and reference to Potential To Emit (PTE) as defined under 6 NYCRR 200.1(u) will be incorporated in the final analysis pending Air State facilities permit.

Comment A-1.6: (Page 7) How much H₂S is released? Applicability to Part 257-5 should be assessed. In general, the potential for odors should be evaluated since reduced sulfur compounds are also released.

Response: This comment was raised with respect to the SDEIS's general discussion and overview of federal Prevention of Significant Deterioration (PSD) review, since H₂S and reduced sulfur compounds are on the list of air pollutants regulated under the PSD program. While facility-wide estimates (i.e.,

ERP, PTE) for H₂S were not included in the SDEIS, potential sources of H₂S emissions from the Proposed Action are from natural gas combustion (including oxy fuel-fired equipment). Natural gas combustion is inherently low in sulfur and neither USEPA AP-42 Subchapter 1.4 “Natural Gas Combustion” (for external combustion) nor AP-42 Subchapter 3.4 “Natural Gas-fired Reciprocating Engines” provide emission factors for H₂S. As such, emissions estimates for H₂S in DSEIS Tables 1.4.6-1 and 1.4.6-2 were not provided, and are expected to be trivial.

Regarding surface coating activities, the only known reduced sulfur compound identified as an ingredient in the coatings proposed for use is barium sulfate (CAS No.: 7727-43-7), which is known to be odorless. Nonetheless, potential off-property impacts from barium sulfate will be fully evaluated under the Part 212 Review, which will be included in the complete Application for an Air State Facility Permit.

Comment A-1.7: (Page 9, Permits and Registrations – Part 201) Major source status is defined under 6 NYCRR 201-2.1(b)(21)

Response: Reference to the regulatory definition of “major source” as defined under 6 NYCRR 201-2.1(b)(21) will be incorporated in the FSEIS. This definition has been followed in the use of this term.

Comment A-1.8: (Page 10, Permits and Registrations – Part 201) This statement is not phrased correctly. The facility would implement controls which would reduce the emission levels to below major source status, but these limits do not necessarily just make the facility eligible for an ASF permit. With the facility’s planned production of 150 units, the emissions are under the major threshold. If production increases or changes, this will change quantities, not necessarily emission rates. The facility could then become an ATV.

Response: This comment was raised with respect to our discussion on limiting the facility’s PTE so emissions are below major source thresholds (based on proposed production levels), and after consideration of air pollution controls. It is understood that if there are proposed increases in production in the future, Title V permitting applicability will need to be re-evaluated.

Comment A-1.9: (Page 10, Process Operations – Part 212) It should be stated that an evaluation of individual VOCs air contaminants will be reviewed and that none will be assigned and the Environmental Rating of “A” as stated in 212-1.4(b)(l) if this is the case.

Response: An air quality modeling protocol, which includes a complete list of chemicals that are to be evaluated under the Part 212 Review was submitted to NYSDEC on January 5, 2022 for review and approval. Appendix B of the air quality modeling protocol includes a complete list of chemicals (including speciated VOCs) to be evaluated. To clarify, the list includes several chemicals that have been assigned an initial Environmental Rating (ER) of “A”. It is understood that the exemption from Part 212 Review (for process emission sources subject to Table 1 of Subpart 228-1, as provided in 212-1.4(l)(1)) only applies with respect to emissions of VOCs that are not given an “A” ER.

Potential impacts will be evaluated from individual VOCs which NYSDEC assigns “A” ERs under the Part 212 Review. Speciated VOCs with ERs of “B” or “C” related to paint booth emissions will be summarized but not modeled for impacts since they are exempt from Part 212 review, per 212-1.4(l)(1). Modeling methodology and analyses will be performed in accordance with the final air quality modeling protocol, following NYSDEC approval.

Comment A-1.10: (Page 11, Part 212 page 11) An analysis of HTACs emitted from NESHAP affected sources should be identified here, citing 212-1.5(e)(2).

Response: An analysis of HTACs from NESHAP affected sources will be incorporated into the FSEIS following completion of the Part 212 Review.

The air quality modeling protocol stated that Hazardous Air Pollutants emitted from a process emission source regulated by a federal NESHAP will be considered in compliance with Part 212 for the respective air contaminant controlled by the National Emission Standards for Hazardous Air Pollutants (NESHAP), except for those NESHAPs regulating air contaminants on the High Toxicity Air Contaminant (HTAC) list (Part 212-2, Table 2). In any instance where HTACs to be emitted are regulated under the NESHAP, Marmen will perform a Toxic Impact Assessment (TIA) for the HTAC and demonstrate that the emissions will not cause off-site concentrations that exceed its SGC/AGC and are below its Persistent and Bioaccumulative Trigger (when applicable), as defined under 212-1.2(b)(17). It should be noted that Part 212 allows applicants to demonstrate compliance with paragraph 212-1.5(e)(2) by showing that the actual annual emissions are less than the mass emission limits in 212-2 Table 2.

Comment A-1.11: (Page 11) It should be noted that air contaminants may need to demonstrate offsite concentrations which meet annual and short-term (AGC/SGC) ambient air concentrations to demonstrate compliance.

Response: Comment is acknowledged. This will be fully assessed during the air permitting process.

Comment A-1.12: (Page 13, in reference to AERMOD model version) The latest version is 21112

Response: This comment points out a typographical error. This will be corrected in the FSEIS.

Comment A-1.13: (page 13) These modeling domains should be consistent with DAR-10.

Response: For the purposes of modeling under Part 212 Review, and to support the evaluation of whether potential emissions associated with the Proposed Action have the potential to cause disproportionate impacts on nearby disadvantaged communities, Proactive Environmental believes a modeling domain extending out to 5 km from the Project site is sufficient. This modeling domain was proposed in the air quality modeling protocol submitted to NYSDEC on January 5, 2022. If NYSDEC agrees with this, impacts will continue to be modeled out to 5 km. However, if NYSDEC recommends defining an alternative modeling domain, that will be considered and adjusted as appropriate.

Comment A-1.14: (page 13) When the air application is submitted, it must include a protocol outlining the steps taken to model offsite concentrations if AERMOD is going to be applied. The protocol should include the details of the criteria pollutant modeling in addition to the non-criteria. If AERMOD is to be used, the protocol needs approval by NYSDEC before the modeling details are submitted.

Response: The proposed air quality modeling protocol was submitted to NYSDEC on January 5, 2022, and is currently undergoing technical review. Once approved, the modeling will be conducted in accordance with the NYSDEC approved final air quality modeling protocol.

Comment A-1.15 and A-1.16: (Page 18 and Page 20) The Potential Environmental Justice Area (PEJA) Maps should be used. The PEJA area includes Ezra Prentice and extends south of it. The PDF – Supplemental EIS 2021 –10—27-4 final displays the PEJA map in Figure 3.20-1.

Response: The PEJA Maps will be used to define nearby Environmental Justice Areas for the air quality modeling to be performed in support of the air permit application. Results of the Part 212 Review will be incorporated into the pending final Air State Facilities permit, with the requirement of being able to demonstrate that neighboring communities are not disproportionately impacted by the Proposed Action being fully assessed.

Comment A-1.17: (Page 27, Table 1.4.6-12) Hydrogen sulfide and fluorides should be included in this analysis.

Response: It is not expected any emissions from fluorides or sulfuric acid mist to be released as a result of the Proposed Action. Since combustion installations are not regulated under Part 212, and since natural gas is inherently low in sulfur and there will be no known sources of fluorides associated with the Proposed Action, the need to model off-property impacts of hydrogen sulfide or fluorides is not expected.

Comment A-1.18: (Page 29) It is premature to make this conclusion. Emissions details have not been provided and no verification of the emissions have been done by NYSDEC staff. Additionally, the enhanced public participation process is just beginning, and stakeholders should have the opportunity to review the project documentation and fully participate in the environmental permit review process before determinations are made on whether mitigation measures are appropriate or not.

Response: This comment is acknowledged and understood.

3.7 Traffic and Transportation

Comment A-14: The Maritime Analysis indicates that the Proposed Action will result in an approximate 10% increase in maritime traffic. The SFEIS should discuss the consultation process that is currently underway with NOAA-NMFS pursuant to Section 7 of the Endangered Species Act for potential impacts to sturgeon species resulting from increased vessel traffic.

Response:

Since the project has a new wharf there will be new vessel traffic traveling to and from the new wharf, however, there will not be an increase in vessel traffic on the Hudson River as compared to the total vessel traffic traveling to and from the Port of Albany and all other wharf locations along the Hudson. In addition, the turning basin for the Hudson is located just north of the new wharf and therefore all vessel traffic must travel past the new wharf to turn around and return to the ocean. The table below is the total vessel traffic to and from the Port of Albany. You will note that for the past 10 years vessel traffic has fluctuated with the peak traffic being in 2014 (290 total vessels). Since then, vessel traffic to the Port of Albany has declined.

YEAR	TOTAL VESSELS * comprised of cumulative of ships, barges and layberth	SHIPS/BARGES	LAYBERTH
2011	71	53	18
2012	76	64	12
2013	190	60	130
2014	290	94	196
2015	232	69	163
2016	126	77	49
2017	125	60	65
2018	106	72	34
2019	57	31	26
2020	62	37	25

Based on the current projections it is anticipated that the total vessel traffic from the project will be approximately 142 vessels (2.5 barges / wk. plus 1 vessel / mo.) annually which equals 204 total vessels to the Port of Albany accounting for the 2020 traffic. As a result, while this project will add vessel traffic to the new wharf it will not increase traffic to the Port of Albany from the peak of 290 in 2014.

Additionally, this project will not draw any larger sized vessel than what currently travels the Hudson River or called to the Port of Albany. Maritime vessel size remains limited by the air draft at the Castleton Bridge and therefore transport of tower sections and or transition pieces produced at the project site will utilize vessels the same size or smaller than that currently in use. It is anticipated that the new wharf will primarily utilize barge traffic, at or less than 400 feet in length.

The APCD are currently consulting with both the National Marine Fisheries Service and NYS Department of Environmental Conservation to finalize impacts to sturgeon and required mitigation under Section 404 and Part 182 permitting. At the time of this response to comments, the NMFS is collecting and analyzing existing vessel strike data for the project area.

Comment B-1: The City of Albany will need to provide review and comments on the property located within their jurisdiction

Response: duly noted. A site plan application package has been submitted to the City of Albany and is currently in the review process. Approval is pending a SEQRA Findings determination from the Town of Bethlehem Planning Board.

Comment B-2: NYSDOT will need to provide review and comment as this project impacts NY Routes 32 and 144.

Response: The Traffic Impact Study and improvement plans have been submitted to the NYSDOT and are in their review process.

Comment B-3: The modifications to the driveway access to and the additional left-turn lane on NY Route 144 will require review and approval by the NYSDOT.

Response: The Traffic Impact Study and conceptual plans have been submitted to the NYSDOT and are in their review process.

Comment B-4: Page 4: The improvements referenced from the FGEIS do not include the following intersections where signal timing changes were proposed:

- a. NY 32 and 1st Ave/787 Exit 2
- b. NY 32 and US 9W
- c. 787 and 87 Exit 23

Include a discussion why these are not included.

Response: As shown in figure 2A and 2B, the impacts to these intersections are less than projected in the GDEIS. The Traffic Impact Study recommends that the NYSDOT continue to monitor traffic operations at these intersections post construction and optimize signal timings as necessary.

Comment B-5: Figures 2A and 2B: The difference in volumes between intersections along the NYS Route 32 and 144 corridor do not match. It is understood the volumes will not balance due to data collected at different times, but the differences should match if all that has changed is the trip volumes. Volumes should be verified and updated accordingly.

Response: The volumes in Figures 2A and 2B were updated and are located in Appendix CC. The through volumes at the proposed site driveway on NYS Route 144 were reduced back to the GEIS values to remain consistent with the previous analysis. The revised volumes resulted in a negligible impact to the capacity analysis results as shown in the table below. All the previous conclusions and recommendation within the traffic impact study remain valid.

Study Intersection	Approach and Movement		MORNING PEAK HOUR		MORNING PEAK HOUR	
			2029 BUILD		2029 BUILD (UPDATED)	
			Delay	LOS	Delay	LOS
NYS Route 144 at Proposed Site Drive	Southbound	L	9.6	A	9.2	A
	Westbound	R	15.8	C	14.4	B
	OVERALL		3.4	A	3.4	A

Study Intersection	Approach and Movement		EVENING PEAK HOUR		EVENING PEAK HOUR	
			2029 BUILD		2029 BUILD (UPDATED)	
			Delay	LOS	Delay	LOS
NYS Route 144 at Proposed Site Drive	Southbound	L	8.2	A	8.0	A
	Westbound	R	11.6	B	11.1	B
	OVERALL		2.9	A	3.1	A

Comment B-6: Page 12, Trip Assignment: The report states that the traffic assessment from Marmen Welcon indicates the project will generate 324 trips during the largest shift change and references Appendix A for the assessment. The assessment in Appendix A is from March 2021 and was included in

the July TIS submission that included 350 employees and not the increased 550 employees now proposed. Provide updated assessment to allow for review of trip generation volumes.

Response: The increase in employees is due to the addition of manufacturing transition pieces (TP's). This additional manufacturing is not anticipated to increase raw material delivery by rail or truck traffic since the same raw material (steel plates) are used for both Tower and TP manufacturing.

Marmen Welcon provided the following updated employee count at each shift change at full capacity due to the addition of TP manufacturing:

- **Maximum Shift was 150, increased to 180**
- **Maximum Shift Change was 220, increased to 320**
- **Total number of Employees was 350, increased to 550. Below is Marmen Welcon's anticipated ramp up of employees to get to full capacity:**

Forecast Employee Ramp-up

	<i>EOQ</i>
2023 - Q3	90
2024 - Q1	140
2024 - Q2	190
2024 - Q3	250
2024 - Q4	310
2025 - Q1	350
2025 - Q2	390
2025 - Q3	430
2025 - Q4	470
2026 - Q1	490
2026 - Q2	510
2026 - Q3	530
2026 - Q4	550

Comment B-7: Page 12, Trip Assignment: The report should include entering/existing trip distribution. If it matches what was in the GEIS, state this and reference the percentages. If they do not match, provide entering/existing trip volume distribution.

Response: A small number of passenger vehicles will still enter and exit South Port Road in order to staff the proposed Building E at 700 Smith Boulevard, roughly 10% of the overall development traffic. The remaining 90% of employees will enter the site at the proposed driveway onto NYS Route 144 (River Road), with 78% entering from the north, 12% entering from the south, and 90% exiting to the north.

Comment B-8: Page 12, Trip Assignment: The report states that a separate truck route is proposed during the construction phase of the project with trucks then using the proposed truck route. The proposed truck route shall be used by construction vehicles throughout the duration of construction of the proposed facility.

Response: It is anticipated that construction vehicles will use the proposed driveway onto NYS Route

144 as a full access driveway during construction and the other unrestricted state highways of Corning Hill Road (NYS Route 32) and US 9W to enter the site during construction as shown as the green line in figure 3.7-2. A temporary construction entrance with associated work zone traffic control measures including speed reduction is proposed during the timeframe that construction vehicles will utilize the proposed NYS Route 144 site access. When construction of the bridge over Normans Kill is complete construction vehicles are anticipated to utilize the permanent truck route with site access over the Normans Kill via the new bridge.

Comment B-9: Page 14, Figure 6: Modify legend to include AM and PM volume designation.

Response: The legend has been modified to clarify the AM and PM volumes shown on Figure 6, which is included in Appendix CC.

Comment B-10: Page 20: The driveway is proposed to be limited to right-turns for exiting vehicles due to available sight distance. There is a concern that drivers wanting to go south could use Old River Road, Anders Lane, or Glenmont Road to turn around and head south. The previous plan dispersed traffic leaving the Port and allowed for left turns out of South Port Road. Is there another alternative access location to NY Route 144 that would allow for a full access driveway with existing conditions? Some options could be to use the existing railroad underpass after improving the roadway, possible connection of the northern driveway to Normanskill Street by separating traffic on the bridge. If other alternative access is not feasible, what mitigation would be proposed to limit the use of Old River Road, Anders Lane, or Glenmont Road by southbound vehicles?

Response: Other alternative forms of access to the site were considered and deemed unfeasible due to engineering and safety constraints, as well as greater environmental impacts.

It is noted that out of the 324 vehicles that are projected to enter the site during the max shift change, only 22 vehicles (6.8%) are projected to enter from the south during the morning peak hour and 17 vehicles (5.2%) during the evening peak hour. It is anticipated that the Marmen -Welcon employees that need to travel south bound exiting the facility will be encouraged to not use Old River Road, Anders Lane by their supervisors.

Comment B-11: The report states that if the speed limit is reduced by NYSDOT in the vicinity of the proposed driveway, a full access driveway will be utilized. The sight distance table on page 22 only includes information for the right-out only condition. This table, or a separate table, should be included for the left turn and what mitigation is required to obtain the required sight distances for Case B1, Left Turn from Stop.

Response: Table 5 has been revised to show the sight distance information for both right and left-turn conditions and is shown below.

SIGHT DISTANCE CALCULATIONS							
Location	Speed Limit	Direction	AASHTO/NYS DOT Recommended Intersection Sight Distance	Available Intersection Sight Distance *	AASHTO/NYS DOT Recommended Stopping Sight Distance	Available Stopping Sight Distance *	Visual Restriction
Access Drive at NYS Route 144	45 mph	Case B2: Looking Left	430 feet	495' / 590'	360 feet	410' / 500'	Vegetation & Horizontal Curve
	45 mph	Case B1: Looking Right	500 feet	385' / 500'		340' / 375'	Vegetation, Horizontal & Vertical Curves
Access Drive at NYS Route 144	55 mph	Case B2: Looking Left	530 feet	495' / 590'	495 feet	410' / 500'	Vegetation & Horizontal Curve
	55 mph	Case B1: Looking Right	610 feet	385' / 500'		340' / 375'	Vegetation, Horizontal & Vertical Curves

Note:

* = Sight distance was measured based on the current conditions with vegetation restricting the sight lines and also projected based on removal of this vegetation.

Comment B-12: Page 22: If clearing exceeds NYSDOT highway right-of-way, how will clearing be performed on land not owned by the Port on the north side of NY Route 144 to achieve required sight distances for the 55-mph speed as shown in Table 5?

Response: Based on the width of the right-of-way in the vicinity of the proposed driveway and the necessary sight-distance required, no clearing outside of the NYSDOT highway right-of-way will be required. Due to the decreasing elevation on the western side of NYS Route 144 across from the proposed driveway, only vegetation clearing will be needed to obtain the necessary sight distance as shown on the Off-site Roadway improvements plans.

Comment B-13: Page 24, Rail Analysis, Table 9: Provide updated traffic assessment to verify proposed rail car data provided.

Response: Table 9 in the Traffic Impact Study is the latest information available and reflects the proposed rail car traffic provided by Marmen Welcon during full capacity operations at the facility. Marmen Welcon does not anticipate an increase in rail traffic due to the addition of manufacturing TP's.

Comment B-14: Page 25, Maritime Analysis, Table 10: Provide updated traffic assessment to verify proposed vessel and barge data provided.

Response: Table 10 in the Traffic Impact Study is the latest information available and reflects the proposed Maritime traffic anticipated provided by Marmen Welcon during full capacity operations at the facility. As noted in response 6 the primary update with the addition of the TP manufacturing is the additional employees required for manufacturing, with no change to their maritime operations.

Comment B-15: Signal Warrant: The satisfaction of signal warrant thresholds by themselves do not mean a traffic signal should be installed. The traffic signal warrants will require NYSDOT review and approval.

Response: Duly noted, the Traffic Impact Study and conceptual plans for the entrance driveway have been submitted to the NYSDOT and are in their review process. Should the NYSDOT agree with the recommendation for any new signals a separate set of highway work permit plans will be established

for the proposed signal(s).

Comment B-16: Page 25, Conclusions: Third bullet states “additional traffic generated by the proposed Port of Albany expansion along River Road will have a negligible impact on the operations of the NYS Route 144 (River Road) corridor, as well as South Port Road.” Without including analysis results for all intersections within the study area, this conclusion can’t be verified. Include analysis results of all study area intersections with new distribution and volumes for this specific development. The impacts of the increased volumes and new trip distribution on the Glenmont Road intersection are of particular concern.

Response: The GDEIS established thresholds from which any subsequent project is compared to and if the threshold is not exceeded no additional study is required. As shown in Figures 2A and 2B, the volumes generated by the Marmen Welcon project will be less than the established threshold at these intersections and therefore re-analyzing is not required. In addition, since the GDEIS volumes are higher than the actual project generated volumes what was analyzed in the GDEIS represents the worst-case scenario for a majority of the study area intersections.

The Glenmont Road intersection was re-analyzed and the results attached to this response. The same results as the approved FGEIS are concluded at this intersection, that an updated signal warrant analysis should be completed post construction to verify the accuracy of the development’s proposed traffic patterns and determine if a signal is necessary to alleviate failing levels of service at this intersection.

Study Intersection		Approach and Movement		MORNING PEAK HOUR					
				2019 EXISTING		2029 BACKGROUND		2029 BUILD	
				Delay	LOS	Delay	LOS	Delay	LOS
NYS Route 144 at Glenmont Road <i>(Un-Signalized)</i>	Eastbound	L-R	39.6	E	56.2	F	234.8	F	
	Northbound	T-L	7.9	A	8.0	A	8.4	A	
	OVERALL		7.7	A	10.6	B	38.0	E	

Study Intersection		Approach and Movement		EVENING PEAK HOUR					
				2019 EXISTING		2029 BACKGROUND		2029 BUILD	
				Delay	LOS	Delay	LOS	Delay	LOS
NYS Route 144 at Glenmont Road <i>(Un-Signalized)</i>	Eastbound	L-R	20.3	C	22.8	C	46.0	E	
	Northbound	T-L	9.5	A	9.7	A	10.3	B	
	OVERALL		2.2	A	2.3	A	4.2	A	

Comment B-17: Page 25, Conclusions: Fifth bullet states a coordinate signal is recommended at the intersection of NY Route 144 (River Road) with NY Route 32 (Corning Hill Road). If NYSDOT denies the signal, would the Port and/or Marmon Welcon consider a contribution in the amount required to construct the traffic signal into an escrow account to be used solely for the purpose of installation of a traffic signal at this location. An estimate for the amount would be required to be submitted for review, and potential adjustment, prior to agreement of the amount.

Response: Since the NYSDOT owns Route 32, the Port of Albany has no authority to contribute to a traffic signal if the DOT denies the signal.

Comment B-18: Page A1-A3, Figures 7A, 7B, and 7C: Provide figures with text that is readable. The text is blurry and difficult to read. Figure 7C uses 60 mph speed compared to 45/55 mph used in other parts of the report. Explain why this is different at this location than other locations in the report.

Response: Provided in Appendix CC are PDFs of the figures which are legible. The 60mph speed that was used on Figure 7C at the request of the NYSDOT which was conveyed during several coordination meetings with their staff. The NYSDOT wanted to ensure that adequate sight distance could be provided with vegetation clearing for the current 85th percentile speed that they measured in the area. The clearing areas on the design plans were also requested to be at a setback of at least 10' back from the proposed sight lines.

Comment B-19: Comments provided on the Traffic Impact Study should be carried through to the text in Section 3.7.

Response: Duly noted.

Comment E-3: Improved road signage can help ensure that trucks avoid Ezra Prentice. Current signage along Interstates 87 and 787, Routes 32 and 144, and nearby streets is not sufficiently informative to direct heavy-duty vehicles to the Port and can be confusing. The enhanced signage (see attachment), created for illustrative purposes, is intended to help direct drivers to access and egress from the Port of Albany on routes that avoid South Pearl Street where Ezra Prentice is located. The proposed signage directs drivers to use the Northern Port entrance via Church Street when travelling along Interstate 787 in any direction and when utilizing Interstate 87 west. It also directs drivers to the Southern Port entrance when travelling from the South (or if they miss their exits off the interstates needed to access the Northern Port Entrance), also avoiding Ezra Prentice.

Response: The locations of the signs throughout the interstate system will need to be coordinated and designed by the NYSDOT and potentially with FHWA/USDOT input to review the suggested changes and impacts it may have on other adjacent signs on the roadway network and overall system truck routes. The applicant has submitted the Traffic Impact Study to the NYSDOT, that describes the mitigation measures and proposed improvements to their highway system for their review and approval.

3.8 Drainage

Comment B-21: Section 3.8.1 Drainage – as in Section 3.3, this section is claiming that the wetlands on the National Grid Property are Palestrina emergent wetlands. However, the SWPPP and the storm water design is based upon the wetlands being tidal. The wetland maps and delineation both show the wetland as no- tidal. These documents and design approaches need to be coordinated and compliant with each other. This issue is a very large issue that needs to be addressed to move the stormwater design forward.

Response: See response to comment B-20 in Section 3.3 Regulated Wetlands and Surface Waters

3.9 Water Service

No comments received on this section

3.10 Sanitary Sewer

No comments received on this section

3.11 Historic, Cultural, and Archaeological Resources

Comment A-15: Subsequent to the issuance of the SDEIS, the New York State Historic Preservation Office (SHPO) issued a letter on December 9, 2021 stating, “[b]ased on the visual simulation, the

SHPO concurs with the Stockbridge Munsee Community (SMC) [Tribal Historic Preservation Office] THPO that the Marmen/Welcon Offshore Wind Tower Manufacturing Plant will have an adverse visual effect on the National Register eligible Papscanee Island Historic District (08303.000130).” The SFEIS should include updated information on the Section 106 consultation process including how comments from the SMC THPO and SHPO are being addressed.

Response: Letters were received from SMC THPO and SHPO on December 6, 2021 and December 9 2021 respectively. See comments and responses below. This coordination is part of the Joint Permit Application under case numbers 21-00100006 & 21PR04693. Section 106 Consultation and coordination is being completed under the Joint Permit Application Process.

In order to minimize potential visual impacts, the project was redesigned to keep a vegetative buffer along a section of riverbank of the Hudson River.

Comment B-25: Address comments from the Stockbridge-Munsee Tribal Historic Preservation office (letter dated December 6, 2021) related to visual impacts and noise impacts on Papscanee Island.

Response: See responses below.

Comment C-1: SMC THPO finds that the plant as currently proposed would have an Adverse Effect on the visual and scenic attributes of the landscape from Papscanee Island for any Tribal member visiting. These impacts include the visual contrasts of the building structures and yellow color scheme of the respective installation components of the wind tower piers at their current staging area as compared to the natural landscape.

Response: The project relocated the transition pieces to be stored temporarily until shipped to behind the existing stand of vegetation and mature trees. An updated video simulation has been prepared to show that the majority of the transition pieces are screened during the leaf on time of year and design plans have been revised to incorporate comments from SMC THPO.

Comment C-2: There is concern over the size of the building structures as compared to the surrounding landscape. The revised project scope now includes 100'+ tall structures as compared to the original 80'. The size of these structures will certainly be visible from not only the shoreline of Papscanee Island but the interior as well.

Response: A No Adverse Effect was issued by the New York State Historic Preservation Office in September 2019 for the maximum building height of 85 feet. Although there is a marginal increase in building height from 85 feet to 100 feet, it is still in keeping with the surrounding area; there are buildings on the adjacent properties to both the north (Agway Industrial Park) and the south (PSEG) that are industrial in nature and contain structures that have buildings and stacks that extend to a height of approximately 200 feet and are visible to the Papscanee Island Historic District. Also, the 100 foot height only represents approximately 30% of the total linear footage of all buildings. An updated video simulation has been provided to show the project in context of the surrounding industrial view shed landscape to demonstrate there is no visual impact and that this project is consistent with the existing industrial visual landscape.

Comment C-3: The visual impact simulation depicts the proposed project during a daytime scenario. The manufacturing plant will be operating 24/7. Lighting associated with these operating activities would also be a visual impact concern.

Response: All exterior site lighting is building mounted except for the parking lot. A photometric lighting plan has been provided, Drawings LT-01 and LT-02, which demonstrate that the light levels at the property line of the project will be zero and the shoreline along the Hudson is expected to be dark. Marmen-Welcon has indicated that there is no intent to load or unload barges at night and therefore the lighting associated with the Wharf, which is required by Federal Maritime Commission standards, is anticipated to be off and only be used for emergency situations.

Comment C-4: SMC THPO requests an acoustic noise assessment to be conducted that includes projected levels experienced from multiple points across Papscanee Island. This assessment should include ambient noise levels recorded from Papscanee Island as well as what would be projected operating decibels experienced from the Island, not just 75' and 50' from the manufacturing structures. We ask the assessment to cover a 24-hour period considering the projected operating hours of the manufacturing plant and port activities. Perceptible increase in noise levels, regardless of time of day, location on Papscanee Island, and or frequency of visitors, would be an Adverse Effect. Whether at sporadic times, when Tribal community members visit Papscanee today due to its significant cultural importance, there would be discernable noise impacts associated with operating activities being proposed by the Port of Albany Expansion Marmen-Welcon Tower Manufacturing Plant project.

Response: Baseline noise measurements were collected at three (3) locations: Across from the Existing Port Wharf (MS-1), American Oil Road (MS-2), and Papscanee Island Nature Preserve (MS-3), as shown on Figure 1 and accompanying photos (attached). Noise measurements were collected between the morning of Tuesday, January 18 and the afternoon of Thursday, January 20, 2022. Measurements were recorded every 1 minute at each of the locations . Noise descriptors measured at each location include Leq, L10, Lmin, Lmax, Lpk. Results for each location are provided in the appendix of this FSEIS. Peak noise measurements (Lpk) recorded at each location are as follows:

MS-1: 118.5 dB(A)

MS-2: 121.5 dB(A)

MS-3: 114.2 dB(A)

The anticipated peak noise generated from this project will not exceed the peak existing background noise at Papscanee Island Nature Preserve or along the portion of Papscanee Island that is across the Hudson from the project site, and therefore, the project will not have an adverse effect on noise.

The full noise assessment is available in Appendix DD.

Comment C-5: SMC THPO asks for more clarity on the buffer of natural vegetation and trees to be kept in place on the southern extent of the project area. How wide is that buffer planned to be? Are the existing trees intended to be maintained and or what is planned to be placed there? What if the natural vegetation and trees die? What is the plan for replacement? There is concern that the natural barrier of trees will not be sufficient to dampen any acoustics associated with manufacturing processes and or appropriate coverage to mitigate the visual impacts of the larger structures. If the trees die due to

various construction and or manufacturing activities or environmental factors, the proposed building structures would be very clear on the landscape.

Response:

The buffer varies from 55 feet to 115 feet wide. Within this buffer area the proposed vegetation to remain will have a bandwidth that ranges from 30 feet to 70 feet wide. The existing trees are to be maintained. This buffer was created in response to previous comments from regulatory agencies under the Joint Permit Application process.

As discussed in response C-4 , there are no noise impacts associated with this project. The noise generated by this project will be attenuated by the existing ambient noise and the distance from the project to the closest receptor.

The buffer area will be protected during construction with the installation of orange fencing at an appropriate distance from the vegetation roots to ensure they remain. The construction contract will require any tree/vegetation that is damaged or dies, will be replaced at the expense of the contractor.

Comment D-1: Based on the visual simulation, the SHPO concurs with the Stockbridge Munsee Community (SMC) THPO that the Marmen/Welcon Offshore Wind Tower Manufacturing Plant will have an adverse visual effect on the National Register eligible Papscaenee Island Historic District (08303.000130).

Response: Please refer to responses to comments C-1 and C-2 above.

Comment D-2: SHPO will provide additional comments once the Acoustic Noise Assessment has been completed to measure the proposed project's noise impacts at the Papscaenee Island Historic District and the SMC THPO's comments regarding noise impacts have been provided.

Response: Please refer to response to comment C-4 above.

3.12 Aesthetic and Visual Resources

Comment A-16: Given the visual concerns raised by the SMC THPO and SHPO, it is recommended that the SFEIS include an updated discussion on impacts and mitigation measures for visual resources, including, but not limited to, the number and maximum height of cranes that will be utilized on the site and temporary storage areas for the transition pieces. This information should also be included in any revised visual assessments and photo/video simulations conducted for the site. Additionally, it is recommended that any revised photo/video simulations represent leaf-off condition since the existing trees to remain after construction are primarily deciduous.

Response: See responses C-1, and C-2. An updated visual simulation video was prepared to show the Project in relation to the surrounding development of the PSEG property and surrounding Port development, and to showcase leaf off (winter condition) conditions as requested. Note that the winter scenario, starts out as a summer scene at the Papscaenee Island Nature Preserve and converts to a winter scene as the video approaches the project site. The reason is such that due to the curvature of the Hudson, the buildings setback from the Hudson, and the distance between Papscaenee Island Nature Preserve and the project site, the project is not visible until the viewer approaches the PSEG power plant. As the video simulation shows the Project has a lower vertical

profile from what is existing to the south (PSEG Power Plant) and north (Albany Port District), and the project retains a 2,000 linear foot vegetative buffer to help screen the project.

Comment A-17: It is NYSDEC's understanding that the APDC will retain a vegetated buffer along 2/3 of the shoreline of the Proposed Action. NYSDEC recommends that APDC conduct a survey of the vegetation that will be retained so that a vegetation management plan can be developed. At a minimum, the vegetation management plan should establish a protection zone (setback from construction) for the trees that will remain, and a replacement plan for dead trees.

Response: See response C-5. The Existing vegetation will be maintained as needed during construction and damaged trees will be replaced prior to issuing a C of O for this facility.

Comment B-22: Section 3.12 - Aesthetic and Visual Resources – add discussion about seasonal visual impact and consider photo simulations with existing conditions photos during leaf-off season (Appendix H) to better illustrate potential impacts during leaf off season.

Response: See response C-1 and C-2 above. Updated visuals have been provided with winter scenarios showing no leaves on the deciduous plants. See updated visuals in Appendix EE of the SFEIS.

3.13 Land Use and zoning

No comments received on this section

3.14 Community Character and compatibility with Comprehensive Plan

No comments received on this section

3.15 Emergency Services

Comment B-23: Section 3.15 – Emergency Services – more clearly address potential impacts and mitigation to emergency services, specifically the Selkirk Fire Department.

Response: Coordination was completed with both the Town of Bethlehem Engineering Department as well as the Selkirk Fire Department. All comments were addressed and no potential impacts were identified. Please see the design teams detailed response included in Appendix FF of the SFEIS.

3.16 School District

No comments received on this section

3.17 Fiscal and Economic Impact

No comments received on this section

3.18 Recreation and Open Space

No comments received on this section

3.19 Solid Waste Disposal

No comments received on this section

3.20 Environmental Justice

Comment A-18: The SDEIS states, "CP 29 is initiated when a permit application is made to the NYSDEC. The Albany Port Expansion Project will require at a minimum the following DEC permits: SWPPP permit; Article 15 and Water Quality Certification." As noted above, the Proposed Action

will also require an Air State Facility permit from NYSDEC pursuant to ECL Article 19 and a SPDES Permit from NYSDEC pursuant to ECL Article 17. Commissioner Policy 29 (CP-29) is applicable to major projects for the permits authorized by the following sections of the ECL: titles 7 and 8 of article 17, state pollutant discharge elimination system (SPDES) (implemented by 6 NYCRR Part 750 et seq.), and article 19, air pollution control (implemented by 6 NYCRR Part 201 et seq.). These NYSDEC permits should be listed in Section 3.20 as they are the permits required for the Proposed Action that specifically require compliance with CP-29.

Response: Section 3.20 within Section IV of this SFEIS has been updated.

Comment E-1: Absent from the SDEIS are enforcement provisions. There is no mention of tenant leases or video monitoring that were conditions in the Generic Findings Statement. Accordingly, the Attorney General recommends that the final SEIS and its finding statement provide that the policy of avoiding truck traffic at Ezra Prentice be enforced by provisions in tenant leases and video-monitoring, as previously set forth in the Generic Findings Statement.

Response: The cameras exist at the South Port Road intersection with NYS Route 144 to monitor truck traffic turning right onto NYS Route 144 to ensure that new truck traffic associated with the proposed development will not travel north on South Pearl Street past the Ezra Prentice community. Should violation occur these cameras will be used to identify any vehicles not complying with the proposed truck route. The Port of Albany, and Marmen Welcon is committed to enforcing that all truck traffic generated from this manufacturing plant will use the prescribed truck routes identified in the Traffic Impact Statement. Any additional enforcement provisions will be provided as part of the site plan approval process.

Comment E-2: In addition, the north-south internal port road needs to be able to accommodate traffic not only via incoming deliveries but between the staging area and manufacturing center. The staging area parcel is situated to accommodate rail and barge, but there is no project requirement to use those delivery modes rather than trucks. If trucks are used, this may cause congestion on the internal road, giving truckers incentives to access the Port of Albany via South Port Road, entailing travel through Ezra Prentice, rather than via Church Street, which would avoid Ezra Prentice. To mitigate that risk, the internal port road should be constructed at the outset of the Project and with a capacity to accommodate the newly configured project.

Response: The applicant will improve Normanskill Street from the manufacturing plant to the receiving / staging area located at 700 Smith Boulevard as part of this project. Detailed design plans have been included with the SDEIS and have been reviewed by the Town staff and City of Albany. A separate Smith Boulevard rehabilitation project is in the preliminary design stage expected to go out to bid in 2022. This project is full funded by a state grant awarded to the Albany Port District Commission. Both the Normanskill and Smith Blvd will be re-constructed prior to the Marmen-Welcon plant commencing operations.

4.0 Reasonable Alternatives To Be Considered

No comments received on this section

4. SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT

The information and analysis discussed in the following sections have been prepared by including the text from the 2020 Final Generic Environmental Impact Statement (FGEIS) that has been updated to reflect latest project specific information and details. The FGEIS was accepted by the Town of Bethlehem (Lead Agency) on May 05, 2020. The formatting and numbering of main sections have remained similar to the FGEIS for ease of information location. This Supplemental Final Environmental Impact Statement (SFEIS) has been prepared in accordance with 6 NYCRR Part 617.10(a) of New York's State Environmental Quality Review Act (SEQRA) regulations.

To address the substantive comments received, the SDEIS has been revised. The SDEIS in its entirety is included hereafter with track changes to clearly identify what has been modified, and in combination with the previous sections of this submittal, is henceforth referred to as the Supplemental Final Environmental Impact Statement

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1. EXECUTIVE SUMMARY

Albany Port District Commission (APDC) has identified the need to expand their current land holdings to continue to accommodate future growth and help New York State in achieving its renewable energy goals by providing additional port infrastructure, manufacturing space for the offshore wind industry, cargo and wharf capacity necessary for the manufacturing and distribution of offshore wind components. In order to continue fulfilling their mission to generate economic development for the region and to accommodate future growth, the APDC proposed the development of an 81.6-acre industrial site, to expand and provide additional port infrastructure, manufacturing space, cargo and wharf capacity (“the Expansion Project”).

A Generic Environmental Impact Statement (GEIS) was prepared by the APDC and excepted by the Town of Bethlehem (Lead Agency) on May 05, 2020, which analyzed and evaluated potential environmental impacts equally with social and economic factors associated to the conceptual development of the Expansion Project. The Project evaluated in the 2020 Final GEIS (FGEIS) included the following elements:

- +/- 1.13 million square feet of industrial space located on the APDC 81.6-acre expansion property, located in the Town of Bethlehem, with maximum building height of 85 feet
- Site infrastructure and utilities associated to the proposed development (e.g., stormwater, electric, sanitary, communications, etc.)
- +/- 1,200 linear foot (LF) wharf and associated dredging
- bridge over the Normans Kill
- offsite road improvements for site access

The FGEIS Findings Statement established thresholds pursuant to the State Environmental Quality Review Act (SEQRA) to be followed during the design phase of a future specific Project. However, if the Project exceeds the establish thresholds or includes additional elements that were not contemplated as part of the FGEIS, a Supplemental EIS is necessary to update or evaluate additional potential environmental impacts not previously evaluated. Now that a specific Project has been further defined, this Draft Supplemental Environmental Impact Statement (SDEIS) has been prepared by the APDC to identify, evaluate or update foreseeable potential environmental impacts, of the specific project that was not previously contemplated, as applicable.

1.1. Summary Description of Project Area

The original Project Area included the 81.6-acre property known as Beacon Island that was the focus of the 2020 FGEIS. The Project Area has been expanded and now includes approximately 4.4 acres on the adjoining parcel owned by National Grid, and the approximate 14.7 acre parcel located at 700 Smith Boulevard in the City of Albany. Despite the fact that the Project Area has been expanded, some elements of the Project have been reduced. For impacts that do not exceed the thresholds established in the 2020 FGEIS, these are not required to be re-evaluated in this SDEIS.

1.2. Proposed Action

The Project will transform an undeveloped industrially zoned property into an active port terminal with specialized infrastructure capable of supporting a new manufacturing operation that would produce tower components for the offshore wind (OSW) industry. The Project will facilitate the marine-based import and export of materials and manufactured components to be used in the development of OSW facilities.

From the date that the FGEIS was accepted by the Town of Bethlehem, a specific Project has been defined. Currently and instead of the +/- 1.13 million square feet of industrial space, the proposed designed is now approximately 589,000 +/- square foot of OSW tower manufacturing facility operated by Marmen-Welcon spread out over five (5) separate buildings. The following is a breakdown of the function and size of each building:

- | | |
|---|--------------|
| 1. Building A Plate Preparation & Welding | (289,931 SF) |
| 2. Building B Welding Finishing | (99,936 SF) |
| 3. Building C Blast Metallization Plant | (121,593 SF) |
| 4. Building D Internal Assembly finishing | (57,898 SF) |
| 5. Building E Material receiving | (19,600 SF) |

Tower production will occur within four (4) buildings (Buildings A thru D) located on the Port Expansion property located in the Town of Bethlehem. The fifth building (Building E) is located at 700 Smith Boulevard within the existing Port District in the City of Albany. The proposed gated bridge over the Normans Kill will provide secure access for Marmen-Welcon owned delivery vehicles to and from the main production facility, where Buildings A thru D are proposed. This bridge will connect Beacon Island with the 14.7-acre offsite parcel at 700 Smith Boulevard where Building E (material receiving) is proposed. As shown on the site plan, employee parking will be situated on the adjoining land owned by National Grid with access from existing River Road (NYS Rt. 144). The proposed wharf and associated dredging along the western bank of the Hudson River is now reduced to approximately 500 linear feet. The wharf will be used to ship completed tower component sections.

The Project facility is expected to employ up to 550 full time workers.

Project Components Subject to SDEIS

Below are the following Project components that either exceed the thresholds established in the FGEIS or were not previously contemplated:

Threshold exceed:

- Increased maximum building height from 85 feet to approximately 110 feet

Project elements that were not contemplated during the preparation of the 2020 FGEIS; therefore, are now included as part of the proposed action:

- Development of 19,600 SF at 700 Smith Boulevard
- Disturbance of 4.4 acres on National Grid Parcel for 2.5 acre employee parking lot
- Impacts to submerged aquatic vegetation (SAV)

Furthermore, the SDEIS provides an update to wetland impacts previous discussed in the 2020 FGEIS.

The purpose of this SDEIS is to identify and describe the changes in the potential areas of environmental impact from the 2020 FGEIS prepared by the APDC in connection to the Project and continue serving as a guide to demonstrate that the proposed action is in compliance with SEQRA regulations, and it can be used as the basis for preparing a findings statement and establishing a SEQRA determination.

1.3. Potential Significant Beneficial and Adverse Impacts

Table 1.3-1: Potential Impacts and Proposed Mitigation Measures

SDEIS Section	Potential Impact	Proposed Mitigation
3.1 Soils, Geology, and Topography	Terrestrial Lands – Supplemental Project Area will change surface coverage, increasing imperviousness which create a water quality impact due to stormwater runoff.	A Stormwater Pollution Prevention Plan (SWPPP) will be prepared that will implement erosion, turbidity, and sediment Control while bioretention ponds and stormwater filtration structures will improve the quality of stormwater run-off.
3.2 Vegetation and Wildlife	Degrade water quality, increase turbidity, increase sedimentation, or alter flows, temperature, or water depths in Normans Kill would impair habitat for Significant Coastal Fish and Wildlife Habitat. Removal of trees that could be Northern Long-eared Bat roosting habitat. Dredging could result in direct impacts to of submerged aquatic vegetation (SAV) and freshwater mussels.	A SWPPP will be prepared that will outline the erosion, turbidity and sediment control measures to be implemented to mitigate potential water quality impacts, maintain river and Normans Kill bank cover, soil stabilization, and providing adequate riparian buffer areas for fish and wildlife habitat. Removal of trees will only be performed between November 1 and March 31 to mitigate the Northern Long-Wared Bat. SAV located within the proposed area of dredging will be transplanted to neighboring SAV beds to avoid impacts. Freshwater mussel (<i>Leptodea fragilis</i>) found within the proposed dredging area will be relocated outside the Project. An AMMP will be developed if necessary.
3.3 Regulated Wetlands and Surface Waters	The supplemental project results in approximately 0.88 acre of permanent impacts	Proposed bridge over Normans Kill has been re-designed and proposed to be

SDEIS Section	Potential Impact	Proposed Mitigation
	<p>and 0.33 acre of temporary impacts to USACE regulated wetlands</p>	<p>constructed outside the Mean Higher-High Water Line (MHHWL). Wetland credits will be purchase at mitigation bank within services area. Temporary impacts will be restored to pre-construction conditions.</p> <p>Surface waters – All NYSDEC and ACOE permits will be requested for activities in the Hudson River and Normans Kill. Wetlands –USACE Section 404/ Section 10 Individual Permit or Section 404 Nationwide Permit will be obtained as required.</p>
<p>3.4 Floodplains and Floodways</p>	<p>The building at 700 Smith Boulevard and parking lot on National Grid property will be within the 100-year floodplain.</p>	<p>Building and bridges lowest floor and roadway elevation respectively will be at elevation 20.3 feet above sea level. Which is 2 feet above the 100 yr. flood elevation and 1.3 feet above the projected sea level rise for year 2100.</p>
<p>3.5 Groundwater</p>	<p>Potential impacts from chemicals, toxins, or other pollutants released during construction and post construction activities.</p>	<p>A SWPPP will be prepared per NYSDEC regulations that will outline appropriate erosion and sediment controls, stormwater management. Fuel/chemical storage will be stored in compliance with NYSDEC SPDES or EPA SPCC regulations as required.</p>
<p>3.6 Climate and Air Quality</p>	<p>The Project will reduce vehicular traffic compared to what was evaluated in the FGEIS. Construction and traffic will result in air emissions and odor impacts. Increased transportation will impact emissions.</p>	<p>Construction impacts will be mitigated with dust suppression. A hydrogen sulfide limit of 0.01ppm for one hour period will be used as an odor threshold. Air emissions for Ezra Prentice community will be mitigated by the establishment and enforcement of truck routes through existing City of Albany Streets through the Port District and State Routes to eliminate new trucks traveling on South Pearl Street. See Section 3.7 for further details on the required truck route. See Section 3.20 for additional mitigation measures relating to truck route.</p>

SDEIS Section	Potential Impact	Proposed Mitigation
3.7 Traffic and Transportation	<p>Data received from the tenant indicates that the project will generate 324 trips during the morning peak hour and 324 trips during the evening peak hour for all five buildings combined.</p> <p>Maritime – No significant impact on existing Hudson River maritime commercial or recreational traffic. No added maritime traffic to Normans Kill, therefore no impact</p> <p>Rail – No noticeable impact</p> <p>Public Transportation – No impacts</p> <p>Pedestrian and Bicycle - No noticeable impacts</p>	<p>Vehicle – New proposed employee entrance with construction of a southbound left turn lane on River Road to enter the site. Proposed access drive is stop sign controlled and requires clearing of existing vegetation and signage/lighting installation. New Traffic Signal at the Route 32 & NYS Route 144 (River Road) Intersection, pending NYSDOT approval. See Proposed Threshold / Mitigation Table in Section 3.7.6 for further details on mitigation proposed as well as the updated traffic analysis will be provided as an appendix to the Study.</p>
3.8 Drainage	<p>Project will change the surface coverage of the site, increasing impervious cover to 15.5 acres</p>	<p>A SPDES permit will be required. A SWPPP will be developed that will implement water quality retention basins, underground stormwater filtration structures and erosion and Sediment Control measures. All measures will be designed per the NYSDEC requirements and enforced during construction activities. A SMP has been prepared to include a HASP, CAMP, and EWP.</p>
3.9 Water Service (Potable and Fire Protection)	<p>700 Smith Blvd will result in approximately 1,100 gpd demand and connect via existing utilities. A total of 4 buildings are in the process of being demolished on the project site and the proposed building will have a similar water demand as those previous 4 buildings combined. An existing 8”</p>	<p>None, as adequate capacity exists.</p>

SDEIS Section	Potential Impact	Proposed Mitigation
	<p>water main traverses through the site as well as an existing 12" sanitary main. A request for a formal statement from the City of Albany has been submitted and will be provided for the site plan and building permit approvals.</p>	
<p>3.10 Sanitary Sewer</p>	<p>700 Smith Blvd will result in approximately 1,100 gpd and connect via existing utilities. A total of 4 buildings are in the process of being demolished on the project site and the proposed building will have a similar demand as those previous 4 buildings combined. A request for a formal statement from the City of Albany has been submitted and will be provided for the site plan and building permit approvals.</p>	<p>None, as adequate capacity exists</p>
<p>3.11 Historic, Cultural, and Archeological Resources</p>	<p>No impact</p>	<p>None</p>
<p>3.12 Aesthetic and Visual Resources</p>	<p>110' tall building can be seen or partially seen from 5 locations.</p>	<p>Variance for height of building will be pursued as needed. Height is the minimum necessary for the anticipated use. Building Architectural design is being designed in keeping with the aesthetic nature of the surrounding buildings in the area. Justification for variance has been provided. Building colors will blend in with existing surroundings. Lighting will be design to minimize glare and light pollution.</p>
<p>3.13 Land Use and Zoning</p>	<p>Maximum building height of 110' exceeds the 60'</p>	<p>Variance for height of building will be pursued as needed. Justification for variance has been provided.</p>

SDEIS Section	Potential Impact	Proposed Mitigation
	maximum allowed per town code.	
3.14 Community Character and Compatibility with Comprehensive Plan	No impact since the Project Area will be developed in accordance with Town’s Comprehensive Plan and LWRP.	None
3.15 Emergency Services	No Impact	None
3.16 School District	No impact	None
3.17 Fiscal and Economic Impact	No Impact	None
3.18 Recreation and Open Space	No impacts. Project is consistent with Town’s Comprehensive Plan and Zoning Ordinances.	None
3.19 Solid Waste Disposal	No Impact, existing facilities have capacity for solid waste during construction and operation.	None
3.20 Environmental Justice	Increased truck and rail traffic near the Ezra Prentice neighborhood and potential air emissions from increased truck traffic.	All truck traffic will be routed through the existing Port District and will avoid the Ezra Prentice neighborhood. Additional Environmental justice review and public outreach process will be followed at time of site plan application by implementing the NYSDEC CP-29 at time of NYSDEC permit application concurrently with the Town of Bethlehem Site Plan application.

1.3.1. Potential Significant Beneficial Impacts

The Project presents a unique opportunity for redevelopment of a former waterfront landfill site and implement environmental controls. The Project site (a former fly ash landfill) is better suited for operations for maritime industries that can support production of large-scale renewable

energy projects via sustainable initiatives from public and private partnerships. The Project will include the removal and or containing (capping) of impacted soil or sediments (e.g., contaminants) within the footprint of the Project. Lastly, the Project will result in build-smart cross sector solutions to maintain and maximize employment and support local small business and families. Additionally, the Project will be the first OSW tower manufacturing facility in the United States and is forecasted to create upwards of 500 construction jobs and approximately 550 full time new jobs. Additionally, the Project is expected to help reduce the U.S. carbon footprint and reliance on imported OSW components.

1.3.2. Potential Significant Adverse Impacts

Adverse environmental impacts that have been identified that cannot be minimized, avoided or mitigated include the following:

1. Removal of existing vegetation within the Project footprint
2. Consumption of energy used for construction

1.4. Proposed Mitigation Measures

The Project has been outlined such that adverse temporary and permanent environmental impacts will be avoided, minimized, or mitigated to degree possible in accordance with local, state and federal guidelines and regulations. A summary of the mitigation measures to be employed by this Project are provided above in **Table 1.3-1** and further detailed in the following subsections.

1.4.1. Soils, Geology, and Topography

During construction a Soil Management Plan and SWPPP will be implemented for controlling the movement of fly ash, erosion, turbidity, dust and sediment controls while bioretention ponds and stormwater filtration structures will improve the quality of stormwater run-off. Additional mitigation measures are summarized below in **Section 1.4.8**.

1.4.2. Vegetation and Wildlife

Appropriate erosion and sediment controls measures will be implemented to mitigate potential water quality impacts to the Normans Kill and the Hudson River. All trees within the Project impact area will be cut between November 1 to March 31 in accordance with NYSDEC and United States Fish and Wildlife Service (USFWS) recommended conservation measures designed to minimize the likelihood of adverse impacts to northern long-eared bats (NLEB).

An environmental mitigation plan will be developed in close coordination with the NYSDEC to offset dredging and wharf construction impacts. Prior to dredging activities, protected freshwater mussels and submerged aquatic vegetation (SAV), within the Project footprint, would be relocated per the NYSDEC letter dated August 29, 2020 (DEC # 0122-00322/00001). The APDC is committed to maintaining a collaborative approach with NYSDEC in identifying a mutually agreed upon potential mitigation plan in accordance with The Hudson River Comprehensive Restoration Plan.

1.4.3. Regulated Wetlands and Surface Waters

Prior to impacts to wetlands and surface waters, the ADPC will obtain a permit from the USACE and NYSDEC to satisfy requirements from Section 404 of the Clean Water Act (CWA) and Article 15 – Protection of Waters Program, respectively. Wetland mitigation would be satisfied through a federally approved In-Lieu Fee Mitigation Program or off-site mitigation bank. Permit applications have been submitted to these agencies and are under review under USACE case numbers AN-2021-00948-UDA, and NYSDEC case number 4-0122-00322/00002.

In order to further avoid or minimize the possibility of incidental impacts during construction (e.g., erosion and sedimentation), a site specific SWPPP will be implemented and BMPs will be followed.

1.4.4. Floodplains and Floodways

All building structures will be constructed at a finished floor of at least elevation 21.0 feet (NAVD 88). This elevation places the buildings 3.0 feet above the current FEMA 100-year Base Flood Elevation (BFE), and 2.0 feet above the FEMA 100-year BFE modified and above the projected sea level rise (19 inches).

Given the definitions in the Draft NYS Flood Risk Management Guidance for Implementation of the CRRRA, the Project is considered to be a non-critical facility; it is located within a tidal area of the Hudson River; and the Project's anticipated useful life is 50 years. This would make the medium projection of sea level rise 25 inches, or 2.1 feet over the life of the Project. Assuming a BFE of 18, the resulting Finished Floor Elevation (FFE) of the building would be 22.1 feet (18 feet + medium sea level rise of the Project life + 2 feet). The Project's current FFE is 21.0 feet, which was established to keep the Project safely above the BFE, account for sea level rise, and balance the earthwork of the Project Site to the greatest extent practicable.

Additionally, the proposed bridge has a vertical curve that allows for the low chord elevation at the floodway limits to meet or exceed the hydraulic requirements of the 100-year storm. The elevation of the proposed bridge low chord will be not lower than the 100 year storm plus 19-inches of sea level rise per CRRRA and applicable design scenario. The 100-year regulatory flood is at elevation 18.6 feet plus 19-inches that equals an elevation of 20.2 feet. In order to then minimize site impacts, the adjacent spans outside the floodway have a low chord at the bridge abutment that would be lower than the Q50 storm. The proposed layout has two (2) piers comprised of reinforced concrete drilled shafts to avoid and minimize environmental impacts. The piers would be constructed outside of the mean higher high water line (MHHWL) and the floodway, avoiding impacts to the Normans Kill. The construction of the bridge abutment on the north side of the waterway is anticipated to result in only 0.04-acre of wetland impacts.

1.4.5. Groundwater

The NYSDEC Pollutant Discharge Elimination System (SPDES) program controls point source discharges to groundwater, as well as surface waters, during and post construction. Compliance with the SPDES design and permitting requirements, as well other applicable local, state, and federal rules and regulations such as a Spill Prevention, Control, and Countermeasure (SPCC) Plan

for petroleum based products and chemical storage, will be required for this Project and will effectively prevent potential groundwater impacts.

1.4.6. Climate and Air Quality

The Project is not anticipated to result in a significant increase in greenhouse gas (GHG) emissions. The Project does not meet the definition of a major facility since potential emissions will remain below the “major source” as defined under 6 NYCRR Part 201-2.1(b)(21). This will be accomplished by constructing the facility as proposed operating and maintaining emission sources and related air pollution control equipment in accordance with good air pollution control practices at all times.

Air quality impacts associated with construction will be mitigated by dust suppression techniques including spray of water on dry materials and soils and air monitoring at the perimeter of the property. Potential impacts associated with operations of facilities at the Project Area would be mitigated through compliance with the conditions of all required air pollution control permits and registrations under 6 NYCRR Part 201. As mentioned above, truck traffic in connection to the Project will be routed along the approved truck routes through existing City streets through the existing Port District or via South Port Road; however, prohibiting right hand turns to eliminate adding new truck traffic to South Pearl Street adjacent to Ezra Prentice community.

1.4.7. Traffic and Transportation

An updated Traffic Impact Study was completed for the Project. Based on the study, existing roadway infrastructure within the study area has adequate capacity to accommodate the traffic anticipated with the following recommendations:

- Supplementary turn lanes were reviewed at the Project access driveway along River Road and a dedicated left turn lane is recommended in order to separate through traffic from vehicles turning left to enter the site.
- Additional recommended improvements to the surrounding roadway network include the consideration of a coordinated signal at the NYS Route 144 (River Road) / NYS Route 32 intersection, in accordance with the guidelines set in the FGEIS. Coordination with NYSDOT is required to review a signal installation at this intersection.
- A post development speed study completed by NYSDOT is recommended at the proposed site driveway on NYS Route 144 to determine if the regulatory speed limits of 55-mph should be reduced to match the advisory speed limit of 45-mph.
- All truck deliveries will be routed through the approved truck routes to avoid the Ezra Prentice community.

1.4.8. Drainage

The Project will have land disturbance of more than one acre and will require a full SWPPP that conforms to Part III A through C of the General Permit. A full SWPPP will be developed in accordance with permit GP-0-20-001, or the active latest edition, regulations. The SWPPP will be reviewed and approved by the Town of Bethlehem and City of Albany as an MS4. The SWPPP

will be prepared in compliance accordance with the NYSDEC Manual and meet the following criteria as the principal objectives contained in an approved SWPPP.

- Reduction or elimination of erosion and sediment loading to waterbodies during construction activities. Controls will be designed in accordance with the NYSDEC's New York State Standards and Specifications for Erosion and Sediment Control.
- Mitigate the impact of stormwater runoff on the water quality of the receiving waters.
- Mitigate the increased peak runoff rate of runoff during and after construction.
- Maintenance of stormwater controls during and after completion of construction.

1.4.9. Aesthetic and Visual Resources

The building colors have been chosen to blend into the existing surroundings. All lighting on the Project will be full cut off, dark sky compliant and will not spill onto neighboring properties. In addition, the proposed uses and visibility (110 feet high) are compatible with the surrounding heavy industrial businesses in the area that exceed 110 feet and therefore will blend with the existing industrial community.

1.4.10. Land Use and Zoning

The Project is in compliance with the Town of Bethlehem and City of Albany's Zoning and Comprehensive Plans and will be developed with permitted uses in accordance with the zoning codes. As proposed, the industrial development will comply with the area, yard and bulk regulations with one exception. The Project includes a maximum building height threshold of 110 feet which exceeds the maximum allowable height of 60 feet; however, as stated in the Visual Impact Assessment (**Section 3.12**) the adjacent buildings to the south and north are higher than the proposed 110-foot height.

1.4.11. Emergency Services

New York State Uniform Fire Prevention and Building Code (Uniform Code) provides minimum requirements to safeguard the public safety, health, and general welfare. The Uniform Code has requirements for many aspects of built environments, such as: structural strength, means of egress, stability, adequate light and ventilation, stability, and safety to life and property from fire, and other hazards associated with building. All buildings will be built in accordance the current standards of the Uniform Code.

Construction considerations to mitigate emergency services will include items to follow the Uniform Code and subsequent regulations. All commercially occupied buildings will be sprinklered in accordance with the most current National Fire Prevention Association (NFPA) Code 13: Standard for the Installation of Sprinkler Systems requirements. All buildings will have standpipes in accordance with the most current NFPA Code 14: Standard for the Installation of Standpipe and Hose Systems. All buildings will be provided with an Underwriters Laboratories (UL) listed backflow prevention device, and a UL listed fire pump will be provided if needed to ensure necessary pressure and flow at the buildings.

All roads constructed in the development will be designed and built to meet local codes and Town requirements, including the ability to accommodate the emergency service vehicles.

Landscaping will be completed to not inhibit access to the buildings where necessary for emergency services.

Fire code compliance and uses of private security and monitoring systems will be determined and finalized during the site plan review and approval process, as well as the building permit process.

The local Fire Department, Police Department and EMS Ambulance Service providers have been contacted and they have indicated that they have the capability to service this Project.

1.4.12. Solid Waste Disposal

The County landfill has the capacity to handle waste from this Project. The City of Albany has a mandatory residential and commercial recycling policy in place for certain streams of paper, cardboard, plastic, glass, metal, electronics, rechargeable batteries, household hazardous wastes, mercury thermostats, fluorescent bulbs, and yard wastes. The APDC will encourage future tenant(s) compliance with the Town's recycling policy to reduce landfilled solid wastes.

1.4.13. Environmental Justice

The Ezra Prentice community is located approximately 0.4 mile to the north from the parcel boundary of 700 Smith Boulevard (Building E – Material Receiving Building) and 1.7 miles from the main site (Buildings A – D). The Ezra Prentice community is identified as an Environmental Justice area. Residents of Ezra Prentice community have expressed concerns over air quality, public health, and quality-of-life impacts from existing local businesses. Specifically, concerns are focused on traffic related to the trucks that pass through the neighborhood along South Pearl Street and trains in the adjacent CXS railroad yard to the east.

The APDC will complete the environmental justice review and public outreach process pursuant to the NYSDEC CP 29 Policy at the time of site plan application. Since the application and site plan approval reside within the Town of Bethlehem and City of Albany Planning Board jurisdiction, and the CP 29 Policy is under the NYSDEC jurisdiction, both the State and the local municipality will ensure that public participation within the Ezra Prentice community neighborhood is provided.

1.5. Considered Alternatives

The 2020 FGEIS evaluated several different concepts including a no build alternative, and five (5) different build out scenarios ranging from a 160,000 SF facility to a 1,130,000 SF facility. The FGEIS evaluated impacts under "Concept A", the 1.13 million square foot warehouse scenario. This SDEIS focuses on the specific additional Project Areas at 700 Smith Boulevard and the 4.4-acre parking lot on the National Grid property, along with the building height and submerged aquatic vegetation (SAV) impacts. See Chapter 4 or more information regarding reasonable alternatives considered.

1.6. Matters To Be Decided

As Lead Agency, the Town of Bethlehem Planning Board needs to provide SEQRA "Statement of Findings". The Town of Bethlehem Planning Board will issue a Statement of Findings in

accordance with SEQRA upon completion of the Supplemental Final Environmental Impact Statement (SFEIS). Once SEQRA has been completed, the Town of Bethlehem and City of Albany Planning Board's will conduct a site plan review for the portion of the project that resides in each respective jurisdiction.

1.6.1. Involved Agencies

Federal Agencies

United States Army Corps of Engineers (USACE)

State Agencies

New York State Department of Environmental Conservation (NYSDEC)

New York Department of Office of General Services (NYSOGS)

New York Department of State (NYSDOS)

New York State Department of Transportation (NYSDOT)

Local Agencies

Town of Bethlehem Planning Board

Town of Bethlehem Town Board

Albany County Health Department

Board of Commissioners of the Albany County Water Purification District

Town of Bethlehem Department of Public Works

Town of Bethlehem Zoning Board of Appeals

City of Albany Planning Commission

City of Albany Board of Trustees

1.6.2. Interested Agencies

Federal Agencies

Federal Emergency Management Agency (FEMA)

National Marine Fisheries Service (NMFS)

National Oceanic and Atmospheric Administration (NOAA)

United State Environmental Protection Agency (USEPA)

United States Fish and Wildlife Service (USFWS)

United States Coast Guard

State Agencies

New York State Office of Historic Preservation (SHPO)

New York State Thruway Authority (NYSTA)

State of New York Office of the Attorney General

Local Agencies

Albany County Planning Board

Bethlehem Central School District

Bethlehem Police Department

Selkirk Fire District

Delmar-Bethlehem EMS

Town of East Greenbush

1.6.3. Lists of Required Permits and Approvals

The project will require federal, state, and local agency permits and board actions. Implementation of the project involves several approvals including the following:

1. Coordinated SEQRA review by the Town of Bethlehem Planning Board (Lead Agency) & issuance of findings statement. See Supplemental and Generic EIS for list of involved and interested agencies
2. Albany County Planning, 239 site plan review recommendation
3. Town of Bethlehem Planning Board Site Plan Approval
4. City of Albany Planning Commission, Site Plan approval
5. Town of Bethlehem Zoning Board of Appeals for height and floodplain development area variances
6. Bethlehem Town Board approval for the extension of the existing water district
7. New York State Department of Transportation review and approval of the Traffic Impact Study.
8. Town of Bethlehem work permits for connection to the Town water main.
9. Town of Bethlehem (MS4) approval and acceptance of the Stormwater Pollution Prevention Plan (SWPPP), which is to be prepared in compliance with the NYSDEC General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002), as well as approval for disturbing more than five (5) acres of land at one time.

10. New York State Pollutant Discharge Elimination System (SPDES) permit and NYSDEC Multi-Sector General Permit

The following review agencies may be included in the necessary project review process:

1. Town of Bethlehem Planning Board
 - a. SEQRA Review - Lead Agency
 - b. Site Plan review/approval
2. Town of Bethlehem Town Board
 - a. SEQRA Review - Involved Agency
2. Town of Bethlehem Floodplain Administrator
 - a. Development Permit for construction within a FEMA regulated floodplain per Town Code 69 – Flood Damage Prevention
3. Town of Bethlehem Zoning Board of Appeals
 - a. Review and grant building height variance
4. Albany County Planning Board
 - a. SEQRA review – Involved Agency
 - i. Albany County Planning Board will review this project pursuant to the NYS General Municipal Law Section 239 that requires all proposed projects that are within 500 feet of a State highway be reviewed by the local County Planning Board. The County Planning Board review the project and render a decision to approve, deny or make recommendations for the Lead Agency to consider.
5. New York State Department of Environmental Conservation
 - a. SEQRA Review - Involved Agency
 - b. General Permit for Stormwater Discharges
 - c. Approval of the cap over the remediations area/site
 - d. 401 Water Quality Certification and Article 15 – Protection of Waters Permit
 - e. Part 182 Incidental Take Permit
 - f. NYSDEC Air State Facility Permit
6. New York State Department of Transportation
 - a. SEQRA Review - Involved Agency
 - b. Approval of Traffic Impact Study
 - c. Off-site Highway Work Permit
7. New York State Office of Parks, Recreation and Historic Preservation
 - a. SEQRA Review - Involved Agency
 - b. Sign-off on Archaeological and Historic Impacts
 - a. Purpose and Process of SEQRA
 - b. SAV transplant and relocation of Mussels

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2. DESCRIPTION OF PROPOSED ACTION

The original Project Area was evaluated and covered under the 2020 FGEIS, accepted by the Town of Bethlehem, included the 81.6-acre property known as Beacon Island. The Project Area has been expanded and now includes an additional 4.4 acres on the adjoining parcel owned by National Grid, and the approximate 14.7 acre parcel located at 700 Smith Boulevard in the City of Albany (“supplemental Project Area”). The information presented and discussed in the following sections is mainly focused in the supplemental Project Area and recent updates to the proposed action originally presented in the 2020 FGEIS.

The information and analysis discussed in the following sections have been prepared by including the text (as applicable) from the 2020 FGEIS with the required updates to reflect latest project information and details. Overall, the formatting and numbering of main sections remain similar from the 2020 FGEIS for ease of information location.

2.1. Project Location – Supplemental Project Area

The supplemental Project Area subject to the SDEIS includes a material receiving building and yard located at 700 Smith Boulevard in the City of Albany. The parcel (Tax Map No. 87.10-4-1) is approximately 14.7 acres and is bound by the following:

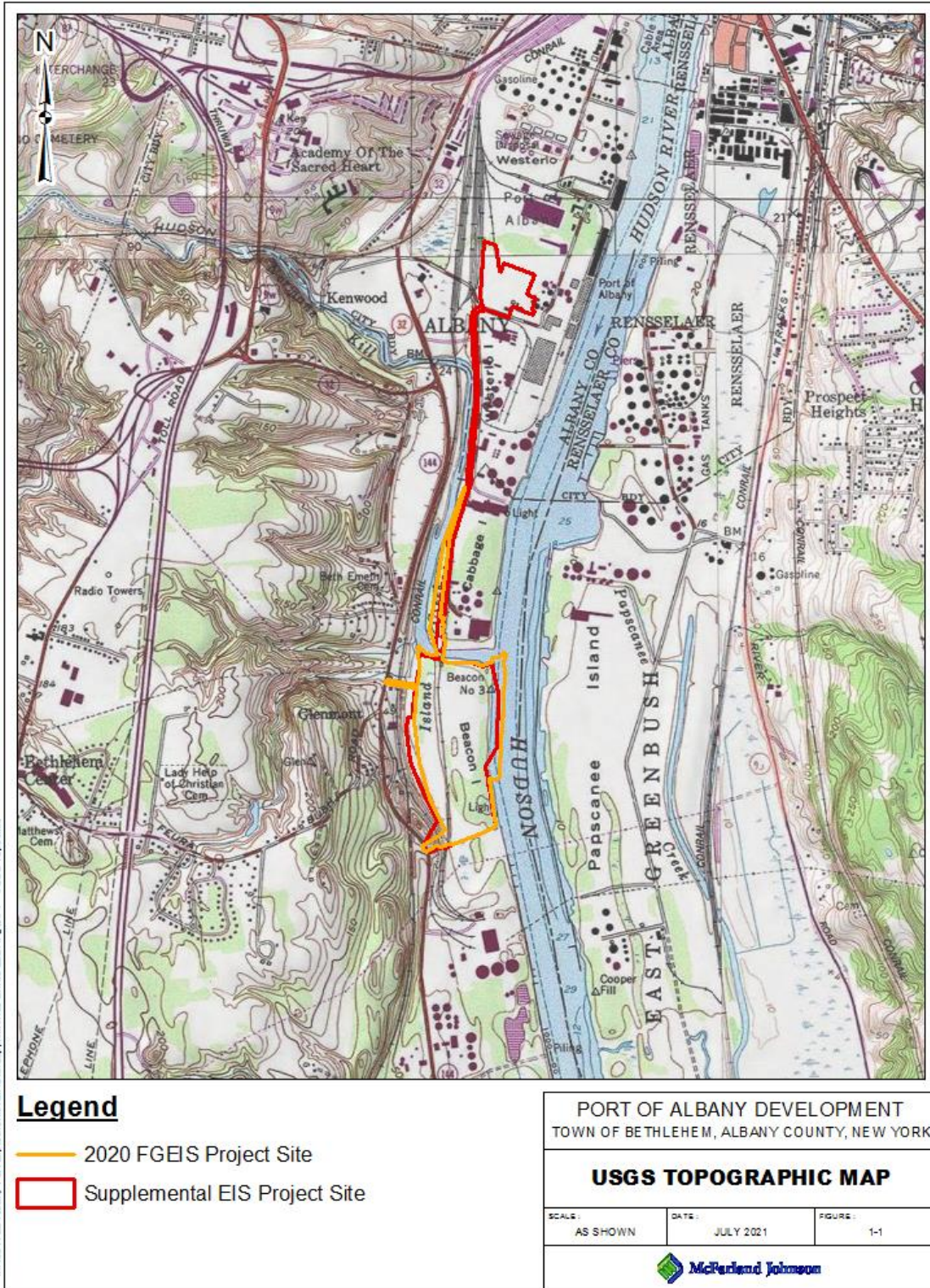
- To the North: storage lot, warehouse, and industrial facilities
- To the South: vacant, paved lots and garage buildings, Raft Street
- To the East: Tank storage
- To the West: Railroad/rail yard

There will also be an employee parking lot on the National Grid property in the Town of Bethlehem (Tax Map No. 98.00-2-10.21), which abuts the western boundary of the Beacon Island parcel previously evaluated in the FGEIS. This parcel is bound by the following:

- To the North: Normans Kill
- To the South: Public Service Enterprise Group Power New York Power Plant (PSEG)
- To the East: Beacon Island Parcel – Proposed development site
- To the West: abandoned railroad and various small commercial and residential buildings

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Figure 2.1-1: Site Location Map



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2.2. Site Description

The supplemental Project Area consists of the 14.7-acre parcel at 700 Smith Boulevard in the City of Albany and is owned by the APDC since approximately 1925 and has had various usage. This currently vacant parcel is located in the city's General Industrial zone. According to records from the NYSDEC, was used by Atlantic Steel Corporation as a rail yard from 1937 to 1951, after which it was used for metal recycling from 1964 to 2013.

The supplemental Project Area also includes approximately 4.4 acres of disturbance to the National Grid parcel abutting Beacon Island. The land is currently utilized as an energy corridor, with two (2) buried gas lines and overhead electrical transmission power lines. The area receives periodic mowing to maintain access to the gas lines.

2.3. Description of Proposed Action

The Project will transform an undeveloped industrially zoned property into an active port terminal with specialized infrastructure capable of supporting a new manufacturing operation that would produce tower components for offshore wind (OSW) developments. The Project will facilitate the marine-based import and export of materials and manufactured components to be used in the development of OSW facilities.

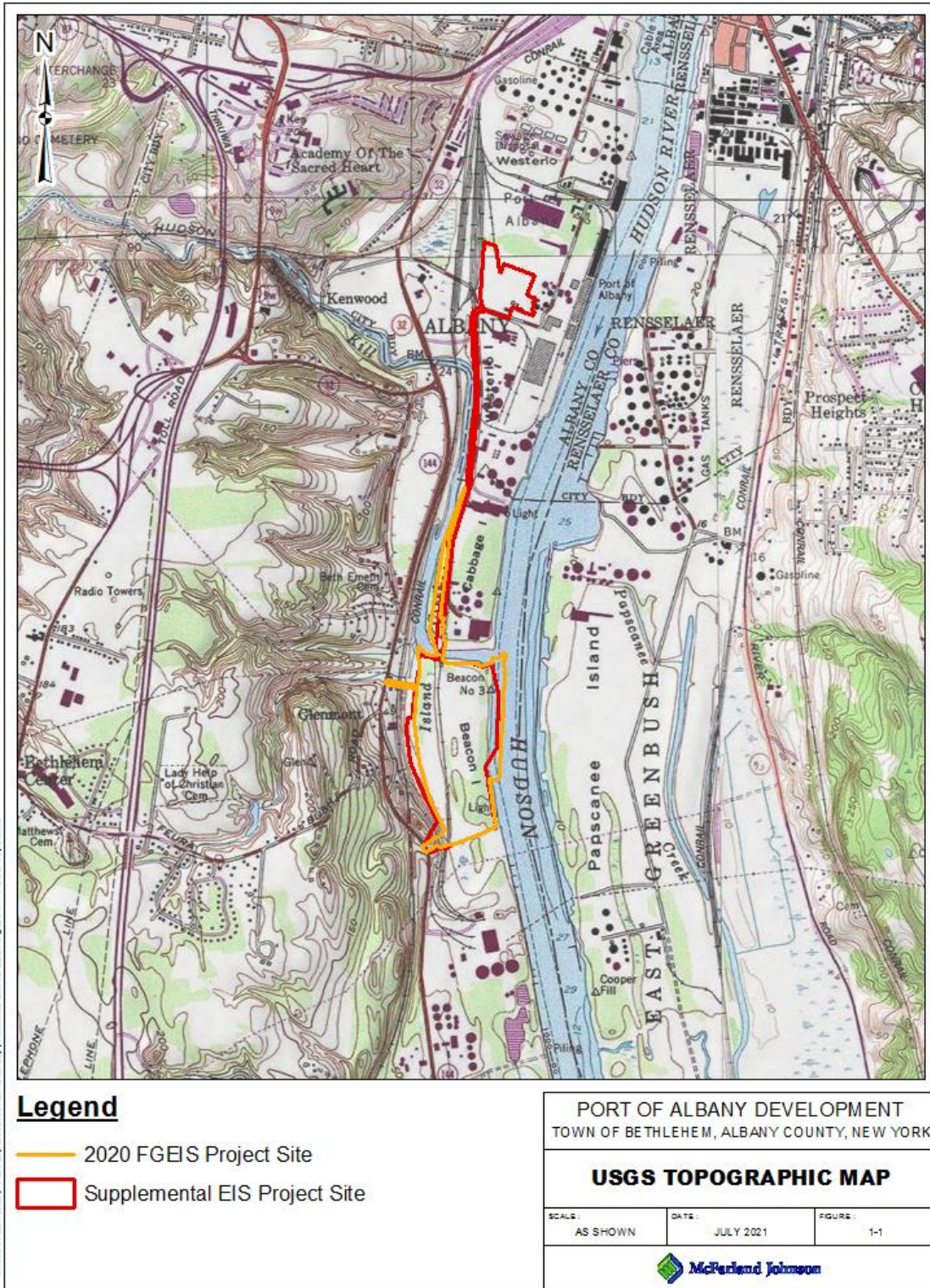
From the date that the FGEIS was approved, the concept of the Project has been further defined. Currently and instead of the +/- 1.13 million square feet of industrial space, the proposed project is now approximately 589,000 +/- square foot of OSW tower manufacturing plant owned by the Port of Albany and operated by Marmen-Welcon spread out over five (5) separate buildings. The following is a breakdown of the function and approximate size of each building:

1. Building A Plate Preparation & Welding	(289,931 SF)
2. Building B Welding Finishing	(99,936 SF)
3. Building C Blast Metallization Plant	(121,593 SF)
4. Building D Internal Assembly finishing	(57,898 SF)
5. Building E Material receiving	(19,600 SF)

Tower production will occur within four (4) buildings (Buildings A thru D) located on the previously evaluated Port Expansion property located in the Town of Bethlehem. The proposed gated bridge over the Normans Kill will provide access for all deliveries in and out of the main production plant, by connecting Beacon Island and 14.7-acre offsite parcel at 700 Smith Boulevard. The fifth building (Building E) is located at 700 Smith Boulevard within the existing Port District in the City of Albany. As shown on the site plan, employee parking will be situated on the adjoining land owned by National Grid with access from River Road. The proposed wharf and associated dredging along the Hudson River is now approximately 500 linear feet. The wharf will be used to ship completed tower sections and components.

The Project facility is expected to employ up to 550 full time workers.

Figure 2.3-1:



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2.4. Purpose and Need for the Proposed Action

2.4.1. Purpose

The Project will transform an undeveloped industrially zoned property into an active port terminal with specialized infrastructure capable of supporting a new manufacturing operation that would produce the tower components for OSW developments. The Project will facilitate the marine-based import and export of materials and manufactured components to be used in the development of OSW facilities. The Project would be the first OSW tower manufacturing facility in the United States and is forecasted to create upwards of 500 construction jobs and 550 full time new jobs. The project will also reduce U.S. reliance on imported OSW components and help reduce the US carbon footprint.

The Port of Albany is a significant contributor to the economic activity and trades for the region, playing a key role in the multi-modal transportation and supporting production, distribution, and consumption of goods and services. Currently, the Port of Albany is upstate New York's busiest port, responsible for \$800 million in state economic output annually and for 1,400 jobs locally, according to the Port's most recent annual report.

2.4.2. Need

APDC has the need to expand their current land holdings in order to accommodate demand and support New York State in achieving its renewable energy goals by providing additional port infrastructure, building space, cargo and wharf capacity necessary for the manufacturing, distribution and operation of offshore wind components.

The APDC continuously invests in infrastructure upgrades to ensure they provide the maximum value for customers and tenants who chose to continue and promote their business at the Port of Albany. Currently, the APDC footprint is centrally located and strategically operates on both sides of the Hudson River, integrating:

- Connectivity of various transportation modes such as ocean vessels and barges
- Accessibility of CP/CSX railroads and interstate highways
- Approximately 4,400 feet of wharf length on the Albany side of the Hudson River
- Approximately 1,200 feet of wharf length on the Rensselaer side of the Hudson River
- Approximately 350,000 SF of covered storage and warehouses
- On-site U.S. Customs and Border facility

The APDC has exhausted almost all of its available land to accommodate additional port infrastructure, warehouse space, cargo and wharf capacity; therefore, the proposed expansion is needed. According to the most recent market analysis performed for their business operations and assets inventory, over 90 percent of the APDC facilities are currently occupied. This situation creates losses in economic development opportunities due to the limited land availability for waterfront and maritime dependent businesses.

The Project is essential for port dependent users and will address immediate and future needs, with the ability to provide and locally support renewable energy developments proposed in the New York State and other regions in the U.S. The Project Area is owned or controlled by the

APDC. The acquisition of the Project Area by APDC was a strategic investment to support New York State commitment of providing additional port terminal capacity for the offshore wind industry.

Based on current needs from APDC, the Project Area is the ideal location for the Proposed Action due to the following characteristics:

- Site historically disturbed with limited ecological and no recreational value due to previous uses
 - 81.62-acre parcel is waterfront property owned by the APDC and previously used as landfill for stockpiling coal ashes
 - 4.4-acre National Grid parcel used for installation and operation of above and underground power infrastructure
 - 14-.7 acre parcel is owned by APDC previously used as rail yard and metal recycling facility
- Available infrastructure and adjacent to existing and secured port facilities
- Ability to provide adequate depth for marine vessels and barges
- Proximity to areas with export and import demands
- Shelter from waves and storm surge
- Existing good logistical access (e.g., navigation, rail, and roads network) that can handle industrial traffic

Moreover, the Project Area is in close proximity to the existing Port of Albany with the adequate capacity and space to provide the needed industrial uses. Also, the Project would result in direct and indirect benefits, such as:

- Better suited operations for waterfront property that can support production of large-scale renewable energy projects via sustainable initiatives from New York State and private partnerships
- Unique opportunity for redevelopment of a former waterfront landfill site and implement environmental controls
- Removal of coal ashes within the footprint of the Project during the construction phase
- Potential compensatory mitigation of potential wetland impacts in off-site areas that provides greater long-term ecological value than the jurisdictional areas to be affected
- Build-smart cross sector solutions to maintain and maximize employment, and support local small business and families
- Provide additional needed port capacity to continue serving the U.S. Northeast, Midwest and Canadian regions

2.5. Construction Activities

Construction areas will be phased in order to break down disturbance of work into smaller, manageable sections. Cut and fill from each phase would be managed and maintained on-site. Construction sequencing, along with stormwater management and erosion and sediment control plans would be developed for each phase and submitted to the Town and City respectively for

final approval. During phasing, the existing vegetation to remain would be protected with construction fencing, and staging areas would be stabilized and maintained with wood chips, stone, or an approved alternative.

The Project will be constructed as a single full build project with four (4) erosion and sediment control phases as shown in the site plans.

Site ingress and egress during construction, for emergency response, and for the parking lot would be via the proposed southern project driveway, connecting the Project Area to River Road, and via South Port Road via a new bridge, as described in the 2020 FGEIS. Access to 700 Smith Boulevard will be from existing Smith Boulevard. All truck traffic will follow the truck route outlined in the 2020 FGEIS. As described in the 2020 FGEIS, prior to construction, the applicant will need to apply for a permit from the NYSDOT to allow the southern driveway to operate as a temporary full access ingress/egress driveway to be used for construction and emergency access. The construction access permit will include a detailed Maintenance and Protection of Traffic Plan (MP&T) that will include work zone speed limit (reduction) signage, truck entrance signage, traffic calming barriers (cones, barrels), and advance traffic control warning features (signage with beacons, etc.). The approximate duration of site/roadway construction is anticipated to take 18-24 months.

Construction of paved areas, stormwater facilities, lawn areas, and buildings will result in an alteration of the existing ground and site characteristics. Approximately 15.2 acres will be disturbed during construction for the supplemental areas, in addition to the original 67 acres that was assumed in the GEIS. The development of the Project Area will require that fill material (e.g., suitable earth fill to raise the site, crushed stone aggregate for building slabs, driveway and parking lot as well as final surface materials including concrete slabs, asphalt pavement, stone subbase areas) to be imported to the Project Area to achieve structural integrity and proposed grades.

During construction, erosion control measures such as silt fence, diversion swales/berms, and sediment traps/basins will be installed to mitigate the potential for erosion of soils and downstream siltation. All erosion and sediment control measures will be constructed in accordance with the latest edition of the New York State Standards and Specifications for Erosion and Sediment Controls. Particular attention and additional measures such as double lined silt fence, and installation of turbidity curtains will be used to protect the waters of the Normans Kill and Hudson River where Bridge and Wharf construction may impact embankment slopes.

Common industry practices, such as the spraying of water to control dust, and confining construction work periods to those permitted by the Town, will further mitigate the normal unavoidable short-term impacts associated with construction such as dust and noise.

Construction activities will abide by the Town of Bethlehem's Town Code § 81-5 and City of Albany regarding construction noise and time. Construction hours will be limited to 6:00 am to 10:00 pm. Construction activities that may cause temporary noise impacts include earthwork, paving, structure construction, and land clearing. Exact noise levels due to construction cannot be determined at specific sites since the number and types of construction equipment that would be used cannot be predicted, but the equipment will not be allowed to operate during the restricted times set forth by the Town and City, respectively.

Best Management Practices (BMPs) will be incorporated into the specific building and site plan contract documents to reduce construction noise and perceived disturbances in the Project Area. This Project will be required to comply with the SPDES Phase II General Permit for Stormwater Discharges from Construction Activities (GP-0-20-001). As part of these requirements a SWPPP has been prepared describing erosion and sedimentation control measures. In accordance with 6 NYCRR Part 608.8, it is understood that the basis for the issuance of an Article 15 permit will be based on the determination that the proposal is in the public interest, in that:

- (a) the proposal is reasonable and necessary;
- (b) the proposal will not endanger the health, safety or welfare of the people of the State of New York;
- (c) the proposal will not cause unreasonable, uncontrolled or unnecessary damage to the natural resources of the State, including soil, forests, water, fish, shellfish, crustaceans and aquatic and land-related environment;
- (d) the Project will comply with all required seasonal restrictions incorporated into future permits; and
- (e) offset dredging impacts by relocation of SAV and protected mussel species within the project footprint, or by implementing an alternate mitigation strategy in coordination with NYSDEC and the US Army Corps of Engineers.

The Town of Bethlehem and City of Albany are MS4 communities and therefore this Project will comply with the NYSDEC Phase II stormwater regulations and will incorporate BMPs to ensure that water quality on site will be protected. As applicable, BMPs to be employed will include:

- Silt fencing placed around construction areas prior to grading activities
- Diversion Channels to prevent runoff from leaving the Project Area
- Land clearing activities shall be done only in areas where earthwork will be performed and shall progress as earthwork is needed
- Permanent seeding and planting of all unpaved areas using the hydro-mulching grass seeding technique
- Mulching exposed areas, where specified
- Temporary seeding and planting of all unpaved areas using the hydro-mulching grass seeding technique within 14 days of disturbance
- Frequent watering to minimize wind erosion during construction
- Rock check dams
- Maintain vegetation buffer along the Hudson River frontage

A request to disturb more than five (5) acres at a time will be submitted to the Town of Bethlehem and City of Albany for review and approval. To obtain the five (5) acre waiver, at least two (2) site inspections be required to be performed during construction by a qualified professional, every seven days, for as long as the disturbed area exceeds five (5) acres. This increased frequency of inspection will ensure that the erosion and sediment control facilities are functioning as designed

and that there are no additional impacts to wetlands or the waters of the U.S. during construction activities.

2.6. Required Approvals

The project will require federal, state, and local agency permits and board actions. Implementation of the project involves several approvals including the following:

1. Coordinated SEQRA review by the Town of Bethlehem Planning Board (Lead Agency) & issuance of findings statement. See Supplemental and Generic EIS for list of involved and interested agencies
2. Albany County Planning, 239 site plan review recommendation
3. Town of Bethlehem Planning Board Site Plan Approval
4. City of Albany Planning Commission, Site Plan approval
5. Town of Bethlehem Zoning Board of Appeals for height and floodplain development area variances
6. Bethlehem Town Board approval for the extension of the existing water district
7. New York State Department of Transportation review and approval of the Traffic Impact Study.
8. Town of Bethlehem work permits for connection to the Town water main.
9. Town of Bethlehem (MS4) approval and acceptance of the Stormwater Pollution Prevention Plan (SWPPP), which is to be prepared in compliance with the NYSDEC General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002), as well as approval for disturbing more than five (5) acres of land at one time.

The following review agencies may be included in the necessary project review process:

8. Town of Bethlehem Planning Board
 - c. SEQRA Review - Lead Agency
 - d. Site Plan review/approval
9. Town of Bethlehem Town Board
 - a. SEQRA Review - Involved Agency
3. Town of Bethlehem Floodplain Administrator
 - a. Development Permit for construction within a FEMA regulated floodplain per Town Code 69 – Flood Damage Prevention
10. Town of Bethlehem Zoning Board of Appeals
 - a. Review and grant building height variance
11. Albany County Planning Board
 - b. SEQRA review – Involved Agency
 - i. Albany County Planning Board will review this project pursuant to the NYS General Municipal Law Section 239 that requires all proposed projects that are within 500 feet of a State highway be reviewed by the local County Planning Board. The County Planning Board review the project and render

a decision to approve, deny or make recommendations for the Lead Agency to consider.

12. New York State Department of Environmental Conservation
 - g. SEQRA Review - Involved Agency
 - h. General Permit for Stormwater Discharges
 - i. Approval of the cap over the remediations area/site
 - j. 401 Water Quality Certification and Article 15 – Protection of Waters Permit
 - k. Part 182 Incidental Take Permit
 - l. NYSDEC Air State Facility Permit
13. New York State Department of Transportation
 - d. SEQRA Review - Involved Agency
 - e. Approval of Traffic Impact Study
 - f. Off-site Highway Work Permit
14. New York State Office of Parks, Recreation and Historic Preservation
 - c. SEQRA Review - Involved Agency
 - d. Sign-off on Archaeological and Historic Impacts
 - a. Purpose and Process of SEQRA
 - b. SAV transplant and relocation of Mussels

2.7. Purpose and Process of SEQRA

This SFEIS has been prepared in compliance with Article 7 of the SEQRA, and the implementing regulations of the New York State Department of Conservation (6NYCRR Part 61.7) on behalf of the APDC.

Article 8 of the New York State Environmental Conservation Law (ECL) requires that an Environmental Review is conducted for any action that may have a significant impact on the environment. This statute and the NYSDEC implementing regulations provide the procedures for compliance with SEQRA. They are intended to incorporate the considerations of the environmental factors into the planning, review, and decision-making processes of agencies at the earliest feasible time.

The proposed action is a Type I Action as it exceeds the following thresholds listed at 6 NYCRR 617.4(b)(6) for the construction of a non-residential facility that includes the:

1. Physical alteration of 10 acres (i);
2. Parking for 1,000 vehicles (iii); and,
3. More than 100,000 SF of gross floor area in a town having a population of 150,000 persons or less (iv).

The purpose of this SDEIS is to identify and describe the changes in the potential areas of environmental impact from the 2020 FGEIS prepared by the APDC in connection to the Port Expansion Project and continue serving as a guide to demonstrate that the Project is in compliance with SEQRA regulations, and it can be used as the basis for preparing a findings statement and establishing a SEQRA determination.

The step-by-step SEQRA process can be found on the NYSEDC web site (<https://www.dec.ny.gov/permits/6189.html>).

The summary of process steps conducted under the 2020 FGEIS for the Project are as follows:

- Preparation of EAF: October 22, 2018
- Establish Lead Agency: December 4, 2018
- Determine Significance: January 15, 2019
- Public Scoping Session: March 19, 2019
- End of Comment Period for Scoping: March 26, 2019
- Scoping Adopted: April 2, 2019
- Completion and Acceptance of DGEIS: August 6, 2019
- Public Hearing on DGEIS: September 3, 2019
- Public Review and Comment Period End: September 14, 2019
- Completion and Acceptance of Supplemental DGEIS: December 17, 2019
- Public Information Meeting for Ezra Prentice Community on Supplemental DGEIS: January 6, 2020
- Public Review and Comment Period for SDGEIS End: January 17, 2020
- Completion and Acceptance of FGEIS: May 5, 2020

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3. ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

This section describes the environmental conditions of the supplemental Project Area, in addition to the proposed development at the 81.6-acre property evaluated in the 2020 FGEIS. The environmental setting takes into consideration information presented in the 2020 FGEIS, and additional information gathered from technical studies.

The supplemental Project Area includes approximately 4.4 acres of disturbance on the adjoining parcel owned by National Grid for the proposed employee parking, and the approximately 14.7 acres parcel at 700 Smith Boulevard in the City of Albany for the receiving building and yard.

The primary focus of this SDEIS is to evaluate resources, potential impacts, and applicable mitigation measures within the supplemental Project Area. For impacts that do not exceed the thresholds established in the 2020 FGEIS, these are not required to be further evaluated as part of the SDEIS.

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3.1. Soils, Geology, & Topography

3.1.1. Environmental Setting

Terrestrial Lands

The site at 700 Smith Boulevard entails approximately 14.7 acres and is owned by the APDC since approximately 1925 and has had various usage. According to records from NYSDEC, the site was used by Atlantic Steel Corporation as a rail yard from 1937 to 1951, after which it was used for metal recycling from 1964 to 2013.

The adjoining land on National Grid property and where employee parking is proposed, is utilized as an energy corridor with two (2) buried gas lines and overhead electrical power. The area receives periodic mowing to maintain access to the gas lines.

According to the NRCS web soil survey, accessed June 21, 2021, the entirety of the parcel at 700 Smith Boulevard is mapped as Urban land (Ur) and the area on National Grid property is mapped as Wayland Soil Complex. Wayland series soils consist of very deep, poorly drained and very poorly drained, nearly level soils formed in recent alluvium within floodplains. Ur soils consist of nearly level to moderately steep areas where the soils have been altered or obscured by more than 85% with urban works and structures. Soil mapping of the supplemental Project Area has been provided as **Figure 3.1-1**. According to the web soil survey, there are no prime farmlands, unique farmlands, or farmlands of statewide or local importance mapped within the Project Area.

Plumley Engineering performed a Phase II Environmental Site Assessment (ESA) for 12.14 acres of the 14.7 acres at 700 Smith Boulevard in August 2014. However, the results were never summarized in a report so CHA Consulting, Inc. (CHA) subsequently summarized them in a supplemental Phase II Investigation Report in April 2015. Total PCBs were detected in soils exceeding Title 6 of the New York Codes, Rules and Regulations (NYCRR), Part 375 – Soil Cleanup Objectives (SCOs) – Restricted Industrial Use limits and Toxic Substance Control Act (TSCA) Cleanup Levels for Low-Occupancy Cleanup levels. Additional site characterization sampling and groundwater sampling took place in 2015 and 2015. The primary contaminant of concern at the site is PCBs in soil. A PCB Risk-Based Cleanup and Disposal Application was prepared by CHA in May 2020 and is included in **Appendix A1 of the SDEIS**.

The soils at the Beacon Island parcel were addressed in the FGEIS. Since completion of the FGEIS, a Soil Management Plan (SMP) has been developed by Atlantic Testing Laboratories and details the procedures for excavation, disposal, and remediation of the coal fly ash impacted soils. A copy of the SMP has been included in **Appendix A2 of the SDEIS**.

A full SWPPP has been developed that outlines the erosion, turbidity and sediment control measures to be implemented to mitigate potential water quality impacts, maintain river and Normans Kill bank cover, soil stabilization, and providing adequate riparian buffer area (i.e., existing vegetation in natural state) for fish and wildlife habitat. A copy of the SWPPP has been included in **Appendix A3 of the SDEIS**.

Also, SMP has been developed by CHA for the 700 Smith Boulevard parcel and is included as **Appendix A4 of the SDEIS**.

Lands Under Water

The supplemental Project Areas and components do not include any lands under water.

3.1.2. Potential Impacts

Terrestrial Lands

The Project will change the surface coverage of the Project Area by increasing the amount of imperviousness. This change will increase the peak discharge rate of stormwater runoff. In addition, the increased imperviousness will create a need for water quality features. The construction of the Project requires Erosion and Sediment Control measures to mitigate potential short-term water quality impacts including the exposure of bare soil and the mobilization of sediment.

