ALL-POINTS TECHNOLOGY CORPORATION

December 20, 2019

Via Electronic and FedEx

Melanie A. Bachman, Esq.
Executive Director/Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

APT Project No.: CT533100

Re: Docket No. 192B
CPV Towantic Energy Center
16 Woodruff Hill Road
Oxford, Connecticut

Dear Ms. Bachman,

On behalf of CPV Towantic LLC, please find enclosed is one original and two (2) copies of the CPV Towantic Energy Center: Wetland Mitigation Monitoring Report No. 2 for the CPV Towantic Energy Center at 16 Woodruff Hill Road in Oxford, Connecticut. This document summarizes monitoring activities associated with the two stormwater renovation basins that were designed to support wetland vegetation as partial mitigation for the project's unavoidable wetland impacts. Wetland mitigation monitoring was performed in accordance with the Connecticut Department of Energy and Environmental Protection's 401 Water Quality Certification conditions under the Department of Army Connecticut General Permit.

Should you have any questions or need additional information please do not hesitate to contact me by telephone at (860) 552-2033 or via email at dgustafson@allpointstech.com.

Sincerely,

Dean Gustafson
Senior Wetland Scientist

Enclosures

cc: Pamela Scherry Berner, Director, Environmental Services, NAES Corp.
Catherine Tubridy, Senior Environmental Specialist, NAES Corp.

CPV TOWANTIC ENERGY CENTER
MITIGATION REPORT NO. 2
TRANSMITTAL AND SELF-CERTIFICATION

DEPARTMENT OF THE ARMY PERMIT No.: NAE-2014-2062

CT DEPT. OF ENERGY & ENVIRONMENTAL PROTECTION PERMIT No.: PGP-201409826

PROJECT TITLE: CPV Towantic Energy Center, 16 Woodruff Hill Road, Oxford, CT 06478

PERMITTEE:	CPV Towantic, LLC
MAILING ADDRESS:	CPV Towantic Energy Center 16 Woodruff Hill Road Oxford, CT 06478 Attn: Larry Hawk, Operations Manager
TELEPHONE: EMAIL:	(203) 814-1048 Larry.Hawk@naes.com
AUTHORIZED AGENT:	All-Points Technology Corporation, P.C.
MAILING ADDRESS:	Attn: Dean Gustafson, Senior Wetland Scientist 3 Saddlebrook Drive Killingworth, CT 06419
TELEPHONE: EMAIL:	(860) 552-2033 dgustafson@allpointstech.com

ATTACHED MITIGATION REPORT TITLE:	CPV Towantic Energy Center: Wetland Mitigation Monitoring Report No. 2
PREPARERS:	All-Points Technology Corporation, P.C.
DATE:	December 2019

CERTIFICATION OF COMPLIANCE: I certify that the attached report is accurate and discloses that the mitigation required by the Connecticut Department of Energy and Environmental Protection is in full compliance with the terms and conditions of that permit.

CORRECTIVE ACTION: No corrective action is identified in the attached report.

CONSULTATION: I do not request consultation with the Connecticut Department of Energy and Environmental Protection to discuss a corrective strategy or permit modification.

CERTIFIED: _____ 12-19-2019

(Signature of permittee) Date

Wetland Mitigation Monitoring Report No. 2

CPV Towantic Energy Center

16 Woodruff Hill Road
Oxford, Connecticut

Prepared for **CPV Towantic Energy Center**
16 Woodruff Hill Road
Oxford, Connecticut 06478

Prepared by **All-Points Technology Corporation, P.C.**
3 Saddlebrook Drive
Killingworth, Connecticut 06419

December 2019

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Project Overview

Corps Permit No: NAE-2014-2062, April 22, 2015
CTDEEP Permit No: PGP-201409826, March 12, 2015
Connecticut Siting Council: Docket 192B Decision and Order, May 14, 2015
Site Address: 16 Woodruff Hill Road, Oxford, Connecticut
Monitoring Report: 2 of 6

Name and Contact Information for Permittee:
16 Woodruff Hill Road
Oxford, Connecticut 06478
Attn: Larry Hawk, Operations Manager
Larry.Hawk@naes.com

Name of Party Responsible for Conducting the Monitoring:
All-Points Technology Corporation, P.C.
Attn: Dean Gustafson, Senior Wetland Scientist
3 Saddlebrook Drive
Killingworth, Connecticut 06419
(860) 552-2033
dgustafson@allpointstech.com

