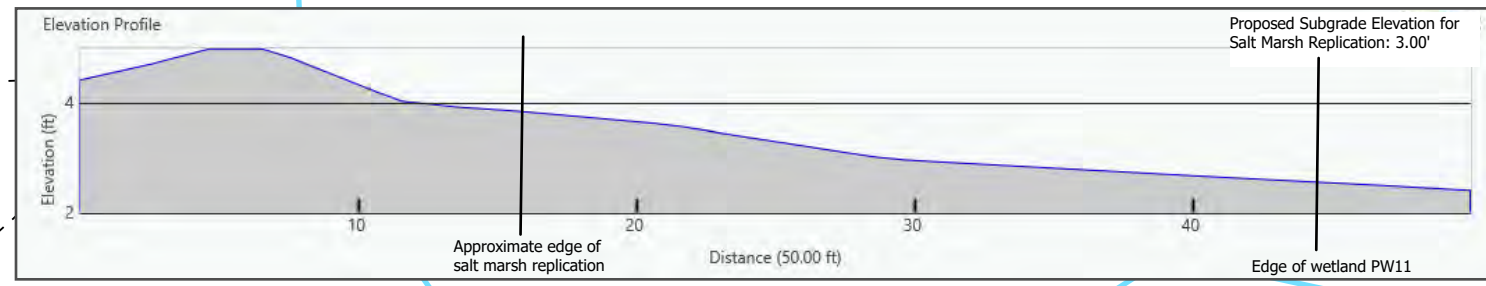


- Salt Marsh Mitigation Area
- - - Existing Contour
- Proposed Contour
- Plant Zone
- Smooth Cord Grass
- Saltmarsh Hay
- Marsh Elder
- Small Bayberry
- - - Limit of Disturbance
- Perimeter Control
- Wetland Flag
- Existing Wetland Border
- Mean Annual High Water Line
- Salt Marsh
- Proposed Structure
- ✗ Structure To Be Removed
- Existing Transmission Line
- Proposed Transmission Line
- RIE Owned Land
- Section A-A' (Refer to Cross Section)



**PRELIMINARY
NOT FOR CONSTRUCTION**

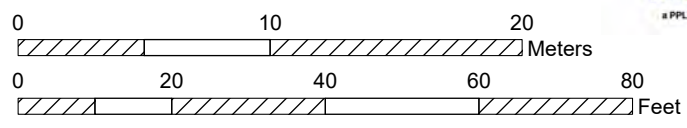


NOTES:
SITE INFORMATION PROVIDED BY PPL ELECTRIC UTILITIES CORPORATION (2023); INCLUDING, BUT NOT LIMITED TO PROPERTY LINES, MUNICIPAL LINES, AND PROPERTY INFORMATION. AERIALS, AND CONTOURS, RECEIVED FROM RIGIS (HTTPS://WWW.RIGIS.ORG/ (2000-2023)) AND GOOGLE EARTH (2023). ALL INFORMATION IS APPROXIMATE.

CONTRACTOR SHALL NOT CONDUCT EARTH DISTURBANCE BEYOND THE LIMITS SHOWN ON THESE DRAWINGS WITHOUT PRIOR APPROVAL BY RI ENERGY CORPORATION'S REPRESENTATIVE RESPONSIBLE FOR EROSION & SEDIMENTATION CONTROL ON SITE. THE REVIEWING AGENCY SHALL BE NOTIFIED BY PPL ELECTRIC UTILITIES CORPORATION'S REPRESENTATIVE RESPONSIBLE FOR EROSION & SEDIMENTATION CONTROL ON SITE OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO THE IMPLEMENTATION OF THOSE CHANGES.