Construction activities may cause noise impacts including earthwork, paving, structure construction, land clearing, and blasting related to bedrock and shale. Construction activities will abide by the Town of Bethlehem's Town Code § 81-5 regarding construction noise and hours of operation. Additional construction considerations are discussed in **Section 2.5**.

Lands Under Water

Potential impacts to lands under water were discussed in the FGEIS, no additional dredging is included as part of the supplemental Project Area.

3.1.3. Mitigation Measures

Terrestrial Lands

There are no natural or unique geographical features located at the Project Area, and therefore no mitigation is required. However, BMPs will be implemented to avoid or minimize impacts outside the Project Area.

Traffic noise within the Project Area is expected from heavy trucks traveling through the Project Area and yard areas. Noise levels from the typical heavy trucks that are expected to operate at the Project Area may produce maximum noise levels of up to 75 dBA at the reference distance of 50 feet (according to the USDOT Federal Highway Administration Construction Noise Handbook).

According to the fundamentals of noise propagation, sound pressures from stationary or slow-moving objects will decrease (attenuate) at a rate of 6 dB each time the distance away is doubled. At a distance of 150 feet, the noise will attenuate to approximately 65 dBA. The preliminary site plans show the roadway used by trucks will bring deliveries from the 700 Smith Boulevard material receiving site will traverse down Normanskill Street and the proposed bridge over the Normans Kill to the site. The primary truck deliver route to each building on the yard side is more

than from 150 feet, at its closest, to the property line. As a result, the Project will comply with the Town noise ordinance.

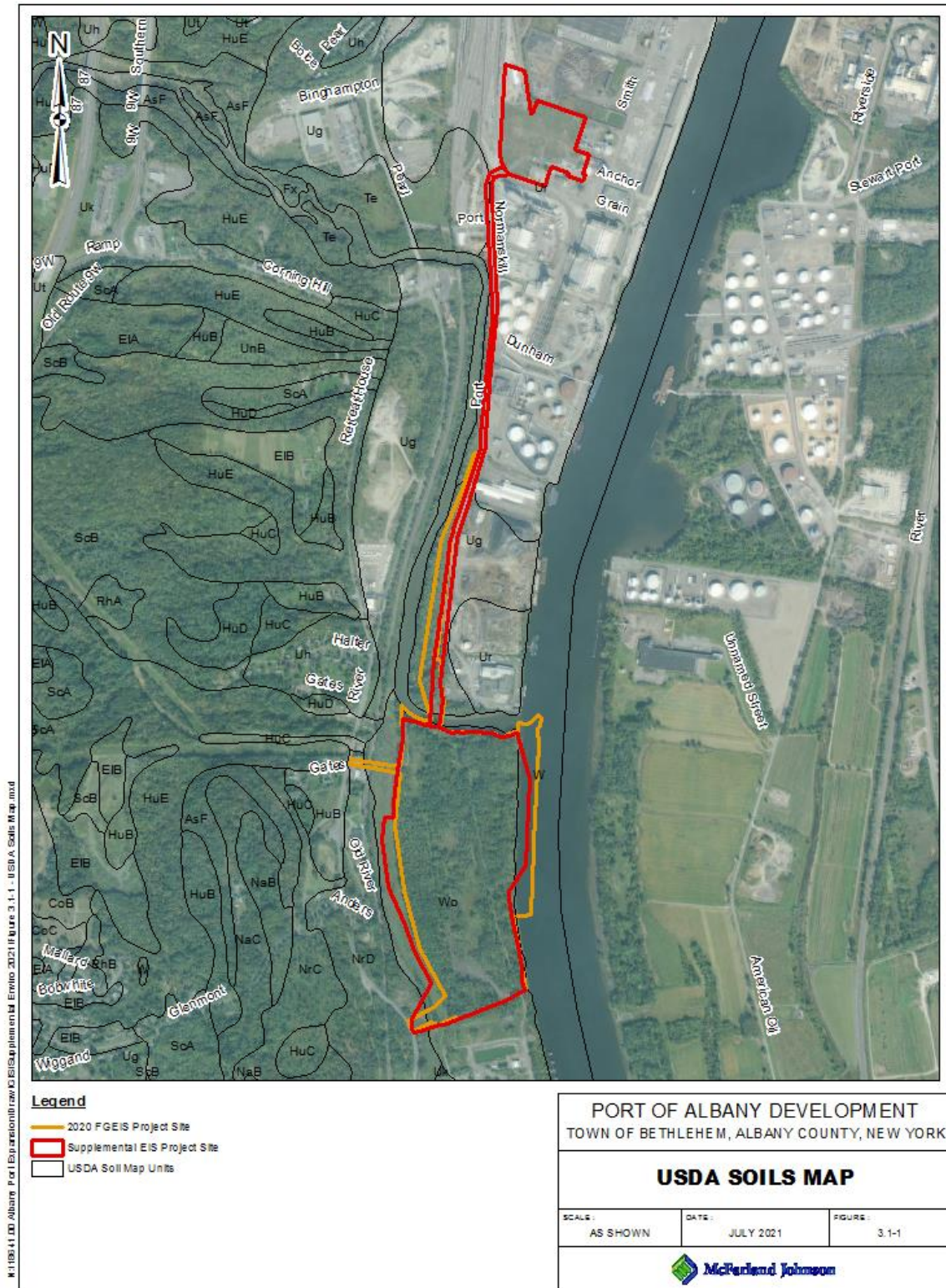
There are no sensitive receptors (e.g., residential land uses) immediately adjacent to the property boundary. The Project Area is bordered by the Hudson River to the east, PSEG Power Plant to the south, National Grid high transmission power lines and railroad tracks to the west, and the Port of Albany to the North. However, Papscanee Island, a significant cultural resource for the Stockbridge-Munsee Band of the Mohican Nation, is located directly across the river. Upon request by SMC THPO, a noise assessment was conducted by Proactive Environmental Solutions [and results are summarized in Section 3.11.](#)

Construction related impacts, including soil erosion and sedimentation will be mitigated through appropriate Erosion and Sediment Control as designed and enforced in accordance with the NYSDEC New York State Standards and Specifications for Erosion and Sediment Control. See **Section 3.8** for additional detail of the proposed stormwater management system that will mitigate any potential impacts.

Lands Under Water

The supplemental Project Area and components will not result in additional impacts to lands under water contemplated as part of the 2020 FGEIS, therefore, no specific mitigation for the supplemental is required.

Figure 3.1-1: USDA Soils Map



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3.2. Vegetation and Wildlife

3.2.1. Environmental Setting

Ecological Communities

The supplemental Project Area included in the SDEIS is comprised of an urban vacant lot at 700 Smith Boulevard and adjoining land to Beacon Island. The adjoining land is owned by National Grid, is used as a utility corridor and consists of an intermediate between a mowed roadside/pathway and successional old field community, with an inclusion of common reed marsh. The vacant lot at 700 Smith Boulevard has been undergoing remediation efforts due to previous use for metal recycling.

Vacant Land

Both areas have been previously disturbed or developed. Existing vegetation is limited and generally sparse, with large areas of exposed soil and often with debris.

Successional Old Field

This meadow-type community is generally dominated by forbs and grasses on sites that have been cleared or plowed (Edinger et al, 2014). This community is represented by those areas of the Project Area that have been more recently disturbed but have become extensively revegetated with herbaceous vegetation. Unless maintained, this community type has a relatively short duration on the landscape, and will over time transition into a successional shrubland, and subsequently to a successional woodland.

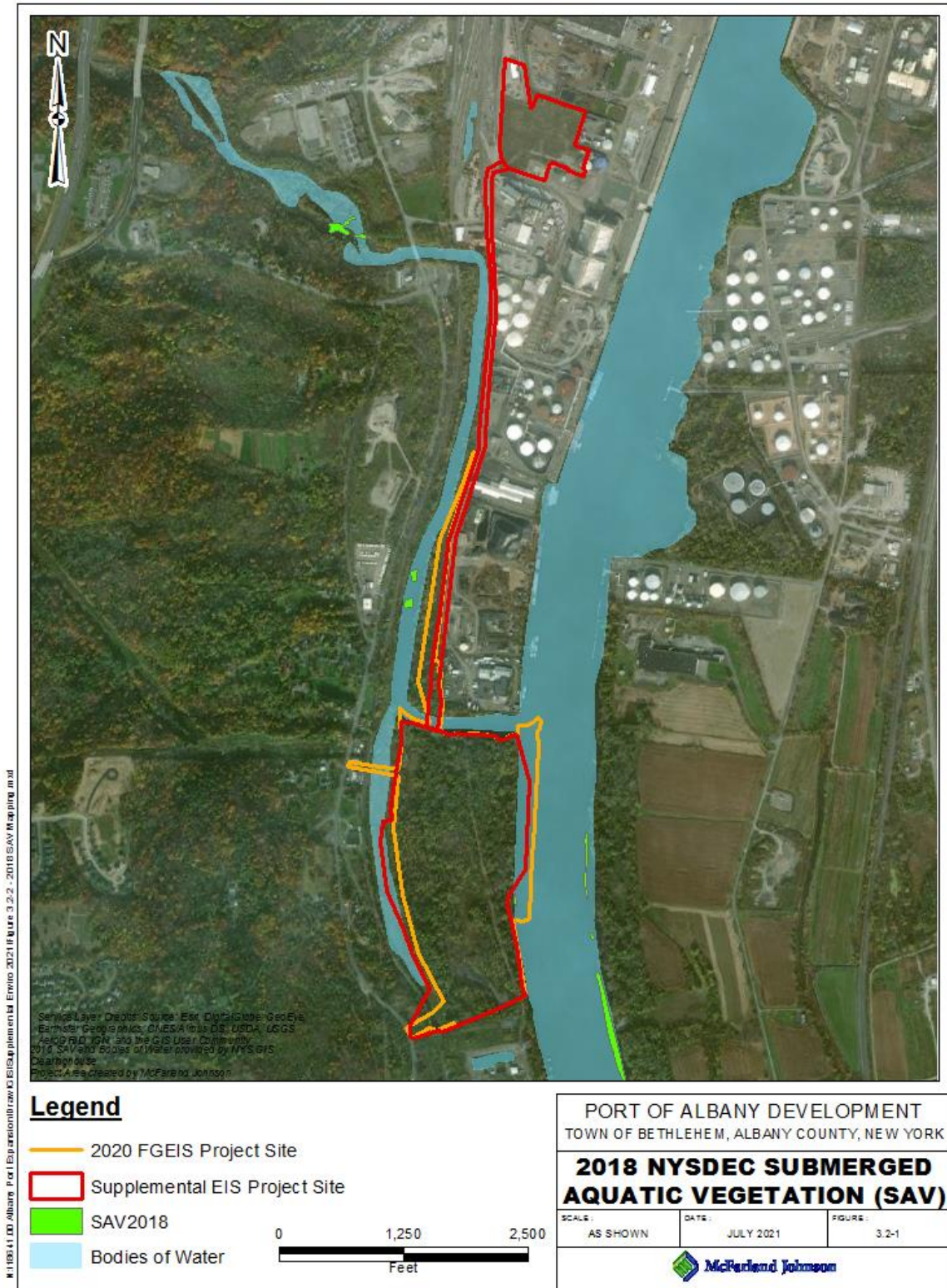
This community is present in a few small patches within the Project Area, and as a result no community specific wildlife observations were made during site visits conducted by a McFarland Johnson wildlife biologist in March, April, and May of 2019. Wildlife observations associated with the more prevalent successional northern hardwoods ecological community are discussed in the following section.

Freshwater Subtidal Aquatic Bed

Freshwater subtidal aquatic bed does not occur within the supplemental Project Area. This community type is characterized by continuously flooded substrates with rooted aquatic vegetation. The water is typically fresh (<0.5‰ salinity) and is usually less than 2 m (6 ft) deep at low tide (Edinger et al, 2014). Freshwater subtidal aquatic bed communities are present within portions of the Hudson River and Normans Kill Creek in the vicinity of the Project.

Based on the most recent mapping event conducted in 2018, there is one small documented SAV bed within the potential project disturbance limits (**Figure 3.2-2**). Since the FGEIS, a SAV survey was performed by Biodiversity in June 2020 and identified three (3) patches of SAV along the western riverbank of Hudson River and within the boundaries of the original Project Area. Two (2) of the patches are very low density, consisting primarily of *Vallisneria americana*, and one (1) patch of moderate to high density of *Vallisneria americana* and strands of *Trapa natans* and *Potamogeton crispus*.

Figure 3.2-1: 2018 NYSDEC Submerged Aquatic Vegetation (SAV)



Most of the SAV occurred in depths up to 3.5 feet, with some growing no farther than approximately 15 feet from the mean low water (MLW) line. A copy of the SAV report is included in **Appendix B of the SDEIS**.

Essential Fish Habitat

Essential fish habitat and coastal fish and wildlife habitat were reviewed in the 2020 FGEIS. There is no essential fish habitat identified within supplemental Project Area. However, the section of the Normans Kill within the original Project Area is significant fish and Wildlife habitat (19 NYCRR Part 600.5(b)(1)).

The following is an excerpt from the 2020 FGEIS:

The NMFS Essential Fish Habitat Mapper is a mapping tool used to view and access supporting data for EFH, habitat areas of particular concern (HAPC), and EFH areas protected from fishing (EFHA). The EFH Mapper was accessed on April 12, 2019 to determine the potential presence of EFH in the vicinity of the Proposed Project. The EFH Mapper indicated HAPC or EFHA were not identified in the vicinity of the Project Site. The EFH Mapper indicated that the following species and their life stages have been designated within the Hudson River/ Raritan Bay estuary near the Project Site.

Table 3.2-1 : Potential NOAA Essential Fish Habitat in Vicinity of Site

Species	Lifestages	Management Council	FMP
Summer Flounder	Larvae	Mid-Atlantic	Summer Flounder, Scup, Black Sea Bass
Winter Flounder	Eggs, Juvenile, Larvae, Adult	New England	Amendment 14 to the Northeast Multispecies FMP
Little Skate	Juvenile, Adult	New England	Amendment 2 to the Northeast Skate Complex FMP
Atlantic Herring	Juvenile, Larvae, Adult	New England	Amendment 14 to the Northeast Multispecies FMP
Red Hake	Eggs, Larvae, Juvenile, Adult	New England	Amendment 14 to the Northeast Multispecies FMP
Windowpane Flounder	Eggs, Juvenile, Larvae, Adult	New England	Amendment 14 to the Northeast Multispecies FMP
Winter Skate	Juvenile, Adult	New England	Amendment 14 to the Northeast Multispecies FMP

Clearnose Skate	Juvenile, Adult	New England	Amendment 14 to the Northeast Multispecies FMP
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Table 3.2- 1

However, a detailed review of the FMPs for each designated species indicates that their designated EFHs are limited to the seawater salinity (salinity > 25.0‰) and mixing water / brackish salinity (0.5 < salinity < 25.0‰) zones within the Hudson River/ Raritan Bay estuary.

Significant Coastal Fish and Wildlife Habitat

The Project Site is located within a New York Department of State (NYS DOS) Division of Coastal Resources designated State Coastal Area Boundary under the authority of Coastal Zone Management Act (CMZA) and Waterfront Revitalization of Coastal Areas and Inland Waterways Act. As part of the designation, the NYSDOS has identified an approximately 2-mile portion of the Normans Kill from its confluence with the Hudson River and upstream as Significant Coastal Fish and Wildlife Habitat (SCFWH) based on the significance of coastal fish and wildlife habitat found within the area.

Threatened and Endangered Species

According to the Endangered Species Act (ESA) Section 7 Mapper¹ from the National Oceanic and Atmospheric Administration (NOAA) Fisheries Greater Atlantic Region, the Hudson River is identified as spawning and foraging grounds for the Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) and Shortnose sturgeon (*Acipenser brevirostrum*). The supplemental Project Area is not located within or adjacent to the Hudson River, however, specific project related impacts and mitigation measures will be addressed in consultation with the NYSDEC as part of the 401 Water Quality Certification and Article 15 permit to be issued by the NYSDEC. The applicant’s latest response to NYSDEC comments is included in **Appendix F2 of the SDEIS**.

The supplemental Project Area includes a previously developed, currently vacant parcel at 700 Smith Boulevard. The site is previously disturbed and has been undergoing remediation efforts. Given the history of parcel, it is not anticipated listed or protected species at the site. Additional, this parcel does not support habitat for listed species.

There will be approximately 4.4 acres of impacts to the National Grid property. The property is maintained as a power or utilities corridor with two (2) underground gas lines and overhead electrical wires, the gas line receives periodic mowing and woody vegetation management. A field investigation was completed by McFarland Johnson, Inc., on April 28 and 29, 2021, to survey the additional 18.22 acres of land west of the initial study area for the potential presence of three (3) state-listed plant species: side-oats grama (*Bouteloua curtipendula var. curtipendula*) and violet wood sorrel (*Oxalis violacea*), and the NYS threatened Small’s knotweed (*Polygonum buxiforme*). The subject study area is generally bounded by the Normans Kill to the north, the Bethlehem Energy Center to the south, a rail corridor to the west, and a forested area and

¹ <https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=1bc332edc5204e03b250ac11f9914a27>

portions of the original studied Project Area to the east. Based on the investigation, there was no potential for violet wood sorrel or side-oats grama on the site due to lack of habitat as the site was largely dominated by emergent wetland and invasive weed species. No polygonum species were identified within the supplemental review area. A copy of the technical memo has been included as **Appendix C of the SDEIS**.

Since the FGEIS, a Freshwater Mussel Survey was completed by Biodiversity in June 2020 in the Hudson River and Normans Kill creek, specifically within the boundaries of the original Project Area. According to the survey, live mussels of only two (2) native species were found in the Hudson (*E. complanata* and *Leptodea fragilis*). *L. fragilis* has a state-rank of S3 and has rarely been observed in the tidal Hudson River where it is not native. In addition to these two (2) species, several old relic shells of *Anodonta implicata* (alewife floater) were found, and one (1) shell of *Lampsilis radiata* (eastern lampmussel) was found. No mussel shells were found on the shoreline, and few were found in the intertidal zone. No live mussels were found in the Normans Kill. Zebra mussels were present in both waterbodies. A copy of the survey report is included in **Appendix D of the SDEIS**.

3.2.2. Potential Impacts

Ecological Communities

Upland Communities

All upland ecological communities within the supplemental Project Area consist of previously disturbed lands that are common and demonstrably secure within the region and New York State. As a result, the impact to these ecological communities is not considered to be a significant environmental impact.

Aquatic Communities

Impacts to freshwater wetlands and surface waters are regulated by the USACE under Section 404 of the CWA, Section 10 of the RHA and the NYSDEC under Article 15-Protection of Waters. Further descriptions of these potential impacts and mitigation are detailed in **Section 3.3**.

As previously mentioned, based on the SAV survey performed in 2020, there were three (3) patches of SAV located along the shore of the Hudson River along Beacon Island. As shown in the preliminary site plans, only one (1) patch of approximately 0.21 acre in size, is located within the footprint of the proposed dredging. Also, eight (8) *Leptodea fragilis* were detected within the proposed dredging area and required relocation.

Essential Fish Habitat

There are no designated EFHs located in the vicinity of the Project and no impacts will occur.

Significant Coastal Fish and Wildlife Habitat

According to the New York Department of State (NYSDOS), any activities that would degrade water quality, increase turbidity, increase sedimentation, or alter flows, temperature, or water depths in the Normans Kill or its tributaries would result in significant impairment to the habitat. Further, the elimination or disturbance of adjacent wetland and forested habitats may also affect the habitat.

Threatened and Endangered Species

Atlantic sturgeon and Shortnose sturgeon

The dredging and wharf construction will take place in the Hudson River, which is listed as spawning and foraging grounds for Atlantic sturgeon and Shortnose sturgeon.

The proposed wharf consists of a deep foundation-supported concrete-framed open-type wharf structure that provides overall dimensions of 500 feet in length by 93 feet in width. The wharf includes a heavy stone slope revetment, high-modulus steel sheet pile cutoff wall, and drilled shaft supported open wharf and relieving platform. This maritime infrastructure includes all dredging, foundations, marine structural components, and ancillary items that accommodate vessels at berth, and support equipment and products that are transferred to and from vessels and the site. Construction duration for proposed wharf is approximately 18 months.

The total area of the wharf is 45,500 square feet (SF). The area of the wharf provided over water (outboard of the sheet pile cutoff wall) is approximately 27,500 SF. The entire ballasted wharf deck is located above the mean higher high water (MHHW) elevation (MHHW is approximate elevation +4.56 NAVD29; elevation +3.78 NGVD88); hence, the structures below MHHW are limited to the 136 - 48" diameter drilled shaft foundations with permanent steel casing. The design also takes into consideration sea level rise. The 136 in-water drilled shaft foundations have an equivalent area of coverage of approximately 1,710 SF.

The wharf construction is proposed along 500 linear feet of western riverbank of the Hudson River. Approximately, 105,000 cubic yards in 4.4 acres of the Hudson River would be dredged. There are various conditions that the aforementioned listed species may be subject during the Project's in-water work activities (i.e., wharf construction and dredging). These are mainly an increase in turbidity during the maintenance dredge operation, underwater noise, the risk of an incidental involuntary strikes (unlikely) with dredging equipment to an individual of a protected species during in-water work activities. However, this is a short-term / temporary in-water work construction within a well define and limited area.

Concerning habitat modification and effects on critical habitat, the habitat to be affected is depicted in the following table. For the purposed of the impact analysis, seven (7) zones were evaluated within the project boundaries below the MHHW line. See **Appendix BB** for corresponding figure and cross-section of the impact analysis.

Zones	Existing Habitat	Existing Elevations (Feet)	Proposed Elevations (Feet)	MAIN IMPACTS / HABITAT CONVERSION (ACRES)			Impacts / Mitigation Considerations
				Dredging	Shading from Wharf	Rip-Rap for slope protection	
1	SAV Bed # 3	Varies	Varies – See Figure 4-2B	0.21 (overlays with Zone 3)			Shallow habitat of concern with low density / sparse vegetated bottom. Area to be permanently converted and will no longer be useful for foraging activities.
2	Intertidal zones and shore structures (existing timber revetment)	MHHW to 0	Varies – See Figure 4-2B	0.42	0.06	0.36 (Overlays with Zone 3)	Area lacking SAV bottom, deep pools or soft substrate area to be permanently converted and will no longer be useful for foraging activities.
3	Natural River Bottom (Silt Clay, Sand and Some Trace of Gravel)	0 to -5	Varies – See Figure 4-2B	0.55			Slight area to be permanently converted and will no longer be useful for foraging activities. Rip-rap impacts shown under Zone 2.
4	Natural River Bottom (Silt Clay, Sand and Some Trace of Gravel)	-5 to -10	-33 ft	0.24			Area to be periodically / temporarily impacted by dredging activities No gravel or vegetated bottom
5	Natural River Bottom (Silt Clay, Sand and Some Trace of Gravel)	-10 to -15	-33 ft	0.24			Area to be periodically / temporarily impacted by dredging activities No gravel / vegetated bottom
6	Natural River Bottom (Silt Clay, Sand and Some Trace of Gravel)	-15 to -28	-33 ft	0.79			Area to be periodically / temporarily impacted by dredging activities No gravel / vegetated bottom
7	Natural River Bottom (Silt Clay, Sand and Some Trace of Gravel)	-28 to -33	-33 ft	0.65			Area to be periodically / temporarily impacted by dredging activities No gravel / vegetated bottom
Total				2.89	0.06	0.36	
Estimated Permanent Impacts							0.63
Estimated Temporary Impacts				2.26	--	--	

In addition, potential impacts to cobra clubtail, umber shadowdragon, and alewife floater were evaluated in the FGEIS.

Northern Long-eared Bat

Based on publicly available data from the NYSDEC, as of June 28, 2018, there has been a reported known winter occurrence of northern long-eared bat in the Town of Bethlehem, Albany County (<http://www.dec.ny.gov/animals/106090.html>). Potential suitable foraging and suitable roosting habitat for northern long-eared bats is present within the Project Area. The Project will result in the removal of trees that could provide potential suitable roosting habitat. All trees within the Project Area will be cut between November 1 to March 31 in accordance with NYSDEC and USFWS recommended conservation measures designed to minimize the likelihood of significant adverse impacts to northern long-eared bats. Based on this information, the Project may affect, however is not likely to adversely affect northern long-eared bat.

Bald Eagle

Based on correspondence with NYSDEC, there was one (1) nest within the original Project Area; however, the nest fell in 2017. Although the nest is no longer present, the tree the nest was constructed in is no longer standing as documented in the FGEIS. There are multiple Bald Eagle nests in the vicinity of the Project Area, at a distance greater than 0.25 miles. NYSDEC staff, as

discussed during the FGEIS process, do not believe the project will result in impacts to these nests given the boundary. A copy of the email correspondence has been included in **Appendix C of the SDEIS**.

Side-oats Grama

The Supplemental Rare Plant Survey conducted in April 2021 by McFarland Johnson, Inc., indicated that the area of railroad ballast adjacent to the site was unsuitable for this species due to lack of soils. The toe of slope did not exhibit open areas or sandy soils necessary for the propagation of this species. No grass species were identified within the supplemental study area that demonstrated the distinctive growth form, vegetative characteristics, or semi-persistent stalks of side-oats grama. The majority of the site is dominated by common reed, which has been identified one of the largest threats to this species in New York State. Therefore, the project is not expected to result in impacts to side-oats grama.

Violet Wood Sorrel

The Terrestrial Environmental Specialists, Inc. (TES) plant survey conducted in 2019 indicated that there was no suitable violet wood sorrel habitat within the Project limits. No impacts to this species are expected to occur as a result of this Project. The Supplemental Rare Plant Survey indicated that there was no suitable habitat within the supplemental Project Area, therefore the project is not expected to result in impacts to violet wood sorrel.

Small's Knotweed

TES observed one patch of *Polygonum sp.* in the disturbed roadside community immediately adjacent and west of South Port Street at the northern limits of the Project Area. TES indicated that the plants observed were most likely the common doorweed (*Polygonum aviculare*), however Small's knotweed can only be reliably identified from other closely related *Polygonum* species when in flower. Small's knotweed begins in July and the fruits will persist until the first frost. McFarland-Johnson, Inc., revisited the area where TES previously observed *Polygonum sp.* And verified the presence of a *Polygonum* species in an active growth state but was unable to confirm species level identification. Based on the site conditions, McFarland-Johnson, Inc. concurs with TES's opinion that this species is likely the more common and widespread common doorweed (*Polygonum aviculare*).

As shown on the grading plan in **Appendix Q** of the FGEIS, the Project will avoid this area, and therefore there is no anticipated impact to this species. The implementation of the SWPPP which will require the installation of a protective silt fence shall serve as mitigation against potential impacts to Small's knotweed.

3.2.3. Mitigation Measures

Ecological Communities

Upland Communities

All upland ecological communities within the supplemental Project Area consist of previously disturbed lands that are common and demonstrably secure within the region and New York State, and as a result no mitigation is required.

Aquatic Communities

Impacts to freshwater wetlands and surface waters would be regulated by USACE under Section 404 of the CWA or Section 10 of the RHA and/ or NYSDEC under Article 15- Protection of Waters. Further descriptions of these potential impacts and mitigation to are detailed in **Section 3.3**.

The Project will result in approximately 0.21 acre of impacts to SAV. Additionally, eight (8) individuals of *Leptodea fragilis* (freshwater mussel) were detected within the dredging limits. A Joint Permit Application and Part 182 Application have both been prepared for the project and are currently being reviewed by the US Army Corps of Engineers (ACOE), NYSDEC, and NMFS. The entirety of the project is being evaluated during the permitting phase, and consultation with NOAA-NMFS and NYSDEC is underway to evaluate impacts to protected fish species and habitat within the proposed wharf and dredging locations and identify an appropriate mitigation strategy to offset impacts to Sturgeon, SAVs, and freshwater mussels.

Essential Fish Habitat

No EFHs are present within the supplemental Project Area; therefore no mitigation measures are required.

Significant Coastal Fish and Wildlife Habitat

All proposed impacts to and mitigation for significant coastal fish and wildlife habitat were addressed in the FGEIS. The proposed supplemental Project Area and components will not result in changes to anticipated impacts previously evaluated.

Threatened and Endangered Species

Northern Long-eared Bat

All trees within the Project impact area will be cut between November 1 to March 31 in accordance with NYSDEC and USFWS recommended conservation measures designed to minimize the likelihood of significant adverse impacts to northern long-eared bats.

The Project will follow the following applicable AMMs:

- The project, to the extent practicable, will be designed to avoid tree removal in excess of what is required to implement the project safely.

- The project will be constructed to ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field.
- Temporary lighting during construction will be directed away from suitable NLEB habitat during the active season.
- Permanent outdoor lighting will use downward-facing, full cut-off lens lights, or otherwise direct lighting away from suitable NLEB habitat.

Bald Eagle

Since there is not impacts to bald eagles, no mitigation measures are required.

Atlantic Sturgeon and Shortnose Sturgeon

Avoidance and minimization efforts implemented as part of the overall project design include:

- Wharf was relocated and size reduced to avoid dredging in submerged aquatic vegetation (SAV) bed with moderate to high density of water celery (*Vallisneria americana*).
 - *Water celery* (sparse, low density) detected within the proposed dredging area would be transplanted and added to the other SAV beds outside the project limits and to remain.
- General layout of the proposed wharf places the riverside face of structure coincident with the face of the existing timber revetment.
- Proposed bridge over Normans Kill was redesigned and to be constructed outside MHHW (no “in water work” construction).
- Reconfiguration of proposed surface parking to avoid wetland impacts and construction of a fill type retaining wall to minimize the need of fill in wetland area.
- Proposed site grading or fill above and avoiding current MHHW line.

In addition, the following is proposed as BMPs and mitigation measures to further avoid and minimize potential impacts for species under NMFS jurisdiction (i.e., Atlantic sturgeon and Shortnose sturgeon).

- All in-water work areas for both dredging and wharf construction will be completed within the confines of a weighted turbidity curtain, which will isolate work areas from other areas of the river. The turbidity curtain is also anticipated to serve as a barrier that excludes potential entry of fish and other marine species into the work area during the time it is deployed.
 - Turbidity curtains are proposed to avoid and minimize potential impacts to Atlantic sturgeon and Shortnose sturgeon. Additionally, floating turbidity curtains, staked turbidity barriers and/or silt-fence would be installed to protect SAV beds to remain.

- Large portion of the channel will remain open for aquatic organism passage.
- The Project intends to avoid dredging during spawning periods of the Atlantic sturgeon and Shortnose sturgeon. Timing restrictions (March 15th to September 30th) for dredging would be implemented as per guidelines from the NOAA National Marine Fisheries Services
- Use of a clamshell (closed) bucket to minimize resuspended sediments and dredged material will be placed in barges in a manner that minimizes high turbidity levels.
 - Dredged material will be placed deliberately in the barge to prevent spillage of material overboard.
 - The closed clamshell environmental bucket would be lifted slowly through the water, at a rate of approximately two (2) feet per second.
 - No dragging of the dredge bucket along the sediment surface, nor use of drag beam for profiling the dredge surface.
- For the wharf construction, the permanent steel casing for the drilled shaft foundations and the sheet pile wall components would be vibrated in, rather than utilizing an impact hammer. An impact hammer would be used only to seat the steel casing within the first few inches in the top of rock. The overall construction is somewhat similar to the previous dock reinforcement project recently undertaken by the APDC for improvements to the docks at Sheds No. 4 and 5, and more recently the Cargill/Ardent Mills Grain Wharf Reconstruction. Other BMPs considered include:
 - Use of pre-drilling prior to vibratory hammering
 - Implement soft start (i.e., pile tapping) prior to full energy impact hammering
 - If necessary, cushion blocks, air bubbles curtain or other noise attenuating tools would be implemented when impact hammering to avoid reaching noise levels that could cause injury or behavioral disturbance to these species.
- Dredged sediments would be placed in a scow, dewatered, and transported offsite for upland disposal
- Use of nets, tarps, and/or pans during construction of the bridge deck over the Normans Kill and removal of any debris that falls into the water.
- A SWPPP has been prepared and presented in the Joint Permit Application outlining the Erosion and sediment control measures to be implemented and address potential water quality impacts. A copy of the SWPPP has been included in **Appendix A3 of the SDEIS**.

A Joint Permit Application and Part 182 Application have both been prepared for the project and are currently being reviewed by the US Army Corps of Engineers (ACOE), NYSDEC, and NMFS. The entirety of the project is being evaluated during the permitting phase, and consultation with NOAA-NMFS and NYSDEC is underway to evaluate impacts to protected fish species and habitat within the proposed wharf and dredging locations and identify an appropriate mitigation strategy to offset impacts to Sturgeon, SAVs, and freshwater mussels. Please note that during the permitting phase potential impacts would continue being further evaluated and detailed

mitigation actions would continue to be developed to satisfy applicable regulations from NYSDEC, USACE, and other agencies, as applicable. However, this is not anticipated to change findings and conclusions presented in the Final SGEIS. The Project is committed to maintain collaborative actions with NYSDEC in finding a potential mitigation project in accordance with The Hudson River Comprehensive Restoration Plan that could serve to offset as mitigation due to habitat modification.

Side-oats Grama

Due to lack of presence within the supplemental Project Area, no specific mitigation measures are proposed for this species.

Violet Wood Sorrel

Based on a lack of habitat and species presence within the supplemental Project Area, no specific mitigation measures are proposed for violet wood sorrel.

Small's Knotweed

Due to lack of presence within the supplemental Project Area, no specific mitigation measures are proposed for this species.

Cobra Clubtail

Due to lack of presence within the supplemental Project Area, no specific mitigation measures are proposed for this species.

Umber Shadowdragon

Due to lack of presence within the supplemental Project Area, no specific mitigation measures are proposed for this species.

Freshwater Mussels

Based on results from the freshwater mussel survey performed in June 2020, *L. fragilis*, a state-ranked S3 species, was detected within the limits of the proposed dredging, with only relic shells of alewife floater. According to correspondence with NYSDEC, this species is ranked as S2/S3 freshwater mussel and required relocation. A copy of the correspondence has been provided in **Appendix E of the SDEIS**.

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Edinger, G. J., D. J. Evans, S. Gebauer, T. G. Howard, D. M. Hunt, and A. M. Olivero (editors). 2014. Ecological Communities of New York State. Second Edition. A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, New York.

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3.3. Regulated Wetlands and Surface Waters

3.3.1. Environmental Setting

Surface Waters

Previously Evaluated in FGEIS

Surface waters within the Project Area include the Hudson River and Normans Kill. Both riverine systems are subject to tidal influence and are considered tidal freshwater reaches, having salinities of <0.5%. Jurisdiction of these surface waters was evaluated in the FGIES.

Supplemental Project Area

Proposed action under this SDEIS will not result in additional impacts to surface waters.

Wetlands

Previously Evaluated in FGEIS

A wetland delineation was conducted in April 2019 by McFarland Johnson, Inc., for the FGEIS. The results of the delineation indicated that there are 8 freshwater wetlands located within the project limits. These wetlands are hereafter referred to as Wetlands 1, 3, 4, 5, 6, 7, 8, and 9. Wetlands within the original study are totaled approximately 2.33 acres. The USACE field reviewed the wetland boundaries and provided verbal acceptance of the boundaries on May 13, 2019. A Preliminary Jurisdictional Determination is pending.

Supplemental Project Area

The New York State Freshwater Wetland and Tidal Wetlands mapping indicates there are no NYSDEC jurisdictional wetlands within or adjacent to the supplemental Project Area (**See Figures 3.3-1 and 3.3-2**). Review of USFWS National Wetlands Inventory (NWI) mapping indicates that the majority of the supplemental Project Area on National Grid property is mapped as palustrine emergent wetlands (PEM) and partially with palustrine forested wetlands (PFO) (**See Figure 3.3-3**). It should be noted that NWI mapping does not have any regulatory consequence, but rather indicates areas that may meet federal wetland criteria as identified by the USFWS using aerial photography.

A Supplemental Wetland Delineation was performed by McFarland-Johnson, Inc., in April 2021 for the 18.22 acres on the National Grid parcel. The wetland delineation was conducted through field investigations of vegetation, soils and hydrology in accordance with the USACE protocols outlined in the 1987 Corps of Engineers Wetlands Delineation Manual (1987 USACE Manual), and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Regional Supplement), dated January 2012. The wetland boundaries were recorded using a hand-held Trimble Geo7X GPS unit with decimeter (10 cm/ 4 inch) post processing accuracy. USACE Wetland Determination Data Forms were recorded to document the wetland.

One contiguous wetland, comprising a total of approximately 7.13 acres, was delineated within the 18.22-acre area under the supplemental Project Area. The delineated wetland represents an extension of the 2019 wetland delineation and previously identified as Wetland 1. The 7.13-acre portion of Wetland 1 located within the National Grid parcel is considered predominately a PEM wetland. Dominant vegetative species included eastern cottonwood (*Populus deltoides*), common reed (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*), and spike rush (*Eleocharis palustris*). Wetland 1 drains in a northerly direction into 40-inch corrugated metal pipe (CMP) which discharges directly to the Normans Kill.

Wetland 1 has a direct surficial hydrological connection to the Normans Kill, which is considered a TNW under Section 10 of the Rivers and Harbors Act and Section 404 of the CWA, and therefore should be regulated under Section 404 of the CWA.

A copy of the Supplemental Wetland Delineation Report and figures prepared in May 2021 have been included in **Appendix F1 of the SDEIS**.

Figure 3.3-1: NYSDEC Freshwater Wetlands Map

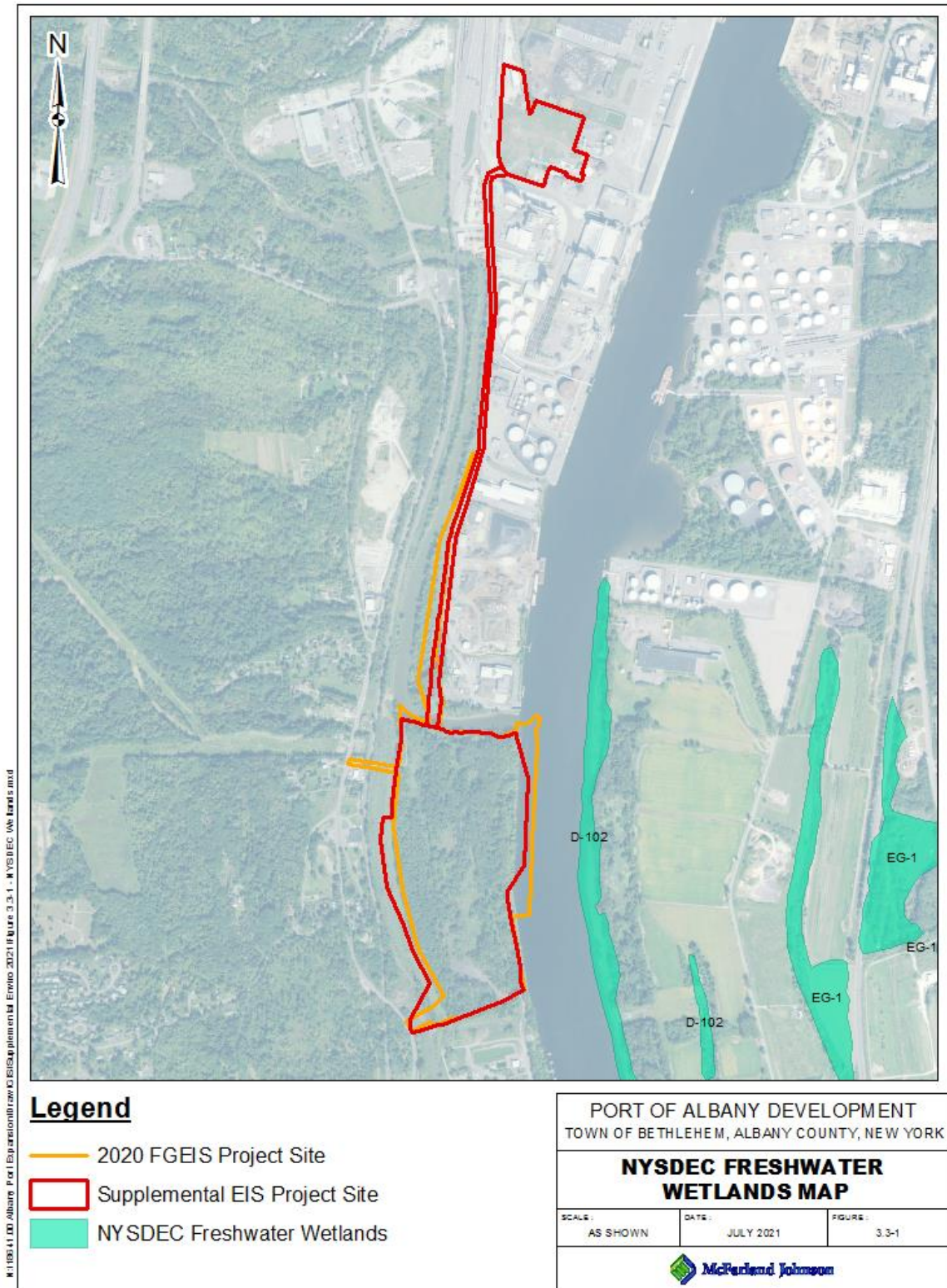


Figure 3.3-2: NYSDEC Tidal Wetlands Map

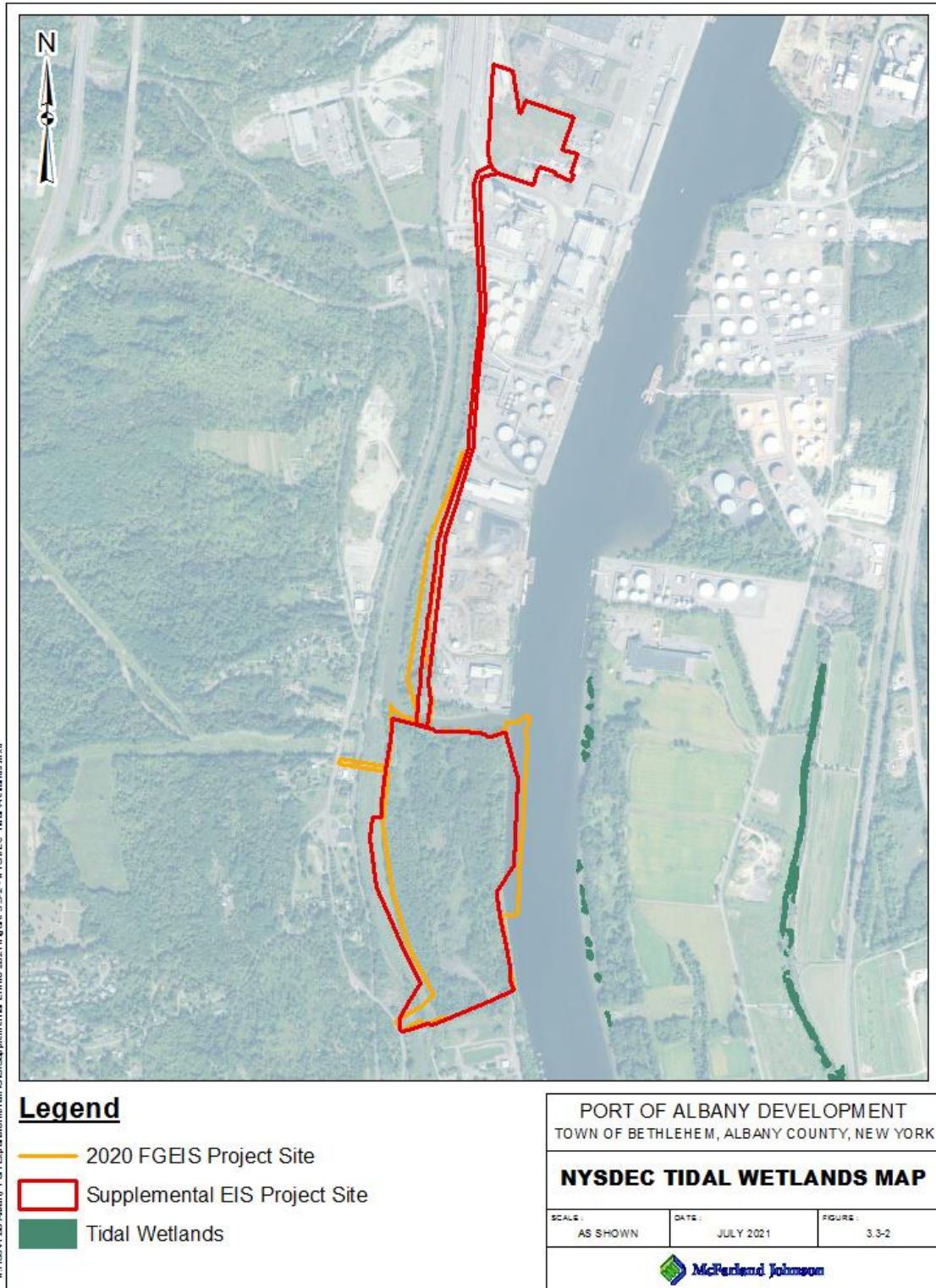
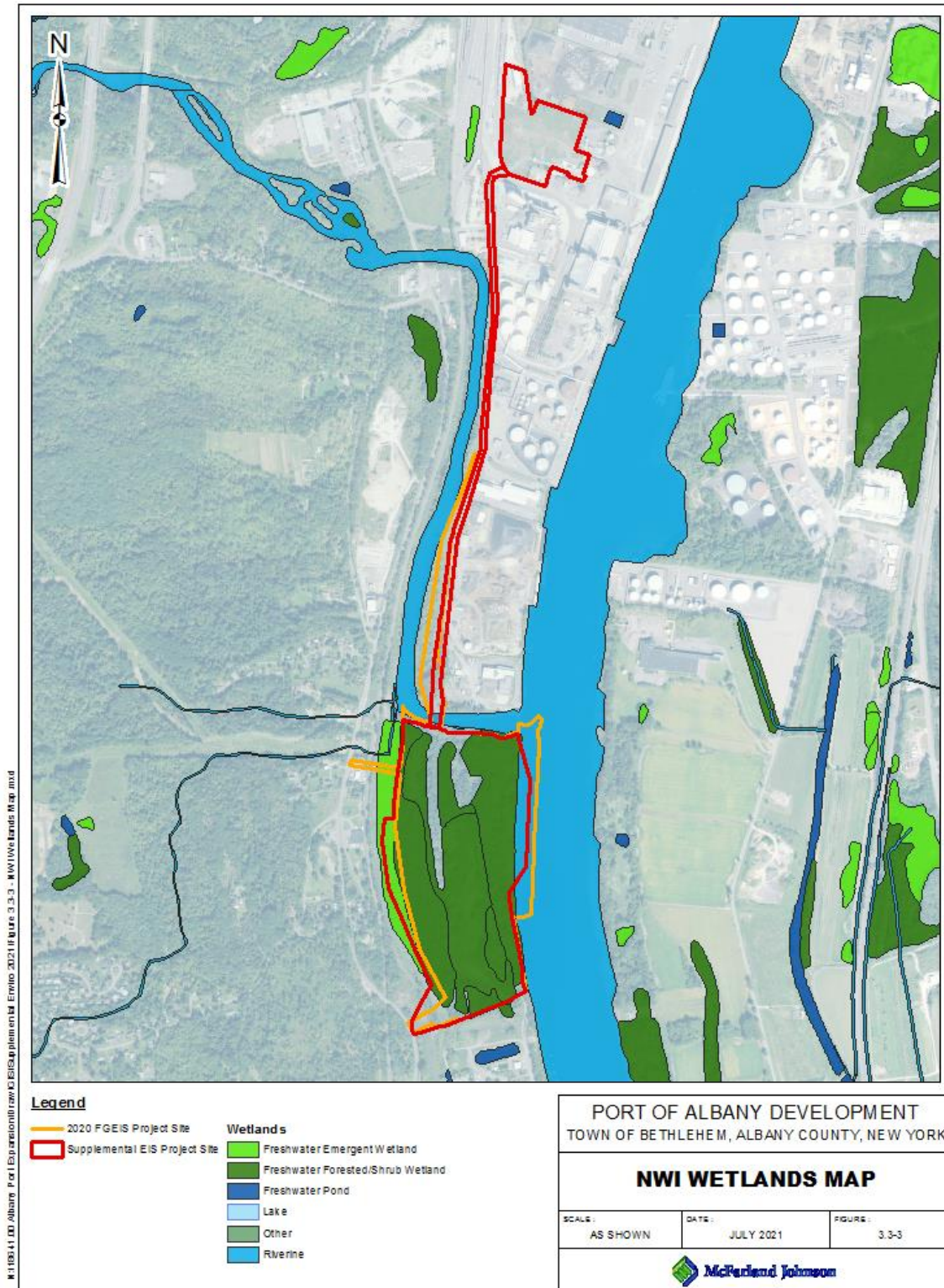


Figure 3.3-3: NWI Wetlands Map



3.3.2. Potential Impacts

Surface Waters

The work associated with the supplemental Project Area will not result in impacts to surface waters.

Wetlands

In addition to the 0.04 impacts to Wetland 9 for the bridge over the Normanskill, the Project will also result in direct impacts to 0.81 acres over Wetland 1 located in Beacon Island (original Project Area) and 0.01 acres of direct impact to Wetland 1 on National Grid property for the construction of a retaining wall, and 0.02 impacts to Wetland 7 for roadway improvements. There will be approximately 0.33 acres of temporary impacts to wetlands during construction. Total permanent wetland impacts are estimated in approximately 0.86 acre.

Permit applications have been submitted and are under review under USACE case numbers AN-2021-00948-UDA, and NYSDEC case number 4-0122-00322/00002. See **Appendix F2 of the SDEIS** for Agency Correspondence.

3.3.3. Mitigation Measures

Surface Waters

Mitigation for impacts to surfaces waters associated with the project as a whole was discussed in the FGEIS. The work associated with the supplemental Project Area will not result in additional impacts to surface waters therefore no specific mitigation measures are addressed in the SEIS.

Wetlands

As discussed in the FGEIS, compensatory wetland mitigation may be required as a permit condition by the USACE depending on the final specific details of the project. Wetland mitigation can come in the form of restoration, establishment, enhancement, and/or preservation of wetlands. Typical mitigation ratios recommended by the USACE are shown in **Table 3.3-1**.

Table 3.3-1: Typical USACE Recommended Wetland Mitigation Ratios

Wetland Type	Restoration (Re-Establishment)	Creation (Establishment)	Enhancement (Rehabilitation)	Preservation (Protection/ Management)
Open Water (PUB)	1:1	1:1	Project Specific	Project Specific
Emergent (PEM)	2:1	2:1 to 3:1	3:1 to 10:1	15:1
Scrub-Shrub (PSS)	2:1	2:1 to 3:1	3:1 to 10:1	15:1
Forested (PFO)	2:1 to 3:1	3:1 to 4:1	5:1 to 10:1	15:1

Source: Excerpted from USACE's "New England District Compensation Mitigation Guidance" dated July 20, 2010

Based on regulations promulgated by the Department of Defense and Environmental Protection Agency in *Mitigation for Losses of Aquatic Resources; Final Rule* (Fed. Reg. Vol. 73, No. 70, April 10, 2008) the hierarchy graphic of the preferred wetland mitigation options for impacts to federally regulated wetlands are presented in the following graphic.

The Project anticipates impacting a total 0.86 acres of wetlands associated with the construction of the bridge over the Normans Kill and site development.

Compensatory wetland mitigation would be satisfied through a federally approved In-Lieu Fee Mitigation Program or off-site mitigation bank (The Wetland Trust). Mitigation in accordance with USACE rules and regulations will ensure no net loss of wetlands.

3.4. Floodplains and Floodways

3.4.1. Environmental Setting

Previously Evaluated in FGEIS

Based on the most current Federal Emergency Management Agency (FEMA) map of Project Area the majority of the Project Area is mapped within the 100-year floodplain of the Hudson River (**Figure 3.4-1**). The floodplain area is mapped as "Zone AE",

Supplemental Project Area

The majority of the supplemental Project Area is located within the same FIRM panel (Map No. 36001C0307D, Effective March 16, 2015), with the exception of the northern portion of 700 Smith Boulevard, which is located within FIRM panel 36001C0194D, also effective March 16, 2015. The majority of the supplemental Project Area is located within the 100-year floodplain, mapped as “Zone AE”, meaning the area inundated by 1% annual chance flooding, for which base flood elevations (BFEs) have been determined. The BFE line has been established at approximately 18 feet within the area of the Project Area as referenced to North American Vertical Datum of 1988 (NAVD 88).

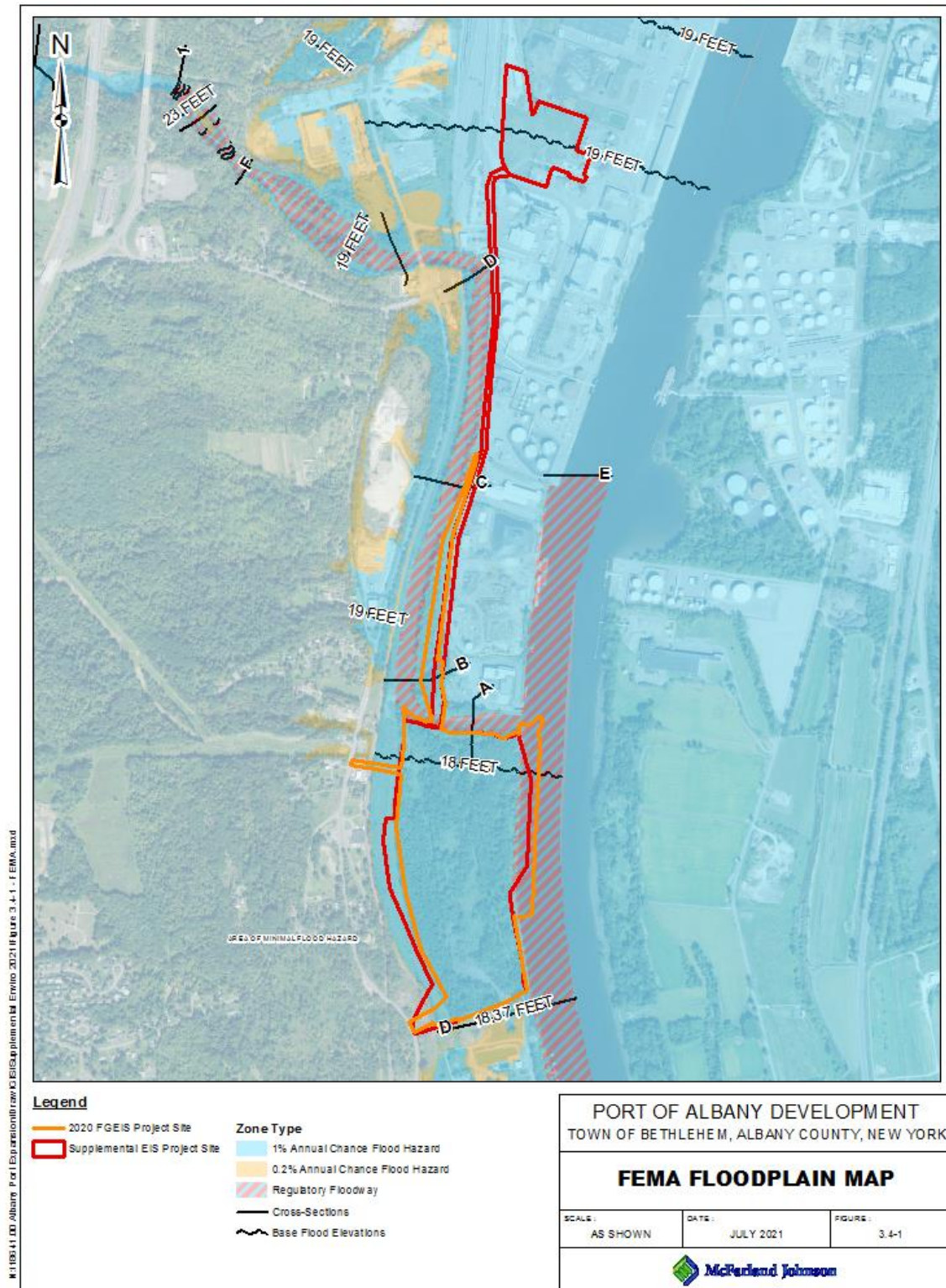
Historical data of the Hudson River show that crest heights of the river below 18 feet. The gauge on the Hudson River at Albany, NY managed by the NY Water Science Center Troy (USGS gauge number 01359139), approximately three miles upstream of the Project Area and three miles downstream of the Troy Lock and Dam, show only four recorded event greater than 18 feet; one of which was the result of an ice dam. During Irene in August of 2011 the Hudson crested at approximately 14.6 feet in this location.

Below is a table of results showing predicted sea level rise in the Mid-Hudson Region for different time horizons at different confidence levels. These results were generated from the NYSDEC’s ClimAID model. Storm surge is applicable as storm surges relate to coastal locations and the Site Location is not considered a coastal location, as defined by FEMA.

<i>Time Interval</i>	<i>Low Projection</i>	<i>Low-Medium Projection</i>	<i>Medium Projection</i>	<i>High- Medium Projection</i>	<i>High Projection</i>
<i>2020s</i>	<i>1 inch</i>	<i>3 inches</i>	<i>5 inches</i>	<i>7 inches</i>	<i>9 inches</i>
<i>2050s</i>	<i>5 inches</i>	<i>9 inches</i>	<i>14 inches</i>	<i>19 inches</i>	<i>27 inches</i>
<i>2080s</i>	<i>10 inches</i>	<i>14 inches</i>	<i>25 inches</i>	<i>36 inches</i>	<i>54 inches</i>
<i>2100</i>	<i>11 inches</i>	<i>18 inches</i>	<i>32 inches</i>	<i>46 inches</i>	<i>71 inches</i>

Source: 6 CRR-NY 490.4(a)

Figure 3.4-1: FEMA Floodplain Map



3.4.2. Potential Impacts

The project also involves fill and placement of structure(s) within the 100-year floodplain. The building at 700 Smith Boulevard will meet the FEMA NHIP and NYS CRRA recommendations and standards specified in the FGEIS.

3.4.3. Mitigation Measures

The building at 700 Smith Boulevard is not anticipated to significantly affect the flood plain BFE in this area. The building finished floor is set at elevation 21.0, which is 3.0 feet above the floodplain and of above the projected sea level rise (19 inches); therefore, no further mitigation measures are recommended.

The final project design will involve coordination with FEMA and the City of Albany. The project will use floodplain design standards that meet or exceed floodplain development requirements and building codes, and as a result no further mitigation is being proposed. As part of the Site Plan approval process, the owner will be required to obtain a Floodplain Development Permit pursuant to Bethlehem Town Code Chapter 69-Flood Damage Prevention.

3.5. Groundwater

3.5.1. Environmental Setting

The Environmental Protection Agency (EPA) Sole Source Aquifer (SSA) program was established under the Safe Drinking Water Act (SDWA). According to the EPA, a SSA is defined as one that supplies at least 50 percent of the drinking water for its service area, and wherein which there is no reasonably available alternative drinking water sources should the aquifer become contaminated. The SSA program allows for EPA review of federally funded projects that have the potential to affect designated SSAs and their source areas.

New York has several programs designed to protect groundwater, most notably the Water Quality Standards Program (6 NYCRR Parts 700-706) and the Aquifer Vulnerability Assessment requirement under SEQ. In addition, the NYSDEC protects designated Primary and Principal Aquifers as defined under Section 2.1.3 of the Division of Water Technical & Operational Guidance Series. A Primary Aquifer is one that is highly productive and is currently being utilized as a source of water supply by a major municipal water supply system. A Principal Aquifer is defined as an aquifer that is or could potentially be highly productive but is not currently intensely used as a source of water for a major municipal water system.

The supplemental Project Area is not located over an EPA designated sole source aquifer, or a NYSDEC designated primary aquifer. However, the Project Area is located over a NYSDEC mapped principal aquifer area (See **Figure 3.5-1**).

Based on recent subsurface and geotechnical investigations prepared by CME Associates, Inc. and Dente Group respectively, shallow groundwater was observed at depths ranging from approximately 1.5 to 13.7 feet below existing grade. However, due to the subsurface conditions, the shallower observations could be representative of perched groundwater zones due to discontinuous impermeable layers. Shallow groundwater fluctuations should be expected to

occur at the Project Area depending on several factors such as rainfall, seasonal changes, prevailing climate, ambient weather conditions, and the tidal influences of the Hudson River. Geotechnical reports have been included in **Appendix E1** of the FGEIS.

3.5.2. Potential Impacts

Based on the estimated potable water demand of 1,000 gallons per day (gpd) (as discussed in **Section 3.9**) for the 700 Smith Blvd site and the City has adequate capacity to serve the site, the project will have no significant adverse impact on the capacity of the Town or City of Albany water supply, or infrastructure.

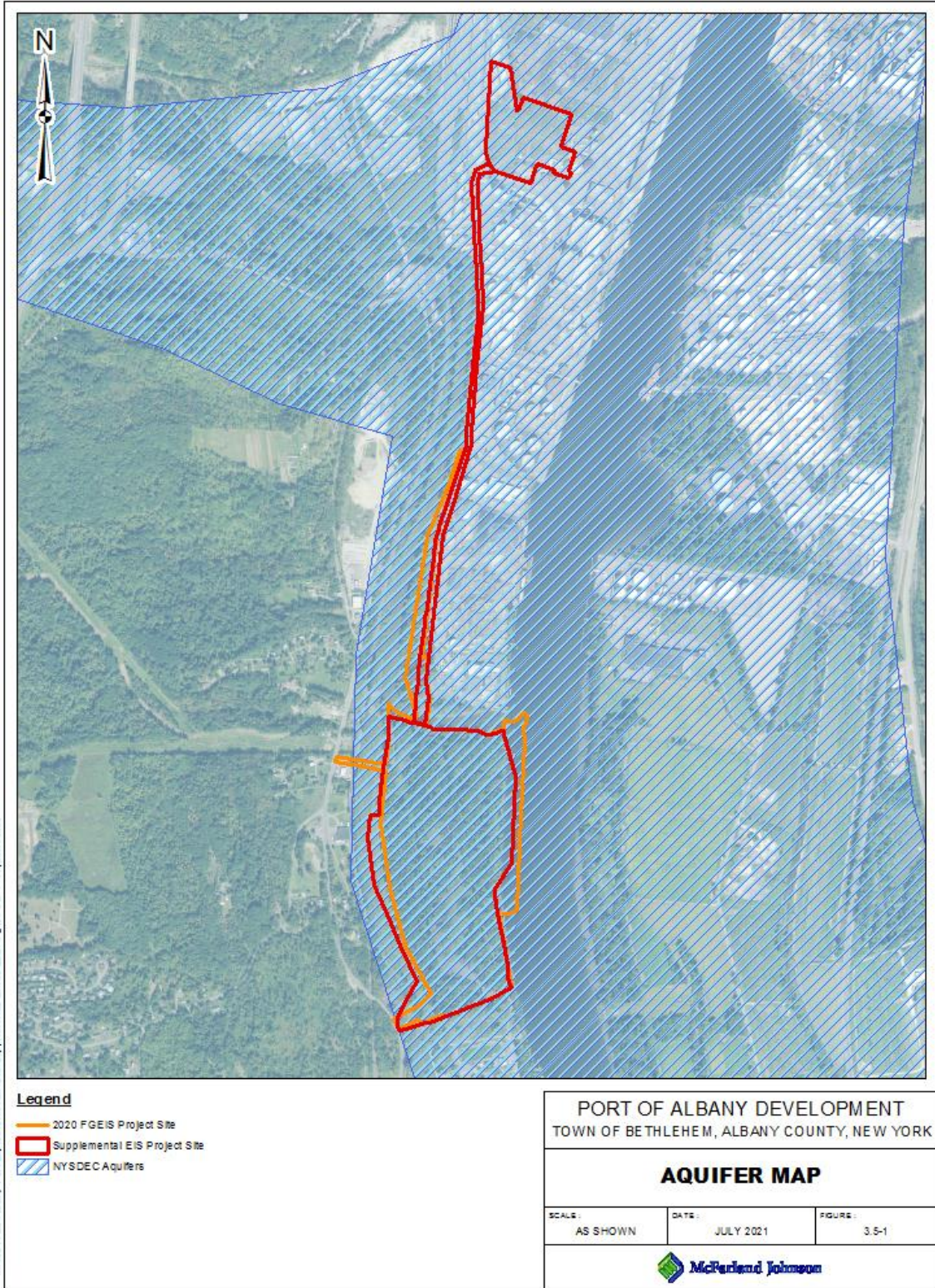
The Project does not include installation of water wells or injection wells.

3.5.3. Mitigation Measures

Potential pollution sources during construction will be effectively mitigated through the incorporation of appropriate erosion and sediment controls, stormwater management, and fuel/chemical storage and handling best management practices during and post construction of the project. A SPCC Plan will be developed for the Project Area.

The State Pollutant Discharge Elimination System (SPDES) program controls point source discharges to groundwaters as well as surface waters during and post construction. Compliance with the SPDES design and permitting requirements, as well as other applicable local, State, and federal rules and regulations regarding petroleum and chemical storage during and after construction, will be required for this project and will effectively mitigate potential groundwater impacts. See **Section 3.8** for further information specific to the SPDES requirements.

Figure 3.5-1: Aquifer Map



3.6. Climate and Air Quality

The overall Project is not anticipated to result in a significant increase in greenhouse gas (GHG) emissions. The Project does not meet the definition of a major facility since potential emissions will remain below the major facility thresholds as per 6 NYCRR 231-13.1. This will be accomplished by constructing the facility as proposed, and operating and maintaining emission sources and related air pollution control equipment in accordance with good air pollution control practices at all times. See **Appendix E2 of the SDEIS** for Air Emission Analysis conducted by Proactive Environmental Solutions.

3.6.1. Environmental Setting

The Project is designed to produce approximately 150 Towers per year or a combination of 100 Towers and 100 Transition Pieces. Emission sources and anticipated air pollution control systems are summarized as follows:

- Oxy cutting is conducted indoors and utilizes natural gas as a fuel source. Emissions associated with this activity will be released inside the building.
- Descaling and abrasive blasting activities will each be equipped with integral dust collectors to control particulate emissions, with minimum overall design particulate removal efficiencies of 99.9 percent.
- Various welding stations will be utilized to weld together sections of the towers. Air emissions from all welding activities will be released inside the facility (indoor fugitive emissions).
- The metallizing system is equipped with an emission capture and control system which will recirculate all exhaust indoors. It will be equipped with a state-of-the-art staged HEPA filtration and ventilation system.
- One “large” paint booth and one “small” paint booth will each be equipped with staged booth ventilation and filtration to capture and control particulate emissions. VOC emissions will be minimized by use of add-on control system(s) (e.g., recuperative thermal oxidizer(s)). The VOC control system(s) will be designed to achieve a minimum overall VOC control efficiency of 90 percent. In addition, each booth’s filtration system will be designed to achieve a minimum overall design particulate removal efficiency of 99.9 percent.
- Each of the paint booths will be equipped with natural gas-fired air make-up units (AMUs).
- There will be three (3) natural gas-fired emergency backup generators with electrical power output ratings ranging between 40 and 125 kilowatts (kW) each.

Potential emissions of VOC and certain HAP, as well as particulates (PM₁₀, PM_{2.5}) from process manufacturing related operations are anticipated. In addition, there will be emissions (NO_x, CO, VOC, SO₂, Pb, PM₁₀, PM_{2.5}, GHG, and HAP) associated with miscellaneous site operations that involve fuel combustion.

3.6.2. Potential Impacts

Potential emissions for each applicable pollutant are calculated based on the maximum design capacity of the equipment, assuming the unit operates every hour of every day of the year. Potential emissions are conservative estimates of emissions, used to identify which air quality permit and control requirements are potentially applicable to the project. As a result, project-related actual emissions for each pollutant are expected to be significantly lower than the potential emissions presented below.

The Following table summarizes facility-wide uncontrolled potential emissions from the project, “facility-wide uncontrolled potential emissions” are also known as the Emission Rate Potential (ERP) as defined under 6 NYCRR Part 200.1(u). It is important to note that applicability of major source permitting requirements is not determined based upon uncontrolled potential emissions. Permit program applicability is determined based upon potential emissions after consideration of air pollution controls (in accordance with US EPA’s definition of potential to emit).

Table 3.6.2-1: Facility-wide Uncontrolled Potential Emissions (aka Emission Rate Potential-ERP)

Pollutant	Pollutant CAS No.	6 NYCRR 201-2.1 Major Source Thresholds (tpy)	Project Uncontrolled Potential Emissions (tpy)					
			Facility Potential to Emit	Paint Spray Booths	Metal Spray Booths	Abrasive Blast	Welding Activities	Natural Gas Combustion Sources
NO _x	NY210-00-0	100	28.9	--	--	--	--	28.9
CO	630-08-0	100	25.5	--	--	--	--	25.5
PM ₁₀	NY075-00-5	100	636	175	12.9	445	1.54	2.06
PM _{2.5}	NY750-02-5	100	205	169	12.4	20.1	1.54	2.06
SO ₂	7446-09-5	100	0.163	--	--	--	--	0.163
VOC	NY998-00-0	50	116	114	0.000	--	--	1.51
Pb	7439-92-1	-	6.10E-04	2.87E-04	1.88E-04	--	--	1.35E-04
CO ₂	124-38-9	-	32,562	--	--	--	--	32,562
N ₂ O	10024-97-2	-	0.173	--	--	--	--	0.173
CH ₄	74-82-8	-	0.624	--	--	--	--	0.624
CO ₂ e	NY750-00-0	100,000	32,629	--	--	--	--	32,629
NH ₃	7664-41-7	-	0.866	--	--	--	--	0.866
Total HAPs	NY100-00-0	25	67.4	64.1	6.70E-04	2.67	8.21E-02	0.537
Any Single HAP	--	10	51.7	51.7	1.88E-04	2.67	8.13E-02	0.503

Table 1.4.6-1 Notes:

1. 6 NYCRR 231-13.9 Table 9 Global warming potential values for calculating CO₂ equivalents. CO₂ = 1; CH₄ = 21; N₂O = 310.
2. tpy = tons per year.

The following table summarizes facility-wide potential emissions after consideration of air pollution control, “facility-wide potential emissions after consideration of air pollution control” are also known as the Potential to Emit (PTE) as per 6 NYCRR 200.1(b).

Table 3.6.2-2: Facility-wide Potential Emissions After Control (Potential to Emit-PTE)

Pollutant	Pollutant CAS No.	6 NYCRR 201-2.1 Major Source Thresholds (tpy)	Project Potential Emissions After Control (tpy)					
			Facility Potential to Emit	Paint Spray Booths (Including RTOs)	Metal Spray Booths	Abrasive Blast	Welding Activities	Natural Gas Combustion Sources
NO _x	NY210-00-0	100	29.7	0.770	--	--	--	28.9
CO	630-08-0	100	26.2	0.647	--	--	--	25.5
PM ₁₀	NY075-00-5	100	6.99	0.175	1.29E-02	3.20	1.54	2.06
PM _{2.5}	NY750-02-5	100	6.99	0.169	1.24E-02	3.20	1.54	2.06
SO ₂	7446-09-5	100	0.167	4.62E-03	--	--	--	0.163
VOC	NY998-00-0	50	12.9	11.4	0.000	--	--	1.51
Pb	7439-92-1	-	1.40E-04	4.14E-06	1.88E-07	--	--	1.35E-04
CO ₂	124-38-9	-	33,486	924	--	--	--	32,562
N ₂ O	10024-97-2	-	0.178	4.93E-03	--	--	--	0.173
CH ₄	74-82-8	-	0.642	1.77E-02	--	--	--	0.624
CO ₂ e	NY750-00-0	100,000	33,555	926	--	--	--	32,629
NH ₃	7664-41-7	-	0.890	2.46E-02	--	--	--	0.866
Total HAPs	NY100-00-0	25	7.09	6.45	2.01E-07	2.40E-02	8.21E-02	0.537
Any Single HAP	--	10	5.17	5.17	1.88E-07	2.40E-02	8.13E-02	0.503

Table 1.4.6-2 Notes:

- 6 NYCRR 231-13.9 Table 9 Global warming potential values for calculating CO₂ equivalents. CO₂ = 1; CH₄ = 21; N₂O = 310.
- tpy = tons per year.

In any event, project-related potential air quality impacts on the nearby EJ Area (Ezra Prentice community) from transient activities and mobile sources (construction activities and truck traffic), along with potential impacts from the project’s permanent (stationary) sources have been reviewed and are discussed more fully below.

Potential transient air quality impacts associated with project construction activities will be mitigated by dust suppression techniques including spray of water on dry materials and soils. Dust suppression effectiveness will be measured with a community air monitoring program (CAMP), following procedures in Appendices 1A and 1B of NYSDEC’s DER-10 guidance for CAMP. Project-related truck traffic will be routed through existing City streets through the Port or via South Port Road; however, prohibiting right hand turns to eliminate adding new truck traffic to South Pearl Street (adjacent to Ezra Prentice community). Level of Service at project impacted

intersections will be maintained at Level of Service “C” or better. This will assure that traffic related impacts of the project on air quality will be acceptable.

As detailed in earlier in the Climate and Air Quality Section of this SDEIS, the project will consist of several stationary sources of air emissions, releasing pollutants related to natural gas combustion (i.e., NO_x, CO, SO₂, VOC, PM₁₀, PM_{2.5}, GHG) as well as pollutants related to abrasive blasting and surface coating (i.e., PM₁₀, PM_{2.5}, VOC, HAP).

To evaluate whether project-related GHG emissions and co-pollutants have the potential to disproportionately burden disadvantaged communities, potential air quality impacts from project emission sources on the nearby EJ Area are compared to other off-property locations surrounding the project. Air dispersion modeling was performed using AERMOD.

Table 1.4.6-5 identifies project emission sources and modeled pollutants selected for inclusion in the EJ Area air quality impact analysis. The location of the EJ Area relative to the project location is shown on **Appendix E2 of the SDEIS**.

Table 3.6.2-3: Modeled Project Emission Sources and Pollutants

Source Description	Modeled Source Type	Model ID	Modeled Pollutants
Large Spray Booth	Point Source	STCK1	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂ , NC Pollutants
Large Spray Booth	Point Source	STCK2	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂ , NC Pollutants
Small Spray Booth	Point Source	STCK3	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂ , NC Pollutants
Small Spray Booth	Point Source	STCK4	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂ , NC Pollutants
Building C Blast Booth	Point Source	STCK5	PM ₁₀ , PM _{2.5} , NC Pollutants
Building C Blast Booth	Point Source	STCK6	PM ₁₀ , PM _{2.5} , NC Pollutants
Building C Blast Booth	Point Source	STCK7	PM ₁₀ , PM _{2.5} , NC Pollutants
Building A Plate Blast Booth	Point Source	STCK8	PM ₁₀ , PM _{2.5} , NC Pollutants
Large Spray Booth AMU	Point Source	STCK9	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂
Small Spray Booth AMU	Point Source	STCK10	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂
Building A Natural Gas Combustion Equipment	Volume Sources	BLDGA_GAS1-5	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂
Building B Natural Gas Combustion Equipment	Volume Sources	BLDGB_GAS1-2	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂

3.6.3. Mitigation Measures

The Project is committed to doing its part to minimize its environmental footprint on neighboring communities, especially nearby disadvantaged communities. The Project will institute as needed mitigation strategies and procedures, and utilizes high precision, state-of-the-art manufacturing equipment and technologies at its facilities. During the operational phase, the employees will receive on the job, site specific training, with emphasis on worker safety, pollution prevention and environmental compliance.

The project will perform metallizing activities completely indoors with a state-of-the-art capture and staged filtration and ventilation system, which recirculates purified air indoors. The project will also institute state-of-the-art VOC control on its paint booths using recuperative thermal oxidizers. Use of the VOC control equipment will result in a significant decrease in the project's potential to emit VOC (overall decrease of more than 100 tpy in potential VOC emissions) and HAP (overall decrease of more than 60 tpy in potential HAP emissions). Likewise, with the project utilizing state-of-the-art dust suppression (particulate control) on its abrasive blast equipment and its paint booths, particulate (PM_{2.5}). The combined effect of implementing these mitigation measures leads to significant reductions in the project's potential emissions. Implementation of these mitigation measures will lead to:

- An overall decrease of more than 100 tpy in potential VOC emissions
- An overall decrease of more than 60 tpy in potential HAP emissions
- An overall decrease of at least 200 tpy in potential PM_{2.5} emissions

With the project maintaining status as a minor facility, and utilizing state-of-the-art air pollution control technologies to mitigate impacts from potential VOC, particulates and HAP sources, and based on results from the Part 212 review and supporting air quality impact assessment, it is concluded that the project's potential impacts to air quality will be minimal and acceptable.

After consideration of all air pollution controls to be operated and maintained as part of the facility, the project's potential emissions for each regulated air pollutant are well below major facility (Title V) thresholds (see Table 1.4.6-2 above). The facility is therefore eligible to apply for a NYSDEC Air State Facility Permit as a minor facility of regulated air pollutants after taking federally enforceable restrictions (e.g., limiting VOC emissions to less than 50 tons per year, limiting HAP emissions to less than 25 tons per year, limiting particulate (PM₁₀, PM_{2.5}) emissions to less than 100 tons per, etc.).

3.7. Traffic and Transportation

A traffic impact study was prepared in June 2019 (revised November 2019) which analyzed the potential traffic impact of a worst-case scenario, 1,130,000 SF distribution center/warehouse building with associated internal driveways, parking areas, landscaped areas, and storm water infrastructure. The Findings Statement for the FGEIS outlined transportation improvements to

the surrounding roadway network based upon trips generated during the peak hours of adjacent street traffic corresponding to the three phases of development as summarized in the following table.

Table 3.7-1: Peak Hour of Adjacent Street Traffic Trip Generation Summary

PHASE I	PHASE II	PHASE III
0 - 300,000 SQUARE FEET	301,000 - 600,000 SQUARE FEET	601,000 - 1,130,000 SQUARE FEET
0 - 124 MORNING PEAK HOUR TRIPS	125 - 247 MORNING PEAK HOUR TRIPS	248 - 465 MORNING PEAK HOUR TRIPS
0 - 141 EVENING PEAK HOUR TRIPS	142 - 281 EVENING PEAK HOUR TRIPS	282 - 529 TOTAL SITE-GENERATED TRIPS

Based on the ±625,000 s.f. proposed for the Project and the estimated 324 max trips generated during shift changes, the proposed project is within the Phase II threshold for square footage and the Phase III threshold for the proposed peak hour trips based on the FGEIS established thresholds. Intersection improvements associated with Phase III peak hour volumes stated in the FGEIS included:

NYS Route 32 (S. Pearl Street) at South Port Road:

- Construction of a 200 ft southbound left-turn lane
- Construction of a 200 ft westbound right-turn lane
- Installation of new traffic signal equipment for additional lanes

NYS Route 144 (River Road) at NYS Route 32 (Corning Hill Road):

- Installation of a traffic signal to be coordinated with the existing traffic signal at South Port Road

NYS Route 144 (River Road) at Proposed South Driveway:

- Restrict driveway to passenger vehicles only
- Reduce speed limit along NYS Route 144 (River Road) in the vicinity of the intersection to 45 mph, which, in the event the NYSDOT does not approve a speed reduction, the driveway will become a right in, right out driveway only.

The previous 2019 FGEIS traffic impact study assumed the future site would utilize a shared driveway for car and trucks to enter and exit the site via the bridge over the Normans Kill, with the southern driveway restricted to passenger vehicles only as a secondary access point to the site. Due to operational and safety requirements of the Marmen Welcon Manufacturing Plant, employee traffic and truck traffic must utilize separate driveways, with truck traffic restricted to access from Normanskill Street and employee and passenger vehicle access restricted to the southern driveway off of NYS Route 144 (River Road). No employee or public vehicles are allowed within the secured manufacturing plant.

Due to the proposed site’s vehicular access and operational patterns, different trip distributions will result as employees will not be able to enter the site via the bridge crossing Normans Kill. A greater volume of employee traffic will pass through the three intersections requiring improvements with the proposed development. The remaining intersections within the FGEIS

study area were analyzed in the 2019 GEIS with Phase III threshold and found that no mitigation was necessary. The three intersections requiring improvements in the FGEIS were reanalyzed in order to determine if the mitigation outlined in the FGEIS was still necessary, or if greater changes were required to increase capacity at these intersections. For the remaining intersections in the study area, the proposed project's trip distribution and trip generation was found to have equal or less traffic when compared to the Phase III build volumes in the GEIS.

2019 Existing Traffic Volumes

Existing traffic volumes for the study area intersections were established based on the turn movement counts (TMC's) used in the previously mentioned traffic impact study completed in 2019 as part of the FGEIS. Due to the pandemic, the traffic volumes counted in 2019 remain the most accurate current data available to conservatively analyze the post-pandemic traffic operations and follows the guidelines in the NYSDOT Memo "Traffic Data Collection Guidance During COVID-19 Pandemic" dated August 11, 2020. The 2019 Traffic Impact Study used to establish the 2019 traffic volumes is included in the list of referenced material and the existing 2019 volumes are shown on Figure 3 of the Traffic Impact Study.

2029 Background Traffic Volumes

The FGEIS traffic study completed in 2019 was used to establish the 2029 Background year, background growth rate and volumes. The 2029 Background traffic volumes shown in Figure 4 of the Traffic Impact Study include the 2019 existing traffic volumes and annual background traffic growth. The proposed development is targeting to go into operations prior to 2029; however, these background traffic volumes are used as a conservative base upon which to add the proposed development's traffic.

Trip Distribution

Compared to the traffic study completed in 2019, the restriction of employee/public site access to only the proposed southern driveway on NYS Route 144 (River Road) decreases the number of vehicles turning onto South Port Road and increases through traffic traveling north and south through this intersection. A small number of passenger vehicles will still enter and exit South Port Road in order to staff the proposed Building E at 700 Smith Boulevard, roughly 10% of the overall development traffic. Traffic Impact Letter, Figure 5 – Trip Distribution shows the calculated trip distribution percentages for the proposed development during weekday morning and evening peak hours. These trip distribution percentages were used to assign the trips generated by the project to the study roadway network, shown in the Traffic Impact Letter, Figure 6 – Trip Assignment.

Trip Generation

The proposed facility will employ approximately 550 full time workers split between three shifts. A production forecast-based traffic assessment received from Marmen Welcon indicates that the project will generate 324 trips during their largest shift change. To be conservative, the analysis assumes 324 trips during the morning peak hour and 324 trips during the evening peak hour will be added to the roadway network. This is a worst-case scenario, as it is more likely that the shift changes will not line up with the adjacent roadway traffic peaks.

Truck traffic generated by the proposed development is expected to be limited to 4 trucks during the peak hours and truck receiving hours are restricted to between 8:00 AM and 5:00 PM. The bulk of the proposed deliveries to the site will come through ship vessels delivering materials to the existing port as well as rail delivery to a proposed rail spur into the 700 Smith Boulevard site. All material deliveries associated with the Marmen Welcon Manufacturing plant, regardless of their means of transportation will be delivered to the 700 Smith Blvd site and then transported to the Beacon Island site for on-time production delivery via private Marmen Welcon owned vehicles and flatbed tractor trailer trucks via Normanskill Street through the gated access over the Normans Kill bridge.

As shown in the table below these trip generation volumes are lower than what was proposed in the Phase III mitigation thresholds as part of the FGEIS report. The traffic forecast provided by the future tenant is included as an attachment to this letter of findings.

	FGEIS PHASE III THRESHOLDS		PROPOSED	
	AM	PM	AM	PM
Vehicles	465	529	324	324

2029 Build Traffic Volumes

The build volumes shown in Figures 2A and 2B – FGEIS Phase III / Marmen Welcon Full Build Volume Comparison represent the 2029 Background volumes combined with the site generated trips from the proposed development which are compared to the FGEIS 2029 Full Build volumes.

Study Intersections Level of Service and Delay Analysis

An intersection level of service (LOS) and delay analysis was performed using Synchro® 10.0 traffic modeling software and the procedures defined in the Highway Capacity Manual, 6th Edition, to determine operating conditions for the 2019 Base, 2029 Background, and 2029 Build scenarios. The LOS and Delay Summary Table below shows the results of the analysis. Synchro® analysis printouts are included in the Traffic Impact Study.

Study Intersection	Approach and Movement		MORNING PEAK HOUR							
			2019 EXISTING		2029 BACKGROUND		2029 BUILD		2029 BUILD MITIGATION	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
NYS Route 32 at South Port Road <i>(Signalized)</i>	Westbound	L-R	22.1	C	22.3	C	22.8	C		
	Northbound	T-R	5.7	A	6.3	A	10.4	B		
	Southbound	L-T	3.7	A	4.0	A	6.1	A		
	OVERALL		6.0	A	6.5	A	9.8	A		
NYS Route 144 at NYS Route 32 <i>(Un-Signalized/Signalized)</i>	Northbound	T-L	8.2	A	8.3	A	8.8	A	15.1	B
	Eastbound	L	41.0	E	54.3	F	200.6	F	34.4	C
		R	10.3	B	10.6	B	11.9	B	9.9	A
	Southbound	T-R							5.0	A
OVERALL		4.6	A	5.8	A	17.2	C	13.7	B	
NYS Route 144 at Proposed Site Driveway <i>(Un-Signalized)</i>	Southbound	L					9.2	A	9.2	A
	Westbound	R					14.4	B	14.4	B
	OVERALL						3.4	A	3.4	A
NYS Route 144 at Glenmont Road <i>(Un-Signalized)</i>	Eastbound	L-R	39.6	E	56.2	F	234.8	F	23.3	C
	Northbound	T-L	7.9	A	8.0	A	8.4	A	16.1	B
	Southbound	T-R							9.4	A
	OVERALL		7.7	A	10.6	B	38.0	E	15.2	B

Study Intersection	Approach and Movement		EVENING PEAK HOUR							
			2019 EXISTING		2029 BACKGROUND		2029 BUILD		2029 BUILD MITIGATION	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
NYS Route 32 at South Port Road <i>(Signalized)</i>	Westbound	L-R	28.6	C	28.8	C	27.6	C		
	Northbound	T-R	4.0	A	4.2	A	5.5	A		
	Southbound	L-T	9.5	A	11.1	B	15.1	B		
	OVERALL		9.5	A	10.6	B	13.0	B		
NYS Route 144 at NYS Route 32 <i>(Un-Signalized/Signalized)</i>	Northbound	T-L	11.1	B	11.5	B	12.8	B	10.5	B
	Eastbound	L	32.3	D	37.2	E	87.0	F	32.4	C
		R	18.7	C	20.1	C	24.8	C	12.3	B
	Southbound	T-R							14.8	B
OVERALL		2.0	A	2.1	A	3.9	A	13.9	B	
NYS Route 144 at Proposed Site Driveway <i>(Un-Signalized)</i>	Southbound	L					8.0	A	8.0	A
	Westbound	R					11.1	B	11.1	B
	OVERALL						3.1	A	3.1	A
NYS Route 144 at Glenmont Road <i>(Un-Signalized)</i>	Eastbound	L-R	20.3	C	22.8	C	46.0	E	17.5	B
	Northbound	T-L	9.5	A	9.7	A	10.3	B	5.4	A
	Southbound	T-R							9.9	A
	OVERALL		2.2	A	2.3	A	4.2	A	9.1	A

NYS Route 32 at South Port Road

As shown in the table, the existing intersection of NYS Route 32 at South Port Road is operating at an acceptable LOS for the 2029 Background scenario and will continue to operate with an overall LOS 'A' during the morning peak hour and LOS 'B' during the evening peak hour. All

approaches will maintain background LOS with only minor increases in delay. Due to the low volume of vehicles generated by the site performing turning movements at this intersection, the mitigation recommended in the 2019 traffic study is not warranted for the proposed development.

NYS Route 144 (River Road) at NYS Route 32

This intersection is projected to operate at an overall LOS 'A' during the morning peak hour and LOS 'A' during the evening peak hour for the 2029 Background scenario. During the background and build scenarios, the eastbound left turn approach is at a LOS 'F' during both peak hours. To mitigate the delay for this movement and to improve traffic operations at this intersection, it is recommended that a signal be considered by NYSDOT. Should a signal be installed, it is recommended to be coordinated with the NYS Route 32/South Port Road intersection. Signalizing the intersection will decrease the delay the eastbound approach experiences from LOS 'F' to LOS 'B' during the morning peak hour and LOS 'F' to LOS 'D' during the evening peak hour. It should be noted that the mitigation outlined in the GEIS recommended the consideration for signalization of this intersection prior to any development of Beacon Island, see the signal warrant analysis section of this study. Coordination with NYSDOT is recommended to determine if and when a signal should be installed at this intersection.

NYS Route 144 (River Road) at Proposed Site Driveway

The proposed site access driveway was modeled as a two-lane road with single entering and exiting lanes, under stop sign control for the exiting traffic. The driveway will be restricted to passenger vehicle traffic only as all truck traffic will be directed to South Port Road and Church Street as all deliveries will be received at the 700 Smith Blvd site. As outlined in the 2019 traffic study, this will be accomplished by including signage prohibiting trucks from using this entrance as well as enforcement by the Port, the Port's tenants, and local law enforcement. The driveway geometry also does not accommodate large delivery truck turn movements. The LOS summary table shows that this intersection will operate efficiently during the 2029 Build scenario, with no movement operating below LOS 'C'.

Due to sight distance restrictions, vehicles exiting the proposed site will be limited to right turn movements only with the use of a channelized turn island and signage. It is recommended that NYS Route 144 (River Road) be widened to accommodate a left turn lane into the proposed site to increase safety by separating through traffic on NYS Route 144 (River Road) from vehicles slowing to turn into the site, discussed further in the Left Turn Lane Analysis section of this report. In addition to the construction of a dedicated left turn lane, it is recommended that NYSDOT conduct a speed study in the vicinity of the proposed driveway Post Construction to determine if the current regulatory posted speed limit of 55 mph is appropriate after the intersection installation, or if the advisory speed limit of 45 mph in this section become the regulatory posted speed limit, further improving safety along NYS Route 144 (River Road). As noted in the FGEIS traffic analysis mitigation, advanced guidance signage, intersection lighting and driveway warning advisory signage will be proposed as part of the NYSDOT highway work permit plans to increase visibility of the proposed driveway.

NYS Route 144 (River Road) at Glenmont Road

This unsignalized intersection is currently operating well today during the evening peak hour. During the morning peak hour, the eastbound left-turn movement is operating with a LOS of 'F' for the background conditions due to the high number of left turn vehicles combined with the heavy northbound traffic on NYS Route 144. This existing condition will continue to operate at similar levels of service for the Build scenarios as well. These vehicles will continue to have some delay as they wait for an acceptable gap in the NYS Route 144 traffic flow. The traffic volumes at this intersection will see minor increases from the proposed development in comparison to the Background volumes, consistent with the FGEIS analysis. A gap analysis was completed in the FEIS to show that adequate gaps existing for the eastbound vehicles approaching the intersection on Glenmont Road. A signal warrant analysis was also completed as part of the FGEIS traffic analysis concluding that a signal was not recommended at this time.

At the request of the Town, the intersection was analyzed in Synchro to determine what effect a traffic signal may have on the levels of service. As shown in the table 4's mitigation column, installation of a traffic signal will decrease delay times for the eastbound turn movements; however, it will also introduce stoppage to the NYS Route 144 traffic flow. It is recommended that after the proposed development is open and fully operational, a follow up traffic signal analysis be conducted at this intersection and coordinated with NYSDOT.

Signal Warrant Analysis

Signal warrants were reviewed for the study area un-signalized intersections of NYS Route 144 (River Road) at NYS Route 32 (Corning Hill Road) and at the proposed driveway on NYS Route 144 (River Road) in accordance with the Federal Highway Administrations; Manual of Uniform Traffic Control Devices, 2009 edition. The NYS Route 144 (River Road) at NYS Route 32 (Corning Hill Road) intersection was reviewed using 2019 existing volumes due to the volumes and operating conditions which have the potential to warrant a traffic signal. Both intersections were also reviewed using the 2029 Build volumes to determine if the proposed development's additional traffic generation warranted a traffic signal.

The detailed signal warrant analysis worksheets for the existing and proposed conditions for both intersections are included in the Traffic Impact Study.

The NYS Route 144 (River Road)/NYS Route 32 (Corning Hill Road) intersection met three warrants based on the existing traffic volumes, and three warrants when applying the projected Full Build volumes as noted below:

- Warrant 1B – Eight Hour Vehicle Volume Warrant, Interruption of Continuous Traffic (Existing & Full Build)
- Warrant 2 – Four Hour Vehicle Volume Warrant (Existing & Full Build)
- Warrant 3B - Peak Hour Vehicle Volume Warrant (Existing & Full Build)

Based on these warrants being met, a traffic signal was assessed for this intersection to determine what impacts it would have both positive and negative. The warrants were met based

on the 85th percentile speed exceeding 40 mph and utilized the MUTCD 70% Factor for the volume-based warrants. River Road (NYS Route 144) at the intersection has a 55-mph posted speed limit; however, the intersection is just south of the city's 30 mph zone. At this intersection, southbound traffic is accelerating, while northbound traffic is slowing down. Speed data north of this intersection showed a 40 mph 85th percentile speed in both directions; therefore, it was concluded that the 85th percentile speed through the intersection is greater than 40 mph. From a capacity standpoint, the signal will alleviate the anticipated future failing operations of the NYS Route 144 and NYS Route 32 stop sign controlled intersection and provide adequate levels of operations with minor increases in delay over the 2029 Background levels of operation. Installation of a traffic signal is not recommended based on the current volumes; however, due to the additional traffic generated by the development this intersection should be considered for a traffic signal installation and coordination with NYSDOT is recommended.

The NYS Route 144 (River Road)/Proposed Access Driveway intersection met one warrant based on the Full Build volumes as noted below:

- Warrant 3B - Peak Hour Vehicle Volume Warrant

Despite a warrant being met due to the volume of traffic exiting the site during the peak hour, the intersection is projected to have adequate operations during the peak hours and shift changes. This is partially due to limiting vehicles to right turns out of the site onto NYS Route 144 (River Road) which serves to improve traffic operations and improve safety without the need for a traffic signal.

Sight Distance Analysis

The sight distance at the proposed site access driveway was measured to determine if the available intersection sight distances met the American Association of State Highway and Transportation Officials (AASHTO) recommended values for both the existing regulatory speed limit of 55 mph and the advisory speed limit of 45 mph. As shown on TIS Figure 7A – Stopping Sight Distance Plan, Figure 7B – Stopping Sight Distance Profile, Figure 7C – Intersection Sight Distance Plan, and the table below, adequate site distance is available at the proposed driveway along NYS Route 144 (River Road) looking left to perform a right turn out of the site, and left south for left turns in. Left turns out of the site will not be allowed due to the lack of available sight distance. It is recommended that vegetation along both sides of NYS Route 144 (River Road) be removed in order to maximize sight distance for vehicles turning right out of the proposed driveway. The proposed widening will be completed with grading to allow proper maintenance to keep these areas mowed annually and free of large vegetation.

Left Turn Lane Analysis

An analysis of the proposed site driveway was performed in accordance with AASHTO guidelines to determine the need for a left-turn lane on NYS Route 144 (River Road). As shown in the table below, the proposed driveway meets the threshold for the addition of a left turn lane during the peak hours, due to the volume of traffic traveling on NYS Route 144 (River Road) during the peak hours. This was conservatively completed using a 45-mph operating speed, if the 55-mph regulatory speed limit was used, the volume threshold would still be exceeded to warrant the left turn lane. It should be noted that while the left turn movement LOS for vehicles turning into the proposed site driveway is projected to be acceptable with delays less than ten (10) seconds for during the peak hours, the installation of the left turn lane is recommended in order to increase safety and separate through traffic from vehicles slowing to turn into the site.

SIGHT DISTANCE CALCULATIONS							
Location	Speed Limit	Direction	AASHTO/NYS DOT Recommended Intersection Sight Distance	Available Intersection Sight Distance *	AASHTO/NYS DOT Recommended Stopping Sight Distance	Available Stopping Sight Distance *	Visual Restriction
Access Drive at NYS Route 144	45 mph	Case B2: Looking Left	430 feet	495' / 590'	360 feet	410' / 500'	Vegetation & Horizontal Curve
	45 mph	Case B1: Looking Right	500 feet	385' / 500'		340' / 375'	Vegetation, Horizontal & Vertical Curves
Access Drive at NYS Route 144	55 mph	Case B2: Looking Left	530 feet	495' / 590'	495 feet	410' / 500'	Vegetation & Horizontal Curve
	55 mph	Case B1: Looking Right	610 feet	385' / 500'		340' / 375'	Vegetation, Horizontal & Vertical Curves

Note:

* = Sight distance was measured based on the current conditions with vegetation restricting the sight lines and also projected based on removal of this vegetation.