Dates of Inspection: 5/23/19, 10/1/19, 10/2/19, 11/06/19

Project Summary

CPV Towantic LLC ("CPV"; the "Permittee") constructed the CPV Towantic Energy Center, an 805-megawatt natural gas-fired combined-cycle electric generating facility ("Facility" or "Project"), at 16 Woodruff Hill Road in Oxford, New Haven County, Connecticut ("subject property" or "site"). The Facility construction activities were initiated in late 2015 with the majority of construction work occurring between 2016 and 2018. Final site stabilization work, including construction of two stormwater renovation areas that served as wetland mitigation, were completed during the spring of 2018.

Approximately 10,500 square feet (0.24 acre) of unavoidable permanent wetland impacts resulted from construction of the Facility. To mitigate for these unavoidable wetland impacts, a suite of mitigation measures was implemented to prevent short- and long-term impacts to wetland resource areas and compensate for direct disturbances associated with the Project. Proposed mitigation measures included payment into the Connecticut In-Lieu Fee Program ("ILF") through Audubon Connecticut, the sponsor of the ILF program, that satisfied permit requirements from the U.S. Army Corps of Engineers New England Division ("Corps"). In accordance with the Corps requirements, CPV made payment into the ILF Program to compensate for unavoidable project impacts to wetlands. This ILF involves paying a fee "in lieu of" permittee-responsible mitigation; the amount of the fee is based on the area of wetlands impacted, type of wetland habitat impacted, watershed location and consultation with Corps and interagency review team. A payment of $79,380 for

the sale of 0.24 credits to compensate for the 0.24 acre of wetland impact was made by CPV on December 18, 2015. A December 18, 2015 CPV transmittal letter and December 21, 2015 Audubon Connecticut notification of sale of ILF credits letter were included in Wetland Mitigation Monitoring Report No. 1 (March 2019) as Attachment A.

The Connecticut Department of Energy and Environmental Protection ("DEEP") determined that the ILF credit payment was insufficient to compensate for the Project's unavoidable wetland impacts and suggested that the two stormwater basins be designed as wet basins able to support viable stands of wetland vegetation as an acceptable compensatory mitigation in combination with the ILF payment. As a result, both stormwater renovation areas were designed as extended detention shallow wetland basin systems in accordance with the recommendations found in the 2004 *Connecticut Stormwater Quality Manual*.

This report documents the first year of monitoring following completion of construction activities on the two stormwater wetland basins, identified as Stormwater Renovation Area 'A' (the southern basin) and Stormwater Renovation Area 'B' (the northern basin), which were completed in 2018. The Permittee's wetland monitor, All-Points Technology Corporation, P.C. ("APT"), provides the following information documenting the condition of both basins for the first year of the DEEP permit-required 5-year post-construction monitoring of the two wetland mitigation areas.

Location and Direction to Mitigation Site

The subject property is located at 16 Woodruff Hill Road in Oxford, New Haven County, Connecticut. The property is owned by Competitive Power Ventures Holdings, LLC ("CPV") and is developed with the CPV Towantic Energy Center, an 805-megawatt natural gas-fired combined-cycle electric generating facility ("Facility"). The Facility is located in the Woodruff Hill Industrial Park on a parcel that is occupied by the electric generating plant, maintained lawn areas and two stormwater renovation areas. A chain link security fence surrounds the Facility. Due to the operation of the Facility as an energy generation plant, access to the site is restricted.

The stormwater renovation areas consist of two basins located respectively on the south end of the Facility (Basin 'A' or South Basin) and north end of the Facility (Basin 'B' or North Basin). Both basins were designed as constructed stormwater wetland basins to provide proper treatment of stormwater runoff from the Facility and to function as emergent wetland areas as mitigation for the Project's unavoidable wetland impacts in accordance with DEEP's permit condition.

