

Visual Resource Assessment

Port of Oswego Agricultural Center Expansion Project

City of Oswego, Oswego County, New York

Prepared for:



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1.0 INTRODUCTION

1.1 Purpose of the Investigation

Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR) was retained by the C&S Companies to prepare a Visual Resource Assessment (VRA) for the proposed Port of Oswego Authority's Agricultural Center Expansion Project (the Project) at an existing grain storage and transfer facility (Existing Facility) located at the East Terminal Wharf within the of Port of Oswego in Oswego County, New York. This report has been prepared in accordance with the New York State Department of Conservation (NYSDEC) Program Policy: Assessing and Mitigating Visual Impacts (NYSDEC, 2019), and includes an inventory of aesthetic resources and viewer characteristics, a description of the visual character and aesthetic value of the existing visual setting, a visual impact assessment of the proposed action, and evaluation of possible mitigation measures to reduce or minimize visual impacts. The procedure described by the NYSDEC for the review of such evaluations is outlined as follows:

VI. Procedure

Staff must take the following steps in evaluating an application for a project's visual impacts:

- A. Verify the project sponsor's inventory of aesthetic resources. If there are no resources identified within the determined radius, then the analyst will document their findings and end the assessment. (See "Determining Distance Limits for Visual Assessment" below for viewshed radius guidance.)*
- B. Verify the project sponsor's inventory of viewer characteristic, visual character, and aesthetic value*
- C. Verify the project sponsor's visual assessment. This may include:*
 - i. Desktop analysis using line-of-sight profiles and computer generated viewsheds to provide a complete assessment of an impact, as appropriate, given the scale and place of concern*
 - ii. Field verification techniques*
 - iii. Computer visualization techniques such as photo and video simulations*
- D. Determine or verify the project sponsor's assessment of the potential significance of the impacts.*
- E. Determine the measures that may be needed to avoid, mitigate, or offset aesthetic impacts. If a significant impact is identified, confirm that the project sponsor has employed avoidance or mitigation strategies or, where appropriate, off-sets that are reasonable and likely to be effective.*
- F. Enforcing mitigation measures.*

Recognizing these criteria for evaluation, this VRA will:

- Describe the visible components of the Project.
- Define the visual character of the Project's visual study area (VSA).
- Inventory and evaluate visually sensitive resources within the VSA.
- Evaluate the potential visibility of the Project within the VSA.

- Present visual simulations of the proposed Project from select locations.
- Assess the potential visual impacts associated with the Project.
- Describe potential mitigation measures to minimize visual impact.

This VRA was prepared by experienced visual resource assessment professionals in accordance with the policies, procedures, and guidelines contained in established visual resource assessment methodologies (see Section 4.0 of this report).

1.2 Project Location and Description



Figure 1 | Regional Location Map

The Project is proposed to be located on the East Terminal Wharf, which is situated on the eastern shoreline of the Oswego River at its outlet into Lake Ontario (Figure 1). The Existing Facility at the East Terminal Wharf includes bulk grain storage and transfer facilities, office and warehouse buildings, grain towers, dump pits, portable ship loading and conveyor systems, an uncovered paved parking area and outdoor storage areas. The proposed Project will provide improvements to the Facility to increase grain storage capacity, improve the efficiency of intermodal conveyance, and is necessary to comply with mandated U.S. Department of Agriculture facility upgrades for weighing and inspecting agricultural products. Visible components of the Project (blue areas in Figure 2) will include:

areas in Figure 2) will include:

- Replacement of an existing 55-foot-tall dome storage structure with a new 103.5-foot-tall storage silo.
- Construction of a new control center building.
- Construction of a new dome storage structure with a height of 55 feet.
- Construction of a new structural steel processing tower (which includes a grain elevator, gravity fill spouts to the silos, sample diverter, and bulk weigher), with a height of 180 feet
- Construction of a new truck/rail shipping structure with a height of 55 feet
- Construction of a new overhead conveyance system for truck and rail loading and unloading.



Figure 2 | Project Location Map

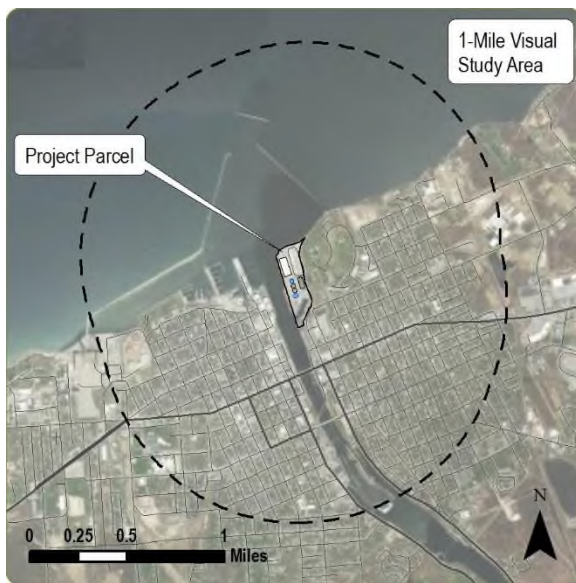


Figure 3 | Visual Study Area

1.2.1 Visual Study Area

Due to the Project's location in an urban area, expansive views are uncommon due to the density and size of surrounding structures, the presence of street trees, and other visual obstructions. Based upon these conditions, a radius of 1-mile was selected for the VSA. To understand the Project's area of potential effect (the geographic area of potential Project visibility) and confirm that the selected VSA was appropriate, a lidar-based viewshed analysis was conducted (see Section 2.1). This analysis indicated that land-based areas of potential Project visibility were concentrated in areas close to the Project and along a few narrow corridors of visibility that extend along open rights-of-way. Only one of the corridors of potential visibility, along the Mitchell Street right-of-way to the east of the Project, extends beyond the limit of the 1-mile VSA. However, this small area of potential visibility is likely overstated as described in Section 2.1. Based upon these results, it was concluded that a 1-mile radius sufficiently defines the Project's area of potential effect.

1.2.2 Existing Landscape Character

Definition of aesthetic character through the identification of different landscape types within a given VSA provides a useful framework for the analysis of a facility's potential visual effects. Landscape types within the VSA were categorized based on the similarity of various features, including landform, vegetation, water, and/or land use patterns, in accordance

with established visual resource assessment methodologies (see References in Section 4.0 of this report). The USGS National Land Cover Dataset (NLCD) was used to define the character and location of various landscape types within the VSA (Figure 4).