Warrants for Left Turn Lanes					
Location	Operating Speed	V.P.H. Per Lane Major Road Volume	Left-Turn Warrant Threshold	Site-Generated Left-Turns	Turn lane Warranted
NYS Route 144 (River Road) at Proposed Site Driveway	45 mph	395	5	87	Yes

Warrants for Left Turn Lanes Saturday Midday Peak Hour					
Location	Operating Speed	V.P.H. Per Lane Major Road Volume	Left-Turn Warrant Threshold	Site-Generated Left-Turns	Turn lane Warranted
NYS Route 144 (River Road) at Proposed Site Driveway	45 mph	369	5	87	Yes

Impact on Ezra Prentice Community

As shown in the table below, when compared to the thresholds set in the FGEIS, the future tenant of the Port of Albany Expansion is expected to generate less traffic for vehicles traveling north/south on South Pearl Street, passing the Ezra Prentice Community. The recommended truck route outlined in the FGEIS included a restriction on right turns for trucks exiting the site via South Port Road and traveling north, in order to limit any impact on the environmentally sensitive areas along South Pearl Street, including the Ezra Prentice community. Trucks entering and exiting the future development will follow this recommended truck route, as outlined in the FGEIS. Cameras have been installed at the South Port Road intersection with NYS Route 144 to monitor truck traffic turning right onto NYS Route 144 to ensure that new truck traffic associated with the proposed development will not travel north on South Pearl Street past the Ezra Prentice community. Should violation occur these cameras will be used to identify any vehicles not complying with the proposed truck route.

VEHICLE TRAFFIC PASSING SOUTH PEARL STREET / EZRA PRENTICE COMMUNITY

	FGEIS PHASE III THRESHOLDS		PROPOSED	
	AM	PM	AM	PM
Cars	204	231	199	201
Trucks	0	0	0	0

Impact on Recreational/Open Areas

Based on the development of Building E at 700 Smith Blvd., the volume of site generated traffic on Island Creek Park was compared to the volumes outlined in the FGEIS. As shown in the table below, the proposed tenant will generate less car and truck traffic passing Island Creek Park.

VEHICLE TRAFFIC PASSING ISLAND CREEK PARK

	FGEIS PHASE III THRESHOLDS		PROPOSED	
	AM	PM	AM	PM
Cars	94	106	0	0
Trucks	66	34	4	4

Rail Analysis

As described in the FGEIS, an existing railroad track owned by CSX runs north/south from the Port of Albany along the east side of NYS Route 32/144 and terminates at the Albany Port Railroad, a

separate, short-line entity co-owned and operated by CSX and Canadian Pacific. The proposed tenant’s traffic assessment is estimating a weekly rail traffic rate of approximately 25-40 rail cars for the delivery of raw materials utilizing this line. As shown in the table below, the proposed tenant’s rail traffic is estimated to be greater than the projected rail traffic outlined in the FGEIS. However, no additional trains will be added to the line as a result of the proposed development and the additional 5-8 rail cars per day represents a negligible increase in rail operations in the area and will not add noise or diesel emissions to the Ezra Prentice neighborhood.

RAIL ANALYSIS

	FGEIS	PROPOSED
Rail Cars	20-25 Rail Cars per Week	25-40 Rail Cars per Week
Trains (Engines)	1-2 Trains per Week	0

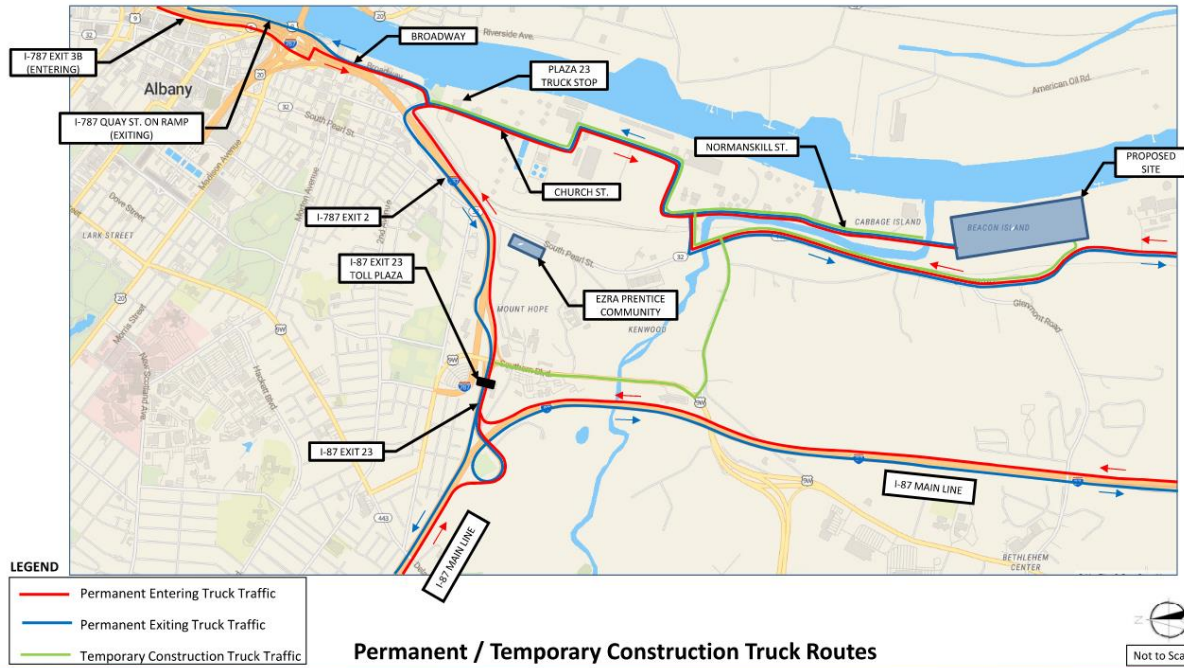
Maritime Analysis

The FGEIS estimated an approximate 10% increase in maritime traffic, equating to roughly 21 vessels/barges per year, as a result of a Port of Albany Expansion. The proposed tenant’s maritime traffic assessment estimates approximately 2-3 barges per week for the transport of outbound products, and 1 vessel per month for the delivery of inbound materials. This increase in maritime traffic is not projected to have a significant impact on the existing Hudson River maritime commercial or recreational traffic, and the use of barges and vessels for the delivery and shipping of materials/products reduces the need for trucks, further minimizing the impact on the surrounding roadway network.

MARITIME ANALYSIS

	FGEIS	PROPOSED
Vessels/Barges	>1 Vessel/Barge per Week	1 Vessel per Month 2-3 Barges per Week

Figure 3.2-1



Conclusion

The following general conclusions were determined based on the updated traffic analysis associated with the proposed development:

- The proposed development will generate traffic volumes within the Phase III threshold range established in the FGEIS finding statement.
- The development will have a different trip distribution from the assumptions in the FGEIS, with more traffic utilizing the proposed southern River Road driveway; however, the remaining intersections will see similar or improved levels of service than those anticipated for the Phase III FGEIS analysis.
- The study area intersections LOS and delay analysis revealed that the additional traffic generated by the proposed Port of Albany expansion along River Road will have a negligible impact on the operations of the NYS Route 144 (River Road) corridor, as well as South Port Road.
- Supplementary turn lanes were reviewed at the developments access driveway and a dedicated left turn lane is recommended in order to separate through traffic from vehicles slowing to enter the proposed site.
- Additional recommended improvements to the surrounding roadway network include the consideration of a coordinated signal at the NYS Route 144 (River Road) / NYS Route 32 intersection, in accordance with the guidelines set in the FGEIS. Coordination with NYSDOT is recommended to review a signal installation at this intersection.
- A speed study completed by the NYSDOT is recommended at the proposed southern site driveway on NYS Route 144 after construction to determine if the regulatory speed limits of 55-mph should be reduced to match the advisory speed limit of 45-mph.
- All delivery trucks will utilize the approved truck routes.
- The applicant will contribute to the Town a proportional share of the intersection improvement costs at the Glenmont Road/NYS Route 144 (River Road) intersection for future intersection improvements. The amount will be determined at a future time but will be no less than 20% of the total intersection improvement cost.

The complete Traffic Impact Study has been provided in **Appendix G of the SDEIS**. Updated TIS figures for this SFEIS can be found in **Appendix CC**.

3.8. Drainage

3.8.1. Environmental Setting

The supplemental Project Area consists of approximately 14.7 acres located at 700 Smith Boulevard in the City of Albany, and 4.4 acres of the National Grid property adjacent to Beacon Island. The area located at 700 Smith Boulevard is part of a proposed remediation project to be completed prior to the commencement of the Port of Albany Expansion Project. The 700 Smith Boulevard site will be capped with milled asphalt, making the entirety of the 14.7 acres

impervious surface. The portion of the project located on the National Grid Property adjacent to Beacon Island consists primarily of brush and trees, making the entirety of the 4.4 acres pervious surface.

There is one (1) delineated wetland within the supplemental drainage area on the National Grid property. Wetland 1 (7.13 acres) is a freshwater emergent and forested wetland and functions as storage during flooding events. The supplemental project will temporarily impact 0.33 acre and permanently impact 0.01 acres of Wetland 1 (see **Section 3.3 Wetlands** for a more detailed description). There are no wetland impacts associated with the 700 Smith Boulevard portion of the project.

The Project Area's topography is largely comprised of flood plain and contains very little elevation change.

The parcel at 700 Smith Boulevard is at or near elevation 14 feet and contains very little elevation change. This site was previously developed and has some existing closed drainage that outlets to the Smith Boulevard corridor.

The Project Area on National Grid property ranges from 12-14 feet in elevation and is largely comprised of flood plain. The existing area drains to Wetland 1 via overland flow. In large storm events Wetland 1 drains to the Normans Kill through an existing 40" culvert.

3.8.2. Potential Impacts

Runoff from the proposed impervious area at the 700 Smith Blvd. parcel will travel via sheet flow to a new closed drainage system. The proposed drainage system will have a single outlet pipe connecting to the existing storm system trunkline owned by the APDC which runs directly to the Hudson River. The proposed system will have a stormwater management filter structure (anticipated to be a hydrodynamic separator) at the outlet to the existing system to provide water quality treatment.

Runoff from the proposed impervious area at the National Grid property adjacent to Beacon Island will travel via sheet flow to through a grass filter strip into the adjacent wetlands. New proposed closed drainage systems will outlet to a retention pond to project water quality volumes prior to being outlet to the adjacent wetlands. During larger storm events (greater than a water quality storm, the proposed stormwater management practices will have overflows to convey stormwater into the existing wetlands to maintain the wetland's function as storage during following storm events.

3.8.3. Mitigation Measures

The Project Area will consist of approximately 15.5 acres of impervious cover and approximately one (1) acre of pervious cover. Since the Project Area will have land disturbance of more than one (1) acre, a SPDES permit (General Permit for Stormwater Discharges from Construction Activity, GP-0-20-001) will be required for the project. In accordance with the SPDES permit, the project will not be required to provide water quantity controls as it will discharge directly to a tidal water

Two separate SWPPPs will be developed in accordance with the permit regulations. The SWPPPs will be reviewed and approved by the respective agency having jurisdiction as the MS4, the Town of Bethlehem or the City of Albany. The SWPPPs will be prepared in accordance with the NYSDEC Manual and meet the following criteria as the principal objectives contained in an approved SWPPP.

- Reduction or elimination of erosion and sediment loading to waterbodies during construction activities. Controls will be designed in accordance with the NYSDEC's New York State Standards and Specifications for Erosion and Sediment Control.
- Mitigate the impact of stormwater runoff on the water quality of the receiving waters.
- Mitigate the increased peak runoff rate of runoff during and after construction.
- Maintenance of stormwater controls during and after completion of construction.

These objectives will be accomplished by incorporating design criteria outlined within the Technical Guidelines provided by The Manual.

3.9. Water Service (Potable and Fire Protection)

3.9.1. Environmental Setting

The APDC proposes to service the 700 Smith Blvd Project Area with water by connecting to the existing water infrastructure owned by the City of Albany within the Smith Boulevard corridor. Existing water supply capability within the vicinity of the beacon island Project Area was outlined in the FGEIS and is applicable to the supplemental Project Areas.

3.9.2. Potential Impacts

The Project Area is within the port districts water service area and the previous buildings on site had water services; therefore, adequate water capacity is anticipated to service the proposed buildings with is anticipated to require roughly 1,100 gpd.

3.9.3. Mitigation Measures

The water service demand associated with the Project does not exceed the threshold established in the FGEIS and will not put a significant demand on existing water service supplies in the region, therefore no specific mitigation is proposed.

3.10. Sanitary Sewer

3.10.1. Environmental Setting

Applicant proposes to service the 700 Smith Boulevard Project Area with sanitary sewer by connecting to the existing sewer infrastructure owned and maintained by the Albany County Water Purification District.

3.10.2. Potential Impacts

The site is calculated to produce roughly 1,100 gpd of liquid waste. The site was previously developed with buildings and the proposed development will connect to the same sewer main that the previous developments tied into.

3.10.3. Mitigation Measures

The building at 700 Smith Boulevard will not produce a significant amount of sanitary sewer waste beyond the capabilities of the Albany County Water Purification District, therefore, no specific mitigation is proposed. The sewer service demand associated with the proposed Beason Island parcel with the parking expansion onto the National Grid property does not exceed the demand thresholds established in the FGEIS and mitigation from the FGEIS is still applicable.

3.11. Historic, Cultural, and Archeological Resources

3.11.1. Environmental Setting

Previously Evaluated in FGEIS

Based on previous investigations in the vicinity of the original Project Area conducted in 2002 and 2003, detailed in the FGEIS, it was determined by the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP) that the Project would have “No Effect” upon cultural resources in or eligible for inclusion in the National Registers of Historic Places on September 25, 2003.

In November 2018 the NYSOPRHP was consulted in order to provide current an effect determination for the currently Project. The NYSOPRHP requested that the north entry road, the western utility corridor, and the south entry road areas be evaluation of prior disturbance and archeological sensitivity. An additional Archaeological Evaluation was completed and based on NYSOPRHP’s review, it was determined that a National Register eligible site, Papscanee Island Historic District, was located across the Hudson River from the Project Area. Papscanee Island Historic District is comprised of agricultural fields which make the area visually unique and would have been recognizable to the historically prominent Mohican Sachem (Chief) Papsickene.

Based on all previously submitted project information to the NYSOPRHP for review, the NYSOPRHP indicated in a letter, dated March 14, 2019, no properties, including archaeological and/or historic resources, listed in or eligible for the New York State and National Registers of Historic Places will be adversely affected by the Project as currently designed. A follow up letter and visual simulation was issued to the NYSOPRHP on August 6, 2019, with the increase in potential building height from 60 feet to 85 feet. NYSOPRHP issued a response on September 13, 2019, maintaining that the Project with increase in building height would have No Adverse Effect.

All previous correspondence and reports provided to or received from the NYSOPRHP to date have been provided in the FGEIS Appendix L.

Supplemental Project Area

The supplemental Project Area lies within a natural, industrial, and rural/suburban context. The site at 700 Smith Boulevard in the City of Albany consists of a vacant urban lot, and the site on National Grid property consists of mowed successional old field. The neighboring land uses to the north and south are industrial. The parcel at 700 Smith Boulevard was at one point used as a rail yard then a metal recycling facility, and the National Grid property has been developed with buried gas lines and overhead electrical lines. Further away from the Project Area, west of River Road, the area is rural in character with sparse minor roads and low-density residential housing throughout. Given the previous disturbance and industrial and commercial uses of the supplemental Project Area(s), it is not anticipated that there will be impacts to archaeological resources.

The Project now includes a building (Building A) with a maximum height of 100 feet and Building C that will have a roof height of 83 feet with exhaust stacks for a maximum height of 110 feet.

3.11.2. Potential Impacts

A supplemental letter and supporting photo simulations were submitted to NYSOPRHP on July 27, 2021, describing the increased maximum height of the proposed development from 85 feet to 100 feet. During a meeting with NYSOPRHP on September 13, 2021, an additional photo simulation was requested to show the project from the vantage point of the eastern shore-line of the Hudson River. A video showing the current 3D model of the project (110 feet stack height) has been prepared and will be issued to NYSOPRHP for review.

Letters were received from Stockbridge-Munsee Tribal Historic Preservation office (SMC THPO) and NYSOPRHP on December 6, 2021 and December 9, 2021 respectively. SMC THPO found that the plant as currently proposed would have an Adverse Effect on the visual and scenic attributes of the landscape as a result of the visual contrasts of the building structures and yellow color scheme of the transition pieces. Additionally, SMC THPO requested an acoustic noise assessment to evaluate potential noise impacts the project may have on Papscaanee Island Historic District.

The environmental noise assessment consists of a monitoring survey for ambient noise (Survey) and noise impact projection at three (3) locations in support of the Supplemental Final Environmental Impact Study (SFEIS) and response to comments by the Stockbridge-Munsee Tribal Historic Preservation Office regarding the potential significant noise impacts over Papscaanee Island from the Stockbridge-Munsee Mohican Community. The Papscaanee Island is located to the east of the Hudson River, at approximately 5,000 feet from the Project.

Baseline noise measurements were collected at three (3) locations: Across from the Existing Port Wharf (MS-1), American Oil Road (MS-2), and Papscaanee Island Nature Preserve (MS-3), as shown on Figure 1 and accompanying photos (attached). Noise measurements were collected between the morning of Tuesday, January 18 and the afternoon of Thursday, January 20, 2022. Measurements were recorded every 1 minute at each of the locations. Noise descriptors measured at each location include Leq, L10, Lmin, Lmax, Lpk. Results for each location are provided in the appendix of this SFEIS. Peak noise measurements (Lpk) recorded at each location are as follows:

- MS-1: 118.5 dB(A)
- MS-2: 121.5 dB(A)
- MS-3: 114.2 dB(A)

Noise impact projections were made at MS-1, MS-2, and MS-3 using noise level data of typical earthmoving and material handling equipment (e.g., cranes, reach stackers, etc.), and basic noise fundamentals for calculating/projecting noise impacts.

Peak projected SPLs at MS-1 (54 dB(A)), MS-2 (62 dB(A)), and MS-3 (49 dB(A)) due to typical earthmoving and material handling equipment at the proposed Marmen-Welcon Tower Manufacturing Plant fall well below existing peak (Lpk) environmental noise monitoring data (i.e., 99.60 dB(A), 110.00 dB(A), and 114.20 dB(A), respectively) gathered in this survey. Similarly, the average projected SPLs at MS-1 (42 dB(A)), MS-2 (51 dB(A)), and MS-3 (37 dB(A)) fall well below the concurrent and continuous 4.5-hour equivalent sound level (Leq(4.5)) measurements for MS-1 (63.23 dB(A)), MS-2 (56.10 dB(A)), and MS-3 (65.21 dB(A)).

As such, projected SPLs indicate that no perceptible change is expected in sound levels observed at locations represented by MS-1, MS-2 and MS-3, when compared to current peak and average continuous equivalent sound levels as a result of this proposed Marmen-Welcon Manufacturing Plant. Therefore, the project will not have an adverse effect on noise.

The full noise assessment is available in **Appendix DD**.

An executive summary along with updated visual simulations were provided to SMC THPO and NYSOPRHP as requested to show winter scenarios and greater context of the surrounding development, including the PSEG properties. A copy of the executive summary memo has been included in **Appendix DD**. As the simulation shows, the Project has a lower vertical profile from what is existing to the south (PSEG Power Plant) and north (Albany Port District), and the project retains a 2,000 linear foot vegetative buffer to help screen the project.

3.11.3. Mitigation Measures

The transition pieces will be stored behind the vegetative buffer to serve as a screen to offset any visual impacts. The buffer varies from 55 feet to 115 feet wide. Within this buffer area the proposed vegetation to remain will have a bandwidth that ranges from 30 feet to 70 feet wide.

Regarding nighttime operations and concerns over lighting impacts at night, all exterior site lighting is building mounted except for the parking lot. A photometric lighting plan has been provided, Drawings LT-01 and LT-02, which demonstrate that the light levels at the property line of the project will be zero and the shoreline along the Hudson will be dark. Marmen-Welcon has indicated that there is no intent to load or unload barges at night and therefore the lighting associated with the Wharf, which is required by Federal Maritime Commission standards, will be off and only be used for emergency situations.

3.12. Aesthetic and Visual Resources

3.12.1. Environmental Setting

The supplemental Project Area is located on flat land west of the Hudson River. The area is in a

100-year floodplain, within the Town of Bethlehem. The land beyond the Project Area rises to the west of NYS Route 144, up toward Bethlehem Center. Consistent with the Hudson River's industrial past, most of the land on this stretch of the river, up to and including the existing Port of Albany and the City of Rensselaer either has an industrial character or was once used for industry.

The Normans Kill, a tributary to the Hudson River, runs through the northern portion of the Project Area. Across the Normans Kill to the north is the Agway Industrial Park including Port Welding Services, Dawson's Towing, and Scarano Boats; existing buildings include warehouses and silos. Beyond the Industrial Park is the existing Port of Albany with various industrial and maritime buildings. To the immediate south of the Project Area is the Bethlehem Energy Center, a natural gas power plant owned and operated by PSEG New York (once operated by Niagara Mohawk Power Company), formerly the Albany Steam Station, and before that the coal fired plant that generated the fly ash that now covers a portion of the site. The power plant is a mix of the old coal fired brick buildings and newer gas burning facilities. It creates a strong presence on the river, especially looking toward the Project Area from the opposite (east) bank of the Hudson River in the Town of East Greenbush.

Several residences lie to the west of the transmission lines but have limited views of the Project Area. See **Appendix H of the SDEIS** for an aerial of the site and surrounding area.

3.12.2. Potential Impacts

The Project includes a 100 feet high building as well as exhaust stacks estimated to be 110 feet high, which will exceed the allowable 60-foot height permissible by local zoning. McFarland Johnson, Inc., completed a Visual Impact Assessment in June of 2021 to assess potential impacts to the Area of Visual Effect (AVE).

Based upon the AVE a Qualitative and Quantitative Assessment of the Project was conducted. Georeferenced photographs were taken at eye level from the five locations identified as the AVE. The camera locations, heights, and angles were placed into a three-dimensional rendered model of the Project.

The Project includes the 4 on-site buildings as described in Section I and as generally represented in Concept A of the SDEIS. The height of the buildings are as follows:

- Building A – 100 feet
- Building B – 72 feet
- Building C – 83 feet with a stack height of 110 feet
- Building D – 93 feet
- Building E – 43 feet. Note: this building is in the City of Albany

As indicated above, buildings A-D will exceed the allowable height by local zoning (60'). A zoning variance for the height of each building is being pursued.

Photo-simulations of the project from the locations defined in the AVE were created. See **Appendix H of the SDEIS**, Figure 3 for the locations of the photo-simulations. Updated photo simulations and visualizations have been provided in **Appendix EE**.

3.12.3. Mitigation Measures

As mentioned above the buildings will exceed the allowable height and thus will pursue a variance for the height of the building. Although the building will exceed the allowable height, it is still in keeping with the surrounding area; there are buildings on the adjacent properties to both the north (Agway Industrial Park) and the south (PSEG) that are industrial in nature and contain structures that exceed the allowable 60 feet in height and have stacks that extend approximately 200 feet.

Based upon the visualizations created and summarized above the following mitigations are proposed.

Location 1: This viewshed is from the approaching access road through an existing industrial area. The access road is not a heavily trafficked thoroughfare and is only anticipated to be used by people accessing the site; furthermore, it is not practical to screen the project from the access road. No additional mitigation is recommended at this location.

Location 2: This viewshed is within the access easement to the northern portion of the property. The project has chosen not to use this access easement instead leaving the existing vegetation in place to screen the project from both NYS Route 144 and the residence to the northwest. At this location the project is viewed through the high voltage transmission lines originating at the PSEG plant and the existing railroad bed. The existing vegetation does screen the majority of the project and no further mitigation is recommended at this location.

Location 3: This viewshed is within the right of way of NYS Route 144. The existing berm, screening the project from NYS Route 144, has been retained to the greatest extent possible. While the project can be seen from this location, it is anticipated that a viewer in a moving vehicle would only be able to see the project for the briefest of moments. No additional mitigation is recommended at this location.

Location 4: This viewshed is from Glenmont Road at a higher elevation and west of the project. The project is only slightly visible from this location. The vast majority of the project is screened by existing vegetation with only the very tops of the buildings visible. No additional mitigation is recommended at this location.

Location 5: This viewshed is from the Hudson River. The eastern side of the project is substantially screened by the existing vegetation to remain as part of the project. In addition, the color of the buildings along this view will be of a light grey, natural color to blend into the surrounding visual landscape. Also, along this stretch of the Hudson, many of the uses with direct river frontage are industrial, and views from the Hudson are already significantly impacted by the presence of these uses, particularly the PSEG to the south. Directly north is a boat marine repair shop, multiple bulk storage facilities and the existing Port of Albany. No additional mitigation is recommended at this location.

Additional mitigation undertaken to minimize the effects of this project on the surrounding visual landscape are as follows. The northern access easement to NYS Route 144 will not be utilized, so as not to create a visual opening in this area. The building colors will be chosen to blend into the existing surroundings. All lighting on the project will be full cut off, dark sky compliant and will

not spill onto neighboring properties.

Based on existing barriers including buildings and retaining existing vegetation on areas along the property boundaries, existing vegetation and buildings within the 0.4 miles between Ezra Prentice community and the supplemental Project Area, it is not anticipated that the Project Area will be visible from the Ezra Prentice community. As such, no impacts to the aesthetic and visual resources of the Ezra Prentice community are expected and no mitigation measures are proposed.

3.13. Land Use and Zoning

3.13.1. Environmental Setting

The supplemental Project Area includes approximately 14.7 acres of vacant land located at 700 Smith Boulevard in the City of Albany's general industrial district. The parcel is currently primarily vacant but was previously fully developed. The supplemental Project Area also includes approximately 2.5 acres on National Grid property in the Town of Bethlehem's heavy industrial district, adjacent to the Beacon Island parcel. The National Grid property has two underground gas lines and overhead electrical lines and is a vegetated area that receives periodic mowing.

The neighboring land uses to the north (Boat storage and repair shop) and south (PSEG Power Plant) are industrial, to the west are abandoned railroad tracks, with rural light industrial and residential uses along River Road. Immediately to the east is the Hudson River. Additional land uses within the area include vacant, residential, industrial, and public services as shown in **Figure 3.13-2**. The nearest residential land use is located approximately 270 feet from the supplemental Project Area's property line. The neighboring land by 700 Smith Boulevard consists of industrial use and a rail yard.

Further away from the Project Area, west of River Road, the area is rural in character with sparse minor roads and low-density housing throughout. See **Figure 3.13-1** for the "Town of Bethlehem Zoning Map (2016)" and **Figure 3.13-2** for the "Town of Bethlehem Existing Land Use Map (2017)" which further describe the surrounding zoning and land uses.

- **Table 3.13-1** is an analysis of the heavy industrial lot features required by the Town of Bethlehem's code compared to the proposed development at the Beacon Island parcel.

Table 3.13-1: Town of Bethlehem Heavy Industrial Requirements

Feature	Required	Proposed
Minimum lot size, nonresidential	5 acres	81.62 acres
Minimum front yard, from right-of-way	100 feet	840 feet
Minimum side yard	25 feet	25 feet
Minimum rear yard	50 feet	50 feet
Minimum highway frontage	150 feet	N/A
Maximum height	Four stories or 60'	1-story, 110 feet ⁽¹⁾
Minimum lot depth	200 feet	2850 feet
Minimum lot width	150 feet	757 feet
Maximum lot coverage	30%	17.0%

- **Table 3.13-2** is an analysis of the general industrial lot features required by the City of Albany’s code compared to the proposed development at 700 Smith Boulevard.

Table 3.13-2: City of Albany General Industrial Requirements

Feature	Required	Proposed
Minimum lot size, nonresidential	N/A	14.98 acres
Minimum front yard, from right-of-way	10 feet	25 feet
Minimum side yard	15 feet	79 feet / 112 feet
Minimum rear yard	40 feet	508 feet
Maximum height	Six stories	1-story, 40 feet
Minimum lot depth	200 feet	> 600 feet
Minimum lot width	50 feet	> 700 feet
Maximum lot coverage	N/A	3.2%

The proposed employee parking on the National Grid property falls within the permitted uses and lot requirements specified for the Town of Bethlehem in the FGEIS.

The Project proposes a maximum building height threshold of 110 feet, which exceeds the 85 feet previously proposed in the FGEIS. This maximum height dimension is in character with the building and structure height of the adjacent properties surrounding the Project Area. The Port of Albany to the north has silos that are approximately 90 feet tall, and the PSE&G property immediately to the south has buildings ranging in height from approximately 85 feet to 145 feet and stacks that are approximately 230 feet tall. Additional analysis of the impact of the proposed 110-foot maximum height is provided in Visual Impact Assessment in **Section 3.12**.

3.13.2. Potential Impacts

The supplemental Project is proposed to include fabrication, manufacturing, storage, and distribution of products, materials, and cargo to be transported by rail, truck, and/or maritime methods. According to the Town Zoning Code and the Town of Bethlehem's Comprehensive plan, all proposed activities are allowed and are in compliance with Town goals and zoning regulations. Specifically, Section 4.7 of the Comprehensive Plan identifies this Project Area as a Heavy Industrial District with *"The purpose of this district is to encourage the development of heavy industrial uses that require trucking or rail transportation to move goods and materials"*. The proposed employee parking on National Grid property is associated with the manufacturing facility are in line with the purpose and permitted uses of the district. According to the City of Albany Zoning Code, the proposed activities that would be performed at 700 Smith Boulevard are allowed and in compliance with zoning regulations.

The Project will develop the land with uses permitted by site plan and special use permit pursuant to the Town's heavy industrial zoning regulations. The areas adjacent to the Project Area are currently zoned heavy industrial and are occupied with heavy industrial uses. Therefore, the Project Area will have no impact on and will be compatible with the surrounding land uses and is unlikely to influence future development.

The proposed maximum building height is 110 feet based on building requirements for facility. As stated in **Section 3.13.1**, this would still be in character with the surrounding properties in the area, including the PSE&G Property, located in the Town of Bethlehem adjacent to the north of the Project Area.

The Project will not create any significant adverse impacts to residential land uses within the area.

3.13.3. Mitigation Measures

The Project Area will be developed with permitted uses in accordance with the Town's zoning code and will comply with the area, yard and bulk regulations with one exception. The Project proposes a maximum building height threshold of 110 feet which exceeds the maximum allowable height of 60 feet. However, the proposed building height will be compatible with the adjacent properties which have buildings or accessory buildings that range in height from 85 feet to 230 feet tall. As such the Project will not pose an adverse environmental impact to the surrounding uses and will comply with the existing Heavy Industrial Zoning District. The applicant will request a variance from the Zoning Board of Appeals during the Site Plan Review process.

Additional proposed mitigation measures to the proposed maximum height is provided in the Visual Impact Assessment found in **Section 3.12**.

Based on existing barriers including buildings and vegetation within the 0.4 miles between Ezra Prentice community and the supplemental Project Area , it is not anticipated that the Project Area will be visible from the Ezra Prentice community, as such, no mitigation measures are proposed.

3.14. Community Character and Compatibility with Comprehensive Plan

3.14.1. Environmental Setting

The FGEIS evaluated the surrounding community of the original Project Area of Beacon Island. Generally, the land surrounding the supplemental Project Area is the same, consisting of a variety of uses including light industrial, residential, industrial, public services, and vacant land.

Land located across the Hudson River in the town of East Greenbush is characterized as a mix of industrial and agriculture. Additional land uses within the area include vacant, residential, industrial, and public services.

The Town of Bethlehem’s Comprehensive Plan was initially published in 2005 and is currently being reviewed to be updated. The intent of the Comprehensive Plan is to provide a plan and vision for the future development of the town over a 10 to 15-year timespan.

City of Albany’s Comprehensive Plan for 2030 goal of “Encourage investment and reinvestment throughout Albany that supports economic development and placemaking.” With port of Albany business development listed as one of the action items to accomplish said goal.

Another goal identified in the City’s Comprehensive Plan is to “improve capacity and service at the Port of Albany and increase resilience to future climate change impacts.” Strategies and Actions: FMP-1 Leverage port assets and integrate with freight rail. FMP-2 Modernize the port to accommodate increased demand.

The Project will help achieve the goals in the City’s Comprehensive plan listed above by creating jobs and will help New York State in achieving its renewable energy goals by providing additional port infrastructure, warehouse space, cargo and wharf capacity necessary for the manufacturing and distribution of wind turbine components. The Project will leave a vegetative buffer along the Hudson River, which will aid in resilience to climate change impacts, and has been designed to account for potential sea level rise per NYSDEC standards.

As part of the New York Coastal Management Program (NYCMP), local governments are encouraged to voluntarily develop local waterfront revitalization plans (LWRP) under the state’s Waterfront Revitalization of Coastal Areas and Inland Waterways law (Article 42 of the Executive Law), which in turn provide benefits, such as, financial assistance for implementation of the LWRP, a plan for appropriate protection and future development of the Hudson riverfront, and partnerships between local and state agencies. On March 24, 2021, the Town of Bethlehem adopted their LWRP.

3.14.2. Potential Impacts

Town Law §272-a states that the Town's land use regulations must be in compliance with its Comprehensive Plan. In section 4.7 of the Comprehensive Plan, the Project Area is detailed as "located along the Hudson River, just south of the Port of Albany" and mentions that "development within the industrial areas provides much-needed tax base for the Town".

It is the intention of the Town of Bethlehem that the preservation, enhancement, and utilization of the unique waterfront revitalization area of the Town occur in a coordinated and comprehensive manner to ensure a proper balance between protection of natural resources and the need to accommodate growth. The Project meets various policies of the Town's LWRP including the following:

- 3: Further develop the State's port of Albany as center of commerce and industry and encourage the siting of land use and development which is essential to, or in support of, the waterborne transportation of cargo and people.
- 18: Safeguard economic, social and environmental interests in the waterfront revitalization area when major actions are undertaken
- 21: Protect surface and groundwater from direct and indirect discharge of pollutants and from overuse
- 22: Ensure that dredging and dredge spoil disposal is undertaken in a manner protective of natural resources

A copy of the Town of Bethlehem Waterfront Assessment form has been included in **Appendix I of the SDEIS**.

The Project will require a federal permit (USACE Section 404 Permit and/ or Section 10 Permit) and therefore, coastal consistency review by the NYSDOS will be required to determine the consistency of the Project with the 44 NYCMP policies. Coastal consistency review consists of submitting a Federal Consistency Assessment Form and the USACE Individual Permit application simultaneously to the USACE and NYSDOS. The NYSDOS has six months to complete its review of the application and make a determination. Depending on the scope of the project, the consistency review and determination can take between one and six (6) months to complete. Based on the scope of the Project, consistency review will most likely take six months.

3.14.3. Mitigation Measures

The Project Area will be developed in accordance with the Town's comprehensive plan and the LWRP, and therefore will not require any mitigation measures.

A portion of the supplemental Project Area is located within the City of Albany, approximately 0.4 miles southeast of the Ezra Prentice community. The City of Albany has a different Comprehensive Plan than the Town of Bethlehem. The Project will have no significant adverse impacts to the Ezra Prentice community, and therefore will not require any mitigation measures.

3.15. Emergency Services

In addition to the emergency service providers within the Town of Bethlehem identified in the FGEIS, the portion of the supplemental project located at 700 Smith Boulevard falls within the City of Albany Police Department and city of Albany Fire Department (South End House) and will therefore notify these organizations of the Project.

Coordination was completed with both the Town of Bethlehem Engineering Department as well as the Selkirk Fire Department. All comments were addressed in the site plans and no potential impacts were identified. A memorandum of the response to comments is provided in **Appendix FF**.

3.16. School District

The property is zoned for Heavy Industrial, and the Port of Albany is pursuing industrial developers and tenants for the Project Area. No residential development is anticipated. Therefore, the Bethlehem Central School District is not anticipated to incur any increased enrollment of students as a direct result of future industrial development on the property. However, Bethlehem Central School District has capacity to absorb new students with nominal cost impacts, based on the following information provided by Camion Associates:

- The Bethlehem Central School District's current enrollment of 4,336 (according to the NYSED Student Information Repository System), is significantly below recent and historic enrollment figures.
- In the 2006-07 School Year, the district had student enrollment of 5,182 (846 more students than at present day).
- Enrollment has been steadily declining since the 2006-07 including decreased enrollment in consecutive years from 2016-17 through the 2019-20 school year.
- Any increase in costs associated with new children living in the District as a result of the Project are expected to be nominal and insignificant relative to the projected increase in property tax revenues received by the district as a result of the development.

The Project will not significantly alter the potential tax benefit to the Town of Bethlehem school district which was evaluated in the FGEIS. No mitigation measures are necessary due to the finding of no significant adverse impacts on the School District.

3.17. Fiscal and Economic Impact

The supplemental Project will not significantly alter the fiscal and economic impacts evaluated in the 2020 FGEIS. An Economic and Fiscal Impact Report of all the considered concepts was prepared for and included in **Appendix J** of the FGEIS.

Updated economic impact analysis (Appendix J) modeling based on the proposed wind tower manufacturing use indicates that 52% of the Countywide economic impact of the project will occur in the Town of Bethlehem based on jobs. Assuming 320 on-site jobs, the total job impact to the Town of Bethlehem would be 358 jobs compared to 684 jobs to Albany County. A total of 38 indirect jobs will be created in the Town of Bethlehem compared to 364 indirect jobs created

in Albany County. The economic impact to the town is realized at existing businesses within the Town of Bethlehem and does not include any businesses that may relocate to the Town in the future. Indirectly impacted businesses within the Town are primarily within the following industries according to Emsi:

- Professional, Scientific, and Technical Services (7 jobs)
- Transportation and Warehousing (5 jobs)
- Government (5 jobs)
- Other Services (3 jobs)
- Finance and Insurance (4 jobs)
- Real Estate and Rental and Leasing (3 Jobs)
- The aforementioned impacts will occur at already existing businesses in the Town of Bethlehem and therefore do not impact the need for infrastructure and zoning.

Section Reference:

Economic & Fiscal Impact – Port of Albany Project. Camion Associates Economic Development

3.18. Recreation and Open Space

3.18.1. Environmental Setting

The 2020 FGEIS identified recreation and open spaced in the Town of Bethlehem and City of Albany within one (1) mile of the Project Area. Recreation and open spaces were reviewed within one (1) mile of the supplemental Project Area(s) which identified Island Creek Park on the corner of Church Street and Broadway, approximately 4,200 feet northeast of 700 Smith Boulevard. Hoffman Park is located on Hoffman Avenue, approximately 4,500 northwest of 700 Smith Boulevard.

The supplemental Project Area is located approximately 0.4 miles from the Ezra Prentice community. The Ezra Prentice community has a playground within the community, meaning the playground is also approximately 0.4 miles from the supplemental Project Area.

3.18.2. Potential Impacts

The Hudson River Valley Greenway Act authorized the development of an interconnected trail. Titled “Hudson River Greenway Trail”. The act includes goals including increase public access to the Hudson River through creation of parks and development of the Greenway Trail as well as economic growth compatible with the preservation of natural and cultural resources along the Hudson River.

The Project would not increase public access to the Hudson River through parks or the Greenway Trail, but it would allow for economic development of lands previously disturbed. Recreational boat activities, including kayaks, are discussed in FGEIS **Section 3.7.2 Maritime**. The FGEIS estimated an approximate 10% increase in maritime traffic, equating to roughly 21 vessels/barges per year, as a result of a Port of Albany Expansion. The proposed tenant’s

maritime traffic assessment estimates approximately 2-3 barges per week for the transport of outbound products, and 1 vessel per month for the delivery of inbound materials. This increase in maritime traffic is not projected to have a significant impact on the existing Hudson River maritime commercial or recreational traffic, and the use of barges and vessels for the delivery and shipping of materials/products reduces the need for trucks, further minimizing the impact on the surrounding roadway network.

As shown in **Section 3.7**, when compared to the thresholds set in the FGEIS, the future tenant of the Port of Albany Expansion is expected to generate less traffic for vehicles traveling north/south on South Pearl Street, passing the Ezra Prentice Community. The recommended truck route outlined in the FGEIS included a restriction on right turns for trucks exiting the site via South Port Road and traveling north, in order to limit any impact on the environmentally sensitive areas along South Pearl Street, including the Ezra Prentice community. Trucks entering and exiting the future development will follow this recommended truck route, as outlined in the previous FGEIS.

Based on the development of Building E at 700 Smith Blvd., the volume of site generated traffic on Island Creek Park was compared to the volumes outlined in the FGEIS, and the proposed tenant will generate less car and truck traffic passing Island Creek Park.

3.18.3. Mitigation Measures

The Project will not alter current recreation activities access including the bike trail or boat launches, as it will not alter access to these points, add to additional users, or hinder those activities. The Project is consistent with the Town's Comprehensive Plan and Zoning Ordinances, no mitigation measures are required for the project.

The Project will not impact recreation and open space for Ezra Prentice community, including the Ezra Prentice community playground, as such no mitigation measures are required for the project.

3.19. Solid Waste Disposal

3.19.1. Environmental Setting

Commercial solid waste, including municipal solid waste (MSW) and construction and demolition debris (C&D), handling services in the City of Albany are provided by permitted private sector waste haulers. The following private sector haulers have permits to recycle and pick up trash in the City of Albany:

- Waste Management – Albany, NY
- County Waste and Recycling Service, Inc.
- Casella Waste Systems

Depending on the nature of the solid waste and the service provider, locally generated solid wastes are disposed at one of the following facilities:

- City of Albany Rapp Road Landfill
- Town of Colonie Landfill

According to NYSDEC MSW landfill capacities, the Rapp Road Landfill is permitted for 275,100 tons/year, while the Town of Colonie Landfill is permitted for 255,840 tons/year. Based on 2018 NYSDEC Active Landfill Annual Report for the Rapp Road Landfill, the landfill has an estimated 87,733 tons of remaining existing and entitled capacity. Based on 2018 NYSDEC Active Landfill Annual Report for the Town of Colonie Landfill, the landfill has an estimated 421,000 tons remaining of existing and entitled capacity, and an estimated 10,090,295 tons of permitted capacity still to be constructed.

During construction it is estimated that approximately 1 ton/ week of solid wastes, primarily C&D, will be generated. Construction activities will be phased and are anticipated to have a duration of approximately 12 to 14 months per phase. Full buildout (all three phases) is anticipated to take up to 10 years. It is estimated that during operations, the project will generate approximately 0.5 ton/ week of solid waste, including C&D and MSW.

3.19.2. Potential Impacts

The generation of substantial additional solid wastes above existing generation rates during construction and operation of a project has the potential to exceed capacities of local existing disposal facilities.

Based on the capacities and estimated life spans of the Rapp Road Landfill and the Town of Colonie Landfill, adequate space for the disposal of solid waste attributable to during construction and operation of the project is available at this time and into the near future. Should waste go to another facility, such as the Dunn C&D site, no waste would be sent there without prior approval and with all required permits and practices. All C&D waste will be disposed of in a legal manner and an approved and permitted disposal location. As outlined in the Capital Region Solid Waste Management Partnership Planning Unit's Solid Waste Management Plan (2014), future disposal of post-recyclable wastes within the region will need to be exported to commercially available disposal facilities.

3.19.3. Mitigation Measures

The City of Albany has a mandatory residential and commercial recycling policy in place for certain streams of paper, cardboard, plastic, glass, metal, electronics, rechargeable batteries, household hazardous wastes, mercury thermostats, fluorescent bulbs, and yard wastes. The APDC will encourage future tenant(s) compliance with the City's recycling policy to reduce landfilled solid wastes.

In addition, during construction, individual contractors reserve the right to transport their generated solid wastes directly to commercially available disposal facilities. Since both, the Rapp Road and Town of Colonie landfills have adequate capacities to accept the solid waste from this project, there is no impact of this Project, and no mitigation is necessary.

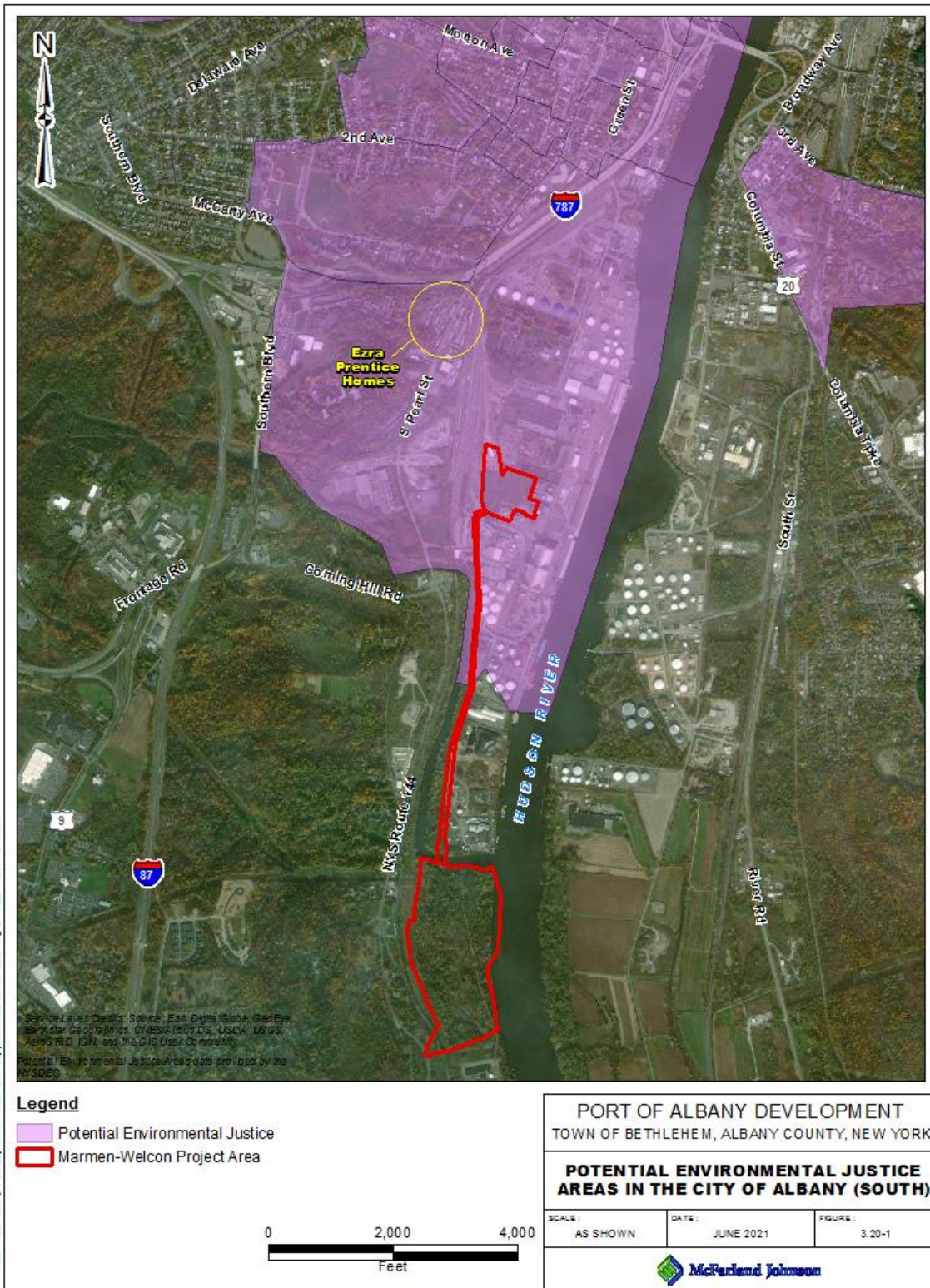
3.20. Environmental Justice

3.20.1. Environmental Setting

The portion of the supplemental Project Area at 700 Smith Boulevard is located within a NYSDEC mapped Potential Environmental Justice (EJ) Area, see **Figure 3.20-1**. The supplemental Project Area is also located approximately 0.4 miles southeast of the Ezra Prentice Homes, located within the mapped potential EJ area, which has been designated an Environmental Justice Community by the NYSDEC.

Ezra Prentice residences is a nearby community occupied by low-income predominately minority public housing. Some residents of Ezra Prentice Homes Community have expressed concerns over air quality, public health, and quality-of-life impacts from existing local commercial operations and traffic related to the trucks that pass through the neighborhood along South Pearl Street and trains in the adjacent CSX railroad yard to the east.

Figure 3.20-1 Potential Environmental Justice Areas in the City of Albany (South)



3.20.2. Potential Impacts

If the permit applicant did not plan to mitigate the potential environmental concerns, then the Project would have a potential to impact air quality due to the projected additional truck and rail car traffic. See the **Section 3.6 Climate and Air Quality and Section 3.7 Traffic and Transportation** for a detailed analysis. Where truck traffic is anticipated, all truck traffic will be routed through the existing Port District, utilizing the Church Street entrance, and as such would not be traveling through the Ezra Prentice Homes community.

3.20.3. Mitigation Measures

To date, the APDC has regularly worked with the adjacent communities, including outreach to the Ezra Prentice community and community stakeholders. Specifically, when community concern rose in 2016 due to a neighboring business seeking a DEC permit. At that point the Port undertook an independent traffic assessment and made numerous outreach and engagement efforts. The Port Communication and outreach with South End Stakeholders efforts to date which have been outlined in the FGEIS.

NYSDEC is the governing agency responsible for administering the environmental justice process within SEQR with the Planning Board, as Lead Agency, responsible for complying with SEQR. Environmental Justice is meant to allow the fair treatment of all people regardless of race, income, national origin, or color with development, implementation, and enforcement of environmental laws, regulations, and policies. Under the Commissioner Policy 29 (CP 29), Environmental Justice and Permitting provides guidance for incorporating environmental justice concerns into the NYSDEC permit review process. Commissioner Policy 29 (CP-29) is applicable to major projects for the permits authorized by the following sections of the ECL: titles 7 and 8 of article 17, state pollutant discharge elimination system (SPDES) (implemented by 6 NYCRR Part 750 et seq.), and article 19, air pollution control (implemented by 6 NYCRR Part 201 et seq.). The policy identifies potential environmental justice areas, provides information on environmental justice to applicants with Projects in those communities, enhances public participation requirements for Projects in those communities, establishes requirements for projects in potential environmental justice areas with the potential for at least one significant adverse environmental impact, and provides alternative dispute resolution opportunities to help resolve issues or concerns at the community.

CP 29 is initiated when a permit application is made to the NYSDEC. The Albany Port Expansion Project will require at a minimum the following DEC permits: SWPPP permit; Article 15 and Water Quality Certification. The Proposed Action will also require an Air State Facility permit from NYSDEC pursuant to ECL Article 19 and a SPDES Permit from NYSDEC pursuant to ECL Article 17. A public hearing was held on December 21, 2021 at the Salvation Army, Campus of Hope with a virtual attendance option to initiate the environmental justice review and public outreach process pursuant to the NYSDEC CP 29 policy.

Upon application submittal for a permit(s), the APDC or the applicant will include a copy of the CP-29 policy, methodology for identifying potential environmental justice areas, guidance to implement policy, information on the dispute resolution process, and other information as applicable.

The NYSDEC would then ensure public participation by requiring the applicant to actively seek public participation throughout the permit review process. This would be completed by following a written Public Participation Plan prepared by the applicant. An updated Public Participation Plan has been developed in conjunction with this SDEIS and is included in **Appendix K SFEIS**. The plan will include stakeholders to the Project, including local elected officials, community-based organizations, and residents located in the potential environmental justice area; distribution of information on the Project and permit process; public information meetings; and easily accessible document repositories near the potential environmental justice area. Part of the Public Participation Plan submission shall include a report that details progress updates of implementing the Plan, concerns raised, resolved and outstanding issues, components of the Plan yet to be completed, and an expected timeline for completion of the Plan. Once the Public Participation Plan is completed, the applicant shall complete and submit written verification that the Plan was completed as detailed. The applicant shall submit a revised report detailing all activity that occurred since the initial submission of the report. A certification shall be signed by the applicant of all completed activities and submitted to the NYSDEC prior to a final decision being made on the permit application. Upon completion of all activities a permit would be issued by the NYSDEC.

Since the application and site plan approval resides within the Town of Bethlehem Planning Board jurisdiction, and the CP 29 policy is under the NYSDEC jurisdiction, both the State and the local municipality will ensure that public participation within the Ezra Prentice neighborhood is provided.

Therefore, the CP 29 procedures will occur during the Town of Bethlehem Site Plan approval process concurrently with the NYSDEC permitting process. This will give ample and redundant public education and comment periods on Projects. When the public participation process is complete, the Port will submit written certification that all requirements have been completed. The certification will include a report detailing the activities which occurred during the process. This certification will be considered by the NYSDEC and the Town of Bethlehem Planning Board in making their final decision on the application.

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4. REASONABLE ALTERNATIVES TO BE CONSIDERED

4.1. No Build

The "No Build" alternative would consist of the continued use of the property in its current vacant condition. The site would remain zoned as Heavy Industrial, and if remained undeveloped it would not be compatible with the Town of Bethlehem Comprehensive Plan. The Town of Bethlehem's Comprehensive Plan states the specific goals which include a balanced tax base, creation of a business-friendly environment, and the promotion of commercial and industrial growth in specifically designated locations. The plan identifies this Project Area (Beacon Island) as an area to be developed for industrial uses to provide a much-needed raise in tax base for the Town.

4.2. Site Development as Allowed by Existing Zoning

The Project conforms to existing zoning. The proposed OSW tower manufacturing facility will only be approximately 589,000 SF compared to the 1,130,000 SF evaluated in the FGEIS, and will not exceed the thresholds established except for the additional Project Areas at 700 Smith Boulevard for the receiving building employee parking on National Grid property, transplant of SAV, relocation of mussels, and an increase in building height from 85 feet to 110 feet.

700 Smith Boulevard

For the receiving building, the APDC considered expanding onto the adjacent national grid property, however, existing infrastructure, wetlands, and topography prohibited using this land for the receiving yard. No other property along Normanskill Street / South Port Road or nearby on River Road is available and therefore, the 14 acres at 700 Smith Boulevard is the closest property to the manufacturing facility that is available and controlled / owned by the APDC.

Parking on National Grid Property

The amount of land area needed for employee parking is not available on the original 80-acre expansion property where the towers will be manufactured. As shown on the site plan the manufacturing plant occupies 4 buildings with the balance of the property being used for storage and the wharf. Therefore, an off-site solution is necessary. Due to the need that the employee parking is located as close to the buildings as possible, the alternative considered included the surrounding adjacent parcels. Properties along Normanskill Street /South Port Road were considered but none were available, and the property to the south owned by PS&G was also not available. The parking on the adjoining National Grid property is situated to avoid impacts to wetlands.

Building Heights

Building C will have a building height of approximately 80 feet with 30-foot exhaust stacks. A height of 100 feet is needed for Building A because that is the minimum height required to allow for the manufacturing of the 10 meter diameter x 50 meter long tower sections. The height of the overhead cranes within the building and the building roof structure are at the minimum height required for safety, operations and building code requirements. The project eliminated the 70-meter tower production line.

SAV Impacts

Various wharf lengths were considered for the Project ranging from an 800 - 1,300 linear foot wharf. Additionally, a recessed wharf was considered, which would have required increased dredging in the Hudson River. The original location of the wharf was further south, however, an SAV survey was completed by Biodrawiversity in 2020 identified three (3) SAV beds within the wharf location, which would have impacted more SAV's. Therefore, the proposed wharf location and size was selected to meet the minimum needs of the Project while reducing impacts to the Hudson River and SAV.

5. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The Project will result in the development of currently vacant, and partially previously disturbed lands for industrial use. Once constructed, the lands would be unavailable for other potential uses for as far in the future as can be determined, based on what is currently known.

During construction natural and human resources will be consumed, converted, or made unavailable for future use. This would include building materials, fossil fuels, natural gas, and manpower. At this time, such resources are considered to be readily available and should not present a burden upon scarce materials or resources. Future manpower commitments would include required emergency personnel services (police, fire, and medical services) in the event of an emergency. However, significant additional tax revenue would go to the Town of Bethlehem and Albany County after completion of the Project, as is discussed in **Section 3.17**. The project sponsor has received notice from the police, fire, and ambulance service that they have the resources to serve the Project.

The Project will not cause any irreversible and irretrievable commitment of resources as it relates to the Ezra Prentice community.

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6. GROWTH-INDUCING ASPECTS OF THE PROJECT

The project is not anticipated to create a significant increase in the populations of local communities such that additional private or public services are required, as discussed in 2020 FGEIS.

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7. CUMULATIVE IMPACTS

The overall Project is approximately 589,000 SF of new buildings within approximately 82 acres of development area and will provide approximately 550 full time jobs. The number of proposed employees and the overall building area are slightly less than that projected in the 2020 FGEIS; therefore, taking into consideration of past, present, and reasonably foreseeable future actions in the vicinity of the Project Area, should not result in significant cumulative impacts to the same resource(s).

8. ADVERSE ENVIRONMENTAL IMPACTS WHICH CANNOT BE AVOIDED

The Project has been outlined such that adverse temporary and permanent environmental impacts will be minimized, avoided or mitigated to degree possible in accordance with local, state and federal guidelines and regulations.

Temporary, normal, unavoidable short-term impacts from construction will be mitigated using common industry practices. Dust will be mitigated utilizing methods such as spraying water. Noise will be mitigated by confining construction to work periods permitted by the Town and that all equipment is has operational exhaust and muffler systems. All truck traffic, including construction vehicles, will be routed through the existing City Streets through the Port District to avoid traveling on South Pearl Street through the Ezra Prentice community.

Environmental impacts that have been identified that cannot be minimized, avoided or mitigated include the following:

1. Removal of existing vegetation (low quality) and habitat modification within the project limits

The Project will result in unavoidable impacts that can be mitigated, all of which are summarized in **Table 1.3-1: Potential Impacts and Proposed Mitigation Measures**. All impacts have proposed mitigation measures that would reduce or eliminate the impacts within each discussion area. If the identified mitigation measures are implemented, the Project is expected to result in a positive, long term impact that will offset the adverse effects that cannot be avoided.

Overall, the use of a previously heavily disturbed vacant site, with existing infrastructure (roads and rail) and utilities (water, sewer, natural gas, and electric) already in place, is considered to be far more less likely to result in adverse environmental impacts as compared to the development of potentially less disturbed, more natural lands along the Hudson River.

Appendix AA Comments on SDEIS

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits

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December 17, 2021

Via Email

Robert Leslie, AICP
Director of Planning
Town of Bethlehem
445 Delaware Avenue
Delmar, NY 12054
rleslie@townofbethlehem.org

Re: NYSDEC Comments on Supplemental DEIS
Albany Port District Commission - Port of Albany Expansion Project
Marmen-Welcon Tower Manufacturing Plant
Beacon Island Site, Town of Bethlehem, Albany County

Dear Mr. Leslie:

The New York State Department of Environmental Conservation (NYSDEC) respectfully submits the following comments in response to the Supplemental Draft Environmental Impact Statement (SDEIS) for the Albany Port District Commission (APDC) Port of Albany Expansion Project (hereafter, "Proposed Action"). The SDEIS was prepared by McFarland Johnson and the Town of Bethlehem Planning Board, as Lead Agency, accepted the SDEIS as complete on November 16, 2021. NYSDEC previously provided comments on the draft Generic Environmental Impact Statement (GEIS) prepared for the Proposed Action in letters dated August 30, 2019, September 13, 2019 and September 16, 2019 and the Final Scoping Document for the SDEIS on August 13, 2021.

Description of the Proposed Action

The Proposed Action involves site plan approval for an approximately 589,000 SF offshore wind tower and transition piece manufacturing facility operated by Marmen-Welcon within 5 separate buildings. The following is a breakdown of the function and size of each building:

- Building A Plate Preparation & Welding (289,931 SF)
- Building B Welding Finishing (99,936 SF)
- Building C Blast Metallization Plant (121,593 SF)
- Building D Internal Assembly finishing (57,898 SF)
- Building E Material receiving (19,600 SF) – (*located at 700 Smith Boulevard*)

The Proposed Action also includes a 500 linear foot wharf along the Hudson River to ship completed tower components out to sea and a new bridge over the Normans Kill for truck deliveries to the Proposed Action site.

NYSDEC Comments on SDEIS

As an involved agency, pursuant to the State Environmental Quality Review Act (SEQR), NYSDEC has reviewed the SDEIS and has the following comments:

1.4.6 Climate and Air Quality

1. Enclosed with this letter are NYSDEC's comments on Section 1.4.6 which were previously sent via email and included as Appendix E2 to the SDEIS.

1.6.3 List of Required Permits and Approvals & 2.6 Required Approvals

2. It is NYSDEC's understanding that a State Pollutant Discharge Elimination System (SPDES) permit is required for a proposed on-site wastewater treatment facility. Additionally, coverage under NYSDEC's Multi-Sector General Permit (MSGP) may be required for the Proposed Action. Please update the list of NYSDEC permits and approvals accordingly.

2.3 Description of Proposed Action

3. Figure 2.3-1, and similar figures throughout the SDEIS, are confusing, especially where the *2020 Final GEIS Project Site* line and *Supplemental EIS Project Site* line are depicted within the Hudson River. Based on the figure, it appears that the *Supplemental EIS Project Site* includes some but not all the area in the Hudson River, however, the SDEIS includes statements like, "supplemental Project Areas do not include any lands under water" and "the supplemental Project Area is not located within or adjacent to the Hudson River." These discrepancies should be clarified in the Supplemental Final Environmental Impact Statement (SFEIS), including updated figures, if necessary.

3.1 Soils, Geology, & Topography

4. The SDEIS has a brief discussion in this section on noise impacts from construction and operation of the Proposed Action. The SDEIS states that there are, "no sensitive receptors (e.g., residential land uses) immediately adjacent to the property boundary." However, the Proposed Action is directly across the river from Papscaanee Island, which is a significant cultural resource for the Stockbridge-Munsee Band of the Mohican Nation. NYSDEC recommends that the SFEIS include a noise assessment which considers potential impacts to Papscaanee Island from construction and operation of the Proposed Action.

3.2 Vegetation and Wildlife

5. The SDEIS states that there is no essential fish habitat (EFH) identified with the supplemental Project Area. The SFEIS should discuss the consultation process with the National Oceanic and Atmospheric Administration-National Marine Fisheries Service (NOAA-NMFS) that is currently underway, including if there

has been a determination by NOAA-NMFS that there is no EFH within the Proposed Action area.

6. The SDEIS includes a brief discussion on the impacts to threatened and endangered species including Atlantic sturgeon and shortnose sturgeon. In addition to the potential impacts identified during in-water construction, the area in front of the new wharf will be dredged which may result in an adverse modification of habitat for both sturgeon species. APDC has applied to NYSDEC for an Incidental Take Permit. Under NYSDEC's regulation, Part 182 of Title 6 of New York Codes, Rules and Regulations (6 NYCRR Part 182) a take of any listed endangered or threatened species includes lesser acts.¹ Lesser acts include any adverse modification of habitat that supports an essential behavior of a listed species.
7. NYSDEC is currently working with the applicant on developing a mitigation plan that would provide a net conservation benefit to sturgeon as required in 6 NYCRR Part 182. The SFEIS should include the updated information regarding the agreed upon impacts to sturgeon and measures that will be taken to avoid, minimize, and mitigate for those impacts, both for in-water construction and possible adverse modification of habitat. The SFEIS should also discuss the consultation process that is currently underway with NOAA-NMFS pursuant to Section 7 of the Endangered Species Act.
8. The SDEIS states that, "all proposed impacts to and mitigation for significant coastal fish and wildlife habitat were addressed in the FGEIS." It should be noted that the detailed project plans for the bridge across the Normans Kill were provided to NYSDEC and the New York State Department of State (NYS DOS) through the submission of the Joint Permit Application package in August 2021. At the time of the FGEIS in 2019, these detailed project plans were not available. Since the review of the Joint Permit Application is currently underway, there may be additional impacts identified to the significant coastal fish and wildlife habitat that would need to be avoided, minimized, and/or mitigated. The SFEIS should provide updated information regarding impacts to and mitigation for significant coastal fish and wildlife habitat.

3.6 Climate and Air

9. As of the date of this letter, NYSDEC has not received an Air State Facility permit application from the APDC. As part of the submission of the Air State Facility permit application to NYSDEC, the applicant will be required to use Climate Leadership and Community Protection Act (CLCPA) greenhouse gas (GHG) emissions accounting for NYSDEC to evaluate the project's consistency with the CLCPA's Statewide GHG emission limits established in Article 75 of the Environmental Conservation Law (ECL), as required pursuant to CLCPA Section 7(2).² The estimation of GHG emissions in the SDEIS does not use the same

¹ See 6 NYCRR § 182.2(y).

² See 6 NYCRR Part 496.

accounting as New York State, per the CLCPA. The New York State accounting considers the impact of emissions that occur through the lifecycle of fuels used for such projects, not just the direct on-site emissions. For the Proposed Action that would include, for example, the leakage of methane in the natural gas system or the emissions generated in the production of transportation fuels. GHGs have a global impact, so these emissions harm New York communities. The CLCPA seeks to have these emissions mitigated alongside direct emissions. For consistency with the forthcoming Air State Facility permit application, the SFEIS should include the CLCPA accounting for greenhouse gas emissions.

10. In Table 1.3-1: Potential Impacts and Proposed Mitigation Measures, in row, SDEIS Section 3.6 Climate and Air Quality, column Proposed Mitigation, it states, “[c]onstruction impacts will be mitigated with dust suppression and monitoring by the NYSDEC at the perimeter of the property.” Please note that NYSDEC does not conduct air monitoring at the perimeter of the property, therefore, this should be removed as a mitigation measure for the Proposed Action.
11. Section 1.4.6 Climate and Air Quality and Section 3.6 Climate and Air Quality should specify that “major source” is defined under 6 NYCRR Part 201-2.1(b)(21). Please add these references to the text of the SFEIS, where applicable.
12. Section 3.6.2 Potential Impacts should state that “facility-wide uncontrolled potential emissions” are also known as the Emission Rate Potential (ERP) as defined under 6 NYCRR Part 200.1(u) and the “facility-wide potential emissions after consideration of air pollution control” are also known as the Potential to Emit (PTE) as per 6 NYCRR 200.1(b). Please add these references to the text and tables in the SFEIS, where applicable.
13. Section 3.6.3 Mitigation Measures states, “based on results from the Part 212 review and supporting air quality impact assessment, it is concluded that the project’s potential impacts to air quality will be minimal and acceptable.” It is premature to make this conclusion. Emissions details have not been provided and no verification of the emissions have been done by NYSDEC staff. Additionally, the enhanced public participation process is just beginning, and stakeholders should have the opportunity to review the project documentation and fully participate in the environmental permit review process before determinations are made on whether mitigation measures are appropriate or not.

3.7 Traffic and Transportation

14. The Maritime Analysis indicates that the Proposed Action will result in an approximate 10% increase in maritime traffic. The SFEIS should discuss the consultation process that is currently underway with NOAA-NMFS pursuant to Section 7 of the Endangered Species Act for potential impacts to sturgeon species resulting from increased vessel traffic.

3.11 Historic, Cultural, and Archeological Resources

15. Subsequent to the issuance of the SDEIS, the New York State Historic Preservation Office (SHPO) issued a letter on December 9, 2021 stating, “[b]ased on the visual simulation, the SHPO concurs with the Stockbridge Munsee Community (SMC) [Tribal Historic Preservation Office] THPO that the Marmen/Welcon Offshore Wind Tower Manufacturing Plant will have an adverse visual effect on the National Register eligible Papscaanee Island Historic District (08303.000130).” The SFEIS should include updated information on the Section 106 consultation process including how comments from the SMC THPO and SHPO are being addressed.

3.12 Aesthetic and Visual Resources

16. Given the visual concerns raised by the SMC THPO and SHPO, it is recommended that the SFEIS include an updated discussion on impacts and mitigation measures for visual resources, including, but not limited to, the number and maximum height of cranes that will be utilized on the site and temporary storage areas for the transition pieces. This information should also be included in any revised visual assessments and photo/video simulations conducted for the site. Additionally, it is recommended that any revised photo/video simulations represent leaf-off condition since the existing trees to remain after construction are primarily deciduous.

17. It is NYSDEC’s understanding that the APDC will retain a vegetated buffer along 2/3 of the shoreline of the Proposed Action. NYSDEC recommends that APDC conduct a survey of the vegetation that will be retained so that a vegetation management plan can be developed. At a minimum, the vegetation management plan should establish a protection zone (setback from construction) for the trees that will remain, and a replacement plan for dead trees.

3.20 Environmental Justice Policy

18. The SDEIS states, “CP 29 is initiated when a permit application is made to the NYSDEC. The Albany Port Expansion Project will require at a minimum the following DEC permits: SWPPP permit;³ Article 15 and Water Quality Certification.” As noted above, the Proposed Action will also require an Air State Facility permit from NYSDEC pursuant to ECL Article 19 and a SPDES Permit from NYSDEC pursuant to ECL Article 17. Commissioner Policy 29 (CP-29) is applicable to major projects for the permits authorized by the following sections of the ECL: titles 7 and 8 of article 17, state pollutant discharge elimination system (SPDES) (implemented by 6 NYCRR Part 750 et seq.), and article 19, air pollution control (implemented by 6 NYCRR Part 201 et seq.). These NYSDEC permits should be listed in Section 3.20 as they are the permits required for the Proposed Action that specifically require compliance with CP-29.

³ Note: The correct name for the permit is the “SPDES General Permit for Stormwater Discharges from Construction Activity - GP-0-20-001.” However, it should be noted that CP-29 does not apply to general permits.

Thank you for considering these comments. If you have any questions, please feel free to contact me at karen.gaidasz@dec.ny.gov.

Sincerely,

A handwritten signature in black ink that reads "Karen M. Gaidasz". The signature is written in a cursive style with a large, looping flourish at the end of the name.

Karen M. Gaidasz
Offshore Wind Section Chief
Energy Project Management Bureau

Enclosure: NYSDEC Comments on Appendix E2 (aka Section 1.4.6 Climate and Air Quality)

1.4.6. Climate and Air Quality

Commented [NYSDEC1]: NYSDEC Comments dated 12/1/21.

The New York State Department of Environmental Conservation's (NYSDEC's) review of the proposed wind turbine tower and transition piece manufacturing facility's (project's) Draft Environmental Impact Statement resulted in comments regarding the need to further address several climate and air quality issues. More specifically, this Supplemental Draft Environmental Impact Statement (SDEIS):

- Identifies and discusses potentially applicable Federal and New York State air regulations and permitting programs (e.g., New Source Review, New Source Performance Standards, National Emissions Standards for Hazardous Air Pollutants, Title V, State Facility permitting, etc.) based on project operations and potential emissions. Thereafter, and considering the project's potential emissions, an assessment is performed of potential air quality-related impacts on the surrounding community. This assessment is performed via detailed air dispersion modeling, following procedures outlined in NYSDEC DAR-1 and DAR-10 guidance, as well as the U.S. Environmental Protection Agency (US EPA) Guideline on Air Quality Models.
- Assesses project-related greenhouse gas emissions and explains how the project aligns with the Climate Leadership and Community Protection Act (CLCPA), in accordance with CLCPA Section 7(2).
- Identifies mitigation measures that will be used to reduce the impact of co-pollutant emissions from each greenhouse gas source on the facility's neighbors, in accordance with CLCPA Section 7(3). Furthermore, an assessment of project-related potential air quality impacts on a nearby environmental justice area (Ezra Prentice) is performed, demonstrating that project-related potential impacts will not disproportionately burden disadvantaged communities, such as Ezra Prentice.

1.4.6.1 Project Manufacturing Process Description and Emission Source Overview

The manufacturing process starts with receipt of raw materials. This can be grouped into steel plates, steel flanges and mechanical & electrical internals. Transformation of that raw material starts with the cutting and beveling of the steel plates. These are cut to size using oxyfuel cutting CNC machines and scribing using a plasma marker. Steel plates vary in size depending on the tower model. The beveling (cutting of the weld preparation) will be done as part of the oxy cutting process. Once cut to size, plates go thru descaling equipment (also referred as a plate blast) where steel abrasive media is used to remove oxides from the surface. The plates are then taken to the forming area.

Forming of the plate into a shell is performed using hydraulic rolling machines. The plates are turned into cylindrical forms before being welded at the longitudinal seam. Some shells then go

thru another welding phase where a connecting flange welded to the shell. These shell & flange assemblies become the ends of sections. The drilled steel flange allows for a mechanical (bolted) connection between sections when they are erected into a tower. The quantity of sections to form a complete tower can vary from model to model but will usually be around 2 to 5.

Manufacturing of a section involves assembling, thru different circular welding stations, a given quantity of shells to one another. The number will also vary from 4 to 12 shells depending on the section length. Once the section has been assembled, fully welded and inspected, it is ready for finishing.

The finishing processes are composed of abrasive blasting, metallizing and painting. These steps are common operations involved in coating metal components. Just like for plates, descaling of the section uses metal abrasive media to remove rust, oxides and gives the steel a profile (roughness) to which the coating (paint) can adhere. Metallization (also known as thermal spray coating) has the purpose of applying a zinc coating to the section (or parts of the section) in order to offer a greater protection against corrosion. As a final step of the finishing process, a coating system (paint system) is applied to both the inside and outside of the section. These systems can vary from model to model but will usually be composed of an epoxy primer coating followed by a polyurethane coating. Some could have a zinc rich primer instead of the metallization.

The aforementioned description of the tower manufacturing processes would also apply to the facility's transition piece manufacturing. A Transition Piece serves as the connecting component between a monopile foundation (manufactured by others) and a Wind Tower.

The Marmen Welcon Albany facility (project) is designed to produce 150 Towers per year or a combination of 100 Towers and 100 Transition Pieces.

Emission sources and anticipated air pollution control systems are summarized as follows:

- Oxy cutting is conducted indoors and utilizes natural gas as a fuel source. Emissions associated with this activity will be released inside the building;
- Descaling and abrasive blasting activities will each be equipped with integral dust collectors to control particulate emissions, with minimum overall design particulate removal efficiencies of 99.9 percent;
- Various welding stations will be utilized to weld together sections of the towers. Air emissions from all welding activities will be released inside the facility (indoor fugitive emissions);
- The metallizing system is equipped with an emission capture and control system which will recirculate all exhaust indoors. It will be equipped with a state-of-the-art staged HEPA filtration and ventilation system;
- One "large" paint booth and one "small" paint booth will each be equipped with staged booth ventilation and filtration to capture and control particulate emissions. VOC

Commented [NYSDEC2]: The analysis will need to be updated if there is an increase in production. This will need to be addressed in the air permit application.

Commented [NYSDEC3]: Is there a ventilation system that will be capturing the emissions? If emissions escape to outside environment, they are then considered emissions sources to be regulated.

Commented [NYSDEC4]: Is there a ventilation system that will be capturing the emissions? If emissions escape to outside environment, they are then considered emissions sources to be regulated.

emissions will be minimized by use of add-on control system(s) (e.g., recuperative thermal oxidizer(s)). The VOC control system(s) will be designed to achieve a minimum overall VOC control efficiency of 90 percent. In addition, each booth's filtration system will be designed to achieve a minimum overall design particulate removal efficiency of 99.9 percent.

- Each of the paint booths will be equipped with natural gas-fired air make-up units (AMUs).
- There will be three (3) natural gas-fired emergency backup generators with electrical power output ratings ranging between 40 and 125 kilowatts (kW) each.

Potential emissions of VOC and certain HAP, as well as particulates (PM₁₀, PM_{2.5}) from process manufacturing related operations are anticipated. In addition, there will be emissions (NO_x, CO, VOC, SO₂, Pb, PM₁₀, PM_{2.5}, GHG, and HAP) associated with miscellaneous site operations that involve fuel combustion.

1.4.6.2 Air Permitting Requirements for the Project

This section identifies federal and State air quality regulations potentially applicable to the project.

1.4.6.2.1 Project Potential Emissions

Potential emissions for each applicable pollutant are calculated based on the maximum design capacity of the equipment, assuming the unit operates every hour of every day of the year. Potential emissions are conservative estimates of emissions, used to identify which air quality permit and control requirements are potentially applicable to the project. As a result, project-related actual emissions for each pollutant are expected to be significantly lower than the potential emissions presented below.

Table 1.4.6-1 summarizes facility-wide uncontrolled potential emissions from the project. It is important to note that applicability of major source permitting requirements is not determined based upon uncontrolled potential emissions. Permit program applicability is determined based upon potential emissions after consideration of air pollution controls (in accordance with US EPA's definition of potential to emit).

Table 1.4.6-1: Facility-wide Uncontrolled Potential Emissions

Pollutant	Pollutant CAS No.	6 NYCRR 201-2.1 Major Source Thresholds (tpy)	Project Uncontrolled Potential Emissions (tpy)					
			Facility Potential to Emit	Paint Spray Booths	Metal Spray Booths	Abrasive Blast	Welding Activities	Natural Gas Combustion Sources
NO _x	NY210-00-0	100	28.9	--	--	--	--	28.9
CO	630-08-0	100	25.5	--	--	--	--	25.5
PM ₁₀	NY075-00-5	100	636	175	12.9	445	1.54	2.06
PM _{2.5}	NY750-02-5	100	205	169	12.4	20.1	1.54	2.06
SO ₂	7446-09-5	100	0.163	--	--	--	--	0.163
VOC	NY998-00-0	50	116	114	0.000	--	--	1.51
Pb	7439-92-1	-	6.10E-04	2.87E-04	1.88E-04	--	--	1.35E-04
CO ₂	124-38-9	-	32,562	--	--	--	--	32,562
N ₂ O	10024-97-2	-	0.173	--	--	--	--	0.173
CH ₄	74-82-8	-	0.624	--	--	--	--	0.624
CO ₂ e	NY750-00-0	100,000	32,629	--	--	--	--	32,629
NH ₃	7664-41-7	-	0.866	--	--	--	--	0.866
Total HAPs	NY100-00-0	25	67.4	64.1	6.70E-04	2.67	8.21E-02	0.537
Any Single HAP	--	10	51.7	51.7	1.88E-04	2.67	8.13E-02	0.503

Commented [NYSDEC5]: Known as Emission Rate Potential (ERP) as defined under 6 NYCRR 200.1(u).

Table 1.4.6-1 Notes:

- 6 NYCRR 231-13.9 Table 9 Global warming potential values for calculating CO₂ equivalents. CO₂ = 1; CH₄ = 21; N₂O = 310.
- tpy = tons per year.

Table 1.4.6-2 summarizes facility-wide potential emissions after consideration of air pollution control.

Table 1.4.6-2: Facility-wide Potential Emissions After Control

Pollutant	Pollutant CAS No.	6 NYCRR 201-2.1 Major Source Thresholds (tpy)	Project Potential Emissions After Control (tpy)					
			Facility Potential to Emit	Paint Spray Booths (Including RTOs)	Metal Spray Booths	Abrasive Blast	Welding Activities	Natural Gas Combustion Sources
NO _x	NY210-00-0	100	29.7	0.770	--	--	--	28.9
CO	630-08-0	100	26.2	0.647	--	--	--	25.5
PM ₁₀	NY075-00-5	100	6.99	0.175	1.29E-02	3.20	1.54	2.06
PM _{2.5}	NY750-02-5	100	6.99	0.169	1.24E-02	3.20	1.54	2.06
SO ₂	7446-09-5	100	0.167	4.62E-03	--	--	--	0.163
VOC	NY998-00-0	50	12.9	11.4	0.000	--	--	1.51
Pb	7439-92-1	-	1.40E-04	4.14E-06	1.88E-07	--	--	1.35E-04
CO ₂	124-38-9	-	33,486	924	--	--	--	32,562
N ₂ O	10024-97-2	-	0.178	4.93E-03	--	--	--	0.173
CH ₄	74-82-8	-	0.642	1.77E-02	--	--	--	0.624
CO ₂ e	NY750-00-0	100,000	33,555	926	--	--	--	32,629
NH ₃	7664-41-7	-	0.890	2.46E-02	--	--	--	0.866
Total HAPs	NY100-00-0	25	7.09	6.45	2.01E-07	2.40E-02	8.21E-02	0.537
Any Single HAP	--	10	5.17	5.17	1.88E-07	2.40E-02	8.13E-02	0.503

Commented [NYSDEC6]: Known as Potential To Emit (PTE). Listed under 6 NYCRR 200.1 (b).

Table 1.4.6-2 Notes:

1. 6 NYCRR 231-13.9 Table 9 Global warming potential values for calculating CO₂ equivalents. CO₂ = 1; CH₄ = 21; N₂O = 310.
2. tpy = tons per year.

1.4.6.2.2 Federal Regulatory Applicability Review

A review of potentially applicable federal air quality regulations was performed. This section includes discussion of rules identified and whether the project is subject to each rule.

In all instances where the project is determined to be subject to an applicable rule or standard, the facility will be constructed and operated to comply with the rule or standard. Federal rules may be administered by US EPA and/or NYSDEC, where NYSDEC has specifically received delegated authority by US EPA.

New Source Performance Standards (NSPS) – Subpart JJJJ

The project will include three (3) new natural gas-fired, US EPA certified, emergency generators which will comply with US EPA emission standards applicable to emergency-only stationary spark ignition internal combustion engines, as stipulated under Subpart JJJJ.

Each of the project's emergency generators will be installed at facility for backup power in the event of emergencies. The units will be tested periodically, and in a staggered manner (such that only one unit would be tested at any time to mitigate potential air quality impact). Each unit would be operated for brief periods, to ensure availability and reliability during any sudden loss in utility electrical power. The generators would not participate in any peak load shaving (demand-response) program, thereby minimizing the use of this equipment during non-emergency periods. The emergency generators would be installed and operated in accordance with Subpart JJJ requirements, manufacturer written operating instructions, as well as all other applicable codes and standards. Potential air quality impacts from the emergency generators would be insignificant, since their use would be intermittent, and only for testing purposes outside of an actual emergency.

New Source Review (NSR)

Part 231 of Title 6 of the New York Codes, Rules and Regulations (6 NYCRR 231) states that NSR regulations apply to the construction and/or operation of any proposed facility which has the potential to emit a non-attainment contaminant at or above major facility thresholds¹ located in non-attainment areas and attainment areas of New York State within the ozone transport region. As illustrated in Table 1.4.6-2, the project does not meet the definition of a major facility since potential emissions for volatile organic compounds and nitrogen oxides will remain well below the major facility thresholds in Table 1 of 6 NYCRR 231-13.1. Therefore, the project is not subject to New Source Review.

Prevention of Significant Deterioration (PSD)

A federal PSD review applies to new major stationary sources and major modifications to existing major stationary sources in areas designated as attainment under Section 107 of the Clean Air Act for any regulated air pollutant (also regulated under 6 NYCRR 231-7). The following is a list of regulated air pollutants under the PSD program:

- Particulate Matter (PM);
- Particulate matter with a diameter less than or equal to 10 microns (PM₁₀);
- Particulate matter with a diameter less than or equal to 2.5 microns (PM_{2.5});
- Sulfur dioxide (SO₂);
- Nitrogen oxides (NO_x);
- Carbon monoxide (CO);
- Ozone – measured as volatile organic compounds (VOC) or NO_x;

¹ The project will be located in the Albany, New York area, which is in attainment or unclassifiable for all pollutants regulated under the Clean Air Act. However, the area is considered part of the ozone transport region. Therefore, the major facility thresholds for VOC and NO_x are 50 and 100 tons per year each, respectively.

- Lead (elemental);
- Fluorides;
- Sulfuric acid mist;
- Hydrogen sulfide (H₂S);
- Reduced sulfur compounds;
- Total reduced sulfur (including H₂S);
- Greenhouse gases (carbon dioxide, methane, nitrous oxide, etc.); and,
- Any other regulated NSR contaminant.

Commented [NYSDEC7]: How much H₂S is released? Applicability to Part 257-5 should be assessed. In general, the potential for odors should be evaluated since reduced sulfur compounds are also released.

If the project is considered one of the 28 “Named Sources” (source categories) listed in Section 169 of the Clean Air Act (and 6 NYCRR 201-2.1), the major source threshold is 100 tons per year of any regulated air pollutant, except for greenhouse gases. The major source threshold for all other sources is 250 tons per year of any regulated air pollutant, except for greenhouse gases.

The project is not one of the 28 “Named Sources” under the PSD program. Therefore, its PSD threshold for emitted pollutants is 250 tons per year, except for greenhouse gas emissions. In order for a PSD program evaluation of greenhouse gas emissions to be triggered, a facility must exceed one of the major source thresholds for another regulated pollutant.

Based on emission estimates summarized in Table 1.4.6-2 and in comparison to major facility thresholds stipulated in Table 5 (of 6 NYCRR Part 231-13.5), the project is considered a minor source for criteria pollutants and therefore is not subject to the PSD program.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

Upon regulatory review and based on project design and raw materials to be used, it was determined the project is not subject to any federal NESHAP promulgated under 40 CFR Part 61.

Maximum Achievable Control Technology Standards (MACT)

The federal MACT standards, codified under 40 CFR Part 63, are potentially applicable to both major and area (minor) sources of hazardous air pollutants (HAP). A major source of HAP is defined as having the potential to emit 10 tons or more per year of a single HAP, or 25 tons per year or more of a combination of HAPs. An area source is a source that is not a major source of HAPs. Based on the project’s potential emissions after air pollution control, as shown in Table 1.4.6-2, the project is an area source of HAPs.

Upon regulatory review and based on project design and raw materials to be used, the following MACT standards were reviewed further to determine if they are applicable to the project.

Surface Coating of Metal Parts MACT – Subpart MMMM

MACT Subpart M MMM standards for surface coating of miscellaneous metal parts and products applies to new affected sources that use 250 gallons per year, or more, of coatings that contain HAPs in the surface coating of miscellaneous metal parts and products and that is either a major source, is located at a major source, or is part of a major source of HAPs.

The project will be an area source of HAPs. Therefore, the facility is not subject to Subpart M MMM.

Metal Finishing MACT – Subpart XXXXXX

The provisions of Subpart XXXXXX apply to area sources primarily engaged in the operations in any of the following nine (9) source categories:

1. Electrical and Electronic Equipment Finishing Operations (NAICS codes 335999 and 335312);
2. Fabricated Metal Products (NAICS codes 332117 and 332999);
3. Fabricated Plate Work (Boiler Shops) (NAICS codes 332313, 332410 and 332420);
4. Fabricated Structural Metal Manufacturing ² (NAICS code 332312);
5. Heating Equipment, except Electric (NAICS code 333414);
6. Industrial Machinery and Equipment Finishing Operations (NAICS codes 333120, 333132 and 333911);
7. Iron and Steel Forging (NAICS code 33211);
8. Primary Metal Products Manufacturing (NAICS code 332618); and
9. Valves and Pipe Fittings (NAICS code 332919).

Project operations constitute North American Industry Classification System (NAICS) code 332312 (Fabricated Structural Metal Manufacturing). Therefore, the project must meet applicable requirements of Subpart XXXXXX.

Applicable requirements of Subpart XXXXXX apply to certain equipment using materials that contain or have the potential to emit metal fabrication or finishing metal HAP (MFHAP), defined to be the compounds of cadmium, chromium, lead, manganese, and nickel, or any of these metals in the elemental form with the exception of lead. Materials used must contain 0.1 percent by weight or more of cadmium, chromium, lead or nickel, and/or 1 percent by weight or more of manganese to be applicable. As such, the projects' abrasive blast equipment (i.e., Tower Blast, Plate Blast) are subject to applicable requirements of Subpart XXXXXX since the steel shot used in each process contains up to 1.25 percent by weight manganese.

Metal Plating and Polishing MACT – Subpart WWWWWW

² Establishments primarily engaged in fabricating iron and steel or other metal for structural purposes, such as bridges, buildings, and sections for ships, boats, and barges.

Subpart WWWWWW applies to owners or operators of plating and polishing operations that are an area source of HAP, that plate or polish metal, and that uses one or more plating and polishing metal HAP. The coatings that are applied must contain more than 0.1 percent by weight to be applicable. The metal HAP under Subpart WWWWWW are chromium, lead, manganese, nickel, or cadmium.

Safety data sheets for coatings to be used at the facility indicate that none of the coatings contain the listed compounds. Therefore, the facility is not subject to Subpart WWWWWW.

1.4.6.2.3 New York State Regulatory Applicability Review

A review of applicable New York State air quality regulations was performed and is discussed in this section. These include review of potentially applicable air pollution control requirements and air permitting applicability.

Permits and Registrations – Part 201

Initial estimates of the project's uncontrolled potential emissions (as illustrated in Table 1.4.6-1 above) indicate that Part 201 major facility (Title V) thresholds could be exceeded. The uncontrolled potential emissions estimates are based on the maximum capacity of each of the project's air contaminant sources to emit any regulated air pollutant under its physical and operational design without consideration of pollution control, based on 8,760 hours of operation per year. Under such a scenario, the project would be required to apply for and obtain a Title V Operating Permit with NYSDEC, pursuant to Subpart 201-6. However, per the regulatory definition of potential to emit³:

Commented [NYSDEC8]: Major source status is defined under 6 NYCRR 201-2.1(b)(21).

"...Any physical or operational limitation on the capacity of the emission source to emit a regulated air pollutant, including air pollution control equipment and/or restrictions on the hours of operation, or on the type or amount of material combusted, stored, or processed, shall be treated as part of the design if the limitation is enforceable by the department and the administrator..." (italics added)

As such, NYSDEC allows facility owners and operators the option to request limitations on their potential to emit regulated air pollutants in order to avoid otherwise applicable requirements, such as obtaining a Title V Operating Permit, via federally enforceable emission caps, pursuant to Subpart 201-7.

After consideration of all air pollution controls to be operated and maintained as part of the facility, the project's potential emissions for each regulated air pollutant are well below major facility (Title V) thresholds (see Table 1.4.6-2 above). The facility is therefore eligible to apply for a NYSDEC Air State Facility Permit as a minor facility of regulated air pollutants after taking

³ As defined in 6 NYCRR 200.1 Definitions.

federally enforceable restrictions (e.g., limiting VOC emissions to less than 50 tons per year, limiting HAP emissions to less than 25 tons per year, limiting particulate (PM₁₀, PM_{2.5}) emissions to less than 100 tons per, etc.). This would be accomplished by constructing the facility as proposed, and operating and maintaining emission sources and related air pollution control equipment in accordance with good air pollution control practices at all times.

Surface Coating Processes – Subpart 228-1

The project's new paint booths meet applicability criteria identified in 6 NYCRR 228-1.1 and must comply with VOC control requirements set forth in the rule. In order to comply, the facility will need to meet VOC control requirements by either using VOC compliant coatings (i.e., use coatings which meet certain VOC content limits), or by installing a VOC control system capable of achieving a minimum 90 percent overall VOC control efficiency.

Given these requirements, along with the intent to limit the project's potential emissions below major source thresholds (and be permitted as a minor facility after taking credit for federally enforceable emissions reductions), the project will be designed to meet VOC control requirements of Subpart 228-1. This will be done via operation of a VOC control system such that overall VOC emissions are controlled by at least 90 percent. This SDEIS analysis assumes that the VOC control system(s) will consist of four (4) recuperative thermal oxidizers (RTOs). Each paint spray booth ("Large Booth", "Small Booth") will have two (2) exhaust points. There will be two (2) RTOs controlling VOC emissions from each of the paint spray booths. VOC emission reductions expected to be achieved by each of the RTOs will satisfy VOC control requirements of Subpart 228-1.

Process Operations – Part 212

For emission sources identified as process emission sources as defined in 212-1.2(b)(19), the facility must submit all material required by 6 NYCRR Parts 201, 212, 621, and all other applicable regulations. Part 212 requires the facility to precisely identify all air contaminants emitted from each applicable process emission source. Part 212 review involves evaluating the emissions of criteria and non-criteria air contaminants from process operations in New York State and determining the level of air pollution control required and/or whether potential off-property air quality impacts from these contaminants are acceptable using an US EPA preferred air dispersion model (e.g., AERMOD, AERSCREEN).

The project's new abrasive blast equipment is subject to Part 212 review and must comply with applicable requirements of 6 NYCRR 212-2.1. Pursuant to 212-1.4, and since the project's paint booths are subject to and in compliance with VOC control requirements of Subpart 228-1 (as noted above), VOC emissions from the paint booths are generally excluded from Part 212 review. That is, Part 212 review applies to the paint booths only where particulate-based pollutant emissions as well as highly toxic VOCs have the potential to be released. The project's metallizing

Commented [NYSDEC9]: This statement is not phrased correctly. The facility would implement controls which would reduce the emission levels to below major source status, but these limits do not necessarily just make the facility eligible for an ASF permit. With the facility's planned production of 150 units, the emissions are under the major threshold. If production increases or changes, this will change quantities, not necessarily emission rates. The facility could then become an ATV.

Commented [NYSDEC10]: It should be stated that an evaluation of individual VOCs air contaminants will be reviewed and that none will be assigned and the Environmental Rating of "A" as stated in 212-1.4(b)(1) if this is the case.

process is technically subject to Part 212 review, however; since the metallizing process' high efficiency capture and control system vents indoors, and since requirements of §212-2.1 only apply to air contaminants to the outdoor atmosphere, the project's metallizing process inherently meets requirements of Part 212.

Sources subject to Part 212 must not exceed allowable emissions limits stipulated in Subpart 212-2. For "high toxicity air contaminants" (HTACs) such as benzene, listed in 212-2.2 Table 2, the project will either need to limit actual annual emissions from all process operations at the facility so as to not exceed the mass emission limit listed for the individual HTAC (e.g., 100 pounds per year for benzene); or, demonstrate compliance with the air cleaning requirements for the HTAC as specified in 212-2.3 Table 4.

Commented [NYSDEC11]: An analysis of HTACs emitted from NESHAP affected sources should be identified here, citing 212-1.5(e)(2)

For individual air contaminants not listed as a HTAC, the facility must not allow emissions of an air contaminant to violate requirements specified in 212-2.3 Table 3 (for criteria air contaminants), or 212-2.3 Table 4 (for non-criteria air contaminants). In each instance, the degree of air cleaning required is determined for each air contaminant based on the process emission source's hourly "emission rate potential" (ERP⁴) and the "environmental rating" (A, B, C or D) assigned to each air contaminant. The hourly ERP was determined for each contaminant based on available project equipment engineering and design information, including: process material throughputs, coating usage, application rates and spray gun design, fuel usage, pollution control performance specifications, published emission factors, etc.

Commented [NYSDEC12]: It should be noted that air contaminants may need to demonstrate offsite concentrations which meet annual and short-term (AGC/SGC) ambient air concentrations to demonstrate compliance.

Note too that Part 212 limits emissions of solid particulates from new process sources to no more than 0.050 grains per cubic foot of exhaust gas. All process particulate emission sources will be equipped with state-of-the-art pollution control equipment for the control of solid particulates and will therefore meet requirements of Part 212.

Following Part 212 procedures outlined in NYSDEC's DAR-1 guidance, along with NYSDEC DAR-10 air dispersion modeling procedures, assessment of applicable air pollution control and potential air quality impacts from each process emission source was performed. After consideration of proposed air pollution controls, an evaluation of potential off-property air quality impacts was performed using AERMOD.

In addition to the Part 212 review, and for purposes of this SDEIS, the evaluation of potential off-property air quality impacts includes impacts from the project's proposed natural gas combustion

⁴ Per 6 NYCRR 200.1(u), emission rate potential is defined as the maximum rate at which a specified air contaminant from an emission source would be emitted to the outdoor atmosphere in the absence of any control equipment. The emission rate potential of a specified air contaminant from an emission source is calculated by dividing the weight of such contaminant (expressed in pounds) that would be emitted to the outdoor atmosphere during maximum emission conditions in the absence of any control equipment, by the duration (expressed in hours) of such emissions...

sources (natural gas-fired RTOs, air make-up units (AMUs), other small miscellaneous equipment), where NO_x, SO₂, PM₁₀ and PM_{2.5} are assessed.

Air Quality Impact Modeling – Methodology

Table 1.4.6-3 identifies project emission sources and modeled pollutants selected for inclusion in the air quality impact analysis.