The Latitude/Longitude coordinates of the mitigation sites are:

- Basin 'A' Lat./Long.: 41.482309°, -73.122070°
- Basin 'B' Lat./Long.: 41.485715°, -73.122100°

Start and Completion Dates for Mitigation

- Basin ‘A’ grading: 05/09/18
- Basin ‘B’ grading: 04/10/18
- Basin ‘A’ planting: 05/14/18
- Basin ‘B’ planting: 04/20/18
- Basin ‘B’ replanting: 11/8/18
- Basin ‘B’ replanting: 10/1/19, 10/2/19, 11/6/19

Wetland Mitigation Construction

The following section describes the sequence of activities that occurred during construction of Basins 'A' and 'B'. All work was performed by Paganelli Construction Corp. under the supervision of Competitive Power Ventures, Inc. Representative photographs of the of the construction activities as well as the final constructed basins were included in Wetland Mitigation Monitoring Report No. 1 (March 2019) as Attachment B.

Stormwater Renovation Areas Construction

There were four general phases of the wetland mitigation plan for the two stormwater basins: 1) clearing of vegetation and grubbing of stumps and roots; 2) excavation and subgrading to form the bottoms of the two basins; 3) final grading of the high and low marshes, forebay and micropool and placement of wetland topsoil, and 4) planting of native herbaceous wetland species.

During construction of the Facility, topsoil from on-site wetlands and adjacent areas was stockpiled separately and later amended with 2,074 yards of compost (sourced from Supreme Forest Products of Southington, Connecticut) to provide wetland topsoil for use in the bottoms of both basins. Grading activities occurred in the spring of 2018 for Basins 'A' and 'B' with final grading and placement of wetland topsoil occurring in April and May 2018. Delivery slips of the compost were provided in Wetland Mitigation Monitoring Report No. 1 (March 2019) as Attachment C.

Some rocks and boulders uncovered during excavation activities were placed in the high marsh areas, as they did not significantly decrease the plantable area of the stormwater restoration areas. These rocks and boulders were placed in such a way as to provide crevices and cavities that enhance wildlife habitat.

Stormwater Renovation Areas Plantings

Generally, planting of Basins 'A' and 'B' followed the permit-approved plans.

Planting of native wetland species occurred in April and May 2018. Due to low survivorship of plants in Basin 'B', this basin was partially replanted in November 2018. Nursery order slips of native wetland plants used in both basins, including the November 2018 replanting, were provided in Wetland Mitigation Monitoring Report No. 1 (March 2019) as Attachment C. The following tables summarize wetland plants installed within Basins 'A' and 'B'.

Table 1: Planting Schedule for Basin 'A'

Quantity	Botanical Name	Common Name	Size	Spacing
Low Marsh				
250	*Peltandra virginica*[2]	Arrow Arum	2" plug	2 ft on center
250	*Pontederia cordata*[2]	Pickerelweed	2" plug	2 ft on center
300	*Sagittaria latifolia*[1]	Northern Arrowhead	2" plug	2 ft on center
300	*Schoenoplectus acutus*[3]	Hardstem Bulrush	2" plug	2 ft on center
High Marsh				
850	*Carex comosa*	Bearded Sedge	2" plug	2 ft on center
850	*Juncus effuses*	Soft Rush	2" plug	2 ft on center
850	*Panicum virgatum*	Switchgrass	2" plug	2 ft on center
850	*Schoenoplectus pungens*	Three Square Bulrush	2" plug	2 ft on center
Forebay				
75	*Peltandra virginica*[2]	Arrow Arum	2" plug	2 ft on center
75	*Pontederia cordata*[2]	Pickerelweed	2" plug	2 ft on center
75	*Sagittaria latifolia*[1,2]	Northern Arrowhead	2" plug	2 ft on center
75	*Schoenoplectus acutus*[3]	Hardstem Bulrush	2" plug	2 ft on center
Micropool				
100	*Peltandra virginica*[2]	Arrow Arum	2" plug	2 ft on center
100	*Pontederia cordata*[2]	Pickerelweed	2" plug	2 ft on center
100	*Sagittaria latifolia*[1,2]	Northern Arrowhead	2" plug	2 ft on center
100	*Schoenoplectus acutus*[3]	Hardstem Bulrush	2" plug	2 ft on center

Notes:

1. Don't plant in Fall.
2. Plant in areas of inundation up to 12" deep.
3. Plant in areas of inundation up to 36" deep.
4. Marsh areas and a 5-foot wide shelf around the outer perimeter of the forebay and micropool shall consist of a minimum of 10 inches of wetland topsoil.