Scale 1"=25' when printed at 11" by 17"



Rhode Island Energy
280 Melrose Street
Providence, RI 02907



POWER Engineers, Inc
2 Hampshire Street Suite 301
Foxborough, MA 02035



SALT MARSH MITIGATION PLAN
(~2,208 square feet)
L14 /M13 Mainline Rebuild Project
RI Energy

SCALE AS NOTED	JOB NO. 245768	DATE: 7/30/2024	SHEET 1 of 2
-------------------	-------------------	--------------------	-----------------

Soil Amendments:

1. The upland soil (overburden is to be removed to the desired ground elevations, as shown on the plan drawing.
2. The intent of the exaction and grading is to establish a mitigation area that is the same or similar elevation (el. 3-feet) as the adjacent salt marsh habitat.
3. The overburden and existing roots, rhizomes, and seed stock are to be temporarily stockpiled on-site and then removed from the site and properly disposed.
4. The excavated soils that are to be temporarily stockpiled on-site will be encompassed with erosion controls and covered with polyethylene sheeting, which is to be weighed down to control dust.
5. If no buried organic soil horizon is encountered during excavation, and if recommended by the Project Wetland Scientist, the mitigation area may need to be over-excavated to a depth of 6-12 inches.
6. Once the over-excavation is complete, the area is to be backfilled with a clean, medium-coarse sand, and topped with approximately 2-inches of organic-rich topsoil to create a proper growing medium.
7. The soil supplements are to be obtained from a local source approved by Rhode Island Energy.
8. The surface of the mitigation area is to be lightly graded but not overly compacted.

Site Preparation Notes:

1. Wetland mitigation area will be established by lowering the existing grade of the upland area by 1 to 3 feet (to be confirmed by the civil survey). This will establish the grade of the area at approximately the same elevation as the saturated to inundated portions of the adjacent existing wetland.
2. Proposed grades within the majority of the mitigation area will be at elevation 3 feet (to be confirmed by the civil survey) to provide seasonally saturated/inundated conditions. Microtopography in the wetland restoration area, including pit and mound topography, will be established under the direction of the Wetland Scientist or Environmental Monitor overseeing the construction of the mitigation area. New grades will blend smoothly with adjacent grades.
3. Soil compaction by heavy machinery may adversely affect plantings and/or result in the perching of water, efforts will be made to minimize soil compaction during grading of the mitigation site. Where the use of heavy machinery cannot be avoided during grading, compaction will be alleviated by disking to loosen the soil surface.
4. The contractor shall call Dig Safe two days before beginning any excavation at the site. Any utilities damaged during construction will be repaired or replaced as directed by the owner with no additional cost to the owner.
5. Erosion and sediment controls will be installed, as necessary, prior to the start of grading and maintained until all surfaces are stabilized.
6. If required, or as directed by the Project Wetland Scientist or Environmental Monitor, good quality, clean, organic-rich, salt-tolerant, topsoil and peat shall be backfilled to bring the grades to the final elevation shown on the plans. The soil will be prepared with a shallow rake pulled over the surface to break up the soil and prepare the surfaces of the plantings and seed mixtures.
7. When excavated and imported soils must be stockpiled on the site, the following guidelines will be followed to maintain moisture in the soil. Approval for location of stockpile of excavated or imported soils will be provided by owner/engineer; avoid stockpiling soils in piles over 4 feet in height; protect soils from surface water flow and contain them with straw bales and/or silt container fence; cover soils with a material that prevents erosion (tarps, erosion control mat, straw, and temporary seed, depending on size and duration of storage); inspect and repair protection measures listed above regularly, as well as prior to (to the extent possible) and after storm events; and maintain moisture in the soils during drought periods.
8. All work will be conducted in accordance with Rhode Island Energy’s Environmental Guidance Document (EG-303) ROW Access, Maintenance and Construction Best Management Practices.
9. Excavation and grading are to occur during low flow conditions to avoid/minimize impacts to the adjacent wetland. Activities are recommended to occur during low tide and not during a full moon.