Table 1.4.6-3: Project Air Quality Impact Analysis - Modeled Emission Sources and Pollutants

Source Description	Modeled Source Type	Model ID	Modeled Pollutants
Large Spray Booth	Point Source	STCK1	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂ , NC Pollutants
Large Spray Booth	Point Source	STCK2	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂ , NC Pollutants
Small Spray Booth	Point Source	STCK3	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂ , NC Pollutants
Small Spray Booth	Point Source	STCK4	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂ , NC Pollutants
Building C Blast Booth	Point Source	STCK5	PM ₁₀ , PM _{2.5} , NC Pollutants
Building C Blast Booth	Point Source	STCK6	PM ₁₀ , PM _{2.5} , NC Pollutants
Building C Blast Booth	Point Source	STCK7	PM ₁₀ , PM _{2.5} , NC Pollutants
Building A Plate Blast Booth	Point Source	STCK8	PM ₁₀ , PM _{2.5} , NC Pollutants
Large Spray Booth AMU	Point Source	STCK9	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂
Small Spray Booth AMU	Point Source	STCK10	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂
Building A Natural Gas Combustion Equipment	Volume Sources	BLDGA_GAS1-5	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂
Building B Natural Gas Combustion Equipment	Volume Sources	BLDGB_GAS1-2	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂

Table 1.4.6-3 Notes:

1. NC Pollutants = non-criteria pollutants.

Emission factors for NO_x, SO₂, PM₁₀ and PM_{2.5} from natural gas-fired combustion equipment were obtained from US EPA AP-42 "Compilation of Air Pollutant Emission Factors" for uncontrolled commercial boilers with less than 100 MMBtu/hr heat input. AMU exhaust volumetric flowrates (Model IDs: STCK9, STCK10), were estimated based on the anticipated maximum heat input rating for each AMU (i.e., 8.6 and 12.2 MMBtu/hr) and published fuel factors for natural gas (8,710 dry standard cubic feet of exhaust gases per million Btu of heat input (dscf/MMBtu)). These factors

are referenced under 40 CFR Part 60, Appendix A-7, Table 19-2 of US EPA Method 19. AMU exhaust exit temperatures, were estimated based on values for corresponding natural gas-fired boilers of similar design capacities, and similar stack heights, as noted in other facility permits (i.e., State Facility permits, Title V permits) in New York State.

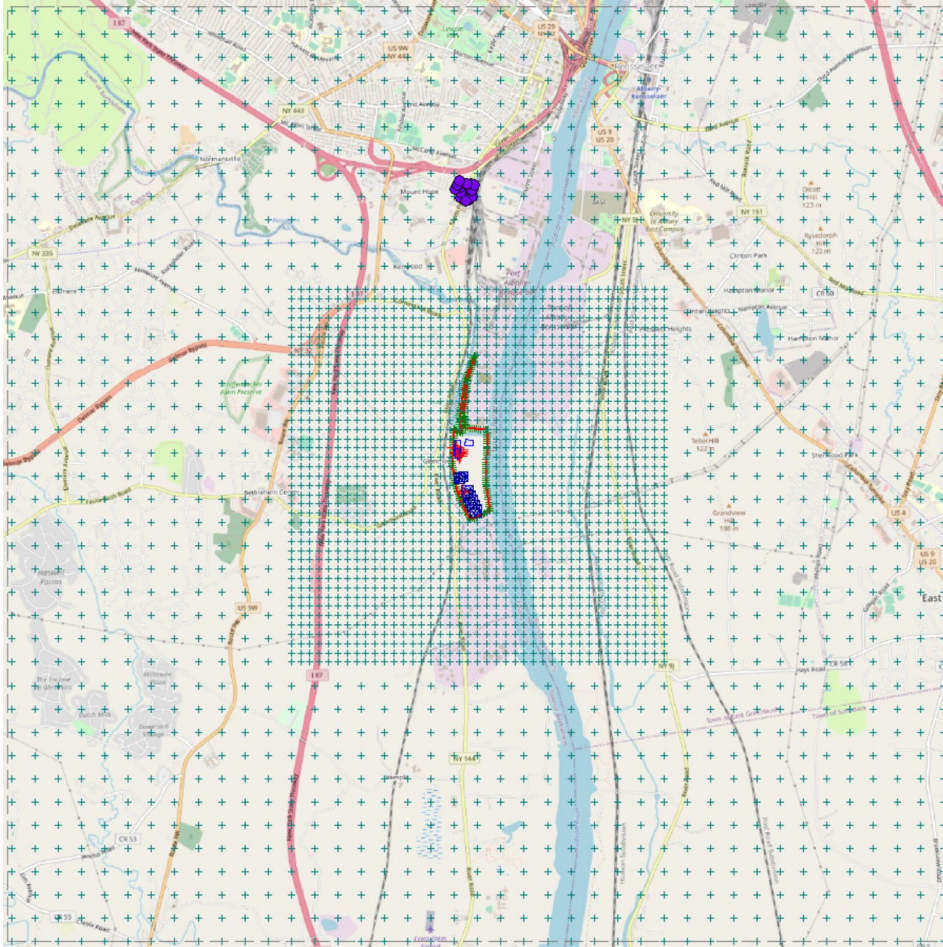
Maximum predicted off-property pollutant impacts from the project were assessed by conducting a refined modeling analysis using the latest US EPA approved AERMOD model (Version 19191). The model estimates “worst-case” 1-hour, 3-hour, 24-hour and annual pollutant concentrations across a defined modeling domain and receptor grid. For this analysis, the modeling domain was defined with a cartesian receptor grid extending out 5 kilometers (km) in all directions from the center of the project property boundary. Receptor spacing ranges from 100 meters (out to 2 km) and 250 meters (out to 5 km). The receptor grid also includes seventeen (17) discrete sensitive receptor locations, which were added to represent and model impacts at each of the buildings comprising “Ezra Prentice”, a nearby Environmental Justice Area, as shown in Figure 1.4.6-1 below.

Commented [NYSDEC13]: The latest version is 21112

Commented [NYSDEC14]: These modeling domains should be consistent with DAR-10

Commented [NYSDEC15]: When the air application is submitted, it must include a protocol outlining the steps taken to model offsite concentrations if AERMOD is going to be applied. The protocol should include the details of the criteria pollutant modeling in addition to the non-criteria. If AERMOD is to be used, the protocol needs approval by NYSDEC before the modeling details are submitted.

Figure 1.4.6-1: AERMOD 5 km Modeling Domain and Receptor Grid (Including 17 Discrete Receptors Representing Ezra Prentice)



Source characteristics (point, area, or volume) and exhaust parameter data (maximum emission rates, exhaust diameters, release heights, exhaust exit temperature, exhaust volumetric flow rates, etc.) were incorporated into the analysis. The most recent five (5) consecutive year period (2016–2020) of pre-processed hourly meteorological data from Albany International Airport were obtained from NYSDEC and used to account for plume effects due to ambient air temperatures, wind speed and direction, site-specific surface characteristics such as albedo ratio (reflectivity), Bowen ratio (atmospheric stability), and surface roughness (effects of surface

friction on atmospheric dispersion). The model incorporates the PRIME downwash algorithms that are part of the AERMOD refined model and utilizes the PRIME plume rise model enhancements to the Building Profile Input Program (BPIPRIM) to provide a detailed analysis of downwash influences on a direction-specific basis. AERMOD's complex terrain algorithms and AERMAP terrain processor were also utilized to account for the actual terrain in the vicinity of the source on a direction-specific basis.

In order to directly compare model predicted impacts to the respective National Ambient Air Quality Standards (NAAQS) for NO₂, SO₂, PM₁₀ and PM_{2.5}; the pollutant design value is calculated after combining maximum predicted impacts available background air quality data, as summarized in the *New York State Ambient Air Quality Report for 2020*. Maximum 24-hour and annual impact concentrations combined with 24-hour and average annual background concentrations were then compared to the respective NAAQS.

Results of model predicted off-property impacts for air contaminants were compared to National Ambient Air Quality Standards (NAAQS) and representative NYSDEC DAR-1 Short-term and Annual Guideline Concentrations (SGCs/AGCs). Results demonstrate that potential project-related emissions will not cause significant adverse air quality impacts within the surrounding community, and that the project will comply with applicable requirements of Part 212. Further refinement of the analysis will be completed as part of the future Part 212 and minor facility permitting requirements.

1.4.6.2.4 Conclusion

With the project maintaining status as a minor facility, and utilizing state-of-the-art air pollution control technologies to mitigate impacts from potential VOC, particulates and HAP sources, and based on results from the Part 212 review and supporting air quality impact assessment, it is concluded that the project's potential impacts to air quality will be minimal and acceptable.

1.4.6.3 Greenhouse Gas Emissions, Climate Leadership and Community Protection Act (CLCPA) Compliance

Marmen, Inc. (Marmen) is committed to doing its part to help assure that statewide greenhouse gas (GHG) emissions limits established in the Climate Leadership and Community Protection Act (CLCPA) are attained. Section 7(2) of CLCPA requires NYSDEC (and other state agencies) to consider air permit (and other) authorizations for consistency with the goals of CLCPA. CLCPA targets include 85% reduction in GHG emissions by 2050, 100% zero-emission electricity by 2040, 70% renewable energy by 2030, 9,000 MW of offshore wind by 2035, 3,000 MW of energy storage by 2030, 6,000 MW of solar by 2025, and 22 million tons of carbon reduction through energy efficiency and electrification. The project is the largest manufacturing facility of renewable offshore wind towers and transition pieces in the U.S., and will support New York State (NYS) in meeting CLCPA targets and goals.

Annual GHG emission calculations from this project are summarized in Table 1.4.6-4 in accordance with the latest NYS procedures and guidance for calculating CO₂ equivalent (CO₂e) emissions. Direct emissions occur physically within the boundary of the project, such as those emitted by burning natural gas. Indirect (i.e., upstream) emissions are associated with the extraction, production, and transmission of fossil fuels imported into NYS. CO₂e emissions are calculated using the AR5 20-year Global Warming Potential (as opposed to the AR4 100-yr Global Warming Potential that US EPA uses) in accordance with Preliminary Interim Draft Emission Factors for Use by State Agencies and Project Proponents, NYSDEC, Version 02/2021.

The total direct and indirect CO₂e emissions from the project's proposed combustion sources is estimated at 53,968 metric tons of CO₂e per year. The primary sources of GHG emissions are the recuperative thermal oxidizers, miscellaneous natural gas-fired equipment, air make-up units (AMUs), emergency generators, and the indirect emissions associated with the extraction, production, and transmission of natural gas to power these sources. The opportunities for Marmen to address CLCPA with respect to mitigating GHG emissions from these sources are primarily available through the selection of equipment. As such, the equipment used for this project has been carefully selected to ensure that the facility can effectively operate using the most energy efficient and environmentally friendly technology available.

Table 1.4.6-4: Project Direct and Indirect CO₂e Emissions

Attribution	Source	CO ₂ e Emissions (metric tons/year)
Direct Emissions	Large Paint Spray Booth Natural Gas Fired Recuperative Thermal Oxidizer (BLDG C)	504
	Small Paint Spray Booth Natural Gas Fired Recuperative Thermal Oxidizer (BLDG C)	336
	Natural Gas Fired Miscellaneous Equipment (BLDG A)	15,100
	Natural Gas Fired Miscellaneous Equipment (BLDG B)	4,974
	Natural Gas Fired AMUs (BLDG C)	9,469
	Natural Gas Fired Emergency Generators	85
Indirect Emissions	Natural Gas for Recuperative Thermal Oxidizer 1 (BLDG C)	389
	Natural Gas for Recuperative Thermal Oxidizer 2 (BLDG C)	259
	Natural Gas Fired Miscellaneous Equipment (BLDG A)	11,646
	Natural Gas Fired Miscellaneous Equipment (BLDG B)	3,836
	Natural Gas Fired AMUs (BLDG C)	7,303
	Natural Gas for Emergency Generators	64
Total:		53,968

Table 1.4.6-4 Notes:

1. AR5 Synthesis Report: Climate Change 2014 - IPCC, 20-year Global Warming Potential for calculating CO₂e. CO₂ = 1; CH₄ = 84; N₂O = 264.

2. Preliminary Interim Draft Emission Factors for Use by State Agencies and Project Proponents, NYSDEC, Version 02/2021. Natural gas 20-year GWP CO₂e emission rate = 44,205 g/MMBtu.

Other relevant factors to consider are the project's consistency with efforts to transition away from fossil fuel usage (e.g., 85% reduction in GHG emissions by 2050, 100% zero-emission electricity by 2040, 70% renewable energy by 2030, and 9,000 MW of offshore wind by 2035). The purpose of the facility is to manufacture wind towers and transition pieces for offshore renewable wind turbines for the U.S. market. Transition pieces, made up of heavy steel fabrication, are the lower support structures beneath offshore wind towers that connect the tower to the foundation. The operation of this highly automated state-of-the-art facility will accelerate the growth of the U.S. offshore wind energy supply chain, and will offer offshore wind developers the opportunity to source their wind towers and transition pieces in NYS.

Marmen is already one of the largest manufacturers of onshore wind towers in North America and is proud to have contributed to the growth and development of the wind industry. As the demands for offshore wind intensify, Marmen is prepared to serve as the largest manufacturer of renewable offshore wind towers in the U.S., and eager to help NYS transition away from fossil fuel usage and meet CLCPA targets and goals.

1.4.6.4 Project-Related Potential Air Quality Impacts on the Environmental Justice Community

Section 7(3) of CLCPA requires NYSDEC (and other state agencies), in considering and issuing permits, to not allow impacts from an approved project to disproportionately burden disadvantaged communities. Furthermore, NYSDEC must prioritize reductions of GHG emissions and co-pollutants in disadvantaged communities, also known as environmental justice areas (EJ Areas).

Marmen is committed to doing its part to minimize its environmental footprint on neighboring communities, especially nearby disadvantaged communities. Marmen accomplishes this by promoting a culture of safety, integrity, and environmental stewardship, across its workforce. Marmen institutes mitigation strategies and procedures, and utilizes high precision, state-of-the-art manufacturing equipment and technologies at its facilities. Marmen provides its employees with the tools and resources they need to perform their jobs safely and effectively every day. All employees will receive on the job, site specific training, with emphasis on worker safety, pollution prevention and environmental compliance.

In addition to the above stated company policies, Marmen is committed to implementing mitigation measures which will profoundly benefit its neighboring communities by significantly reducing pollutant emissions from site activities and emission sources. For example, the project will perform metallizing activities completely indoors with a state-of-the-art capture and staged filtration and ventilation system, which recirculates purified air indoors. The project will also

institute state-of-the-art VOC control on its paint booths using recuperative thermal oxidizers. Use of the VOC control equipment will result in a significant decrease in the project's potential to emit VOC (overall decrease of more than 100 tpy in potential VOC emissions) and HAP (overall decrease of more than 60 tpy in potential HAP emissions). Likewise, with the project utilizing state-of-the-art dust suppression (particulate control) on its abrasive blast equipment and its paint booths, particulate (PM_{2.5}). The combined effect of implementing these mitigation measures leads to significant reductions in the project's potential emissions. Implementation of these mitigation measures will lead to:

- An overall decrease of more than 100 tpy in potential VOC emissions;
- An overall decrease of more than 60 tpy in potential HAP emissions;
- An overall decrease of at least 200 tpy in potential PM_{2.5} emissions.

In any event, project-related potential air quality impacts on the nearby EJ Area (Ezra Prentice community) from transient activities and mobile sources (construction activities and truck traffic), along with potential impacts from the project's permanent (stationary) sources have been reviewed and are discussed more fully below.

Potential transient air quality impacts associated with project construction activities will be mitigated by dust suppression techniques including spray of water on dry materials and soils. Dust suppression effectiveness will be measured with a community air monitoring program (CAMP), following procedures in Appendices 1A and 1B of NYSDEC's DER-10 guidance for CAMP. Project-related truck traffic will be routed through existing City streets through the Port or via South Port Road; however, prohibiting right hand turns to eliminate adding new truck traffic to South Pearl Street (adjacent to Ezra Prentice community). Level of Service at project impacted intersections will be maintained at Level of Service "C" or better. This will assure that traffic related impacts of the project on air quality will be acceptable.

As detailed in earlier in the Climate and Air Quality Section of this SDEIS, the project will consist of several stationary sources of air emissions, releasing pollutants related to natural gas combustion (i.e., NO_x, CO, SO₂, VOC, PM₁₀, PM_{2.5}, GHG) as well as pollutants related to abrasive blasting and surface coating (i.e., PM₁₀, PM_{2.5}, VOC, HAP).

To evaluate whether project-related GHG emissions and co-pollutants have the potential to disproportionately burden disadvantaged communities, potential air quality impacts from project emission sources on the nearby EJ Area are compared to other off-property locations surrounding the project. Air dispersion modeling was performed using AERMOD.

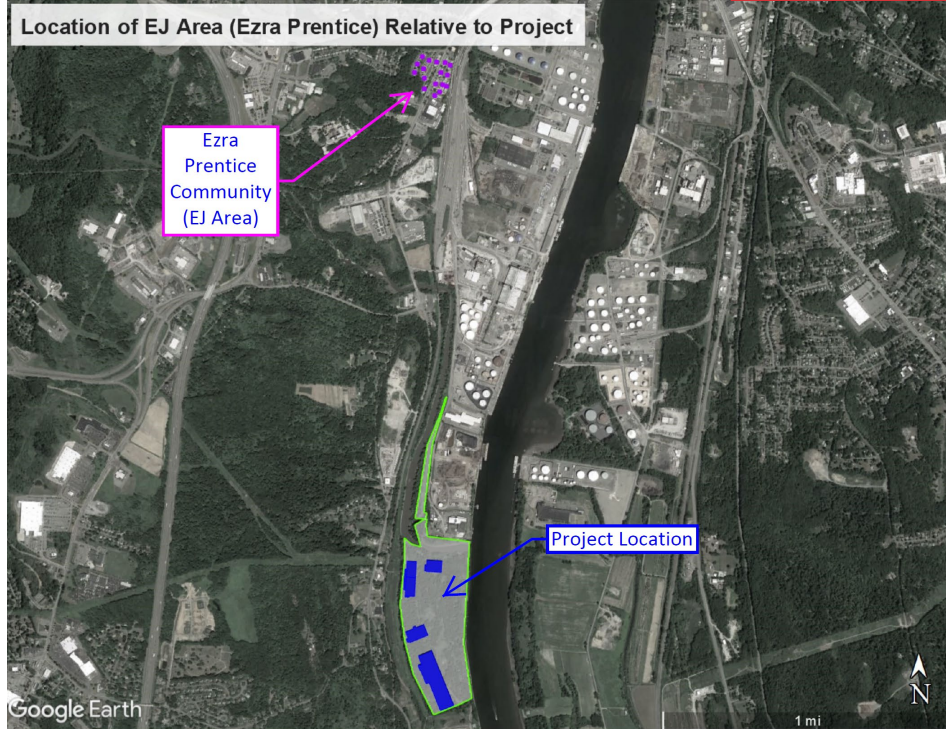
Table 1.4.6-5 identifies project emission sources and modeled pollutants selected for inclusion in the EJ Area air quality impact analysis. The location of the EJ Area relative to the project location is shown on Figure 1.4.6-2.

Commented [NYSDEC16]: The Potential Environmental Justice Area (PEJA) Maps should be used. The PEJA area includes Ezra Prentice and extends south of it. The PDF – Supplemental EIS 2021 –10–27-4 final displays the PEJA map in Figure 3.20-1.

Table 1.4.6-5: Modeled Project Emission Sources and Pollutants

Source Description	Modeled Source Type	Model ID	Modeled Pollutants
Large Spray Booth	Point Source	STCK1	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂ , NC Pollutants
Large Spray Booth	Point Source	STCK2	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂ , NC Pollutants
Small Spray Booth	Point Source	STCK3	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂ , NC Pollutants
Small Spray Booth	Point Source	STCK4	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂ , NC Pollutants
Building C Blast Booth	Point Source	STCK5	PM ₁₀ , PM _{2.5} , NC Pollutants
Building C Blast Booth	Point Source	STCK6	PM ₁₀ , PM _{2.5} , NC Pollutants
Building C Blast Booth	Point Source	STCK7	PM ₁₀ , PM _{2.5} , NC Pollutants
Building A Plate Blast Booth	Point Source	STCK8	PM ₁₀ , PM _{2.5} , NC Pollutants
Large Spray Booth AMU	Point Source	STCK9	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂
Small Spray Booth AMU	Point Source	STCK10	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂
Building A Natural Gas Combustion Equipment	Volume Sources	BLDGA_GAS1-5	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂
Building B Natural Gas Combustion Equipment	Volume Sources	BLDGB_GAS1-2	NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂

Figure 1.4.6-2: Location of EJ Area (Ezra Prentice) Relative to the Project



Commented [NYSDEC17]: The Potential Environmental Justice Area (PEJA) Maps should be used. The PEJA area includes Ezra Prentice and extends south of it. The PDF – Supplemental EIS 2021 –10—27-4 final displays the PEJA map in Figure 3.20-1.

Potential air quality impacts from each of the project’s proposed emission sources were combined to estimate worst-case (cumulative) impacts for NO₂, PM₁₀, PM_{2.5} and SO₂ as well as non-criteria (NC) pollutants. Potential air quality impacts from project emission sources on the nearby EJ Area are compared to other off-property locations surrounding the project for each aforementioned pollutant.

Model predicted air quality impacts were then combined with available background air quality data, as summarized in the *New York State Ambient Air Quality Report for 2020*. Maximum 1-hour, 24-hour and annual impact concentrations combined with 1-hour, 24-hour and average annual background concentrations (design values) were then compared directly to each pollutants’ respective NAAQS.

Results of the analyses for NO₂ impacts are summarized in Table 1.4.6-6 and illustrated in Figure 1.4.6-3. Results of the analyses for SO₂ impacts are summarized in Table 1.4.6-7 and illustrated

in Figure 1.4.6-4. Finally, results of the analyses for PM₁₀ and PM_{2.5} impacts are summarized in Tables 1.4.6-8 through 1.4.6-10 and illustrated in Figures 1.4.6-5 through 1.4.6-7.

Table 1.4.6-6: Comparison of Project-Related Annual NO₂ Impacts at EJ Area

Off-Property Peak Annual NO ₂ Impact (µg/m ³)	EJ Area Peak Annual NO ₂ Impact (µg/m ³)	Annual NO ₂ Background Concentration (µg/m ³) ¹ .	Annual NO ₂ Design Value (µg/m ³)	Annual NO ₂ NAAQS (µg/m ³)	Will Potential Air Quality Impacts Exceed NAAQS?
10.85	0.40	10.68	21.53	100.0	No

Table 1.4.6-6 Notes:

1. Background NO₂ concentration based upon the 2020 average of the annual arithmetic mean NO₂ values recorded at the "Rochester Near-Road" ambient air monitoring site (Site No.: 36-055-0015).

Figure 1.4.6-3: Project-Related Annual NO₂ Impacts on Surrounding Community

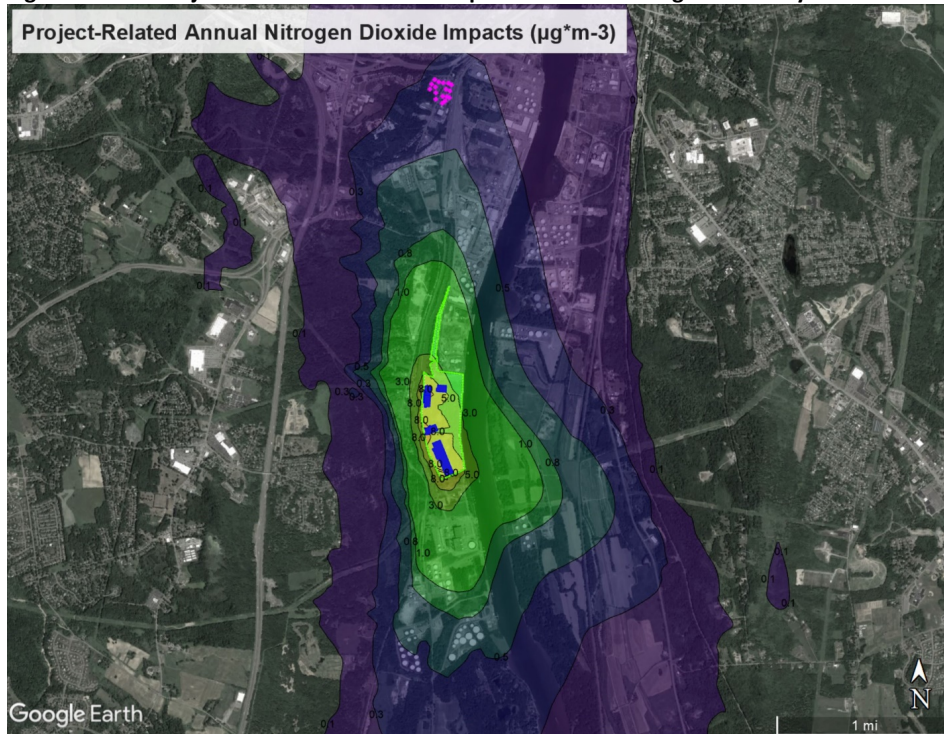


Table 1.4.6-7: Comparison of Project-Related 1-Hour SO₂ Impacts at EJ Area ⁵

Off-Property Peak 99th Percentile 1-Hour SO ₂ Impact (µg/m ³) ^{1.}	EJ Area Peak 99th Percentile 1-Hour SO ₂ Impact (µg/m ³) ^{1.}	1-Hour SO ₂ Background Concentration (µg/m ³) ^{2.}	1-Hour SO ₂ Design Value (µg/m ³)	1-Hour SO ₂ NAAQS (µg/m ³) ^{3.}	Potential Air Quality Impacts Exceed NAAQS?
1.18	0.16	6.47	7.65	196.0	No

Table 1.4.6-7 Notes:

1. Model predicted cumulative 1-hour SO₂ impacts calculated as the 99th Percentile (4th Highest) daily maximum based on the 5-year average of ranked maximum daily values.
2. Background 1-hour SO₂ concentration based upon the 3-year average of the 99th percentile of the daily maximum 1-hour average values recorded at the "Loudonville" ambient air monitoring site (Site No.: 36-001-0012) for the period 2018-2020.
3. Not to be exceeded more than once per year on average over 3 years.

Figure 1.4.6-4: Project-Related 1-Hour SO₂ Impacts on Surrounding Community

⁵ For purposes of this analysis, and since the project is an insignificant source of SO₂ emissions, only 1-hour SO₂ impacts are presented here.

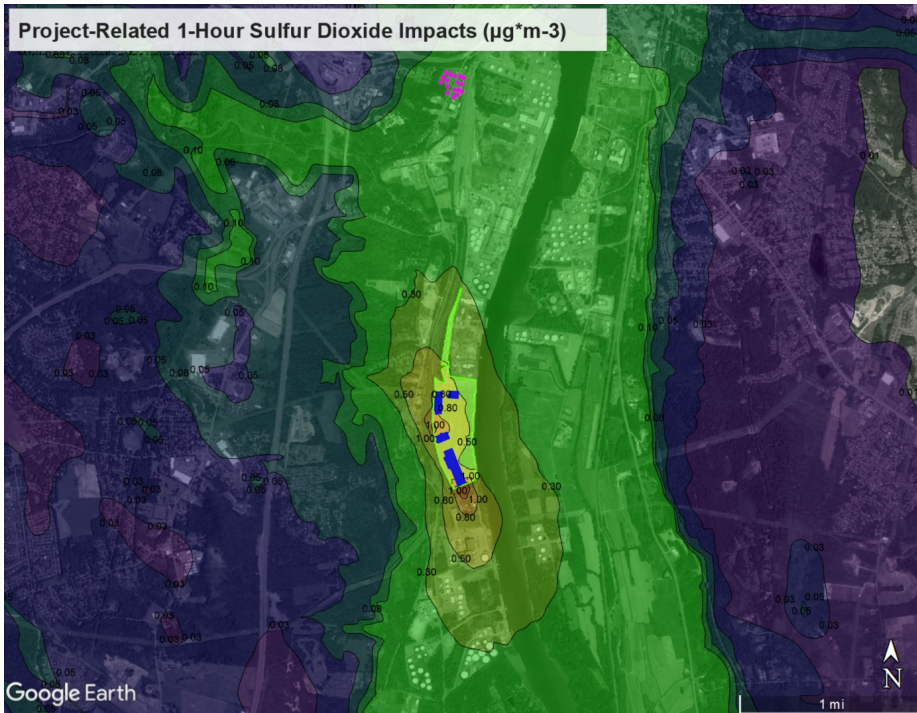


Table 1.4.6-8: Comparison of Project-Related 24-Hour PM₁₀ Impacts at EJ Area

Off-Property Peak 24-Hour PM ₁₀ Impact (µg/m ³)	EJ Area Peak 24-Hour PM ₁₀ Impact (µg/m ³)	24-Hour PM ₁₀ Background Concentration (µg/m ³) ¹ .	1-Hour PM ₁₀ Design Value (µg/m ³)	24-Hour PM ₁₀ NAAQS (µg/m ³) ² .	Potential Air Quality Impacts Exceed NAAQS?
11.16	0.86	37.74	48.90	150.0	No

Table 1.4.6-8 Notes:

1. Background 24-hour PM₁₀ concentration based upon maximum 24-hour values recorded at the "Rochester" ambient air monitoring site (Site No.: 36-055-1007) in 2020.
2. Not to be exceeded more than once per year on average over 3 years.

Figure 1.4.6-5: Project-Related 24-Hour PM₁₀ Impacts on Surrounding Community

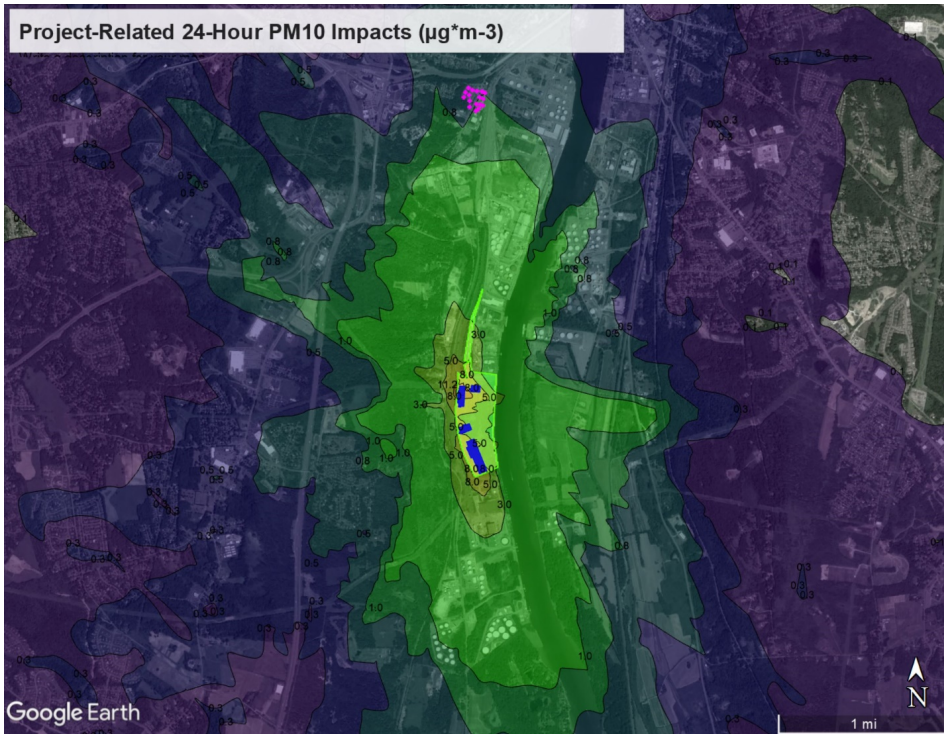


Table 1.4.6-9: Comparison of Project-Related 24-Hour PM_{2.5} Impacts at EJ Area

Off-Property Peak 98th Percentile 24-Hour PM _{2.5} Impact (µg/m ³) ¹	EJ Area Peak 98th Percentile 24-Hour PM _{2.5} Impact (µg/m ³) ¹	24-Hour PM _{2.5} Background Concentration (µg/m ³) ²	24-Hour PM _{2.5} Design Value (µg/m ³)	24-Hour PM _{2.5} NAAQS (µg/m ³) ³	Will Potential Air Quality Impacts Exceed NAAQS?
7.47	0.43	19.90	27.37	35.0	No

Table 1.4.6-9 Notes:

1. Model predicted cumulative 24-hour 98th Percentile (8th Highest) daily maximum based on the 5-year average of ranked maximum daily values.
2. Background 24-hour PM_{2.5} concentration based upon the 2018-2020 average of the 98th percentile 24-hour PM_{2.5} values recorded at the "Albany Co. HD (FEM)" ambient air monitoring site (Site No.: 36-001-0005).

3. Compliance with the NAAQS is determined by using the average of 98th percentile 24-hour value during the past three years, which cannot exceed 35 µg/m³.

Figure 1.4.6-6: Project-Related 24-Hour PM_{2.5} Impacts on Surrounding Community

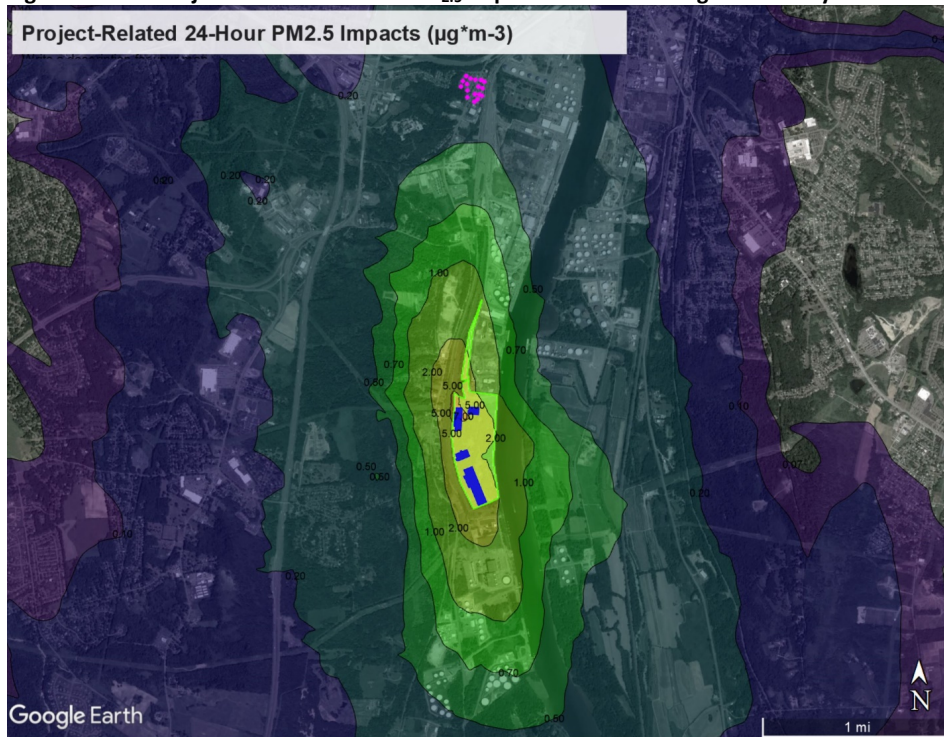


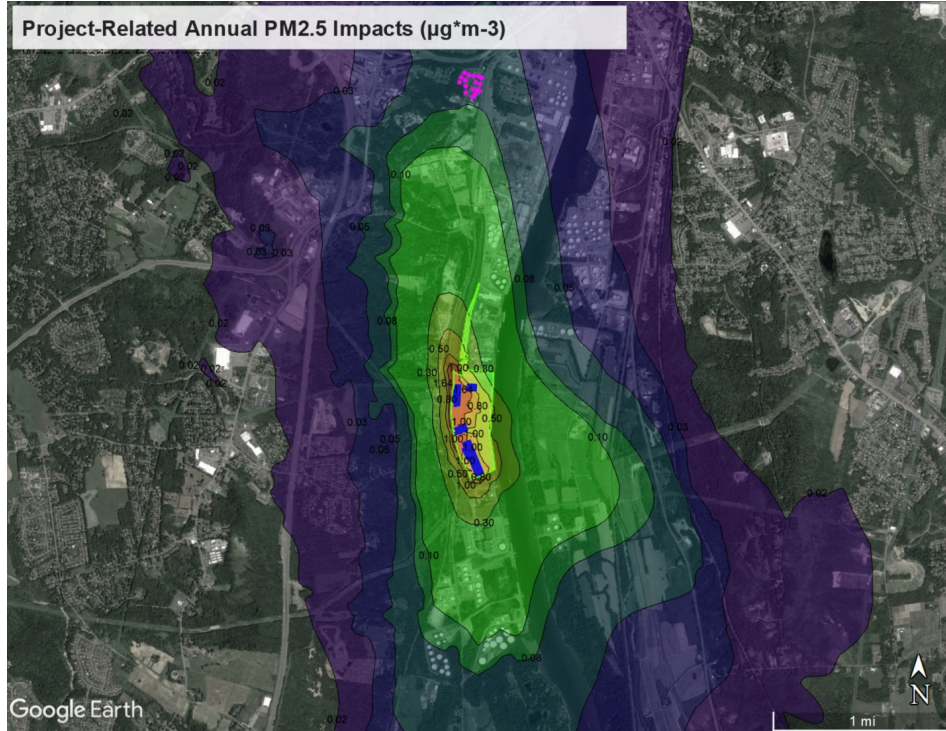
Table 1.4.6-10: Comparison of Project-Related Annual PM_{2.5} Impacts at EJ Area

Off-Property Peak Annual PM _{2.5} Impact (µg/m ³)	EJ Area Peak Annual PM _{2.5} Impact (µg/m ³)	Annual PM _{2.5} Background Concentration (µg/m ³) ^{1.}	Annual PM _{2.5} Design Value (µg/m ³)	Annual PM _{2.5} NAAQS (µg/m ³) ^{2.}	Will Potential Air Quality Impacts Exceed NAAQS?
1.64	0.08	8.10	9.74	12.0	No

Table 1.4.6-10 Notes:

1. Background annual mean PM_{2.5} concentration based upon the 2018-2020 annual mean PM_{2.5} values recorded at the "Albany Co. HD (FEM)" ambient air monitoring site (Site No.: 36-001-0005).
2. Compliance with NAAQS based upon annual mean PM_{2.5} concentration averaged over three consecutive years.

Figure 1.4.6-7: Project-Related Annual PM_{2.5} Impacts on Surrounding Community



Next, to assess for project-related potential non-criteria pollutant emissions, model predicted maximum 1-hour impacts were compared to respective NYSDEC DAR-1 short-term guideline concentrations (SGCs) and annual guideline concentrations (AGCs) using AERMOD’s multi-chemical modeling module. Results of the analyses are summarized in Tables 1.4.6-11 and 1.4.6-12 below.

Table 1.4.6-11: Comparison of Project-Related 1-Hour NC Pollutant Impacts at EJ Area

Modeled Air Contaminant	Air Contaminant CAS No.	Off-Property Peak 1-Hour Impact ($\mu\text{g}/\text{m}^3$)	EJ Area Peak 1-Hour Impact ($\mu\text{g}/\text{m}^3$)	NYSDEC DAR-1 SGC ($\mu\text{g}/\text{m}^3$) ^{1,2}	Will Potential Air Quality Impacts Exceed DAR-1 SGC?
Isobutyl Alcohol	78-83-1	0.48	3.7E-02	--	No
Methyl Styrene	98-83-9	0.42	3.2E-02	--	No
Diisobutyl Ketone	108-83-8	1.74	0.13	--	No
Triethylenetetramine	112-24-3	66.4	5.00	--	No
Aluminium oxide	1344-28-1	2.1E-02	1.6E-03	--	No
Barium sulfate	7727-43-7	0.33	2.5E-02	--	No
Benzene	71-43-2	0.18	1.4E-02	27.0	No
Benzyl alcohol	100-51-6	96.6	7.28	1,300.0	No
Chromium	7440-47-3	3.9E-02	3.9E-03	--	No
Copper	7440-50-8	3.9E-02	3.9E-03	100.0	No
Cumene	98-82-8	1.80	0.14	--	No
Ethanol	64-17-5	174.8	13.17	--	No
Ethylbenzene	100-41-4	57.2	4.31	--	No
Methyl Amyl Ketone	110-43-0	20.6	1.55	--	No
Manganese	7439-96-5	0.47	4.7E-02	--	No
Methanol	67-56-1	5.00	0.38	33,000.0	No
Mica	12001-26-2	1.3E-02	9.6E-04	--	No
n-Butyl Alcohol	71-36-3	117.8	8.87	--	No
n-Butyl acetate	123-86-4	125.2	9.43	71,300.0	No
Naphthalene	91-20-3	0.12	9.4E-03	7,900.0	No
Nickel	7440-02-0	3.9E-02	3.9E-03	0.2	No
Nonane	111-84-2	0.19	1.5E-02	--	No
Phenol	108-95-2	0.42	3.2E-02	5,800.0	No
Isopropyl Alcohol	67-63-0	67.4	5.07	98,000.0	No
Respirable quartz	14808-60-7	5.9E-02	4.5E-03	--	No
Naphtha Light Aromatic	64742-95-6	154.5	11.6	--	No
Talc (non-asbestiform)	14807-96-6	0.66	5.0E-02	--	No
Titanium dioxide	13463-67-7	0.96	7.2E-02	--	No
Toluene	108-88-3	2.44	0.18	37,000.0	No
Xylene	1330-20-7	258.5	19.5	22,000.0	No

Table 1.4.6-11 Notes:

1. Per NYSDEC DAR-1 "Guidelines for the Evaluation and Control of Ambient Air Contaminants Under Part 212", issued February 12, 2021.

2. "--" indicates NYSDEC SGC not available for the referenced chemical.

Table 1.4.6-12: Comparison of Project-Related Annual NC Pollutant Impacts at EJ Area

Commented [NYSDEC18]: Hydrogen sulfide and fluorides should be included in this analysis.

Modeled Air Contaminant	Air Contaminant CAS No.	Off-Property Peak Annual Impact ($\mu\text{g}/\text{m}^3$)	EJ Area Peak Annual Impact ($\mu\text{g}/\text{m}^3$)	NYSDEC DAR-1 AGC ($\mu\text{g}/\text{m}^3$) ^{1,2}	Will Potential Air Quality Impacts Exceed DAR-1 AGC?
Isobutyl Alcohol	78-83-1	1.2E-03	2.7E-05	360.0	No
Methyl Styrene	98-83-9	4.1E-04	8.9E-06	115.0	No
Diisobutyl Ketone	108-83-8	5.2E-03	1.1E-04	350.0	No
Triethylenetetramine	112-24-3	0.37	8.1E-03	10.0	No
Aluminium oxide	1344-28-1	5.0E-05	1.1E-06	2.4	No
Barium sulfate	7727-43-7	7.8E-04	1.7E-05	12.0	No
Benzene	71-43-2	1.8E-03	3.9E-05	1.3E-01	No
Benzyl alcohol	100-51-6	0.29	6.4E-03	350.0	No
Chromium	7440-47-3	5.1E-04	2.2E-05	45.0	No
Copper	7440-50-8	5.1E-04	2.2E-05	4.8E-01	No
Cumene	98-82-8	4.4E-03	9.6E-05	400.0	No
Ethanol	64-17-5	4.2E-02	9.2E-04	45,000.0	No
Ethylbenzene	100-41-4	0.39	8.6E-03	1,000.0	No
Methyl Amyl Ketone	110-43-0	2.0E-02	4.4E-04	550.0	No
Manganese	7439-96-5	6.2E-03	2.6E-04	5.0E-02	No
Methanol	67-56-1	4.5E-02	9.8E-04	4,000.0	No
Mica	12001-26-2	3.1E-06	6.7E-08	7.1	No
n-Butyl Alcohol	71-36-3	0.73	1.6E-02	1,500.0	No
n-Butyl acetate	123-86-4	0.30	6.7E-03	565.0	No
Naphthalene	91-20-3	2.9E-04	6.4E-06	3.0	No
Nickel	7440-02-0	5.1E-04	2.2E-05	4.2E-03	No
Nonane	111-84-2	8.7E-04	1.9E-05	25,000.0	No
Phenol	108-95-2	8.7E-04	1.9E-05	20.0	No
Isopropyl Alcohol	67-63-0	1.6E-02	3.6E-04	7,000.0	No
Respirable quartz	14808-60-7	3.1E-04	6.9E-06	2.0	No
Naphtha Light Aromatic	64742-95-6	0.37	8.0E-03	100.0	No
Talc (non-asbestiform)	14807-96-6	1.9E-03	4.1E-05	4.8	No
Titanium dioxide	13463-67-7	5.7E-03	1.3E-04	24.0	No
Toluene	108-88-3	1.8E-02	4.0E-04	5,000.0	No
Xylene	1330-20-7	1.77	3.9E-02	100.0	No

Table 1.4.6-12 Notes:

1. Per NYSDEC DAR-1 "Guidelines for the Evaluation and Control of Ambient Air Contaminants Under Part 212", issued February 12, 2021.

2. "--" indicates NYSDEC AGC not available for the referenced chemical.

1.4.6.4.1 Conclusion

Based upon review of relevant data, and in accordance with CLCPA Section 7(3), a discussion of mitigation measures to reduce co-pollutant emissions from the project's GHG sources and an evaluation of project-related potential air quality impacts on the surrounding community has

been performed. Results from site-wide air quality impact modeling demonstrate that project-related impacts will not disproportionately burden the nearby disadvantaged community (Ezra Prentice). It is therefore concluded that the project's impact on air quality in the surrounding community will be minimal and acceptable.

Commented [NYSDEC19]: It is premature to make this conclusion. Emissions details have not been provided and no verification of the emissions have been done by NYSDEC staff. Additionally, the enhanced public participation process is just beginning, and stakeholders should have the opportunity to review the project documentation and fully participate in the environmental permit review process before determinations are made on whether mitigation measures are appropriate or not.



December 17, 2021

Mr. Robert F. Leslie, AICP
Director of Planning
Town of Bethlehem
Department of Economic Development & Planning
445 Delaware Avenue, 2nd Floor
Delmar, NY 12054

Via email only: rleslie@townofbethlehem.org

**Re: Albany Port District Commission
Marmen Welcon LLC Tower Manufacturing Plant Project
Beacon Island, Tax ID 98.01-2-1.0 / 98.00-2-10.23
Town of Bethlehem, Albany Co, New York
MJ File: 709.26A
Technical Review of SDEIS**

Dear Mr. Leslie:

MJ Engineering and Land Surveying (MJ) has conducted a correctness and technical review for the above referenced project. Documents received for our review included the following:

- Revised Supplemental Draft Environmental Impact Statement (SDEIS) and Appendices dated October 2021
- SDEIS Appendix G – Traffic Impact Statement, dated July 21, 2021 and Revised October 22, 2021

Based on our review of these materials, MJ offers the following comments:

SDEIS Appendix G – Traffic Impact Statement

1. The City of Albany will need to provide review and comments on the property located within their jurisdiction.
2. NYSDOT will need to provide review and comment as this project impacts NY Routes 32 and 144.
3. The modifications to the driveway access to and the additional left-turn lane on NY Route 144 will require review and approval by the NYSDOT.
4. Page 4: The improvements referenced from the FGEIS do not include the following intersections where signal timing changes were proposed:
 - a. NY 32 and 1st Ave/787 Exit 2
 - b. NY 32 and US 9W
 - c. 787 and 87 Exit 23

Include a discussion why these are not included.

5. Figures 2A and 2B: The difference in volumes between intersections along the NYS Route 32 and 144 corridor do not match. It is understood the volumes will not balance due to data collected at different times, but the differences should match if all that has changed is the trip volumes. Volumes should be verified and updated accordingly.
6. Page 12, Trip Assignment: The report states that the traffic assessment from Marmen Welcon indicates the



project will generate 324 trips during the largest shift change and references Appendix A for the assessment. The assessment in Appendix A is from March 2021 and was included in the July TIS submission that included 350 employees and not the increased 550 employees now proposed. Provide updated assessment to allow for review of trip generation volumes.

7. Page 12, Trip Assignment: The report should include entering/existing trip distribution. If it matches what was in the GEIS, state this and reference the percentages. If they do not match, provide entering/existing trip volume distribution.
8. Page 12, Trip Assignment: The report states that a separate truck route is proposed during the construction phase of the project with trucks then using the proposed truck route. The proposed truck route shall be used by construction vehicles throughout the duration of construction of the proposed facility.
9. Page 14, Figure 6: Modify legend to include AM and PM volume designation.
10. Page 20: The driveway is proposed to be limited to right-turns for exiting vehicles due to available sight distance. There is a concern that drivers wanting to go south could use Old River Road, Anders Lane, or Glenmont Road to turn around and head south. The previous plan dispersed traffic leaving the Port and allowed for left turns out of South Port Road. Is there another alternative access location to NY Route 144 that would allow for a full access driveway with existing conditions? Some options could be to use the existing railroad underpass after improving the roadway, possible connection of the northern driveway to Normanskill Street by separating traffic on the bridge. If other alternative access is not feasible, what mitigation would be proposed to limit the use of Old River Road, Anders Lane, or Glenmont Road by southbound vehicles?
11. The report states that if the speed limit is reduced by NYSDOT in the vicinity of the proposed driveway, a full access driveway will be utilized. The sight distance table on page 22 only includes information for the right-out only condition. This table, or a separate table, should be included for the left turn and what mitigation is required to obtain the required sight distances for Case B1, Left Turn from Stop.
12. Page 22: If clearing exceeds NYSDOT highway right-of-way, how will clearing be performed on land not owned by the Port on the north side of NY Route 144 to achieve required sight distances for the 55-mph speed as shown in Table 5?
13. Page 24, Rail Analysis, Table 9: Provide updated traffic assessment to verify proposed rail car data provided.
14. Page 25, Maritime Analysis, Table 10: Provide updated traffic assessment to verify proposed vessel and barge data provided.
15. Signal Warrant: The satisfaction of signal warrant thresholds by themselves do not mean a traffic signal should be installed. The traffic signal warrants will require NYSDOT review and approval.
16. Page 25, Conclusions: Third bullet states "additional traffic generated by the proposed Port of Albany expansion along River Road will have a negligible impact on the operations of the NYS Route 144 (River Road) corridor, as well as South Port Road." Without including analysis results for all intersections within the study area, this conclusion can't be verified. Include analysis results of all study area intersections with new distribution and volumes for this specific development. The impacts of the increased volumes and new trip distribution on the Glenmont Road intersection are of particular concern.
17. Page 25, Conclusions: Fifth bullet states a coordinate signal is recommended at the intersection of NY Route 144 (River Road) with NY Route 32 (Corning Hill Road). If NYSDOT denies the signal, would the Port and/or Marmon Welcon consider a contribution in the amount required to construct the traffic signal into an escrow account to be used solely for the purpose of installation of a traffic signal at this location. An estimate for the amount would be required to be submitted for review, and potential adjustment, prior to agreement of the amount.



18. Page A1-A3, Figures 7A, 7B, and 7C: Provide figures with text that is readable. The text is blurry and difficult to read. Figure 7C uses 60 mph speed compared to 45/55 mph used in other parts of the report. Explain why this is different at this location than other locations in the report.
19. Comments provided on the Traffic Impact Study should be carried through to the text in Section 3.7.

General SDEIS Comments

20. Section 3.3 Wetlands and Surface Waters – This section is claiming that the wetlands on the National Grid Property are Palestrina emergent wetlands. However, the SWPPP and the storm water design is based upon the wetlands being tidal. The wetland maps and delineation both show the wetland as no- tidal. These documents and design approaches need to be coordinated and compliant with each other. This issue is a very large issue that needs to be addressed to move the stormwater design forward.
21. Section 3.8.1 Drainage – as in Section 3.3, this section is claiming that the wetlands on the National Grid Property are Palestrina emergent wetlands. However, the SWPPP and the storm water design is based upon the wetlands being tidal. The wetland maps and delineation both show the wetland as no- tidal. These documents and design approaches need to be coordinated and compliant with each other. This issue is a very large issue that needs to be addressed to move the stormwater design forward.
22. Section 3.12 - Aesthetic and Visual Resources – add discussion about seasonal visual impact and consider photo simulations with existing conditions photos during leaf-off season (Appendix H) to better illustrate potential impacts during leaf off season.
23. Section 3.15 – Emergency Services – more clearly address potential impacts and mitigation to emergency services, specifically the Selkirk Fire Department.
24. Address comments from NYS Department of Environmental Conservation (letter dated August 13, 2021 and subsequent communication) regarding 3.2 Vegetation and Wildlife; 3.4 Floodplains and Floodways; 3.6 Climate and Air; 3.7 Traffic and Transportation; and 3.20 Environmental Justice Policy.
25. Address comments from the Stockbridge-Munsee Tribal Historic Preservation office (letter dated December 6, 2021) related to visual impacts and noise impacts on Papscaanee Island.

No further comments at this time. Additional comments may be forthcoming as the project advances to site plan review.

Should you have any questions, please do not hesitate to contact myself or Mr. Joel Bianchi at (518) 371-0799.

Sincerely,

Jaclyn Hakes, AICP
Associate / Director of Planning Services

ecc: Joel Bianchi, PE, Principal and Director of Municipal Engineering
Chad Schneider, PE, Traffic Engineer
Robert Leslie, Town of Bethlehem Planning Director
File

Conclusion

The following general conclusions were determined based on the updated traffic analysis associated with the proposed development:

- The proposed development will generate traffic volumes within the Phase 3 threshold range established in the FGEIS finding statement.
- The development will have a different trip distribution from the assumptions in the FGEIS, with more traffic utilizing the proposed southern River Road driveway; however, the remaining intersections will see similar or improved levels of service than those anticipated for the Phase 3 FGEIS analysis.
- The study area intersections LOS and delay analysis revealed that the additional traffic generated by the proposed Port of Albany expansion along River Road will have a negligible impact on the operations of the NYS Route 144 (River Road) corridor, as well as South Port Road.
- Supplementary turn lanes were reviewed at the developments access driveway and a dedicated left turn lane is recommended in order to separate through traffic from vehicles slowing to enter the proposed site.
- Additional recommended improvements to the surrounding roadway network include the consideration of a coordinated signal at the NYS Route 144 (River Road) / NYS Route 32 intersection, in accordance with the guidelines set in the FGEIS. Coordination with NYSDOT is recommended to review a signal installation at this intersection.
- A speed study completed by the NYSDOT is recommended at the proposed southern site driveway on NYS Route 144 to determine if the regulatory speed limits of 55-mph should be reduced to match the advisory speed limit of 45-mph.
- All delivery trucks will utilize the approved truck routes.

The complete Traffic Impact Study has been provided in **Appendix G**.

3.8. Drainage

3.8.1. Environmental Setting

The supplemental Project Area consists of approximately 14.7 acres located at 700 Smith Boulevard in the City of Albany, and 4.4 acres of the National Grid property adjacent to Beacon Island. The area located at 700 Smith Boulevard is part of a proposed remediation project to be completed prior to the commencement of the Port of Albany Expansion Project. The 700 Smith Boulevard site will be capped with milled asphalt, making the entirety of the 14.7 acres impervious surface. The portion of the project located on the National Grid Property adjacent to Beacon Island consists primarily of brush and trees, making the entirety of the 4.4 acres pervious surface.

Same comment as in the earlier section.

There is one (1) delineated wetland within the supplemental drainage area on the National Grid property. **Wetland 1 (7.13 acres) is a freshwater emergent and forested wetland and functions as storage during flooding events.** The supplemental project will temporarily impact 0.33 acre and permanently impact 0.01 acres of Wetland 1 (see **Section 3.3 Wetlands** for a more detailed

description). There are no wetland impacts associated with the 700 Smith Boulevard portion of the project.

The Project Area’s topography is largely comprised of flood plain and contains very little elevation change.

The parcel at 700 Smith Boulevard is at or near elevation 14 feet and contains very little elevation change. This site was previously developed and has some existing closed drainage that outlets to the Smith Boulevard corridor.

The Project Area on National Grid property ranges from 12-14 feet in elevation and is largely comprised of flood plain. The existing area drains to Wetland 1 via overland flow. In large storm events Wetland 1 drains to the Normans Kill through an existing 40” culvert.

3.8.2. Potential Impacts

Runoff from the proposed impervious area at the 700 Smith Blvd. parcel will travel via sheet flow to a new closed drainage system. The proposed drainage system will have a single outlet pipe connecting to the existing storm system trunkline owned by the APDC which runs directly to the Hudson River. The proposed system will have a stormwater management filter structure (anticipated to be a hydrodynamic separator) at the outlet to the existing system to provide water quality treatment.

No quantity treatment

Albany Review not in Bethlehem

Runoff from the proposed impervious area at the National Grid property adjacent to Beacon Island will travel via sheet flow to through a grass filter strip into the adjacent wetlands. New proposed closed drainage systems will outlet to a retention pond to project water quality volumes prior to being outlet to the adjacent wetlands. During larger storm events (greater than a water quality storm, the proposed stormwater management practices will have overflows to convey stormwater into the existing wetlands to maintain the wetland’s function as storage during following storm events.

The retention ponds shown for the closed drainage system is for aspects of the design that was in the FEIS. The additional parking areas are not sending any stormwater to the ponds and only the wetlands with no quantity control.

3.8.3. Mitigation Measures

The Project Area will consist of approximately 15.5 acres of impervious cover and approximately one (1) acre of pervious cover. Since the Project Area will have land disturbance of more than one (1) acre, a SPDES permit (General Permit for Stormwater Discharges from Construction Activity, GP-0-20-001) will be required for the project. In accordance with the SPDES permit, the project will not be required to provide water quantity controls as it will discharge directly to a tidal water

I believe this 15.5 acres is only the disturbance associated with Smith BLVD. I think they should have a section with the disturbance associated with the national grid parking areas. These areas need to be coordinated with the SWPPP and NOI disturbances.

Two separate SWPPPs will be developed in accordance with the permit regulations. The SWPPPs will be reviewed and approved by the respective agency having jurisdiction as the MS4, the Town of Bethlehem or the City of Albany. The SWPPPs will be prepared in accordance with the NYSDEC Manual and meet the following criteria as the principal objectives contained in an approved SWPPP.

- Reduction or elimination of erosion and sediment loading to waterbodies during construction activities. Controls will be designed in accordance with the NYSDEC’s New

York State Standards and Specifications for Erosion and Sediment Control.

- Mitigate the impact of stormwater runoff on the water quality of the receiving waters.
- Mitigate the increased peak runoff rate of runoff during and after construction.
- Maintenance of stormwater controls during and after completion of construction.

These objectives will be accomplished by incorporating design criteria outlined within the Technical Guidelines provided by The Manual.

3.9. Water Service (Potable and Fire Protection)

3.9.1. Environmental Setting

The APDC proposes to service the 700 Smith Blvd Project Area with water by connecting to the existing water infrastructure owned by the City of Albany within the Smith Boulevard corridor. Existing water supply capability within the vicinity of the beacon island Project Area was outlined in the FGEIS and is applicable to the supplemental Project Areas.

I dont think this is correct. I dont think the FEIS talked about the city of Albanys water service?

3.9.2. Potential Impacts

The Project Area is within the port districts water service area and the previous buildings on site had water services; therefore, adequate water capacity is anticipated to service the proposed buildings with is anticipated to require roughly 1,100 gpd.

I believe these demands are for 700 Smith BLVD only as they do not match the demands requested for the remaining portions of the development

3.9.3. Mitigation Measures

The water service demand associated with the Project does not exceed the threshold established in the FGEIS and will not put a significant demand on existing water service supplies in the region, therefore no specific mitigation is proposed.

If this statement is about 700 Smith BLVD only I dont think this statement is correct. If this statement also includes the additions and project changes in Bethlehem this is not a correct statement as the water demands have increased and the Town may not be able to provide the water demands as currently requested.

3.10. Sanitary Sewer

3.10.1. Environmental Setting

Applicant proposes to service the 700 Smith Boulevard Project Area with sanitary sewer by connecting to the existing sewer infrastructure owned and maintained by the Albany County Water Purification District.

3.10.2. Potential Impacts

The site is calculated to produce roughly 1,100 gpd of liquid waste. The site was previously developed with buildings and the proposed development will connect to the same sewer main that the previous developments tied into.

3.10.3. Mitigation Measures

The building at 700 Smith Boulevard will not produce a significant amount of sanitary sewer waste beyond the capabilities of the Albany County Water Purification District, therefore, no specific mitigation is proposed. The sewer service demand associated with the proposed Beason

Island parcel with the parking expansion onto the National Grid property does not exceed the demand thresholds established in the FGEIS and mitigation from the FGEIS is still applicable.

3.11. Historic, Cultural, and Archeological Resources

3.11.1. Environmental Setting

Previously Evaluated in FGEIS

Based on previous investigations in the vicinity of the original Project Area conducted in 2002 and 2003, detailed in the FGEIS, it was determined by the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP) that the Project would have “No Effect” upon cultural resources in or eligible for inclusion in the National Registers of Historic Places on September 25, 2003.

In November 2018 the NYSOPRHP was consulted in order to provide current an effect determination for the currently Project. The NYSOPRHP requested that the north entry road, the western utility corridor, and the south entry road areas be evaluation of prior disturbance and archeological sensitivity. An additional Archaeological Evaluation was completed and based on NYSOPRHP’s review, it was determined that a National Register eligible site, Papscanee Island Historic District, was located across the Hudson River from the Project Area. Papscanee Island Historic District is comprised of agricultural fields which make the area visually unique and would have been recognizable to the historically prominent Mohican Sachem (Chief) Papsickene.

Based on all previously submitted project information to the NYSOPRHP for review, the NYSOPRHP indicated in a letter, dated March 14, 2019, no properties, including archaeological and/or historic resources, listed in or eligible for the New York State and National Registers of Historic Places will be adversely affected by the Project as currently designed. A follow up letter and visual simulation was issued to the NYSOPRHP on August 6, 2019, with the increase in potential building height from 60 feet to 85 feet. NYSOPRHP issued a response on September 13, 2019, maintaining that the Project with increase in building height would have No Adverse Effect.

All previous correspondence and reports provided to or received from the NYSOPRHP to date have been provided in the FGEIS Appendix L.

Supplemental Project Area

The supplemental Project Area lies within a natural, industrial, and rural/suburban context. The site at 700 Smith Boulevard in the City of Albany consists of a vacant urban lot, and the site on National Grid property consists of mowed successional old field. The neighboring land uses to the north and south are industrial. The parcel at 700 Smith Boulevard was at one point used as a rail yard then a metal recycling facility, and the National Grid property has been developed with buried gas lines and overhead electrical lines. Further away from the Project Area, west of River Road, the area is rural in character with sparse minor roads and low-density residential housing throughout. Given the previous disturbance and industrial and commercial uses of the supplemental Project Area(s), it is not anticipated that there will be impacts to archaeological resources.

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The SEIS is claiming that the wetlands on the National Grid Property are Palestrina emergent wetlands. However the SWPPP and the storm water design is based upon the wetlands being tidal. The wetland maps and delineation both show the wetland as non tidal. These documents and design approaches need to be coordinated and compliant with each other. This issue is a very large issue that needs to be addressed to move the stormwater design forward.

3.3. Regulated Wetlands and Surface Waters

3.3.1. Environmental Setting

Surface Waters

Previously Evaluated in FGEIS

Surface waters within the Project Area include the Hudson River and Normans Kill. Both riverine systems are subject to tidal influence and are considered tidal freshwater reaches, having salinities of <0.5%. Jurisdiction of these surface waters was evaluated in the FGIES.

Supplemental Project Area

Proposed action under this DSEIS will not result in additional impacts to surface waters.

Wetlands

Previously Evaluated in FGEIS

A wetland delineation was conducted in April 2019 by McFarland Johnson, Inc., for the FGEIS. The results of the delineation indicated that there are 8 freshwater wetlands located within the project limits. These wetlands are hereafter referred to as Wetlands 1, 3, 4, 5, 6, 7, 8, and 9. Wetlands within the original study are totaled approximately 2.33 acres. The USACE field reviewed the wetland boundaries and provided verbal acceptance of the boundaries on May 13, 2019. A Preliminary Jurisdictional Determination is pending.

Supplemental Project Area

The New York State Freshwater Wetland and Tidal Wetlands mapping indicates there are no NYSDEC jurisdictional wetlands within or adjacent to the supplemental Project Area (See Figures 3.3-1 and 3.3-2). Review of USFWS National Wetlands Inventory (NWI) mapping indicates that the majority of the supplemental Project Area on National Grid property is mapped as palustrine emergent wetlands (PEM) and partially with palustrine forested wetlands (PFO) (See Figure 3.3-3). It should be noted that NWI mapping does not have any regulatory consequence, but rather indicates areas that may meet federal wetland criteria as identified by the USFWS using aerial photography.

A Supplemental Wetland Delineation was performed by McFarland-Johnson, Inc., in April 2021 for the 18.22 acres on the National Grid parcel. The wetland delineation was conducted through field investigations of vegetation, soils and hydrology in accordance with the USACE protocols outlined in the 1987 Corps of Engineers Wetlands Delineation Manual (1987 USACE Manual), and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Regional Supplement), dated January 2012. The wetland boundaries were recorded using a hand-held Trimble Geo7X GPS unit with decimeter (10 cm/ 4 inch) post processing accuracy. USACE Wetland Determination Data Forms were recorded to document the wetland.

One contiguous wetland, comprising a total of approximately 7.13 acres, was delineated within the 18.22-acre area under the supplemental Project Area. The delineated wetland represents an extension of the 2019 wetland delineation and previously identified as Wetland 1. The 7.13-acre portion of Wetland 1 located within the National Grid parcel is considered predominately a PEM wetland. Dominant vegetative species included eastern cottonwood (*Populus deltoides*), common reed (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*), and spike rush (*Eleocharis palustris*). Wetland 1 drains in a northerly direction into 40-inch corrugated metal pipe (CMP) which discharges directly to the Normans Kill.

Wetland 1 has a direct surficial hydrological connection to the Normans Kill, which is considered a TNW under Section 10 of the Rivers and Harbors Act and Section 404 of the CWA, and therefore should be regulated under Section 404 of the CWA.

A copy of the Supplemental Wetland Delineation Report and figures prepared in May 2021 have been included in **Appendix F1**.

Figure 3.3-1: NYSDEC Freshwater Wetlands Map

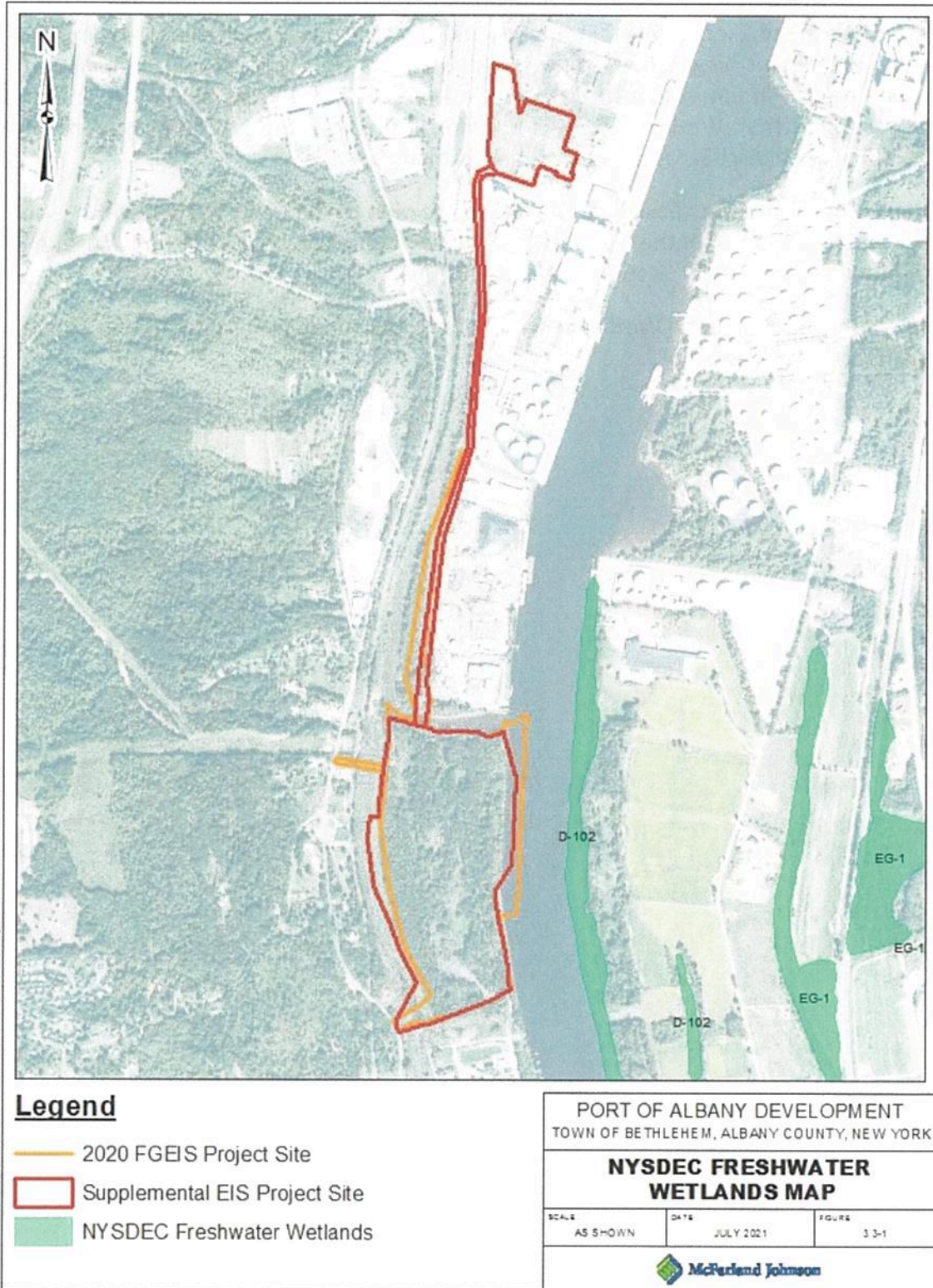


Figure 3.3-2: NYSDEC Tidal Wetlands Map

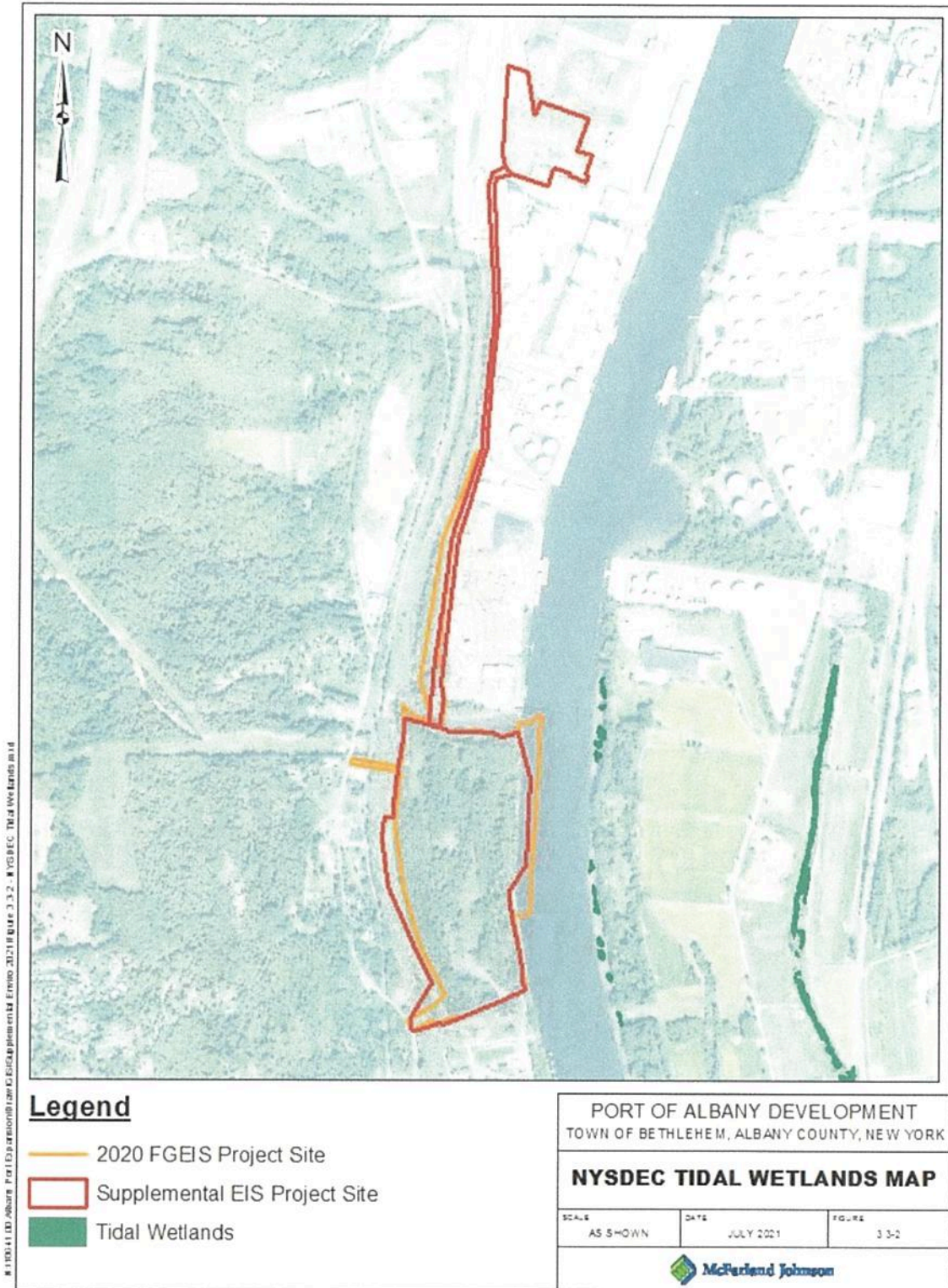
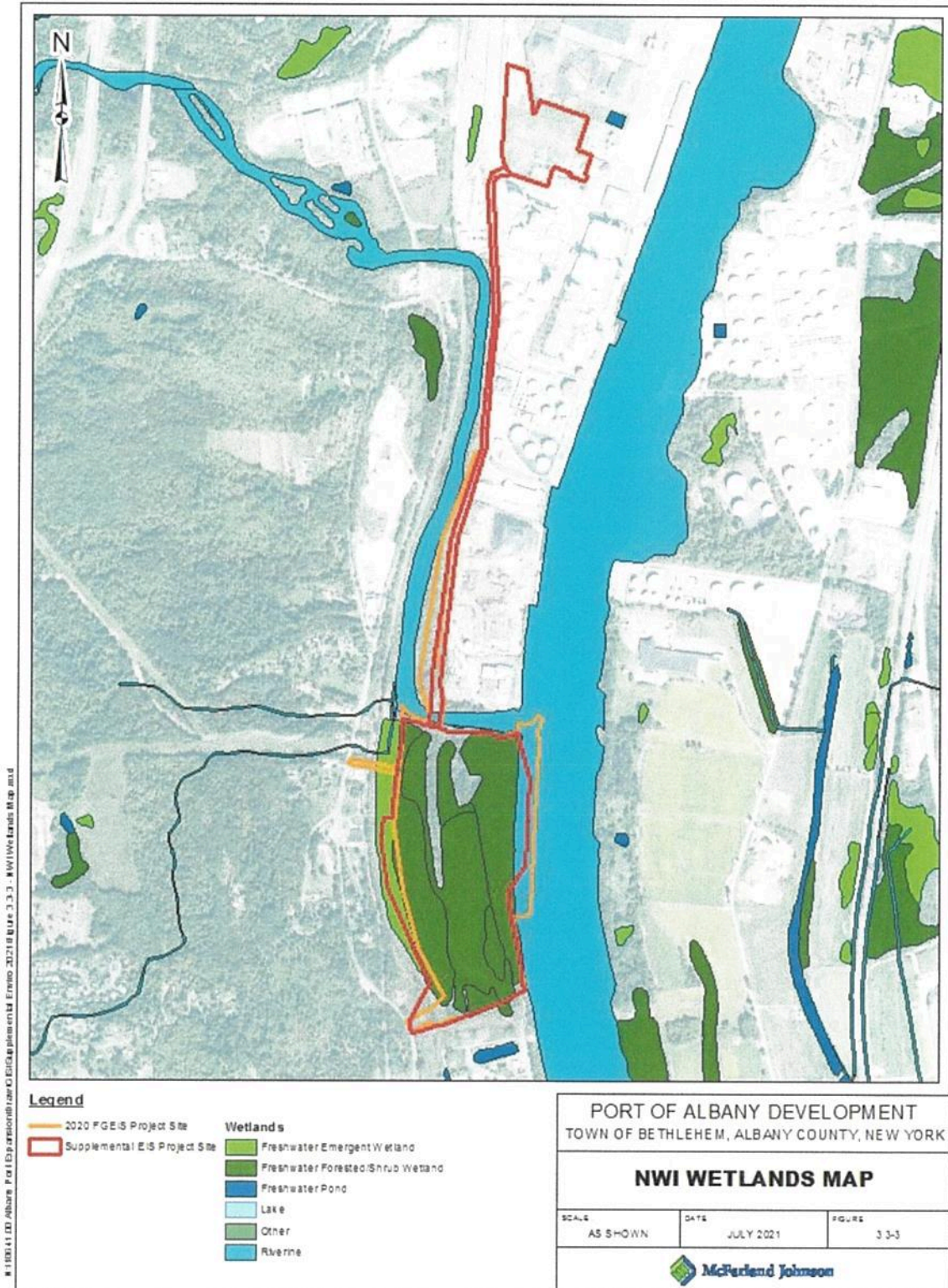


Figure 3.3-3: NWI Wetlands Map



Stockbridge-Munsee Tribal Historic Preservation

Main Office
W13447 Camp 14 Rd
Bowler, WI 54416

Extension Office
86 Spring St
Williamstown, MA 01267

December 6, 2021

Town of Bethlehem
C/O Planning Board
445 Delaware Avenue
Delmar, NY 12054

RE: Resolution to Accept the Supplemental Draft Environmental Impact Statement as Complete and Establish Public Comment Period - Marmen / Welcon Offshore Wind Tower Manufacturing Plant Port of Albany Expansion-Site Plan Application 21-00100006

Town of Bethlehem Planning Board,

The Stockbridge-Munsee Community Tribal Historic Preservation Office wishes to address Resolution PB – Resolution PBRES-2021-7. Resolution to *approve the Resolution to Accept the Supplemental Draft Environmental Impact Statement as Complete and Establish Public Comment Period - Marmen / Welcon Offshore Wind Tower Manufacturing Plant - Site Plan Application 21-00100006* ** Pending its public hearing December 7th and written comment period through December 17, 2021. The Stockbridge-Munsee Community Tribal Historic Preservation Office operates from its offices in Williamstown, MA. We conduct careful and meaningful consultation through Section 106 of the National Historic Preservation Act and National Environmental Policy Act to review Federal undertakings along with state and local consultation projects. Our efforts in Historic Preservation maintain government-to-government relationships and ensure Tribal interests in cultural resources throughout the Tribe's traditional ancestral homelands along the Hudson River Valley are represented. We wish to address the Tribal Nation's concerns with the proposed ALBANY PORT DISTRICT COMMISSION INDUSTRIAL PARK PROJECT (PORT OF ALBANY EXPANSION) Marmen/Welcon Offshore Wind Tower Manufacturing Plant on Route 144 in the Town of Bethlehem, Albany County, New York.

The proposed Port of Albany Expansion project is immediately across the Hudson River from and within the viewshed of Papscaanee Island. Papscaanee Island is a Traditional Cultural Landscape and as such represents a significant cultural resource for the contemporary Stockbridge-Munsee Band of Mohican Nation, both historically and from a religious and cultural standpoint. Historically the Island was home to thriving Mohican village sites for thousands of years. At the time of Dutch contact in 1609, the Island was home to the Mohican sachem Papsickene, for whom the Island still maintains his name. Today, Papscaanee Island continues to play an integral role in the living cultural heritage of the contemporary Tribal Nation seeing community members visiting the Island regularly.

Since 2019 Stockbridge-Munsee Community Tribal Historic Preservation Office has carried out careful government-to-government consultation on this project to gather

Stockbridge-Munsee Tribal Historic Preservation

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information necessary for review and making our determination. Initial concerns were increased when the project scope had been altered to include several design revisions. After further review of proposed changes and the requested revised visual simulation assessment provided by McFarland Johnson, November 8, 2021, Stockbridge-Munsee Community Tribal Historic Preservation Office has the following comments.

- SMC THPO finds that the plant as currently proposed would have an **Adverse Effect** on the visual and scenic attributes of the landscape from Papscaanee Island for any Tribal member visiting. These impacts include the visual contrasts of the building structures and yellow color scheme of the respective installation components of the wind tower piers at their current staging area as compared to the natural landscape.
- There is concern over the size of the building structures as compared to the surrounding landscape. The revised project scope now includes 100'+ tall structures as compared to the original 80'. The size of these structures will certainly be visible from not only the shoreline of Papscaanee Island but the interior as well.
- The visual impact simulation depicts the proposed project during a day time scenario. The manufacturing plant will be operating 24/7. Lighting associated with these operating activities would also be a visual impact concern.
- SMC THPO requests an acoustic noise assessment to be conducted that includes projected levels experienced from multiple points across Papscaanee Island. This assessment should include ambient noise levels recorded from Papscaanee Island as well as what would be projected operating decibels experienced from the Island, not just 75' and 50' from the manufacturing structures. We ask the assessment to cover a 24-hour period considering the projected operating hours of the manufacturing plant and port activities. Perceptible increase in noise levels, regardless of time of day, location on Papscaanee Island, and or frequency of visitors, would be an **Adverse Effect**. Whether at sporadic times, when Tribal community members visit Papscaanee today due to its significant cultural importance, there would be discernable noise impacts associated with operating activities being proposed by the Port of Albany Expansion Marmen-Welcon Tower Manufacturing Plant project.
- SMC THPO asks for more clarity on the buffer of natural vegetation and trees to be kept in place on the southern extent of the project area. How wide is that buffer planned to be? Are the existing trees intended to be maintained and or what is planned to be placed there? What if the natural vegetation and trees die? What is the plan for replacement? There is concern that the natural barrier of trees will not be sufficient to dampen any acoustics associated with manufacturing processes and or appropriate coverage to mitigate the visual impacts of the larger structures. If the trees die due to various construction and or manufacturing activities or environmental factors, the proposed building structures would be very clear on the landscape.

Stockbridge-Munsee Tribal Historic Preservation

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We appreciate the Town's respect and cooperation in the SEQR process as lead agency regarding the Port of Albany Expansion project. In the capacity of Tribal Historic Preservation Officer, an authorized representative of our Tribal Nation to consult Government-to-Government on such matters, I respectfully offer our continuing comments on the proposed PORT OF ALBANY EXPANSION Marmen/Welcon Offshore Wind Tower Manufacturing Plant project on Route 144 in the Town of Bethlehem, Albany County, New York.

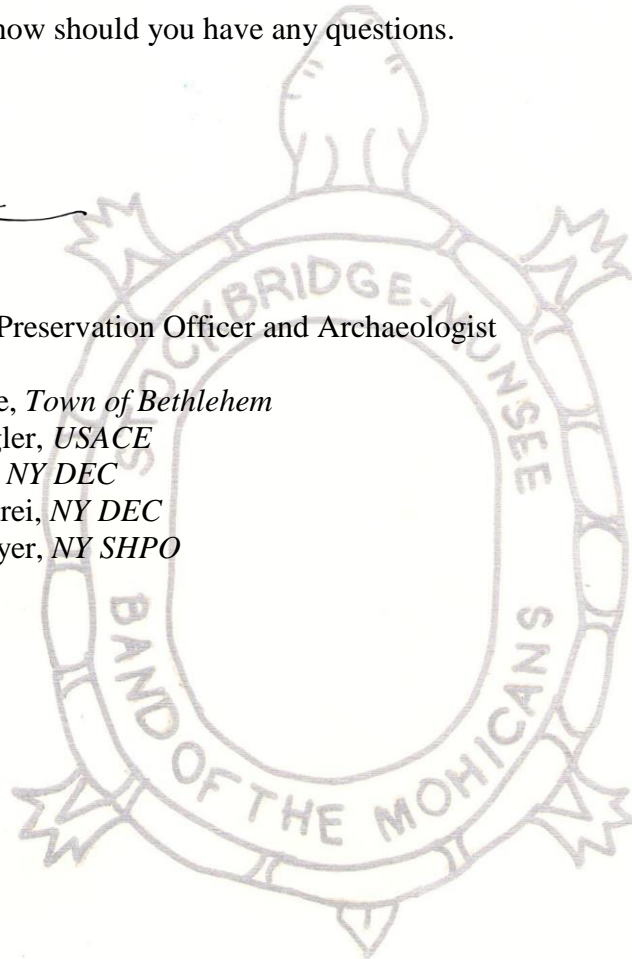
Please let me know should you have any questions.

Sincerely,



Nathan Allison
Tribal Historic Preservation Officer and Archaeologist

CC: R. Leslie, *Town of Bethlehem*
A. Dangler, *USACE*
D. Witt, *NY DEC*
C. Vandrei, *NY DEC*
J. Schreyer, *NY SHPO*





**Parks, Recreation,
and Historic Preservation**

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

December 9, 2021

Jordan Tate
Environmental Analyst
McFarland Johnson
60 Railroad Place
Suite 402
Saratoga Springs, NY 12866

Re: USACE
Marmen/Welcon Offshore Wind Tower Manufacturing Plant
Town of Bethlehem, Albany County, NY
21PR04693

Dear Jordan Tate:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources.

SHPO has reviewed the proposed cut/fill plan and construction depths, and the visual simulation from the Papscaanee Island shoreline. We have no archaeological concerns with the proposed ground disturbing activities that will occur during this project. Based on the visual simulation, the SHPO concurs with the Stockbridge Munsee Community (SMC) THPO that the Marmen/Welcon Offshore Wind Tower Manufacturing Plant will have an adverse visual effect on the National Register eligible Papscaanee Island Historic District (08303.000130).

SHPO will provide additional comments once the Acoustic Noise Assessment has been completed to measure the proposed project's noise impacts at the Papscaanee Island Historic District and the SMC THPO's comments regarding noise impacts have been provided.

If you have any questions, I can be reached at Jessica.Schreyer@parks.ny.gov.

Sincerely,

Jessica Schreyer
Scientist Archaeology

Comments of the New York State Attorney General’s Office on the Supplemental Draft Environmental Impact Statement for the Proposed Port of Albany Expansion Project

Bethlehem Town Planning Board
December 17, 2021

The New York Attorney General’s Office is pleased to submit these comments on the Supplemental Draft Environmental Impact Statement (“SDEIS”) for the Albany Port District Commission (“Port District”) Port of Albany Expansion Project (“Project”), pursuant to the State Environmental Quality Review Act, ECL Article 8 (“SEQRA”).

These comments follow the Attorney General’s previous comments on Town’s initial generic environmental review of the Project. We submitted comments dated September 16, 2019 on the Draft Generic Environmental Impact Statement and comments dated January 16, 2020 on the Supplemental Draft Generic Environmental Impact Statement. The Attorney General’s comments addressed environmental justice, air emissions, and quality of life impacts of the Project on the Ezra Prentice Homes (“Ezra Prentice”).

Following completion of the generic environmental review, an offshore wind industry plant was chosen as the specific facility to be constructed and operated at the Project site. The purpose of these comments on the SDEIS for this facility is to ensure the implementation of needed mitigation measures to avoid adverse air pollution and quality of life impacts on the residents of Ezra Prentice by Project-related truck traffic on South Pearl Street where Ezra Prentice is located.

I. The Project

The Project is an expansion of the Port of Albany to be accomplished through the acquisition and development of about 81 acres of land consisting of Beacon Island in the Town of Bethlehem at the Town’s northern boundary with the City of Albany along with adjacent parcels. The Project entails construction of facilities supporting a new manufacturing operation that would produce tower components for the offshore wind industry. SDEIS, p. 1-2. Since completion of generic environmental review, the Project area has been expanded beyond Beacon Island to include approximately 4.4 acres on the adjoining parcel owned by National Grid, and the approximate 14.7-acre parcel located at 700 Smith Boulevard within the existing Port District in the City of Albany. SDEIS, p. 1-1. Tower production will occur within four buildings located on the Port Expansion property in the Town of Bethlehem. The fifth building is located at 700 Smith Boulevard. *Id.*

Under the DGEIS, absent mitigation measures, the Project would increase air pollution to Ezra Prentice disproportionately by increasing truck traffic on the portion of South Pearl Street that bisects Ezra Prentice. Without mitigation, the DGEIS estimated up to a 25.4 to 27.1 percent increase in mid-day peak hour truck traffic on South Pearl Street passing through Ezra Prentice. That amounts to an increase of between 25 and 26 trucks during peak hours. DGEIS, p. 3-50. However, the offshore wind industry facility is anticipated to result in far less truck traffic. According to the SDEIS, “[t]ruck traffic generated by the proposed development is expected to be limited to 4 trucks during the peak hours and truck receiving hours are restricted to between 8:00 AM and 5:00 PM. The bulk of the proposed deliveries to the site will come through ship vessels delivering materials to the existing port as well as rail delivery to a proposed rail spur into the 700 Smith Boulevard site.” SDEIS, p. 3-39. The Port District will complete the environmental justice review and public outreach process pursuant to the NYSDEC CP 29 Policy at the time of site plan application. *Id.*, p. 1-12.

II. Ezra Prentice

Ezra Prentice is a predominantly low-income public housing project in Albany’s South End, consisting of 16 buildings, 179 units, and over 400 predominantly minority residents, many of whom are children.¹ It is a potential environmental justice area because it suffers from disproportionate adverse environmental impacts when compared to other communities.

Ezra Prentice is located in the midst of significant air pollution sources - traffic from South Pearl Street and Interstate 787, the railyard literally in its back yard, and its proximity to petroleum storage tank farms, a wastewater treatment plant, and a marine transfer facility across the tracks. The State Department of Environmental Conservation completed an air study in 2019 which characterized air pollution sources and impacts to Ezra Prentice and the South End. New York State Department of Environmental Conservation (“DEC”), *Albany South End Community Air Quality Study: High Emitting Vehicles (HEVs)*, (Oct. 2019). The study found that emissions from high emitting vehicles were highest around Ezra Prentice, and concluded that “[r]educing emissions from HEV vehicles would have the greatest benefit in improving neighborhood air quality.” *Id.*

High Emitting Vehicles are diesel-fueled vehicles - trucks and buses - which emit high concentrations of traffic-related air pollution. DEC, *Albany South End Community Air Quality Study: Traffic-Related Air Pollution (TRAP) Results*, (Oct. 2019). Traffic-related air pollution is a mixture of pollutants, including

¹ A recent survey found that African Americans accounted for about 75 percent of Ezra Prentice’s population. Stacy Pettigrew, Ph.D., *Ezra Prentice Homes Health Project: Preliminary Observations* at 2 (May 14, 2019).

particulate matter and gases. Particulate matter is a mixture of multiple components and particle sizes, including particles ranging in size from PM10 (10 microns or less) through ultrafine particles (less than 0.1 microns). *Id.* Traffic-related air pollution gases include carbon dioxide, carbon monoxide, nitrogen oxides, benzene, and others. The DEC study found that traffic-related air pollution is approximately 50% higher along South Pearl Street at Ezra Prentice than at a background monitor in the South End. *Id.*

A recent health outcome review by the New York State Health Department found that “[h]ospitalization rates for asthma, COPD, acute bronchitis, hypertension, myocardial infarction (heart attack) and diabetes were all higher in the South End neighborhood than in Albany County.” New York State Department of Health, *Information Sheet: Albany South End Community Outcome Review*, (October 2019). The Department of Health concluded that the “health outcome review findings support actions being taken by NYSDEC, the City of Albany, NYSDOT and the Albany Housing Authority to reduce air pollution in the Ezra Prentice neighborhood.” *Id.*

III. Mitigation of Impacts on Ezra Prentice

A. Tenant Leases and Video Monitoring

At the urging of the Attorney General’s Office and others, the Findings Statement for the FSGEIS, dated June 2, 2020 (“Generic Findings Statement”), establishes a policy of routing truck traffic from the Project away from the Ezra Prentice Homes to mitigate adverse environmental impacts to that community. FSGEIS, § 3.7.H. Under the Generic Findings Statement, the policy of avoiding truck traffic at Ezra Prentice is to be enforced by provisions in tenant leases and video-monitoring, Specifically,

All tenant leases for the Project Site will include clause(s) that require strict adherence to the required truck route as a tenant obligation. APDC will enforce the negotiated lease clause(s) through progressive actions such as judicial injunction and may void the lease of any tenant that breaches such obligation or fails to cure within the timeframes set forth in such leases. A copy of the tenant lease clause shall be provided to the Bethlehem Planning Board as a condition of any site plan approval.

A video surveillance camera will be installed by the APDC near the intersection of South Port Road and Normanskill Street to monitor and ensure truck

traffic follows the required truck route. This surveillance camera will be added to the Port's extensive security system that is monitored by the City of Albany Police Department as well as the Port's security team.

FSGEIS, § 3.7.I., J.

The SDEIS supports the policy of avoiding truck traffic at Ezra Prentice. It provides that “[a]ir emissions for Ezra Prentice community will be mitigated by the establishment and enforcement of truck routes through existing City of Albany Streets through the Port District and State Routes to eliminate new trucks traveling on South Pearl Street.” SDEIS, p. 1-4. However, absent from the SDEIS are enforcement provisions. There is no mention of tenant leases or video monitoring that were conditions in the Generic Findings Statement.

Accordingly, the Attorney General recommends that the final SEIS and its finding statement provide that the policy of avoiding truck traffic at Ezra Prentice be enforced by provisions in tenant leases and video-monitoring, as previously set forth in the Generic Findings Statement.

B. Completion of Internal Road

In addition, the north-south internal port road needs to be able to accommodate traffic not only via incoming deliveries but between the staging area and manufacturing center. The staging area parcel is situated to accommodate rail and barge, but there is no project requirement to use those delivery modes rather than trucks. If trucks are used, this may cause congestion on the internal road, giving truckers incentives to access the Port of Albany via South Port Road, entailing travel through Ezra Prentice, rather than via Church Street, which would avoid Ezra Prentice. To mitigate that risk, the internal port road should be constructed at the outset of the Project and with a capacity to accommodate the newly configured project.

C. Recommendations for Improved Signage

Improved road signage can help ensure that trucks avoid Ezra Prentice. Current signage along Interstates 87 and 787, Routes 32 and 144, and nearby streets is not sufficiently informative to direct heavy-duty vehicles to the Port and can be confusing. The enhanced signage (see attachment), created for illustrative purposes, is intended to help direct drivers to access and egress from the Port of Albany on routes that avoid South Pearl Street where Ezra Prentice is located. The proposed signage directs drivers to use the Northern Port entrance via

Church Street when travelling along Interstate 787 in any direction and when utilizing Interstate 87 west. It also directs drivers to the Southern Port entrance when travelling from the South (or if they miss their exits off the interstates needed to access the Northern Port Entrance), also avoiding Ezra Prentice.

We understand that the owners of roads upon which any additional signage would be proposed – which may include the City of Albany, New York State Department of Transportation, and Thruway Authority - would have to approve new signage. The New York State Department of Transportation has indicated that the road owner would have discretion to erect “way finding” signs of the type we propose.

* * *

In conclusion, we believe that the aforementioned mitigation measures to ensure that trucks avoid passing through the Ezra Prentice Homes should be implemented.

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Attachment

Port of Albany Expansion: Signage Reference Locations North

Legend

- Signage_Reference_Locations
- Ezra Prentice Homes
- Major Roads for Port Access



Port of Albany Expansion: Signage Reference Locations South

Legend

- Signage_Reference_Locations
- Major Roads for Port Access



Reference Location 1: Interstate 787 South Bound Approaching Exit 2



Reference Location 2: Interstate 787 South off ramp to Route 32 South



Reference Location 3: Route 32 South to 787 South Service Road Port



Reference Location 4: Interstate 787 South Service Road at the Port of Albany North Entrance



Reference Location 5: Church Street North Bound at Broadway (North Port Exit)



Reference Location 6: Normanskill Street North at South Port Road (Both Directions)



Reference Location 7: South Port Road Exit



Reference Location 8: Interstate 87 Exit 23 at Interstate 787 and Route 9w



Reference Location 9: Interstate 787 North Bound Exit 1 at Route 9w



Reference Location 10: Route 9w South at Route 32



Reference Location 11: Route 32 at Route 144



Reference Location 12: Route 144 North at South Entrance to the Port of Albany



Referenced Location 13: Interstate 787 North Exit to the South Service Road Toward the Port of Albany North Entrance



Reference Location 14: Interstate 787 South Exit 1 at Route 9w



Reference Location 15: Interstate 87 South Exit 22



Reference Location 16: Interstate 87 North Exit 22



Reference Location 17: Interstate 87 Exit 22 at Route 144





Robert Leslie
Director of Planning
Town of Bethlehem
445 Delaware Ave
Delmar, NY 12054

via electronic mail to rleslie@townofbethlehem.org

RE: Comment on the Supplemental Draft Environmental Impact Statement - Albany Port District Commission Industrial Park Project (Port of Albany Expansion) Marmen / Welcon Offshore Wind Tower Manufacturing Plant - Site Plan Application 21-00100006

Dear Mr. Leslie,

Please accept these comments on behalf of Riverkeeper, Inc., on the Supplemental Draft Environmental Impact Statement (“SDEIS”) for the Albany Port District Commission Industrial Park Project (Port of Albany Expansion) Marmen/Welcon Offshore Wind Tower Manufacturing Plant (“Port Expansion” or “Project”) Site Plan Application (21-00100006). Riverkeeper appreciates the opportunity to comment.

Riverkeeper is a 55-year-old member-supported non-profit organization. Our mission is to protect and restore the Hudson River from source to sea and safeguard drinking water supplies, through advocacy rooted in community partnerships, science and law.