Of the approximately 2,713 acres within the VSA, 1,166 acres (43.0 percent of total area) are classified as Open Water, 1,152 acres (42.5 percent) are classified as Developed Land, and 305 acres (11.3 percent of total area) are classified as Open Space, Pasture, or Forested. The notable Open Water features within the VSA are Lake Ontario and the

Oswego River. This landscape type can often provide relatively long-distance views to and from the surrounding area. Long distance, panoramic views are possible from the surface of Lake Ontario to the City of Oswego, Fort Ontario, and the Project site, however views from the Oswego River are less expansive due to the density of development near the River's edge and bridges that cross over it.



Figure 4 | Landscape Types within VSA

Developed Land within the VSA consists of the high-density development associated with the downtown business district of the City of Oswego which is clustered near the Oswego River and Bridge Street corridor. This includes high-to-medium density Industrial land near the mouth of the river, medium-density mixed-use districts such as the Franklin Square Historic District and Washington Square Historic District, and low-to-medium density residential districts scattered throughout. Typically, developed land has limited outward views due to the density of buildings, houses, landscaped yards/planted vegetation, utility poles, and other visual clutter.

Open Space within the VSA consists primarily of managed public parks, most notably Brietbeck Park and the Fort Ontario State Historic Site. Typically, views from open spaces within an urban context offer limited outward views due to surrounding development. However, this can vary depending upon several factors, including the density and proximity of surrounding development, topography, the size of the open space, and vegetation both within and surrounding the open space. The presence of Lake Ontario to the north of Breitbeck Park and Fort Ontario provides these public locations with notable unobstructed outward views to the lake.

2.0 VISUAL RESOURCE ASSESSMENT

The specific techniques used to assess Project visibility and visual impact, and the results of these assessments, are described below.

2.1 Viewshed Analysis Methodology

Viewshed analyses were prepared using 1) a digital surface model (DSM) derived from the New York State GIS Program Office (NYSGPO) 2018 Cayuga and Oswego County lidar data; 2) sample points representing the current

above ground heights of the existing transit warehouse and grain storage domes; 3) sample points representing the maximum proposed above ground heights of the grain storage silo, storage dome, grain elevator, and the truck/rail loading and unloading structure; 4) an assumed viewer height of 6 feet; and 5) ESRI ArcGIS® software with the Spatial Analyst extension.

The DSM that was created from the lidar data includes the elevations of bare ground, vegetation, buildings, and other obstructions large enough to be resolved by the lidar technology. Transmission lines in the lidar data were removed from the DSM and road rights-of-way were buffered 100 feet to remove roadside hedgerows and utility lines in order to avoid introducing artificial screening features to the analysis. This is due to the fact that when lidar is converted to a DSM, narrow vertical features such as transmission lines and thin hedgerows are interpreted as opaque screening features, which in fact they are not. This modified DSM was then used as a base layer for the viewshed analysis. Once the viewshed analysis was completed, a conditional statement was used within ArcGIS to set visibility to zero in locations where the DSM elevation exceeded the bare earth elevation by 6 feet or more, indicating the presence of vegetation or structures that exceed viewer height. This was done for two reasons; 1) in locations where trees or structures are present in the DSM, the viewshed would reflect visibility from the vantage point of standing on the tree top or building roof, which is not the intent of this analysis and 2) to reflect the fact that ground-level vantage points within buildings or areas of vegetation exceeding 6 feet in height will generally be screened from views of the Project. Because it accounts for the screening provided by structures and trees, the DSM viewshed analysis is an accurate representation of potential Project visibility from the surrounding landscaping. However, because certain characteristics that may influence a viewer's perception of visual contrast (e.g., Project color, compatibility with surroundings, distance from viewer) cannot be captured in this analysis, other forms of analysis are also required to describe and evaluate Project visibility and visual impact.

Three separate viewshed analyses were prepared in order to understand the change in visibility likely to result from the Project. These included 1) a viewshed analysis to determine the visibility of the Existing Facility; 2) a viewshed analysis to determine potential visibility of the proposed grain elevator, and 3) a viewshed analysis to determine potential visibility of the remainder of the proposed Project. A separate viewshed analysis for the grain elevator tower was performed because that structure is significantly taller and narrower in profile when compared to other proposed Project components, suggesting that it will likely have a somewhat different degree of visibility within the VSA. These analyses were completed to understand where views of Existing Facility may currently be available, where these views overlap with views of the proposed Project, and where new views of different components of the Project are likely to occur.

2.2 Viewshed Analysis Results

Results of the viewshed analyses indicate that views of the Existing Facility could be available from approximately 40.0 percent (1,085 acres) of the VSA (2,713 acres), and that visibility of the proposed Project could be possible from approximately 45.9 percent (1,245 acres) of the VSA. This represents a 5.9 percent increase in total area of visibility (160 acres) within the VSA. Of the 160 acres of expanded visibility, 66.8 percent (107 acres) will have visibility of the grain elevator tower only.

Lake Ontario accounts for 40.8 percent (1,105 acres) of the total area of the VSA, however potential visibility of the Project from the lake would only be experienced by a subset of the viewers in the area (i.e. those on watercraft). When the lake is excluded from the VSA and only landward visibility is considered, visibility of the Existing Facility could be possible from approximately 7.6 percent (123 acres) of the total land area (1,608 acres) within the VSA, and visibility of the Project could be possible from 12.8 percent (206 acres) of the total land within the VSA. This represents a 5.2 percent increase in total area of visibility (83 acres) within the landward portion of the VSA. Of the 83 acres of expanded visibility, 71.1 percent (59 acres) will have visibility of the grain elevator tower only.