Table 2: Planting Schedule for Basin 'B'

Quantity	Botanical Name	Common Name	Size	Spacing
Low Marsh				
200	*Peltandra virginica*[2]	Arrow Arum	2" plug	2 ft on center
200	*Pontederia cordata*[2]	Pickerelweed	2" plug	2 ft on center
150	*Sagittaria latifolia*[1]	Northern Arrowhead	2" plug	2 ft on center
150	*Schoenoplectus acutus*[3]	Hardstem Bulrush	2" plug	2 ft on center
High Marsh				
250	*Carex comosa*	Bearded Sedge	2" plug	2 ft on center
250	*Juncus effuses*	Soft Rush	2" plug	2 ft on center
250	*Panicum virgatum*	Switchgrass	2" plug	2 ft on center
200	*Schoenoplectus pungens*	Three Square Bulrush	2" plug	2 ft on center
Forebay				
50	*Peltandra virginica*[2]	Arrow Arum	2" plug	2 ft on center
50	*Pontederia cordata*[2]	Pickerelweed	2" plug	2 ft on center
50	*Sagittaria latifolia*[1,2]	Northern Arrowhead	2" plug	2 ft on center
50	*Schoenoplectus acutus*[3]	Hardstem Bulrush	2" plug	2 ft on center
Micropool				
100	*Peltandra virginica*[2]	Arrow Arum	2" plug	2 ft on center
50	*Pontederia cordata*[2]	Pickerelweed	2" plug	2 ft on center
50	*Sagittaria latifolia*[1,2]	Northern Arrowhead	2" plug	2 ft on center
50	*Schoenoplectus acutus*[3]	Hardstem Bulrush	2" plug	2 ft on center

Notes:

1. Don't plant in Fall.
2. Plant in areas of inundation up to 12" deep.
3. Plant in areas of inundation up to 36" deep.
4. Marsh areas and a 5-foot wide shelf around the outer perimeter of the forebay and micropool shall consist of a minimum of 10 inches of wetland topsoil.

Invasive Species Control

Since the grading for both basins required extensive grade cuts and fills, any existing invasive plant species that may have occupied the limit of disturbance associated with the Project would have been eliminated. As a result, no control of invasive plant species was necessary in associated with construction of either Basins 'A' or 'B'.

As-Built Survey

In accordance with the permit authorizations, an as-built survey of Basins 'A' and 'B' was performed to verify both basins were constructed in general accordance with the permit-approved site plans and that elevations of the high and low marsh wetland habitats were properly graded. An as-built survey was performed by Langan CT, Inc. on December 27, 2018, a copy of which was provided in Wetland Mitigation Monitoring Report No. 1 (March 2019) as Attachment C. The survey confirmed that both Basins 'A' and 'B' were constructed in general conformance with the permit-approved site plans. The desiccated remains of relatively dense emergent wetland vegetation were noted in Basin 'A' while Basin 'B' was found to contain relatively sparse vegetation at the time of the survey. This is likely the result of the replanting of Basin 'B' in November 2018 which provided little time for vegetative growth before winter set in.

Post-construction Monitoring

Since grading and planting activities associated with construction of Basins 'A' and 'B' occurred in 2018, the first year of post-construction monitoring occurred during the 2019 growing season. The following section discusses the current status of these basins and their ability to meet the permit-required success standards. Representative photographs of Basins 'A' and 'B' are provided in Attachment A.

Post-construction monitoring measures the success of the two basins by the following success standards as noted on the permit-authorized site plans.

Stormwater Renovation Areas Plantings

Basin 'A'

Inspections performed during the 2019 growing season revealed Basin 'A' plantings have successfully established and vegetated the majority of the various growing regions within the basin. As a result, no supplemental plantings are required at this time. A few small isolated areas along the basin's side slopes were observed to have minimal vegetative growth. Although no significant erosion or slope instability was noted in such areas, APT recommended these areas be amended with topsoil, hydroseeded and protected with straw mulch to permanently stabilize these areas with dense vegetation. This stabilization work was completed on November 6, 2019.

Basin 'B'

APT performed a follow-up inspection on May 23, 2019 to monitor the vegetative growth in Basin 'B' to determine if any corrective action (i.e., additional replanting) was necessary to satisfy the applicable success standards as a result of concerns previously noted. During the May 23rd inspection it was determined that a significant percentage of the November 2018 plantings within Basin 'B' had not survived. As such, additional replanting was recommended and scheduled for the Fall of 2019.