We are requesting revision to the SDEIS to better promote the protection and restoration of Submerged Aquatic Vegetation (“SAV”), an important habitat component of the Hudson River Estuary. Specifically, as required by law, the applicant must firstly avoid impacts to SAV if possible, and then mitigate residual impacts by:

1. obtaining the cumulative extent of potentially affected SAV beds from all past surveys to establish baseline extent;
2. avoiding all possible impacts to existing SAV or areas suitable to SAV; and,

3. supplementing the replanting of disturbed beds with planting of additional SAV in historically occupied beds and/or with restoration of shallows suitable for SAV, to allow for some contingency for areas where the restoration does not achieve baseline conditions.

Brief background about SAV

Protection and restoration of SAV has been identified as key goals of every restoration plan developed for the Hudson River Estuary, including the NYS Department of Environmental Conservation's (NYSDEC) Hudson River Estuary Habitat Restoration Plan¹ ("2013 Plan") and the Hudson River Comprehensive Restoration Plan² ("2018 Plan"), which describes SAV as being "universally recognized as critical nursery areas for small fishes, important in contributing dissolved oxygen to the Hudson and contributing to sediment stability."³ It is this plan, notably, that the Project applicant references when it states that it is "committed to maintaining a collaborative approach with NYSDEC in identifying a mutually agreed upon potential [SAV] mitigation plan in accordance with The Hudson River Comprehensive Restoration Plan" (original emphasis). The Hudson River Comprehensive Restoration Plan has the goal of increasing native SAV to "approach or exceed previously documented coverage (~4500 acres, 1997)" and enhancing and expanding "the mosaic of shallow water habitats ... for benthic animal, fish, and bird habitats and water quality." Water celery (*Vallisneria americana*) is the SAV that would be impacted by the project.

Prior to industrialization of the river, including creation of the shipping channel, much if not all of the reach of the river near the Project would have been shallow habitat supporting oxygen-rich water celery beds serving as nurseries and feeding grounds for diverse native fish species in a river dominated by shallows, side-channels and islands. "Between 1800 and 1972, shorelines and wetlands were extensively altered, relocated and eliminated along the 152-mile length of the estuary," according to the 2013 Plan. "The river channel has been narrowed and straightened between Catskill and Troy [including the Project area], and over a third of the surface area of the river in this same reach—over 3,300 acres—was filled with sediments dredged from the federal navigation channel." In the vicinity of the Project, the effort to create and maintain the shipping channel by the U.S. Army Corps of Engineers "included construction of dikes in the upper third of the estuary (Catskill to Troy) in an attempt to constrict the main channel, thereby increasing flow," according to the 2013 Plan. "Later projects included dredging the main channel, then depositing the dredged material in shallows behind the dikes to eliminate side channels, connect islands, and further concentrate the flow of water to inside the main channel. While beneficial for shipping, these actions resulted in the loss of nearly 4,000 acres of shallow-water habitat, including the near complete elimination

¹ NYS DEC, "The Hudson River Estuary Habitat Restoration Plan," 2013, available at https://www.dec.ny.gov/docs/remediation_hudson_pdf/hrhrp.pdf

² Partners Restoring the Hudson, "Hudson River Comprehensive Restoration Plan: Recommendations for the New York–New Jersey Harbor & Estuary Program Action Agenda and the New York State Hudson River Estuary Action Agenda," 2018. Available at <http://thehudsonweshare.org/>

³ *ibid*, "Submerged Aquatic Habitat and Shallow Water Habitat Target Ecosystem Characteristic," available at <http://thehudsonweshare.org/wp-content/uploads/2018/08/Submerged-Aquatic-Vegetation-and-Shallow-Water-Habitat.pdf>

of side channels in the upper third of the estuary.” The Port of Albany, and shipping in general, has been a direct beneficiary of this habitat destruction for several generations.

Of the thousands of acres of native SAV that once filled river shallows – water celery in freshwater, and eelgrass in brackish water – just 4,500 acres remained in 1997, when surveys of SAV began. Hurricanes Irene and Lee reduced the extent of SAV by 90%, and only a partial 56% recovery has been documented since then.⁴ SAV beds damaged in 2011 that have yet to recover are located in the general vicinity of the Project.⁵ Thus, not only has SAV extent been greatly reduced over the last 150 years, but significant amounts of this critical habitat have been lost over just the last decade. While most of the largest areas of SAV are south of the Project Site, research has shown that even fairly small areas are habitat for fishes and quite likely much more important than would be indicated just by their size.

It is therefore important to recognize that the Project is being built in a heavily altered part of the Hudson River, that the lack of suitable habitat for SAV under current conditions is due to more than a century of loss not only of the specific plant species but of the physical conditions that allow for its growth, and that the extent of SAV measured at any point in time represents a measurement of a vastly diminished and fluctuating extent. It is also important to recognize that both preservation and restoration of SAV are universally recognized as critical to the current and future health of the Hudson River, and the web of life that depends on the estuary, and that the restoration goal for the Hudson includes expansion of SAV coverage. Finally, it is important to recognize that direct habitat degradation through activities such as those proposed by the Project is only one stressor on SAV and the life that depends on it. Other stressors include invasive species, damage by recreational boaters and pollution associated with erosion and sedimentation, nutrient inputs and sediment toxicity; as well as climate-related stressors associated with extreme storms, sea-level rise and warmer water temperatures.⁶

Avoiding and Mitigating Project Impacts

As described in the SDEIS, dredging associated with the Port Expansion would destroy shallows that include several SAV beds identified by surveys in 2018 and 2020. These SAV beds are to be relocated to denser beds nearby that will not be disturbed by the Project.

First, the applicant must demonstrate that its estimation of impacts are calibrated to the right baseline conditions. The extent of baseline SAV habitat should not be limited to 2018 and 2020 surveys, but inclusive of all surveys, including the 2020 survey conducted by the applicant and all prior. The cumulative extent of all SAV surveys on record is available as a GIS layer made up of surveys conducted in 2018, 2016,

⁴ NYS DEC, “The State of the Hudson 2020,” available at https://www.hudsonriver.org/wp-content/uploads/2021/03/HREP_SOH_Final_12-2020.pdf

⁵ Stuart Findlay, Cary Institute of Ecosystem Studies, personal communication, December 2021.

⁶ NYS DEC, “The State of the Hudson 2020”

2014, 2007, 2002 and 1997.⁷ Use of this longer term baseline is justified because it is clear that SAV extent varies substantially year-to-year⁸ and use of previous coverage is the best measure of where SAV may occur in the future and serve to support the health of the Hudson.

Second, the applicant must avoid all possible impacts. Restoration plans rightly prioritize preservation over restoration. As stated in NYSDEC's August 29, 2020 letter to the applicant (emphasis added), "Alternatives that avoid and reduce impacts to any SAV communities and mussel communities must be fully developed, evaluated, and presented. The project sponsors should first determine if the project can be revised to avoid these resources. If they cannot, then relocation plans and transplant/mitigation plans must be developed." Specifically, NYSDEC stated that "Based on the concept plans, much of the Vallisneria would be impacted. Every effort should be made to avoid this area if possible. It is very difficult to transplant Vallisneria as it requires appropriate depths and sediment and procedures for transplant. Another option would be to protect one SAV bed with Vallisneria and take the Vallisneria that is planned to be impacted and design a transplant method to add to the protected SAV bed." It is unclear whether the applicant has sufficiently proved it can't avoid these impacts, which based on the evidence presented in the preceding section, would be preferable to mitigating impacts. The applicant only stated that its plans were in accordance with NYSDEC's letter, which only recommends transplanting as an option if impacts cannot be avoided in the first place.

Finally, should the Project be permitted despite unavoidable impacts to SAV beds, the cumulative baseline map along with field studies should be used to identify areas that can be planted with SAV where habitat is suitable and/or where SAV has been lost due to other stressors. This planting effort should not be limited to the immediate Project area, but should include suitable areas in the region, given the history of degradation of both physical habitat and this specific species for shipping over time. As NYSDEC notes, *it is very difficult to transplant Vallisneria*, so the applicant should – at minimum – be required to plant additional SAV using material appropriate to the region in addition to the SAV it proposes transplanting to ensure *at a minimum* no net loss of SAV. This planting should be done with an appropriate mitigation plan with site-specific objectives, monitoring and maintenance plans, adaptive management provisions, performance standards, and defined actions when performance standards are not met. One guide to determining appropriate compensatory mitigations may be the guidance developed by the U.S. Army Corps of Engineers for its New England District,⁹ though it is designed for eelgrass, a brackish SAV. Should planting

⁷ Hudson River National Estuarine Research Reserve (HRNERR) and NYSDEC, "Hudson River Estuary Documented Submerged Aquatic Vegetation (SAV)," 2020, available at <http://gis.ny.gov/gisdata/inventories/details.cfm?DSID=1209>.

⁸ NYS DEC, "The State of the Hudson 2020," available at https://www.hudsonriver.org/wp-content/uploads/2021/03/HREP_SOH_Final_12-2020.pdf.

⁹ U.S. Army Corps of Engineers, "New England District Compensatory Mitigation Guidance" available at https://www.nae.usace.army.mil/portals/74/docs/regulatory/Mitigation/2016_New_England_Compensatory_Mitigation_Guidance.pdf.

alone prove infeasible, the applicant should restore physical conditions, such as the re-creation of historic side channels, that can support SAV.

Thank you for considering these comments. If I can provide any further information please contact me at dshapley@riverkeeper.org or 914-478-4501 x226.

Sincerely,

A handwritten signature in blue ink that reads "Dan Shapley". The signature is written in a cursive, flowing style.

Dan Shapley
Co-Director, Science & Patrol Program

cc: Stuart Findlay, Fran Dunwell, David VanLuven

Appendix BB
Sturgeon Mitigation Memo and Impact Figure



February 23, 2022

Mr. Robert F. Leslie, AICP
Director of Planning
Town of Bethlehem
Department of Economic Development & Planning
445 Delaware Avenue, 2nd Floor
Delmar, NY 12054

**Re: Sturgeon Impacts and Mitigation (Executive Summary)
MJ Engineering Comments on DSEIS (dated February 16, 2022)
Albany Port District Commission – Port of Albany Expansion Project
Marmen-Welcon Tower Manufacturing Plant
Beacon Island Site, Town of Bethlehem Albany County**

Dear Mr. Leslie:

This letter is in response to MJ Engineering's Review letter dated February 16, 2022, where they submitted their comments associated with the Supplemental Draft Environmental Impact Statement (SDEIS) for the above reference project. This letter or executive summary reflects the latest agency and permitting coordination among the Albany Port District Commission (APDC), New York State Department of Environmental Conservation (NYSDEC) and U.S. Army Corps of Engineers (USACE), among other regulatory agencies.

The following information is respectfully submitted in response to each comment. Responses are in bold text.

- **Impacts to Sturgeon and Mitigation:** Per Comment A-7, include documentation of agreed upon impacts related to the sturgeon and measures to avoid, minimize or mitigate for those impacts. If specific mitigation measures have not yet been agreed upon, provide documentation of the ongoing mitigation plan preparation.

Responses and requested information is provided in the following sections.

1 EXECUTIVE SUMMARY - IMPACTS TO STURGEON AND MITIGATION

1.1 PROJECT DETAILS (WHARF AND DREDGING)

As presented in the Final Generic Impact Statement (FGEIS) accepted by the Town of Bethlehem on May 05, 2020 and latest SDEIS, the project involves the construction of a deep foundation-supported concrete-framed open-type wharf structure with approximate dimensions of 500 feet in length by 93 feet in width along a segment of the western bank of the Hudson River. The total area of the wharf is approximately 45,500 square feet (SF). The area of the wharf provided over water (outboard of the sheet pile cutoff

wall) is approximately 27,500 SF. The wharf construction is proposed along 500 linear feet of western riverbank of the Hudson River. Based on recent design revisions, approximately 78,768 cubic yards in 2.72 acres of the Hudson River would be dredged.

According to the NYSDEC, the project may result in impacts to sturgeon species. Therefore, preparation of an Incidental Take Permit Application was required under 6 CRR-NY 182.5¹, and submitted to NYSDEC for review and approval as part of the Joint Application Permit (JAP) under case number 4-0122-00322/00002. The Shortnose Sturgeon (*Acipenser brevirostrum*) is a listed species subject to this Incidental Take Permit (6 CRR-NY 182.11) and mitigation is required by NYSDEC to offset project impacts.

1.1.1 General Description of the Area

The shoreline along the Hudson River does not remain in its natural state and was previously altered (engineered). However, the shoreline has naturally revegetated with mature trees, which assist in stabilizing the shoreline and provide shade and cover along the edge of the Hudson River. An degraded and remnant timber runs nearly the entire length of the study area, and there are various types of shoreline armoring (e.g., stone, concrete) (Biodrawiversity, 2020). The timber revetment was constructed with a single row of timber piles joined by horizontal timber cribbing, and backed by compacted earth, gravel, and stone. Based on other historical documentation, it appears that portions of the revetment may have undergone periodic repairs or improvements, including placement of concrete slabs in lieu of stone surfacing; however, the exact locations and extents of such repair measures cannot be ascertained. These features have greatly altered intertidal and nearshore subtidal habitats and helped to create a steep depth gradient with little shallow subtidal habitat. Submerged aquatic vegetation (SAV) is generally absent or sparse. High turbidity in the area likely limits the depth distribution of SAV since sunlight barely penetrates more than five (5) to six (6) feet.

1.2 POTENTIAL STURGEON IMPACTS AND MITIGATION

The general layout of the proposed wharf places the riverside face of structure coincident with the face of the existing timber revetment, so much of the earthwork and construction would be landward, including excavation within upland areas. In-water work activity mainly consists of dredging. Dredging is required to match current depth of Hudson River navigation channel providing adequate separation and safe draft to vessels at the proposed wharf, which will travel along the existing federal navigational channel (Hudson River). The proposed dredging area is approximately 2.72 acres. The volume of material to be removed from this area in the Hudson River is limited to approximately 78,768 cubic yards of sediments to reach a minimum depth of -33 feet at mean lower low water (MLLW). Proposed depth is approximately 33 feet below the MLLW line, plus approximately two (2) feet of allowable overdredge.

Dredged material would be disposed (upland) at authorized facilities. The Proposed Action does not consider disposal / discharges of dredged or fill material into the Hudson River or Navigable Waters of the U.S. The dredged material would be loaded into dredge scows or barges, transported by tugs, and offloaded into the designated and authorized disposal site. The upland disposal site is unknown at this moment. The Dredging Contractor would be responsible to develop a Dredge Material Management Plan (including dewatering plan) in accordance to permit conditions and applicable regulations.

¹ <https://www.dec.ny.gov/animals/7494.html>

1.2.1 Avoidance and Minimization Measures

The proposed design is the result of a cohesive and integrated planning effort, minimizing impacts by the post development condition. The Project has been designed to avoid impacts to the Normans Kill, and minimize impacts to the wetland areas, SAV beds, mussels, and Hudson River overall. Design elements implemented to avoid and minimize impacts to sturgeon species include:

- Wharf has been relocated and size reduced to avoid dredging in SAV beds; including one (1) bed within the Hudson River with moderate to high density of Vallisneria americana
- General layout of the proposed wharf places the riverside face of structure coincident with the face of the existing timber revetment
- Proposed bridge over Normans Kill redesigned and to be constructed outside Mean Higher-High Water (MHHW) line to meet NYSDEC and DOS criteria
- Reconfiguration of proposed surface parking to avoid wetland impacts
- Construction of a fill type retaining wall to minimize the need of fill in wetland area
- Improvements to Normanskill Street avoiding wetland areas
- Proposed site grading or fill above and avoiding the existing MHHW line
- Riparian buffer is proposed along the majority of the Hudson River waterfront, maintaining existing vegetation in natural state
- Site preparation would require soil excavation and placement of clean fill above the MHHW line.
- Minimization of dredging area to the maximum extent possible

1.2.2 Impacts Calculation

There are various conditions that the aforementioned listed species may be subject during the Project’s in-water work activities (i.e., wharf construction and dredging). These are mainly an increase in turbidity during the maintenance dredge operation, underwater noise, the risk of an incidental involuntary strikes (unlikely) with dredging equipment to an individual of a protected species during in-water work activities. However, this is a short-term / temporary in-water work construction within a well define and limited area. The following table summarizes the effects analysis for each species that may be present at the site.

Table 1: Extent of Potential Effects and Mitigation Measures

Species	Potential Effects	Summary of Key Conservation Measures
<ul style="list-style-type: none"> • Shortnose sturgeon 	<ul style="list-style-type: none"> • Vessels movements and involuntary Vessel strikes • Involuntary pinning between dredging bucket and riverbed; entrapment or capture in mechanical dredging • Turbidity and resuspension of sediments 	<ul style="list-style-type: none"> • Implement slow speed approach for project vessels • No dredging outside the NYSDEC dredging window • Closed clamshell environmental bucket would be lifted slowly through the water, at a rate of approximately two (2) feet per second • Turbidity control with floating turbidity barriers, SWPPP and utilization of clamshell bucket in dredging

Species	Potential Effects	Summary of Key Conservation Measures
	<ul style="list-style-type: none"> Underwater noise due to pile driving Habitat modification Effects on critical habitat 	<ul style="list-style-type: none"> Implementation of noise attenuation tools, as needed Monitoring and installation of signs and educational material For mitigation See Section 5.

Multiple meetings have been held between APDC and NYSDEC to refine project direct impacts to sturgeon species and identify a mitigation strategy to offset foreseeable impacts. Virtual meetings were held on January 5, 2022, January 19, 2022, and February 8, 2022, and for the purposed of the impact analysis seven (7) evaluation zones below the MHHW line were delineated within the Hudson River.

The following table presents a breakdown of the zones within the project area and type of impacts. See Figure S-101 and Figure S-103 for evaluated zones in connection to the proposed wharf and dredging area.

Table 2: Impact Calculations

Zones	Existing Habitat	Existing Elevations (Feet)	Proposed Elevations (Feet)	Zone Area			TYPE IMPACTS / HABITAT CONVERSION			Sturgeon Impacts	Impacts / Mitigation Considerations
				Acres	Volume (CY)	Dredging Volume Percentage	(ACRES)			Permanent	
							Dredging (Total Area)	Shading (within Dredged Area)	Rip-Rap (Slope Protection within Dredged Area)		
1	Intertidal zones and shore structures (existing timber revetment)	MHHW to 0	Varies	0.25	13,408	17%	0.25	0.06	0.25	0.00	Area to be permanently converted; however, <u>excluded</u> from permanent / temporary Sturgeon impacts as is not available for foraging activities due to <u>existing timber revetment, dry and exposed for long period of time</u> . Area is unundated during MHHW and MHW. Area <u>lacking</u> of SAV bottom, deep pools or soft substrate. Wharf is constructed landward, meaning upland area will be converted into new open water area.
2	SAV Bed # 3	-2 to -5	-33 ft	0.21	6,923	9%	0.21	0.00	0.05	0.21	Shallow habitat of concern with low density / sparse vegetated bottom. SAV to be <u>permanently</u> converted and impacted.
3	Natural River Bottom (Unvegetated, Silt Clay, Sand and Some Trace Of Gravel)	0 to -5	-33 ft	0.34	25,831	33%	0.34	0.00	0.12	0.31	Subaqueous zone / shallow habitat to be <u>permanently</u> converted. Elevation <u>0 ft to -2 ft excluded</u> from permanent impacts (not always accessible to fish due to tide fluctuation). Slight area to be <u>permanently</u> converted (rip-rap). SAV impacts shown under Zone 2 (0.21 acre).
4	Natural River Bottom (Unvegetated, Silt Clay, Sand and Some Trace Of Gravel)	-5 to -10	-33 ft	0.24	9,148	12%	0.24	0.00	0.00	0.24	Subaqueous zones / shallow habitat to be <u>permanently</u> converted. No gravel or vegetated bottom.
5	Natural River Bottom (Unvegetated, Silt Clay, Sand and Some Trace Of Gravel)	-10 to -15	-33 ft	0.24	7,554	10%	0.24	0.00	0.00	0.00	Subaqueous zones to be <u>permanently</u> converted. No gravel or vegetated bottom.
6	Natural River Bottom (Unvegetated, Silt Clay, Sand and Some Trace Of Gravel)	-15 to -28	-33 ft	0.79	13,628	17%	0.79	0.00	0.00	0.00	Area to be periodically / temporarily impacted by dredging activities. No gravel / vegetated bottom
7	Natural River Bottom (Unvegetated, Silt Clay, Sand and Some Trace Of Gravel)	-28 to -33	-33 ft	0.65	2,276	3%	0.65	0.00	0.00	0.00	Area to be periodically / temporarily impacted by dredging activities. No gravel / vegetated bottom
Total				2.72	78,768	100%	2.72	0.06	0.42	0.76	

Impacts would be further coordinated with regulatory agencies during the final design and permitting stage.

1.2.3 Proposed Mitigation in Coordination with NYSDEC

The Project is committed to maintain collaborative actions with NYSDEC in finding a potential mitigation project in accordance with The Hudson River Comprehensive Restoration Plan that could serve as

mitigation due to habitat modification. The mitigation strategy identified by NYSDEC consists of an in-lieu fee where the APDC would fund the design and partial construction of a mitigation project on Scodak Island. The mitigation project is anticipated to cover an area of up to one (1) acre within Scodak Island and would offset the foreseeable permanent and temporary impacts to sturgeon species, SAV, and freshwater mussels. An implementation agreement would be prepared by NYSDEC as part of the JAP and Part 182 application approval process.

If you have any questions related to the enclosed information or if you require additional information, please contact Steve Boisvert at (518) 580-9380 or via email at SBoisvert@mjinc.com

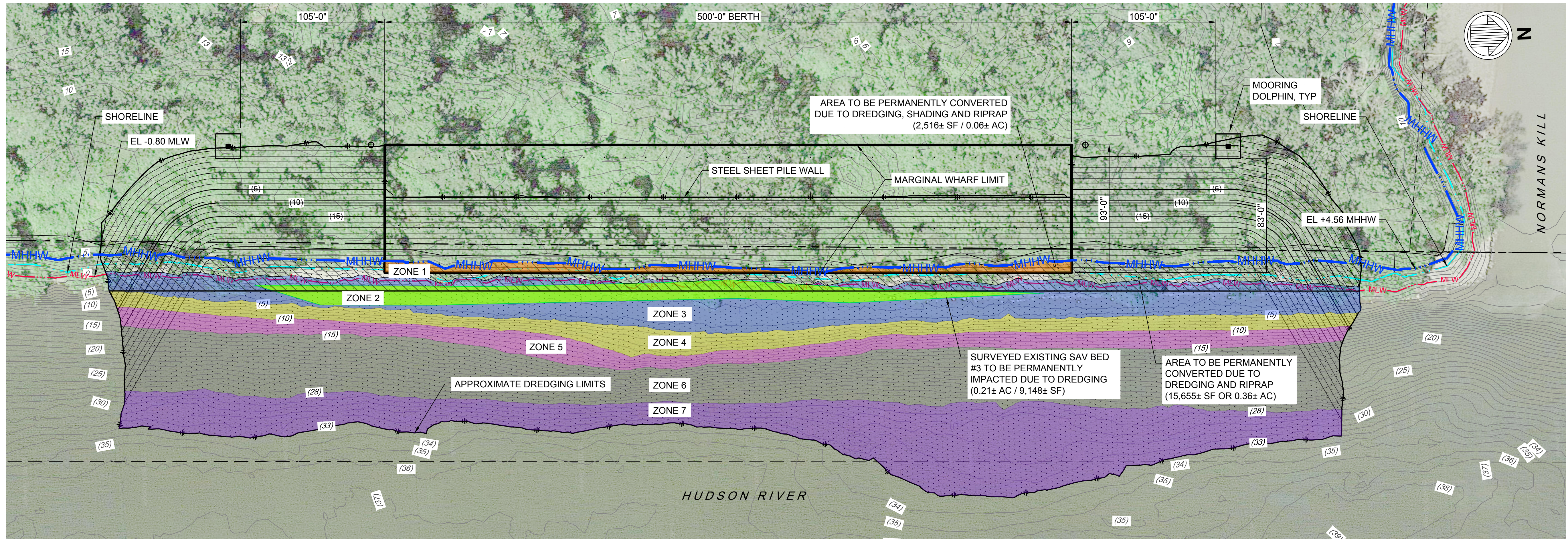
Sincerely,
McFarland-Johnson, Inc.



David R. Rosa
Environmental Project Manager

c: Robert Leslie, Town of Bethlehem
Richard Hendrick, Port of Albany
Megan Daly, Port of Albany
Steve Boisvert, McFarland-Johnson
Jordan Tate, McFarland-Johnson
Adam Frosino, McFarland-Johnson

Enclosures: Figure S-101
Figure S-103



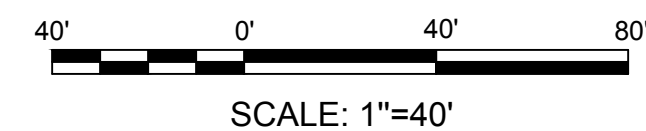
A1 PLAN - GENERAL ARRANGEMENT
S-101 SCALE: 1" = 40'

LEGEND:

- (22) EXISTING CONTOURS
- (33) PROPOSED CONTOURS
- MHHW — EXISTING MEAN HIGHER HIGH WATER
- PROPOSED DREDGING
- DREDGING, SHADING AND RIPRAP IMPACTS
- DREDGING AND RIPRAP IMPACTS

NOTES:

1. ZONE 1 INCLUDES SHADED AND RIPRAP AREAS.
2. ZONES 2-7 INCLUDES 2' ALLOWABLE OVERDREDGE.
3. ELEVATION DATUM: NAVD88.



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Mark	Description	Date	Appr.

**PORT OF ALBANY EXPANSION
HEAVY LIFT QUAY/WHARF**

**PLAN - GENERAL
ARRANGEMENT**

Designed by: JCS	Date: JAN 2022	Rev.
Dwn by: MSW	M&N Project No. 10949-01	
Chk by: MNN	Drawing code:	
Reviewed by: PGV	Submitted by: John C Schirmer	Drawing Scale: Plot scale: 1:1 (D SHEET)
M&N ENGINEERING P.C.		

528 FIFTH AVE, 14TH FLOOR
NEW YORK, NY 10017
212.768.7454

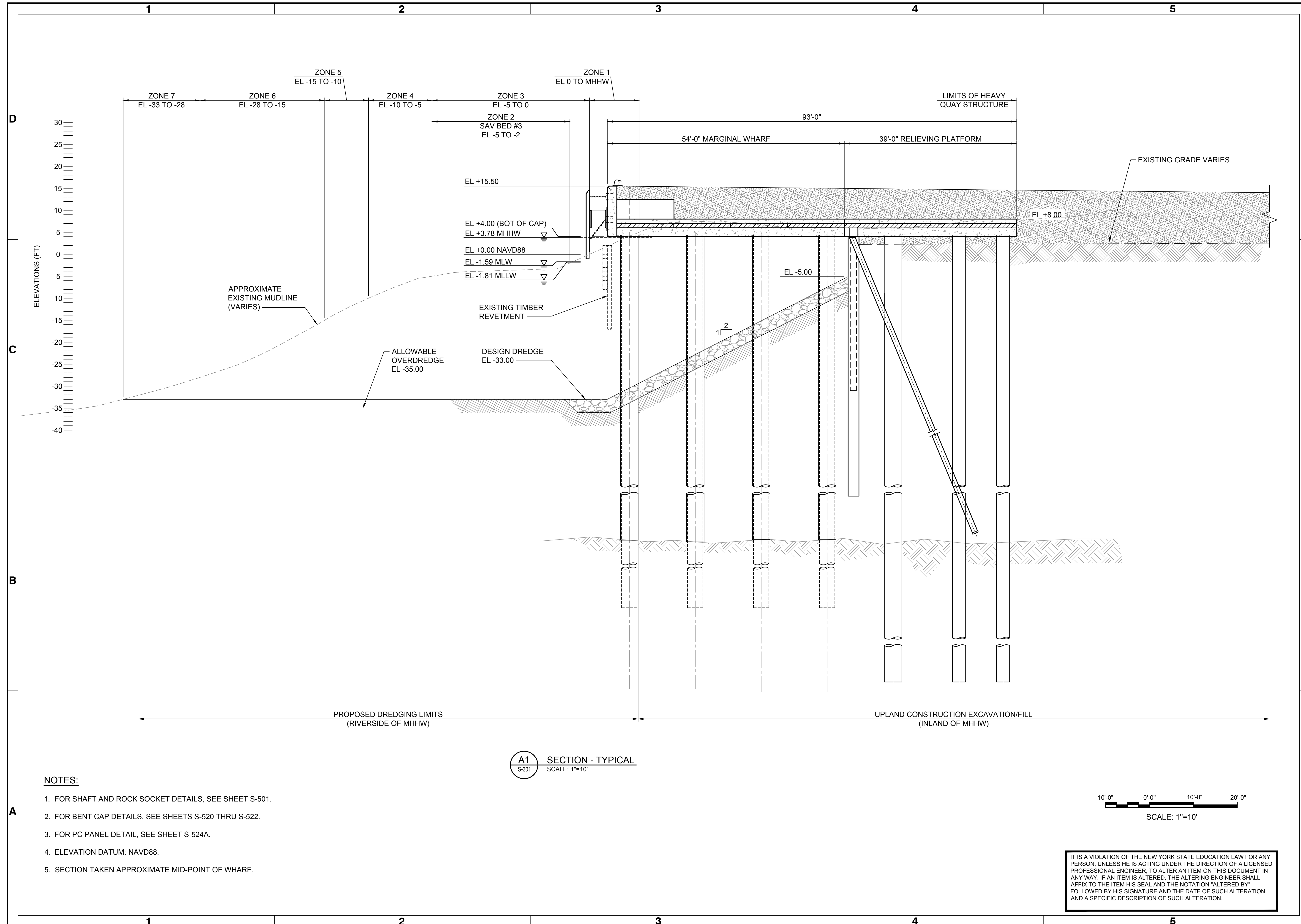
m&n engineering, p.c.

ALBANY PORT
DISTRICT COMMISSION
108 SMITH BLVD.
ALBANY, NY 12202

PORT OF ALBANY

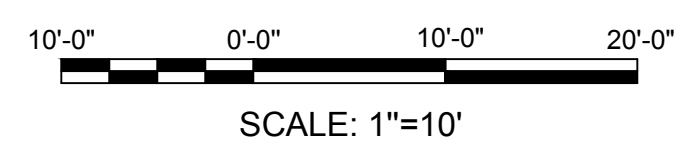
SEAL

Sheet Reference No.
S-101
INDEX: 1 OF 2



A1 SECTION - TYPICAL
S-301 SCALE: 1"=10'

- NOTES:**
- FOR SHAFT AND ROCK SOCKET DETAILS, SEE SHEET S-501.
 - FOR BENT CAP DETAILS, SEE SHEETS S-520 THRU S-522.
 - FOR PC PANEL DETAIL, SEE SHEET S-524A.
 - ELEVATION DATUM: NAVD88.
 - SECTION TAKEN APPROXIMATE MID-POINT OF WHARF.



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Mark	Description	Date	Appr.

**PORT OF ALBANY EXPANSION
HEAVY LIFT QUAY/WHARF**

SECTION - TYPICAL

529 FIFTH AVE, 14TH FLOOR NEW YORK, NY 10017 m&n engineering, p.c. 212.786.7464	Date: JAN 2022 M&N Project No. 10949-01	Rev. 1 Drawing code:
	Designed by: JS Dwn by: M&N Ckd by: M&N	Reviewed by: M&N Submitted by: John C Schirmer M&N ENGINEERING P.C.
ALBANY PORT DISTRICT COMMISSION 108 SMITH BLVD. ALBANY, NY 12202	PORT OF ALBANY	

SEAL

Sheet Reference No.
S-301
INDEX: 2 OF 2

File: C:\WY\10949-01\20 CADD\Active\Exhibits\20211207-MacJohn\1094901S-301; Plotted: 2/10/2022 9:49 AM by WILKINSON, MELISSA; Saved: 2/10/2022 9:42 AM by WILKINSON

Appendix CC TIS Figure Updates

TRAFFIC IMPACT STUDY
FOR THE
**MARMEN WELCON TOWER
MANUFACTURING PLANT**
ALBANY, NEW YORK

JULY 21, 2021
(REVISED OCTOBER 22, 2021 & FEBRUARY 18, 2022)

PREPARED FOR:



PREPARED BY:



**60 RAILROAD PLACE #402
SARATOGA SPRINGS, NY 12866
PH: 518-580-9380
FX: 518-580-9383**

MJ Project No. 18641.00

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INTRODUCTION

McFarland Johnson, Inc. (MJ) conducted this Traffic Impact Study (TIS) for the Marmen Welcon Tower Manufacturing Plant (“the project”) to be built at the Port of Albany expansion property in the Town of Bethlehem and partially within the existing Port District at 700 Smith Boulevard. This TIS compares the traffic impacts associated with this specific project to the traffic volume thresholds identified in the 2020 Final Generic Environmental Impact Statement (FGEIS) prepared as part of the SEQRA review for development of this property. This TIS analyzes the impacts the project may have on the same FGEIS study area intersections and surrounding roadway network.

Proposed Project

The proposed project consists of a ±610,000 +/- square foot offshore wind tower manufacturing facility spread out over 5 separate buildings. The project also includes a 500 linear foot wharf along the Hudson River to ship completed tower sections out to sea for installation. Tower production will occur within 4 buildings (buildings A-D) located at the Port Expansion property within the Town of Bethlehem (the production site) for which the FGEIS was previously completed. The 5th building (Building E) is located at 700 Smith Boulevard within the existing Port District in the City of Albany and will serve to manage delivery of raw materials (the receiving site). See Figures 1A and 1B for the proposed site plans for this project.

The production site access will be accomplished by two driveways, one at the north end to be gated for use only by Marmen Welcon owned delivery trucks and one at the south end for employees only. Marmen Welcon trucks will access the site via a gated/guarded truck-only bridge crossing the Normans Kill, connecting Normanskill Street to the site. Employees and visitors will access the site via the driveway on NYS Route 144 (River Road) at the southern end of the production site and will be restricted to passenger vehicles only. The proposed site access locations are consistent with the locations identified in the FGEIS; however, the functionality and operations associated with each driveway differs from the assumptions in the FGEIS traffic impact study.

The proposed facility will employ a total of approximately 550 full time workers spread over three shifts, with the largest shift change consisting of 180 employees and secondary shifts with up to 140 employees. This is based on the staffing requirements for both production and office staff needed to operate the facility. Conclusions from the data received from Marmen Welcon indicates that the project will generate a maximum of 324 trips during the morning shift change and 324 trips during the evening shift change for all five buildings combined.



NO.	DATE	DESCRIPTION

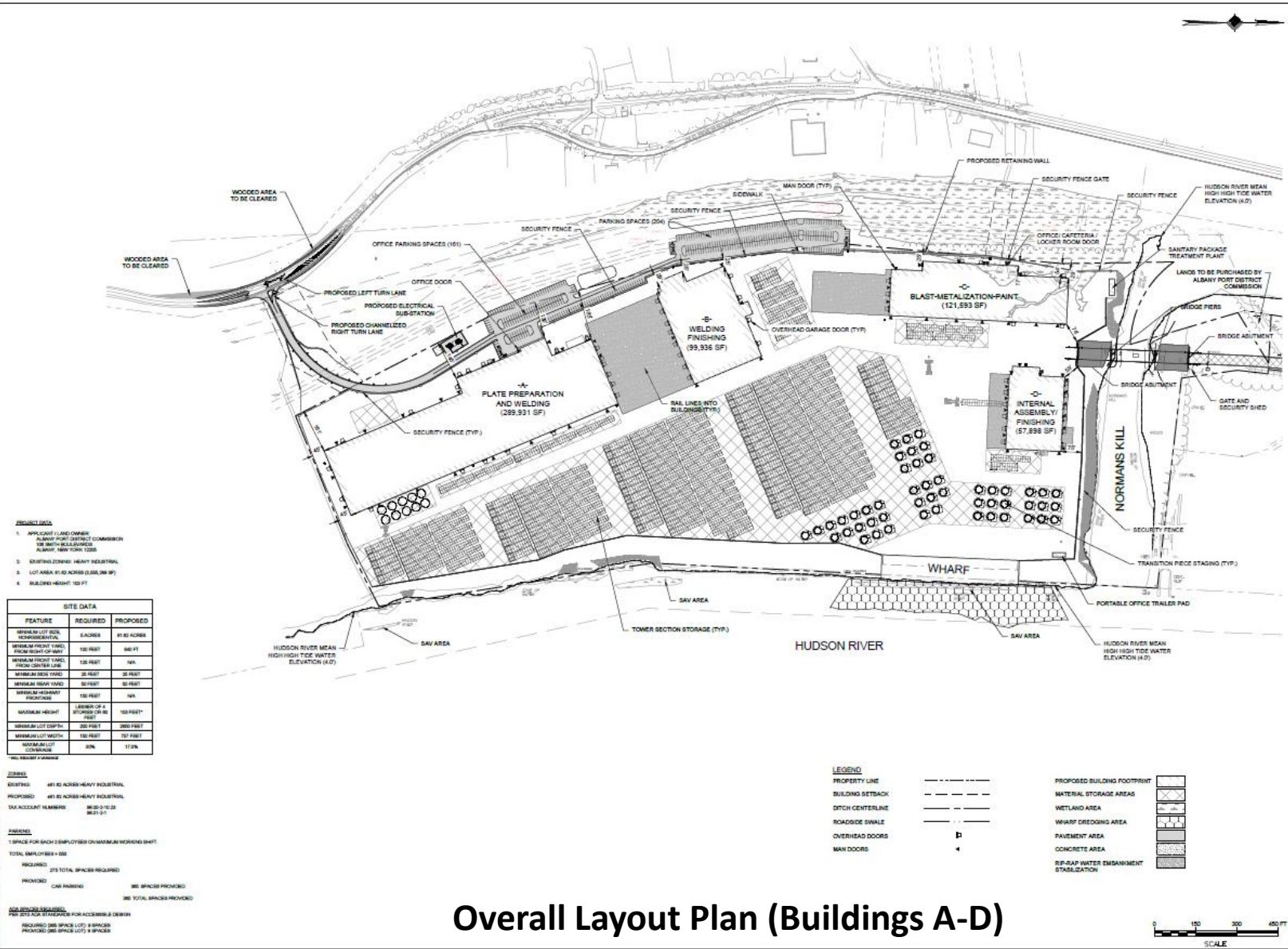
CLIENT: ALBANY PORT DISTRICT COMMISSION
 ALBANY, NEW YORK
 PROJECT: PORT OF ALBANY SITE INFRASTRUCTURE IMPROVEMENTS

DRAWN	JES
DESIGNED	NSO
CHECKED	AJT
SCALE	1"=150'
DATE	OCTOBER 2021
PROJECT	18641.00

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SITE PLAN OVERALL

DRAWING NUMBER
 SP-00
 4 OF 6



- PROJECT DATA**
1. APPLICANT (LAND OWNER): ALBANY PORT DISTRICT COMMISSION (DBA MARY HOLLANDER) ALBANY, NEW YORK 12202
 2. EXISTING ZONING: HEAVY INDUSTRIAL
 3. LOT AREA: 81.40 ACRES (3,548,286 SF)
 4. BUILDING HEIGHT: 100 FT

SITE DATA		
FEATURE	REQUIRED	PROPOSED
MINIMUM LOT SIZE (RESUBDIVISIONAL)	8 ACRES	81.40 ACRES
MINIMUM FRONT YARD FROM RIGHT OF WAY	120 FEET	840 FT
MINIMUM FRONT YARD FROM CENTER LINE	120 FEET	NA
MINIMUM SIDE YARD	25 FEET	25 FEET
MINIMUM REAR YARD	50 FEET	50 FEET
MINIMUM REAR YARD PROTRUSION	100 FEET	NA
MAXIMUM HEIGHT	100 FEET OR 4 STOREYS OR 60 FEET	100 FEET*
MINIMUM LOT DEPTH	300 FEET	300 FEET
MINIMUM LOT WIDTH	120 FEET	707 FEET
MINIMUM LOT COVERAGE	20%	17.0%

NOTES

1. SPACE FOR EACH 2 EMPLOYEES ON MAXIMUM WORKING SHIFT

TOTAL EMPLOYEES = 332

REQUIRED: 275 TOTAL SPACES REQUIRED

PROVIDED: 336 SPACES PROVIDED

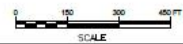
FOR 2021 ADA COMPLIANCE FOR ACCESSIBLE DESIGN

REQUIRED: 196 SPACES (LOT 1 & 2 SPACES)

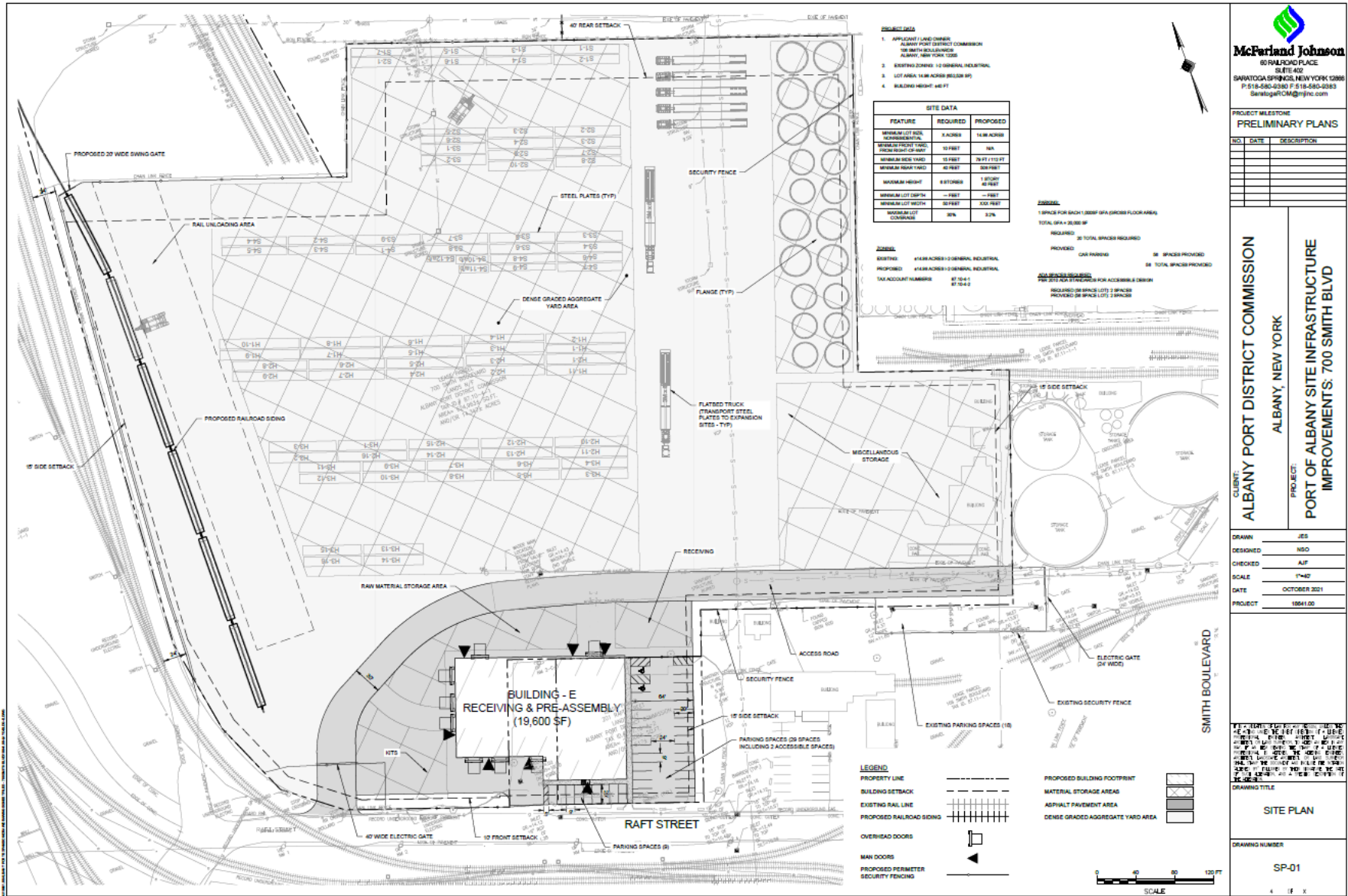
PROVIDED: 205 SPACES (LOT 1 & 2 SPACES)

LEGEND

- PROPERTY LINE: - - - - -
- BUILDING SETBACK: - - - - -
- DITCH CENTERLINE: - - - - -
- ROADSIDE SWALE: - - - - -
- OVERHEAD DOORS: - - - - -
- MAN DOORS: - - - - -
- PROPOSED BUILDING FOOTPRINT: [Symbol]
- MATERIAL STORAGE AREAS: [Symbol]
- WETLAND AREA: [Symbol]
- WHARF DRESSING AREA: [Symbol]
- PAVEMENT AREA: [Symbol]
- CONCRETE AREA: [Symbol]
- SEWAGE WATER EMBANKMENT STABILIZATION: [Symbol]



Overall Layout Plan (Buildings A-D)



Prior SEQRA Record

A traffic impact study was prepared in June 2019 (revised November 2019) which analyzed the potential traffic impact of a worst-case scenario, consisting of a 1,130,000 SF distribution center/warehouse building with associated internal driveways, parking areas, landscaped areas, and storm water infrastructure. The Findings Statement for the FGEIS established transportation improvements based upon the trip generation thresholds to the surrounding roadway network during the peak hours of adjacent street traffic corresponding to the three phases of development as summarized in Table 1.

Table 1 – Peak Hour of Adjacent Street Traffic Trip Generation Summary

PHASE I	PHASE II	PHASE III
0 - 300,000 SQUARE FEET	301,000 - 600,000 SQUARE FEET	601,000 - 1,130,000 SQUARE FEET
0 - 124 MORNING PEAK HOUR TRIPS	125 - 247 MORNING PEAK HOUR TRIPS	248 - 465 MORNING PEAK HOUR TRIPS
0 - 141 EVENING PEAK HOUR TRIPS	142 - 281 EVENING PEAK HOUR TRIPS	282 - 529 TOTAL SITE-GENERATED TRIPS

Based on the 610,000 s.f. proposed for the Project and the estimated 324 max trips generated during shift changes, the proposed project is within the Phase III threshold for square footage and proposed peak hour trips based on the FGEIS established thresholds. Intersection improvements associated with Phase III peak hour volumes stated in the FGEIS included:

NYS Route 32 (S. Pearl Street) at South Port Road

- Construction of a 200 ft southbound left-turn lane
- Construction of a 200 ft westbound right-turn lane
- Installation of new traffic signal equipment for additional lanes

NYS Route 144 (River Road) at NYS Route 32 (Corning Hill Road)

- Installation of a traffic signal to be coordinated with the existing traffic signal at South Port Road

NYS Route 144 (River Road) at Proposed South Driveway

- Restrict driveway to passenger vehicles only
- Reduce speed limit along NYS Route 144 (River Road) in the vicinity of the intersection to 45 mph, which, in the event the NYSDOT does not approve a speed reduction, the driveway will become a right in, right out driveway only.

NYS Route 32 (S. Pearl Street) at 1st Ave./787 Exit 2

- Signal timing optimization

NYS Route 32 (Corning Hill Road) at US 9W

- Signal timing optimization

I-787/I-87 Exit 23 Interchange at US Route 9W

- Signal timing optimization

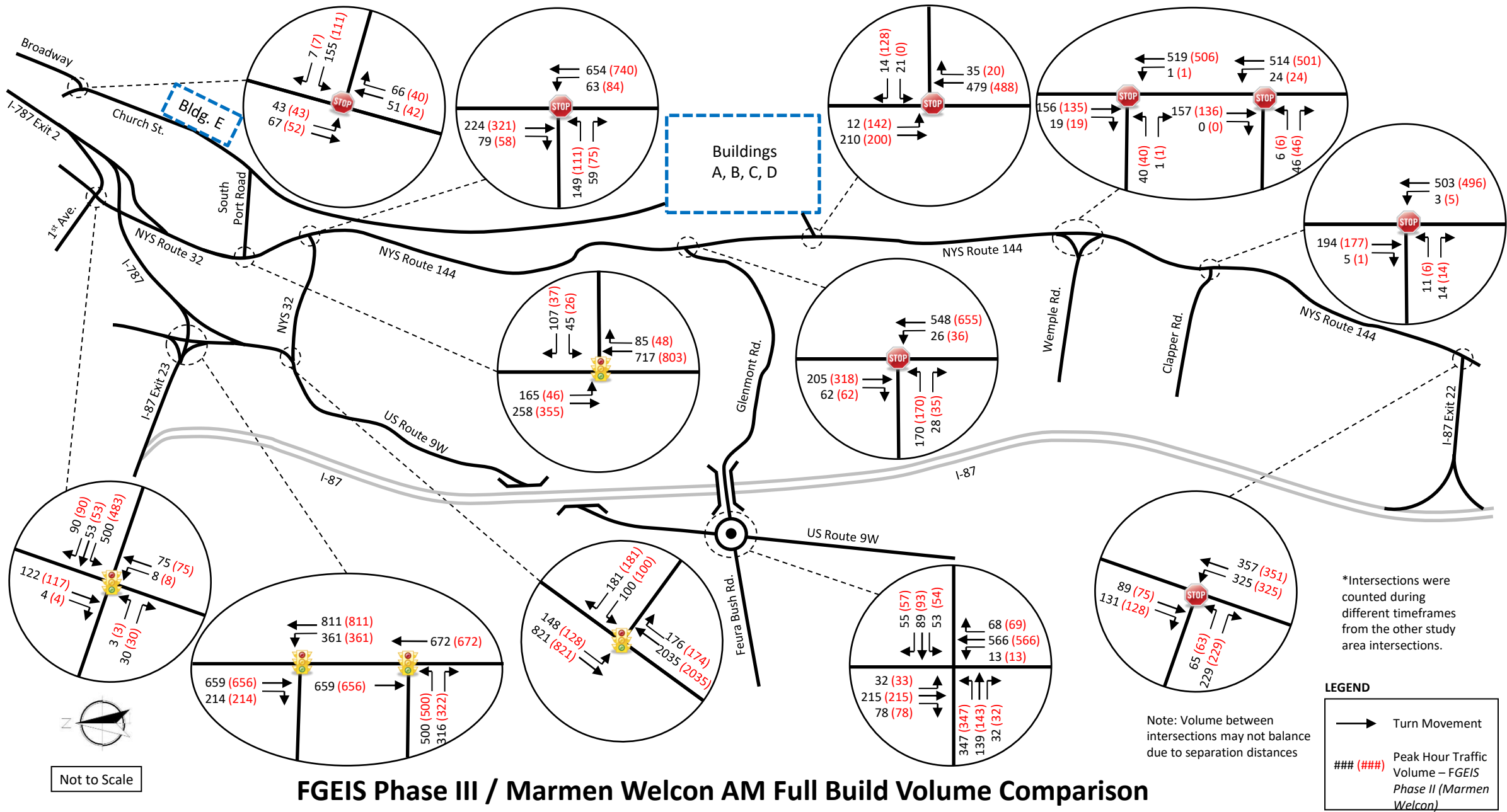


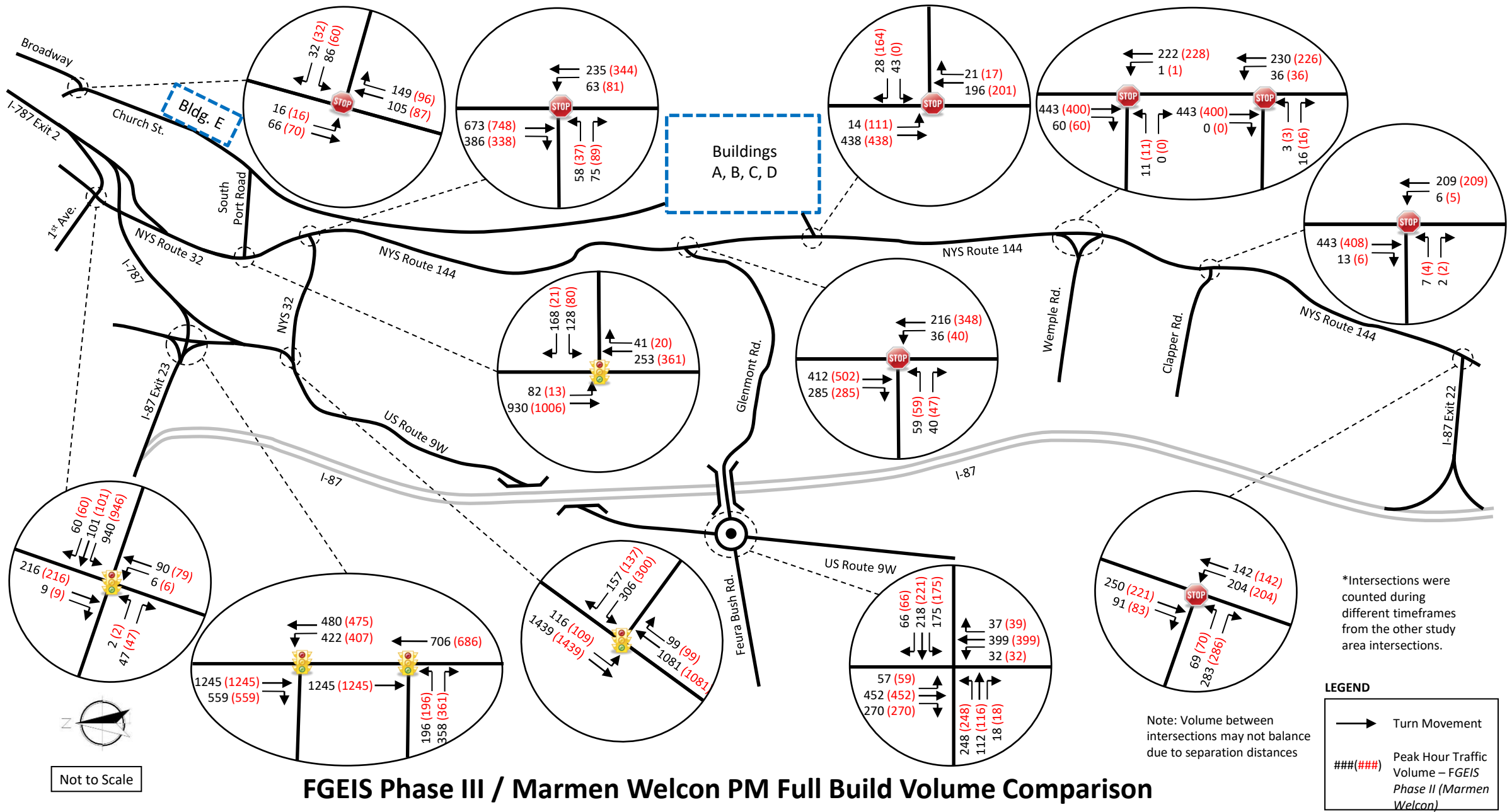
Marmen Welcon Traffic Patterns / Operations

Truck traffic operations on site consist of the delivery of raw materials to the Building E receiving yard at 700 Smith Boulevard by truck, rail, and shipping. These materials are then transported by truck across the proposed bridge via Smith Boulevard and Normanskill Street to the manufacturing plant. The finished products will then be loaded onto commercial vessels at the proposed 500' wharf. Employee will enter and exit the site at the proposed southern driveway onto NYS Route 144 and park outside the secured manufacturing facility. The previous FGEIS traffic impact study assumed the development site would utilize a shared driveway for car and trucks to enter and exit the site via the bridge over the Normans Kill, with the southern driveway restricted to passenger vehicles only as a secondary means of access. Due to operational and safety requirements of Marmen Welcon, employee traffic and truck traffic must be separated and utilize separate driveways, with truck traffic restricted to the north access from the Normanskill/S. Port Road extension and employee and passenger vehicle access restricted to the southern driveway off of NYS Route 144 (River Road). No employee or public vehicles will be allowed within the manufacturing plant, which is secured by a security fence around its perimeter and a gated/guarded entrance at the northern end of the bridge crossing the Normans Kill.

Due to the proposed site's vehicular access and operational patterns, different trip distributions will result as employees will not be able to enter the site via the bridge crossing Normans Kill. A greater volume of employee traffic will pass through the three intersections requiring improvements with the proposed development. The remaining intersections within the FGEIS study area were analyzed in the 2019 GEIS with Phase III threshold and found that no mitigation was necessary. The three intersections requiring improvements in the FGEIS were reanalyzed in order to determine if the mitigation outlined in the FGEIS was still necessary, or if greater changes were required to increase capacity at these intersections. For the remaining intersections in the study area, the proposed project's trip distribution and trip generation was found to have equal or less traffic when compared to the Phase III build volumes in the GEIS. Figures 2A and 2B compare the full build volumes outlined in the FGEIS to the Marmen Welcon volumes proposed in this study.







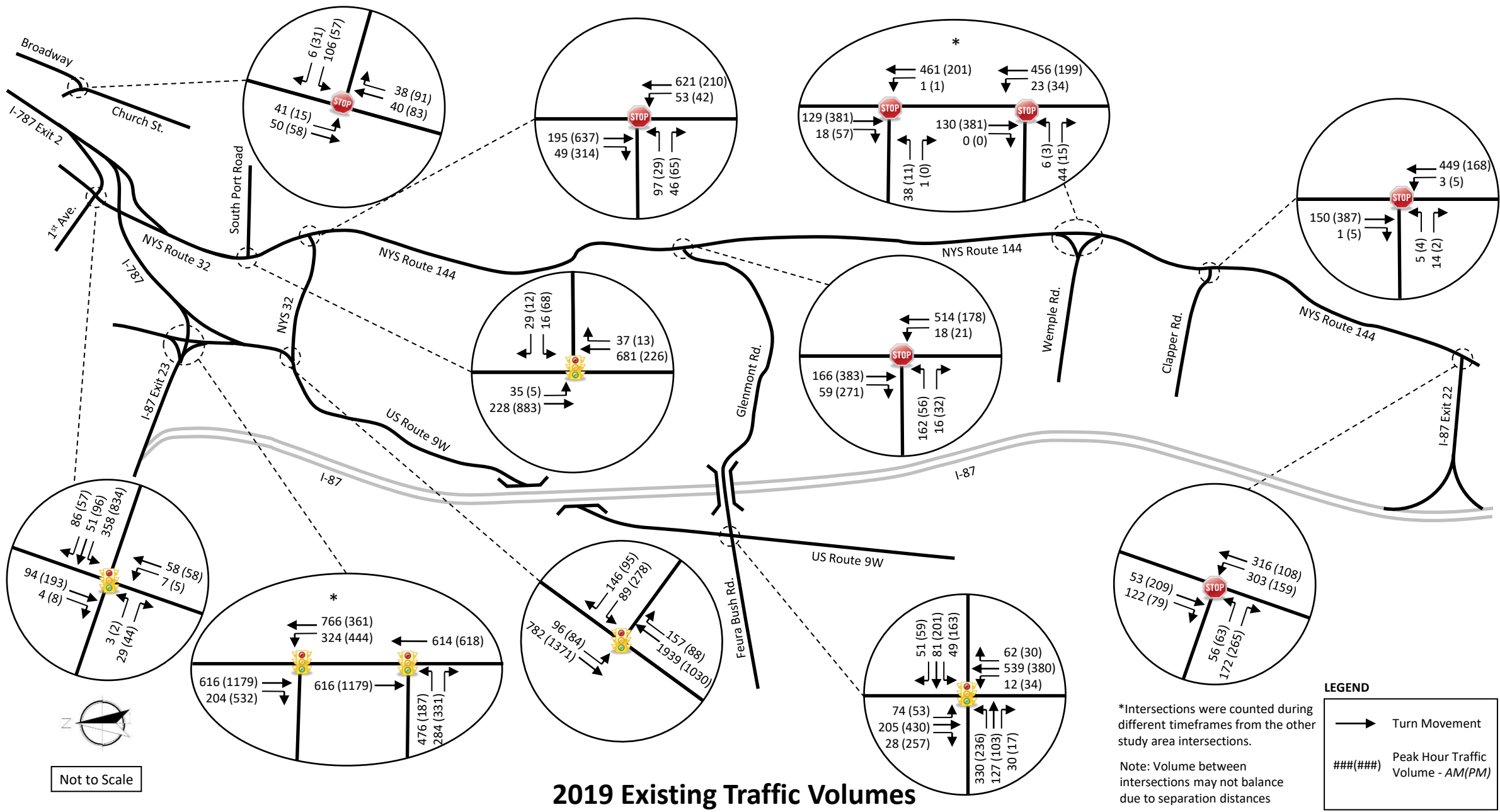
FGEIS Phase III / Marmen Welcon PM Full Build Volume Comparison

EXISTING CONDITIONS

2019 Existing Traffic Volumes

Existing traffic volumes for the study area intersections were established based on the turn movement counts (TMC's) used in the previously mentioned traffic impact study completed in 2019 as part of the FGEIS. Due to the pandemic, the traffic volumes counted in 2019 remain the most accurate current data available to conservatively analyze the post-pandemic traffic operations and follows the guidelines in the NYSDOT Memo "Traffic Data Collection Guidance During COVID-19 Pandemic" dated August 11, 2020. The 2019 Traffic Impact Study used to establish the 2019 traffic volumes is included in the list of referenced material and the existing 2019 volumes are shown on Figure 3.



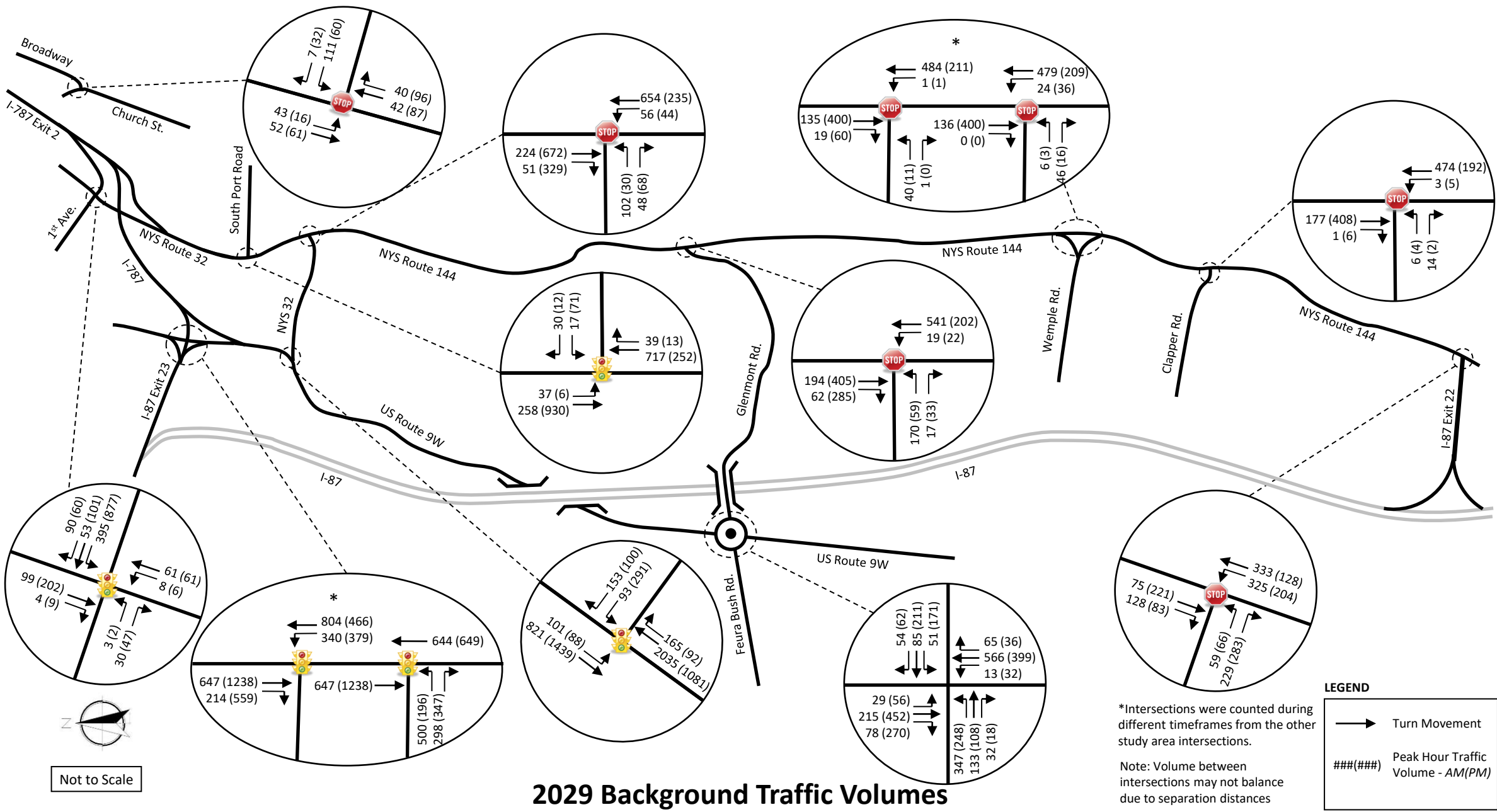


BACKGROUND CONDITIONS

2029 Background Traffic Volumes

The FGEIS traffic study completed in 2019 was used to establish the 2029 Background year for full development, background growth rate and volumes. The 2029 Background traffic volumes shown in Figure 2 include the 2019 existing traffic volumes and annual background traffic growth. The proposed project is targeted to be operational in 2023; however, the 2029 background traffic volumes were used as a conservative base upon which to add the proposed development's traffic and to remain consistent with the background volumes established in the 2019 FGEIS traffic study. These background volumes are shown on Figure 4 – 2029 Background Traffic Volumes.





2029 Background Traffic Volumes

*Intersections were counted during different timeframes from the other study area intersections.
 Note: Volume between intersections may not balance due to separation distances

LEGEND

- Turn Movement
- ###(###) Peak Hour Traffic Volume - AM(PM)

BUILD CONDITIONS

Trip Distribution

The restriction of employee/public site access to only the proposed southern driveway on NYS Route 144 (River Road) decreases the number of vehicles turning onto South Port Road and increases through traffic traveling north and south through this intersection. A small number of passenger vehicles will still enter and exit South Port Road in order to staff the proposed Building E at 700 Smith Boulevard, roughly 10% of the overall development traffic. The remaining 90% of employees will enter the site at the proposed driveway onto NYS Route 144 (River Road), with 78% entering from the north, 12% entering from the south, and 90% exiting to the north. Because of the left-turn restriction on to NYS Route 144 (River Road), vehicles that enter the site from the south will not be able to exit in the same fashion. Instead, these vehicles will travel north on NYS Route 144 (River Road) before turning left on to NYS Route 32 (Corning Hill Road). From there, vehicles can travel south on US Route 9W. Figure 5 – Trip Distribution shows the calculated trip distribution percentages for the proposed development during weekday morning and evening peak hours. These trip distribution percentages were used to assign the trips generated by the proposed project to the study roadway network, shown in Figure 6 – Trip Assignment.

Trip Assignment

A production forecast-based traffic assessment received from Marmen Welcon indicates that the project will have a total of 550 employees with 180 employee on their maximum shift and the site will generate 324 trips during their largest shift change. To be conservative, the analysis assumes 324 trips during the morning peak hour and 324 trips during the evening peak hour will be added to the roadway network. This is a worst-case scenario, as it is more likely that the shift changes will not line up with the adjacent roadway traffic peaks. The employment will ramp up over time as shown in the table below:

Forecast Employee Ramp-up

	<i>EOQ</i>
2023 - Q3	90
2024 - Q1	140
2024 - Q2	190
2024 - Q3	250
2024 - Q4	310
2025 - Q1	350
2025 - Q2	390
2025 - Q3	430
2025 - Q4	470
2026 - Q1	490
2026 - Q2	510
2026 - Q3	530
2026 - Q4	550



TRAFFIC IMPACT STUDY
MARMEN WELCON TOWER MANUFACTURING PLANT - BETHLEHEM, NY

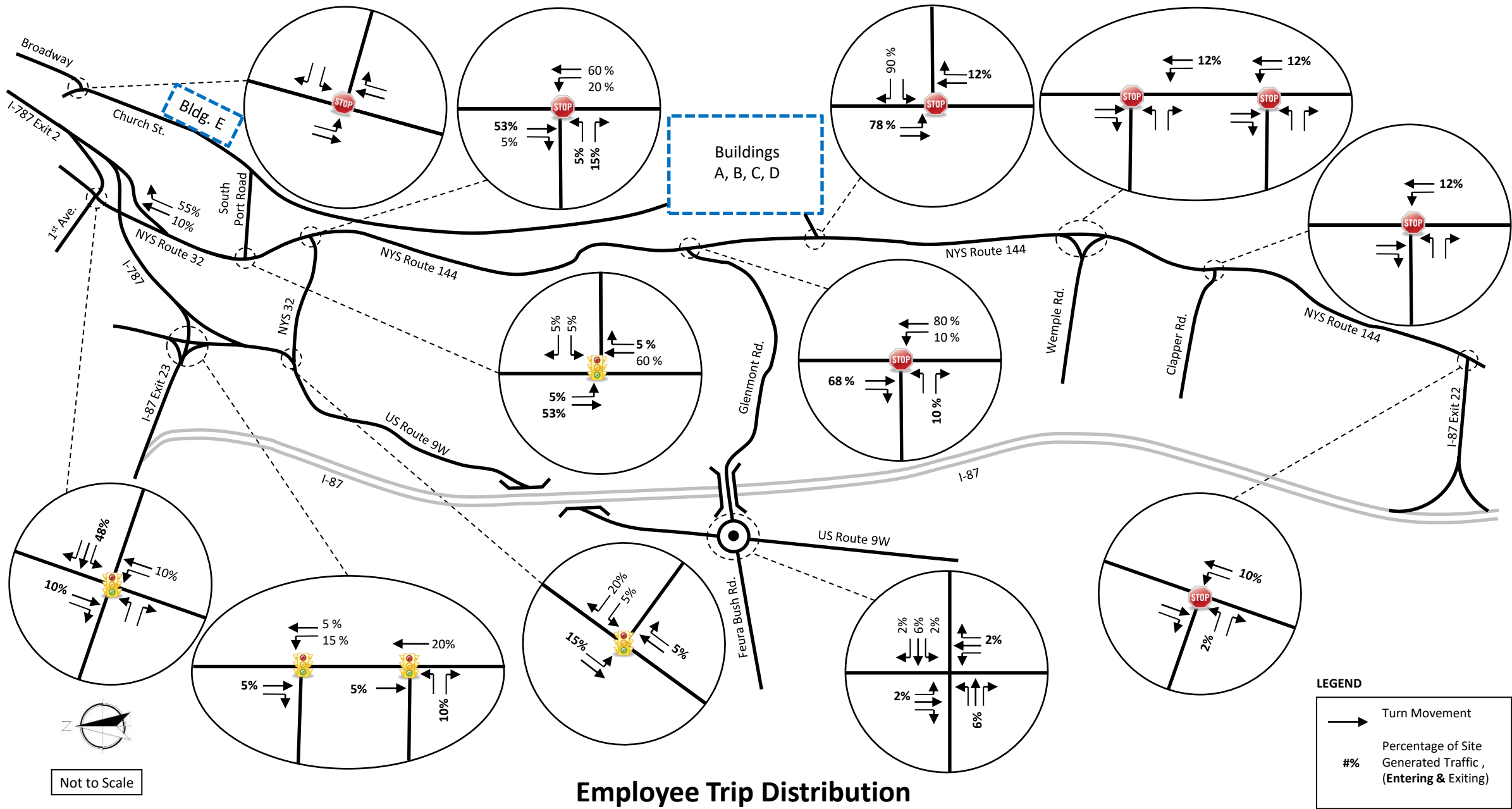
Truck traffic generated by the proposed project is expected to be limited to 4 trucks during the peak hours and truck receiving hours are restricted to between 8:00 AM and 5:00 PM. The bulk of the proposed deliveries to the site will come through commercial vessels delivering materials to the existing port as well as rail delivery to a proposed rail spur into the 700 Smith Boulevard site. All material deliveries associated with the Marmen Welcon Plant, regardless of being transported by truck, train, or commercial vessel will be delivered to 700 Smith Blvd and then transferred to the Beacon Island site for on-time production delivery via private Marmen owned pickup and flatbed transport trucks through the gated access over the Normans Kill bridge. A figure showing the temporary construction and permanent truck route is included in Appendix A. A temporary truck route during construction is required as construction vehicles will need to access the site prior to completion of the proposed bridge over the Normans Kill to be used as the permanent truck delivery route. Appropriate work zone traffic control, including a proposed speed reduction will be in place as part of the NYSDOT highway work permit for the construction entrance into the site to be located at the permanent employee entrance. When construction of the bridge over Normans Kill is complete construction vehicles are anticipated to utilize the permanent truck route with site access over the Normans Kill via the new bridge.

As shown in the table below these trip assignment volumes are lower than what was proposed in the Phase III mitigation thresholds as part of the FGEIS report. The traffic forecast provided by the future tenant is included in Appendix A.

Table 1
Trip Assignment Volume Comparison

	FGEIS PHASE III THRESHOLDS		PROPOSED	
	AM	PM	AM	PM
Vehicles	465	529	324	324



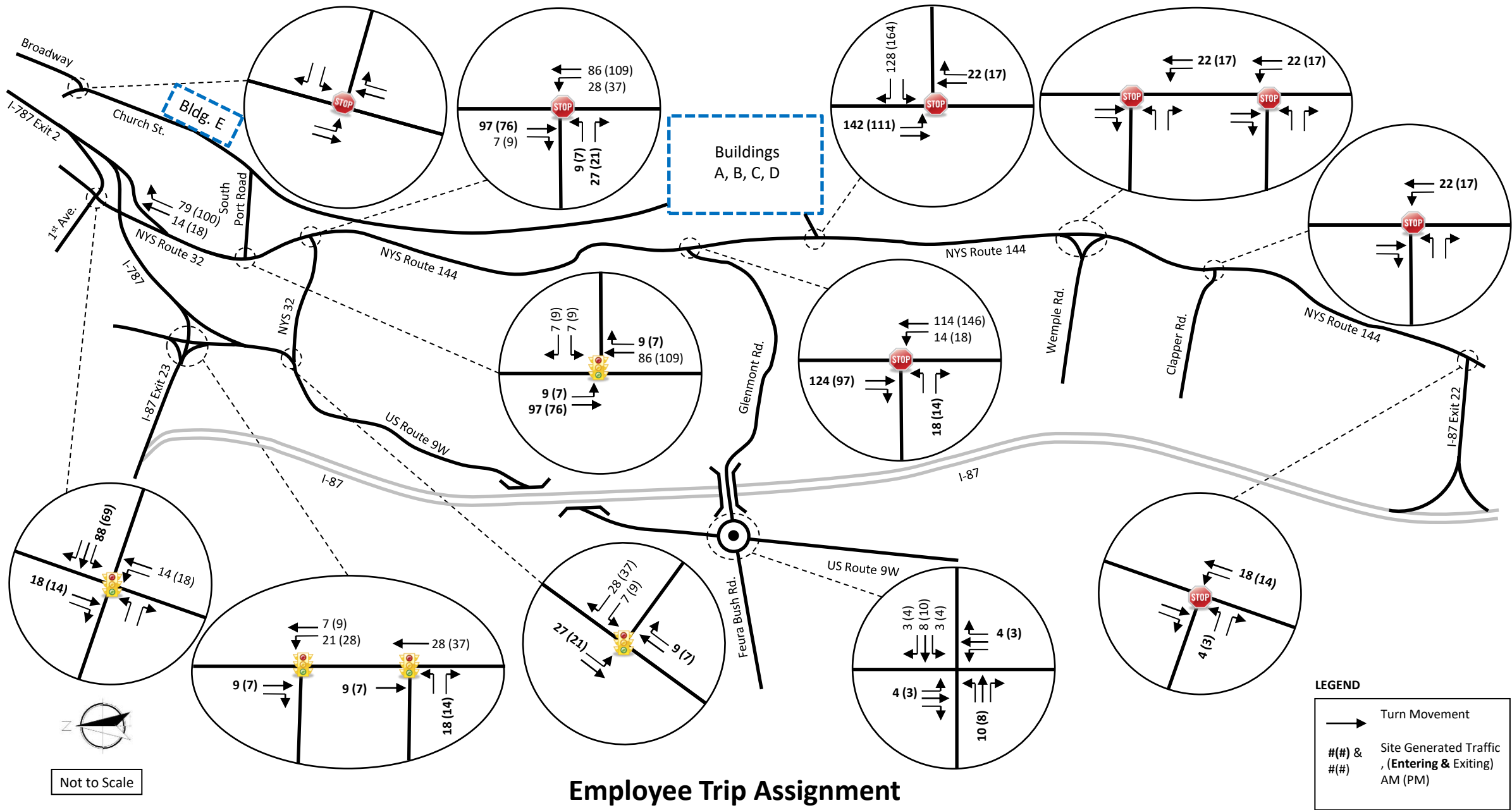


Employee Trip Distribution

LEGEND

- Turn Movement
- Percentage of Site Generated Traffic, (Entering & Exiting)

Not to Scale



Employee Trip Assignment

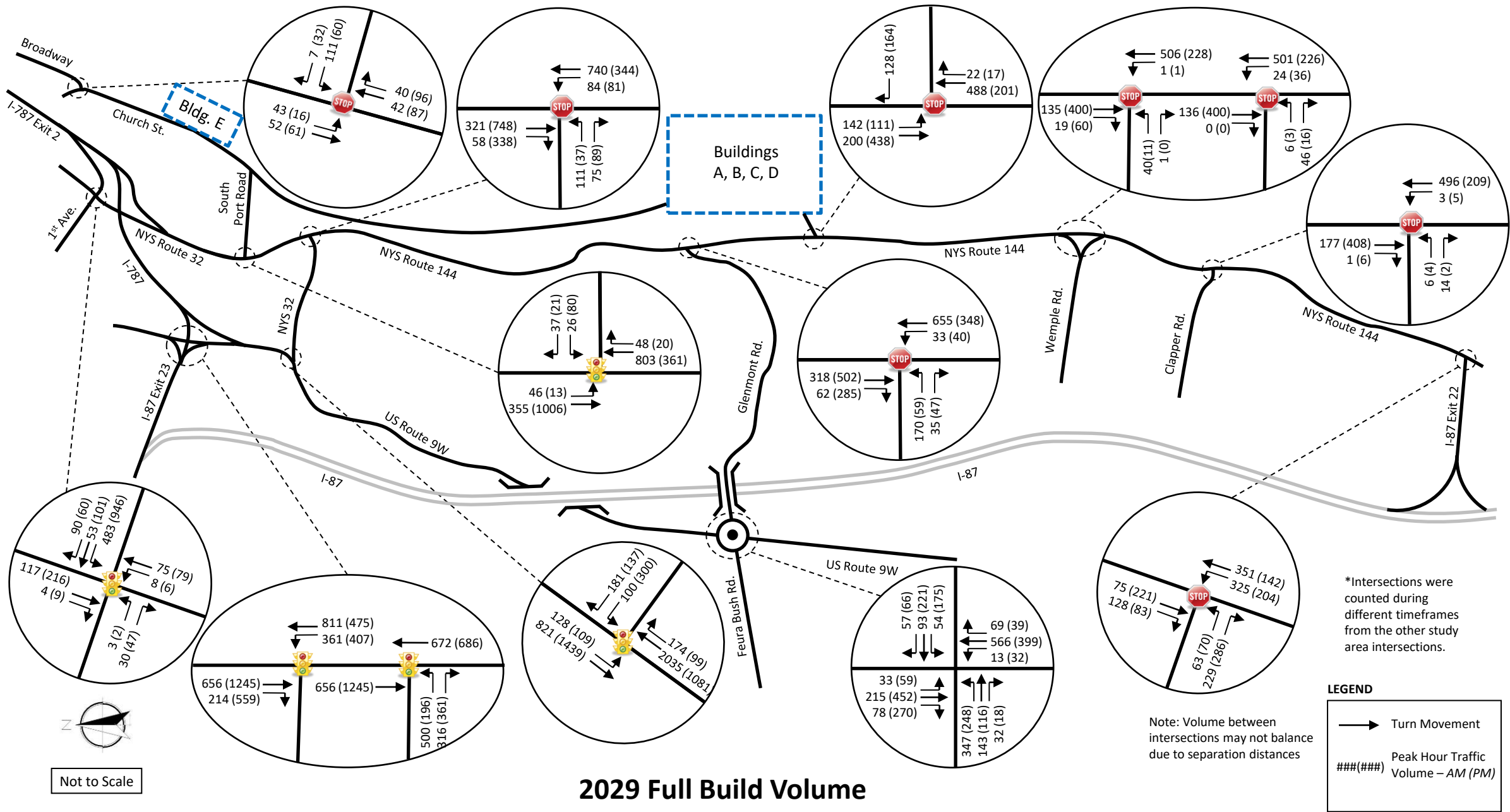
LEGEND

- Turn Movement
- #(#) & #(#) Site Generated Traffic, (Entering & Exiting) AM (PM)

2029 Build Traffic Volumes

The build volumes shown in Figure 7 – 2029 Build Volumes represent the 2029 Background volumes combined with the site generated trips from the proposed development.





TRANSPORTATION ASSESSMENT

Intersection Capacity Analysis of Un-signalized Intersections

Level of service (LOS) is a term used to characterize the operational conditions of a traffic facility at a particular point in time. Numerous factors contribute to a facility’s LOS including travel delay, speed, congestion, driver discomfort, convenience, and safety based on a comparison of the facility’s capacity to the facility’s demand. Alphabetic designations A through F define the six levels of service. LOS A represents very good traffic operating conditions with minimal delays while LOS F depicts poor traffic operating conditions with excessive delays and queues.

Operating levels of service are calculated using the procedures defined in the Highway Capacity Manual (HCM), 6th Edition, published by the Transportation Research Board (TRB). The operating LOS of two-way stop-controlled (TWSC) and all-way stop-controlled (AWSC) intersections is the computed or measured delay. The intersection delay is based upon the quality of service for the vehicles turning into and out of minor approaches, i.e., approaches that are stop-controlled. The availability of sufficient gaps in the traffic stream on the major street controls the capacity for movements to and from the minor approaches, thus resulting in delays for the minor approaches. The criteria, or the delays associated with corresponding levels of service for TWSC and AWSC intersections, as specified by the HCM, are shown in Table 2 below.

**Table 2
Un-signalized Intersection LOS Criteria**

LOS	Control Delay (sec/veh) TWSC and AWSC Intersections
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Intersection Capacity Analysis of Signalized Intersections

The operating LOS of a signalized intersection is based on the average control delay per vehicle. The control delay per vehicle is estimated for each lane group, combined for each approach and the intersection as a whole. The criteria, i.e., the delays associated with corresponding LOS for signalized intersections, as specified by the HCM, are shown in Table 3 below.



Table 3
Signalized Intersection LOS Criteria

LOS	Control Delay (sec/veh) Signalized Intersections
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

Intersection Capacity Analysis Results

Analysis in each of the study scenarios was performed using the traffic modeling software Synchro[®], Ver. 10.0. Synchro[®] utilizes the methodologies of the HCM, as described above for stop-controlled and signalized intersection, to calculate average vehicular delays (in seconds) and report as LOS. The full analysis printouts from Synchro[®] are provided in Appendix B.

The results of the intersection capacity analysis at the four study area intersections with increased or modified traffic volumes from the GEIS Traffic Impact Study are illustrated in Table 4 for all study scenarios. Volumes entered in Synchro[®] correspond to the scenario and peak hour being analyzed.



TRAFFIC IMPACT STUDY
MARMEN WELCON TOWER MANUFACTURING PLANT - BETHLEHEM, NY

Table 4
LOS Tables

Study Intersection	Approach and Movement		MORNING PEAK HOUR							
			2019 EXISTING		2029 BACKGROUND		2029 BUILD		2029 BUILD MITIGATION	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
NYS Route 32 at South Port Road <i>(Signalized)</i>	Westbound	L-R	22.1	C	22.3	C	22.8	C		
	Northbound	T-R	5.7	A	6.3	A	10.4	B		
	Southbound	L-T	3.7	A	4.0	A	6.1	A		
	OVERALL		6.0	A	6.5	A	9.8	A		
NYS Route 144 at NYS Route 32 <i>(Un-Signalized/Signalized)</i>	Northbound	T-L	8.2	A	8.3	A	8.8	A	15.1	B
	Eastbound	L	41.0	E	54.3	F	200.6	F	34.4	C
		R	10.3	B	10.6	B	11.9	B	9.9	A
	Southbound	T-R							5.0	A
	OVERALL		4.6	A	5.8	A	17.2	C	13.7	B
NYS Route 144 at Proposed Site Driveway <i>(Un-Signalized)</i>	Southbound	L					9.2	A	9.2	A
	Westbound	R					14.4	B	14.4	B
	OVERALL						3.4	A	3.4	A
NYS Route 144 at Glenmont Road <i>(Un-Signalized)</i>	Eastbound	L-R	39.6	E	56.2	F	234.8	F	23.3	C
	Northbound	T-L	7.9	A	8.0	A	8.4	A	16.1	B
	Southbound	T-R							9.4	A
	OVERALL		7.7	A	10.6	B	38.0	E	15.2	B

Study Intersection	Approach and Movement		EVENING PEAK HOUR							
			2019 EXISTING		2029 BACKGROUND		2029 BUILD		2029 BUILD MITIGATION	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
NYS Route 32 at South Port Road <i>(Signalized)</i>	Westbound	L-R	28.6	C	28.8	C	27.6	C		
	Northbound	T-R	4.0	A	4.2	A	5.5	A		
	Southbound	L-T	9.5	A	11.1	B	15.1	B		
	OVERALL		9.5	A	10.6	B	13.0	B		
NYS Route 144 at NYS Route 32 <i>(Un-Signalized/Signalized)</i>	Northbound	T-L	11.1	B	11.5	B	12.8	B	10.5	B
	Eastbound	L	32.3	D	37.2	E	87.0	F	32.4	C
		R	18.7	C	20.1	C	24.8	C	12.3	B
	Southbound	T-R							14.8	B
	OVERALL		2.0	A	2.1	A	3.9	A	13.9	B
NYS Route 144 at Proposed Site Driveway <i>(Un-Signalized)</i>	Southbound	L					8.0	A	8.0	A
	Westbound	R					11.1	B	11.1	B
	OVERALL						3.1	A	3.1	A
NYS Route 144 at Glenmont Road <i>(Un-Signalized)</i>	Eastbound	L-R	20.3	C	22.8	C	46.0	E	17.5	B
	Northbound	T-L	9.5	A	9.7	A	10.3	B	5.4	A
	Southbound	T-R							9.9	A
	OVERALL		2.2	A	2.3	A	4.2	A	9.1	A



NYS Route 32 at South Port Road

As shown in the table, the existing intersection of NYS Route 32 at South Port Road is operating at an acceptable LOS for the 2029 Background scenario and will continue to operate with an overall LOS 'A' during the morning peak hour and LOS 'B' during the evening peak hour. All approaches will maintain background LOS with only minor increases in delay. Due to the low volume of vehicles generated by the site performing turning movements at this intersection, the mitigation recommended in the 2019 traffic study is not warranted for the proposed development.

NYS Route 144 (River Road) at NYS Route 32

This intersection is projected to operate at an overall LOS 'B' during the morning peak hour and LOS 'A' during the evening peak hour for the 2029 Background scenario. During the background and build scenarios, the eastbound left turn approach is at a LOS 'F' during both peak hours. To mitigate the delay for this movement and to improve traffic operations at this intersection, it is recommended that a signal be considered by NYSDOT. Should a signal be installed, it is recommended to be coordinated with the NYS Route 32/South Port Road intersection. Signalizing the intersection will decrease the delay the eastbound approach experiences from LOS 'F' to LOS 'B' during the morning peak hour and LOS 'F' to LOS 'D' during the evening peak hour. It should be noted that the mitigation outlined in the GEIS recommended the consideration for signalization of this intersection prior to any development of Beacon Island, see the signal warrant analysis section of this study. Coordination with NYSDOT is recommended to determine if and when a signal should be installed at this intersection.

NYS Route 144 (River Road) at Proposed Site Driveway

The proposed site access driveway was modeled as a two-lane road with single entering and exiting lanes, under stop sign control for the exiting traffic. The driveway will be restricted to passenger vehicle traffic only as all truck traffic will be directed to South Port Road and Church Street as all deliveries will be received at the 700 Smith Blvd site. As outlined in the 2019 traffic study, this will be accomplished by including signage prohibiting trucks from using this entrance as well as enforcement by the Port, the Port's tenants, and local law enforcement. The driveway geometry also does not accommodate large delivery truck turn movements. The LOS summary table shows that this intersection will operate efficiently during the 2029 Build scenario, with no movement operating below LOS 'C'.

Due to sight distance restrictions, vehicles exiting the proposed site will be limited to right turn movements only with the use of a channelized turn island and signage. It is recommended that NYS Route 144 (River Road) be widened to accommodate a left turn lane into the proposed site to increase safety by separating through traffic on NYS Route 144 (River Road) from vehicles slowing to turn into the site, discussed further in the Left Turn Lane Analysis section of this report. In addition to the construction of a dedicated left turn lane, it is recommended that NYSDOT conduct a speed study in the vicinity of the proposed driveway Post Construction to determine if the current regulatory posted speed limit of 55 mph is appropriate after the intersection installation, or if the advisory speed limit of 45 mph in this section become the regulatory posted speed limit, further improving safety along NYS Route 144 (River Road). As noted in the FGEIS traffic analysis mitigation, advanced guidance signage, intersection lighting and driveway warning advisory signage will be proposed as part of the NYSDOT highway work permit plans to increase visibility of the proposed driveway. It is anticipated that roughly 15-20 vehicles during the peak hour will exit the site, with final destination to the south and these vehicles are projected to utilize Glenmont Road and NYS Route 32 to proceed to US Route 9W to travel south.



NYS Route 144 (River Road) at Glenmont Road

This unsignalized intersection is currently operating well today during the evening peak hour. During the morning peak hour, the eastbound left-turn movement is operating with a LOS of 'F' for the background conditions due to the high number of left turn vehicles combined with the heavy northbound traffic on NYS Route 144. This existing condition will continue to operate at similar levels of service for the Build scenarios as well. These vehicles will continue to have some delay as they wait for an acceptable gap in the NYS Route 144 traffic flow. The traffic volumes at this intersection will see minor increases from the proposed development in comparison to the Background volumes, consistent with the FGEIS analysis. A gap analysis was completed in the FEIS to show that adequate gaps existing for the eastbound vehicles approaching the intersection on Glenmont Road. A signal warrant analysis was also completed as part of the FGEIS traffic analysis concluding that a signal was not recommended at this time.

At the request of the Town, the intersection was analyzed in Synchro to determine what effect a traffic signal may have on the levels of service. As shown in the table 4's mitigation column, installation of a traffic signal will decrease delay times for the eastbound turn movements; however, it will also introduce stoppage to the NYS Route 144 traffic flow. It is recommended that after the proposed development is open and fully operational, a follow up traffic signal analysis be conducted at this intersection and coordinated with NYSDOT.

Signal Warrant Analysis

Signal warrants were reviewed for the study area un-signalized intersections of NYS Route 144 (River Road) at NYS Route 32 (Corning Hill Road) and at the proposed driveway on NYS Route 144 (River Road) in accordance with the Federal Highway Administrations; Manual of Uniform Traffic Control Devices, 2009 edition. The NYS Route 144 (River Road) at NYS Route 32 (Corning Hill Road) intersection was reviewed using 2019 existing volumes due to the volumes and operating conditions which have the potential to warrant a traffic signal. Both intersections were also reviewed using the 2029 Build volumes to determine if the proposed development's additional traffic generation warranted a traffic signal.

The detailed signal warrant analysis worksheets for the existing and proposed conditions for both intersections are included in Appendix D.

The NYS Route 144 (River Road)/NYS Route 32 (Corning Hill Road) intersection met three warrants based on the existing traffic volumes, and the same three warrants when applying the projected Full Build volumes as noted below:

- Warrant 1B – Eight Hour Vehicle Volume Warrant, Interruption of Continuous Traffic (Existing & Full Build)
- Warrant 2 – Four Hour Vehicle Volume Warrant (Existing & Full Build)
- Warrant 3B - Peak Hour Vehicle Volume Warrant (Existing & Full Build)

Based on these warrants being met, a traffic signal was assessed for this intersection to determine what impacts it would have both positive and negative. The warrants were met based on the 85th percentile speed exceeding 40 mph and utilized the MUTCD 70% Factor for the volume-based warrants. River Road (NYS Route 144) at the intersection has a 55-mph posted speed limit;



however, the intersection is just south of the city's 30 mph zone. At this intersection, southbound traffic is accelerating, while northbound traffic is slowing down. Speed data north of this intersection showed a 40 mph 85th percentile speed in both directions; therefore, it was concluded that the 85th percentile speed through the intersection is greater than 40 mph. From a capacity standpoint, a new signal will alleviate the anticipated future failing operations of the NYS Route 144 and NYS Route 32 stop sign controlled intersection and provide adequate levels of operations with minor increases in delay over the 2029 Background levels of operation. Installation of a traffic signal is not recommended based on the current volumes; however, due to the additional traffic generated by the development this intersection should be considered for a traffic signal installation and coordination with NYSDOT is recommended.

The NYS Route 144 (River Road)/Proposed Access Driveway intersection met one warrant based on the Full Build volumes as noted below:

- Warrant 3B - Peak Hour Vehicle Volume Warrant

Despite a warrant being met due to the volume of traffic exiting the site during the peak hour, the intersection is projected to have adequate operations during the peak hours and shift changes. This is partially due to limiting exiting vehicles to right turns out of the site onto NYS Route 144 (River Road) which serves to improve traffic operations and improve safety without the need for a traffic signal. Signal warrant worksheets for both intersections are included in Appendix D.

Sight Distance Analysis

The sight distance at the proposed southern site access driveway was measured to determine if the available intersection sight distances met the American Association of State Highway and Transportation Officials (AASHTO) recommended values for both the existing regulatory speed limit of 55 mph and the advisory speed limit of 45 mph. As shown on Figure 7A – Stopping Sight Distance Plan, Figure 7B – Stopping Sight Distance Profile, Figure 7C – Intersection Sight Distance Plan included in Appendix A and the table below, adequate site distance is currently available at the proposed driveway along NYS Route 144 (River Road) looking left to perform a right turn out of the site for 45-mph traveling speeds. The intersection with current conditions does not meet sight distance for a 55-mph speed due to the significant vegetation that currently exists adjacent to and over the southbound roadway shoulders. It is recommended and has been discussed with NYSDOT that vegetation along both sides of NYS Route 144 (River Road) will be removed as part of the Highway Work Permit Plans in order to maximize sight distance for vehicles turning right out of the proposed driveway and to increase overall visibility of the intersection. Figure 7A, shows the extents of the vegetation removal. The proposed roadway widening will be completed with grading to allow proper maintenance to keep these areas mowed annually and free of large vegetation, which was discussed with NYSDOT. Left turns out of the site will not be allowed due to the lack of available sight distance.



Table 5
Sight Distance Analysis

SIGHT DISTANCE CALCULATIONS							
Location	Speed Limit	Direction	AASHTO/NYS DOT Recommended Intersection Sight Distance	Available Intersection Sight Distance *	AASHTO/NYS DOT Recommended Stopping Sight Distance	Available Stopping Sight Distance *	Visual Restriction
Access Drive at NYS Route 144	45 mph	Case B2: Looking Left	430 feet	495' / 590'	360 feet	410' / 500'	Vegetation & Horizontal Curve
	45 mph	Case B1: Looking Right	500 feet	385' / 500'		340' / 375'	Vegetation, Horizontal & Vertical Curves
Access Drive at NYS Route 144	55 mph	Case B2: Looking Left	530 feet	495' / 590'	495 feet	410' / 500'	Vegetation & Horizontal Curve
	55 mph	Case B1: Looking Right	610 feet	385' / 500'		340' / 375'	Vegetation, Horizontal & Vertical Curves

Note:

* = Sight distance was measured based on the current conditions with vegetation restricting the sight lines and also projected based on removal of this vegetation.

Left Turn Lane Analysis

An analysis of the proposed site driveway was performed in accordance with AASHTO guidelines to determine the need for a left-turn lane on NYS Route 144 (River Road) at the proposed driveway and at the intersection of Corning Hill Road (NYS Route 32) at the request of the NYSDOT.

As shown in the table below, the proposed driveway meets the threshold for the addition of a southbound left turn lane during the peak hours, due to the volume of traffic traveling on NYS Route 144 (River Road) during the peak hours. This was conservatively completed using a 45-mph operating speed, if the 55-mph regulatory speed limit was used, the left turn lane would still be warranted, as the volume threshold would still be exceeded. It should be noted that while the left turn movement LOS for vehicles turning into the proposed site driveway is projected to be acceptable with delays less than ten (10) seconds during the peak hours, the installation of the left turn lane is also recommended in order to increase safety and separate southbound through traffic from vehicles slowing to turn into the site.