The majority of the area with views of the Existing Facility and the Project is represented by the viewpoints accessible only to individuals on watercraft on Lake Ontario or the Oswego River, and the land-area directly adjacent to these waterbodies (shorelines). There are also two narrow Project visibility corridors that follow the north-south oriented rights-of-way of East 1st Street and East 2nd Street. Extended areas of visibility, where views of the Existing Facility are not available, are concentrated to an area east of the Project that includes the Fort Ontario State Historic Site, and narrow corridors of visibility that occur along the east-west oriented rights-of-way of West Van Buren Street and Mitchell Street. There are also some small scattered areas of more distant Project visibility that occur throughout the VSA. From these small areas, views of the Project are likely to be substantially screened and/or of short duration. For areas that only have visibility of the grain elevator tower, it is also likely the visibility in these locations will have less impact because other components of the proposed Project will not be visible. Areas with views of the grain elevator tower only are concentrated in the athletic fields east of the Fort Ontario State Historic Site and the Mitchell Street right-of-way.

As indicated by the viewshed analyses, the landward visibility of the Existing Facility and the Project are relatively limited within the VSA. This is due to several factors, including the screening effect of large buildings concentrated near the Oswego River in the downtown portion of the City, and in commercial/industrial areas near the outlet of the river. Neighborhoods within the VSA are also relatively dense in their development pattern and outward views from these areas are limited. In addition, bridges that extend over the Oswego River limit views of the Project from the south. These obstructions include, the Bridge Street, Harbor Rail Trail Bridge, Utica Street Bridge, and the embankments of the New York State Barge Canal, which runs adjacent to the river.

Potential visibility of the Existing Facility and proposed Project, as discussed within this section, is illustrated in Figure 5 – Viewshed Analysis Results.

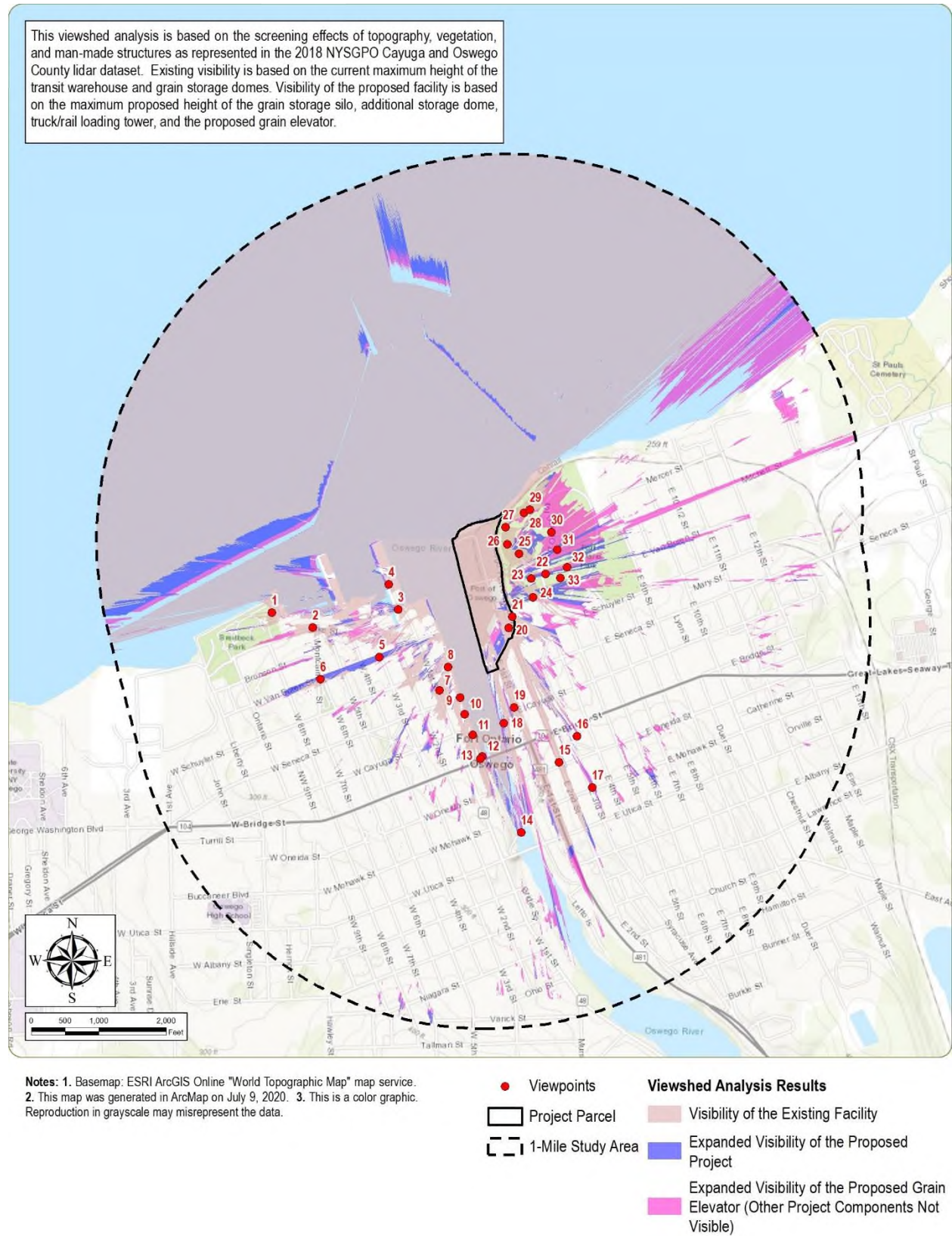


Figure 5 | Viewshed Analysis Results

2.3 Visually Sensitive Resource Identification

Visually Sensitive Resources (VSRs) within the VSA were identified in accordance with guidance provided by NYSDEC Program Policy DEP-00-2 Assessing and Mitigating Visual Impacts (NYSDEC, 2019). In addition, EDR identified other resources that could be considered visually sensitive based on the type or intensity of use they receive. The categories of VSRs that would be typically require consideration include the following:

