Salt Marsh Mitigation Area

For the L14 and M13 Mainline Rebuild Project (Project) unavoidable, incremental permanent impacts to a salt marsh in Portsmouth, RI, are proposed due to the replacement of existing transmission structures within The Narragansett Electric Company d/b/a Rhode Island Energy (the Company's) existing easement. The transmission structures are to be replaced to comply with the National Electrical Safety Code (NESC), to meet current Rhode Island Energy engineering standards, and to improve reliability and resiliency in the region. As a result, the replacement steel pole structures (pole and foundation diameters) are slightly larger than the original wood poles of the L14 and M13 Lines. The new replacement structures will be installed in the vicinity (within approximately 7-34 feet) of the existing poles which will be removed.

Wetland mitigation proposed to compensate for these impacts has been designed to address the Rhode Island Coastal Resources Management Council (CRMC) Red Book regulations to provide 2:1 mitigation for the loss of a coastal wetland (i.e., salt marsh); and to address the U.S. Army Corps of Engineers (USACE), New England District Compensatory Mitigation Guidance, including but not limited to the following criteria:

- Specific replacement requirements shall be determined on a case-by-case basis, taking into account such factors as size, type and ecological value of the existing coastal wetland, and the probability of achieving fully functional replacement at the proposed mitigation site. In no case shall the Council consider mitigation projects which do not meet these minimum compensation requirements.
- Replacement area is to be mitigated at a ratio of 2:1 to the lost area.
- Similar ground water and surface water elevations in replacement and lost areas.
- Similar configurations between replacement and lost areas.
- Replacement area has unrestricted hydraulic connection to same waterbody/waterway as lost area.
- Replacement area shall be located in the same general area as the lost area.
- Provide ≥ 75 percent of replacement area established with indigenous wetland species within two growing seasons.

Existing Conditions

A section of the L14 and M13 Mainline right-of-way (ROW) in Portsmouth, RI, includes salt marsh located between existing transmission structures L14/M13-62X and L14/M13-59X. This salt marsh is hydrologically connected via an inlet to Mount Hope Bay, in the vicinity of Founders Brook. This salt marsh habitat is locally referred to as Boyd's Marsh or Town Pond. The ROW includes areas where fill was historically placed within the salt marsh, these areas are found parallel to the existing transmission lines and adjacent to the existing transmission structures. The northern extent of this filled area is where the salt marsh mitigation area is proposed, which was likely once salt marsh. This proposed site is located approximately 35 feet north of proposed structure L14-59X and 60 feet northeast of proposed structure M13-59X. The site appears to be a former wetland that now has upland fill. The site consists predominately of upland herbaceous vegetation including white sweet clover (*Melilotus albus*) and bitter dock (*Rumex obtusifolius*), with stems of common reed (*Phragmites australis*) and multiflora rose (*Rosa multiflora*)

bordering the area. Some sections of the site are unvegetated, with areas of exposed gravel fill at the surface. Existing soils consist of loamy sand of uniform color that has approximately 50 percent coarse sediments composed of gravels and cobbles in the upper 8 inches of the soil profile. Compacted gravel fill at a depth of 8 inches below the surface restricts deeper examination of the soil. No groundwater table was observed in the upper 8 inches of the soil profile. There is the potential that below the fill layer are buried organic/wetland soils as historical data indicate over two feet of fill may exist in this location. Existing elevations across the upland range between the 4- and 6- topographic contours. The Natural Resources Conservation Service mapped the soils as Udorthents-Urban land complex (UD) with the parent material deriving from human transported material[1].

Surrounding the filled upland is salt marsh comprised of smooth cordgrass (*Spartina alterniflora*) and marsh-elder (*Iva frutescens*). At the transition zone between the salt marsh and upland habitats there is a greater diversity of salt marsh plant species. These species include Carolina Sea lavender (*Limonium carolinianum*), dwarf glasswort (*Salicornia bigelovii*), salt meadow cordgrass (*Spartina patens*), seaside goldenrod (*Solidago sempervirens*), and annual sea-blite (*Suaeda linearis*). Fauna observed in the existing salt marsh include Atlantic marsh fiddler crab (*Minuca pugnax*), great egret (*Ardea alba*), and osprey (*Pandion haliaetus*). Various shellfish species were also observed. Soils consist of a mucky loam with 3 inches underlain by silty clay with decomposing organic matter that extends beyond a depth of 24 inches. The Natural Resources Conservation Service mapped the salt marsh soils as 95% Water, saline (Ws) and 5% Beach[2]. The groundwater table depth in the wetland was observed to be approximately 0.5 feet from the soil surface. This observation was made at high tide during a new moon cycle in July of 2024. The existing surface elevation across the salt marsh range is the 1 to 3-foot topographic contour.