During the May 23rd inspection, APT noted that the inundation level in Basin 'B' was slightly higher than Basin 'A' and also observed active groundwater seepage along the north edge of Basin 'B'. Due to the deep cut required to construct Basin 'B' and the observation of active groundwater seepage, APT speculated that Basin 'B' was receiving enough seasonal groundwater exfiltration to slightly alter the depth of inundation throughout this basin. As a result of this observation, APT recommended modifying some of the plants from the original planting schedule to account for the new hydraulic regime in Basin 'B' and the slightly deeper depth of inundation. Table 3 depicts the planting schedule used to replant Basin 'B' during the Fall of 2019.

Table 3: Replanting Schedule for Basin 'B'

Quantity	Botanical Name	Common Name	Size	Spacing
Low Marsh (700 Plants)				
100	*Acorus americana*[2]	Sweetflag	2" plug	2 ft on center
100	*Peltandra virginica*[2]	Arrow Arum	2" plug	2 ft on center
100	*Pontederia cordata*[2]	Pickerelweed	2" plug	2 ft on center
100	*Sagittaria latifolia*[2,6]	Northern Arrowhead	2" plug	2 ft on center
100	*Schoenoplectus acutus*[4]	Hardstem Bulrush	2" plug	2 ft on center
100	*Schoenoplectus tabernaemontani*[3]	Soft-stem Bulrush	2" plug	2 ft on center
100	*Sparganium americanum*[2]	Burreed	2" plug	2 ft on center
High Marsh (900 Plants)				
150	*Acorus americana*[2]	Sweetflag	2" plug	2 ft on center
100	*Carex comosa*[1]	Bearded Sedge	2" plug	2 ft on center
100	*Peltandra virginica*[2]	Arrow Arum	2" plug	2 ft on center
100	*Schoenoplectus acutus*[3]	Hardstem Bulrush	2" plug	2 ft on center
100	*Schoenoplectus pungens*[1]	Three Square Bulrush	2" plug	2 ft on center
200	*Schoenoplectus tabernaemontani*[3]	Soft-stem Bulrush	2" plug	2 ft on center
150	*Sparganium americanum*[2]	Burreed	2" plug	2 ft on center
Forebay (200 Plants)				
50	*Acorus americana*[2]	Sweetflag	2" plug	2 ft on center
50	*Nuphar luteum*[4,5]	Yellow Water Lily	Tubers	2 ft on center
50	*Nymphaea odorata*[4,5]	White Water Lily	Tubers	2 ft on center
50	*Vallisneria americana*[5]	Wild Celery	2" plug	2 ft on center
Micropool (300 Plants)				
50	*Acorus americana*[2]	Sweetflag	2" plug	2 ft on center
50	*Nuphar luteum*[4,5]	Yellow Water Lily	Tubers	2 ft on center
50	*Nymphaea odorata*[4,5]	White Water Lily	Tubers	2 ft on center
50	*Schoenoplectus acutus*[3]	Hardstem Bulrush	2" plug	2 ft on center
50	*Sparganium americanum*[2]	Burreed	2" plug	2 ft on center
50	*Vallisneria americana*[5]	Wild Celery	2" plug	2 ft on center

Plantings were installed by Distinctive Tree Care, a landscaping contactor out of South Windsor, CT, over three days, October 1st, October 2nd, and November 6th, 2019, as monitored and directed by APT. The majority of the plantings were installed during October 1st and 2nd with the exception of the water lily plantings, which due to sourcing issues were delayed until November 6th. To ensure plantings were allowed to establish prior to the end of growing season, the basin was dewatered prior to planting and for 6 weeks after initial planting activities were completed.

Similar to Basin 'A', a few small isolated areas along the basin's side slopes were observed to have minimal vegetative growth. Although no significant erosion or slope instability was noted in such areas, APT recommended these areas be amended with topsoil, hydroseeded and protected with straw mulch to permanently stabilize these areas with dense vegetation. This work was completed on November 6, 2019.

A follow-up inspection will be performed in the Spring of 2020 to determine the successfulness of the Fall 2019 planting activities (Basin 'B' and small side slope repairs at both basins) and if any corrective action (i.e., additional replanting) is necessary to satisfy the applicable success standards.