- **Properties of Historic Significance** (National Historic Landmarks, sites listed on the National or State Registers of Historic Places [NRHP, SRHP]; properties eligible for Listing on the NRHP or SRHP; National or State Historic Sites).
- **Designated Scenic Resources** (Rivers Designated as National or State Wild, Scenic, or Recreational; Adirondack Park Scenic Vistas; Sites, Areas, Lakes, Reservoirs or Highways Designated or Eligible for Designation as Scenic; Scenic Areas of Statewide Significance; Other Designated Scenic Resources)
- **Public Lands and Recreational Resources** (National Parks, Recreation Areas, Seashores, and/or Forests; National Natural Landmarks; National Wildlife Refuges; Heritage Areas; State Parks; State Nature and Historic Preserve Areas; State Forest Preserve Lands; Other State Lands; Wildlife Management Areas & Game Refuges; State Forests; State Boat Launches/Waterway Access Sites; Designated Trails; Palisades Park Lands; Local Parks and Recreation Areas; Publicly Accessible Conservation Lands/Easements; Rivers and Streams with Public Fishing Rights Easements; Named Lakes, Ponds, and Reservoirs)
- **High Use Public Areas** (State, US, and Interstate Highways; Cities, Villages and Hamlets; Schools)
- **Locally Identified Resources**

To identify VSRs within the VSA, EDR consulted a variety of publicly-available data sources, including agency databases such as the National Park Service National Trail System, New York Natural Heritage Program Protected Areas, and the New York State Department of State Scenic Areas of Statewide Significance. All data sources used for the identification of VSRs are listed in the references included in Section 4.0 of this report. No officially designated scenic or aesthetic resources were identified in the City of Oswego 2020 Vision Plan (COO, 2011), City of Oswego Zoning Ordinance (COO, 2020) and the Oswego County Comprehensive Plan (OCPIO, 2008).

2.4 Visually Sensitive Resource Results

The table below provides a summary of the identified VSRs, organized by type, that occur within the VSA.

Visually Sensitive Resources	Total Resources in VSA	Visibility Existing Facility	Visibility of Project
Properties of Historic Significance [6 NYCRR 617.4 (b)(9)]			
National Historic Landmarks (NHL)	1	1	1
National/State Historic Sites	1	1	1

Visually Sensitive Resources	Total Resources in VSA	Visibility Existing Facility	Visibility of Project
National/State Historic Landmarks	1	1	1
National/State Historic Sites	1	1	1
Properties listed on National or State Registers of Historic Places (NRHP/SRHP)	32	20	25
Properties Eligible for listing on NRHP or SRHP	43	15	26
Total Properties of Historic Significance	77	37	53
Designated Scenic Resources			
Rivers Designated as National or State Wild, Scenic or Recreational	-	-	-
Adirondack Park Scenic Vistas [Adirondack Park Land Use and Development Map]	-	-	-
Sites, Areas, Lakes, Reservoirs or Highways Designated or Eligible for Designation as Scenic ([ECL Article 49 Title 1] or equivalent)	1	1	1
Scenic Areas of Statewide Significance [Article 42 of Executive Law]	-	-	-
Other Designated Scenic Resources (Easements, Roads, Districts, and Overlooks)	-	-	-
Total Designated Scenic Resources	1	1	1
Public Lands and Recreational Resources			
National Parks, Recreation Areas, Seashores, and/or Forests [16 U.S.C. 1c]	-	-	-
National Natural Landmarks [36 CFR Part 62]	-	-	-
National Wildlife Refuges [16 U.S.C. 668dd]	-	-	-
Heritage Areas [Parks, Recreation and Historic Preservation Law Section 35.15]	1	1	1
State Parks [Parks, Recreation and Historic Preservation Law Section 3.09]	-	-	-
State Nature and Historic Preserve Areas [Section 4 of Article XIV of the State Constitution]	-	-	-
State Forest Preserves [NYS Constitution Article XIV]	-	-	-
Other State Lands	-	-	-
Wildlife Management Areas & Game Refuges	-	-	-
State Forests	-	-	-
State Boat Launches/Waterway Access Sites	-	-	-
Designated Trails	1	1	1
Palisades Park [Palisades Interstate Park Commission]	-	-	-
Local Parks and Recreation Areas	8	6	6
Publicly Accessible Conservation Lands/Easements	-	-	-
Rivers and Streams with Public Fishing Rights Easements	1	1	1
Named Lakes, Ponds, and Reservoirs	1	1	1
Total Public Lands and Recreational Areas	12	10	10
High-Use Public Areas			
State, US, and Interstate Highways	3	2	3
Cities, Villages, Hamlets	1	1	1
Schools	4	0	2

Visually Sensitive Resources	Total Resources in VSA	Visibility Existing Facility	Visibility of Project
Total High-Use Public Areas	8	3	6
Resources Identified by Stakeholders	-	-	-
	-	-	-
Total Number of Visually Sensitive Resources	106	51	70

A comprehensive list of the VSRs, including information on distance from the Project, potential Project visibility, and nearby viewpoint locations documented during field review is presented in Appendix B. The locations of these VSRs are illustrated in Figure 6. Results of the viewshed analysis suggest that 51 of the 106 VSRs identified within the VSA (48.2 percent) have potential visibility of the Existing Facility and 68 of the 106 VSRs (64.2 percent) could have potential visibility of the proposed Project. This indicates that the Existing Facility likely occurs within the views of 51 of the VSR with predicted Project visibility, and only 19 of the VSRs may experience visibility of the Project where there is currently no view of the Existing Facility. Of these 19 VSRs, 16 are properties of historic significance. As described within Section 2.2 of this report, most of the visibility is concentrated to a few corridors along public rights-of-way, adjacent waterfront areas, at the Fort Ontario State Historic Site, and in small scattered areas throughout the VSA. For many of these resources that indicate some level of partial Project visibility, the visibility consists of small visible areas where, although a portion of the Project could potentially be seen, the view would be substantially screened and/or of short duration. VSRs that will experience the most substantial visual change are those within concentrated areas of visibility in close proximity to the Project. VSRs that have been identified as having the highest potential for visual change are the Fort Ontario State Historic Site¹, the West Side Riverfront Linear Park², and a cluster of historic properties in the downtown area³.

The Fort Ontario State Historic Site is listed on the National Register of Historic Places and is a popular destination for tourists and residents. The historic star-shaped fort (dating from the 1840's) is the primary attraction at this site. However, the approximately 36.1-acre site also includes open lawns, a network of walking trails, and seating areas available to the public. The Fort, which was sited to take advantage of its elevated position, provides panoramic views of Lake Ontario to the north. Seating areas on the grounds of the fort also focus on views of the lake. The grounds of the Fort Ontario State Historic Site abut the East Terminal Wharf, and the Existing Facility is visible from the majority of the views to the west along the Oswego River. Visibility of the Existing Facility (and Project site) in this direction is partially screened by the mature treeline that borders the Fort's western edge and the significant change of grade that

¹ Westward views toward the Oswego River.