Since the proposed salt marsh mitigation/restoration site is adjacent to existing salt marsh, shallow excavations of the fill material, approximately one to two feet in depth, will essentially shift or move the wetland boundary to the west and south. As designated and presented on the attached salt marsh mitigation plans, the area to be restored will cover approximately 1,269 square feet (0.02 acre) providing greater than a 2:1 ratio of salt marsh mitigation.

The wetland restoration area will therefore be similar in elevation to the existing wetland and will intercept ground water, and be inundated by the twice daily tidal cycles. The unrestricted hydraulic configuration will provide hydrology conditions necessary to sustain salt marsh indigenous species to be planted throughout the restoration area.

Currently, vegetation in the wetland adjacent to the proposed restoration site is dominated by native species with less than ten percent coverage of the invasive plant species, common tall reed (*Phragmites australis*) and less than one percent cover of multiflora rose (*Rosa multiflora*) was observed growing within a small area of the proposed restoration site. Existing vegetation in the location proposed to be used for the salt marsh mitigation is dominated by native species.

[1] Source: United States Department of Agriculture (USDA) Natural Resources Conservation Service, Online Soil Surveys and Geographic Data. https://websoilsurvey.nrcs.usda.gov/app/
[2] Source: United States Department of Agriculture (USDA) Natural Resources Conservation Service, Online Soil Surveys and Geographic Data. https://websoilsurvey.nrcs.usda.gov/app/

Salt Marsh Mitigation Plan

The mitigation area has been designed to address the requirements of the CRMC and the USACE Compensatory Mitigation Guidance. These Guidelines augment the above Performance Standards and also more explicitly address:

- Site selection.
- Hydrology, soils and vegetation.
- Design requirements and erosion control.
- Schedule and sequencing.
- Monitoring requirements.

Selection of the proposed mitigation area was based on several criteria conducive to the achievement of a successfully functioning salt marsh. Coupled with existing hydrologic and topographic conditions described above, the restoration area occurs in the same watershed as where the permanent impacts are to occur and will therefore provide the same functional values as the existing salt marsh. Hydrology, recognized as the driving force of a wetland, is readily available from ground water to be intercepted by excavation of fill materials, and from exposing this area to the tidal cycle.

Other elements favorable to successful salt marsh mitigation includes the proximity of Anthony Road to the mitigation site and that the site lies adjacent to Project activities, where access to the mitigation site will be available. Therefore, the ease of access for necessary construction equipment, delivery of indigenous wetland vegetation and convenient access for scheduled post-construction monitoring. The location of the restoration area is also not in conflict with operation and maintenance activities that would occur in the future for these transmission lines.

Implementation of the proposed salt marsh mitigation will be conducted under the direction of a wetland scientist familiar with the plan design requirements, as well as any related requirements of state or federal agencies. The mitigation area will be installed after construction of the Project to allow the Company flexibility and maneuverability to install the new transmission structures and to then remove the existing structures. Once the replacement structures are set and the lines are energized, the old structures will be cut below the ground line and removed from the ROW. All reasonable attempts will be made to remove original pole structures in their entirety, including the pole butts, and if this is not feasible, the pole butt will be left in-place and cut 18" below the ground surface and the area backfilled. Structures to be removed are located outside of the limits of the replication area and will not affect the creation of the salt marsh. The access within the ROW will facilitate access to the proposed mitigation area.

Seeding and planting specifications and other construction notes are presented on the Salt Marsh Mitigation Plan included herein Attachment K. The mitigation site will be accessed via the existing access with the ROW, which is gained from the south, from Anthony Road.

Appropriate erosion controls will be installed around the perimeter of construction to prevent sediment from entering the adjacent downslope wetland during construction; and will be functionally maintained until disturbed areas are satisfactorily stabilized with vegetation. Construction is anticipated to occur during the dry season and during low tide, to the greatest extent feasible, when the adjacent wetland is not inundated. Connecting the mitigation area to the existing salt marsh will be final step of the grading plan and surface preparation.

Excavation will be undertaken to the depths and grades depicted on the plans, and when covered with an acceptable A-horizon soil, this will bring about an irregular surface typical of micro-topography found in

salt marshes. Organic weed-free topsoil will be brought in to provide a soil supplement for the salt marsh mitigation area. Organic weed-free topsoil will be obtained from a local source and pre-approved by the Project Wetland Scientist or Environmental Monitor. Once the topsoil is obtained, a composite soil sample is to be collected and analyzed to ensure it consists of at least 12% organic carbon content by weight (or ~9-21% organic matter content), with the percentage specified.