Performance Standards Are / Are Not Being Met

The following performance (success) standards apply to this Project. The four performance standards will be evaluated at the end of the 2019 growing season to determine if they are currently being met or not.

1) *At least 80% of the aerial surface of the Extended Detention Shallow Wetlands planting areas (high marsh, low marsh and 5-foot fringes of forebay and micropool) shall be established with native hydrophytes.*

   Response: This success standard is currently being met, and exceeded, for Basin 'A'. All areas of the basin are densely stocked with native plants ranging across several hydrophytic species. However, Basin 'B' is not currently meeting this success standard due to poor survivorship of the vast majority of the original plantings. It is anticipated that the more recent Fall 2019 planting activities will change these conditions and as such will be reassessed for this performance standard in the Spring of 2020.

   Table 4 below shows the approximate aerial coverages of the various planting areas (e.g., high marsh, low marsh, forebay fringe and micropool fringe) at the time of the Spring 2019 inspection.

Table 4: Wetland Mitigation Areas Native Plant Aerial Coverage

Area Identification	% Aerial Coverage by Native Hydrophytes
Basin 'A'	
High marsh	>95
Low marsh	80-85
Forebay fringe	>95
Micropool fringe	>95
Basin 'B'	
High marsh	0-5
Low marsh	0-5
Forebay fringe	5-10
Micropool fringe	0-5

2) Documented presence of wetland hydrology appropriate for Extended Detention Shallow Wetland Basins (soil saturation within 12 inches of the surface for a minimum of two consecutive weeks during the growing season in the high marsh and low marsh areas).

Response: During the Spring 2019 inspection, both basins were observed to have inundation throughout both the low and high marsh areas. This inundation was observed again during the Fall 2019 replanting activities. Due to the extended periods and significant depths of inundations observed throughout the 2019 monitoring period, it is determined that this success standard is currently being met. This success standard will continue to be reassessed during the 2020 monitoring period.

Table 5 below is provided documenting the observed wetland hydrology during the Spring 2019 inspection.

Table 5: Wetland Mitigation Areas Hydrology

Area Identification (date of measurement)	Depth of Inundation (inches)
Basin 'A'	
High marsh	1-4
Low marsh	6-12
Basin 'B'	
High marsh	3-10
Low marsh	8-14

3) Control of non-native species with less than 10% total aerial coverage by end of monitoring period.

Response: The Permittee assessed each basin to determine the percent surface area cover by invasive species. As summarized in the table below, both basins are currently satisfying this Success Standard. 2019 marks the first year of this Success Standard being met. This success standard will be reassessed during the 2020 monitoring period.

APT did observe dense stands of cattail (both narrow-leaved and broad-leaved) in Basin 'A' particularly the western end as your approach the micro pool. Although both species of cattails are considered native plants, they are also listed as invasive/unacceptable plant species per the Army Corps of Engineers New England District's wetland mitigation guidance (Appendix K, COE NED New England Compensatory Mitigation Guidance). The cattail plants are providing enhanced stormwater renovation (i.e., nutrient assimilation) and although over time may reduce wildlife utilization (through diminished plant species diversity), wildlife utilization was not a planned principal function of these stormwater

basins considering that are contained with the fenced limits of a large power plant. Considering these facts, APT reached out to DEEP to determine if there was a need to eradicate/control the cattails. DEEP responded and agreed that there was no need to eradicate/control the cattails in this situation; a copy of the correspondence is provided in Attachment B. As a result, the presence of cattails in either basin will not be considered an invasive species for the purposes of this monitoring project.

Table 6 below represents the current dominance of invasive at the time of inspection for the 2019 growing season.

Table 6: Wetland Mitigation Areas Invasive Plant Aerial Coverage

Area Identification	% Aerial Coverage by Native Species	% Aerial Coverage by Invasive Plants
Basin 'A'	90	<5
Basin 'B'	5	<5

4) *All slopes and soils within and adjacent to the two stormwater renovation areas Basins are permanently stabilized with vegetation and any erosion control barriers removed no later than the end of the third growing season.*

Response: This Success Standard is currently being satisfied. As previously mention, limited isolated pockets of sparsely vegetated side-slopes were identified that have been remedied during the 2019 remedial activities. Despite these small areas of partially unvegetated soil, side-slopes to both basins remain stable with greater than 95% vegetative stabilization with no evidence of erosion present. In addition, all erosion controls having been removed. The 2019 growing season marks the first year of the required monitoring period with this Success Standard being met. This success standard will be reassessed during the 2020 monitoring period with a focus on assessing the newly seeded side slope areas.