² Northward views along the Oswego River.

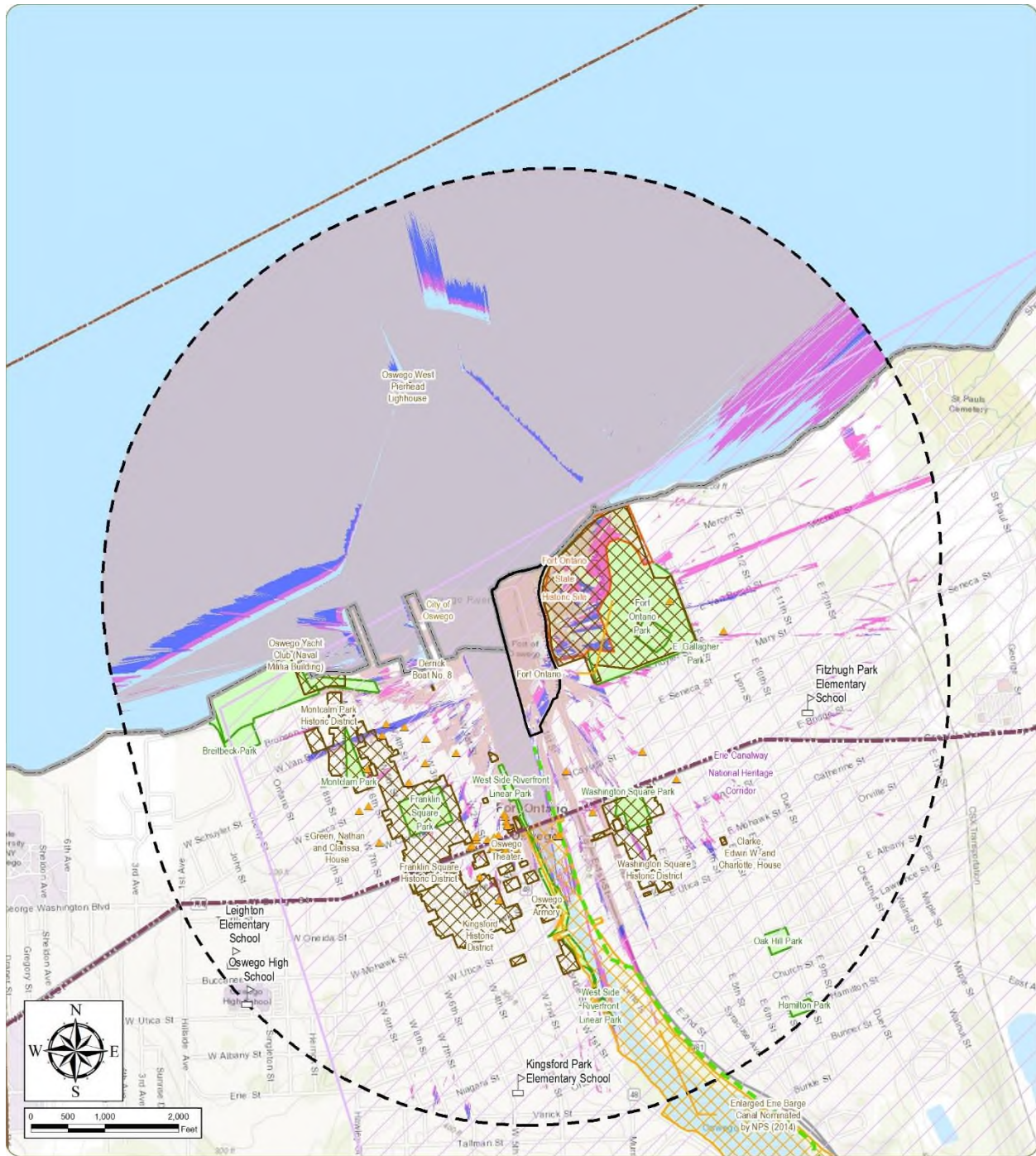
³ Primarily northward views along the Oswego River.

occurs between the two sites, which partially screens the lower portions of the Existing Facility. Along with the East Terminal Wharf, views of the Oswego River from the Fort Ontario State Historic Site also include various industrial facilities. Viewpoints 22 through 33 in Appendix C, and the panoramic photos included in Appendix E, illustrate the visual relationship between the Fort Ontario State Historic Site grounds and the surrounding landscape, including Lake Ontario, the Oswego River, and the Existing Facility.

The West Side Riverfront Linear Park extends for approximately 0.8 mile along the western edge of the Oswego River, beginning near Front Street and ending near Niagara Street. Situated in close proximity to the downtown business district of the City, the park is easily accessible and provides ample seating and a bandshell, making it a popular location for a variety of activities, including community gatherings, walking, jogging, fishing, and biking. The park provides views of the Oswego River and the surrounding area, including relatively unobstructed views of the East Terminal Wharf from the northernmost 0.5 mile of the Park. Viewpoints 8 through 12 in Appendix C illustrate the visual relationship between the park and the surrounding landscape, including the Existing Facility.

Within the downtown core of the city, specifically the area near West 1st Street and between Cayuga Street and West Oneida Street, there is a cluster of five NRHP-listed buildings and seven NRHP-eligible properties that occur approximately 0.25 to 0.30 mile south of the Existing Facility. Visibility of the Existing Facility is possible at ground level on the east side of the buildings due to the relatively unobstructed area between the buildings and the Oswego River. Views of the proposed Project could occur in scattered areas further west through open areas between the buildings. Such views would be partially screened and of short duration.

The Great Lakes Seaway Trail is a 518-mile designated National and State Scenic Byway that follows the shores of Lake Erie, the Niagara River, Lake Ontario, and the St. Lawrence River in New York and Pennsylvania. Within the VSA, Bridge Street is designated as part of the Great Lakes Seaway Trail. Brief visibility of the Existing Facility and the Project are available from the bridge over the Oswego River and in small scattered areas to the east, near the intersections with East 1st Street and East 2nd Street. Viewpoint 13 in Appendix C illustrates the visual relationship from the Great Lakes Seaway Trail and the Existing Facility from an area where unobstructed visibility of the Project will be possible.