A northbound left turn lane at the NYS Route 144 (River Road) intersection with NYS Route 32 (Corning Hill Road) meets the AASHTO warrant for an unsignalized intersection as shown in the table below. Should a signal be installed, these warrants are no longer applicable. With the installation of a signal the average northbound delay is projected to range from 10.5 seconds to 15.1 seconds during the peak hours. Based on these proposed intersection operations the installation of a northbound left turn lane at this intersection is not recommended; however, as part of the signal design and NYSDOT Highway Work Permit process, the potential need for a NB left turn lane at the signal will be further evaluated with NYSDOT.



**Table 6
Left Turn Lane Analysis**

Warrants for Left Turn Lanes AM Peak Hour					
Location	Operating Speed	V.P.H. Per Lane Major Road Volume	Left-Turn Warrant Threshold	Site-Generated Left-Turns	Turn lane Warranted
NYS Route 144 (River Road) at Proposed Site Driveway	45 mph	236	15-20	142	Yes
NYS Route 144 (River Road) at Corning Hill Road (NYS Route 32)	40 mph	740	5	84	Yes

Warrants for Left Turn Lanes PM Peak Hour					
Location	Operating Speed	V.P.H. Per Lane Major Road Volume	Left-Turn Warrant Threshold	Site-Generated Left-Turns	Turn lane Warranted
NYS Route 144 (River Road) at Proposed Site Driveway	45 mph	497	5	111	Yes
NYS Route 144 (River Road) at Corning Hill Road (NYS Route 32)	40 mph	344	5-8	81	Yes

Environmental Justice

Impact on South Pearl Street / Ezra Prentice Community

As shown in the table below, when compared to the thresholds set in the FGEIS, the Marmen Welcon Plant is expected to generate less traffic for passenger vehicles traveling north/south on South Pearl Street, passing the Ezra Prentice Community. The recommended truck route outlined in the FGEIS included a restriction on right turns for trucks exiting the site via South Port Road and traveling north, in order to limit any impact on the environmentally sensitive areas along South Pearl Street, including the Ezra Prentice community. All trucks entering and exiting the Marmen Welcon Plant will follow the truck routes identified in the FGEIS, as shown on Figure 3.7-2, included in Appendix B.

**Table 7
Vehicle Traffic Passing South Pearl Street / Ezra Prentice Community**

	FGEIS PHASE III THRESHOLDS		PROPOSED	
	AM	PM	AM	PM
Cars	204	231	199	201
Trucks	0	0	0	0



Impact on Recreational/Open Areas

Based on the Marmen Welcon Plant of Building E at 700 Smith Blvd., the volume of site generated traffic on Island Creek Park was compared to the volumes outlined in the FGEIS. As shown in the table below, the proposed tenant will generate no car traffic passing Island Creek Park as it is anticipated that passenger vehicles will utilize NYS Route 32 and South Port Road to enter and exit Building E and NYS Route 144 to enter and exit Buildings A-D.

Table 8
Vehicle Traffic Passing Island Creek Park

	FGEIS PHASE III THRESHOLDS		PROPOSED	
	AM	PM	AM	PM
Cars	94	106	0	0
Trucks	66	34	4	4

Rail Analysis

As described in the FGEIS, an existing railroad track owned by CSX runs north/south from the Port of Albany along the east side of NYS Route 32/144 and terminates at the Albany Port Railroad, a separate, short-line entity co-owned and operated by CSX and Canadian Pacific. The proposed Marmen Welcon traffic assessment is estimating a weekly rail traffic rate of approximately 25-40 rail cars for the delivery of raw materials utilizing this line. As shown in the table below, the proposed tenant’s rail traffic is estimated to be greater than the projected rail traffic outlined in the FGEIS. However, no additional trains (engines) will be added to the line as a result of the proposed project and the additional 5-8 rail cars per day represents a negligible increase in rail operations in the area and will not add noise or diesel emissions to the Ezra Prentice neighborhood.

Table 9
Rail Analysis

	FGEIS	PROPOSED
Rail Cars	20-25 Rail Cars per Week	25-40 Rail Cars per Week
Trains (Engines)	1-2 Trains per Week	0



Maritime Analysis

The FGEIS estimated an approximate 10% increase in maritime traffic, equating to roughly 21 commercial vessels per year, as a result of a Port of Albany Expansion. The proposed tenant’s maritime traffic assessment estimates approximately 2-3 commercial vessels per week for the transport of outbound products, and 1 vessel per month for the delivery of inbound materials. This increase in maritime traffic is not projected to have a significant impact on the existing Hudson River maritime commercial or recreational traffic, and the use of barges and vessels for the delivery and shipping of materials/products reduces the need for trucks, further minimizing the impact on the surrounding roadway network.

Table 10
Maritime Analysis

	FGEIS	PROPOSED
Vessels/Barges	>1 Vessel/Barge per Week	1 Vessel per Month 2-3 Barges per Week

Conclusions and Recommendations

The follow general conclusions were determined based on the updated traffic analysis associated with the proposed Marmen Welcon Plant:

- The proposed development will generate traffic volumes within the Phase 3 threshold range established in the FGEIS finding statement.
- The development will have a different trip distribution from the assumptions in the FGEIS, with more traffic utilizing the proposed southern River Road driveway; however, the remaining intersections will see similar or improved levels of service than those anticipated for the Phase 3 FGEIS analysis.
- The study area intersections LOS and delay analysis revealed that the additional traffic generated by the proposed Port of Albany expansion along River Road will have a negligible impact on the operations of the NYS Route 144 (River Road) corridor, as well as South Port Road.
- Supplementary turn lanes were reviewed at the developments access driveway and a dedicated left turn lane is recommended in order to separate through traffic from vehicles slowing to enter the proposed site.
- Additional recommended improvements to the surrounding roadway network include the consideration of a coordinated signal at the NYS Route 144 (River Road) / NYS Route 32 intersection, in accordance with the guidelines set in the FGEIS. Coordination with NYSDOT is recommended to review a signal installation at this intersection.
- A speed study completed by the NYSDOT is recommended at the proposed southern site driveway on NYS Route 144 to determine if the regulatory speed limits of 55-mph should be reduced to match the advisory speed limit of 45-mph.



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- After the facility is opened for operations, as noted in the FGEIS, signal timings at the following intersections should be monitored by NYSDOT to determine if timing can be optimized for the traffic conditions.
 - NYS Route 32 (S. Pearl Street) at 1st Ave./787 Exit 2
 - NYS Route 32 (Corning Hill Road) at US 9W
 - I-787/I-87 Exit 23 Interchange at US Route 9W
- The applicant will contribute to the Town a proportional share of the intersection improvement costs at the Glenmont Road/NYS Route 144 (River Road) intersection for future intersection improvements. The amount will be determined at a future time but will be no less than 20% of the total intersection improvement cost.



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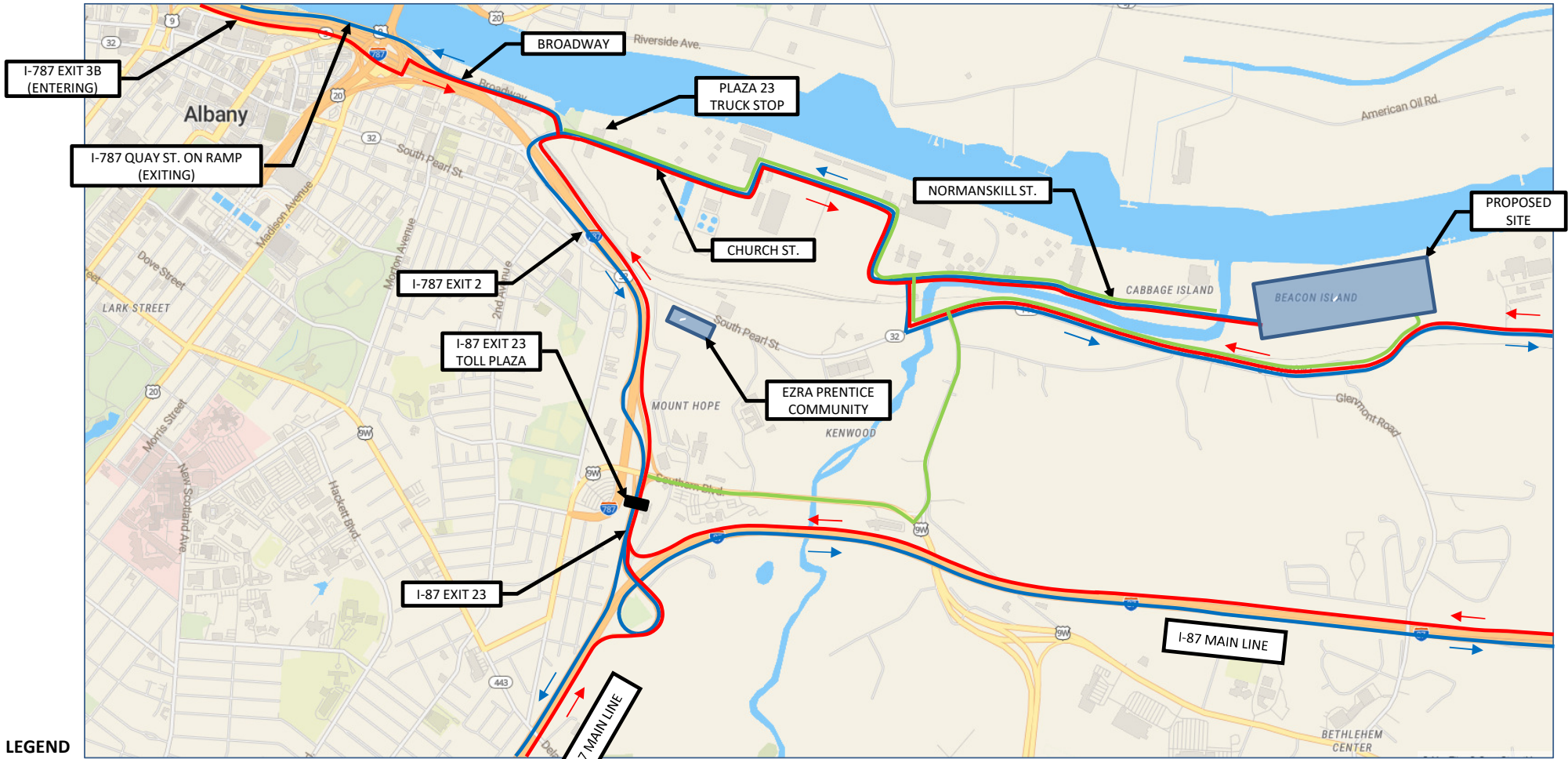
APPENDICES

APPENDIX A	SUPPLEMENTAL TRAFFIC DATA
APPENDIX B	SYNCHRO ANALYSIS PRINTOUTS
APPENDIX C	SIGNAL WARRANT WORKSHEETS

APPENDIX A


SUPPLEMENTAL TRAFFIC DATA

- Permanent / Temporary Construction Truck Route
- Traffic Volume Calculations
- Figure 7A – Stopping Sight Distance Plan
- Figure 7B – Stopping Sight Distance Profile
- Figure 7C – Intersection Sight Distance Plan
- Glenmont Road/NYS Route 144 Signalized Intersection Estimate



- LEGEND**
- Permanent Entering Truck Traffic
 - Permanent Exiting Truck Traffic
 - Temporary Construction Truck Traffic

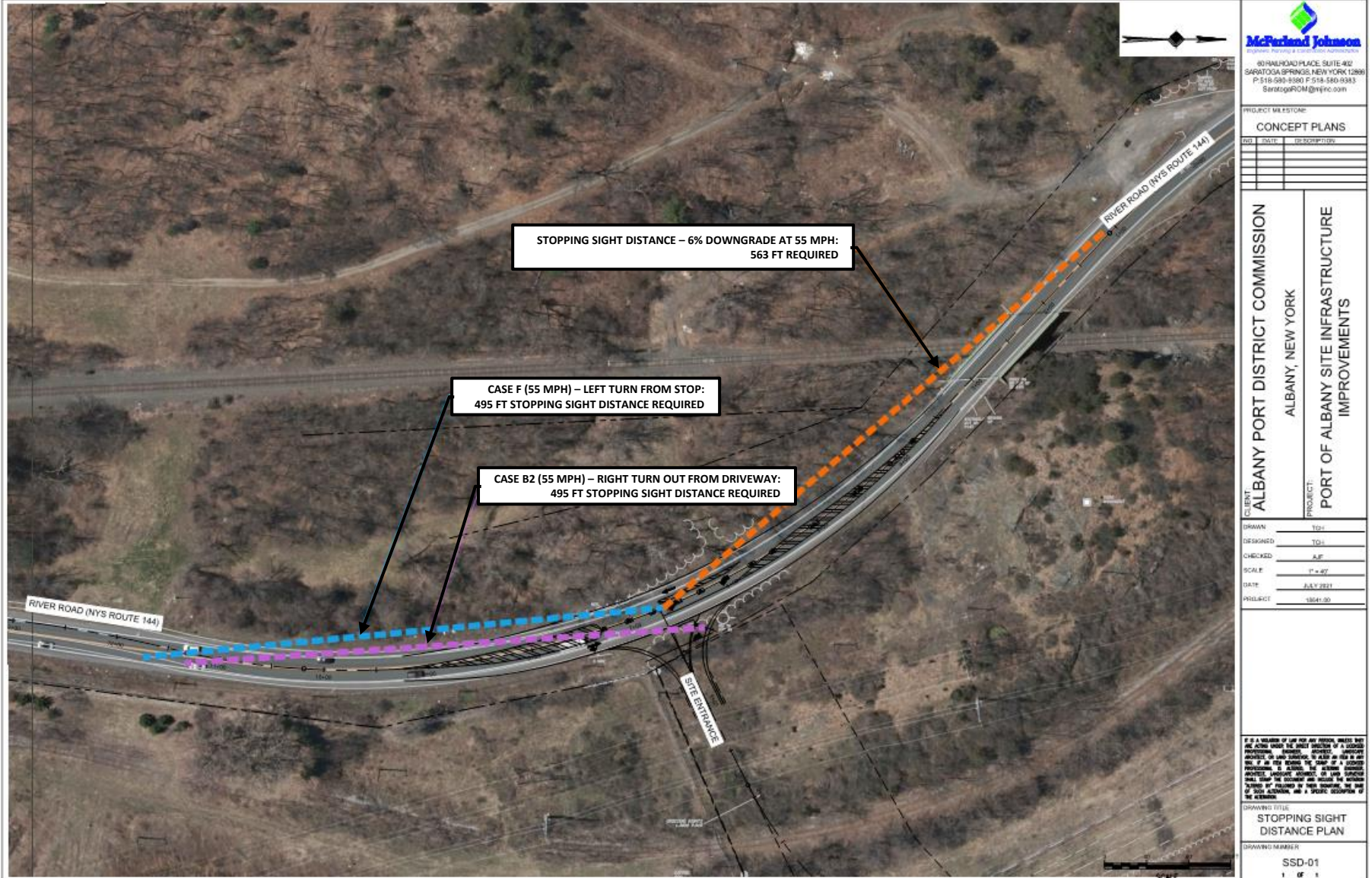
Permanent / Temporary Construction Truck Routes


 Not to Scale

PORT OF ALBANY TIS VOLUME TABLE

		MORNING PEAK HOUR							
Study Intersection	Approach and Movement		2019 EXISTING	2019 EXISTING (ADJUSTED)	2029 BACKGROUND	ENTERING TRIP GEN %	EXITING TRIP GEN %	2029 BUILD	
								TRIPS	TOTAL
NYS Route 32 at South Port Road <i>(Signalized)</i>	Westbound	L	15	16	17		5%	7	24
		R	27	29	30		5%	7	37
	Northbound	T	643	681	716		60%	86	802
		R	35	37	39	5%		9	48
	Southbound	L	33	35	37	5%		9	46
		T	215	228	258	53%		97	356
NYS Route 144 at NYS Route 32 <i>(Un-Signalized)</i>	Eastbound	L	92	97	102	5%		9	111
		R	43	46	48	15%		27	75
	Northbound	L	50	53	56		20%	28	84
		T	586	621	654		60%	86	740
	Southbound	T	184	195	224	53%		97	321
		R	46	49	51		5%	7	58
NYS Route 144 at Proposed Site Driveway <i>(Un-Signalized)</i>	Westbound	R					90%	128	128
		T						0	488
	Northbound	R				12%		22	22
		L				78%		142	142
	Southbound	L						0	200
		T							

		EVENING PEAK HOUR							
Study Intersection	Approach and Movement		2019 EXISTING	2019 EXISTING (ADJUSTED)	2029 BACKGROUND	ENTERING TRIP GEN %	EXITING TRIP GEN %	2029 BUILD	
								TRIPS	TOTAL
NYS Route 32 at South Port Road <i>(Signalized)</i>	Westbound	L	64	68	71		5%	9	80
		R	11	12	12		5%	9	21
	Northbound	T	214	227	253		60%	109	362
		R	12	13	13	5%		7	20
	Southbound	L	5	5	6	5%		7	13
		T	834	883	931	53%		76	1007
NYS Route 144 at NYS Route 32 <i>(Un-Signalized)</i>	Eastbound	L	27	29	30	5%		7	37
		R	61	65	68	15%		21	89
	Northbound	L	40	42	44		20%	37	82
		T	198	210	235		60%	109	344
	Southbound	T	603	639	673	53%		76	749
		R	296	314	329		5%	9	338
NYS Route 144 at Proposed Site Driveway <i>(Un-Signalized)</i>	Westbound	R					90%	164	164
		T						0	201
	Northbound	R				12%		17	17
		L				78%		111	111
	Southbound	L						0	438
		T							



Stopping Sight Distance Plan

NO.	DATE	DESCRIPTION

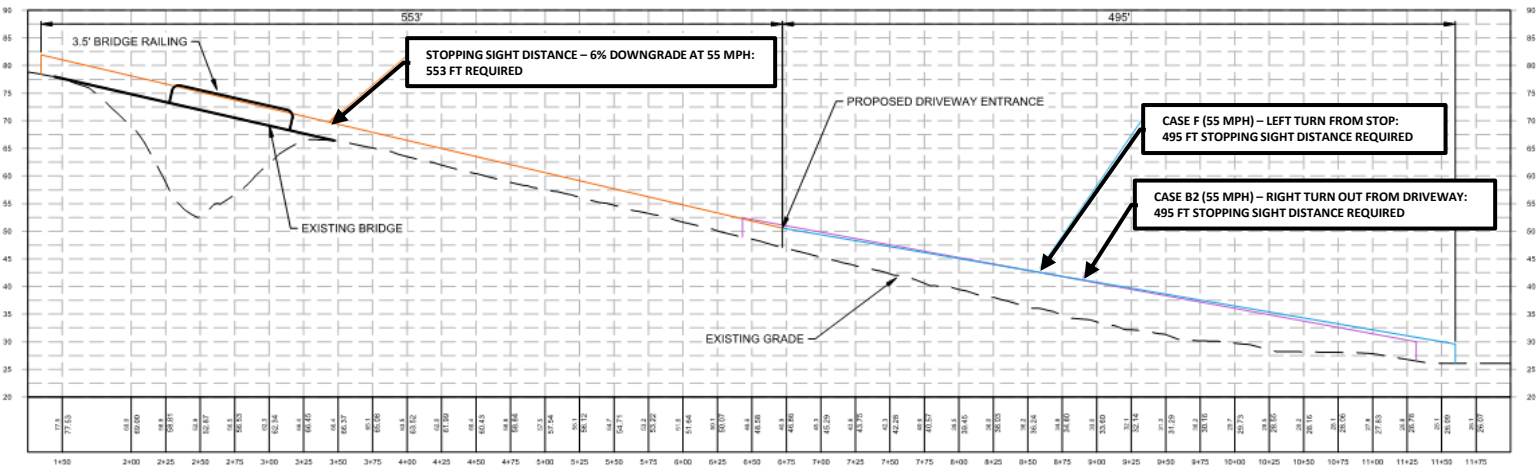
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ALBANY, NEW YORK

PROJECT: **PORT OF ALBANY SITE INFRASTRUCTURE IMPROVEMENTS**

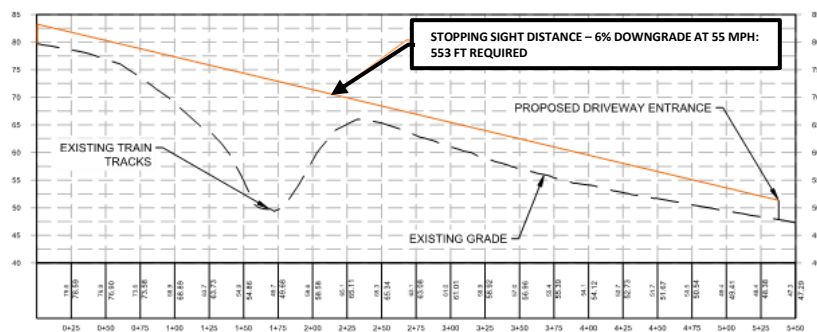
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DATE:	JULY 2021
PROJECT:	19941.00

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE LICENSED UNDER THE OFFICE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, SURVEYOR, LANDSCAPE ARCHITECT, OR PROFESSIONAL GEODETIC SURVEYOR, TO PREPARE ANY PART OF ANY PLAN, SPECIFICATION, OR REPORT FOR ANY OF THE ABOVE LISTED PROFESSIONS, TO BE USED IN THE PRACTICE OF ANY OF THE ABOVE LISTED PROFESSIONS, UNLESS THE ABOVE LISTED PROFESSIONAL ENGINEER, ARCHITECT, SURVEYOR, LANDSCAPE ARCHITECT, OR LICENSED SURVEYOR SHALL SIGN THE DOCUMENT AND INCLUDE THE WORDING "DESIGNED BY" FOLLOWED BY THEIR NAME, THE DATE OF SUCH SIGNATURE, AND A SPECIFIC DESCRIPTION OF THE WORK.

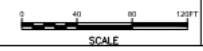
DRAWING TITLE:	STOPPING SIGHT DISTANCE PROFILE
DRAWING NUMBER:	SSD-02
	2 OF 2



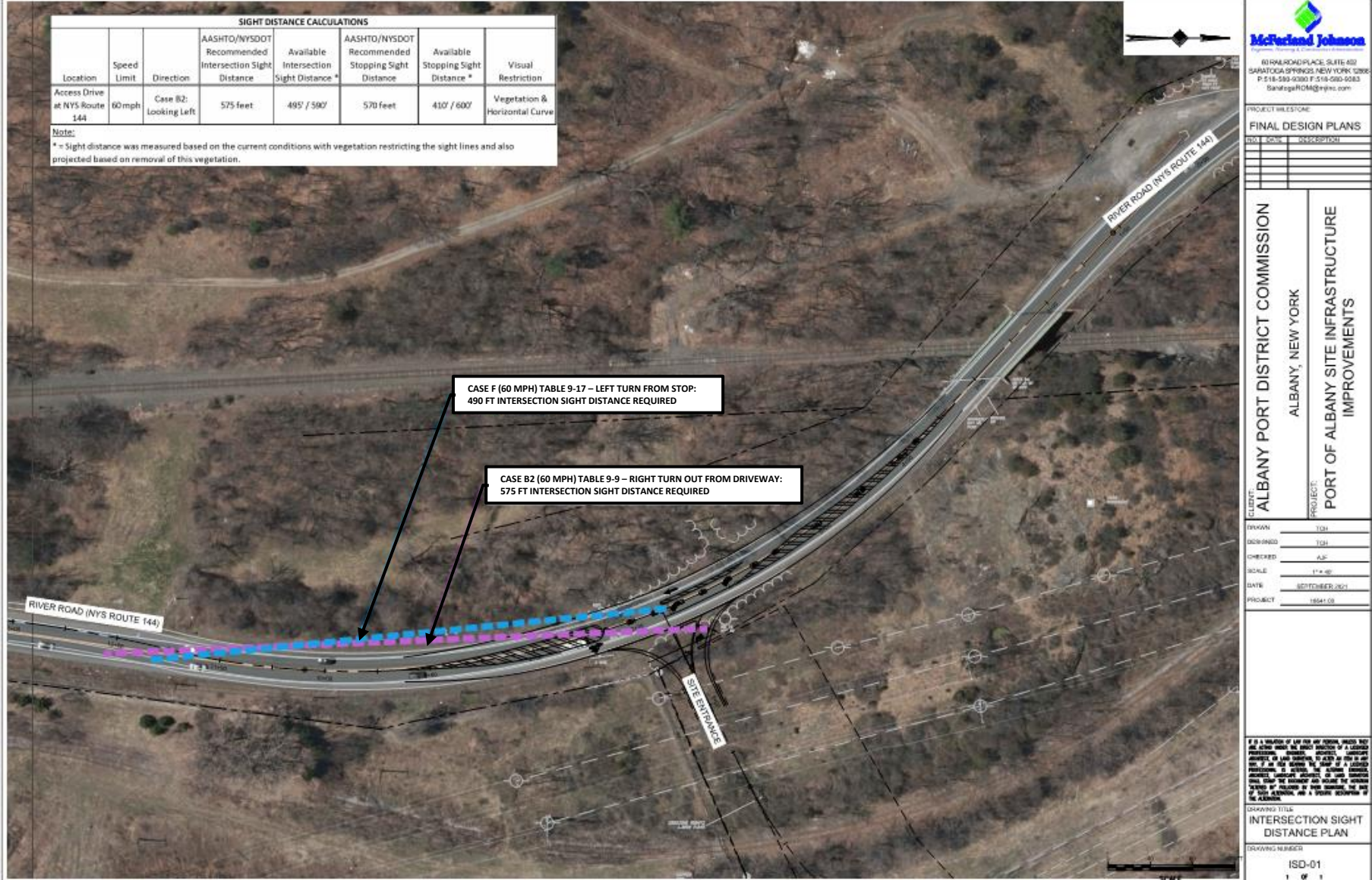
Sight Distance
Horizontal Scale: 1" = 40'
Vertical Scale: 1" = 10'



Inside Curve Profile
Horizontal Scale: 1" = 40'
Vertical Scale: 1" = 10'



Sight Distance Profile



Intersection Sight Distance Plan



McFARLAND-JOHNSON, INC.

15 Fishers Road
 Pittsford, NY 14534
 PHONE (585) 905-0970
 FAX (585) 905-0882
 www.mjinc.com

ENGINEER'S OPINION OF PROBABLE COSTS

Project: **Port of Albany
 Glenmont Road / NYS Route 144**

February 18, 2022

BASE BID

Bid Item	Description Of Item	Unit	Quantity	Unit Price	Engineer's Estimate
206.03	CONDUIT EXCAVATION AND BACKFILL INCLUDING SURFACE RESTORATION	LF	300	\$50.00	\$15,000.00
610.1402	ROADSIDE TURF ESTABLISHMENT - LUMP SUM	LS	1	\$1,000.00	\$1,000.00
619.01	WORK ZONE TRAFFIC CONTROL - LUMP SUM	LS	1	\$5,000.00	\$5,000.00
640.20	WHITE PAINT REFLECTORIZED PAVEMENT STRIPES - 20 MILS	LF	30	\$5.00	\$150.00
645.0301001	HIGH VISIBILITY OVERHEAD-MOUNTED SIGN PANELS	SF	10	\$200.00	\$2,000.00
680.05010007	360 DEGREE CAMERA VIDEO DETECTION SYSTEM	EA	1	\$30,000.00	\$30,000.00
680.5001	POLE EXCAVATION AND CONCRETE FOUNDATION	CY	20	\$1,500.00	\$30,000.00
680.510301	PULLBOX-CIRCULAR, 24 INCH DIAMETER, REINFORCED CONCRETE	EA	4	\$1,300.00	\$5,200.00
680.520703	TRAFFIC SIGNAL CONDUIT - RIGID PLASTIC, CLASS 1, 1"	LF	300	\$10.00	\$3,000.00
680.62203	TRAFFIC SIGNAL POLE, MAST ARM, 20 FEET MOUNTING HEIGHT, 30 FEET ARM LENGTH	EA	4	\$15,000.00	\$60,000.00
680.730714	SIGNAL CABLE, 7 CONDUCTORS, 14 AWG	LF	500	\$5.00	\$2,500.00
680.810101	TRAFFIC SIGNAL MODULE - 12 INCH, RED BALL, LED	EA	4	\$500.00	\$2,000.00
680.810103	TRAFFIC SIGNAL MODULE - 12 INCH, YELLOW BALL, LED	EA	4	\$500.00	\$2,000.00
680.810105	TRAFFIC SIGNAL MODULE - 12 INCH, GREEN BALL, LED	EA	4	\$500.00	\$2,000.00
680.810104	TRAFFIC SIGNAL MODULE - 12 INCH, YELLOW ARROW, LED	EA	1	\$500.00	\$500.00
680.810106	TRAFFIC SIGNAL MODULE - 12 INCH, GREEN ARROW, LED	EA	1	\$500.00	\$500.00
680.810601	TRAFFIC SIGNAL SECTION - POLYCARBONATE, TYPE I, 12 INCH	EA	13	\$500.00	\$6,500.00
680.8111	TRAFFIC SIGNAL BRACKET ASSEMBLY - 1 WAY	EA	4	\$300.00	\$1,200.00
680.8201	OVERHEAD SIGN ASSEMBLY, TYPE A	EA	2	\$500.00	\$1,000.00
680.94997008	FURNISH AND INSTALL ELECTRICAL DISCONNECT GENERATOR TRANSFER SWITCH	EA	1	\$3,000.00	\$3,000.00
	TOTAL (Construction)				\$172,550.00
	20% Contingency				\$34,510.00
	Escalation to 2024 (3% per Year)				\$15,529.50
	Grand Total (Construction)				\$222,589.50

	Additional Costs	Unit	Quantity	Unit Price	Engineer's Estimate
	Design (10%)				\$22,258.95
	Construction Administration & Inspection (10%)				\$22,258.95

TOTAL PROJECT COST

\$267,107.40

APPENDIX B

SYNCHRO MODEL CAPACITY ANALYSIS RESULTS

- 2029 Build Conditions
 - AM Peak
 - PM Peak

- 2029 Build Conditions - Mitigation
 - AM Peak
 - PM Peak

Lanes, Volumes, Timings
20: NYS Route 32 & South Port Road

2029 Build - AM
02/24/2022



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	24	37	802	48	46	356
Future Volume (vph)	24	37	802	48	46	356
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.918		0.992			
Flt Protected	0.981					0.995
Satd. Flow (prot)	1042	0	1767	0	0	1534
Flt Permitted	0.981					0.852
Satd. Flow (perm)	1042	0	1767	0	0	1313
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	49		7			
Link Speed (mph)	30		30			30
Link Distance (ft)	421		375			362
Travel Time (s)	9.6		8.5			8.2
Peak Hour Factor	0.75	0.75	0.87	0.87	0.90	0.84
Heavy Vehicles (%)	60%	67%	6%	18%	42%	21%
Adj. Flow (vph)	32	49	922	55	51	424
Shared Lane Traffic (%)						
Lane Group Flow (vph)	81	0	977	0	0	475
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Perm		NA		Perm	NA
Protected Phases			2			2
Permitted Phases	8				2	
Detector Phase	8		2		2	2
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	23.0		23.0		23.0	23.0
Total Split (s)	25.0		45.0		45.0	45.0
Total Split (%)	35.7%		64.3%		64.3%	64.3%
Maximum Green (s)	20.0		40.0		40.0	40.0
Yellow Time (s)	3.5		3.5		3.5	3.5
All-Red Time (s)	1.5		1.5		1.5	1.5
Lost Time Adjust (s)	0.0		0.0			0.0
Total Lost Time (s)	5.0		5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		Max		Max	Max
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0

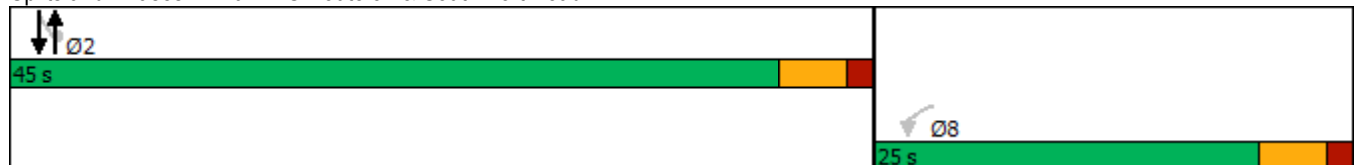


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Act Effct Green (s)	8.3		52.7			52.7
Actuated g/C Ratio	0.12		0.78			0.78
v/c Ratio	0.48		0.71			0.46
Control Delay	22.8		10.4			6.1
Queue Delay	0.0		0.0			0.0
Total Delay	22.8		10.4			6.1
LOS	C		B			A
Approach Delay	22.8		10.4			6.1
Approach LOS	C		B			A
Queue Length 50th (ft)	14		176			61
Queue Length 95th (ft)	33		#448			138
Internal Link Dist (ft)	341		295			282
Turn Bay Length (ft)						
Base Capacity (vph)	344		1380			1024
Starvation Cap Reductn	0		0			0
Spillback Cap Reductn	0		0			0
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.24		0.71			0.46

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 67.5
 Natural Cycle: 70
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 9.8
 Intersection LOS: A
 Intersection Capacity Utilization 69.9%
 ICU Level of Service C
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 20: NYS Route 32 & South Port Road



Intersection						
Int Delay, s/veh	17.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	111	75	84	740	321	58
Future Vol, veh/h	111	75	84	740	321	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	125	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	86	86	90	90
Heavy Vehicles, %	13	28	20	9	23	28
Mvmt Flow	128	86	98	860	357	64

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1445	389	421	0	-	0
Stage 1	389	-	-	-	-	-
Stage 2	1056	-	-	-	-	-
Critical Hdwy	6.53	6.48	4.3	-	-	-
Critical Hdwy Stg 1	5.53	-	-	-	-	-
Critical Hdwy Stg 2	5.53	-	-	-	-	-
Follow-up Hdwy	3.617	3.552	2.38	-	-	-
Pot Cap-1 Maneuver	137	606	1048	-	-	-
Stage 1	662	-	-	-	-	-
Stage 2	319	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 112	606	1048	-	-	-
Mov Cap-2 Maneuver	~ 112	-	-	-	-	-
Stage 1	544	-	-	-	-	-
Stage 2	319	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	124.5	0.9	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1048	-	112	606	-	-
HCM Lane V/C Ratio	0.093	-	1.139	0.142	-	-
HCM Control Delay (s)	8.8	0	200.6	11.9	-	-
HCM Lane LOS	A	A	F	B	-	-
HCM 95th %tile Q(veh)	0.3	-	8	0.5	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↘			↖
Traffic Vol, veh/h	0	128	488	22	142	200
Future Vol, veh/h	0	128	488	22	142	200
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	80	80	92	92	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	160	530	24	167	235

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	542	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	540	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	-	540	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.4	0	3.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	540	1016
HCM Lane V/C Ratio	-	-	0.296	0.164
HCM Control Delay (s)	-	-	14.4	9.2
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.2	0.6

Intersection						
Int Delay, s/veh	38					
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	33	655	318	62	170	35
Future Vol, veh/h	33	655	318	62	170	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	81	81	83	83
Heavy Vehicles, %	3	0	22	10	12	11
Mvmt Flow	39	780	393	77	205	42

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	470	0	-	0	1290 432
Stage 1	-	-	-	-	432 -
Stage 2	-	-	-	-	858 -
Critical Hdwy	4.13	-	-	-	6.52 6.31
Critical Hdwy Stg 1	-	-	-	-	5.52 -
Critical Hdwy Stg 2	-	-	-	-	5.52 -
Follow-up Hdwy	2.227	-	-	-	3.608 3.399
Pot Cap-1 Maneuver	1086	-	-	-	~ 172 605
Stage 1	-	-	-	-	634 -
Stage 2	-	-	-	-	399 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1086	-	-	-	~ 161 605
Mov Cap-2 Maneuver	-	-	-	-	~ 161 -
Stage 1	-	-	-	-	594 -
Stage 2	-	-	-	-	399 -

Approach	NB	SB	NE
HCM Control Delay, s	0.4	0	234.8
HCM LOS			F

Minor Lane/Major Mvmt	NELn1	NBL	NBT	SBT	SBR
Capacity (veh/h)	184	1086	-	-	-
HCM Lane V/C Ratio	1.342	0.036	-	-	-
HCM Control Delay (s)	234.8	8.4	0	-	-
HCM Lane LOS	F	A	A	-	-
HCM 95th %tile Q(veh)	14.3	0.1	-	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lanes, Volumes, Timings
20: NYS Route 32 & South Port Road

2029 Build - PM
02/24/2022



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	80	21	362	20	13	1007
Future Volume (vph)	80	21	362	20	13	1007
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.972		0.993			
Flt Protected	0.962					0.999
Satd. Flow (prot)	1642	0	1712	0	0	1800
Flt Permitted	0.962					0.993
Satd. Flow (perm)	1642	0	1712	0	0	1789
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	19		7			
Link Speed (mph)	30		30			30
Link Distance (ft)	421		375			362
Travel Time (s)	9.6		8.5			8.2
Peak Hour Factor	0.85	0.85	0.72	0.72	0.94	0.94
Heavy Vehicles (%)	8%	9%	8%	50%	40%	5%
Adj. Flow (vph)	94	25	503	28	14	1071
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	0	531	0	0	1085
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Perm		NA		Perm	NA
Protected Phases			2			2
Permitted Phases	8				2	
Detector Phase	8		2		2	2
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0
Minimum Split (s)	23.0		23.0		23.0	23.0
Total Split (s)	25.0		45.0		45.0	45.0
Total Split (%)	35.7%		64.3%		64.3%	64.3%
Maximum Green (s)	20.0		40.0		40.0	40.0
Yellow Time (s)	3.5		3.5		3.5	3.5
All-Red Time (s)	1.5		1.5		1.5	1.5
Lost Time Adjust (s)	0.0		0.0			0.0
Total Lost Time (s)	5.0		5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		Max		Max	Max
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0

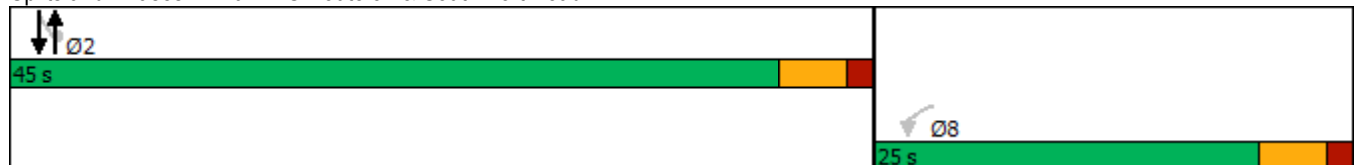


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Act Effct Green (s)	9.3		49.4			49.4
Actuated g/C Ratio	0.14		0.76			0.76
v/c Ratio	0.48		0.41			0.80
Control Delay	27.6		5.5			15.1
Queue Delay	0.0		0.0			0.0
Total Delay	27.6		5.5			15.1
LOS	C		A			B
Approach Delay	27.6		5.5			15.1
Approach LOS	C		A			B
Queue Length 50th (ft)	39		70			257
Queue Length 95th (ft)	69		103			#634
Internal Link Dist (ft)	341		295			282
Turn Bay Length (ft)						
Base Capacity (vph)	517		1295			1352
Starvation Cap Reductn	0		0			0
Spillback Cap Reductn	0		0			0
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.23		0.41			0.80

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 65.4
 Natural Cycle: 80
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 13.0
 Intersection LOS: B
 Intersection Capacity Utilization 77.4%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 20: NYS Route 32 & South Port Road



Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	37	89	82	344	749	338
Future Vol, veh/h	37	89	82	344	749	338
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	125	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	88	88	91	91
Heavy Vehicles, %	29	14	10	7	7	2
Mvmt Flow	40	97	93	391	823	371

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1586	1009	1194	0	-	0
Stage 1	1009	-	-	-	-	-
Stage 2	577	-	-	-	-	-
Critical Hdwy	6.69	6.34	4.2	-	-	-
Critical Hdwy Stg 1	5.69	-	-	-	-	-
Critical Hdwy Stg 2	5.69	-	-	-	-	-
Follow-up Hdwy	3.761	3.426	2.29	-	-	-
Pot Cap-1 Maneuver	103	277	557	-	-	-
Stage 1	314	-	-	-	-	-
Stage 2	512	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	81	277	557	-	-	-
Mov Cap-2 Maneuver	81	-	-	-	-	-
Stage 1	247	-	-	-	-	-
Stage 2	512	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	43.1	2.5	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	557	-	81	277	-	-
HCM Lane V/C Ratio	0.167	-	0.497	0.349	-	-
HCM Control Delay (s)	12.8	0	87	24.8	-	-
HCM Lane LOS	B	A	F	C	-	-
HCM 95th %tile Q(veh)	0.6	-	2.1	1.5	-	-

Intersection

Int Delay, s/veh 3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↘			↖
Traffic Vol, veh/h	0	164	201	17	111	438
Future Vol, veh/h	0	164	201	17	111	438
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	80	80	85	85	92	92
Heavy Vehicles, %	0	0	2	2	2	2
Mvmt Flow	0	205	236	20	121	476

Major/Minor

	Minor1	Major1	Major2
Conflicting Flow All	-	246	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.2	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.3	-
Pot Cap-1 Maneuver	0	798	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	-	798	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach

	WB	NB	SB
HCM Control Delay, s	11.1	0	1.6
HCM LOS	B		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	798	1309
HCM Lane V/C Ratio	-	-	0.257	0.092
HCM Control Delay (s)	-	-	11.1	8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1	0.3

Intersection						
Int Delay, s/veh	4.2					
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	40	348	502	285	59	47
Future Vol, veh/h	40	348	502	285	59	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	77	77	84	84	81	81
Heavy Vehicles, %	4	0	0	5	5	1
Mvmt Flow	52	452	598	339	73	58

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	937	0	-	0	1324 768
Stage 1	-	-	-	-	768 -
Stage 2	-	-	-	-	556 -
Critical Hdwy	4.14	-	-	-	6.45 6.21
Critical Hdwy Stg 1	-	-	-	-	5.45 -
Critical Hdwy Stg 2	-	-	-	-	5.45 -
Follow-up Hdwy	2.236	-	-	-	3.545 3.309
Pot Cap-1 Maneuver	723	-	-	-	170 403
Stage 1	-	-	-	-	453 -
Stage 2	-	-	-	-	568 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	723	-	-	-	154 403
Mov Cap-2 Maneuver	-	-	-	-	154 -
Stage 1	-	-	-	-	410 -
Stage 2	-	-	-	-	568 -

Approach	NB	SB	NE
HCM Control Delay, s	1.1	0	46
HCM LOS			E

Minor Lane/Major Mvmt	NELn1	NBL	NBT	SBT	SBR
Capacity (veh/h)	212	723	-	-	-
HCM Lane V/C Ratio	0.617	0.072	-	-	-
HCM Control Delay (s)	46	10.4	0	-	-
HCM Lane LOS	E	B	A	-	-
HCM 95th %tile Q(veh)	3.6	0.2	-	-	-

Lanes, Volumes, Timings
21: NYS Route 144 & NYS Route 32



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	111	75	84	740	321	58
Future Volume (vph)	111	75	84	740	321	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125	0	0			0
Storage Lanes	1	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.979	
Flt Protected	0.950			0.995		
Satd. Flow (prot)	1597	1262	0	1717	1503	0
Flt Permitted	0.950			0.916		
Satd. Flow (perm)	1597	1262	0	1580	1503	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		86			27	
Link Speed (mph)	45			55	55	
Link Distance (ft)	2072			957	365	
Travel Time (s)	31.4			11.9	4.5	
Peak Hour Factor	0.87	0.87	0.86	0.86	0.90	0.90
Heavy Vehicles (%)	13%	28%	20%	9%	23%	28%
Adj. Flow (vph)	128	86	98	860	357	64
Shared Lane Traffic (%)						
Lane Group Flow (vph)	128	86	0	958	421	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Detector Phase	4	4	2	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	12.0	12.0	22.5	22.5	22.5	
Total Split (s)	19.0	19.0	51.0	51.0	51.0	
Total Split (%)	27.1%	27.1%	72.9%	72.9%	72.9%	
Maximum Green (s)	14.5	14.5	46.5	46.5	46.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Max	C-Max	C-Max	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Act Effct Green (s)	10.7	10.7		53.4	53.4	
Actuated g/C Ratio	0.15	0.15		0.76	0.76	
v/c Ratio	0.52	0.32		0.80	0.37	
Control Delay	34.4	9.9		15.1	5.0	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	34.4	9.9		15.1	5.0	
LOS	C	A		B	A	
Approach Delay	24.6			15.1	5.0	
Approach LOS	C			B	A	
Queue Length 50th (ft)	51	0		236	52	
Queue Length 95th (ft)	91	31		#563	113	
Internal Link Dist (ft)	1992			877	285	
Turn Bay Length (ft)	125					
Base Capacity (vph)	330	329		1204	1152	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.39	0.26		0.80	0.37	

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 13.7
 Intersection LOS: B
 Intersection Capacity Utilization 81.4%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 21: NYS Route 144 & NYS Route 32



Intersection						
Int Delay, s/veh	3.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↘		↖	↗
Traffic Vol, veh/h	0	128	488	2	142	200
Future Vol, veh/h	0	128	488	2	142	200
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	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	92	92	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	160	530	2	167	235

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	531	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	548	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	-	548	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.3	0	3.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	548	1036
HCM Lane V/C Ratio	-	-	0.292	0.161
HCM Control Delay (s)	-	-	14.3	9.1
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.2	0.6

Lanes, Volumes, Timings
7: Glenmont Road & NYS Route 144



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	33	655	318	62	170	35
Future Volume (vph)	33	655	318	62	170	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t			0.978		0.977	
Fl _t Protected		0.998			0.960	
Satd. Flow (prot)	0	1893	1548	0	1594	0
Fl _t Permitted		0.967			0.960	
Satd. Flow (perm)	0	1835	1548	0	1594	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			26		18	
Link Speed (mph)		55	55		40	
Link Distance (ft)		3029	4437		365	
Travel Time (s)		37.5	55.0		6.2	
Peak Hour Factor	0.84	0.84	0.81	0.81	0.83	0.83
Heavy Vehicles (%)	3%	0%	22%	10%	12%	11%
Adj. Flow (vph)	39	780	393	77	205	42
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	819	470	0	247	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Perm	NA	NA		Prot	
Protected Phases		2	6		4	
Permitted Phases	2					
Detector Phase	2	2	6		4	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	22.5	22.5	22.5		22.5	
Total Split (s)	37.5	37.5	37.5		22.5	
Total Split (%)	62.5%	62.5%	62.5%		37.5%	
Maximum Green (s)	33.0	33.0	33.0		18.0	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	
Total Lost Time (s)		4.5	4.5		4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	Min	Min	Min		None	
Act Effct Green (s)		30.0	30.0		12.7	
Actuated g/C Ratio		0.58	0.58		0.25	
v/c Ratio		0.77	0.52		0.61	

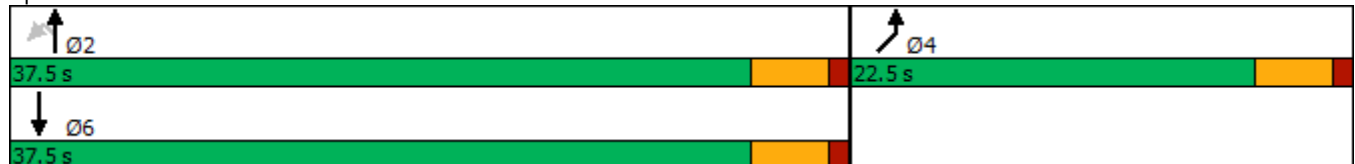


Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Control Delay		16.1	9.4		23.3	
Queue Delay		0.0	0.0		0.0	
Total Delay		16.1	9.4		23.3	
LOS		B	A		C	
Approach Delay		16.1	9.4		23.3	
Approach LOS		B	A		C	
Queue Length 50th (ft)		165	69		59	
Queue Length 95th (ft)		318	137		114	
Internal Link Dist (ft)		2949	4357		285	
Turn Bay Length (ft)						
Base Capacity (vph)		1186	1009		573	
Starvation Cap Reductn		0	0		0	
Spillback Cap Reductn		0	0		0	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.69	0.47		0.43	

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	51.8
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.77
Intersection Signal Delay:	15.2
Intersection LOS:	B
Intersection Capacity Utilization:	79.6%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 7: Glenmont Road & NYS Route 144



Lanes, Volumes, Timings
 21: NYS Route 144 & NYS Route 32



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	37	89	82	344	749	338
Future Volume (vph)	37	89	82	344	749	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125	0	0			0
Storage Lanes	1	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.958	
Flt Protected	0.950			0.990		
Satd. Flow (prot)	1399	1417	0	1749	1726	0
Flt Permitted	0.950			0.517		
Satd. Flow (perm)	1399	1417	0	913	1726	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		97			69	
Link Speed (mph)	45			55	55	
Link Distance (ft)	2072			957	365	
Travel Time (s)	31.4			11.9	4.5	
Peak Hour Factor	0.92	0.92	0.88	0.88	0.91	0.91
Heavy Vehicles (%)	29%	14%	10%	7%	7%	2%
Adj. Flow (vph)	40	97	93	391	823	371
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	97	0	484	1194	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Detector Phase	4	4	2	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	12.0	12.0	22.5	22.5	22.5	
Total Split (s)	19.0	19.0	51.0	51.0	51.0	
Total Split (%)	27.1%	27.1%	72.9%	72.9%	72.9%	
Maximum Green (s)	14.5	14.5	46.5	46.5	46.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Max	C-Max	C-Max	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Act Effect Green (s)	7.6	7.6		56.3	56.3	
Actuated g/C Ratio	0.11	0.11		0.80	0.80	
v/c Ratio	0.27	0.41		0.66	0.85	
Control Delay	32.4	12.3		10.5	14.8	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	32.4	12.3		10.5	14.8	
LOS	C	B		B	B	
Approach Delay	18.2			10.5	14.8	
Approach LOS	B			B	B	
Queue Length 50th (ft)	16	0		75	255	
Queue Length 95th (ft)	42	38		213	#735	
Internal Link Dist (ft)	1992			877	285	
Turn Bay Length (ft)	125					
Base Capacity (vph)	289	370		734	1402	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.14	0.26		0.66	0.85	

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 13.9 Intersection LOS: B
 Intersection Capacity Utilization 98.1% 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: 21: NYS Route 144 & NYS Route 32



Intersection						
Int Delay, s/veh	3.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↘		↖	↗
Traffic Vol, veh/h	0	164	201	17	111	438
Future Vol, veh/h	0	164	201	17	111	438
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	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	85	85	92	92
Heavy Vehicles, %	0	0	2	2	2	2
Mvmt Flow	0	205	236	20	121	476

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	246	0	0	256
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.218
Pot Cap-1 Maneuver	0	798	-	-	1309
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	-	798	-	-	1309
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	1.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	798	1309
HCM Lane V/C Ratio	-	-	0.257	0.092
HCM Control Delay (s)	-	-	11.1	8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1	0.3

Lanes, Volumes, Timings
7: Glenmont Road & NYS Route 144



Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	40	348	502	285	59	47
Future Volume (vph)	40	348	502	285	59	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.951		0.940	
Flt Protected		0.995			0.973	
Satd. Flow (prot)	0	1883	1775	0	1683	0
Flt Permitted		0.869			0.973	
Satd. Flow (perm)	0	1644	1775	0	1683	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			76		58	
Link Speed (mph)		55	55		40	
Link Distance (ft)		2729	4437		365	
Travel Time (s)		33.8	55.0		6.2	
Peak Hour Factor	0.77	0.77	0.84	0.84	0.81	0.81
Heavy Vehicles (%)	4%	0%	0%	5%	5%	1%
Adj. Flow (vph)	52	452	598	339	73	58
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	504	937	0	131	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Perm	NA	NA		Prot	
Protected Phases		2	6		4	
Permitted Phases	2					
Detector Phase	2	2	6		4	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	22.5	22.5	22.5		22.5	
Total Split (s)	37.5	37.5	37.5		22.5	
Total Split (%)	62.5%	62.5%	62.5%		37.5%	
Maximum Green (s)	33.0	33.0	33.0		18.0	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	
Total Lost Time (s)		4.5	4.5		4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	Min	Min	Min		None	
Act Effct Green (s)		39.9	39.9		8.2	
Actuated g/C Ratio		0.75	0.75		0.15	
v/c Ratio		0.41	0.69		0.43	

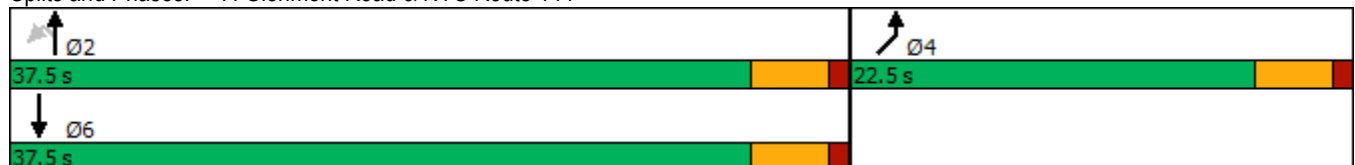


Lane Group	NBL	NBT	SBT	SBR	NEL	NER
Control Delay		5.4	9.9		17.5	
Queue Delay		0.0	0.0		0.0	
Total Delay		5.4	9.9		17.5	
LOS		A	A		B	
Approach Delay		5.4	9.9		17.5	
Approach LOS		A	A		B	
Queue Length 50th (ft)		56	133		24	
Queue Length 95th (ft)		99	#286		49	
Internal Link Dist (ft)		2649	4357		285	
Turn Bay Length (ft)						
Base Capacity (vph)		1232	1349		623	
Starvation Cap Reductn		0	0		0	
Spillback Cap Reductn		0	0		0	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.41	0.69		0.21	

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	53.2
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	9.1
Intersection LOS:	A
Intersection Capacity Utilization:	65.4%
ICU Level of Service:	C
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 7: Glenmont Road & NYS Route 144



APPENDIX C

SIGNAL WARRANT ANALYSIS

- NYS Route 144/NYS Route 32 Signal Warrant Worksheet - Existing
- NYS Route 144/NYS Route 32 Signal Warrant Worksheet – Build
- NYS Route 144/Proposed Site Driveway Signal Warrant Worksheet – Build

SIGNAL WARRANT WORKSHEET

(Based on MUTCD 2009 Edition Signal Warrant Guidelines)

Project Name		Port of Albany	
Date:	4/1/2019	Analyst:	TCH
Major Street		River Road - NYS Route 144 (Existing)	
# of Lanes per Direction		1	
Minor Street		Corning Hill Road - NYS Route 32 (Existing)	
# of Lanes per Direction		1	

Warrants Met:

Warrant:		Met?
Warrant 1 – Eight Hour Vehicular Volume	1A	N
	1B	Y
	1C	N
Warrant 2 – Four Hour Vehicular Volume		Y
Warrant 3 – Peak Hour	3A	N
	3B	Y
Warrant 4 – Pedestrian Volume	4A	N
	4B	N
Warrant 5 – School Crossings		N
Warrant 6 – Coordinated Signal System		N
Warrant 7 – Crash Experience		N
Warrant 8 – Roadway Network		N
Warrant 9 – Intersection Near a Grade Crossing		N
Signal Should be Considered?		Y

Traffic Volume Data:

Hour	Both Approach Volumes		Higher Volume Approach		Crossing Ped. Volume	
	Major	Minor	Major	Minor	Major	Minor
7:00-8:00	875	126	596	126	0	0
8:00-9:00	763	122	521	122	0	0
9:00-10:00	721	125	454	125	0	0
Noon-1:00	571	100	321	100	0	0
2:00-3:00	599	90	344	90	0	0
3:00-4:00	662	82	410	82	0	0
4:00-5:00	1108	85	840	85	0	0
5:00-6:00	1053	87	829	87	0	0
AM Peak	918	143	674	143	0	0
PM Peak	1205	94	953	94	0	0

Accident Data:

Time Frame (Mo.)	Total Number of Accidents	Property Damage/Injury Acc.	Acc. Correctable with a Traffic Signal
36	4	3	3

Applicable Signal Warrant Details:

Warrant 1, Eight-Hour Vehicular Volume

The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:

A. The vehicles per hour given in both of the 70 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or

No hours meet warrant 1A

B. The vehicles per hour given in both of the 70 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

Yes, all 8 hours meet warrant 1B

In applying each condition, the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

C. The need for a traffic control signal shall be considered if an engineering study finds that both of the following conditions exist for each of any 8 hours of an average day:

A. The vehicles per hour given in both of the 56 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; and

B. The vehicles per hour given in both of the 56 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

No, only three hours meet both the Warrant 1A & 1B 56% columns

These major-street and minor-street volumes shall be for the same 8 hours for each condition; however, the 8 hours satisfied in Condition A shall not be required to be the same 8 hours satisfied in Condition B. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

^a Basic minimum hourly volume

^b Used for combination of Conditions A and B after adequate trial of other remedial measures

^c May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

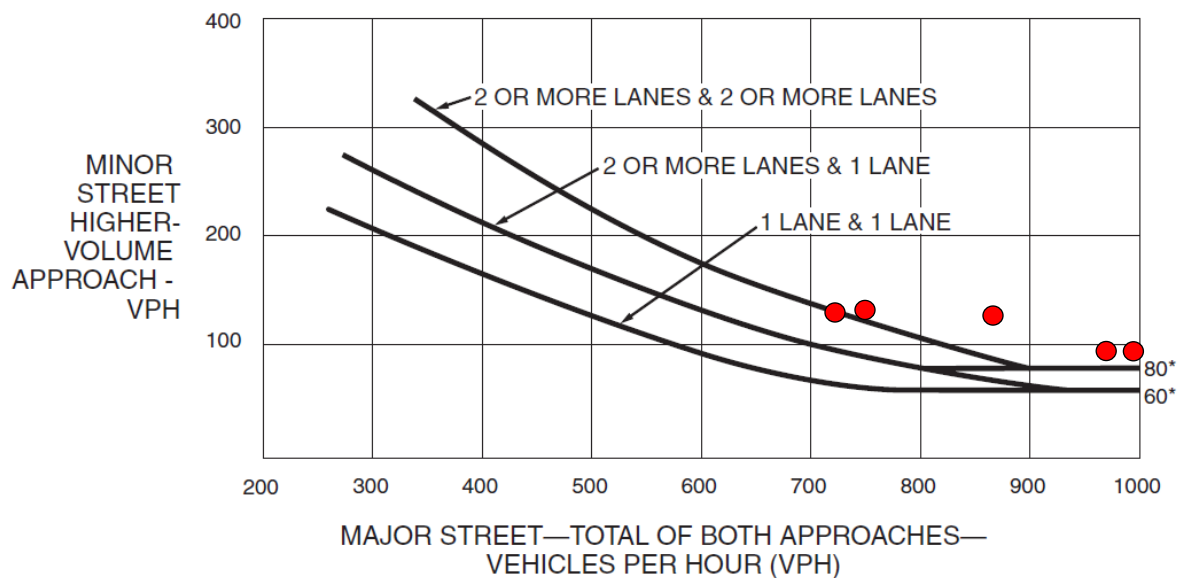
^d May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Warrant 2, Four-Hour Vehicular Volume

The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in Figure 4C-1 for the existing combination of approach lanes. On the minor street, the higher volume shall not be required to be on the same approach during each of these 4 hours.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Yes, at least 4 hours meet Warrant 2 based on a 2-lane approach for Route 32

Warrant 3, Peak Hour

This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time. The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:

A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:

1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach; and

No, the minor approach has 2.00 hours of delay during the morning peak hour.

2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and

Yes, the Minor-street approach does exceed 100 vehicles per hour (208 vehicles per hour during the AM peak hour & 133 vehicles per hour during the PM).

3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for Intersections with three approaches.

Yes, the total entering volume does exceed 650 vehicles per hour (1207 vehicles per hour during the AM peak hour and 1469 vehicles per hour during the PM peak hour).

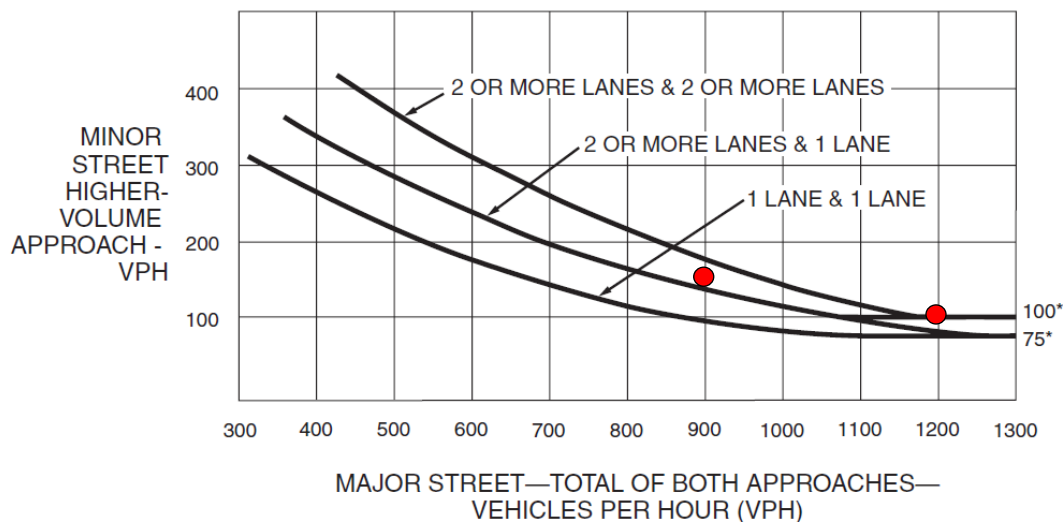
B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Yes, both peak hours meet warrant 3B.

If this warrant is the only warrant met and a traffic control signal is justified by an engineering study, the traffic control signal may be operated in the flashing mode during the hours that the volume criteria of this warrant are not met.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 4, Pedestrian Volume

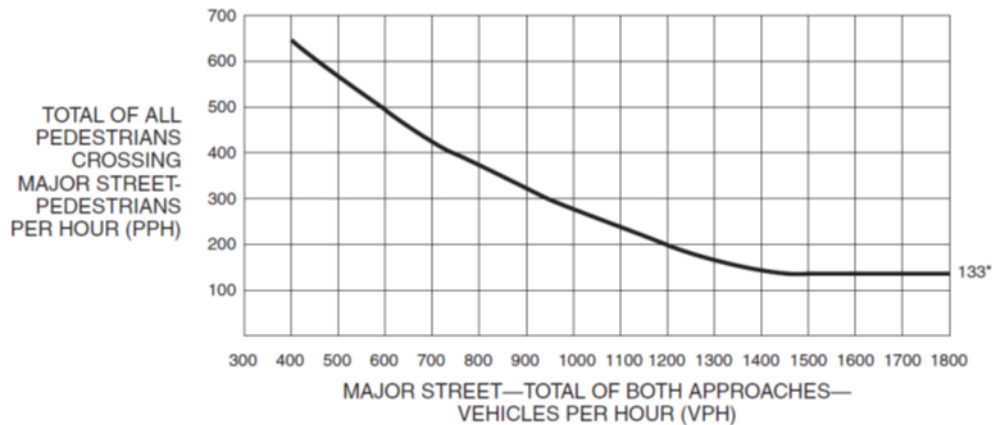
The need for a traffic control signal at an intersection or midblock crossing shall be considered if an engineering study finds that one of the following criteria is met:

- A. For each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) all fall above the curve in Figure 4C-5; or
- B. For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) falls above the curve in Figure 4C-7.

The Pedestrian Volume signal warrant shall not be applied at locations where the distance to the nearest traffic control signal or STOP sign controlling the street that pedestrians desire to cross is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

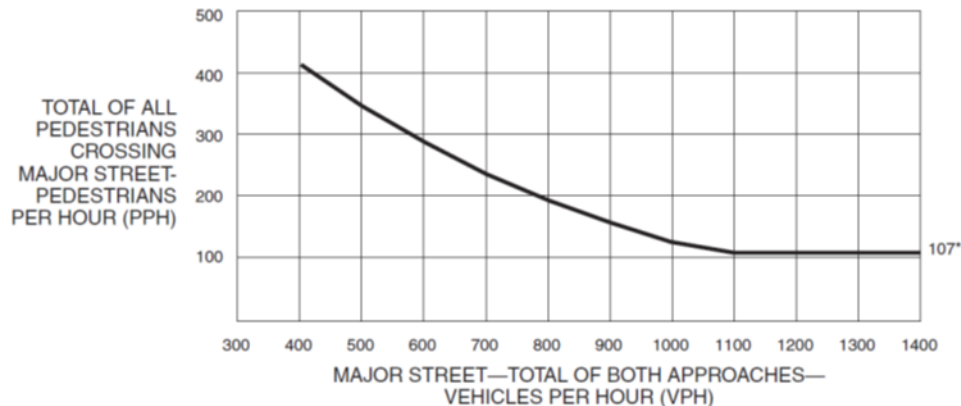
Warrant Not Met, no pedestrians were observed during the traffic counts.

Figure 4C-7. Warrant 4, Pedestrian Peak Hour



*Note: 133 pph applies as the lower threshold volume.

Figure 4C-5. Warrant 4, Pedestrian Four-Hour Volume



*Note: 107 pph applies as the lower threshold volume.

Warrant 5, School Crossing

The need for a traffic control signal shall be considered when an engineering study of the frequency and adequacy of gaps in the vehicular traffic stream as related to the number and size of groups of school children at an established school crossing across the major street shows that the number of adequate gaps in the traffic stream during the period when the schoolchildren are using the crossing is less than the number of minutes in the same period (see Section 7A.03) and there are a minimum of 20 schoolchildren during the highest crossing hour.

Before a decision is made to install a traffic control signal, consideration shall be given to the implementation of other remedial measures, such as warning signs and flashers, school speed zones, school crossing guards, or a grade-separated crossing.

The School Crossing signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Warrant Not Met, No school in the vicinity of the intersection.

Warrant 6, Coordinated Signal System

The need for a traffic control signal shall be considered if an engineering study finds that one of the following criteria is met:

- A. On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning. **(Not Applicable)**
- B. On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation. **(Not Applicable)**

Warrant 7, Crash Experience

The need for a traffic control signal shall be considered if an engineering study finds that all of the following criteria are met:

- A. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and
No, Currently in process for this corridor according to Town Police)
- B. Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and
No, over the last three years 4 crashed total, 3 with multiple vehicles, 2 included injuries and 1 included property damage.
- C. For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 56 percent columns of Condition A in Table 4C-1 (see Section 4C.02), or the vph in both of the 56 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 70 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.
Yes, Condition B is met.

Warrant 7 not met.

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Warrant 8, Roadway Network

The need for a traffic control signal shall be considered if an engineering study finds that the common intersection of two or more major routes meets one or both of the following criteria:

A. The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or **(Proposed entering volume is 1299 vehicles during the PM peak hour)**

B. The intersection has a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday). **(NOT REVIEWED)**

A major route as used in this signal warrant shall have at least one of the following characteristics:

A. It is part of the street or highway system that serves as the principal roadway network for through traffic flow.

B. It includes rural or suburban highways outside, entering, or traversing a city.

C. It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.

Warrant not met based on condition A

Warrant 9, Intersection Near a Grade Crossing

The need for a traffic control signal shall be considered if an engineering study finds that both of the following criteria are met:

A. A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and **(NOT MET)**

B. During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the minor-street approach that crosses the track (one direction only, approaching the intersection) falls above the applicable curve in Figure 4C-9 or 4C-10 for the existing combination of approach lanes over the track and the distance D, which is the clear storage distance as defined in Section 1A.13. **(NOT MET)**

Warrant not met no railroad crossing in close proximity to the intersection.

SIGNAL WARRANT WORKSHEET

(Based on MUTCD 2009 Edition Signal Warrant Guidelines)

Project Name		Port of Albany	
Date:	02/07/2022	Analyst:	TCH
Major Street		River Road - NYS Route 144 (Full Build)	
# of Lanes per Direction		1	
Minor Street		Corning Hill Road - NYS Route 32 (Full Build)	
# of Lanes per Direction		1	

Warrants Met:

Warrant:		Met?
Warrant 1 – Eight Hour Vehicular Volume	1A	N
	1B	Y
	1C	N
Warrant 2 – Four Hour Vehicular Volume		Y
Warrant 3 – Peak Hour	3A	N
	3B	Y
Warrant 4 – Pedestrian Volume	4A	N
	4B	N
Warrant 5 – School Crossings		N
Warrant 6 – Coordinated Signal System		N
Warrant 7 – Crash Experience		N
Warrant 8 – Roadway Network		N
Warrant 9 – Intersection Near a Grade Crossing		N
Signal Should be Considered?		Y

Traffic Volume Data:

Hour	Both Approach Volumes		Higher Volume Approach		Crossing Ped. Volume	
	Major	Minor	Major	Minor	Major	Minor
7:00-8:00	1004	146	714	146	0	0
8:00-9:00	886	141	598	141	0	0
9:00-10:00	878	135	571	135	0	0
Noon-1:00	613	116	398	116	0	0
2:00-3:00	479	98	335	98	0	0
3:00-4:00	610	101	427	101	0	0
4:00-5:00	1249	104	917	104	0	0
5:00-6:00	1190	105	905	105	0	0
AM Peak	1103	182	862	182	0	0
PM Peak	1526	130	1095	130	0	0

Accident Data:

Time Frame (Mo.)	Total Number of Accidents	Property Damage/Injury Acc.	Acc. Correctable with a Traffic Signal
36	4	3	3

Applicable Signal Warrant Details:

Warrant 1, Eight-Hour Vehicular Volume

The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:

A. The vehicles per hour given in both of the 70 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or

No, only 2 hours meet warrant 1A

B. The vehicles per hour given in both of the 70 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

Yes, 8 hours meet warrant 1B

In applying each condition, the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

C. The need for a traffic control signal shall be considered if an engineering study finds that both of the following conditions exist for each of any 8 hours of an average day:

A. The vehicles per hour given in both of the 56 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; and

B. The vehicles per hour given in both of the 56 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

No, only six hours meet both the Warrant 1A & 1B 56% columns

These major-street and minor-street volumes shall be for the same 8 hours for each condition; however, the 8 hours satisfied in Condition A shall not be required to be the same 8 hours satisfied in Condition B. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

^a Basic minimum hourly volume

^b Used for combination of Conditions A and B after adequate trial of other remedial measures

^c May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

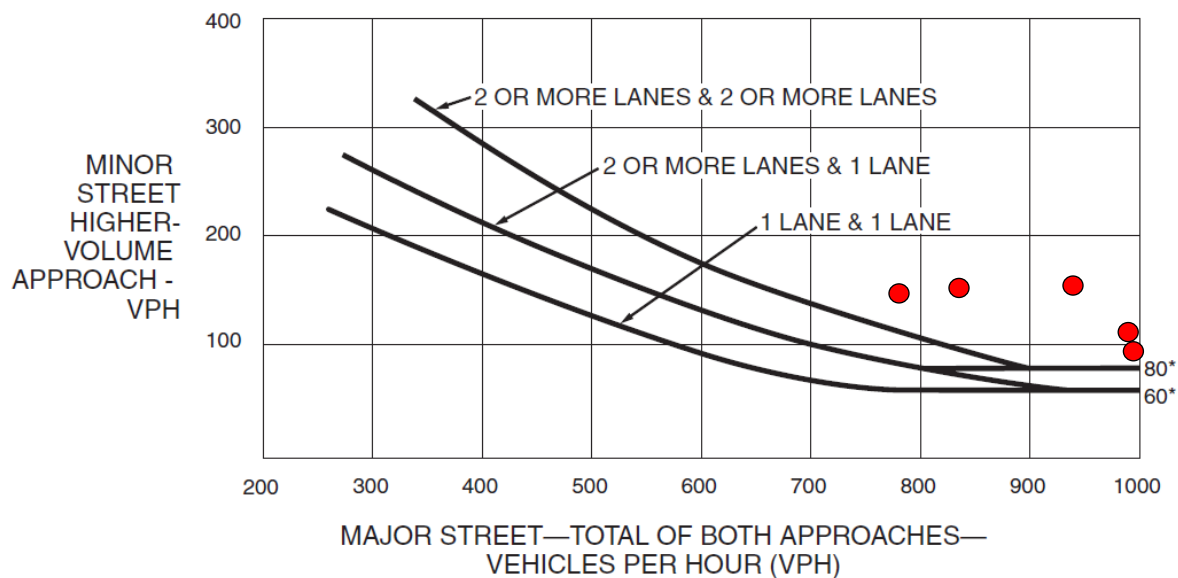
^d May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Warrant 2, Four-Hour Vehicular Volume

The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in Figure 4C-1 for the existing combination of approach lanes. On the minor street, the higher volume shall not be required to be on the same approach during each of these 4 hours.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Yes, at least 4 hours meet Warrant 2 based on a 2-lane approach for Route 32

Warrant 3, Peak Hour

This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time. The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:

A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:

1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach; and

No, the minor approach has 4.59 hours of delay during the morning peak hour.

2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and

Yes, the Minor-street approach does exceed 100 vehicles per hour (186 vehicles per hour during the AM peak hour & 126 vehicles per hour during the PM).

3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for Intersections with three approaches.

Yes, the total entering volume does exceed 650 vehicles per hour (1389 vehicles per hour during the AM peak hour and 1637 vehicles per hour during the PM peak hour).

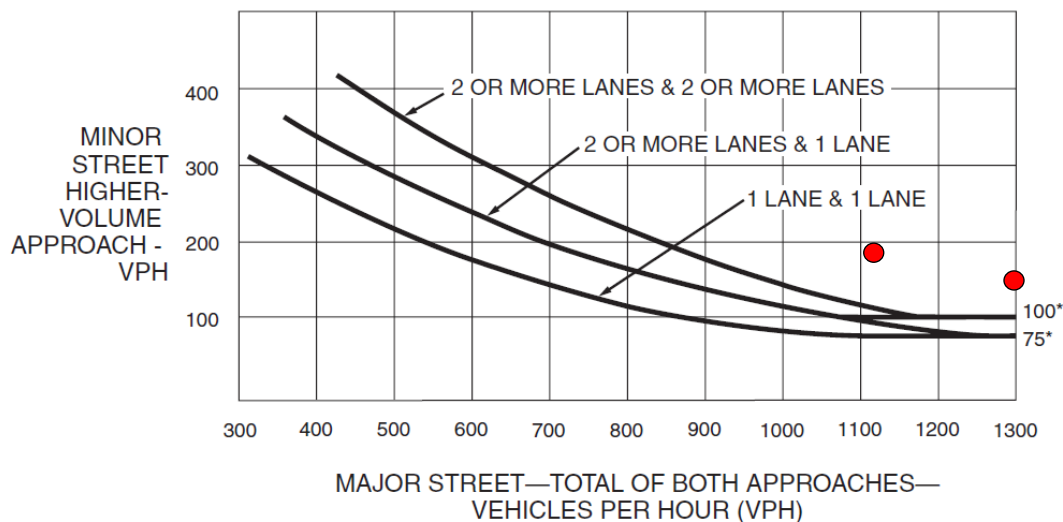
B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Yes, both peak hours meet warrant 3B.

If this warrant is the only warrant met and a traffic control signal is justified by an engineering study, the traffic control signal may be operated in the flashing mode during the hours that the volume criteria of this warrant are not met.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

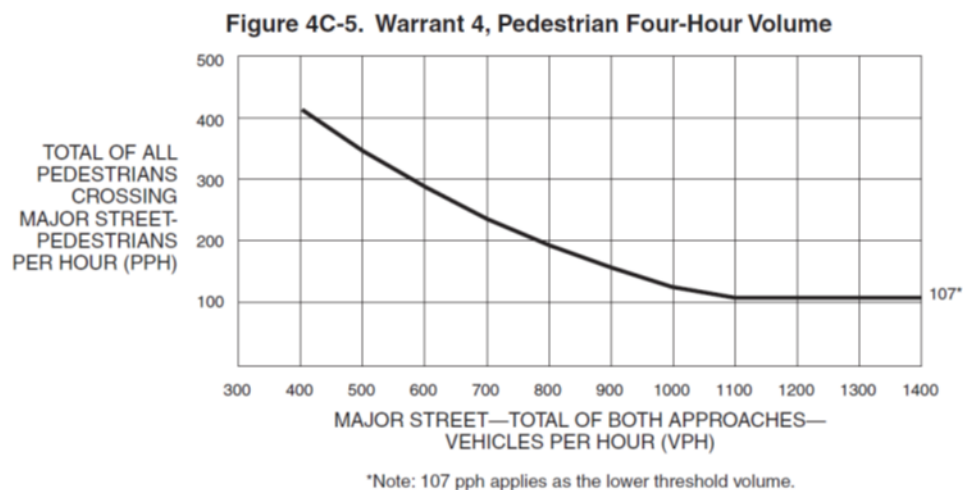
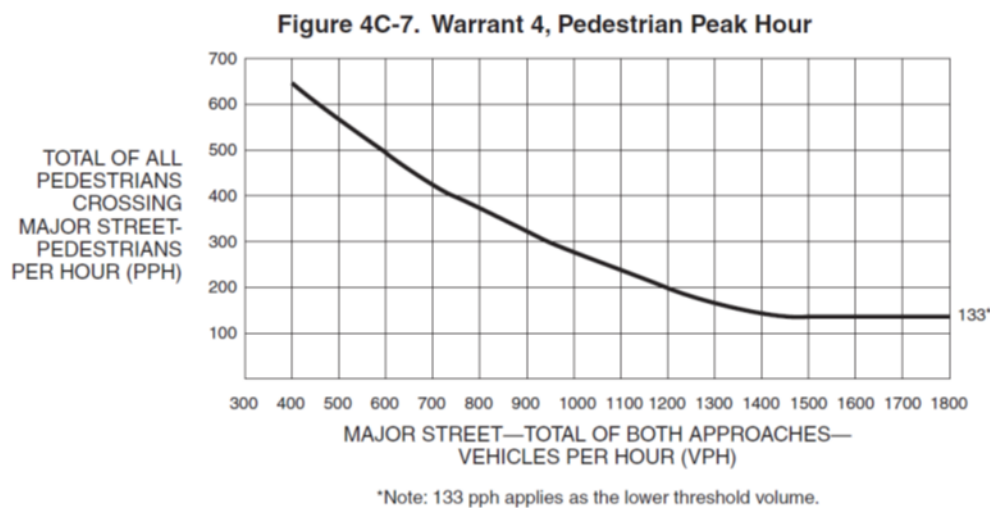
Warrant 4, Pedestrian Volume

The need for a traffic control signal at an intersection or midblock crossing shall be considered if an engineering study finds that one of the following criteria is met:

- A. For each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) all fall above the curve in Figure 4C-5; or
- B. For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) falls above the curve in Figure 4C-7.

The Pedestrian Volume signal warrant shall not be applied at locations where the distance to the nearest traffic control signal or STOP sign controlling the street that pedestrians desire to cross is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Warrant Not Met, no pedestrians were observed during the traffic counts.



Warrant 5, School Crossing

The need for a traffic control signal shall be considered when an engineering study of the frequency and adequacy of gaps in the vehicular traffic stream as related to the number and size of groups of school children at an established school crossing across the major street shows that the number of adequate gaps in the traffic stream during the period when the schoolchildren are using the crossing is less than the number of minutes in the same period (see Section 7A.03) and there are a minimum of 20 schoolchildren during the highest crossing hour.

Before a decision is made to install a traffic control signal, consideration shall be given to the implementation of other remedial measures, such as warning signs and flashers, school speed zones, school crossing guards, or a grade-separated crossing.

The School Crossing signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Warrant Not Met, No school in the vicinity of the intersection.

Warrant 6, Coordinated Signal System

The need for a traffic control signal shall be considered if an engineering study finds that one of the following criteria is met:

- A. On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning. **(Not Applicable)**
- B. On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation. **(Not Applicable)**

Warrant 7, Crash Experience

The need for a traffic control signal shall be considered if an engineering study finds that all of the following criteria are met:

- A. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and
No, Currently in process for this corridor according to Town Police)
- B. Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and
No, over the last three years 4 crashed total, 3 with multiple vehicles, 2 included injuries and 1 included property damage.
- C. For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 56 percent columns of Condition A in Table 4C-1 (see Section 4C.02), or the vph in both of the 56 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 70 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Yes, Condition B is met.

Warrant 7 not met.

Warrant 8, Roadway Network

The need for a traffic control signal shall be considered if an engineering study finds that the common intersection of two or more major routes meets one or both of the following criteria:

A. The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or **(Proposed entering volume is 1578 vehicles during the PM peak hour)**

B. The intersection has a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday). **(NOT REVIEWED)**

A major route as used in this signal warrant shall have at least one of the following characteristics:

- A. It is part of the street or highway system that serves as the principal roadway network for through traffic flow.
- B. It includes rural or suburban highways outside, entering, or traversing a city.
- C. It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.

Warrant not met based on condition A

Warrant 9, Intersection Near a Grade Crossing

The need for a traffic control signal shall be considered if an engineering study finds that both of the following criteria are met:

A. A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and **(NOT MET)**

B. During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the minor-street approach that crosses the track (one direction only, approaching the intersection) falls above the applicable curve in Figure 4C-9 or 4C-10 for the existing combination of approach lanes over the track and the distance D, which is the clear storage distance as defined in Section 1A.13. **(NOT MET)**

Warrant not met no railroad crossing in close proximity to the intersection.

SIGNAL WARRANT WORKSHEET

(Based on MUTCD 2009 Edition Signal Warrant Guidelines)

Project Name		Port of Albany	
Date:	10/21/2021	Analyst:	TCH
Major Street		NYS Route 144 (Full Build)	
# of Lanes per Direction		1	
Minor Street		Proposed Site Driveway (Full Build)	
# of Lanes per Direction		1	

Warrants Met:

Warrant:		Met?
Warrant 1 – Eight Hour Vehicular Volume	1A	N
	1B	N
	1C	N
Warrant 2 – Four Hour Vehicular Volume		N
Warrant 3 – Peak Hour	3A	N
	3B	Y
Warrant 4 – Pedestrian Volume	4A	N
	4B	N
Warrant 5 – School Crossings		N
Warrant 6 – Coordinated Signal System		N
Warrant 7 – Crash Experience		N
Warrant 8 – Roadway Network		N
Warrant 9 – Intersection Near a Grade Crossing		N
Signal Should be Considered?		N

Traffic Volume Data:

Hour	Both Approach Volumes		Higher Volume Approach		Crossing Ped. Volume	
	Major	Minor	Major	Minor	Major	Minor
7:00-8:00	936	146*	574	146*		
8:00-9:00	445	60*	249	60*		
9:00-10:00	204	44*	114	44*		
2:00-3:00	293	44*	164	44*		
3:00-4:00	381	51*	284	51*		
4:00-5:00	884	146*	623	146*		
5:00-6:00	797	98*	382	98*		
6:00-7:00	783	44*	185	44*		
AM Peak	936	146*	574	146*		
PM Peak	884	146*	623	146*		

* = Projected volumes

Accident Data:

Time Frame (Mo.)	Total Number of Accidents	Property Damage/Injury Acc.	Acc. Correctable with a Traffic Signal
NA	NA	NA	NA

Applicable Signal Warrant Details:

Warrant 1, Eight-Hour Vehicular Volume

The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:

A. The vehicles per hour given in both of the 70 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or

No, two hours meet warrant 1A.

B. The vehicles per hour given in both of the 70 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

No, two hours meet warrant 1B.

In applying each condition, the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

C. The need for a traffic control signal shall be considered if an engineering study finds that both of the following conditions exist for each of any 8 hours of an average day:

A. The vehicles per hour given in both of the 56 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; and

B. The vehicles per hour given in both of the 56 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

No, only three hours meet warrant 1C.

These major-street and minor-street volumes shall be for the same 8 hours for each condition; however, the 8 hours satisfied in Condition A shall not be required to be the same 8 hours satisfied in Condition B. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

^a Basic minimum hourly volume

^b Used for combination of Conditions A and B after adequate trial of other remedial measures

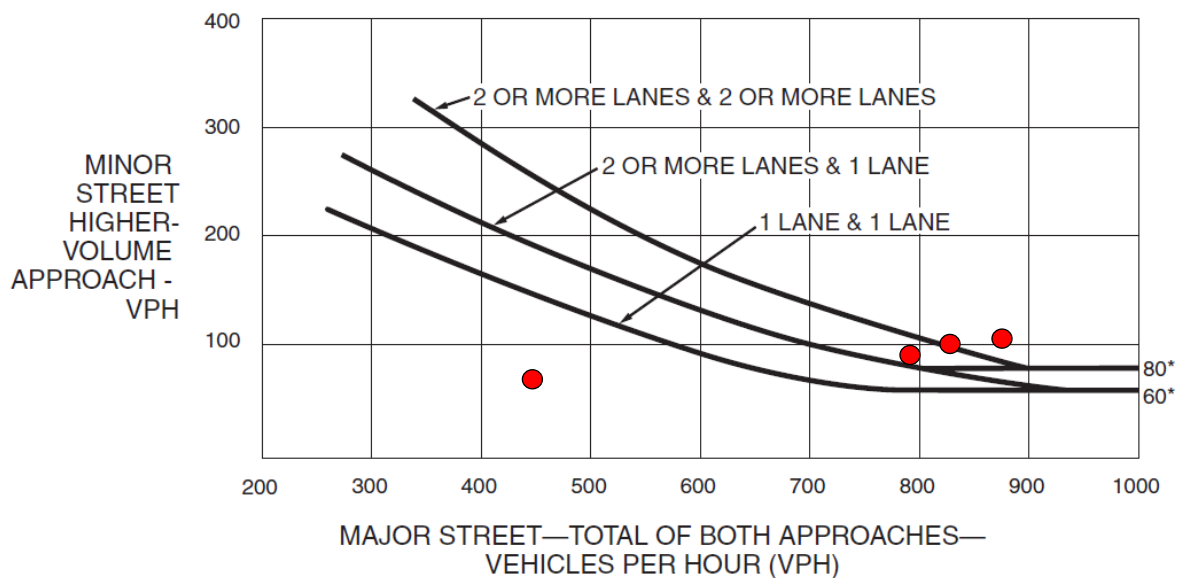
^c May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

^d May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Warrant 2, Four-Hour Vehicular Volume

The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in Figure 4C-2 for the existing combination of approach lanes. On the minor street, the higher volume shall not be required to be on the same approach during each of these 4 hours.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Three hours meet Warrant 2.

Warrant 3, Peak Hour

This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time. The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:

A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:

1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach; and

Warrant Not Met

2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and

Minor-street approach equals 100 vehicles per hour.

3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for Intersections with three approaches.

The total entering volume is 1082 vehicles during the morning peak hour.

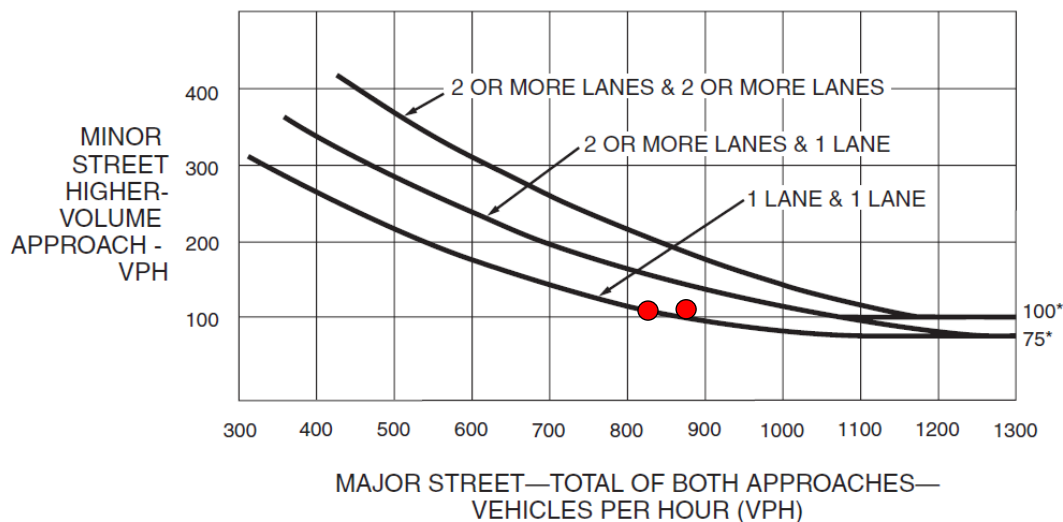
B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-4 for the existing combination of approach lanes.

Both peak hours meet Warrant 3B.

If this warrant is the only warrant met and a traffic control signal is justified by an engineering study, the traffic control signal may be operated in the flashing mode during the hours that the volume criteria of this warrant are not met.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 4, Pedestrian Volume

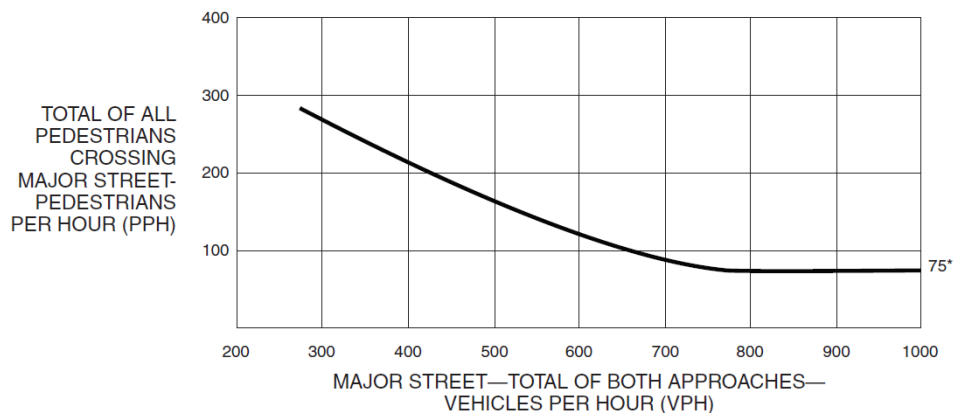
The need for a traffic control signal at an intersection or midblock crossing shall be considered if an engineering study finds that one of the following criteria is met:

- A. For each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) all fall above the curve in Figure 4C-6; or
- B. For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) falls above the curve in Figure 4C-8.

The Pedestrian Volume signal warrant shall not be applied at locations where the distance to the nearest traffic control signal or STOP sign controlling the street that pedestrians desire to cross is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

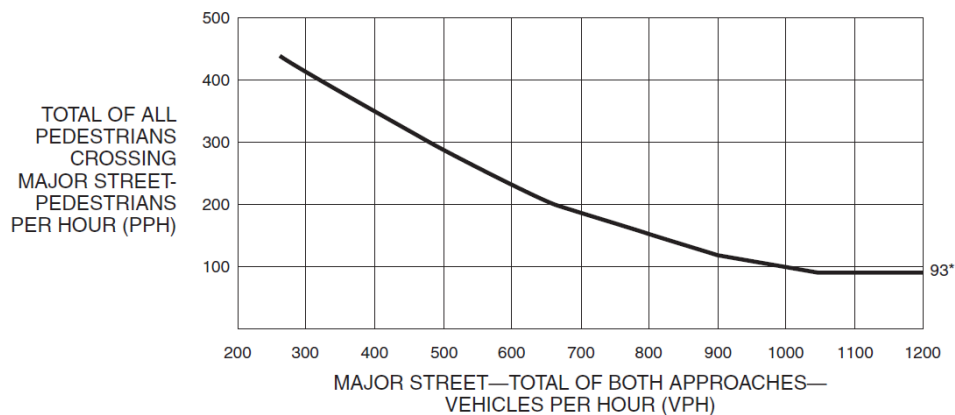
Warrant Not Met, no pedestrians were observed during the traffic counts.

Figure 4C-6. Warrant 4, Pedestrian Four-Hour Volume (70% Factor)



*Note: 75 pph applies as the lower threshold volume.

Figure 4C-8. Warrant 4, Pedestrian Peak Hour (70% Factor)



*Note: 93 pph applies as the lower threshold volume.

Warrant 5, School Crossing

The need for a traffic control signal shall be considered when an engineering study of the frequency and adequacy of gaps in the vehicular traffic stream as related to the number and size of groups of school children at an established school crossing across the major street shows that the number of adequate gaps in the traffic stream during the period when the schoolchildren are using the crossing is less than the number of minutes in the same period (see Section 7A.03) and there are a minimum of 20 schoolchildren during the highest crossing hour.

Before a decision is made to install a traffic control signal, consideration shall be given to the implementation of other remedial measures, such as warning signs and flashers, school speed zones, school crossing guards, or a grade-separated crossing.

The School Crossing signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Warrant Not Met, No school in the vicinity of the intersection.

Warrant 6, Coordinated Signal System

The need for a traffic control signal shall be considered if an engineering study finds that one of the following criteria is met:

- A. On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning. **(Not Applicable)**
- B. On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation. **(Not Applicable)**

Warrant 7, Crash Experience

The need for a traffic control signal shall be considered if an engineering study finds that all of the following criteria are met:

- A. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and **(NOT REVIEWED)**
- B. Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and **(NOT REVIEWED)**
- C. For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 56 percent columns of Condition A in Table 4C-1 (see Section 4C.02), or the vph in both of the 56 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 70 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours. **(NOT REVIEWED)**

Warrant 8, Roadway Network

The need for a traffic control signal shall be considered if an engineering study finds that the common intersection of two or more major routes meets one or both of the following criteria:

A. The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or **(Proposed entering volume is 1082 vehicles during the AM peak hour)**

B. The intersection has a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday). **(NOT REVIEWED)**

A major route as used in this signal warrant shall have at least one of the following characteristics:

- A. It is part of the street or highway system that serves as the principal roadway network for through traffic flow.
- B. It includes rural or suburban highways outside, entering, or traversing a city.
- C. It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.

Warrant not met based on condition A

Warrant 9, Intersection Near a Grade Crossing

The need for a traffic control signal shall be considered if an engineering study finds that both of the following criteria are met:

A. A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and **(NOT MET)**

B. During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the minor-street approach that crosses the track (one direction only, approaching the intersection) falls above the applicable curve in Figure 4C-9 or 4C-10 for the existing combination of approach lanes over the track and the distance D, which is the clear storage distance as defined in Section 1A.13. **(NOT MET)**

Warrant not met no railroad crossing in close proximity to the intersection.

Appendix DD
Noise Assessment
And THPO/SHPO Executive Summary

February 18, 2022



Noise Assessment for the Marmen-Welcon Offshore Wind Tower Manufacturing Plant

Prepared for

McFarland-Johnson, Inc.

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- B. Copies of Sound Level Meter Equipment Certificates of Calibration
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1. Introduction

1.1. Project Overview

The Project or Proposed Action consists in the development of a vacant industrial property into a manufacturing space for the production of tower components for needed wind turbines and necessary by the New York State for achieving its renewable energy goals. The property is owned by the Albany Port District Commission (APDC) and is zoned as "heavy industrial". See Figure 1 for Location Map (Aerial Image). The manufacturing facility would be operated by Marmen, Inc. (Marmen or the tenant), and includes various buildings and a new marine terminal.

Tower production would occur indoors, within four (4) buildings located on the APDC property located in the Town of Bethlehem and west of the Hudson River. The fifth building (Building E) is located at 700 Smith Boulevard within the existing Port District in the City of Albany, and to be used for material receiving.

The Project site is contained within an area in which current zoning provides for the intended use as a "right of use" and the intended operations would incorporate best management practices (BMPs). According to the NYSDEC Program Policy for Assessing and Mitigating Noise Impacts, when certain criteria are satisfied, the need for undertaking a noise impact analysis at any level is eliminated. These criteria are as follows:

- a. The site is contained within an area in which local zoning provides for the intended use as a "right of use". It does not apply to activities that are permissible only after an applicant is granted a special use permit by the local government; and
- b. The applicant's operational plan incorporates appropriate best management practices (BMPs [see Section V.C. Mitigation - Best Management Practices]) for noise control for all facets of the operation.

Where activities may be undertaken as a "right of use", it is presumed that noise has been addressed in establishing the zoning. Any residual noise that is present following BMP implementation should be considered an inherent component of the activity that has been found acceptable in consideration of the zoning designation of the site.

Proactive Environmental Solutions, LLC (Proactive) was retained by Marmen, Inc. (Marmen) to perform an environmental noise assessment. The environmental noise assessment consists of a monitoring survey for ambient noise (Survey) and noise impact projection at three (3) locations in support of the Supplemental Final Environmental Impact Study (SFEIS) and response to comments by the Stockbridge-Munsee Tribal Historic Preservation Office regarding the potential

significant noise impacts over Papscanee Island from the Stockbridge-Munsee Mohican Community. The Papscanee Island is located to the east of the Hudson River, at approximately 5,000 feet from the Project.