Dates of Corrective or Maintenance Activities Conducted Since Last Report

The 2019 growing season represents the first year of monitoring following a full growing season after completion of construction activities and planting of the two basins, which occurred in 2018. In 2019, Basin 'B' was replanted over three days to replace previous planting stock that did not survive the 2018 planting. During the 2019 replanting activities additional side slope stabilization activities also occurred. See below for the dates of these maintenance activities:

- Replanting and Side Slope Stabilization Activities: 10/1/19, 10/2/19 and 11/6/19

Recommendations for Additional Remedial Actions

No additional remedial actions are currently recommended as a result of replanting activities that occurred in the Fall of 2019 including minor side slope stabilization at both basins and replanting of Basin 'B'. When the various success standards are reassessed for each basin in the Spring 2020, if and where needed additional remedial actions shall be recommended.

Requirements

The Special Conditions sections of the DEEP permit PGP-201409826, issued March 12, 2015, state that mitigation must be performed in accordance with the final approved mitigation plan. The approved mitigation plan sets forth that for each of the first five full growing seasons following construction of the mitigation sites, the sites shall be monitored biannually, with annual monitoring reports being submitted to DEEP. The permit identifies the first year of monitoring as the first year that the site has been through a full growing season after completion of construction and planting. Construction of the two basins was completed in 2018. Therefore, the requirements for wetland mitigation monitoring set out in these documents will continue to be performed in 2019 through 2023 with observations to occur two times during the growing season – generally in late spring/early summer and again in late summer/early fall.

Summary

This report documents that both Basin 'A' and 'B' were successfully constructed in general conformance with the permit-approved site plans. Construction and initial planting activities were completed in the spring of 2018 with additional activities required in the Fall of 2018 to replant Basin 'B'. Additional replanting activities occurred in the Fall of 2019 for minor side slope stabilization at both basins and replanting of Basin 'B'.

APT will be monitoring the success of the mitigation areas during the 2020 growing season as the two basins enter into the second full growing season. APT will diligently monitor successful establishment of newly planted native species, particularly in Basin 'B', during the 2020 growing season to ensure the mitigation areas' planting stock is healthy in order to satisfy the percent of aerial coverage success standard and any observations of invasive species will receive corrective action.