Planting Notes:

1. Work will be limited to the areas defined on the approved site plans. Activities are to be carried out in compliance with the work described in the approved site and engineering plans. All work will follow the construction sequence authorized by permit approvals, which includes direct site supervision by a designated Wetland Scientist and follow-up monitoring of the plantings proposed in the plan.
2. Prior to the start of construction, the permitting agent and/or the Council's designated representative can ask to be provided with a list of the names, address, and telephone numbers for the project supervisor and all of the individuals responsible for the supervision of the planting program.
3. The planting plan provided for the replication area shall not be deviated from without the approval of the designated Wetland Scientist. It is recognized that not all species may be available at the time of planting, and the Wetland Scientist may allow substitutions.
4. Wetland salt tolerant seed mix will be hand broadcast at appropriate rates throughout the restoration area to create an herbaceous groundcover layer.
5. Shrub plants will be planted at the areas of higher elevation, or closer to the existing upland, in the replication area. Shrub plantings will be planted by first raking the surface to break-up and aerate topsoil. Planting holes must be dug no deeper than the root ball as measured from the trunk flare to the bottom of the ball or as deep as the root system, but not much deeper. Planting holes dug deeper than the root ball often result in the settling of the plant above the trunk flare and structural roots which can result in the root ball being planted too deep. Research shows that the fibrous or absorbing roots of most woody plants are usually found within the top 6 to 12 inches of soil, and since root development often extends beyond the canopy or dripline, it is now recommended that the plant area be loosened and aerated at 3 to 5 times the diameter of the root ball.
6. When planting containerized stock, dig the hole before removing shrub from containers. Thoroughly water the containerized plant, remove metal or plastic containers completely. Before putting root ball in the prepared hole, cut any long roots that completely encircle the root ball. Gently pull other roots away from the ball and spread them out. Backfill soil directly around roots. Mulch and fertilize as described by provider.
7. *Spartina patens* shall be planted closest to the existing salt marsh to ensure survival. When planting *Spartina patens* plant bareroot stock in bundles of 5 stems per transplant. Plant the roots 6 to 8 inches below the surface of the soil. Place each bundle of 3 to 5 2-feet apart in the replication area. Plant on a staggered spacing between rows of saltmarsh hay starting at the crest of the dune continuing landward. This species is most successful if planted in the late winter to early spring. Planting may require watering if planted outside of this timeframe.
8. *Spartina alterniflora* shall be planted at low tide in a location subject to high wave energy. Smooth cordgrass will not survive in soils with extremely high levels of organic matter. These soils are described as having very low bulk density and are problematic. When soil texture approaches the consistency of peat moss, there is potential for low plant survival. For planting purposes, two forms of vegetative plant materials are recommended: containerized and bare-root plugs. Both plant forms have shown to be equally successful in establishing plant stands when planted properly and on applicable sites. Bundles should consist of 3 to 5 or more stems 12-24 inches in height. Containerized smooth cord grass is generally planted 5 to 8 feet on the centers and plugs planted on 2 to 3 feet apart on center.
9. If the planting areas consist of excessively sandy or light soil, along the upland and wetland interface, backfill with one-part organic rich soil to two parts original soil. Dig the hole larger than generally recommended but set the plant no deeper than the root ball as measured from the trunk flare to the bottom of the ball or as deep as the root system. Backfill with the prepared mix and add at least a 3-inch layer of mulch outward from the trunk to a point 6 inches beyond the width of the planting hole. Watering the plants in the summer and fall may be required as directed by the Wetland Scientist or Environmental Monitor.

Construction Sequencing:

1. Mitigation area to be installed in the early- to mid-spring (i.e., April to May) in attempts to avoid the beginning of the nesting season for the Northern Diamond-backed Terrapin.
2. Field survey the boundaries of the proposed salt marsh mitigation area.
3. Install perimeter sediment and erosion controls around the area.
4. Excavation of upland fill in proposed mitigation site 1 to 3 feet below the surface.
5. Excavate overburden, and if buried organic horizon is not encountered, add 6-12-inches of medium to coarse sand with two inches of organic-rich topsoil.
6. Remove a section of the soil erosion controls to establish a hydrologic connection with the existing salt marsh.
7. Planting of vegetation and spread salt tolerant seed mix.
8. Monitoring of mitigation area.
9. Removal of perimeter sediment and erosion controls once the mitigation site as vegetated.