Following completion of excavation and installation of topsoil, the mitigation area will be hand-sewn with a seed mix comprised of at least a dozen different indigenous salt marsh species. Straw mulch, free of weed seeds, will be spread, as needed, over the entire seeded area to promote vegetation re-establishment and prevent erosion and sedimentation. A total of 25 shrubs, comprised of plants from two species and 95 bundles of native grass species are to be planted throughout the wetland restoration area. The two indigenous shrubs selected - 15 marsh-elder (*Iva frutescens*) and 10 small bayberry (*Morella carolinensis*) are similarly growing in the adjacent wetland and provide cover and a food source for wildlife. The two grass species selected- 20 bundles of smooth cordgrass (*Spartina alterniflora*), and 75 stems of saltmarsh hay (*Spartina patens*) bundled in groups of 5. The plantings will be sourced at the same time as the topsoil, and similarly, they will be obtained from a local source and pre-approved by the Project Wetland Scientist or Environmental Monitor before being purchased and utilized within the replication site.

Restoration work will occur under the following construction sequencing:

1. Field survey the boundaries of the proposed mitigation area.
2. Install perimeter sediment and erosion controls around the proposed mitigation area.
3. Excavation and stockpiling of in-situ soils.
4. Excavation and surface grading of the mitigation area.
5. Leave an upland berm between the mitigation area and the existing salt marsh.
6. Introduction of wetland soil to supplement the mitigation area, as needed to provide an organic soil layer.
7. Remove the upland berm and a section of the soil erosion controls to establish a hydrologic connection with the existing salt marsh.
8. Planting of wetland shrubs, salt marsh grasses, and spreading of emergent wetland seed mix.
9. Monitoring of the wetland restoration area.
10. Removal of perimeter sediment and erosion controls once the wetland restoration site has stabilized and vegetated.

Monitoring will be conducted to verify erosion controls are operationally and functionally maintained; the seed mix and plantings are growing successfully or are replaced as necessary; and the presence of invasive species is effectively controlled. Therefore, weekly monitoring will occur for the remainder of the first growing season during which the restoration area is constructed. For the next two years, monitoring will take place during the growing season on a monthly basis to evaluate and document the success rate of the salt marsh mitigation area as described below.

A report with accompanying photographs describing monitoring, implemented mitigation or other recommended measures will be submitted to the CRMC in late spring of the year following initial construction. At the end of the first two growing seasons, monitoring reports describing the status of the

restoration area will be submitted to the CRMC based on the weekly/monthly observations, and will include any recommended or implemented mid-course actions necessary.

The evaluation and documentation of the perceived success rate of the salt marsh mitigation area will include the following:

April – Overwinter survival and high-water hydrology.

May – Initial emergence of vegetation and early growing season hydrology.

June – Full emergence of vegetation and in 2nd year, any replanting from fall of 1st year.

July – Invasive species control (hand removal as necessary) and initial dry weather response.

August – Peak growing season and sustained dry weather response.

September – Supplemental plantings (if necessary) 1st or 2nd years, one month before end of growing season.

October – Implement (as necessary) overwinter erosion/sedimentation or winter-kill measures.

To determine the success of vegetation growth, the survival rate of planted vegetation will be assessed during the monitoring efforts using the following criteria:

- Survival of ≥75% planted vegetation by the end of the first growing season; or
- Aerial vegetation cover of ≥95%.

Success of the Salt Marsh Mitigation area will be determined at the end of two growing seasons, dependent on the presence of hydrology, hydrophytic vegetation, and hydric soil conditions. The area should be hydrologically connected to the existing salt marsh and be subject to by tidal hydrology, hydrophytic vegetation must be present at ≥75% native species cover, and hydric soil conditions and indicators should be observed within the soil at the end of two growing seasons.

The Company understands that per Section 1.2.1(L)(4)(b)(10) of the Red Book, the Company must provide evidence of financial security. The Narragansett Electric Company d/b/a Rhode Island Energy (the Company) is a regulated utility in the business of constructing and operating electric transmission and distribution line projects in the State of Rhode Island. Rhode Island Energy is a known commodity operating in the State of Rhode Island and has the financial security to comply with conditioned approvals issued by state agencies. Rhode Island Energy operates and maintains the electric transmission system in Rhode Island and the proposed mitigation is consistent with Rhode Island Energy's established line of business and has the capability to comply with and follow through on this requirement.