Notes: 1. Basemap: ESRI ArcGIS Online "World Topographic Map" map service.
 2. This map was generated in ArcMap on July 9, 2020. 3. This is a color graphic. Reproduction in grayscale may misrepresent the data.

- ▲ S/NRHP-Eligible (NYSOPRHP Determined)
- ▭ Schools
- Designated Scenic Byway
- Other Trails
- ▭ National/State Historic Landmark
- ▭ National/State Historic Site
- ▭ NRHP-Listed Resource
- ▭ Heritage
- ▭ Local Parks and Recreation
- ▭ Cities and Villages
- ▭ Visibility of the Existing Facility
- ▭ Expanded Visibility of the Proposed Project
- ▭ Expanded Visibility of the Proposed Grain Elevator (Other Project Components Not Visible)

Figure 6 | Location of Visually Sensitive Resources

2.5 Field Review Methodology

EDR conducted a site visit to the VSA on May 20, 2020. The purpose of this field review was to 1) verify the potential visibility of the Project (as suggested by viewshed analysis results and views of the Existing Facility), 2) document the type and extent of existing visual screening at VSRs and other representative viewpoints within the VSA, and 3) obtain photographs for subsequent use in the development of visual simulations and visual impact assessment. During field review, photographs were obtained from 33 individual viewpoints utilizing digital SLR cameras with a minimum resolution of 24.1 megapixels and a lens setting between 29 and 35 mm (equivalent to between 45 and 55 mm on a standard 35 mm full frame camera). This focal length is the standard used in visual impact assessment because it most closely approximates normal human perception of spatial relationships and scale in the landscape (CEIWEF, 2007). A photolog, including a representative photograph directed toward the Project or the dominant view from each viewpoint, is included in Appendix C.

2.6 Field Review Results

Field review generally confirmed the results of the viewshed analysis, with the exception of the visibility corridor along the West Van Buren Street right-of-way, where visibility of the Project will most likely be screened by new construction near the intersection of West Van Buren Street and West 2nd Street, and the presence of street trees, signage, and existing structures lining the street (see Viewpoints 5 and 6 in Appendix C). Field review also suggests that the viewshed analysis may slightly overstate Project visibility along developed streets due to the removal of screening features from the DSM within 100 feet of the road, as mentioned in Section 2.1.

Relatively unobstructed views of the Existing Facility and proposed Project site are possible from west of the Oswego River along the West Side Riverfront Linear Park north of the Bridge Street bridge (Viewpoints 7 through 13), the Maritime Museum and historic sites nearby (Viewpoints 3 and 4), and the Bridge Street Bridge (part of the Great Lakes Seaway Trail) and the Harbor Rail Trail Pedestrian Bridge (Viewpoints 13 and 14). During field review, potential visibility was noted from areas further west of the river along Lake Street and Breitbeck Park. However, Project visibility from this area will likely be partially screened by existing vegetation and structures (Viewpoints 1 and 2).

Viewshed analysis suggested the availability of open views from the East 1st Street, East 2nd Street, and East 3rd Street rights-of-way, and from the East Side Riverfront Park and the Oswego Marina. Field review indicated that such views will be possible but will be partially screened and visibility will be intermittent due to the density of intervening structures, vegetation and other elements (Viewpoints 15, 16, and 19 through 21). Visibility from the East Side Riverfront Park will be heavily screened by intervening structures and vegetation (Viewpoint 18). Photos from Viewpoints 22 through 33 were obtained from the grounds of the Fort Ontario State Historic Site, where field review confirmed that westward

views toward the Oswego River and the Existing Facility (and therefore, the Project) are available from the majority of the grounds. However, the primary view from the grounds of the Fort and the pedestrian amenities on site is to the north, toward Lake Ontario (see panoramic photos included in Appendix E). In a number of locations, existing vegetative buffers, topography, and the Fort itself serve to partially screen views of the lower portions of the Existing Facility. Views from inside Fort Ontario could not be documented, as the Fort was closed to the public due to COVID-19 protective measures at the time of field review. However, based on previous visits to the Fort by EDR staff, the buildings and exterior walls of the Fort are the primary focus of viewer attention on the interior, and also serve to screen views of lower elevation landscape features outside the walls of the Fort.

2.7 Visual Simulation Methodology

Visual simulations from two representative viewpoints (Viewpoints 9 and 31) were produced in order to illustrate the appearance of the Project components and to evaluate the potential visual effects resulting from construction of the Project. These views were selected due to their proximity to the Project, potential visibility of the Project, and their scenic and/or recreational value.

The simulations were developed using Autodesk 3ds Max Design® to construct a three-dimensional computer model of the proposed Project components, based on specifications, dimensions, and locations provided by C&S Companies. The Project was modeled and georeferenced using real-world coordinates, and a 3D camera positioned in the same coordinate system as the Project model using global positioning system (GPS) coordinates collect at each photo location. Existing landscape elements in the view were modeled using detailed lidar data representing roads, vegetation, buildings, and topography. Once the camera was roughly aligned to match the photo, minor adjustments were made to camera and target location, focal length, and camera roll (as necessary) to align all modeled elements with the corresponding elements in the photograph. Once this step is complete, the Project will appear in the photograph at the correct location, perspective, and scale. At this point, the appropriate sun angle is simulated based on the specific date, time and location (latitude and longitude) at which the photograph was taken. This information allows the program to realistically illustrate highlights, shading and shadows for each individual component shown in the view. The rendered Project was then superimposed over the photograph in Adobe Photoshop® and portions of the Project components that fell behind vegetation, structures or topography were masked out.

2.8 Visual Simulation Results

The visual simulations and a discussion of the potential visual effects associated with the Project are summarized below. Appendix A contains additional information regarding the viewpoint location, environmental data, and camera information for each simulation.