Compensation Notes:

1. The outer edge of the excavation will be lightly graded to blend in with contours outside or beyond the limit of work.
2. Plantings are to include, at a minimum, a mixture of marsh elder, smooth cordgrass, saltmarsh hay, and bayberry. Bayberry shall be planted on the edge of the mitigation area adjacent and on the existing upland slope. Location of plants on this plan will be further established on site by the Project’s Wetland Scientist.
3. Bark mulch (or similar) will be spread around all planted shrubs for a radius of 3-inches and thickness of 3-inches.
4. A salt tolerant seed mixture will be applied in the upper elevations of the mitigation area, including the upland slope. The mixture is to consist of native species indigenous to New England salt marshes.
5. The seed mixture will be applied to bare soil and topped with weed-free straw mulch, or similar erosion control stabilization blanket, at the direction of the Project Wetland Scientist or Environmental Monitor.

L14/M13 Mainline Rebuild Project Salt Marsh Mitigation Area Plantings

Planting Specifications

Quantity	Botanical Name	Common Name	Size	Spacing
175 (bundles of 5)	<i>Spartina patens</i>	Saltmarsh Hay	2-12 inches	2 ft on center
45 (bundles)	<i>Spartina alterniflora</i>	Smooth Cord Grass	12-24 inches	3-5 ft on center
15	<i>Iva frutescens</i>	Marsh Elder	18-24 inches	8 ft on center
10	<i>Morella caroliniensis</i>	Small Bayberry	18-24 inches	8 ft on center

1. The plant material is to be obtained from a local source approved by Rhode Island Energy.
2. In addition, the disturbed interface between the upland and wetland mitigation site will be sown with a mixture of Coastal Salt Tolerant seed mix. The composition of wetland seed mix varies from year to year but the design criteria and ecological function of the mix will remain unchanged. Seed mix shall be sown at 1,250 square feet per pound.

New England Coastal Salt Tolerant Grass Mix

Botanical Name	Common Name	Indicator
<i>Elymus canadensis</i>	Canada Wild Rye	FACU+
<i>Festuca rubra</i>	Red Fescue	FACU
<i>Panicum amarum</i>	Atlantic Coastal Panic Grass	FACU-
<i>Andropogon gerardii</i>	Big Bluestem	FAC
<i>Sorghastrum nutans</i>	Indian Grass	UPL
<i>Panicum virgatum</i>	Switch Grass	FAC
<i>Juncus tenuis</i>	Path Rush	FAC

The New England Coastal Salt Tolerant Grass Seed Mix contains a selection of native grasses that tolerate salty conditions. This mix is appropriate for drier coastal areas that receive salt spray or mist. For the interface between the upland and wetland mitigation site, it is advised that a salt tolerance grass mix be used. The salt tolerant mix is appropriate for dried coastal areas that receive salt spray and or mix. The mix may be applied by hydro-seeding, mechanical spreader, or by hand. Lightly rake or roll the seed mix into the soil to ensure proper germination. Best results are obtained with a late spring early summer seeding with a light mulching of weed-free straw. During the first year of growth, several species will produce seeds, while other species will produce seeds after the second growing season. Not all species will grow in all wetland situations. If conditions are drier than usual, watering may be required. Late fall and winter dormant seeding require an increase in the seeding rate. Fertilization is not recommended. Preparation of a clean weed free seed bed is necessary for optimal results.



RHODE ISLAND ENERGY			SALT MARSH MITIGATION PLAN NOTES PORTSMOUTH, RHODE ISLAND
Revision Date: July 30,2024	DRAWN: CRD	SHEET 2 OF 2	L14 /M13 MAINLINE REBUILD PROJECT