For the Survey, noise monitoring sites (MS-1 through MS-3) were located on the east side of the Hudson River, across from the proposed Marmen-Welcon Tower Manufacturing Plant, as shown on Figure 1. The three noise monitoring site locations were selected to be representative of the background noise conditions that would be observed in the Papscanee Island Nature Preserve. MS-1 was located on Irwin Stewart Port Expressway, near the entrance to the existing Polsinello Lubricants Warehouse. MS-2 was located alongside American Oil Road (directly across from the proposed Marmen-Welcon Tower Manufacturing Plant), and MS-3 was located in the Papscanee Island Nature Preserve, along a vegetative area south of Staats Island Road and positioned approximately 65 feet to the West of the Amtrak rail lines. Each monitoring site was located in a relatively isolated area with no access to electricity. Sound Level Meters (SLMs) were secured in outdoor measurement systems and powered by SLM internal (AA batteries) and external 12-volt non-spillable rechargeable batteries¹.

Baseline (existing condition) or ambient noise measurements were collected between the morning of Tuesday, January 18 and the afternoon of Thursday, January 20, 2022. 1-minute measurements were recorded over an approximate total of 44 hours at MS-1, and 46 hours at MS-2. Due to issues with external battery power supply to the meter at MS-3, 1-minute measurements at MS-3 were recorded for a total 5 hours. Concurrent measurements over a continuous 24-hour period for MS-1 and MS-2, as well as one 4.5-hour concurrent period for MS-1, MS-2 and MS-3 is included in this survey. Hourly noise measurements collected at MS-1 through MS-3 are tabulated in Tables 1 through 6. Noise Monitoring Session Summary Reports are provided in Appendix A.

Existing sources of noise at each noise monitoring location were observed by monitoring field staff as follows:

¹ With actual ambient air temperatures below sound level meter (SLM) and outdoor measurement system supplier recommended operating temperature specifications (i.e., > 32 degrees Fahrenheit); reliability of external power was compromised during the Survey. As such, intermittent periods of measurement were recorded at each monitoring site location (MS-1 through MS-3). In addition, there is a very limited period data available for MS-3 due to outdoor measurement system malfunctions where external battery power could not be transmitted to the SLM used at this location.

MS-1: Frequent vehicular (heavy duty truck) traffic, industrial plant operations, Amtrak rail lines located approximately 850 feet to the East;

MS-2: Intermittent vehicular (light duty automobile, heavy duty truck) traffic, Amtrak rail lines located approximately 1,200 feet to the East;

MS-3: Amtrak rail lines located between 65 and 80 feet to the East, intermittent vehicular (light duty automobile, pickup) traffic entering/exiting Papscaanee Island Nature Preserve.

Noise impact projections were made at MS-1, MS-2, and MS-3 using noise level data of typical earthmoving and material handling equipment (e.g., cranes, reach stackers, etc.), and basic noise fundamentals for calculating/projecting noise impacts.

2. Methodology

Background and noise descriptor information provided in subsections 2.1 and 2.2 of this report was obtained from Chapter 19 “Noise” of the New York City Environmental Quality Review 2021 Technical Manual (*2021 Technical Manual*) and NYDEC Program Policy “Assessing and Mitigating Noise Impacts.”

2.1. Background

Sound pressure is the parameter that is normally measured in noise assessments. People’s ears respond to “acoustic” pressures that represent the range from the threshold of hearing to the threshold of pain. This vast range is represented as a logarithmic scale.

A basic measure of sound is the sound pressure level (SPL), which is expressed in decibels (dB). When the SPL = 0 dB, the acoustic pressure is the same as the threshold of hearing, or the SPL at which people with healthy hearing can just begin to hear a sound. At distances greater than 50 feet from a sound source, every doubling of the distance produces a six (6) dB reduction in the sound. Therefore, a sound level of 70 dB at 50 feet would have a sound level of approximately 64 dB at 100 feet. At 200 feet, sound from the same source would be perceived at a level of approximately 58 dB.

Sound is emitted as a wave of varying length and frequency. A higher frequency sound is perceived as a higher pitch – for example, the sound of the flute. A lower frequency is heard as a lower pitch – for example, the sound of the bass drum. The frequency is expressed in cycles per second or Hertz (Hz): one Hz is one cycle per second. Just as the ear cannot hear sound

pressure levels below a certain range, it cannot hear some frequencies above a certain range. The normal range of hearing is 20 Hz to 20,000 Hz.

The velocity of sound, which is constant in air, is governed by the relationship “velocity equals wavelength times frequency”. Therefore, since sound travels at a constant velocity in air, the longer the wavelength, the shorter the frequency, and vice versa. The wavelength determines how the sound interacts with the physical environment. Since sound is a wave phenomenon, it is also subject to “diffraction”, such as “bending” around corners. This is why a person continues to hear some sound from a source on the other side of a wall that is higher than the individual in question.

In general, hearing is such that a change of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as a doubling or halving of sound level. In a large open area with no obstructive or reflective surfaces, SPL drops from a point source of noise at a rate of 6 dB with each doubling of distance from the source.

Many noise descriptors are commonly used in environmental noise assessments. The choice of specific descriptors is related to the nature of the noise “signature” (SPL, frequency, and duration) of the source and the potential effect it may have on the surrounding environment.

Sound is often measured and described in terms of its overall energy, taking all frequencies into account. However, the hearing process is not the same at all frequencies. Over the normal hearing range, humans are most sensitive to sounds with frequencies between 200 Hz and 10 kHz. Therefore, noise measurements are often adjusted or weighted as a function of frequency to account for human perception and sensitivities. The most common weighting networks used are the A- and C-weighting networks.

These weight scales were developed to allow sound level meters to simulate the frequency sensitivity of the ear. They use filter networks that approximate hearing. The A-weighted network is the most commonly used and sound levels measured using this weighting are noted as dB(A). The letter “A” indicates that the sound has been filtered to reduce the strength of very low and very high frequency sounds, much as the human ear does.

The C-weighted network provides essentially the unweighted microphone sensitivity over the frequency range of maximum human sensitivity. C-weighted measurements, denoted as dB(C), are used in some ordinances and standards, usually when dealing with stationary mechanical noise sources; however, dB(A) are normally used for environmental assessments. Since C-

weighting does not attenuate frequency levels below 1,000 Hz the way A-weighting does, comparison of dB(A) and dB(C) readings may give a quick estimate of the low frequency contribution of the sound source in question.

Since A-weighted measurements are typically used for environmental assessments and simulate the frequency sensitivity of the human ear; our Survey assessed noise levels in the A-weighted network.

2.2. Noise Descriptors

Many descriptors are commonly used in environmental noise assessments. The choice of specific descriptors is related to the nature of the noise “signature” (SPL, frequency, and duration) of the source and the potential effect it may have on the surrounding environment.

The most common descriptors used in environmental noise assessments, described briefly below, include (i) time-equivalent level (L_{eq}); (ii) day-night average (L_{dn}); (iii) exceedance percentile level (L_x); (iv) highest instantaneous level (L_{pk}).

- L_{eq} is the continuous equivalent sound level, defined as the single SPL that, if constant over a stated measurement period, would contain the same sound energy as the actual monitored sound that is fluctuating in level over the measurement period. L_{eq} is widely recognized as the descriptor of choice for most environmental noise assessments. In addition to its simplicity, it is easy to combine with other readings or predictions to derive a total cumulative noise level. L_{eq} is an energy-average quantity that must be contrasted with an average or median sound level. L_{eq} must be qualified in terms of a time period to have meaning. The normal representation for the time period is placing it in parentheses in terms of hours (e.g., $L_{eq(1)}$ refers to a 1-hour measurement and $L_{eq(24)}$ refers to a 24-hour measurement).
- L_{dn} is the day-night equivalent sound level, defined as a 24-hour continuous L_{eq} with a 10 dB adjustment added to all hourly noise levels recorded between the hours of 10 PM and 7 AM. This 10 dB addition accounts for the extra sensitivity people have to noise during typical sleeping hours.
- DNL is the annual average day-night average sound level. Aircraft noise around airports is usually mapped out in terms of DNL, which are normally depicted as noise contours on a

map. The DNL contours are lines of constant DNL mapped similarly to elevations on topographical maps.

- L_x is the percentile level, where x is any number from 0 to 100. Here “ x ” is percentage of the measurement time that the stated sound level has been exceeded. For example, $L_{10} = 80$ dB(A) means that SPL measurements exceeded 80 dB(A) 10 percent of the time during the measurement period. As with L_{eq} , the measurement time period must be specified and is denoted in parentheses (e.g., $L_{10(1)}$ corresponds to the SPL exceeded 10 percent of the time during a one-hour period).

The most commonly used L_x values are L_1 , L_{10} , L_{50} , and L_{90} . L_1 , the SPL exceeded 1 percent of the time, is usually regarded as the average maximum noise level when readings are an hour or less in duration. L_{10} is usually regarded as an indication of traffic noise exposure with a steady flow of evenly-spaced vehicles. L_{50} provides an indication of the median sound level. L_{90} is usually regarded as the residual level, or the background noise level without the source in question or discrete events.

- The maximum instantaneous SPL is the highest single reading over the measurement period. It is useful to note this level because if it is very high, it elevates the L_{eq} , perhaps making it appear spurious. In instances where uses may be particularly sensitive to single-noise events, the lead agency should also consider analyzing potential noise impacts on a single event basis, particularly if the single event would be entirely new to the receptor, or where the receptor would experience a significant increase in the number of these single events.

2.3. Survey Methodology

As part of the Survey, records of the noise level measurements were maintained, including:

- Specifics of each measurement location;
- Time(s) of measurement;
- Meteorological conditions during measurements;
- Model and serial numbers of all equipment that was used; and
- Periodic calibration results for each SLM.

The instruments used to measure ambient sound levels were three Quest Technologies, Model SoundPro SP DL-1-1/3, Type 1 SLMs. Each SLM was equipped with a Bruel & Kjaer microphone,

Model 4936. The SLM instruments were calibrated by the manufacturer, as required, within the past 12 calendar months. Copies of the Certificates of Calibration for each of the three (3) SLMs are provided in Appendix B.

Each of the three (3) monitoring locations (MS-1 through MS-3) utilized a microphone mast and extension included in the outdoor measurement system conversion kits, as shown in Figures 2 through 4. The microphones were mounted inside a wind screen at the top of a mast located at least four (4) feet from any sound-reflecting surface.

Noise level measurements were collected by setting each of the three (3) SLMs to one-third octave bandwidth, A-weighting, and slow measurement setting with readings recorded in one minute (1-minute) intervals. As such, noise level data was displayed on the SLMs in units of decibels in the A-weighting (dB(A)) at the end of the measurement period. The SLM instruments were adjusted to measure several noise descriptors commonly used to characterize noise (i.e., L_{10} , L_{eq} , L_{max} , L_{min} , L_1 , L_{50} , L_{90} and L_{pk}). The raw 1-minute data from the SLMs was downloaded to a computer for analysis using the 3M Detection Management Software (DMS). Minute by minute data were then processed to calculate concurrent 1-hour values.

2.4. Sound Calibrators

Three (3) SLM dedicated sound calibrators were utilized to verify that the SLMs were operating properly. The SLMs were calibrated prior to any sound level measurements recorded as part of the Survey. The sound calibrators were set to calibrate each instrument to 114.0 decibels (dB). Records of these calibration checks are included in the Session Summary Reports (Appendix A).

2.5. Meteorological Measurements

It is recognized that the movement of air may skew noise monitoring results, and wind can introduce errors of as much as 20 dB over actual noise levels. Therefore, a windscreen designed to fit the specific SLM instrument was used during the collection of all noise measurements. Even with a windscreen in place, wind speeds above 12 miles per hour (mph), relative humidity above 90 percent, and temperatures less than 14 degrees Fahrenheit (°F) or greater than 122 °F, can cause erroneous readings. Therefore, weather data from Albany International Airport was obtained and reviewed to evaluate the potential for such influences and the 24-hour period of data was selected to include the continuous period with the minimum wind speeds.

Hourly meteorological observations from Albany International Airport (provided in Appendix C) indicate that Survey measurements were collected under a wide range of weather conditions,

where the Survey period of study coincided with conditions which were less than ideal (i.e., wind speeds greater than 12 mph and/or ambient temperatures below 14 °F). Weather conditions remained dry throughout the Survey.

2.6. Noise Impact Projections Methodology

Where a single or several discrete sources exist, and where the distances are moderate and have an unobstructed line of sight (as a worst case assumption), the following equation² (based on basic noise fundamentals) can be used for calculating/projecting noise impacts:

$$L_{p1} = L_{p2} - 20 \times \log\left(\frac{d_1}{d_2}\right)$$

where:

- L_{p1} is SPL at the receptor (i.e., MS-1, MS-2, and MS-3)
- L_{p2} is SPL at the reference location (i.e., proposed Marmen-Welcon Tower Manufacturing Plant)
- d_1 is the distance from the source to the receptor
- d_2 is the distance at which the source sound level data is known

Sound level reductions occur as the distance from the source to the receptor increase. Specifically, the decrease in sound level from any single noise source normally follows the “inverse square law.” That is, SPL changes in inverse proportion to the square of the distance from the sound source. At distances greater than 50 feet from a sound source, every doubling of the distance produces a six (6) decibels (dB) reduction in the sound. Therefore, a sound level of 70 dB at 50 feet would have a sound level of approximately 64 dB at 100 feet. At 200 feet, sound from the same source would be perceived at a level of approximately 58 dB. The total sound pressure created by multiple sound sources does not create a mathematical additive effect. For example, two proximal noise sources that are 70 dBA each do not have a combined noise level of 140 dBA; in this case the combined noise level is 73 dBA.³

SPL at reference location (i.e., proposed Marmen-Welcon Tower Manufacturing Plant) is based on the projected noise level range during the construction phase which would consist of earthmoving and material handling equipment (e.g., backhoes, front loaders, cranes, etc.)⁴, and

² 2021 *Technical Manual*, Equation 19-3

³ NYDEC Program Policy, “Assessing and Mitigating Noise Impacts”

⁴ US EPA “Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances,” NTID 300.1.

the noise generated from facility operations (e.g., movement of tower sections using reach stackers). Noise levels reported at 50 feet from typical earthmoving and material handling equipment range from about 73 to 96 dB(A).

3. Sound Level Measurement Results

Concurrent 1-hour measurements for MS-1 through MS-3 for the four consecutive hour period which data are available at each of the three monitoring sites are presented below. Complete hourly noise measurements collected at MS-1 through MS-3 are tabulated in Tables 1 through 6. Finally, Noise Monitoring Session Summary Reports are provided in Appendix A.

MS-1 Concurrent Data Summary [dB(A)]		
Session Start Time / Date	9:19:00	1/20/2022
Session End Time / Date	13:49:00	1/20/2022
L _{10(4.5)}	67.12	L _{pk}
L _{eq(4.5)}	63.23	
L _{max(4.5)}	70.77	99.60
L _{min(4.5)}	57.23	

MS-2 Concurrent Data Summary [dB(A)]		
Session Start Time / Date	9:19:09	1/20/2022
Session End Time / Date	13:49:09	1/20/2022
L _{10(4.5)}	57.04	L _{pk}
L _{eq(4.5)}	56.10	
L _{max(4.5)}	61.88	110.00
L _{min(4.5)}	55.30	

MS-3* Concurrent Data Summary [dB(A)]		
Session Start Time / Date	9:19:02	1/20/2022
Session End Time / Date	13:49:02	1/20/2022
L _{10(4.5)}	65.48	L _{pk}
L _{eq(4.5)}	65.21	
L _{max(4.5)}	79.86	114.20
L _{min(4.5)}	54.30	

*Monitoring site MS-3 was located in the Papscanee Island Nature Preserve.

4. Noise Impact Projection Results

Noise impact projections for MS-1 through MS-3 are presented below.

Receptor	SPL at the Proposed Project Location [dB(A)]	Approximate Distance from the Source to the Receptor [feet]	Distance at which the Source SPL is Known [feet]	Projected SPL at the Receptor [dB(A)]
MS-1	73 - 96	6,400	50	31 - 54
MS-2		2,400		39 - 62
MS-3*		11,200		26 - 49

*Receptor MS-3 is located in the Papscanee Island Nature Preserve.

Peak projected SPLs at MS-1 (54 dB(A)), MS-2 (62 dB(A)), and MS-3 (49 dB(A)) due to typical earthmoving and material handling equipment at the proposed Marmen-Welcon Tower Manufacturing Plant fall well below existing peak (L_{pk}) environmental noise monitoring data (i.e., 99.60 dB(A), 110.00 dB(A), and 114.20 dB(A), respectively) gathered in this survey. Similarly, the average projected SPLs at MS-1 (42 dB(A)), MS-2 (51 dB(A)), and MS-3 (37 dB(A)) fall well below the concurrent and continuous 4.5-hour equivalent sound level ($L_{eq(4.5)}$) measurements for MS-1 (63.23 dB(A)), MS-2 (56.10 dB(A)), and MS-3 (65.21 dB(A)). As such, projected SPLs indicate that no perceptible change is expected in sound levels observed at locations represented by MS-1, MS-2 and MS-3, when compared to current peak and average continuous equivalent sound levels as a result of this proposed Marmen-Welcon Manufacturing Plant.

TABLES 1 – 6

**Table 1. Concurrent 24-Hour Noise Monitoring Data Summary [dB(A)]
MS-1 (Across From Existing Port Wharf)**

Date / Time	L10 (1-Hr)	Leq (1-Hr)	Lmax (1-Hr)	Lmin (1-Hr)	Lpk (1-Min)
1/18/2022 18:47:36	67.16	63.66	71.67	58.03	84.90
1/18/2022 19:47:36	64.92	60.87	69.53	54.96	90.10
1/18/2022 20:47:36	64.40	60.10	68.44	54.42	89.20
1/18/2022 21:47:36	64.89	60.80	68.30	55.21	86.60
1/18/2022 22:47:36	65.77	61.70	71.55	54.30	87.70
1/18/2022 23:47:36	64.43	60.38	69.17	54.33	86.00
1/19/2022 0:47:36	61.42	57.90	66.37	54.30	89.40
1/19/2022 1:47:36	59.45	56.51	61.89	54.30	86.20
1/19/2022 2:47:36	58.77	55.89	62.45	54.30	94.00
1/19/2022 3:47:36	59.87	56.49	63.88	54.30	88.50
1/19/2022 4:47:36	58.53	55.69	61.51	54.30	88.00
1/19/2022 5:47:36	59.22	56.11	62.55	54.30	93.10
1/19/2022 6:47:36	58.79	55.87	61.94	54.30	88.90
1/19/2022 7:47:36	60.97	57.05	64.47	54.30	94.60
1/19/2022 8:47:36	59.96	56.52	63.62	54.30	95.90
1/19/2022 9:47:36	59.54	56.45	63.95	54.30	99.60
1/19/2022 10:47:36	60.50	57.19	65.78	54.30	95.10
1/19/2022 11:47:36	59.26	56.46	63.95	54.30	93.80
1/19/2022 12:47:36	62.32	58.24	67.07	54.30	95.30
1/19/2022 13:47:36	63.00	58.61	66.57	54.30	93.40
1/19/2022 14:47:36	63.83	60.72	69.82	54.39	97.60
1/19/2022 15:47:36	65.50	60.96	70.05	54.38	93.70
1/19/2022 16:47:36	65.21	61.03	70.18	54.47	91.80
1/19/2022 17:47:36	64.83	61.93	69.32	57.50	86.80
1/19/2022 18:47:36	63.22	59.28	68.73	54.30	118.50

Time stamps represent hour ending.

**Table 2. Concurrent 24-Hour Noise Monitoring Data Summary [dB(A)]
MS-2 (American Oil Road)**

Date / Time	L10 (1-Hr)	Leq (1-Hr)	Lmax (1-Hr)	Lmin (1-Hr)	Lpk (1-Min)
1/18/2022 18:47:09	58.58	56.63	62.42	55.30	101.40
1/18/2022 19:47:09	57.12	56.18	61.95	55.30	87.60
1/18/2022 20:47:09	56.54	55.87	61.38	55.30	86.60
1/18/2022 21:47:09	59.24	56.93	62.22	55.30	88.90
1/18/2022 22:47:09	55.40	55.30	55.32	55.30	77.00
1/18/2022 23:47:09	59.90	57.10	62.67	55.30	88.00
1/19/2022 0:47:09	56.44	55.77	59.73	55.30	84.40
1/19/2022 1:47:09	56.03	55.69	59.76	55.30	87.90
1/19/2022 2:47:09	56.68	55.92	61.13	55.30	84.90
1/19/2022 3:47:09	56.36	55.89	60.98	55.30	85.90
1/19/2022 4:47:09	56.75	56.03	61.40	55.30	89.10
1/19/2022 5:47:09	56.90	56.21	62.33	55.30	87.60
1/19/2022 6:47:09	57.81	56.27	62.33	55.30	88.10
1/19/2022 7:47:09	58.16	56.88	64.57	55.30	107.10
1/19/2022 8:47:09	57.26	56.27	63.04	55.30	97.90
1/19/2022 9:47:09	59.99	57.51	66.14	55.30	110.00
1/19/2022 10:47:09	58.99	57.00	64.72	55.30	100.40
1/19/2022 11:47:09	57.58	56.48	64.55	55.30	105.40
1/19/2022 12:47:09	57.70	57.73	69.68	55.30	99.70
1/19/2022 13:47:09	57.90	56.57	63.70	55.30	108.00
1/19/2022 14:47:09	57.34	56.06	61.81	55.30	90.20
1/19/2022 15:47:09	56.13	55.60	59.03	55.30	81.20
1/19/2022 16:47:09	56.83	55.85	59.90	55.30	82.00
1/19/2022 17:47:09	57.73	56.27	63.04	55.30	92.80
1/19/2022 18:47:09	60.49	58.12	67.71	55.30	117.00

Time stamps represent hour ending.

MS-1 :: 24-Hr Continuous Noise Monitoring Data Session Summary [dB(A)]		
Monitor Start Time	17:48:36	1/18/2022
Monitor End Time	18:47:36	1/19/2022
$L_{10(25)}$	63.03	L_{pk}
$L_{eq(25)}$	59.30	
$L_{max(25)}$	67.62	118.50
$L_{min(25)}$	54.79	

MS-2 :: 24-Hr Continuous Noise Monitoring Data Session Summary [dB(A)]		
Monitor Start Time	17:48:09	1/18/2022
Monitor End Time	18:47:09	1/19/2022
$L_{10(25)}$	57.80	L_{pk}
$L_{eq(25)}$	56.46	
$L_{max(25)}$	63.46	117.00
$L_{min(25)}$	55.30	

Table 3. Concurrent 4.5-Hour Noise Monitoring Data Summaries for MS-1 through MS-3

MS-1 Concurrent Data Summary		
Session Start Time / Date	9:19:00	1/20/2022
Session End Time / Date	13:49:00	1/20/2022
$L_{10(4.5)}$	67.12	L_{pk}
$L_{eq(4.5)}$	63.23	
$L_{max(4.5)}$	70.77	99.60
$L_{min(4.5)}$	57.23	

MS-2 Concurrent Data Summary		
Session Start Time / Date	9:19:09	1/20/2022
Session End Time / Date	13:49:09	1/20/2022
$L_{10(4.5)}$	57.04	L_{pk}
$L_{eq(4.5)}$	56.10	
$L_{max(4.5)}$	61.88	110.00
$L_{min(4.5)}$	55.30	

MS-3 Concurrent Data Summary		
Session Start Time / Date	9:19:02	1/20/2022
Session End Time / Date	13:49:02	1/20/2022
$L_{10(4.5)}$	65.48	L_{pk}
$L_{eq(4.5)}$	65.21	
$L_{max(4.5)}$	79.86	114.20
$L_{min(4.5)}$	54.30	

**Table 4. Hourly Noise Monitoring Data [dB(A)]
MS-1 (Across From Existing Port Wharf)**

Date / Time	L10 (1-hr)	Leq (1-hr)	Lmax (1-hr)	Lmin (1-hr)	Lpk (1-Min)
1/18/2022 11:47:36	67.16	63.66	71.67	58.03	95.00
1/18/2022 12:47:36	64.92	60.87	69.35	54.96	90.40
1/18/2022 13:47:36	64.40	60.10	68.44	54.42	94.10
1/18/2022 14:47:36	64.89	60.80	68.30	55.21	88.20
1/18/2022 15:47:36	65.77	61.70	71.55	54.30	95.10
1/18/2022 16:47:36	64.43	60.38	69.17	54.33	104.30
1/18/2022 17:47:36	61.42	57.90	66.37	54.30	91.10
1/18/2022 18:47:36	59.45	56.51	61.89	54.30	84.90
1/18/2022 19:47:36	58.77	55.89	62.45	54.30	90.10
1/18/2022 20:47:36	59.87	56.49	63.88	54.30	89.20
1/18/2022 21:47:36	58.53	55.69	61.51	54.30	86.60
1/18/2022 22:47:36	59.22	56.11	62.55	54.30	87.70
1/18/2022 23:47:36	58.79	55.87	61.94	54.30	86.00
1/19/2022 0:47:36	60.97	57.05	64.47	54.30	89.40
1/19/2022 1:47:36	59.96	56.52	63.62	54.30	86.20
1/19/2022 2:47:36	59.54	56.45	63.95	54.30	94.00
1/19/2022 3:47:36	60.50	57.19	65.78	54.30	88.50
1/19/2022 4:47:36	59.26	56.46	63.95	54.30	88.00
1/19/2022 5:47:36	62.32	58.24	67.07	54.30	93.10
1/19/2022 6:47:36	63.00	58.61	66.57	54.30	88.90
1/19/2022 7:47:36	64.83	60.72	69.82	54.39	94.60
1/19/2022 8:47:36	65.50	60.96	70.05	54.38	95.90
1/19/2022 9:47:36	65.21	61.03	70.18	54.47	99.60
1/19/2022 10:47:36	64.83	61.93	69.32	57.50	95.10
1/19/2022 11:47:36	63.22	59.28	68.73	54.30	93.80
1/19/2022 12:47:36	65.07	60.39	69.69	54.30	95.30
1/19/2022 13:47:36	64.48	60.11	69.23	54.30	93.40
1/19/2022 14:47:36	64.56	60.06	69.21	54.30	97.60
1/19/2022 15:47:36	64.11	60.20	69.84	54.30	93.70
1/19/2022 16:47:36	63.74	59.46	68.56	54.30	91.80
1/19/2022 17:47:36	62.03	58.01	65.73	54.30	86.80
1/19/2022 18:47:36	63.02	59.21	69.62	54.44	118.50
1/19/2022 19:47:36	61.33	57.29	64.35	54.30	89.10
1/19/2022 20:47:36	59.79	56.39	63.63	54.30	90.40
1/19/2022 21:47:36	61.07	57.34	65.43	54.30	91.60
1/19/2022 22:47:36	59.92	56.79	64.33	54.30	92.00
1/19/2022 23:47:36	59.77	56.50	63.73	54.30	86.30
1/20/2022 0:47:36					
1/20/2022 1:47:36					

Time stamps represent hour ending.

**Table 4. Hourly Noise Monitoring Data [dB(A)] (Continued)
MS-1 (Across From Existing Port Wharf)**

Date / Time	L10 (1-Hr)	Leq (1-Hr)	Lmax (1-Hr)	Lmin (1-Hr)	Lpk (1-Min)
1/20/2022 2:47:36					
1/20/2022 3:47:36					
1/20/2022 4:47:36					
1/20/2022 5:47:36					
1/20/2022 6:47:36					
1/20/2022 7:47:36					
1/20/2022 8:47:36					
1/20/2022 9:47:36					
1/20/2022 10:47:00	67.27	63.92	70.60	58.77	93.70
1/20/2022 11:47:00	67.59	62.90	71.62	55.16	95.40
1/20/2022 12:47:00	66.00	61.64	70.23	54.78	92.90
1/20/2022 13:47:00	67.44	63.93	70.95	58.26	92.40
1/20/2022 14:47:00	66.60	62.84	70.51	56.97	93.00
1/20/2022 15:47:00	64.96	60.45	69.28	54.34	90.70

Time stamps represent hour ending.

**Table 5. Hourly Noise Monitoring Data [dB(A)]
MS-2 (American Oil Road)**

Date / Time	L10 (1-hr)	Leq (1-hr)	Lmax (1-hr)	Lmin (1-hr)	Lpk (1-Min)
1/18/2022 11:47:09					
1/18/2022 12:47:09					
1/18/2022 13:47:09					
1/18/2022 14:47:09					
1/18/2022 15:47:09					
1/18/2022 16:47:09					
1/18/2022 17:47:09					
1/18/2022 18:47:09	58.58	56.63	62.42	55.30	101.40
1/18/2022 19:47:09	57.12	56.18	61.95	55.30	87.60
1/18/2022 20:47:09	56.54	55.87	61.38	55.30	86.60
1/18/2022 21:47:09	59.24	56.93	62.22	55.30	88.90
1/18/2022 22:47:09	55.40	55.30	55.32	55.30	77.00
1/18/2022 23:47:09	59.90	57.10	62.67	55.30	88.00
1/19/2022 0:47:09	56.44	55.77	59.73	55.30	84.40
1/19/2022 1:47:09	56.03	55.69	59.76	55.30	87.90
1/19/2022 2:47:09	56.68	55.92	61.13	55.30	84.90
1/19/2022 3:47:09	56.36	55.89	60.98	55.30	85.90
1/19/2022 4:47:09	56.75	56.03	61.40	55.30	89.10
1/19/2022 5:47:09	56.90	56.21	62.33	55.30	87.60
1/19/2022 6:47:09	57.81	56.27	62.33	55.30	88.10
1/19/2022 7:47:09	58.16	56.88	64.57	55.30	107.10
1/19/2022 8:47:09	57.26	56.27	63.04	55.30	97.90
1/19/2022 9:47:09	59.99	57.51	66.14	55.30	110.00
1/19/2022 10:47:09	58.99	57.00	64.72	55.30	100.40
1/19/2022 11:47:09	57.58	56.48	64.55	55.30	105.40
1/19/2022 12:47:09	57.70	57.73	69.68	55.30	99.70
1/19/2022 13:47:09	57.90	56.57	63.70	55.30	108.00
1/19/2022 14:47:09	57.34	56.06	61.81	55.30	90.20
1/19/2022 15:47:09	56.13	55.60	59.03	55.30	81.20
1/19/2022 16:47:09	56.83	55.85	59.90	55.30	82.00
1/19/2022 17:47:09	57.73	56.27	63.04	55.30	92.80
1/19/2022 18:47:09	60.49	58.12	67.71	55.30	117.00
1/19/2022 19:47:09	58.90	56.67	63.81	55.30	111.40
1/19/2022 20:47:09	56.88	55.90	60.53	55.30	85.50
1/19/2022 21:47:09	61.45	58.18	65.45	55.30	93.40
1/19/2022 22:47:09	56.12	55.72	59.85	55.30	86.00
1/19/2022 23:47:09	59.20	56.71	62.95	55.30	89.40
1/20/2022 0:47:09	55.74	55.77	60.72	55.30	85.50
1/20/2022 1:47:09	57.34	56.04	61.18	55.30	88.70

Time stamps represent hour ending.

Table 5. Hourly Noise Monitoring Data [dB(A)] (Continued)
MS-2 (American Oil Road)

Date / Time	L10 (1-Hr)	Leq (1-Hr)	Lmax (1-Hr)	Lmin (1-Hr)	Lpk (1-Min)
1/20/2022 2:47:09	55.50	55.39	56.75	55.30	81.20
1/20/2022 3:47:09	56.27	55.83	60.86	55.30	83.70
1/20/2022 4:47:09	56.14	55.79	60.73	55.30	84.70
1/20/2022 5:47:09	55.93	55.57	58.69	55.30	83.30
1/20/2022 6:47:09	57.10	56.17	62.15	55.30	88.90
1/20/2022 7:47:09	56.92	56.54	64.51	55.30	88.00
1/20/2022 8:47:09	57.88	56.35	63.34	55.30	86.40
1/20/2022 9:47:09	57.08	56.07	62.02	55.30	110.00
1/20/2022 10:47:09	56.05	55.67	59.41	55.30	87.30
1/20/2022 11:47:09	57.39	56.16	62.12	55.30	87.40
1/20/2022 12:47:09	57.41	56.36	62.77	55.30	87.10
1/20/2022 13:47:09	56.63	56.01	61.33	55.30	87.10
1/20/2022 14:47:09	56.01	55.79	60.83	55.30	86.10
1/20/2022 15:47:09	56.32	55.72	59.84	55.30	84.10

Time stamps represent hour ending.

**Table 6. Hourly Noise Monitoring Data [dB(A)]
MS-3 (Papscanee Island Nature Preserve)**

Date / Time	L10 (1-hr)	Leq (1-hr)	Lmax (1-hr)	Lmin (1-hr)	Lpk (1-Min)
1/18/2022 11:47:02					
1/18/2022 12:47:02					
1/18/2022 13:47:02					
1/18/2022 14:47:02					
1/18/2022 15:47:02					
1/18/2022 16:47:02					
1/18/2022 17:47:02					
1/18/2022 18:47:02					
1/18/2022 19:47:02					
1/18/2022 20:47:02					
1/18/2022 21:47:02					
1/18/2022 22:47:02					
1/18/2022 23:47:02					
1/19/2022 0:47:02					
1/19/2022 1:47:02					
1/19/2022 2:47:02					
1/19/2022 3:47:02					
1/19/2022 4:47:02					
1/19/2022 5:47:02					
1/19/2022 6:47:02					
1/19/2022 7:47:02					
1/19/2022 8:47:02					
1/19/2022 9:47:02					
1/19/2022 10:47:02					
1/19/2022 11:47:02					
1/19/2022 12:47:02					
1/19/2022 13:47:02					
1/19/2022 14:47:02					
1/19/2022 15:47:02					
1/19/2022 16:47:02					
1/19/2022 17:47:02					
1/19/2022 18:47:02					
1/19/2022 19:47:02					
1/19/2022 20:47:02					
1/19/2022 21:47:02					
1/19/2022 22:47:02					
1/19/2022 23:47:02					
1/20/2022 0:47:02					
1/20/2022 1:47:02					

Time stamps represent hour ending.

**Table 6. Hourly Noise Monitoring Data [dB(A)] (Continued)
MS-3 (Papscanee Island Nature Preserve)**

Date / Time	L10 (1-Hr)	Leq (1-Hr)	Lmax (1-Hr)	Lmin (1-Hr)	Lpk (1-Min)
1/20/2022 2:47:02					
1/20/2022 3:47:02					
1/20/2022 4:47:02					
1/20/2022 5:47:02					
1/20/2022 6:47:02					
1/20/2022 7:47:02					
1/20/2022 8:47:02					
1/20/2022 9:47:02	66.41	66.84	81.25	54.30	111.60
1/20/2022 10:47:02	54.40	54.31	54.66	54.30	86.60
1/20/2022 11:47:02	66.51	66.12	81.43	54.30	114.20
1/20/2022 12:47:02	66.95	66.90	81.54	54.30	111.00
1/20/2022 13:47:02	63.63	60.46	73.50	54.30	105.40
1/20/2022 14:47:02					
1/20/2022 15:47:02					

Time stamps represent hour ending.

FIGURES 1 – 4

Figure 1. Baseline Environmental Noise Monitoring Survey - Monitor Locations



MS-1 (Across from Existing Port Wharf)

MS-2 (American Oil Road)

Proposed Marmen-Welcon
Tower Manufacturing Plant

MS-3 (Papscaanee Island Nature Preserve)





TITLE:
Photo of MS-1 Looking Northwest
Image Date: January 18, 2022

PREPARED FOR:
MARMEN-WELCON TOWER
MANUFACTURING PLANT



PROJECT NO.:	MARMEN
PREPARED BY:	C.G.
DATE:	27JAN22

FIGURE
2



TITLE:
Photo of MS-2 Looking Northwest
Image Date: January 18, 2022

PREPARED FOR:
MARMEN-WELCON TOWER
MANUFACTURING PLANT



PROJECT NO.:	MARMEN
PREPARED BY:	C.G.
DATE:	27JAN22

FIGURE
3



TITLE:
Photo of MS-3 Looking North
Image Date: January 18, 2022

PREPARED FOR:
 MARMEN-WELCON TOWER
 MANUFACTURING PLANT



PROJECT NO.:	MARMEN
PREPARED BY:	C.G.
DATE:	27JAN22

FIGURE
4

APPENDIX A

Noise Monitoring Session Summary Reports

Session Report

1/21/2022

General Information

Name S137_BLH080002_21012022_095446
Comments MS-1 (First Attempt). Study stop time resulted from loss of external battery power.
Start Time 1/18/2022 10:22:36 AM
Stop Time 1/20/2022 12:20:21 AM
Run Time 1.13:57:45
Model Type SoundPro DL
Serial Number BLH080002
Device Firmware Rev R.13H
Company Name Proactive Environmental Solutions, LLC
Description Across from Existing Port Wharf
Location MS-1
User Name Chris Geraghty

Summary Data

<u>Description</u>	<u>Meter</u>	<u>Value</u>	<u>Description</u>	<u>Meter</u>	<u>Value</u>
Dose	1	1.2 %	Pdose (1.00:00)	1	0.8 %
Lavg	1	--	Lpk	1	118.5 dB
Leq	1	59.1 dB	TWA	1	65.9 dB
UL Time	1	00:00:00	SEL	1	110.5 dB
ProjectedTWA (1.00:00)	1	63.9 dB	Mntime	1	1/18/2022 10:20:40 PM
Mxtime	1	1/19/2022 10:37:08 AM	PKtime	1	1/19/2022 10:37:08 AM
Weighting	1	--	Range Ceiling	1	--
Criterion Level	1	--	ULL	1	--
Dynamic Range	1	--	Exchange Rate	1	--
Response	1	--	Int Threshold	1	--
Alarm Level 1	1	--	AlarmLevel2	1	--
Dosimeter Name	1	--			
Dose	2	11 %	Pdose (1.00:00)	2	2.3 %
Lavg	2	--	Lpk	2	116.6 dB
Leq	2	68.6 dB	TWA	2	75.4 dB
UL Time	2	00:00:00	SEL	2	120 dB

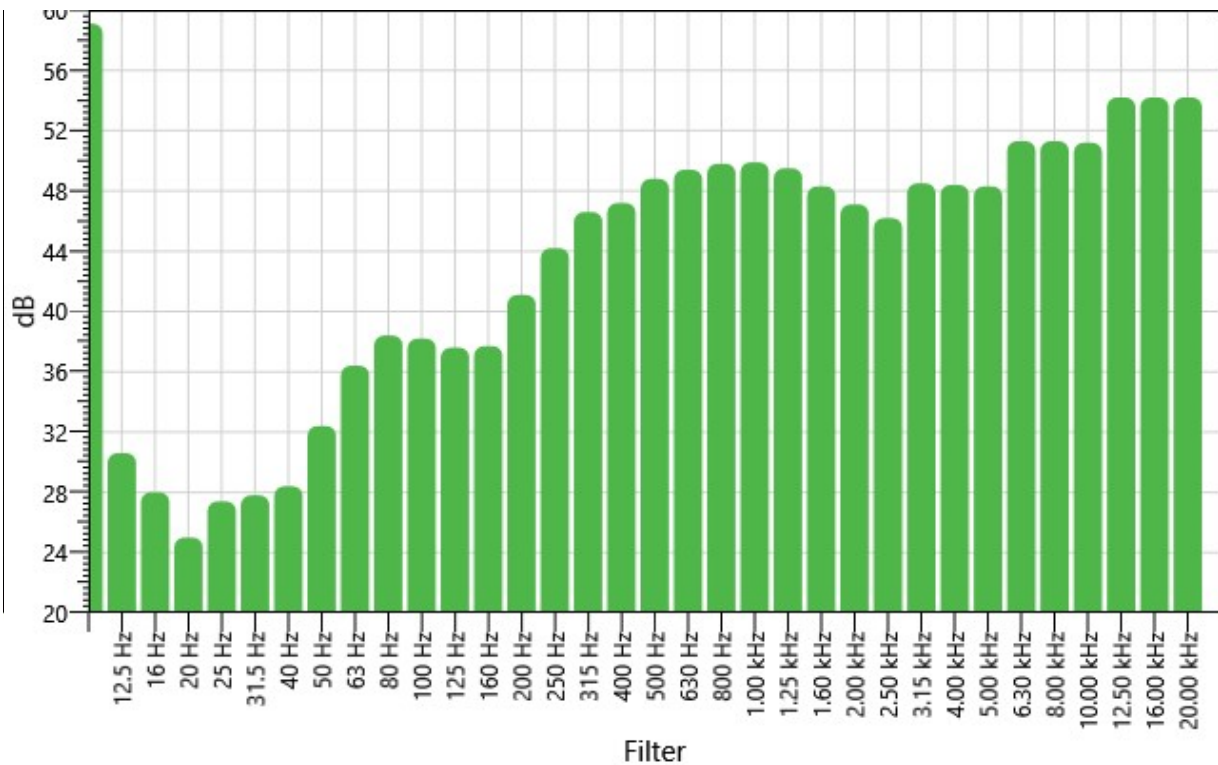
ProjectedTWA (1.00:00)	2	68.6 dB	Mntime	2	1/18/2022 10:35:07 AM
Mxtime	2	1/19/2022 9:35:56 AM	PKtime	2	1/19/2022 5:56:30 PM
Weighting	2	C	Range Ceiling	2	--
Criterion Level	2	85 dB	ULL	2	115 dB
Dynamic Range	2	--	Exchange Rate	2	3 dB
Response	2	SLOW	Integrating Threshold	2	80 dB
Alarm Level 1	2	--	AlarmLevel2	2	--
Dosimeter Name	2	--			

Calibration History

Date	Calibration Action	Level	Cal. Model Type	Serial Number	Cert. Due Date
1/18/2022 10:18:10 AM	Calibration	114.0			

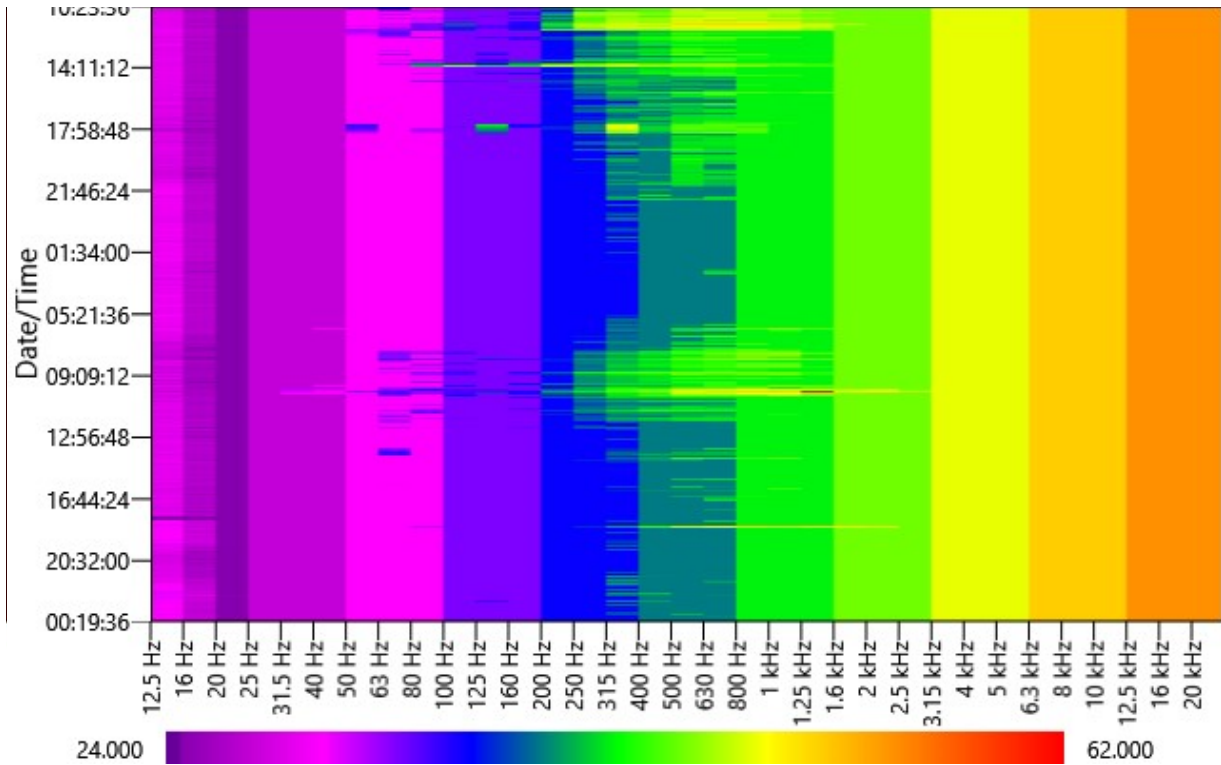
Filter Summary Chart

S137_BLH080002_21012022_095446: Filter Summary Chart - Leq



Spectral Chart

S137_BLH080002_21012022_095446: - Lmin



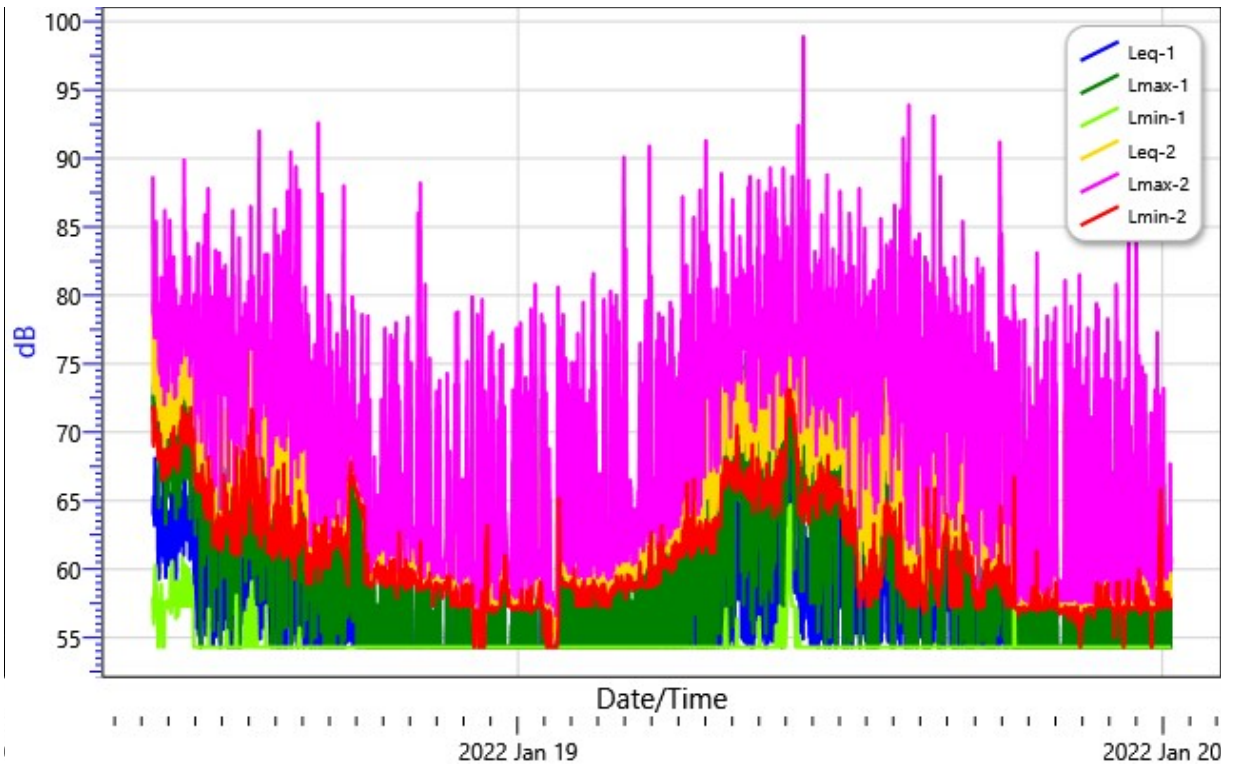
Filter Summary - Dose

Filter	Dose
	1.2 %
12.5 Hz	0 %
16 Hz	0 %
20 Hz	0 %
25 Hz	0 %
31.5 Hz	0 %
40 Hz	0 %
50 Hz	0 %
63 Hz	0 %
80 Hz	0 %
100 Hz	0 %
125 Hz	0 %
160 Hz	0 %
200 Hz	0 %
250 Hz	0 %

315 Hz	0.1 %
400 Hz	0.1 %
500 Hz	0.1 %
630 Hz	0.1 %
800 Hz	0.1 %
1.00 kHz	0.1 %
1.25 kHz	0.1 %
1.60 kHz	0.1 %
2.00 kHz	0.1 %
2.50 kHz	0.1 %
3.15 kHz	0.1 %
4.00 kHz	0.1 %
5.00 kHz	0.1 %
6.30 kHz	0.2 %
8.00 kHz	0.2 %
10.00 kHz	0.2 %
12.50 kHz	0.4 %
16.00 kHz	0.4 %
20.00 kHz	0.4 %

Logged Data Chart

S137_BLH080002_21012022_095446: Logged Data Chart - Read Only



Summary Data Panel

Description	Meter/ Sensor	Value
Leq	1	59.1 dB
Exchange Rate	1	3 dB
Weighting	1	A
Response	1	SLOW
Bandwidth	1	1/3
Exchange Rate	2	3 dB
Weighting	2	C
Response	2	SLOW
L90	1	54.2 dB
LDN	1	63.3 dB
L10	1	61.7 dB
L1	1	69.9 dB
L50	1	54.2 dB
Lmax	1	83 dB
Lmin	1	54.3 dB
Lpk	1	118.5 dB

Session Report

1/21/2022

General Information

Name S138_BLH080002_21012022_095453

Comments MS-1 (second attempt) after losing external battery supply. Restarted study on meter internal (AA batteries) while swapping external batteries. Fresh replacement battery not providing power. Couldn't swap out in time before internal batteries completely died.

Start Time 1/20/2022 9:09:22 AM

Stop Time 1/20/2022 9:15:54 AM

Run Time 00:06:32

Model Type SoundPro DL

Serial Number BLH080002

Device Firmware Rev R.13H

Company Name Proactive Environmental Solutions, LLC

Description Across from Existing Port Wharf

Location MS-1

User Name Chris Geraghty

Summary Data

Description	Meter	Value	Description	Meter	Value
Dose	1	0 %	Pdose (1.00:00)	1	2.5 %
Lavg	1	--	Lpk	1	118.2 dB
Leq	1	64.2 dB	TWA	1	45.5 dB
UL Time	1	00:00:00	SEL	1	90.1 dB
ProjectedTWA (1.00:00)	1	68.9 dB	Mntime	1	1/20/2022 9:12:02 AM
Mxtime	1	1/20/2022 9:14:35 AM	PKtime	1	1/20/2022 9:13:46 AM
Weighting	1	--	Range Ceiling	1	--
Criterion Level	1	--	ULL	1	--
Dynamic Range	1	--	Exchange Rate	1	--
Response	1	--	Int Threshold	1	--
Alarm Level 1	1	--	AlarmLevel2	1	--
Dosimeter Name	1	--			
Dose	2	0.2 %	Pdose (1.00:00)	2	15 %
Lavg	2	--	Lpk	2	114.6 dB
Leq	2	76.7 dB	TWA	2	58.1 dB

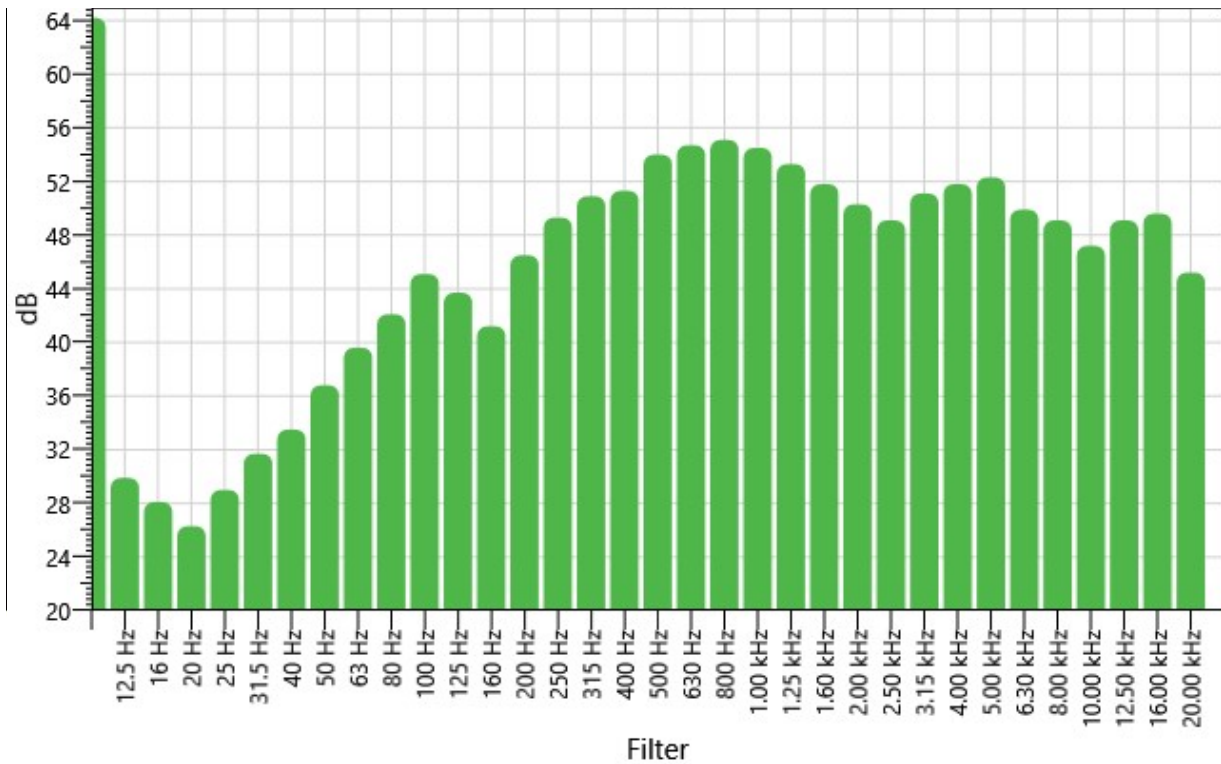
UL Time	2	00:00:00	SEL	2	102.6 dB
ProjectedTWA (1.00:00)	2	76.7 dB	Mntime	2	1/20/2022 9:15:40 AM
Mxtime	2	1/20/2022 9:13:46 AM	PKtime	2	1/20/2022 9:13:46 AM
Weighting	2	C	Range Ceiling	2	--
Criterion Level	2	85 dB	ULL	2	115 dB
Dynamic Range	2	--	Exchange Rate	2	3 dB
Response	2	SLOW	Integrating Threshold	2	80 dB
Alarm Level 1	2	--	AlarmLevel2	2	--
Dosimeter Name	2	--			

Calibration History

Date	Calibration Action	Level	Cal. Model Type	Serial Number	Cert. Due Date
1/18/2022 10:18:10 AM	Calibration	114.0			

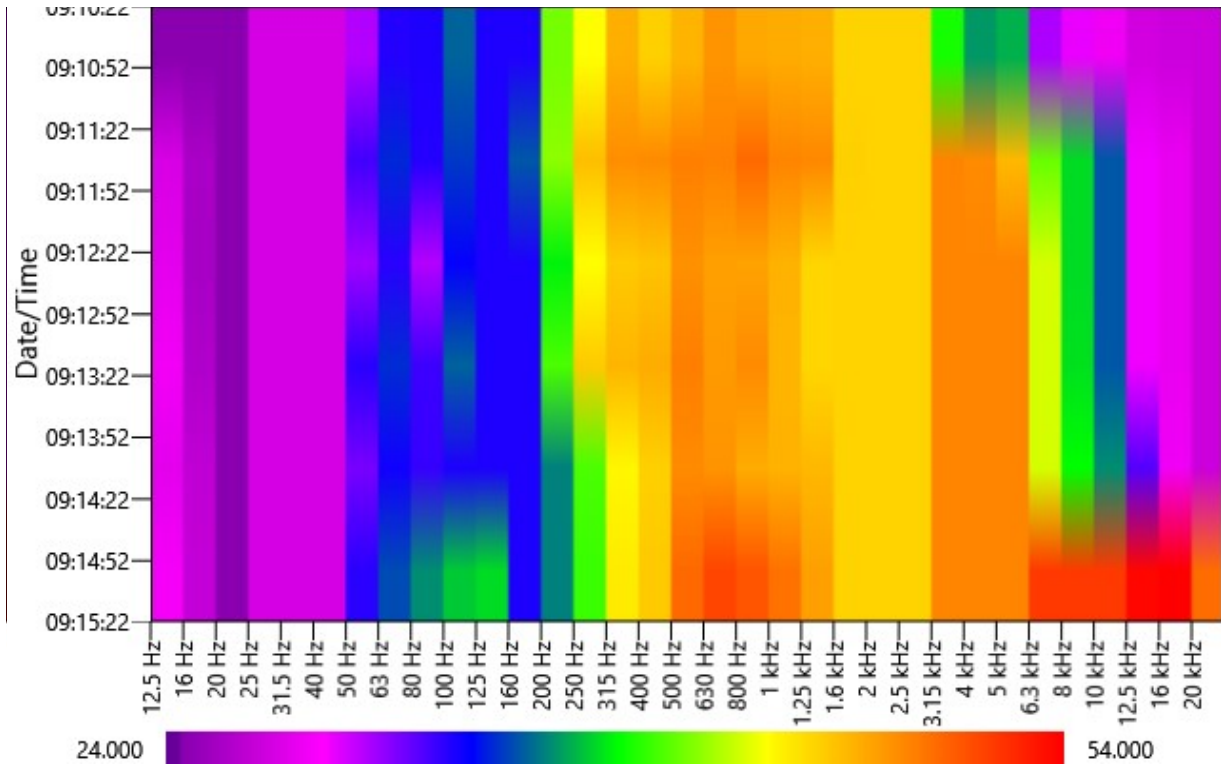
Filter Summary Chart

S138_BLH080002_21012022_095453: Filter Summary Chart - Leq



Spectral Chart

S138_BLH080002_21012022_095453: - Lmin



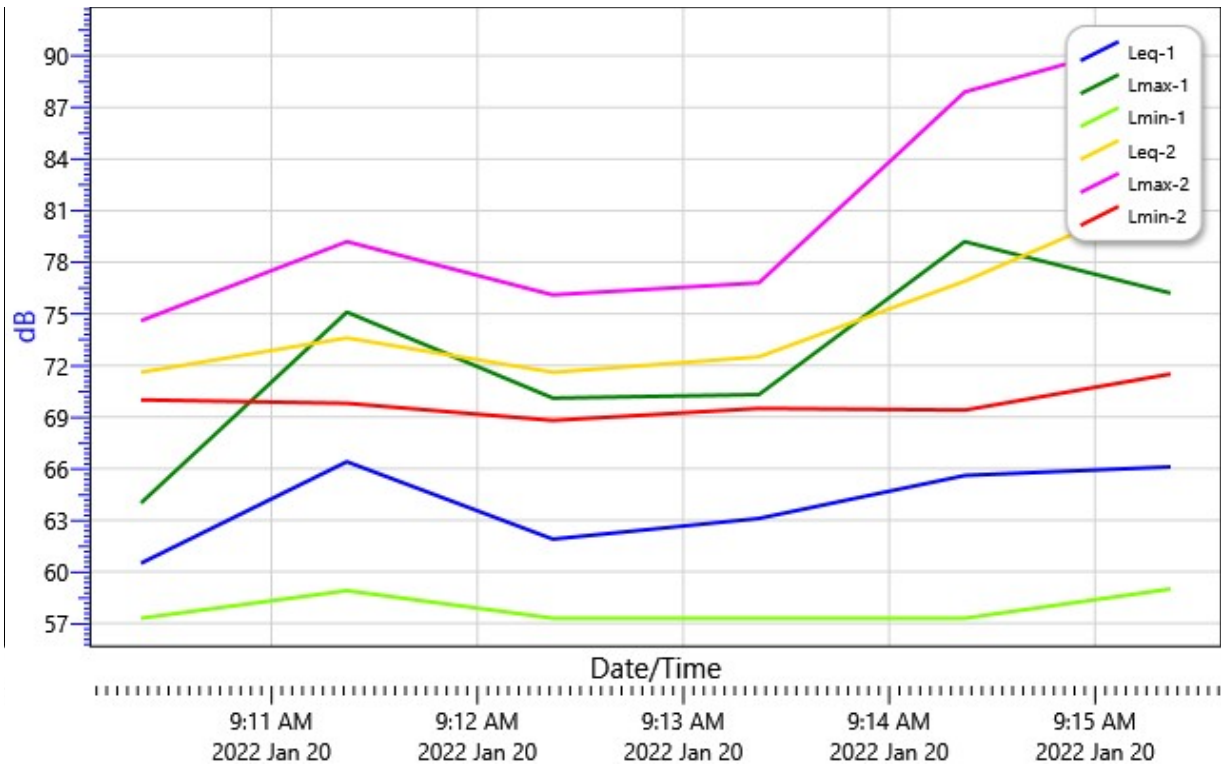
Filter Summary - Dose

Filter	Dose
	0 %
12.5 Hz	0 %
16 Hz	0 %
20 Hz	0 %
25 Hz	0 %
31.5 Hz	0 %
40 Hz	0 %
50 Hz	0 %
63 Hz	0 %
80 Hz	0 %
100 Hz	0 %
125 Hz	0 %
160 Hz	0 %
200 Hz	0 %
250 Hz	0 %

315 Hz	0 %
400 Hz	0 %
500 Hz	0 %
630 Hz	0 %
800 Hz	0 %
1.00 kHz	0 %
1.25 kHz	0 %
1.60 kHz	0 %
2.00 kHz	0 %
2.50 kHz	0 %
3.15 kHz	0 %
4.00 kHz	0 %
5.00 kHz	0 %
6.30 kHz	0 %
8.00 kHz	0 %
10.00 kHz	0 %
12.50 kHz	0 %
16.00 kHz	0 %
20.00 kHz	0 %

Logged Data Chart

S138_BLH080002_21012022_095453: Logged Data Chart - Read Only



Summary Data Panel

Description	Meter/ Sensor	Value
Leq	1	64.2 dB
Exchange Rate	1	3 dB
Weighting	1	A
Response	1	SLOW
Bandwidth	1	1/3
Exchange Rate	2	3 dB
Weighting	2	C
Response	2	SLOW
L1	1	74 dB
L10	1	67.6 dB
L50	1	60.8 dB
L90	1	58.3 dB
LDN	1	64.2 dB
Lmax	1	79.2 dB
Lmin	1	57.1 dB
Lpk	1	118.2 dB

Session Report

1/21/2022

General Information

Name S139_BLH080002_21012022_095454

Comments MS-1 (third attempt) after replacing external battery. Data concurrent with other monitoring sites (MS-2 and MS-3).

Start Time 1/20/2022 9:18:00 AM

Stop Time 1/20/2022 3:52:02 PM

Run Time 06:34:02

Model Type SoundPro DL

Serial Number BLH080002

Device Firmware Rev R.13H

Company Name Proactive Environmental Solutions, LLC

Description Across from Existing Port Wharf

Location MS-1

User Name Chris Geraghty

Summary Data

Description	Meter	Value	Description	Meter	Value
Dose	1	0.5 %	Pdose (1.00:00)	1	1.8 %
Lavg	1	--	Lpk	1	99.6 dB
Leq	1	62.8 dB	TWA	1	61.9 dB
UL Time	1	00:00:00	SEL	1	106.5 dB
ProjectedTWA (1.00:00)	1	67.5 dB	Mntime	1	1/20/2022 12:31:14 PM
Mxtime	1	1/20/2022 11:07:02 AM	PKtime	1	1/20/2022 11:07:05 AM
Weighting	1	--	Range Ceiling	1	--
Criterion Level	1	--	ULL	1	--
Dynamic Range	1	--	Exchange Rate	1	--
Response	1	--	Int Threshold	1	--
Alarm Level 1	1	--	AlarmLevel2	1	--
Dosimeter Name	1	--			
Dose	2	5.6 %	Pdose (1.00:00)	2	6.8 %
Lavg	2	--	Lpk	2	103.5 dB
Leq	2	73.3 dB	TWA	2	72.4 dB
UL Time	2	00:00:00	SEL	2	117 dB

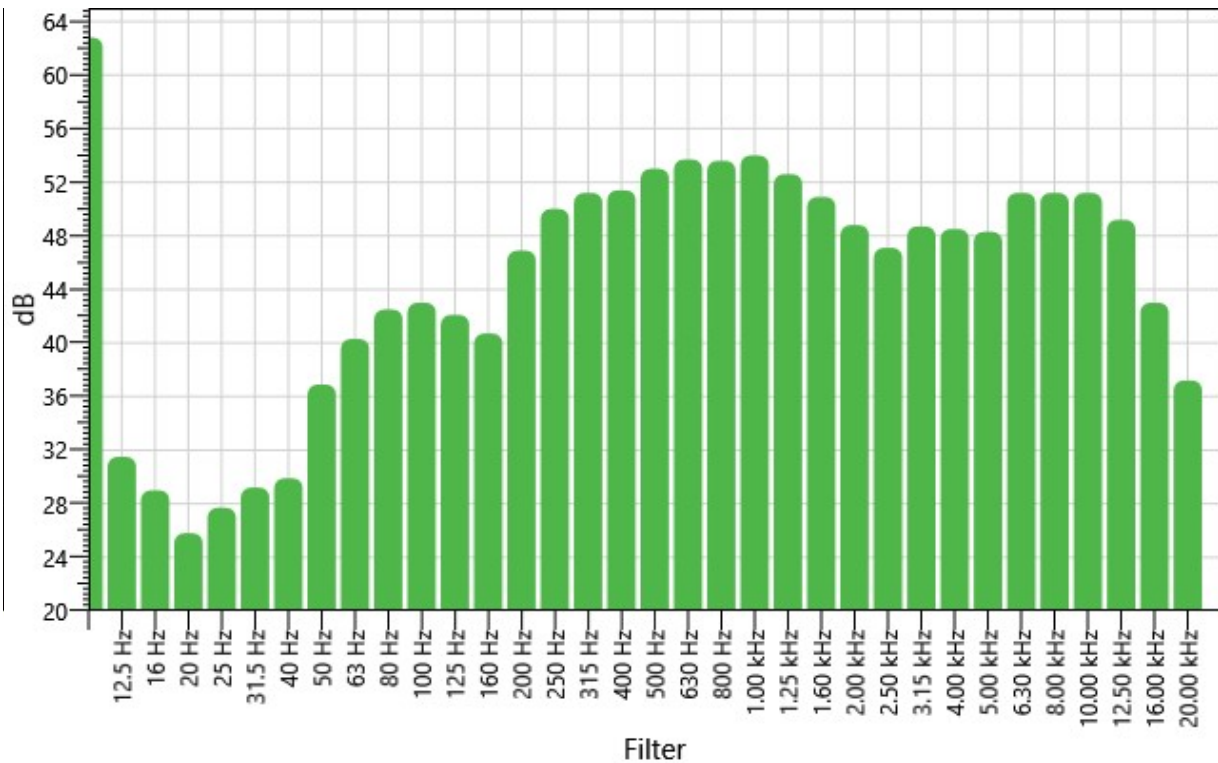
ProjectedTWA (1.00:00)	2	73.3 dB	Mntime	2	1/20/2022 10:47:25 AM
Mxtime	2	1/20/2022 11:09:33 AM	PKtime	2	1/20/2022 9:26:28 AM
Weighting	2	C	Range Ceiling	2	--
Criterion Level	2	85 dB	ULL	2	115 dB
Dynamic Range	2	--	Exchange Rate	2	3 dB
Response	2	SLOW	Integrating Threshold	2	80 dB
Alarm Level 1	2	--	AlarmLevel2	2	--
Dosimeter Name	2	--			

Calibration History

Date	Calibration Action	Level	Cal. Model Type	Serial Number	Cert. Due Date
1/18/2022 10:18:10 AM	Calibration	114.0			

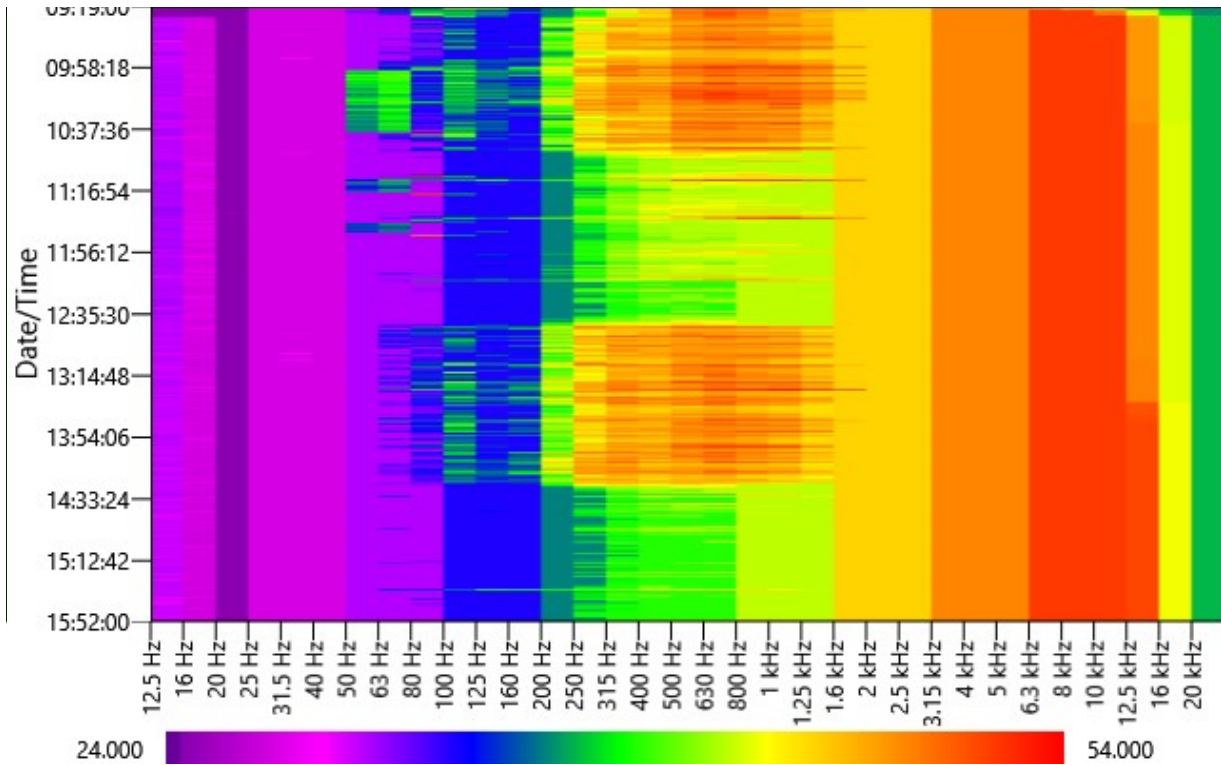
Filter Summary Chart

S139_BLH080002_21012022_095454: Filter Summary Chart - Leq



Spectral Chart

S139_BLH080002_21012022_095454: - Lmin



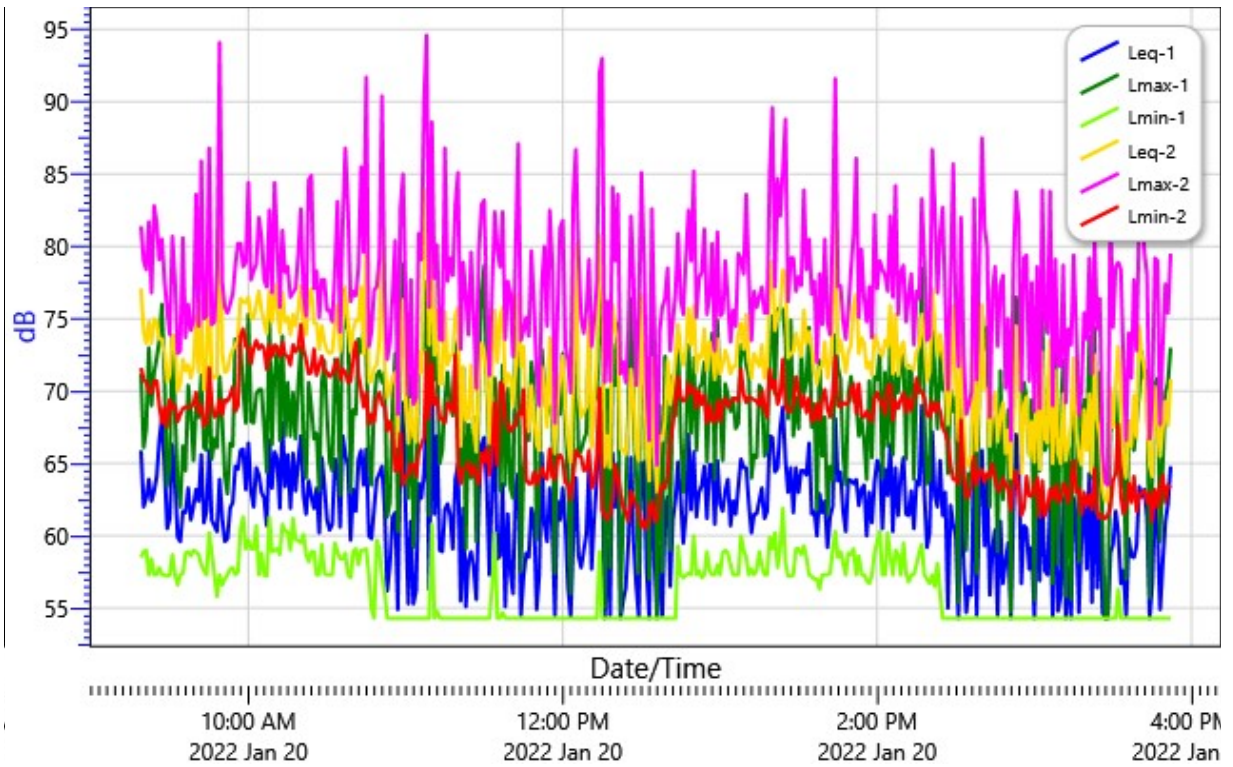
Filter Summary - Dose

Filter	Dose
	0.5 %
12.5 Hz	0 %
16 Hz	0 %
20 Hz	0 %
25 Hz	0 %
31.5 Hz	0 %
40 Hz	0 %
50 Hz	0 %
63 Hz	0 %
80 Hz	0 %
100 Hz	0 %
125 Hz	0 %
160 Hz	0 %
200 Hz	0 %
250 Hz	0 %

315 Hz	0 %
400 Hz	0 %
500 Hz	0.1 %
630 Hz	0.1 %
800 Hz	0.1 %
1.00 kHz	0.1 %
1.25 kHz	0 %
1.60 kHz	0 %
2.00 kHz	0 %
2.50 kHz	0 %
3.15 kHz	0 %
4.00 kHz	0 %
5.00 kHz	0 %
6.30 kHz	0 %
8.00 kHz	0 %
10.00 kHz	0 %
12.50 kHz	0 %
16.00 kHz	0 %
20.00 kHz	0 %

Logged Data Chart

S139_BLH080002_21012022_095454: Logged Data Chart - Read Only



Summary Data Panel

Description	Meter/ Sensor	Value
Leq	1	62.8 dB
Exchange Rate	1	3 dB
Weighting	1	A
Response	1	SLOW
Bandwidth	1	1/3
Exchange Rate	2	3 dB
Weighting	2	C
Response	2	SLOW
L1	1	72.2 dB
L10	1	66.1 dB
L50	1	59.6 dB
L90	1	54.2 dB
LDN	1	62.8 dB
Lmax	1	81.1 dB
Lmin	1	54.3 dB
Lpk	1	99.6 dB

Session Report

1/21/2022

General Information

Name S055_BLI050008_21012022_100737

Comments MS-2 (First Attempt). Meter was set on auto-run for 15-minutes. Updated meter settings on 2nd Attempt.

Start Time 1/18/2022 11:04:52 AM

Stop Time 1/18/2022 4:58:05 PM

Run Time 00:30:00

Model Type SoundPro DL

Serial Number BLI050008

Device Firmware Rev R.13H

Company Name Proactive Environmental Solutions, LLC

Description American Oil Road

Location MS-2

User Name

Summary Data

Description	Meter	Value	Description	Meter	Value
Dose	1	0 %	Pdose (1.00:00)	1	1.4 %
Lavg	1	--	Lpk	1	121.5 dB
Leq	1	61.6 dB	TWA	1	49.6 dB
UL Time	1	00:00:00	SEL	1	94.2 dB
ProjectedTWA (1.00:00)	1	66.4 dB	Mntime	1	1/18/2022 11:19:48 AM
Mxtime	1	1/18/2022 11:08:47 AM	PKtime	1	1/18/2022 11:07:30 AM
Weighting	1	--	Range Ceiling	1	--
Criterion Level	1	--	ULL	1	--
Dynamic Range	1	--	Exchange Rate	1	--
Response	1	--	Int Threshold	1	--
Alarm Level 1	1	--	AlarmLevel2	1	--
Dosimeter Name	1	--			
Dose	2	0.1 %	Pdose (1.00:00)	2	1.1 %
Lavg	2	--	Lpk	2	121.3 dB
Leq	2	65.4 dB	TWA	2	53.4 dB
UL Time	2	00:00:00	SEL	2	98 dB

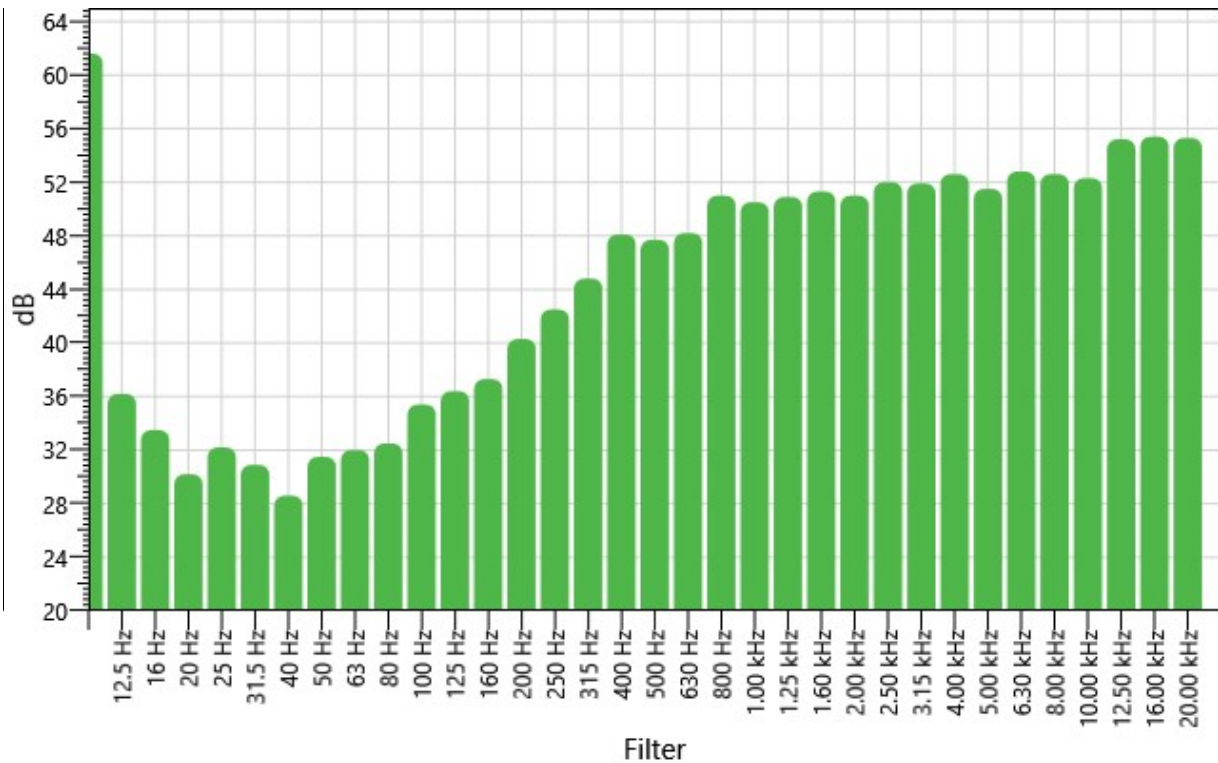
ProjectedTWA (1.00:00)	2	65.4 dB	Mntime	2	1/18/2022 4:43:05 PM
Mxtime	2	1/18/2022 11:07:30 AM	PKtime	2	1/18/2022 11:07:30 AM
Weighting	2	C	Range Ceiling	2	--
Criterion Level	2	85 dB	ULL	2	115 dB
Dynamic Range	2	--	Exchange Rate	2	3 dB
Response	2	SLOW	Integrating Threshold	2	100 dB
Alarm Level 1	2	--	AlarmLevel2	2	--
Dosimeter Name	2	--			

Calibration History

Date	Calibration Action	Level	Cal. Model Type	Serial Number	Cert. Due Date
1/18/2022 11:02:29 AM	Calibration	114.0			

Filter Summary Chart

S055_BLU050008_21012022_100737: Filter Summary Chart - Leq



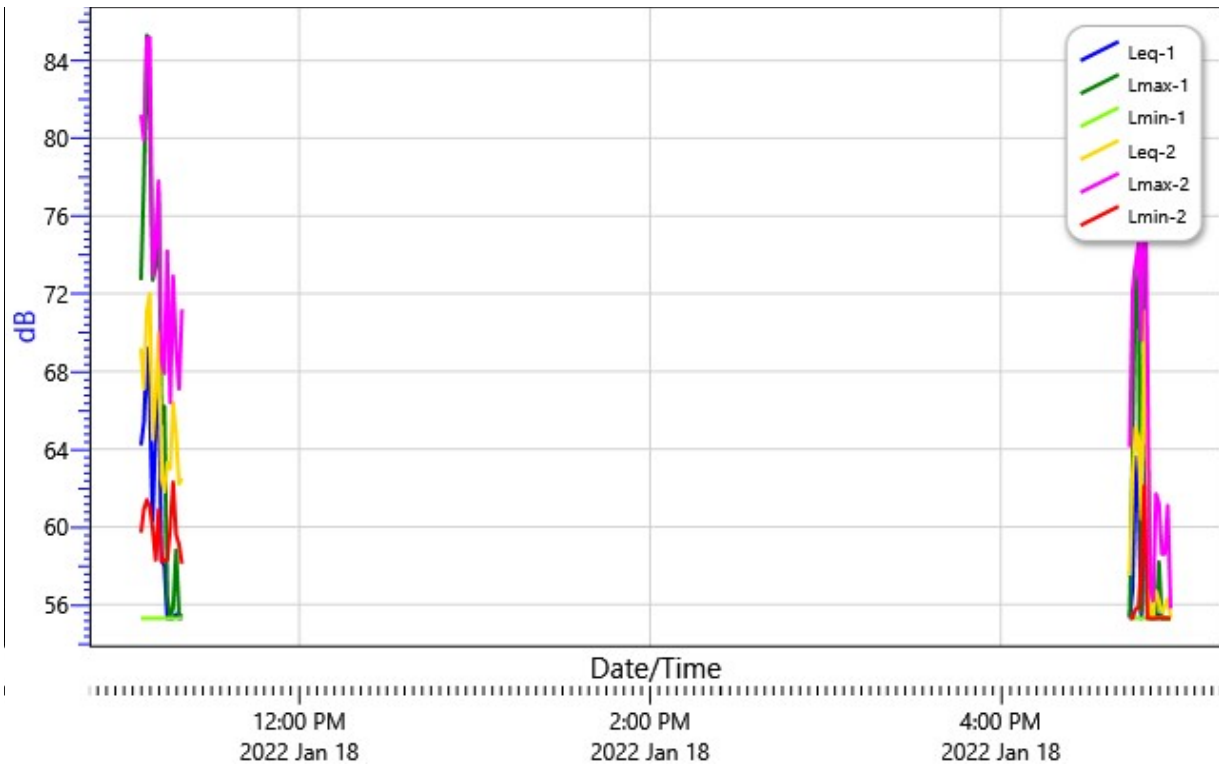
Filter Summary - Dose

Filter	Dose
	0 %

12.5 Hz	0 %
16 Hz	0 %
20 Hz	0 %
25 Hz	0 %
31.5 Hz	0 %
40 Hz	0 %
50 Hz	0 %
63 Hz	0 %
80 Hz	0 %
100 Hz	0 %
125 Hz	0 %
160 Hz	0 %
200 Hz	0 %
250 Hz	0 %
315 Hz	0 %
400 Hz	0 %
500 Hz	0 %
630 Hz	0 %
800 Hz	0 %
1.00 kHz	0 %
1.25 kHz	0 %
1.60 kHz	0 %
2.00 kHz	0 %
2.50 kHz	0 %
3.15 kHz	0 %
4.00 kHz	0 %
5.00 kHz	0 %
6.30 kHz	0 %
8.00 kHz	0 %
10.00 kHz	0 %
12.50 kHz	0 %
16.00 kHz	0 %
20.00 kHz	0 %

Logged Data Chart

S055_BJ050008_21012022_100737: Logged Data Chart - Read Only



Summary Data Panel

Description	Meter/ Sensor	Value
Leq	1	61.6 dB
Exchange Rate	1	3 dB
Weighting	1	A
Response	1	SLOW
Bandwidth	1	1/3
Exchange Rate	2	3 dB
Weighting	2	C
Response	2	SLOW
L1	1	72.5 dB
L10	1	64 dB
L50	1	55.2 dB
L90	1	55.2 dB
LDN	1	61.6 dB
Lmax	1	85.3 dB
Lpk	1	121.5 dB
Lmin	1	55.3 dB

Session Report

1/21/2022

General Information

Name S056_BLI050008_21012022_100740
Comments MS-2 (second recording attempt)
Start Time 1/18/2022 5:47:09 PM
Stop Time 1/20/2022 4:11:14 PM
Run Time 1.22:24:05
Model Type SoundPro DL
Serial Number BLI050008
Device Firmware Rev R.13H
Company Name Proactive Environmental Solutions, LLC
Description American Oil Road
Location MS-2
User Name Chris Geraghty

Summary Data

<u>Description</u>	<u>Meter</u>	<u>Value</u>	<u>Description</u>	<u>Meter</u>	<u>Value</u>
Dose	1	0.8 %	Pdose (1.00:00)	1	0.4 %
Lavg	1	--	Lpk	1	117 dB
Leq	1	56.3 dB	TWA	1	63.9 dB
UL Time	1	00:00:00	SEL	1	108.5 dB
ProjectedTWA (1.00:00)	1	61.1 dB	Mntime	1	1/18/2022 5:47:11 PM
Mxtime	1	1/19/2022 6:58:24 AM	PKtime	1	1/19/2022 6:46:46 PM
Weighting	1	--	Range Ceiling	1	--
Criterion Level	1	--	ULL	1	--
Dynamic Range	1	--	Exchange Rate	1	--
Response	1	--	Int Threshold	1	--
Alarm Level 1	1	--	AlarmLevel2	1	--
Dosimeter Name	1	--			
Dose	2	3.9 %	Pdose (1.00:00)	2	0.7 %
Lavg	2	--	Lpk	2	115.7 dB
Leq	2	63.3 dB	TWA	2	70.9 dB
UL Time	2	00:00:00	SEL	2	115.5 dB

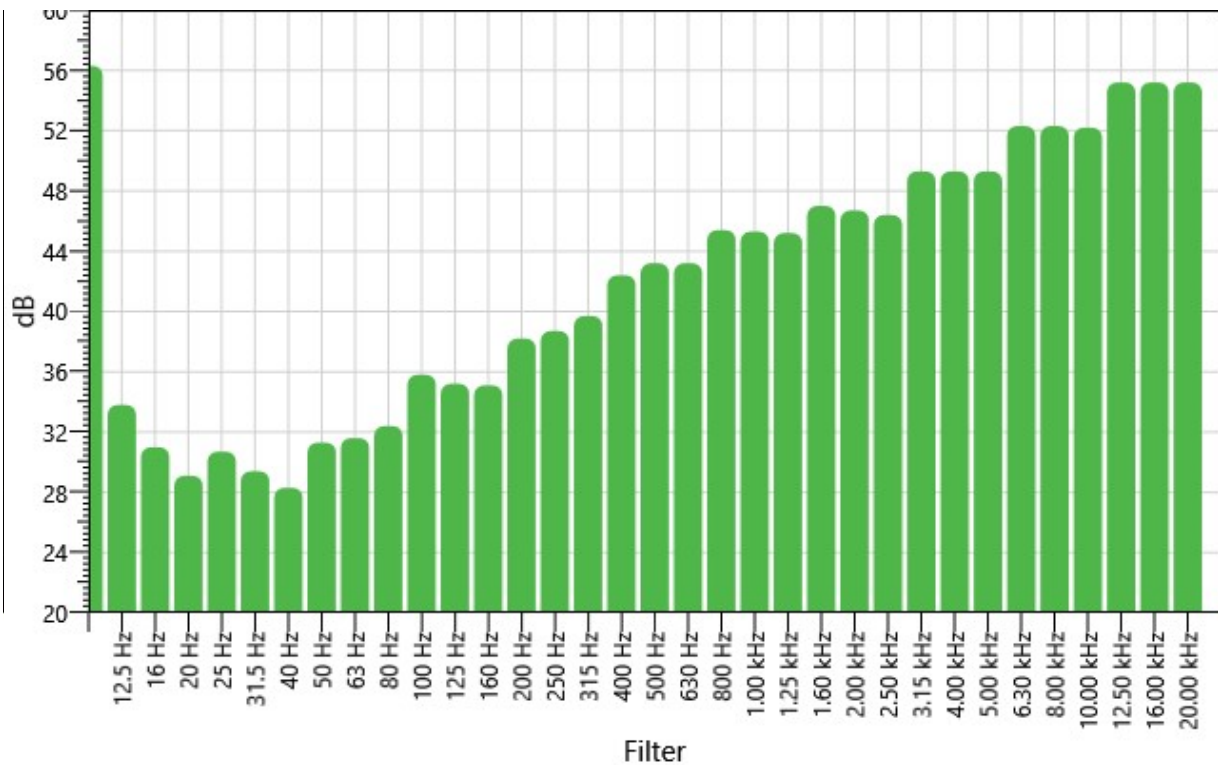
ProjectedTWA (1.00:00)	2	63.3 dB	Mntime	2	1/18/2022 5:47:09 PM
Mxtime	2	1/19/2022 12:07:06 PM	PKtime	2	1/19/2022 6:46:46 PM
Weighting	2	C	Range Ceiling	2	--
Criterion Level	2	85 dB	ULL	2	115 dB
Dynamic Range	2	--	Exchange Rate	2	3 dB
Response	2	SLOW	Integrating Threshold	2	100 dB
Alarm Level 1	2	--	AlarmLevel2	2	--
Dosimeter Name	2	--			

Calibration History

Date	Calibration Action	Level	Cal. Model Type	Serial Number	Cert. Due Date
1/18/2022 11:02:29 AM	Calibration	114.0			

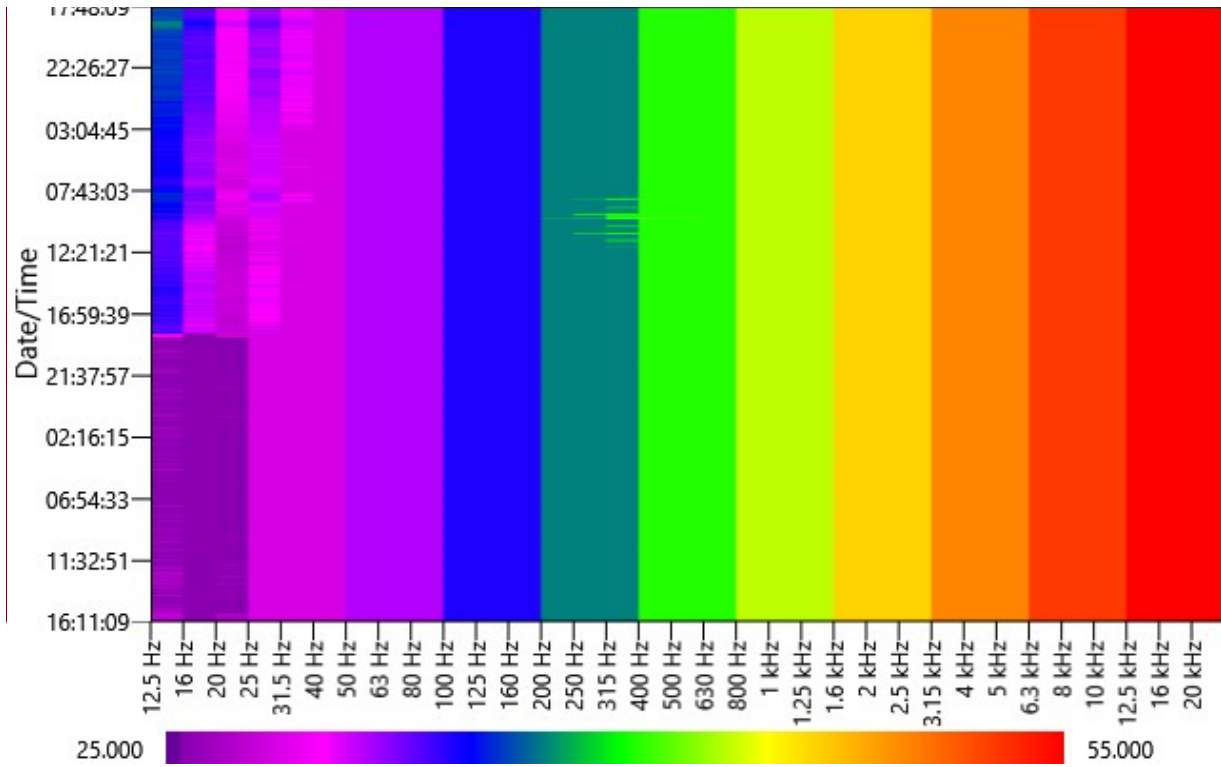
Filter Summary Chart

S056_BLU050008_21012022_100740: Filter Summary Chart - Leq



Spectral Chart

S056_BJ050008_21012022_100740: - Lmin



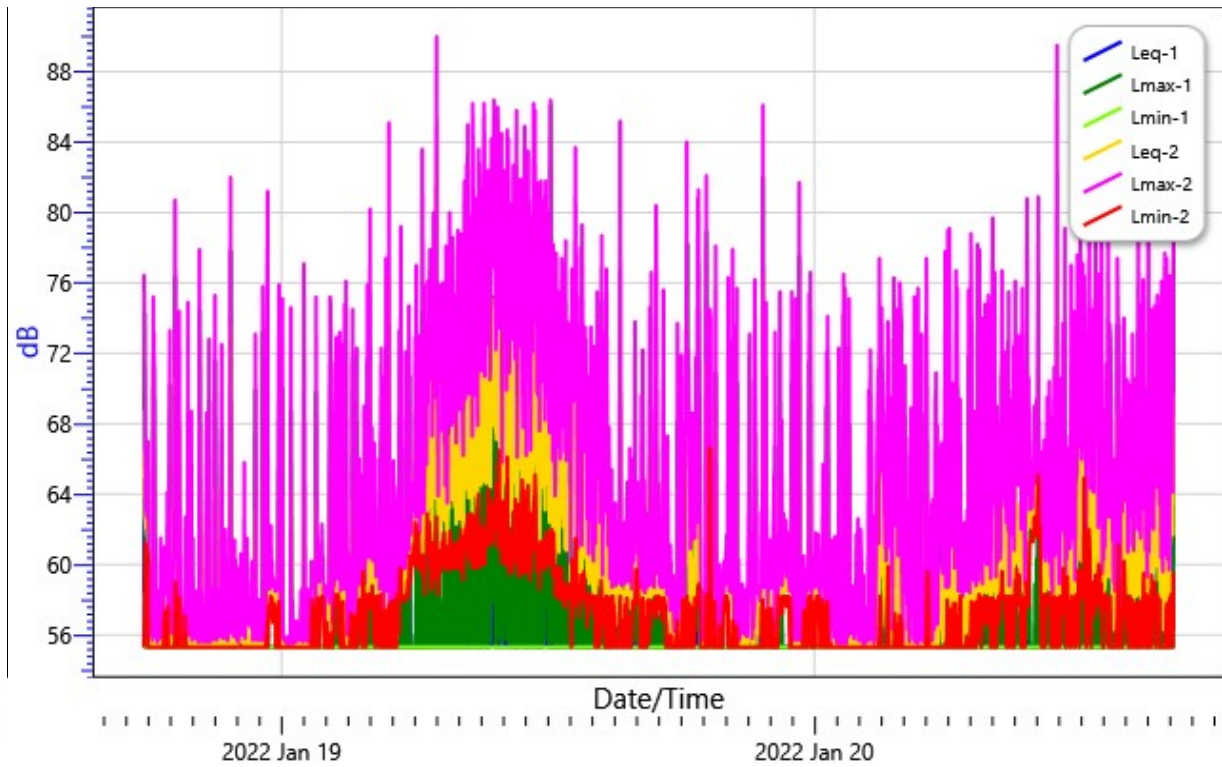
Filter Summary - Dose

Filter	Dose
	0.8 %
12.5 Hz	0 %
16 Hz	0 %
20 Hz	0 %
25 Hz	0 %
31.5 Hz	0 %
40 Hz	0 %
50 Hz	0 %
63 Hz	0 %
80 Hz	0 %
100 Hz	0 %
125 Hz	0 %
160 Hz	0 %
200 Hz	0 %
250 Hz	0 %

315 Hz	0 %
400 Hz	0 %
500 Hz	0 %
630 Hz	0 %
800 Hz	0.1 %
1.00 kHz	0.1 %
1.25 kHz	0.1 %
1.60 kHz	0.1 %
2.00 kHz	0.1 %
2.50 kHz	0.1 %
3.15 kHz	0.2 %
4.00 kHz	0.2 %
5.00 kHz	0.2 %
6.30 kHz	0.3 %
8.00 kHz	0.3 %
10.00 kHz	0.3 %
12.50 kHz	0.6 %
16.00 kHz	0.6 %
20.00 kHz	0.6 %

Logged Data Chart

S056_BLU050008_21012022_100740: Logged Data Chart - Read Only



Summary Data Panel

Description	Meter/ Sensor	Value
Leq	1	56.3 dB
Exchange Rate	1	3 dB
Weighting	1	A
Response	1	SLOW
Bandwidth	1	1/3
Exchange Rate	2	3 dB
Weighting	2	C
Response	2	SLOW
L1	1	63 dB
L10	1	55.2 dB
L50	1	55.2 dB
L90	1	55.2 dB
LDN	1	62.6 dB
Lmax	1	86.1 dB
Lmin	1	55.3 dB
Lpk	1	117 dB

Session Report

1/21/2022

General Information

Name S070_BLN060003_21012022_093137

Comments MS-3 (last of four attempts to collect data). It was determined that the Quest Outdoor Measurement Kit was sending false signals to the meter indicating external power was being supplied (even though it wasn't). Data collected on first 3 attempts was lost due to corrupt files (meter not properly saving the file records due to abrupt loss of power). It was only when external power was not provided (i.e., meter operated on 4 AA batteries only) that we were able to collect data. As such, the internal AA batteries provided enough power for the meter to collect 5 hours of 1-minute measurements.