Viewpoint 9

Figure 7 – Existing view from Viewpoint 9 from the West Side Riverfront Linear Park, looking northeast

Viewpoint 9 (Figure 7) is located at the West Side Riverfront Linear Park near the NRHP-listed Walton and Willett Stone Store, approximately 1,215 feet from the proposed Project. The existing view to the northeast from this location features; the flat, horizontal plane of the Oswego River in the immediate foreground. The East Terminal Wharf in the foreground/middle ground is the focal point of the view. It is characterized by a diverse array of large-scale industrial structures, including barrel domes, poles, and a variety of buildings. These built features dominate the view and subsume the soft natural forms of the hillside and trees located camera-right. The clear blue sky provides a backdrop for the distinct horizon line created by the Existing Facility. The expanse of open water and sky provide a sense of openness and enhance the scenic quality at this viewpoint. However, the dominant presence of the Existing Facility defines the character of the view as an industrial/working waterfront on the Oswego River.



Figure 8 - Proposed view from Viewpoint 9 from the West Side Riverfront Linear Park, looking northeast

The visual simulation from Viewpoint 9 (Figure 8) illustrates the appearance of the Project upon completion. The structures that are most prominent from this view are the new silo, grain elevator tower complex, and the new (larger) storage domes. The sense of openness in the view is maintained, and collectively, the material and forms of the proposed Project are compatible with the Existing Facility, and the surrounding landscape due to the presence of existing industrial structures that already define the character of the view. However, the increased height and complexity of the Project components, particularly the grain elevator tower and silos, serve to amplify the scale and visual prominence of the Facility and increase its contrast with the water and sky.

Viewpoint 31

Figure 9 - Existing view from Viewpoint 31 from the grounds of the Fort Ontario State Historic Site, looking southwest

Viewpoint 31 (Figure 9) is located on the grounds of the Fort Ontario State Historic Site, approximately 1,220 feet from the proposed Project. In the existing view to the southwest from this location the foreground consists of the green horizontal plane formed by a grass field speckled with yellow dandelions. This open plane is interrupted by a distinct line of mature deciduous trees in the middle ground of the view and several structures on camera-right (including a portion of the Fort) that create a hard edge. The silos at the Existing Facility and exhaust stacks from the Oswego Harbor Power facility extend into the blue sky and create focal points that draw the viewer's attention. The middle ground also includes several horizontal planes formed by the roofs of the barrel dome and maintenance garage on the Existing Facility site. The background is defined by a distant tree line which is punctuated by a tall vertical church steeple. The steeple represents a secondary focal point in this view. The presence of the man-made vertical elements breaking the horizon is somewhat softened by the presence of the middle ground trees, which appear similar in vertical line and scale to these built features. Despite the presence of discordant man-made features, the expansive grass field and open blue sky (along with the Fort and lake outside the field of view of the photo) define the overall character and scenic quality of the existing view.



Figure 10 - Proposed view from Viewpoint 31 from the grounds of the Fort Ontario State Historic Site, looking southwest

The visual simulation from Viewpoint 31 (Figure 10) illustrates the appearance of the Project upon completion. Visible from this viewpoint are the silos, grain elevator tower complex, and the upper portion of the truck/rail loading and unloading tower complex. While the color, form and texture of these components are compatible with other elements associated with the Existing Facility that are already present in this view, the increased size and complexity of the proposed structures alter the composition of the view. The scale and massing from this viewpoint create new focal points, and the new features introduced by the Project draw the viewer's attention away from the existing built features that currently serve as focal points. They also diminish the presence of the middle ground trees and the continuity of the background tree line. Although the large-scale industrial and shipping facilities of the East and West Terminal Wharfs are significant landscape features in both the existing and proposed views in this direction, the Project's increased scale and visual presence begin to become co-dominant with the natural features of the view (open lawn and sky). Although it is likely that summer foliage would substantially soften views of the proposed Project from this vantage point, the new larger components have an adverse effect on scenic quality and landscape character at this viewpoint. See Section 3.2 for a discussion of the impact of the Project upon the broader views from the Site.

3.0 VISUAL IMPACT SUMMARY

Based on the analyses described above, the following conclusions can be drawn regarding the visibility and visual effect associated with the Port of Oswego Agricultural Center Expansion Project.

3.1 Overall Visibility

As described in Section 2.2, open views of the full Project will be largely restricted to the surface of Lake Ontario and the Oswego River. Landward visibility is concentrated in areas directly adjacent to the Project site along the Oswego River and in narrow corridors that extend along street rights-of-way. The limited landward visibility of the Project is due to the urban context and the absence of elevated vantage points within the VSA. There are several small scattered areas of visibility where views of the Project will be substantially screened, difficult to distinguish from other storage facilities along the waterfront, and/or of short duration.

3.2 Visually Sensitive Resources

Viewshed analysis indicates that the majority of the identified VSRs will be fully screened from views of the proposed Project. For those VSRs where potential Project visibility is indicated, most already have views of the Existing Facility, and any new views will typically be partial and/or of short duration, as described in Section 2.4. The West Side Riverfront Linear Park, the Fort Ontario State Historic Site, the Great Lakes Seaway Trail, and a cluster of properties of historic significance in the downtown area of Oswego will experience the most visual change due to the Project. However, screening of significant portions of the Project in most locations will reduce the contrast and adverse visual impact of the proposed Project.

3.3 Field Review

Field review generally confirmed the results of the viewshed analysis, with the exception of areas where the viewshed overstated potential visibility due to the presence of newly constructed structures that blocked views and along street corridors where screening features within 100 feet of the road were not considered in the viewshed analysis. The field review also confirmed that, even where views of the Project will be available, such views already include abundant industrial infrastructure.

The views from Fort Ontario State Historic Site that will experience the most visual change are the westward views toward the Oswego River and the southern portion of the Project Site (see Viewpoints 22 to 25 and 31 to 33). As illustrated in the simulation for Viewpoint 31, the scale and massing of the Project's components from these viewpoints will introduce larger and more complex built elements to views in this direction. However, the Project's impact on views

from the northern and eastern portions of the Fort grounds and the majority of pedestrian amenities on site will be minimal. From these locations, the primary focus of the views is north toward the great expanse of Lake Ontario or south toward the Fort itself, and the Project will not interrupt or alter these views (see Viewpoints 27 to 30 in Appendix C). The Project is compatible with the other industrial features that are visible from these locations, and existing intermittent screening provided by trees on the site will help to soften the Project's visual impact. The Panoramic photographs from Viewpoint 28 in Figure 11 and 12 illustrate the view described above. Larger versions of Figures 11 and 12 and additional panoramic views from the Fort Ontario State Historic Site are provided in Appendix E.



Figure 11 – Panoramic Photograph, south to north, from Viewpoint 28



Figure 12 – Panoramic Photograph, north to south, from Viewpoint 28

3.4 Visual Simulations

Based on the review of the visual simulations, the Project results in potential visual impacts from the two selected VSRs where relatively unscreened views of the Project will be available. The potential visual effects associated with the Project are somewhat mitigated by the presence of existing, well-established industrial facilities and shipping facilities at the Port of Oswego. However, the proposed Project increases the number and size of such facilities and strengthens the working industrial character of the existing landscape along the Oswego River.

3.5 Conclusions Regarding Impact

Based on the results of the viewshed analysis, VSR analysis, and visual simulations, overall visibility of the Project from the surrounding landscape will be relatively limited. Visual change resulting from the Project will be concentrated in areas near the Project site and along the Oswego River, including views from the West Side Linear Park and the grounds of the Fort Ontario State Historic Site facing the Oswego River. From these locations, the Project will have an adverse visual impact. Although the impact is reduced due to the well-established presence of large-scale industrial and shipping facilities that are currently visible from these areas, the Project will increase the visual dominance of these facilities. The view primarily toward Lake Ontario at the Fort Ontario State Historic Site will not be affected by the Project.

In addition, during the growing season, it is likely that screening provided by existing trees on the Fort property would reduce the visual effects of the Project in views toward the Oswego River. Given the highest frequency of visitation to the Fort occurs during the growing season, the use and enjoyment of the Fort by visitors will benefit from the presence of this established vegetation.

3.6 Mitigation

Mitigation measures that have been implemented or should be considered to further reduce impacts on the Fort Ontario State Historic Site are discussed below:

- *Avoidance*: During the layout phase of the Project, the Port considered four configurations of the silo storage structure to meet the Projects requirements. To the extent practicable, the preferred Project layout concentrates the new structures and improvements, within the southern portion of the East Terminal Wharf which minimizes Project visibility in northwesterly views from the Fort toward Lake Ontario.
- *Minimization*: During the design phase of the Project, several alternatives were considered to meet the design and operational requirements of the facility. Domes of lower heights with larger diameters were considered but determined not feasible because of the need for open space along the wharf for unloading ships with many different commodities such as windmill blades, aluminum billets, heavy transformers, and generators. Grain elevators with lower heights were considered but these would require horizontal fill conveyors instead of a gravity spill spout. These designs have increased maintenance, energy consumption, and worker safety considerations, and were therefore determined not feasible.
- *Screening*: Visual screening typically involves the use of fencing, berms, and/or planting of vegetation to screen or soften views. Due to the elevated position of the Fort Ontario State Historic Site relative to the Port, and the lack of available space on the Port property, visual screening on the Port site cannot be accommodated, and would not provide effective screening of the Project components. Off-site vegetative screening on the Fort Ontario State Historic Site's property could effectively reduce the visual impact of the Project from the Fort and other viewpoints to the east. If additional vegetative plantings were permitted on the Fort property, a planting plan could be designed specifically to supplement existing trees and help screen westward views toward the Oswego River. The planting plan would also help to screen other discordant features located further west of the Project Site that are currently visible from the Fort. The northward open views toward Lake Ontario from the Fort are strongly associated with its historical purpose, and would remain unaffected by plantings designed to screen views of the proposed Project. Discussion of potential screening options on the Fort Ontario State Historic Site should be initiated with the NYS Office of Parks, Recreation and Historic Preservation (NYSOPRHP).
- *Offsets*: Off-set mitigation (also referred to as compensatory offsetting) of visual impacts consists of improvements to other aspects of the site, or off the site, in order to alleviate the visual impact of the Project.

There are several potential offsetting mitigation measures that could be explored with the NYSOPRHP which are listed below. In addition, future discussions with the NYSOPRHP may identify other offset mitigation opportunities.

1. ***Educational enhancements and landscaping amenities on the Fort Ontario State Historic Site property and nearby properties.*** *There is a long historical association between the maritime activities on the Oswego River and Fort Ontario. In addition, the present-day recreation, shipping, and commerce activities at the Port of Oswego generate considerable public interest. Opportunities exist to provide new educational interpretive signs at the Fort site and nearby areas that highlight this history and connection. Pathways and viewing locations on the grounds of the Fort and surrounding areas could be developed and/or enhanced to create new pedestrian connections, perspectives, and experiences. This could also involve provision or improvement of site amenities such as park benches, plantings, and other landscaping improvements along existing pathways on the Fort Ontario site to enhance the visitor experience and the connections between the Fort, the Oswego River, and Lake Ontario.*
2. ***Enhanced historical educational opportunities on the Port of Oswego property.*** *The Port currently maintains a Maritime Museum and various historical resources including the Derrick Boat No. 8. There are opportunities to improve the preservation of these resources and increase the public educational function of the Port. The Port of Oswego Authority is interested in developing the Goble Dry Dock and Ship Yard near the West Terminal Pier. This project would involve relocating the Derrick Boat No. 8 to a solid foundation to make this historic barge accessible to the public. The Port also hopes to provide new pedestrian amenities and develop new recreational boating docks as part of this project. Additional opportunities exist at the Maritime Museum and other locations on the Port property to create viewing stations with interpretive signage that offer information on historical and present-day facilities and activities.*

Mitigation Measures Considered but Determined Infeasible:

- ***Colors and Material:*** *The Port examined the potential use of different materials and/or colors of components to soften the visual contrast of the Project with surrounding landscape. However, the proposed components are only manufactured with galvanized steel exteriors and any alteration of the appearance would require painting. Given the size of the proposed components, exterior painting would represent a substantial expense and on-going maintenance requirement for the Port. In addition, the Existing Facility already includes structures with a variety of materials and colors, so the ability to develop a unified design vocabulary is limited. Consequently, this mitigation option was not deemed feasible or effective.*

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Appendix A
Visual Simulations

Appendix B
Visually Sensitive Resource Inventory

Appendix C
Viewpoint Photolog

Appendix D
Elevations

Appendix E
Panoramic Photos from the Fort Ontario State Historic Site