Start Time 1/20/2022 8:47:02 AM

Stop Time 1/20/2022 1:49:33 PM

Run Time 05:02:31

Model Type SoundPro DL

Serial Number BLN060003

Device Firmware Rev R.13H

Company Name Proactive Environmental Solutions, LLC

Description Papscaanee Island Nature Preserve

Location MS-3

User Name Chris Geraghty

Summary Data

Description	Meter	Value	Description	Meter	Value
Dose	1	0.6 %	Pdose (1.00:00)	1	2.9 %
Lavg	1	--	Lpk	1	114.2 dB
Leq	1	64.7 dB	TWA	1	62.7 dB
UL Time	1	00:00:00	SEL	1	107.3 dB
ProjectedTWA (1.00:00)	1	69.5 dB	Mntime	1	1/20/2022 8:47:02 AM
Mxtime	1	1/20/2022 9:37:32 AM	PKtime	1	1/20/2022 9:37:32 AM
Weighting	1	--	Range Ceiling	1	--
Criterion Level	1	--	ULL	1	--
Dynamic Range	1	--	Exchange Rate	1	--
Response	1	--	Int Threshold	1	--
Alarm Level 1	1	--	AlarmLevel2	1	--
Dosimeter Name	1	--			
Dose	2	1.9 %	Pdose (1.00:00)	2	3 %

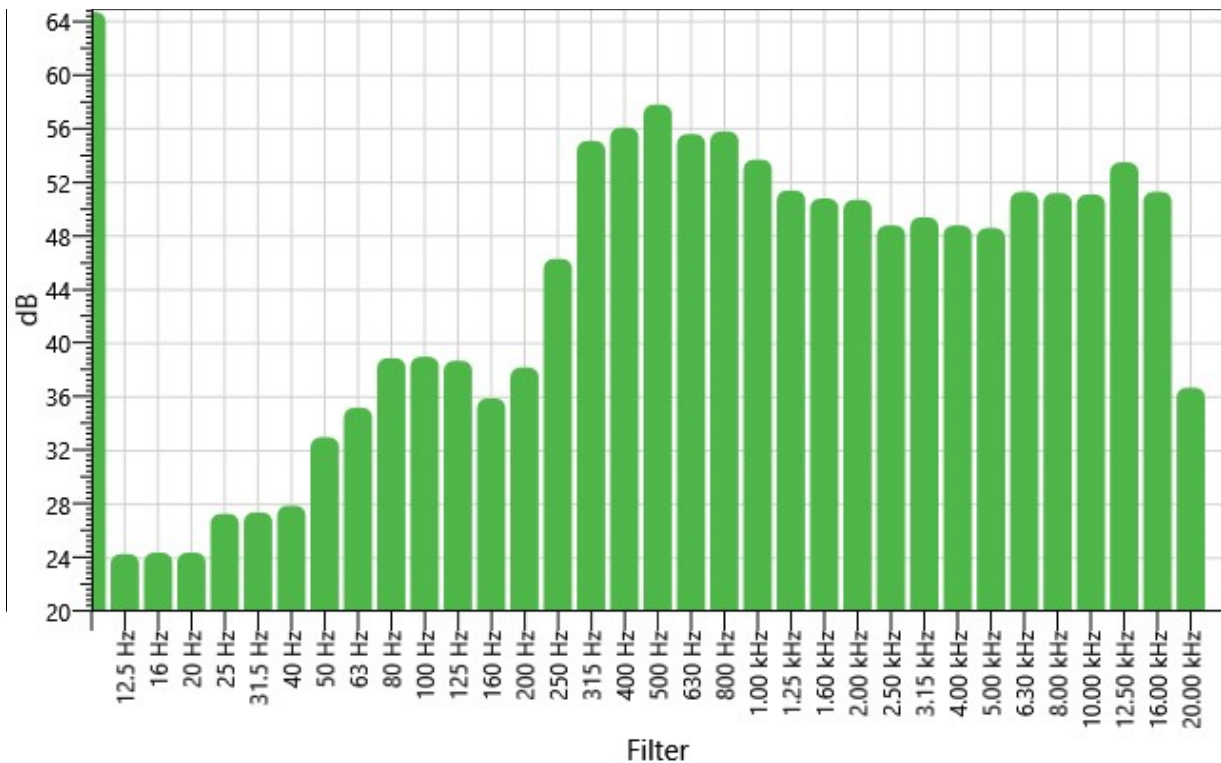
Lavg	2	--	Lpk	2	116.4 dB
Leq	2	69.7 dB	TWA	2	67.7 dB
UL Time	2	00:00:00	SEL	2	112.3 dB
ProjectedTWA (1.00:00)	2	69.7 dB	Mntime	2	1/20/2022 8:47:02 AM
Mxtime	2	1/20/2022 11:42:09 AM	PKtime	2	1/20/2022 11:42:09 AM
Weighting	2	C	Range Ceiling	2	--
Criterion Level	2	85 dB	ULL	2	115 dB
Dynamic Range	2	--	Exchange Rate	2	3 dB
Response	2	SLOW	Integrating Threshold	2	100 dB
Alarm Level 1	2	--	AlarmLevel2	2	--
Dosimeter Name	2	--			

Calibration History

<u>Date</u>	<u>Calibration Action</u>	<u>Level</u>	<u>Cal. Model Type</u>	<u>Serial Number</u>	<u>Cert. Due Date</u>
1/19/2022 9:03:55 AM	Calibration	114.0			

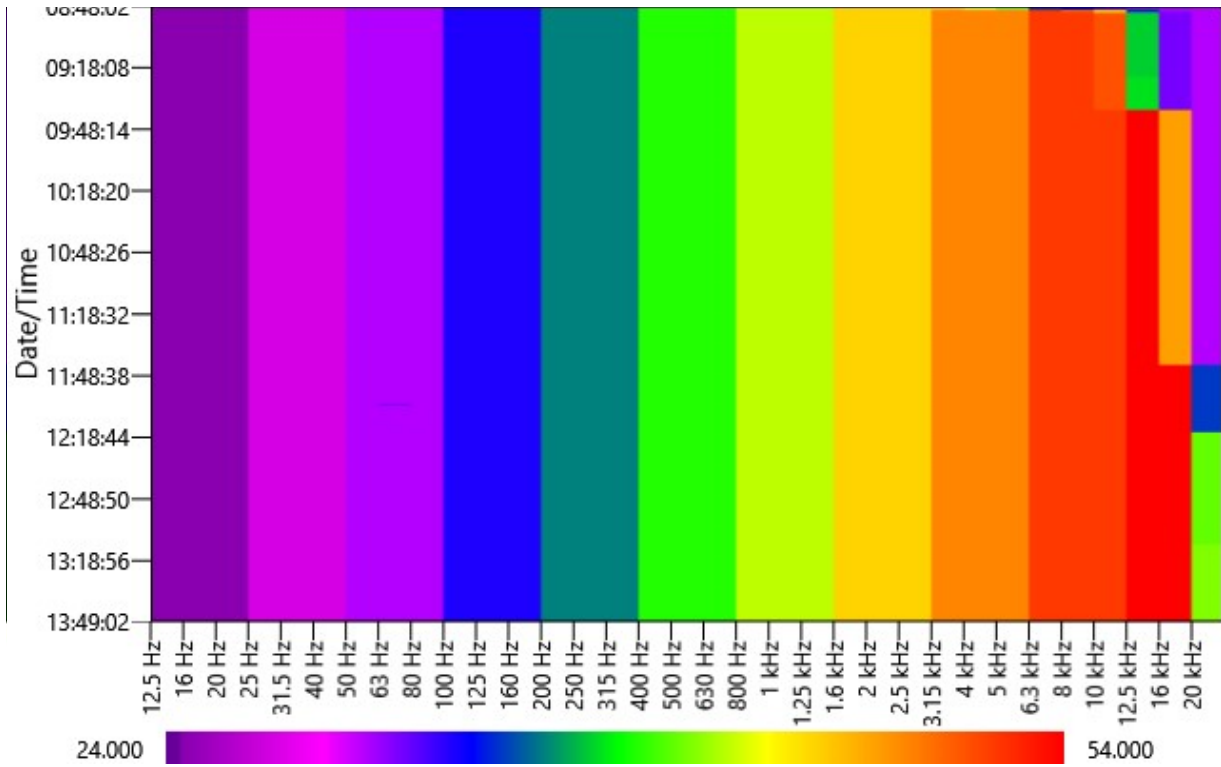
Filter Summary Chart

S070_BLN060003_21012022_093137: Filter Summary Chart - Leq



Spectral Chart

S070_BLN060003_21012022_093137: - Lmin



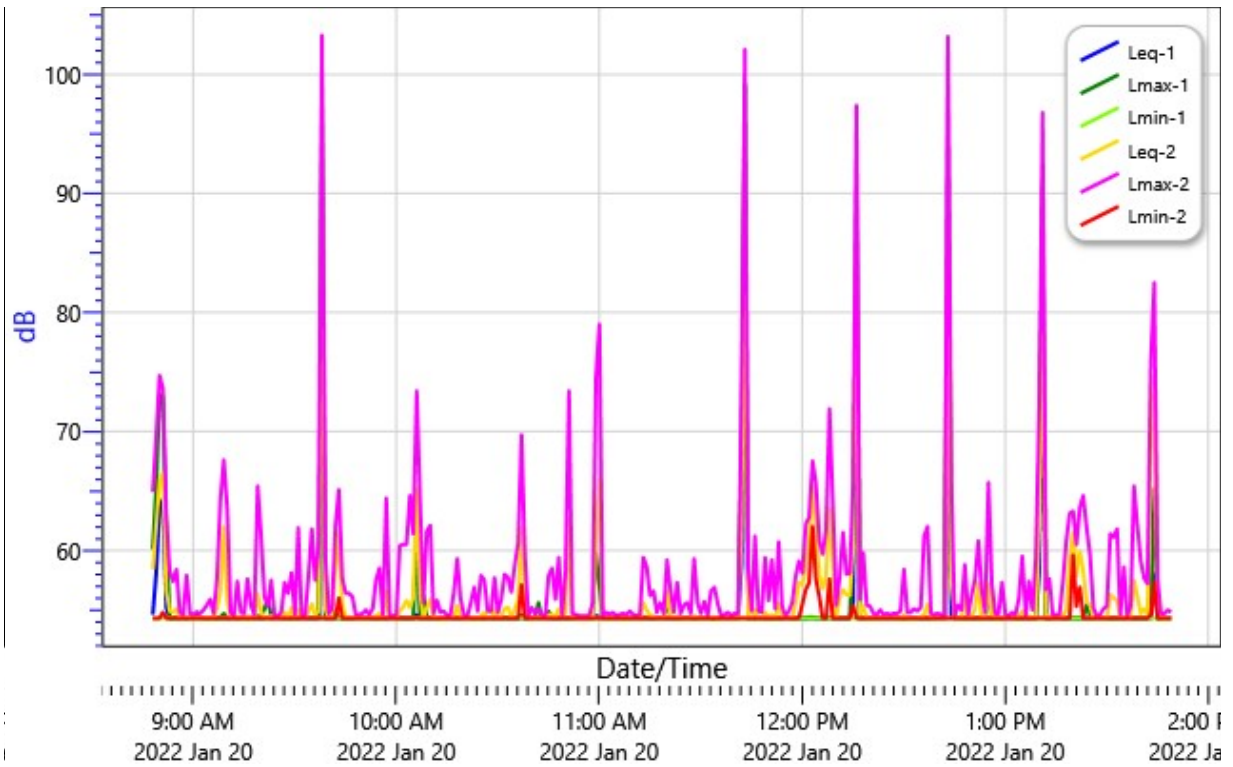
Filter Summary - Dose

Filter	Dose
	0.6 %
12.5 Hz	0 %
16 Hz	0 %
20 Hz	0 %
25 Hz	0 %
31.5 Hz	0 %
40 Hz	0 %
50 Hz	0 %
63 Hz	0 %
80 Hz	0 %
100 Hz	0 %
125 Hz	0 %
160 Hz	0 %
200 Hz	0 %
250 Hz	0 %

315 Hz	0.1 %
400 Hz	0.1 %
500 Hz	0.1 %
630 Hz	0.1 %
800 Hz	0.1 %
1.00 kHz	0 %
1.25 kHz	0 %
1.60 kHz	0 %
2.00 kHz	0 %
2.50 kHz	0 %
3.15 kHz	0 %
4.00 kHz	0 %
5.00 kHz	0 %
6.30 kHz	0 %
8.00 kHz	0 %
10.00 kHz	0 %
12.50 kHz	0 %
16.00 kHz	0 %
20.00 kHz	0 %

Logged Data Chart

S070_BLN060003_21012022_093137: Logged Data Chart - Read Only



Summary Data Panel

Description	Meter/ Sensor	Value
Leq	1	64.7 dB
Exchange Rate	1	3 dB
Weighting	1	A
Response	1	SLOW
Bandwidth	1	1/3
Exchange Rate	2	3 dB
Weighting	2	C
Response	2	SLOW
L1	1	60.7 dB
L10	1	54.2 dB
L50	1	54.2 dB
L90	1	54.2 dB
LDN	1	64.7 dB
Lmax	1	99.2 dB
Lmin	1	54.3 dB
Lpk	1	114.2 dB

APPENDIX B

Copies of Sound Level Meter Equipment Certificates of Calibration



Calibration Certificate No. 0000701

Instrument: Sound Level Meter
Model: SoundPro SE_DL1
Manufacturer: Quest
Serial number: BLJ050008
Tested with: Microphone 4936 s/n 2663329
 Preamplifier n/a s/n 0917 2612
Type (class): 1
Customer: PREMIER SAFETY
Tel/Fax: 586-840-3200 /

Date Calibrated: 8/4/2021 **Cal Due:** 8/4/2022
Status:

Received	Sent
X	X

In tolerance:

X	X
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Out of tolerance:

--	--

See comments:

--

Contains non-accredited tests: Yes No
Calibration service: Basic Standard
Address: 33596 STERLING PONDS BLVD
 STERLING HEIGHTS, MI 48312

Tested in accordance with the following procedures and standards:
 Calibration of Sound Level Meters, Scantek Inc., Rev. 6/22/2012
 SLM & Dosimeters – Acoustical Tests, Scantek Inc., Rev. 7/6/2011

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence	Cal. Due
				Cal. Lab / Accreditation	
483B-Norsonic	SME Cal Unit	31079	May 11, 2021	Norsonic SA	May 11, 2023
DS-360-SRS	Function Generator	123268	May 07, 2021	SRS	May 07, 2023
34401A-Agilent Technologies	Digital Voltmeter	MY53003818	May 06, 2021	Agilent Provider #93107	May 06, 2024
SD700-Extech	Meteo Station	Q769118	May 11, 2021	INNOCAL	May 11, 2023
PC Program 1019 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
1251-Norsonic	Calibrator	34103	May 06, 2021	Scantek, Inc./ NVLAP	May 06, 2023
Quest-Cal	Multifunction calibrator	KZ7060002	May 06, 2021	Scantek, Inc./ NVLAP	May 06, 2023

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK).

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
22.0	100.00	26.0

Calibrated by:	Steven Boertmann	Authorized signatory:	Eric Ford
Signature	Steven Boertmann	Signature	Eric Ford
Date	8-4-21	Date	8-4-21

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory.

Results summary: Device complies with following clauses of mentioned specifications:

CLAUSES ¹ FROM IEC/ANSI STANDARDS REFERENCED IN PROCEDURES:	RESULT ^{2,3}	EXPANDED UNCERTAINTY (coverage factor 2) [dB]
INDICATION AT THE CALIBRATION CHECK FREQUENCY - ANSI S1.4 CLAUSE 3.2	Passed	0.20.15
FREQUENCY WEIGHTINGS: A NETWORK - IEC 61672-3 ED.1 CLAUSE 12	Passed	0.2
FREQUENCY WEIGHTINGS: C NETWORK - IEC 61672-3 ED.1 CLAUSE 12	Passed	0.2
FREQUENCY WEIGHTINGS: Z NETWORK - IEC 61672-3 ED.1 CLAUSE 12	Passed	0.2
FREQUENCY AND TIME WEIGHTINGS AT 1 KHZ IEC 61672-3 ED.1 CLAUSE 13	Passed	0.2
LEVEL LINEARITY ON THE REFERENCE LEVEL RANGE - IEC 61672-3 ED.1 CLAUSE 14	Passed	0.3
LEVEL LINEARITY INCLUDING THE LEVEL RANGE CONTROL - IEC 61672-3 ED.1 CLAUSE 15	Passed	0.3
TONEBURST RESPONSE - IEC 61672-3 ED.1 CLAUSE 16	Passed	0.3
PEAK C SOUND LEVEL - IEC 61672-3 ED.1 CLAUSE 17	Passed	0.35
FILTER TEST 1/1OCTAVE: FLAT FREQUENCY RESPONSE - IEC 61260, CLAUSE 4.10 & #5.9	Passed	0.25
FILTER TEST 1/3OCTAVE: FLAT FREQUENCY RESPONSE - IEC 61260, CLAUSE 4.10 & #5.9	Passed	0.25

¹ The results of this calibration apply only to the instrument type with serial number identified in this report.

² Parameters are certified at actual environmental conditions.

³

Comments: The instrument was tested and met all specifications found in the referenced procedures.

Note: The instrument was tested for the parameters listed in the table above, using the test methods described in the listed standards. All tests were performed around the reference conditions. The test results were compared with the manufacturer's or with the standard's specifications, whichever are larger.

Compliance with any standard cannot be claimed based solely on the periodic tests.

Tests made with the following attachments to the instrument:

Microphone: Brüel & Kjær 4936 s/n 2663329 for acoustical test
Preamplifier: Quest n/a s/n 0917 2612 for all tests
Other: line adaptor ADP005 (18pF) for electrical tests and 1448 (18pF) for noise test
Accompanying acoustical calibrator: Quest QC-10 s/n QIH040066
Windscreen: none

Measured Data: in Test Report # of ... pages.

Place of Calibration: Premier Safety

46410 Continental Dr.
Chesterfield, MI 48047

Ph/Fax: 586-840-3220/ -3221
www.premier-safety.com

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Document stored C:\Nor1504\Slm\2014\QsproSE1_BLI050008_M7.doc

Page 2 of 2

SoundPro SE_DL1 s/n: BLJ050008 ID:

Date: 8/4/2021 By: SB

Due: 8/4/2022



Calibration Certificate

0005416

Instrument: **Acoustical Calibrator**
Model: **QC-10**
Manufacturer: **Quest**
Serial number: **QIJ090154**
Class (IEC 60942): **1**
Barometer type:
Barometer s/n:

Date Calibrated: **4/16/2021** *Cal Due:* **4/16/2022**
Status:

Received	Sent
X	X

In tolerance:

X	X
----------	----------

Out of tolerance:

--	--

See comments:

--	--

Contains non-accredited tests: **__Yes X No**

Customer: **PREMIER SAFETY**
Tel/Fax: **586-840-3200 /**

Address: **33596 STERLING PONS BLVD**
STERLING HEIGHTS, MI 48312

Tested in accordance with the following procedures and standards:

Calibration of Noise Dosimeters, Sound Meters, and Calibratos., Rev. Chf 04

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence	Cal. Due
				Cal. Lab / Accreditation	
483B-Norsonic	SME Cal Unit	31079	May 09, 2019	Norsonic SA	May 09, 2021
DS-360-SRS	Function Generator	123268	Apr 29, 2020	SRS	Apr 29, 2021
34401A-Agilent Technologies	Digital Voltmeter	MY53003818	May 15, 2018	Agilent Provider #93107	May 15, 2021
SD700-Extech	Meteo Station	Q769118	May 06, 2019	INNOCAL	May 06, 2021
140-Norsonic	Real Time Analyzer	1405966	May 09, 2019	Norsonic SA	May 09, 2021
PC Program 1018 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
40AG-GRAS	Microphone	173539	May 16, 2020	Scantek, Inc. / NVLAP	May 16, 2021
NN1203-Norsonic	Preamplifier	138531	May 16, 2020	Norsonic SA	May 16, 2021

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK)

Calibrated by:	Steven Boertmann	Authorized signatory:	Eric Ford
Signature	Steven Boertmann	Signature	Eric Ford
Date	4-16-21	Date	4-16-21

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory. This Calibration Certificate or Test Reports shall not be used to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the federal government.

Results summary: Device was tested and complies with following clauses of mentioned specifications:

CLAUSES ¹ FROM STANDARDS REFERENCED IN PROCEDURES:	MET ²	NOT MET	COMMENTS
Manufacturer specifications			
Manufacturer specifications: Sound pressure level	X		
Manufacturer specifications: Frequency	X		
Manufacturer specifications: Total harmonic distortion	X		
Current standards			
ANSI S1.40:2006 B.3 / IEC 60942: 2003 B.2 - Preliminary inspection	X		Unit older than the standard
ANSI S1.40:2006 B.4.4 / IEC 60942: 2003 B.3.4 - Sound pressure level	X		Unit older than the standard
ANSI S1.40:2006 A.5.4 / IEC 60942: 2003 A.4.4 - Sound pressure level stability	-	-	Unit older than the standard
ANSI S1.40:2006 B.4.5 / IEC 60942: 2003 B.3.5 - Frequency	X		Unit older than the standard
ANSI S1.40:2006 B.4.6 / IEC 60942: 2003 B.3.6 - Total harmonic distortion	X		Unit older than the standard
Older standards (obsolete)			
IEC 60942: 1997 B.2 - Preliminary inspection	X		
IEC 60942: 1997 B.3.3 - Sound pressure level	X		
IEC 60942: 1997 B.3.4 - Sound pressure level stability	X		
IEC 60942: 1997 B.3.5 - Frequency	X		
IEC 60942: 1997 B.3.6 - Total harmonic distortion	X		
ANSI S1.40: 1984 (R1997) 4.4.2 Sound pressure level in the coupler	X		Not applicable
ANSI S1.40: 1984 (R1997) 4.4 Frequency sound in the coupler	X		Not applicable
ANSI S1.40: 1984 (R1997) 4.10 Total harmonic distortion	X		Not applicable

¹ The results of this calibration apply only to the instrument type with serial number identified in this report.

²

Main measured parameters ³:

Measured ⁴ /Acceptable ⁵ Tone frequency (Hz):	Measured ⁴ /Acceptable ⁵ Total Harmonic Distortion (%):	Measured ⁴ /Acceptable Level ⁵ (dB):
998.34 ± 1.0/1000.0 ± 10.0	1.01 ± 0.10/ < 3	113.94 ± 0.02/114.0 ± 0.4

³ The stated level is valid at reference conditions.

⁴ The above expanded uncertainties for frequency and distortion are calculated with a coverage factor k=2; for level k=4.53

⁵ Acceptable parameters values are from the current standards

Barometer indication	Nominal indication

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
21.0 ± 1.0	100.00 ± 0.001	26.0 ± 2.0

Tests made with following attachments to instrument:

Calibrator ½" Adaptor Type:
Other:

Adjustments: Unit was not adjusted.

Comments: C:\Nor1504\Cal\2014\Questc10-old_QIJ090154_M6.doc

Note: The instrument was tested for the parameters listed in the table above, using the test methods described in the listed standards. All tests were performed around the reference conditions. The test results were compared with the manufacturer's or with the standard's specifications, whichever are larger. Compliance with any standard cannot be claimed based solely on the periodic tests.

Place of Calibration: Premier Safety

46410 Continental Dr.
Chesterfield, MI 48047

Ph/Fax: 586-840-3220/ -3221
www.premier safety.com

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This Calibration Certificate or Test Reports shall not be used to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the federal government.

Document stored as: C:\Nor1504\Cal\2014\Questc10_QIJ070028_M1.doc

Page 2 of 2



Calibration Certificate

0005991
114 (1KHZ)

Instrument: **Acoustical Calibrator**
Model: **AC-300**
Manufacturer: **3M**
Serial number: **AC300003194**
Class (IEC 60942): **1**
Barometer type:
Barometer s/n:

Date Calibrated: **1/13/2022** *Cal Due:* **1/13/2023**
Status:

	Received	Sent
<i>In tolerance:</i>	X	X
<i>Out of tolerance:</i>		
<i>See comments:</i>		

Contains non-accredited tests: Yes X No

Customer: **PREMIER SAFETY**
Tel/Fax: **586-840-3200 /**

Address: **46400 CONTINENTAL DR
CHESTERFIELD, MI 48047**

Tested in accordance with the following procedures and standards:

Calibration of Noise Dosimeters, Sound Meters, and Calibratos., Rev. Chf 04

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence	Cal. Due
				Cal. Lab / Accreditation	
483B-Norsonic	SME Cal Unit	31079	May 11, 2021	Norsonic SA	May 11, 2023
DS-360-SRS	Function Generator	123268	May 07, 2021	SRS	May 07, 2023
34401A-Agilent Technologies	Digital Voltmeter	MY53003818	May 06, 2021	Agilent Provider #93107	May 06, 2024
SD700-Extech	Meteo Station	Q769118	May 11, 2021	INNOCAL	May 11, 2023
140-Norsonic	Real Time Analyzer	1405966	May 06, 2021	Norsonic SA	May 06, 2024
PC Program 1018 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
40AG-GRAS	Microphone	444734	May 06, 2021	Scantek, Inc. / NVLAP	May 06, 2023
NN1203-Norsonic	Preamplifier	138531	May 06, 2021	Norsonic SA	May 06, 2024

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK)

Calibrated by:	Steven Boertmann	Authorized signatory:	Eric Ford
Signature	Steven Boertmann	Signature	Eric Ford
Date	1-13-22	Date	1-13-22

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory.

This Calibration Certificate or Test Reports shall not be used to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the federal government.

Document stored as: C:\Nor1504\Cal\2014\3M-AC300_AC300003194_M8.doc

Page 1 of 2

Results summary: Device was tested and complies with following clauses of mentioned specifications:

CLAUSES ¹ FROM STANDARDS REFERENCED IN PROCEDURES:	MET ²	NOT MET	COMMENTS
Manufacturer specifications			
Manufacturer specifications: Sound pressure level	X		
Manufacturer specifications: Frequency	X		
Manufacturer specifications: Total harmonic distortion	X		
Current standards			
ANSI S1.40:2006 B.3 / IEC 60942: 2003 B.2 - Preliminary inspection	X		Unit older than the standard
ANSI S1.40:2006 B.4.4 / IEC 60942: 2003 B.3.4 - Sound pressure level	X		Unit older than the standard
ANSI S1.40:2006 A.5.4 / IEC 60942: 2003 A.4.4 - Sound pressure level stability	-	-	Unit older than the standard
ANSI S1.40:2006 B.4.5 / IEC 60942: 2003 B.3.5 - Frequency	X		Unit older than the standard
ANSI S1.40:2006 B.4.6 / IEC 60942: 2003 B.3.6 - Total harmonic distortion	X		Unit older than the standard
Older standards (obsolete)			
IEC 60942: 1997 B.2 - Preliminary inspection	X		
IEC 60942: 1997 B.3.3 - Sound pressure level	X		
IEC 60942: 1997 B.3.4 - Sound pressure level stability	X		
IEC 60942: 1997 B.3.5 - Frequency	X		
IEC 60942: 1997 B.3.6 - Total harmonic distortion	X		
ANSI S1.40: 1984 (R1997) 4.4.2 Sound pressure level in the coupler	X		Not applicable
ANSI S1.40: 1984 (R1997) 4.4 Frequency sound in the coupler	X		Not applicable
ANSI S1.40: 1984 (R1997) 4.10 Total harmonic distortion	X		Not applicable

¹ The results of this calibration apply only to the instrument type with serial number identified in this report.

²

Main measured parameters ³:

Measured ⁴ /Acceptable ⁵ Tone frequency (Hz):	Measured ⁴ /Acceptable ⁵ Total Harmonic Distortion (%):	Measured ⁴ /Acceptable Level ⁵ (dB):
1000.06 ± 1.0/1000.0 ± 10.0	0.20 ± 0.10/ < 3	114.26 ± 0.02/114.0 ± 0.4

³ The stated level is valid at measurement conditions.

⁴ The above expanded uncertainties for frequency and distortion are calculated with a coverage factor k=2; for level k=4.53

⁵ Acceptable parameters values are from the current standards

Barometer indication	Nominal indication

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
21.0 ± 1.0	100.00 ± 0.001	34.0 ± 2.0

Tests made with following attachments to instrument:

Calibrator ½" Adaptor Type:
Other:

Adjustments: Unit was not adjusted.

Comments: C:\Nor1504\Cal\2014\3M-AC300_AC300003194_M8.doc

Note: The instrument was tested for the parameters listed in the table above, using the test methods described in the listed standards. All tests were performed around the reference conditions. The test results were compared with the manufacturer's or with the standard's specifications, whichever are larger. Compliance with any standard cannot be claimed based solely on the periodic tests.

Place of Calibration: Premier Safety

46410 Continental Dr.
Chesterfield, MI 48047

Ph/Fax: 586-840-3220/ -3221
www.premier safety.com

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This Calibration Certificate or Test Reports shall not be used to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the federal government.

Document stored as: C:\Nor1504\Cal\2014\Questc10_QIJ070028_M1.doc

Page 2 of 2



Calibration Certificate

0006538

Instrument: **Acoustical Calibrator**
 Model: **QC-10**
 Manufacturer: **Quest**
 Serial number: **QIK020110**
 Class (IEC 60942): **1**
 Barometer type:
 Barometer s/n:

Date Calibrated: **11/5/2021** Cal Due: **11/5/2022**
 Status:

Received	Sent
X	X

 In tolerance:

X	X
---	---

 Out of tolerance:

--	--

 See comments:

--	--

 Contains non-accredited tests: Yes X No

Customer: **PREMIER SAFETY**
 Tel/Fax: **586-840-3200 /**

Address: **33596 STERLING PONS BLVD**
STERLING HEIGHTS, MI 48312

Tested in accordance with the following procedures and standards:

Calibration of Noise Dosimeters, Sound Meters, and Calibratos., Rev. Chf 04

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence	Cal. Due
				Cal. Lab / Accreditation	
483B-Norsonic	SME Cal Unit	31079	May 11, 2021	Norsonic SA	May 11, 2023
DS-360-SRS	Function Generator	123268	May 07, 2021	SRS	May 07, 2023
34401A-Agilent Technologies	Digital Voltmeter	MY53003818	May 06, 2021	Agilent Provider #93107	May 06, 2024
SD700-Extech	Meteo Station	Q769118	May 11, 2021	INNOCAL	May 11, 2023
140-Norsonic	Real Time Analyzer	1405966	May 06, 2021	Norsonic SA	May 06, 2024
PC Program 1018 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
40AG-GRAS	Microphone	444734	May 06, 2021	Scantek, Inc. / NVLAP	May 06, 2023
NN1203-Norsonic	Preamplifier	138531	May 06, 2021	Norsonic SA	May 06, 2024

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK)

Calibrated by:	Steven Boertmann	Authorized signatory:	Eric Ford
Signature	Steven Boertmann	Signature	Eric Ford
Date	11-5-21	Date	11-5-21

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory. This Calibration Certificate or Test Reports shall not be used to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the federal government.

Results summary: Device was tested and complies with following clauses of mentioned specifications:

CLAUSES ¹ FROM STANDARDS REFERENCED IN PROCEDURES:	MET ²	NOT MET	COMMENTS
Manufacturer specifications			
Manufacturer specifications: Sound pressure level	X		
Manufacturer specifications: Frequency	X		
Manufacturer specifications: Total harmonic distortion	X		
Current standards			
ANSI S1.40:2006 B.3 / IEC 60942: 2003 B.2 - Preliminary inspection	X		Unit older than the standard
ANSI S1.40:2006 B.4.4 / IEC 60942: 2003 B.3.4 - Sound pressure level	X		Unit older than the standard
ANSI S1.40:2006 A.5.4 / IEC 60942: 2003 A.4.4 - Sound pressure level stability	-	-	Unit older than the standard
ANSI S1.40:2006 B.4.5 / IEC 60942: 2003 B.3.5 - Frequency	X		Unit older than the standard
ANSI S1.40:2006 B.4.6 / IEC 60942: 2003 B.3.6 - Total harmonic distortion	X		Unit older than the standard
Older standards (obsolete)			
IEC 60942: 1997 B.2 - Preliminary inspection	X		
IEC 60942: 1997 B.3.3 - Sound pressure level	X		
IEC 60942: 1997 B.3.4 - Sound pressure level stability	X		
IEC 60942: 1997 B.3.5 - Frequency	X		
IEC 60942: 1997 B.3.6 - Total harmonic distortion	X		
ANSI S1.40: 1984 (R1997) 4.4.2 Sound pressure level in the coupler	X		Not applicable
ANSI S1.40: 1984 (R1997) 4.4 Frequency sound in the coupler	X		Not applicable
ANSI S1.40: 1984 (R1997) 4.10 Total harmonic distortion	X		Not applicable

¹ The results of this calibration apply only to the instrument type with serial number identified in this report.

²

Main measured parameters ³:

Measured ⁴ /Acceptable ⁵ Tone frequency (Hz):	Measured ⁴ /Acceptable ⁵ Total Harmonic Distortion (%):	Measured ⁴ /Acceptable Level ⁵ (dB):
997.02 ± 1.0/1000.0 ± 10.0	0.57 ± 0.10/ < 3	114.10 ± 0.02/114.0 ± 0.4

³ The stated level is valid at reference conditions.

⁴ The above expanded uncertainties for frequency and distortion are calculated with a coverage factor k=2; for level k=4.53

⁵ Acceptable parameters values are from the current standards

Barometer indication	Nominal indication

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
21.0 ± 1.0	100.00 ± 0.001	34.0 ± 2.0

Tests made with following attachments to instrument:

Calibrator ½" Adaptor Type:
Other:

Adjustments: Unit was not adjusted.

Comments: C:\Nor1504\Cal\2014\Questc10-old_QIK020110_M6.doc

Note: The instrument was tested for the parameters listed in the table above, using the test methods described in the listed standards. All tests were performed around the reference conditions. The test results were compared with the manufacturer's or with the standard's specifications, whichever are larger. Compliance with any standard cannot be claimed based solely on the periodic tests.

Place of Calibration: Premier Safety

46410 Continental Dr.
Chesterfield, MI 48047

Ph/Fax: 586-840-3220/ -3221
www.premier safety.com

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory.

This Calibration Certificate or Test Reports shall not be used to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the federal government.

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Calibration Certificate No. 0008311

Instrument: **Sound Level Meter**
 Model: **SoundPro SE_DL1**
 Manufacturer: **Quest**
 Serial number: **BLN060003**
 Tested with: **Microphone 4936 s/n 2819225**
Preamplifier n/a s/n 0309 3177
 Type (class): **1**
 Customer: **PREMIER SAFETY**
 Tel/Fax: **586-840-3200 /**

Date Calibrated: **1/13/2022** Cal Due: **1/13/2023**
 Status:

Received	Sent
X	X

 In tolerance:

X	X
----------	----------

 Out of tolerance:

--	--

 See comments:

--

 Contains non-accredited tests: **Yes X No**
 Calibration service: **Basic X Standard**
 Address: **33596 STERLING PONDS BLVD**
STERLING HEIGHTS, MI 48312

Tested in accordance with the following procedures and standards:
 Calibration of Sound Level Meters, Scantek Inc., Rev. 6/22/2012
 SLM & Dosimeters – Acoustical Tests, Scantek Inc., Rev. 7/6/2011

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence	Cal. Due
				Cal. Lab / Accreditation	
483B-Norsonic	SME Cal Unit	31079	May 11, 2021	Norsonic SA	May 11, 2023
DS-360-SRS	Function Generator	123268	May 07, 2021	SRS	May 07, 2023
34401A-Agilent Technologies	Digital Voltmeter	MY53003818	May 06, 2021	Agilent Provider #93107	May 06, 2024
SD700-Extech	Meteo Station	Q769118	May 11, 2021	INNOCAL	May 11, 2023
PC Program 1019 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
1251-Norsonic	Calibrator	34103	May 06, 2021	Scantek, Inc./ NVLAP	May 06, 2023

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK).

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
21.0	100.00	34.0

Calibrated by:	Steven Boertmann	Authorized signatory:	Eric Ford
Signature	Steven Boertmann	Signature	Eric Ford
Date	1-13-22	Date	1-13-22

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory.

Results summary: Device complies with following clauses of mentioned specifications:

CLAUSES ¹ FROM IEC/ANSI STANDARDS REFERENCED IN PROCEDURES:	RESULT ^{2,3}	EXPANDED UNCERTAINTY (coverage factor 2) [dB]
INDICATION AT THE CALIBRATION CHECK FREQUENCY - ANSI S1.4 CLAUSE 3.2	Passed	0.20.15
FREQUENCY WEIGHTINGS: A NETWORK - IEC 61672-3 ED.1 CLAUSE 12	Passed	0.2
FREQUENCY WEIGHTINGS: C NETWORK - IEC 61672-3 ED.1 CLAUSE 12	Passed	0.2
FREQUENCY WEIGHTINGS: Z NETWORK - IEC 61672-3 ED.1 CLAUSE 12	Passed	0.2
FREQUENCY AND TIME WEIGHTINGS AT 1 KHZ IEC 61672-3 ED.1 CLAUSE 13	Passed	0.2
LEVEL LINEARITY ON THE REFERENCE LEVEL RANGE - IEC 61672-3 ED.1 CLAUSE 14	Passed	0.3
LEVEL LINEARITY INCLUDING THE LEVEL RANGE CONTROL - IEC 61672-3 ED.1 CLAUSE 15	Passed	0.3
TONEBURST RESPONSE - IEC 61672-3 ED.1 CLAUSE 16	Passed	0.3
PEAK C SOUND LEVEL - IEC 61672-3 ED.1 CLAUSE 17	Passed	0.35
FILTER TEST 1/1OCTAVE: FLAT FREQUENCY RESPONSE - IEC 61260, CLAUSE 4.10 & #5.9	Passed	0.25
FILTER TEST 1/3OCTAVE: FLAT FREQUENCY RESPONSE - IEC 61260, CLAUSE 4.10 & #5.9	Passed	0.25

¹ The results of this calibration apply only to the instrument type with serial number identified in this report.

² Parameters are certified at actual environmental conditions.

³

Comments: The instrument was tested and met all specifications found in the referenced procedures.

Note: The instrument was tested for the parameters listed in the table above, using the test methods described in the listed standards. All tests were performed around the reference conditions. The test results were compared with the manufacturer's or with the standard's specifications, whichever are larger.

Compliance with any standard cannot be claimed based solely on the periodic tests.

Tests made with the following attachments to the instrument:

Microphone: Brüel & Kjær 4936 s/n 2819225 for acoustical test
Preamplifier: Quest n/a s/n 0309 3177 for all tests
Other: line adaptor ADP005 (18pF) for electrical tests and 1448 (18pF) for noise test
Accompanying acoustical calibrator: 3M AC-300 s/n AC300003194
Windscreen: none

Measured Data: in Test Report # of ... pages.

Place of Calibration: Premier Safety

46410 Continental Dr.
Chesterfield, MI 48047

Ph/Fax: 586-840-3220/ -3221
www.premier-safety.com

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory.

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SoundPro SE_DL1 s/n: BLN060003 ID:

Date: 1/13/2022 By: SB

Due: 1/13/2023



Calibration Certificate No. 1091843

Instrument: **Sound Level Meter**
 Model: **SoundPro SE_DL1**
 Manufacturer: **Quest**
 Serial number: **BLH080002**
 Tested with: **Microphone 4936 s/n 2827583**
Preamplifier n/a s/n 1018 3336
 Type (class): **1**
 Customer: **PREMIER SAFETY**
 Tel/Fax: **586-840-3200 /**

Date Calibrated: **4/16/2021** Cal Due: **4/16/2022**
 Status:

Received	Sent
X	X

 In tolerance:

X	X
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 Out of tolerance:

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 See comments:

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 Contains non-accredited tests: Yes **X** No
 Calibration service: Basic **X** Standard
 Address: **33596 STERLING PONDS BLVD**
STERLING HEIGHTS, MI 48312

Tested in accordance with the following procedures and standards:
 Calibration of Sound Level Meters, Scantek Inc., Rev. 6/22/2012
 SLM & Dosimeters – Acoustical Tests, Scantek Inc., Rev. 7/6/2011

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence	Cal. Due
				Cal. Lab / Accreditation	
483B-Norsonic	SME Cal Unit	31079	May 09, 2019	Norsonic SA	May 09, 2021
DS-360-SRS	Function Generator	123268	Apr 29, 2020	SRS	Apr 29, 2021
34401A-Agilent Technologies	Digital Voltmeter	MY53003818	May 15, 2018	Agilent Provider #93107	May 15, 2021
SD700-Extech	Meteo Station	Q769118	May 06, 2019	INNOCAL	May 06, 2021
PC Program 1019 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
1251-Norsonic	Calibrator	34103	May 16, 2020	Scantek, Inc./ NVLAP	May 16, 2021

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK).

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
21.0	100.00	26.0

Calibrated by:	Steven Boertmann	Authorized signatory:	Eric Ford
Signature	Steven Boertmann	Signature	Eric Ford
Date	4-16-21	Date	4-16-21

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory.

Results summary: Device complies with following clauses of mentioned specifications:

CLAUSES ¹ FROM IEC/ANSI STANDARDS REFERENCED IN PROCEDURES:	RESULT ^{2,3}	EXPANDED UNCERTAINTY (coverage factor 2) [dB]
INDICATION AT THE CALIBRATION CHECK FREQUENCY - ANSI S1.4 CLAUSE 3.2	Passed	0.20.15
FREQUENCY WEIGHTINGS: A NETWORK - IEC 61672-3 ED.1 CLAUSE 12	Passed	0.2
FREQUENCY WEIGHTINGS: C NETWORK - IEC 61672-3 ED.1 CLAUSE 12	Passed	0.2
FREQUENCY WEIGHTINGS: Z NETWORK - IEC 61672-3 ED.1 CLAUSE 12	Passed	0.2
FREQUENCY AND TIME WEIGHTINGS AT 1 KHZ IEC 61672-3 ED.1 CLAUSE 13	Passed	0.2
LEVEL LINEARITY ON THE REFERENCE LEVEL RANGE - IEC 61672-3 ED.1 CLAUSE 14	Passed	0.3
LEVEL LINEARITY INCLUDING THE LEVEL RANGE CONTROL - IEC 61672-3 ED.1 CLAUSE 15	Passed	0.3
TONEBURST RESPONSE - IEC 61672-3 ED.1 CLAUSE 16	Passed	0.3
PEAK C SOUND LEVEL - IEC 61672-3 ED.1 CLAUSE 17	Passed	0.35
FILTER TEST 1/1OCTAVE: FLAT FREQUENCY RESPONSE - IEC 61260, CLAUSE 4.10 & #5.9	Passed	0.25
FILTER TEST 1/3OCTAVE: FLAT FREQUENCY RESPONSE - IEC 61260, CLAUSE 4.10 & #5.9	Passed	0.25

¹ The results of this calibration apply only to the instrument type with serial number identified in this report.

² Parameters are certified at actual environmental conditions.

³

Comments: The instrument was tested and met all specifications found in the referenced procedures.

Note: The instrument was tested for the parameters listed in the table above, using the test methods described in the listed standards. All tests were performed around the reference conditions. The test results were compared with the manufacturer's or with the standard's specifications, whichever are larger.

Compliance with any standard cannot be claimed based solely on the periodic tests.

Tests made with the following attachments to the instrument:

Microphone: Brüel & Kjær 4936 s/n 2827583 for acoustical test
Preamplifier: Quest n/a s/n 1018 3336 for all tests
Other: line adaptor ADP005 (18pF) for electrical tests and 1448 (18pF) for noise test
Accompanying acoustical calibrator: Quest QC-10 s/n QJ090154
Windscreens: none

Measured Data: in Test Report # of ... pages.

Place of Calibration: Premier Safety

46410 Continental Dr.
Chesterfield, MI 48047

Ph/Fax: 586-840-3220/ -3221
www.premier-safety.com

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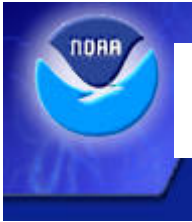
SoundPro SE_DL1 s/n: BLH080002 ID:

Date: 4/16/2021 By: SB

Due: 4/16/2022

APPENDIX C

Hourly Meteorological Data



Weather observations for the past three days



Albany International Airport

Enter Your "City, ST" or zip code

metric

Date	Time (est)	Wind (mph)	Vis. (mi.)	Weather	Sky Cond.	Temperature (°F)				Relative Humidity	Wind Chill (°F)	Heat Index (°F)	Pressure		Precipitation (in.)		
						Air	Dwpt	6 hour					altimeter (in)	sea level (mb)	1 hr	3 hr	6 hr
								Max.	Min.								
20	16:51	W 13	10.00	Partly Cloudy	FEW042 SCT250	19	4			52%	6	NA	30.30	1026.4			
20	15:51	W 20 G 30	10.00	Partly Cloudy	FEW042 SCT250	21	6			52%	6	NA	30.27	1025.4			
20	14:51	W 17 G 26	10.00	Partly Cloudy	FEW042 SCT250	23	7			50%	9	NA	30.24	1024.4			
20	13:51	W 16	10.00	Partly Cloudy	FEW040 SCT250	24	8			50%	11	NA	30.23	1023.9			
20	12:51	NW 17	10.00	A Few Clouds	FEW040 FEW120 FEW250	24	9	30	24	52%	11	NA	30.22	1023.8			
20	11:51	W 14 G 28	10.00	A Few Clouds	FEW036 FEW110 FEW250	25	11			55%	13	NA	30.21	1023.4			
20	10:51	W 21 G 32	10.00	A Few Clouds and Breezy	FEW034 FEW110 FEW220	26	13			57%	12	NA	30.20	1022.9			
20	09:51	W 16 G 26	10.00	Partly Cloudy	FEW034 FEW100 SCT220	25	12			58%	12	NA	30.20	1022.8			
20	08:51	W 15	10.00	Light Snow	BKN036 BKN100	27	16			63%	15	NA	30.17	1022.0			
20	07:51	NW 14	10.00	Overcast	BKN038 OVC100	29	16			58%	18	NA	30.14	1020.8			
20	06:51	W 17	10.00	Overcast	OVC038	30	18	38	30	61%	18	NA	30.10	1019.7			
20	05:51	NW 16 G 25	10.00	Overcast	OVC037	31	18			59%	20	NA	30.06	1018.3			
20	04:51	W 17 G 23	10.00	Overcast	BKN034 OVC042	33	22			64%	22	NA	30.04	1017.3			
20	03:51	NW 15 G 22	10.00	Overcast	FEW028 BKN036 OVC044	35	24			64%	25	NA	30.01	1016.5			
20	02:51	W 15	10.00	Overcast	OVC036	36	27			70%	27	NA	29.99	1015.8			
20	01:51	NW 13	10.00	Overcast	OVC040	38	28			68%	30	NA	29.95	1014.5			
20	00:51	Calm	10.00	Overcast	OVC043	36	27	38	33	70%	NA	NA	29.93	1013.8			
19	23:51	N 6	10.00	Overcast	OVC060	37	26			65%	32	NA	29.93	1013.7			
19	22:51	S 7	10.00	Mostly Cloudy	BKN050 BKN060	37	26			65%	32	NA	29.91	1013.0			
19	21:51	S 5	10.00	Mostly Cloudy	BKN060	36	25			64%	32	NA	29.90	1012.7			
19	20:51	S 5	10.00	Mostly Cloudy	SCT055 SCT180	36	25			64%	32	NA	29.90	1012.7			

														BKN210	
19	19:51	SE 8	10.00	Mostly Cloudy	SCT050 SCT150 BKN260	37	25			62%	31	NA	29.89	1012.6	
19	18:51	S 5	10.00	Partly Cloudy	SCT049 SCT180 SCT260	37	24	39	35	59%	33	NA	29.89	1012.4	
19	17:51	S 6	10.00	Overcast	OVC050	38	25			60%	33	NA	29.88	1012.1	
19	16:51	SE 7	10.00	Mostly Cloudy	SCT050 BKN180 BKN260	39	24			55%	34	NA	29.86	1011.4	
19	15:51	SE 9	10.00	Mostly Cloudy	FEW050 BKN180 BKN260	39	24			55%	33	NA	29.86	1011.4	
19	14:51	S 12	10.00	Mostly Cloudy	SCT055 SCT095 BKN180	38	23			55%	30	NA	29.86	1011.4	
19	13:51	S 15 G 23	10.00	Mostly Cloudy	FEW049 FEW070 SCT095 BKN130 BKN190	36	23			59%	27	NA	29.85	1011.1	
19	12:51	S 18 G 28	10.00	Mostly Cloudy	FEW070 BKN085 BKN100	36	22	36	22	57%	26	NA	29.86	1011.4	
19	11:51	S 20 G 26	10.00	Overcast	BKN085 OVC100	34	21			59%	23	NA	29.88	1012.1	
19	10:51	S 20 G 33	10.00	Mostly Cloudy	SCT090 BKN110	32	20			61%	20	NA	29.90	1012.9	
19	09:51	S 24 G 33	10.00	Overcast and Breezy	SCT090 BKN110 OVC130	31	19			61%	18	NA	29.94	1014.4	
19	08:51	S 16 G 28	10.00	Mostly Cloudy	SCT090 BKN110 BKN130	28	17			63%	16	NA	29.94	1014.4	
19	07:51	S 17 G 30	10.00	Overcast	SCT070 BKN085 OVC110	26	15			63%	13	NA	29.97	1015.2	
19	06:51	S 10	10.00	Overcast	FEW075 FEW095 BKN120 OVC130	22	13	22	7	68%	11	NA	30.00	1016.4	
19	05:51	SE 7	10.00	Overcast	FEW085 BKN110 OVC130	19	10			68%	10	NA	30.04	1017.8	
19	04:51	S 5	10.00	Overcast	OVC085	17	10			74%	9	NA	30.06	1018.4	
19	03:51	SE 6	10.00	Overcast	OVC090	16	8			71%	7	NA	30.07	1018.9	
19	02:51	SE 5	10.00	Overcast	BKN110 BKN130 OVC150	15	8			74%	7	NA	30.12	1020.5	
19	01:51	S 3	10.00	Mostly Cloudy	SCT110 BKN150 BKN190	9	5			84%	NA	NA	30.13	1020.8	
19	00:51	Calm	10.00	Partly Cloudy	FEW100 SCT150	7	3	19	5	84%	NA	NA	30.13	1020.9	
18	23:51	Calm	10.00	A Few Clouds	FEW100	8	3			80%	NA	NA	30.15	1021.3	
18	22:51	Calm	10.00	A Few Clouds	FEW028	9	4			80%	NA	NA	30.14	1021.1	

18	21:51	Calm	10.00	A Few Clouds	FEW028	15	6		67%	NA	NA	30.13	1020.9	
18	20:51	Calm	10.00	Fair	CLR	15	6		67%	NA	NA	30.13	1020.9	
18	19:51	NW 6	10.00	Fair	CLR	17	6		62%	8	NA	30.12	1020.4	
18	18:51	NW 12	10.00	Fair	CLR	19	7	25	19	59%	6	NA	30.10	1019.7
18	17:51	W 9	10.00	Fair	CLR	19	7		59%	8	NA	30.08	1019.2	
18	16:51	W 13	10.00	Partly Cloudy	FEW031 SCT037	21	7		54%	8	NA	30.03	1017.2	
18	15:51	NW 17 G 26	10.00	Partly Cloudy	FEW031 SCT037 SCT046	23	7		50%	9	NA	30.00	1016.3	
18	14:51	W 18 G 30	10.00	Partly Cloudy	SCT037	23	9		55%	9	NA	29.95	1014.4	
18	13:51	W 14 G 22	10.00	Light Snow	BKN040	24	12		60%	12	NA	29.91	1013.4	
18	12:51	W 21 G 36	10.00	Mostly Cloudy and Breezy	BKN042	23	9	24	19	55%	8	NA	29.89	1012.5
18	11:51	W 23 G 31	10.00	Partly Cloudy and Breezy	SCT038	23	9		55%	7	NA	29.87	1011.9	
18	10:51	NW 17 G 21	10.00	Mostly Cloudy	FEW028 BKN038 BKN045	23	11		60%	9	NA	29.86	1011.7	
18	09:51	NW 16	10.00	Mostly Cloudy	FEW028 FEW035 BKN047	22	12		66%	8	NA	29.83	1010.5	
18	08:51	NW 7	10.00	Light Snow	SCT037 BKN045	21	13		71%	12	NA	29.79	1009.2	
18	07:51	W 12	10.00	Light Snow	FEW026 FEW050 FEW085 FEW250	20	10		65%	8	NA	29.74	1007.6	
18	06:51	W 14 G 22	10.00	Mostly Cloudy	FEW030 BKN050 BKN085 BKN230	20	9	25	20	62%	7	NA	29.70	1006.2
18	05:51	W 13 G 22	10.00	Partly Cloudy	FEW030 SCT230	20	10		65%	7	NA	29.67	1004.9	
18	04:51	W 21 G 28	10.00	Mostly Cloudy and Breezy	FEW030 BKN230	21	11		65%	5	NA	29.62	1003.2	
18	03:51	W 21 G 35	10.00	Light Snow and Breezy	OVC033	24	13		62%	9	NA	29.57	1001.5	
18	02:51	W 18 G 32	10.00	Light Snow	OVC030	25	16		69%	11	NA	29.51	999.6	
18	01:51	W 21 G 39	10.00	Overcast and Breezy	BKN080 BKN110 OVC130	25	14		63%	10	NA	29.47	998.2	
18	00:51	W 23 G 35	10.00	Overcast and Breezy	FEW030 OVC110	25	13	33	25	60%	10	NA	29.41	996.1

17	23:51	W 29 G 44	10.00	Overcast and Windy	BKN029 BKN038 OVC090	27	17		66%	11	NA	29.36	994.4	
17	22:51	W 15 G 37	10.00	Light Snow	OVC027	28	20		72%	16	NA	29.32	993.0	
17	21:51	W 23 G 43	10.00	Overcast and Breezy	BKN032 OVC041	29	19		66%	15	NA	29.29	992.0	
17	20:51	W 12 G 40	10.00	Light Snow	FEW028 SCT075 BKN100	29	20		69%	19	NA	29.24	990.4	
17	19:51	W 22 G 32	10.00	Light Snow and Breezy	SCT029 BKN050 OVC085	30	21		69%	17	NA	29.21	989.3	
17	18:51	W 17 G 29	10.00	Overcast	FEW031 BKN060 OVC080	33	23	40 33	66%	22	NA	29.17	988.0	0.02
17	17:51	Vrbl 5	10.00	Light Snow	BKN018 BKN024 OVC030	35	32		89%	31	NA	29.10	985.8	0.02

Date	Time (est)	Wind (mph)	Vis. (mi.)	Weather	Sky Cond.	Air	Dwpt	Max.	Min.	Relative Humidity	Wind Chill (°F)	Heat Index (°F)	altimeter	sea level	1 hr	3 hr	6 hr
						Temperature (°F)							(in.)	(mb)	Precipitation (in.)		

Figure 1. Proposed Noise Monitoring Locations (Approximate)



Across from Existing Port Wharf

American Oil Road

Papscaanee Island Nature Preserve

Google Earth

2 mi





Session Report

1/21/2022

General Information

Name S137_BLH080002_21012022_095446
Comments MS-1 (First Attempt). Study stop time resulted from loss of external battery power.
Start Time 1/18/2022 10:22:36 AM
Stop Time 1/20/2022 12:20:21 AM
Run Time 1.13:57:45
Model Type SoundPro DL
Serial Number BLH080002
Device Firmware Rev R.13H
Company Name Proactive Environmental Solutions, LLC
Description Across from Existing Port Wharf
Location MS-1
User Name Chris Geraghty

Summary Data

<u>Description</u>	<u>Meter</u>	<u>Value</u>	<u>Description</u>	<u>Meter</u>	<u>Value</u>
Dose	1	1.2 %	Pdose (1.00:00)	1	0.8 %
Lavg	1	--	Lpk	1	118.5 dB
Leq	1	59.1 dB	TWA	1	65.9 dB
UL Time	1	00:00:00	SEL	1	110.5 dB
ProjectedTWA (1.00:00)	1	63.9 dB	Mntime	1	1/18/2022 10:20:40 PM
Mxtime	1	1/19/2022 10:37:08 AM	PKtime	1	1/19/2022 10:37:08 AM
Weighting	1	--	Range Ceiling	1	--
Criterion Level	1	--	ULL	1	--
Dynamic Range	1	--	Exchange Rate	1	--
Response	1	--	Int Threshold	1	--
Alarm Level 1	1	--	AlarmLevel2	1	--
Dosimeter Name	1	--			
Dose	2	11 %	Pdose (1.00:00)	2	2.3 %
Lavg	2	--	Lpk	2	116.6 dB
Leq	2	68.6 dB	TWA	2	75.4 dB
UL Time	2	00:00:00	SEL	2	120 dB

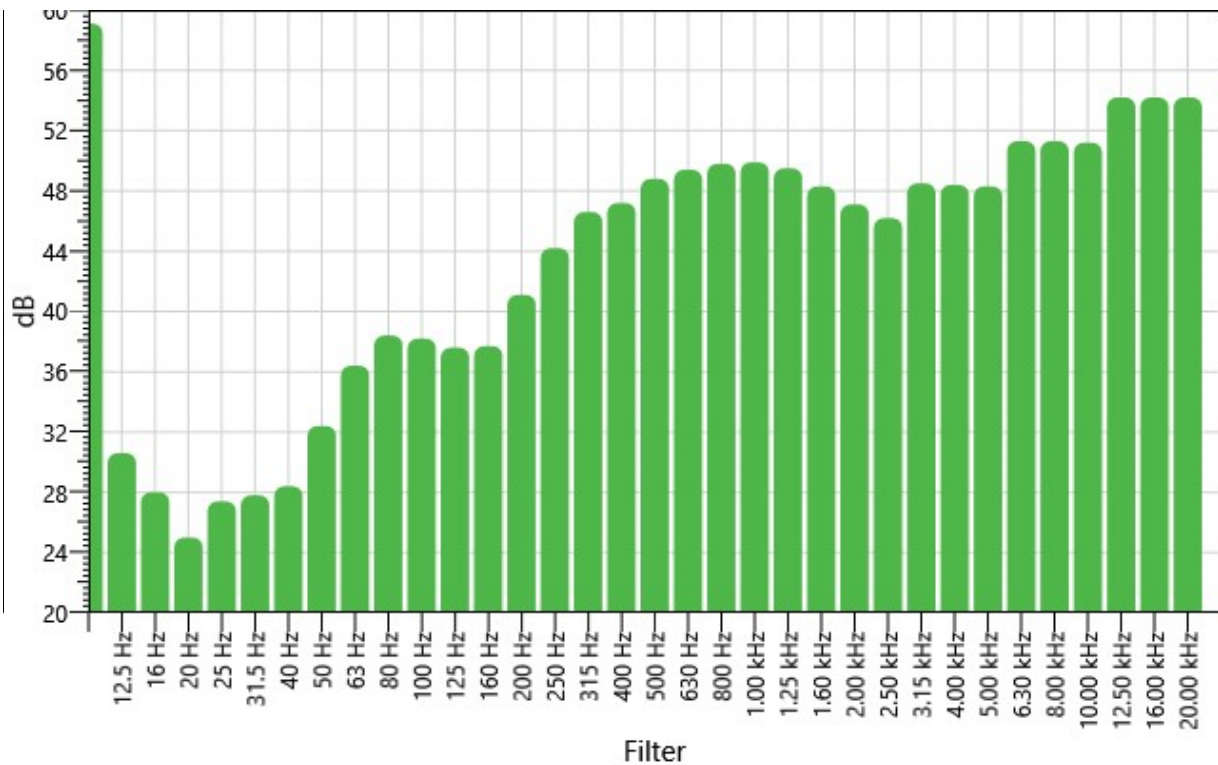
ProjectedTWA (1.00:00)	2	68.6 dB	Mntime	2	1/18/2022 10:35:07 AM
Mxtime	2	1/19/2022 9:35:56 AM	PKtime	2	1/19/2022 5:56:30 PM
Weighting	2	C	Range Ceiling	2	--
Criterion Level	2	85 dB	ULL	2	115 dB
Dynamic Range	2	--	Exchange Rate	2	3 dB
Response	2	SLOW	Integrating Threshold	2	80 dB
Alarm Level 1	2	--	AlarmLevel2	2	--
Dosimeter Name	2	--			

Calibration History

Date	Calibration Action	Level	Cal. Model Type	Serial Number	Cert. Due Date
1/18/2022 10:18:10 AM	Calibration	114.0			

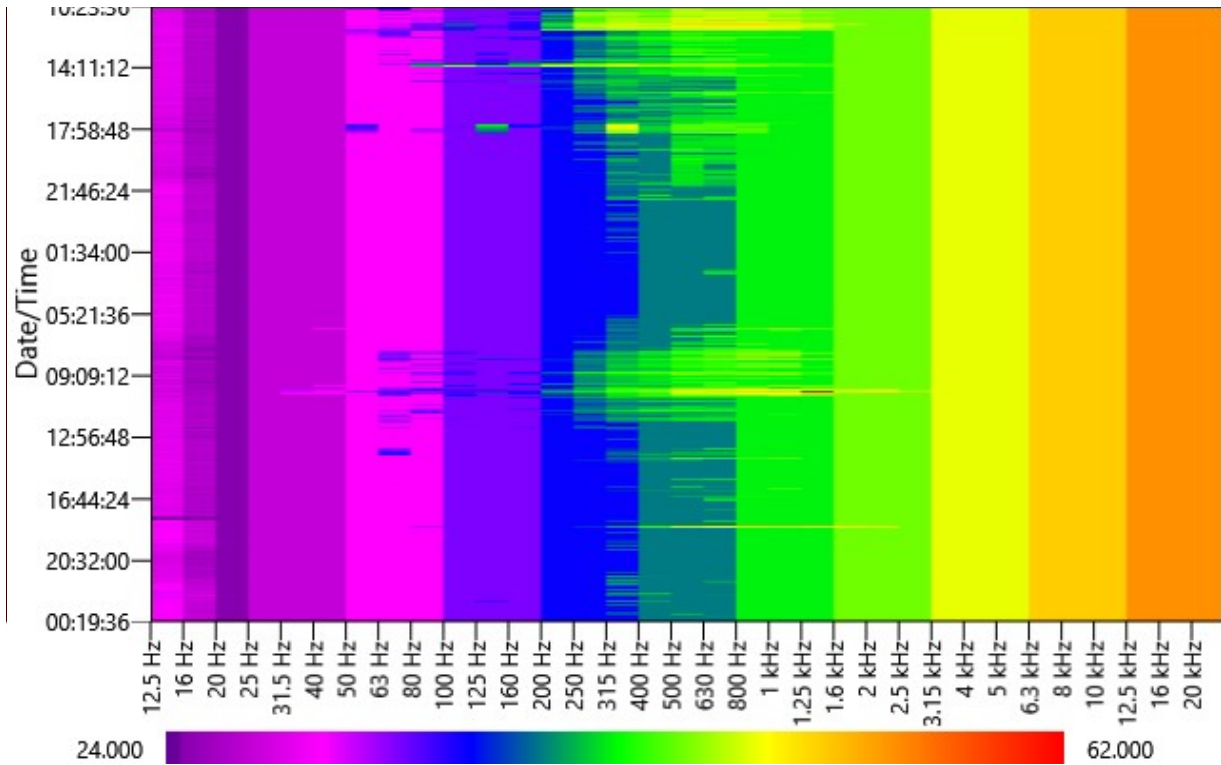
Filter Summary Chart

S137_BLH080002_21012022_095446: Filter Summary Chart - Leq



Spectral Chart

S137_BLH080002_21012022_095446: - Lmin



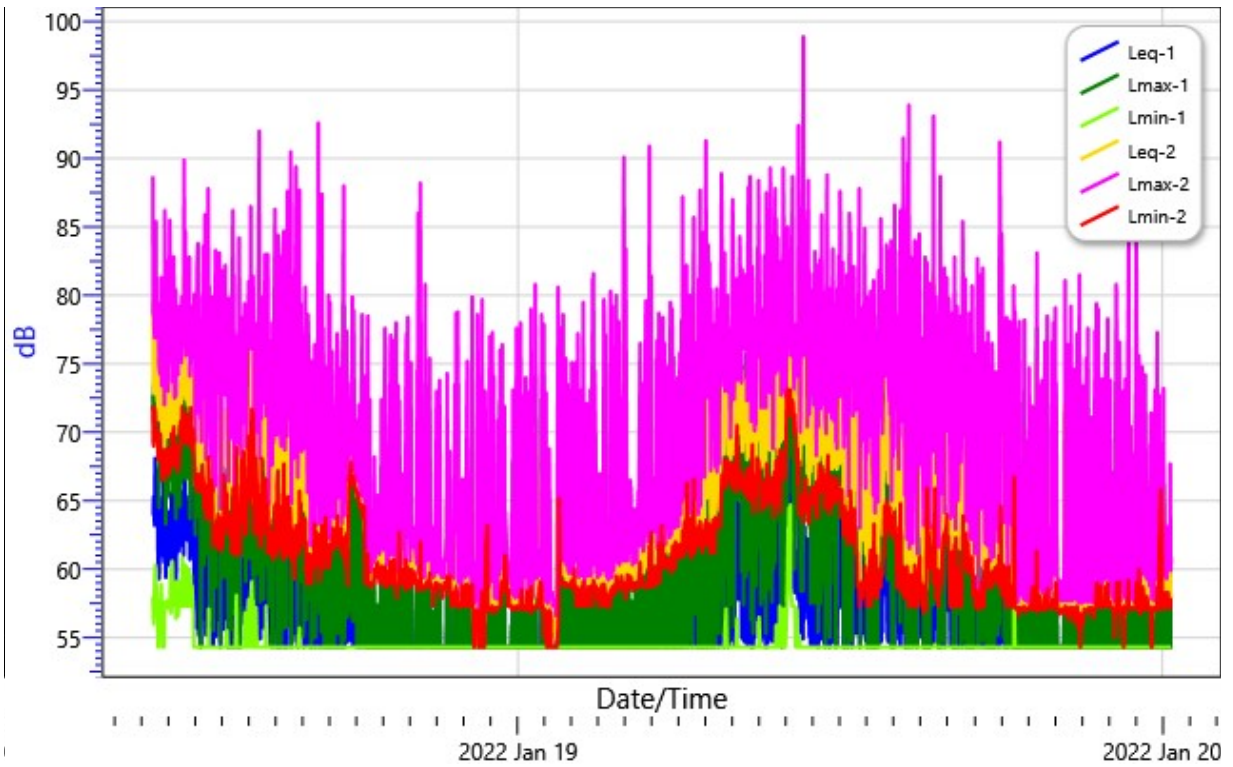
Filter Summary - Dose

Filter	Dose
	1.2 %
12.5 Hz	0 %
16 Hz	0 %
20 Hz	0 %
25 Hz	0 %
31.5 Hz	0 %
40 Hz	0 %
50 Hz	0 %
63 Hz	0 %
80 Hz	0 %
100 Hz	0 %
125 Hz	0 %
160 Hz	0 %
200 Hz	0 %
250 Hz	0 %

315 Hz	0.1 %
400 Hz	0.1 %
500 Hz	0.1 %
630 Hz	0.1 %
800 Hz	0.1 %
1.00 kHz	0.1 %
1.25 kHz	0.1 %
1.60 kHz	0.1 %
2.00 kHz	0.1 %
2.50 kHz	0.1 %
3.15 kHz	0.1 %
4.00 kHz	0.1 %
5.00 kHz	0.1 %
6.30 kHz	0.2 %
8.00 kHz	0.2 %
10.00 kHz	0.2 %
12.50 kHz	0.4 %
16.00 kHz	0.4 %
20.00 kHz	0.4 %

Logged Data Chart

S137_BLH080002_21012022_095446: Logged Data Chart - Read Only



Summary Data Panel

Description	Meter/ Sensor	Value
Leq	1	59.1 dB
Exchange Rate	1	3 dB
Weighting	1	A
Response	1	SLOW
Bandwidth	1	1/3
Exchange Rate	2	3 dB
Weighting	2	C
Response	2	SLOW
L90	1	54.2 dB
LDN	1	63.3 dB
L10	1	61.7 dB
L1	1	69.9 dB
L50	1	54.2 dB
Lmax	1	83 dB
Lmin	1	54.3 dB
Lpk	1	118.5 dB

Session Report

1/21/2022

General Information

Name S138_BLH080002_21012022_095453

Comments MS-1 (second attempt) after losing external battery supply. Restarted study on meter internal (AA batteries) while swapping external batteries. Fresh replacement battery not providing power. Couldn't swap out in time before internal batteries completely died.

Start Time 1/20/2022 9:09:22 AM

Stop Time 1/20/2022 9:15:54 AM

Run Time 00:06:32

Model Type SoundPro DL

Serial Number BLH080002

Device Firmware Rev R.13H

Company Name Proactive Environmental Solutions, LLC

Description Across from Existing Port Wharf

Location MS-1

User Name Chris Geraghty

Summary Data

Description	Meter	Value	Description	Meter	Value
Dose	1	0 %	Pdose (1.00:00)	1	2.5 %
Lavg	1	--	Lpk	1	118.2 dB
Leq	1	64.2 dB	TWA	1	45.5 dB
UL Time	1	00:00:00	SEL	1	90.1 dB
ProjectedTWA (1.00:00)	1	68.9 dB	Mntime	1	1/20/2022 9:12:02 AM
Mxtime	1	1/20/2022 9:14:35 AM	PKtime	1	1/20/2022 9:13:46 AM
Weighting	1	--	Range Ceiling	1	--
Criterion Level	1	--	ULL	1	--
Dynamic Range	1	--	Exchange Rate	1	--
Response	1	--	Int Threshold	1	--
Alarm Level 1	1	--	AlarmLevel2	1	--
Dosimeter Name	1	--			
Dose	2	0.2 %	Pdose (1.00:00)	2	15 %
Lavg	2	--	Lpk	2	114.6 dB
Leq	2	76.7 dB	TWA	2	58.1 dB

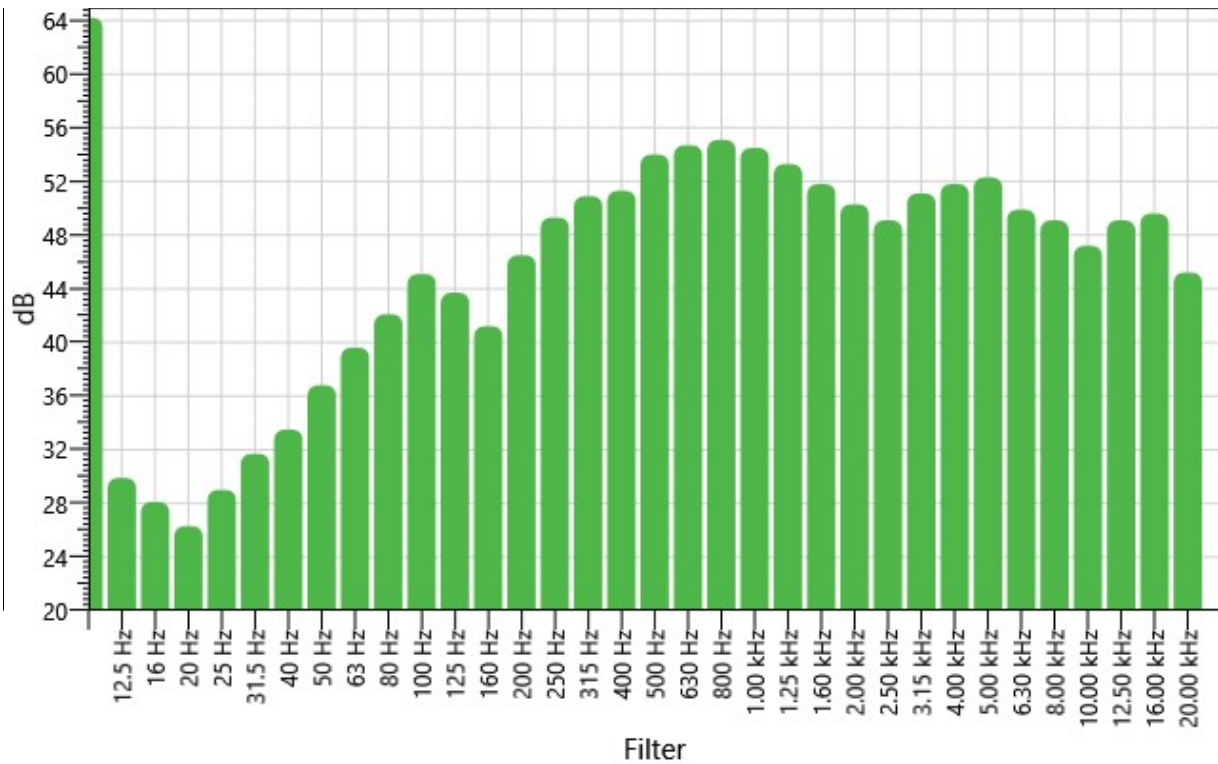
UL Time	2	00:00:00	SEL	2	102.6 dB
ProjectedTWA (1.00:00)	2	76.7 dB	Mntime	2	1/20/2022 9:15:40 AM
Mxtime	2	1/20/2022 9:13:46 AM	PKtime	2	1/20/2022 9:13:46 AM
Weighting	2	C	Range Ceiling	2	--
Criterion Level	2	85 dB	ULL	2	115 dB
Dynamic Range	2	--	Exchange Rate	2	3 dB
Response	2	SLOW	Integrating Threshold	2	80 dB
Alarm Level 1	2	--	AlarmLevel2	2	--
Dosimeter Name	2	--			

Calibration History

Date	Calibration Action	Level	Cal. Model Type	Serial Number	Cert. Due Date
1/18/2022 10:18:10 AM	Calibration	114.0			

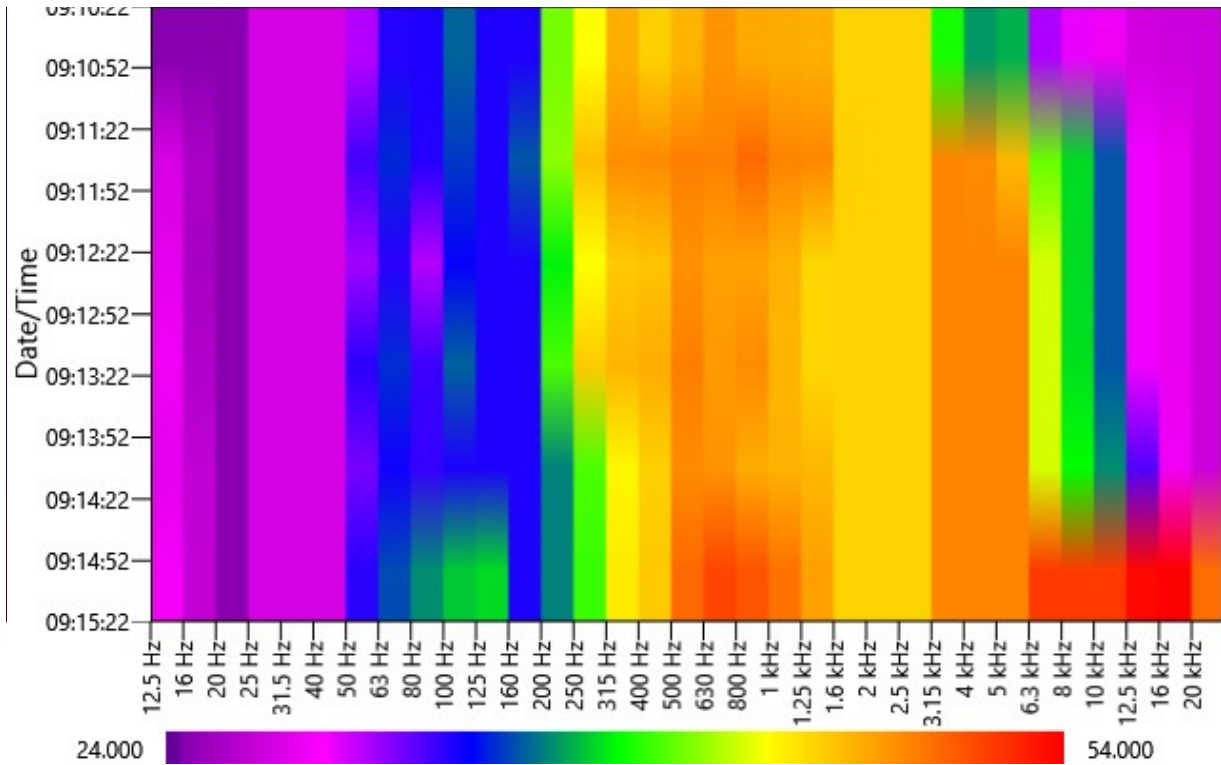
Filter Summary Chart

S138_BLH080002_21012022_095453: Filter Summary Chart - Leq



Spectral Chart

S138_BLH080002_21012022_095453: - Lmin



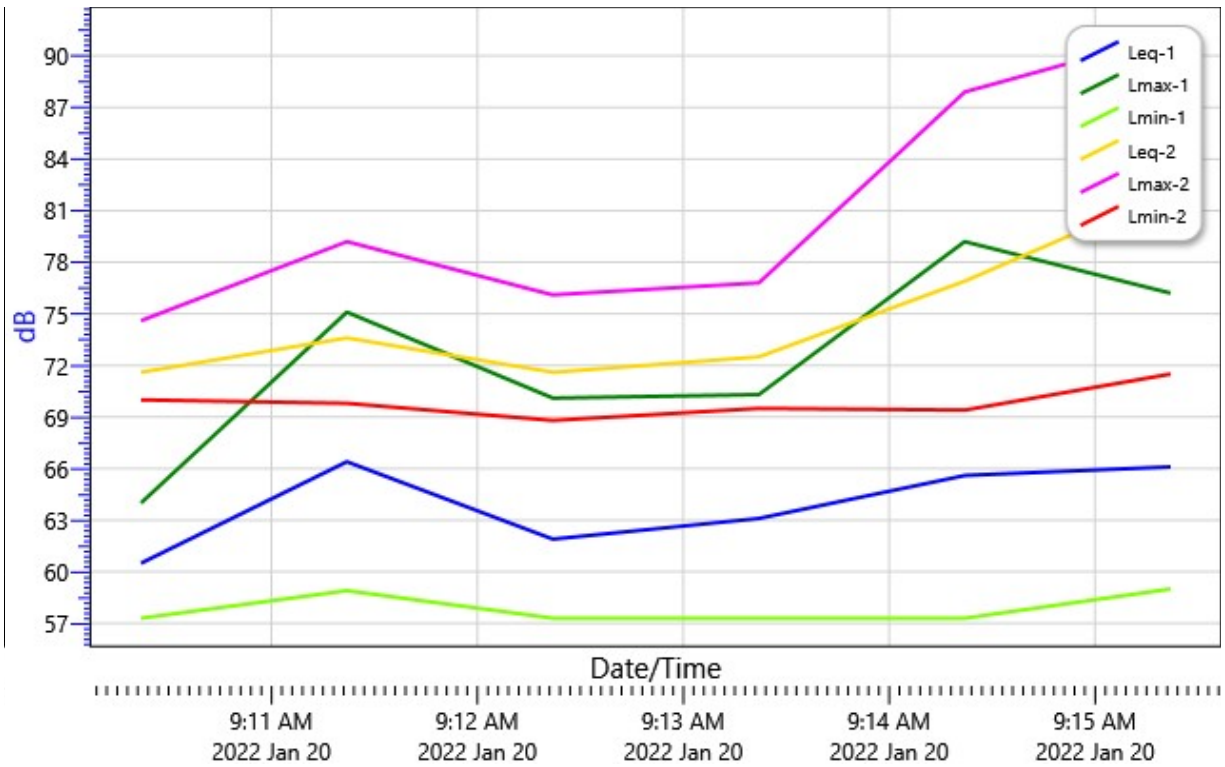
Filter Summary - Dose

Filter	Dose
	0 %
12.5 Hz	0 %
16 Hz	0 %
20 Hz	0 %
25 Hz	0 %
31.5 Hz	0 %
40 Hz	0 %
50 Hz	0 %
63 Hz	0 %
80 Hz	0 %
100 Hz	0 %
125 Hz	0 %
160 Hz	0 %
200 Hz	0 %
250 Hz	0 %

315 Hz	0 %
400 Hz	0 %
500 Hz	0 %
630 Hz	0 %
800 Hz	0 %
1.00 kHz	0 %
1.25 kHz	0 %
1.60 kHz	0 %
2.00 kHz	0 %
2.50 kHz	0 %
3.15 kHz	0 %
4.00 kHz	0 %
5.00 kHz	0 %
6.30 kHz	0 %
8.00 kHz	0 %
10.00 kHz	0 %
12.50 kHz	0 %
16.00 kHz	0 %
20.00 kHz	0 %

Logged Data Chart

S138_BLH080002_21012022_095453: Logged Data Chart - Read Only



Summary Data Panel

Description	Meter/ Sensor	Value
Leq	1	64.2 dB
Exchange Rate	1	3 dB
Weighting	1	A
Response	1	SLOW
Bandwidth	1	1/3
Exchange Rate	2	3 dB
Weighting	2	C
Response	2	SLOW
L1	1	74 dB
L10	1	67.6 dB
L50	1	60.8 dB
L90	1	58.3 dB
LDN	1	64.2 dB
Lmax	1	79.2 dB
Lmin	1	57.1 dB
Lpk	1	118.2 dB

Session Report

1/21/2022

General Information

Name S139_BLH080002_21012022_095454

Comments MS-1 (third attempt) after replacing external battery. Data concurrent with other monitoring sites (MS-2 and MS-3).

Start Time 1/20/2022 9:18:00 AM

Stop Time 1/20/2022 3:52:02 PM

Run Time 06:34:02

Model Type SoundPro DL

Serial Number BLH080002

Device Firmware Rev R.13H

Company Name Proactive Environmental Solutions, LLC

Description Across from Existing Port Wharf

Location MS-1

User Name Chris Geraghty

Summary Data

Description	Meter	Value	Description	Meter	Value
Dose	1	0.5 %	Pdose (1.00:00)	1	1.8 %
Lavg	1	--	Lpk	1	99.6 dB
Leq	1	62.8 dB	TWA	1	61.9 dB
UL Time	1	00:00:00	SEL	1	106.5 dB
ProjectedTWA (1.00:00)	1	67.5 dB	Mntime	1	1/20/2022 12:31:14 PM
Mxtime	1	1/20/2022 11:07:02 AM	PKtime	1	1/20/2022 11:07:05 AM
Weighting	1	--	Range Ceiling	1	--
Criterion Level	1	--	ULL	1	--
Dynamic Range	1	--	Exchange Rate	1	--
Response	1	--	Int Threshold	1	--
Alarm Level 1	1	--	AlarmLevel2	1	--
Dosimeter Name	1	--			
Dose	2	5.6 %	Pdose (1.00:00)	2	6.8 %
Lavg	2	--	Lpk	2	103.5 dB
Leq	2	73.3 dB	TWA	2	72.4 dB
UL Time	2	00:00:00	SEL	2	117 dB

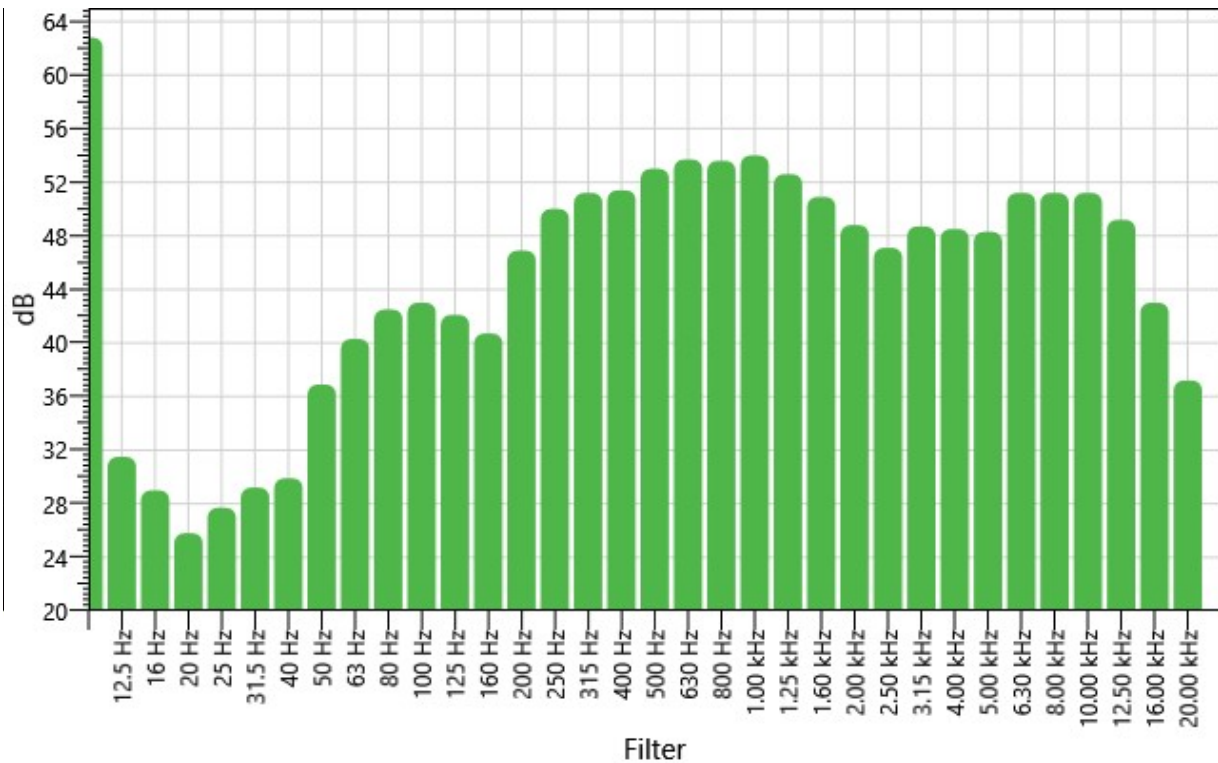
ProjectedTWA (1.00:00)	2	73.3 dB	Mntime	2	1/20/2022 10:47:25 AM
Mxtime	2	1/20/2022 11:09:33 AM	PKtime	2	1/20/2022 9:26:28 AM
Weighting	2	C	Range Ceiling	2	--
Criterion Level	2	85 dB	ULL	2	115 dB
Dynamic Range	2	--	Exchange Rate	2	3 dB
Response	2	SLOW	Integrating Threshold	2	80 dB
Alarm Level 1	2	--	AlarmLevel2	2	--
Dosimeter Name	2	--			

Calibration History

Date	Calibration Action	Level	Cal. Model Type	Serial Number	Cert. Due Date
1/18/2022 10:18:10 AM	Calibration	114.0			

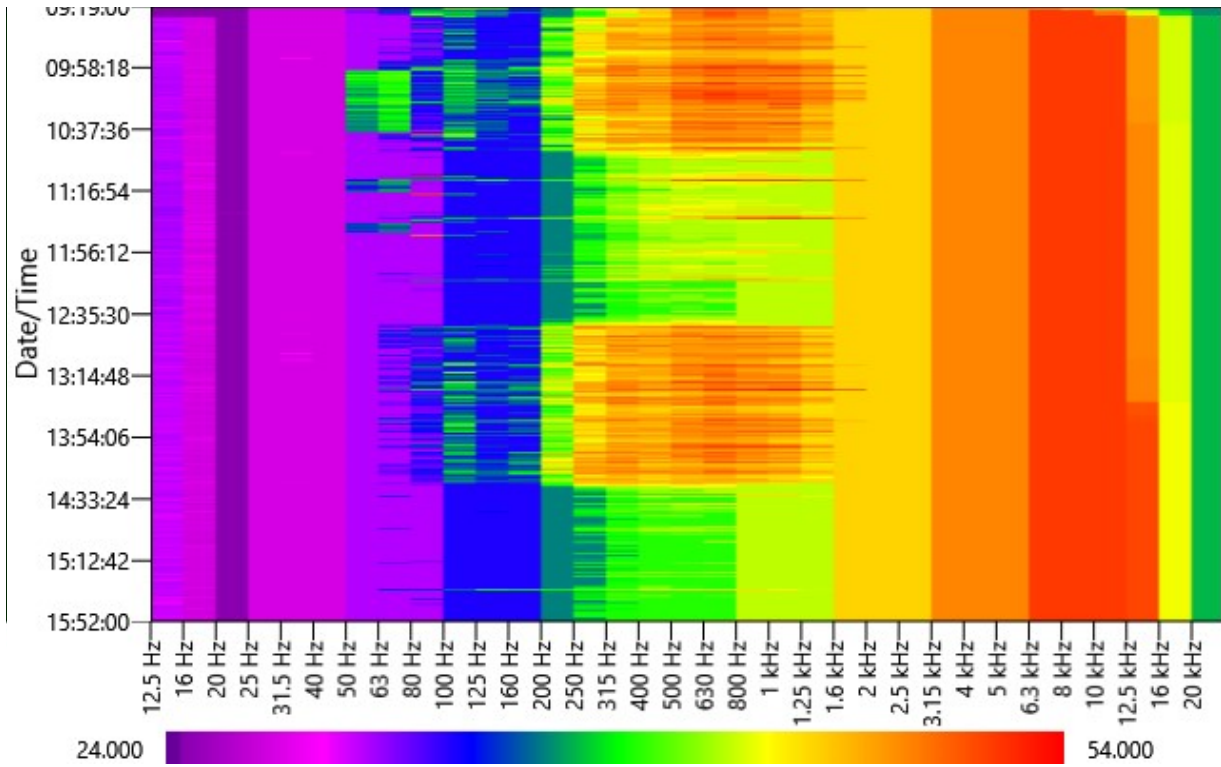
Filter Summary Chart

S139_BLH080002_21012022_095454: Filter Summary Chart - Leq



Spectral Chart

S139_BLH080002_21012022_095454: - Lmin



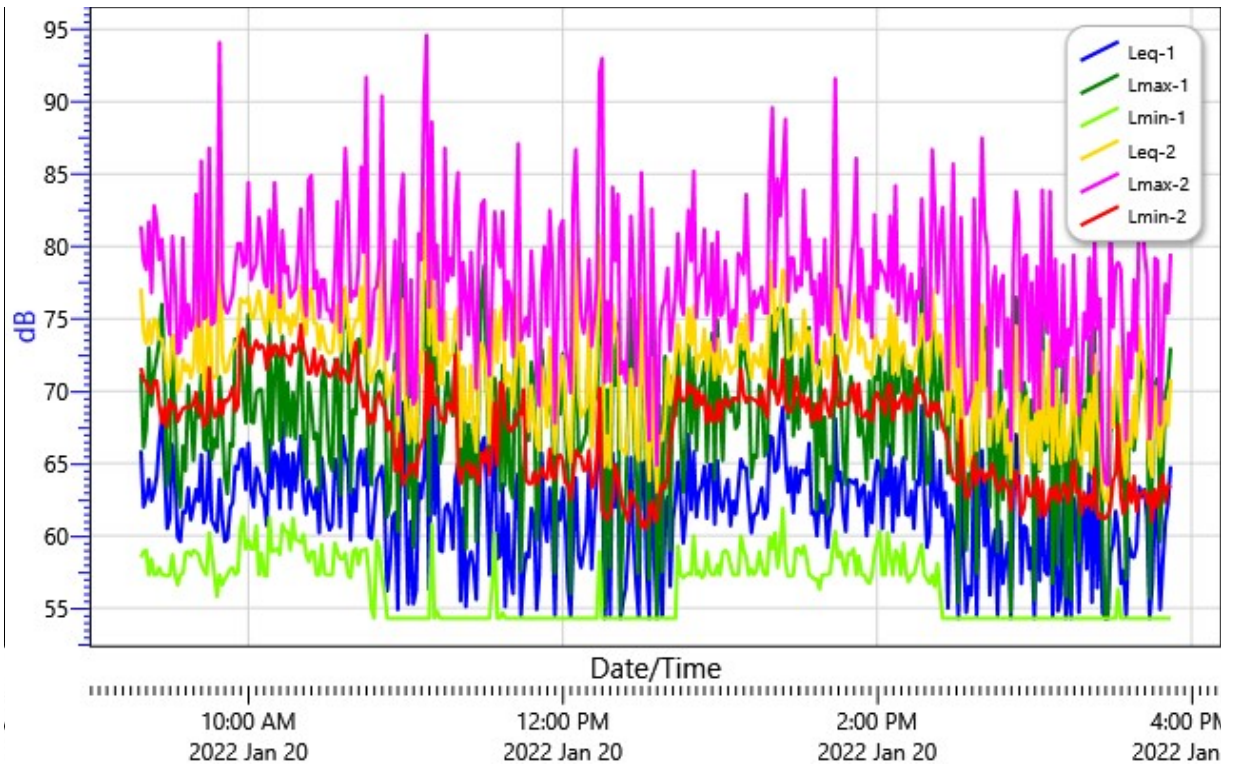
Filter Summary - Dose

Filter	Dose
	0.5 %
12.5 Hz	0 %
16 Hz	0 %
20 Hz	0 %
25 Hz	0 %
31.5 Hz	0 %
40 Hz	0 %
50 Hz	0 %
63 Hz	0 %
80 Hz	0 %
100 Hz	0 %
125 Hz	0 %
160 Hz	0 %
200 Hz	0 %
250 Hz	0 %

315 Hz	0 %
400 Hz	0 %
500 Hz	0.1 %
630 Hz	0.1 %
800 Hz	0.1 %
1.00 kHz	0.1 %
1.25 kHz	0 %
1.60 kHz	0 %
2.00 kHz	0 %
2.50 kHz	0 %
3.15 kHz	0 %
4.00 kHz	0 %
5.00 kHz	0 %
6.30 kHz	0 %
8.00 kHz	0 %
10.00 kHz	0 %
12.50 kHz	0 %
16.00 kHz	0 %
20.00 kHz	0 %

Logged Data Chart

S139_BLH080002_21012022_095454: Logged Data Chart - Read Only



Summary Data Panel

Description	Meter/ Sensor	Value
Leq	1	62.8 dB
Exchange Rate	1	3 dB
Weighting	1	A
Response	1	SLOW
Bandwidth	1	1/3
Exchange Rate	2	3 dB
Weighting	2	C
Response	2	SLOW
L1	1	72.2 dB
L10	1	66.1 dB
L50	1	59.6 dB
L90	1	54.2 dB
LDN	1	62.8 dB
Lmax	1	81.1 dB
Lmin	1	54.3 dB
Lpk	1	99.6 dB