Attachment A

Basins ‘A’ and ‘B’ Photodocumentation

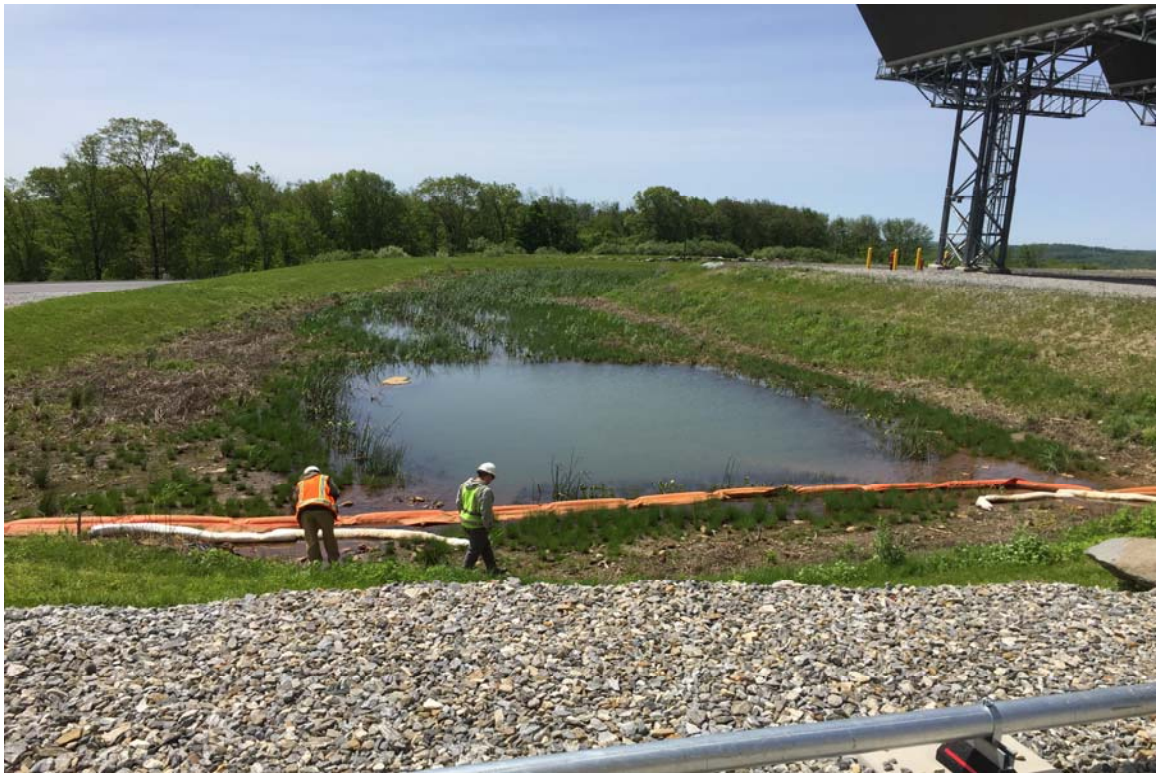

Photo 1: View of Basin 'A' (southern basin) forebay and high and low marshes looking south.

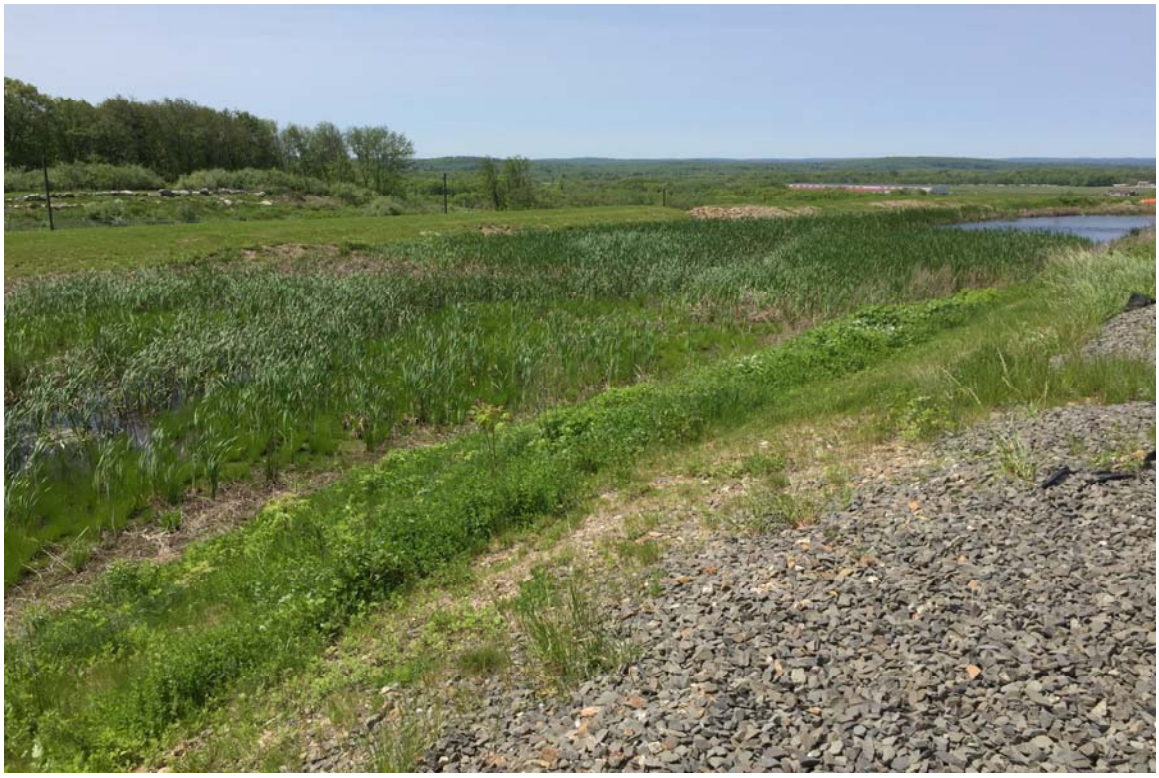

Photo 2: Overview of Basin 'A' high and low marshes with micropool in far right side of photo looking southwest.

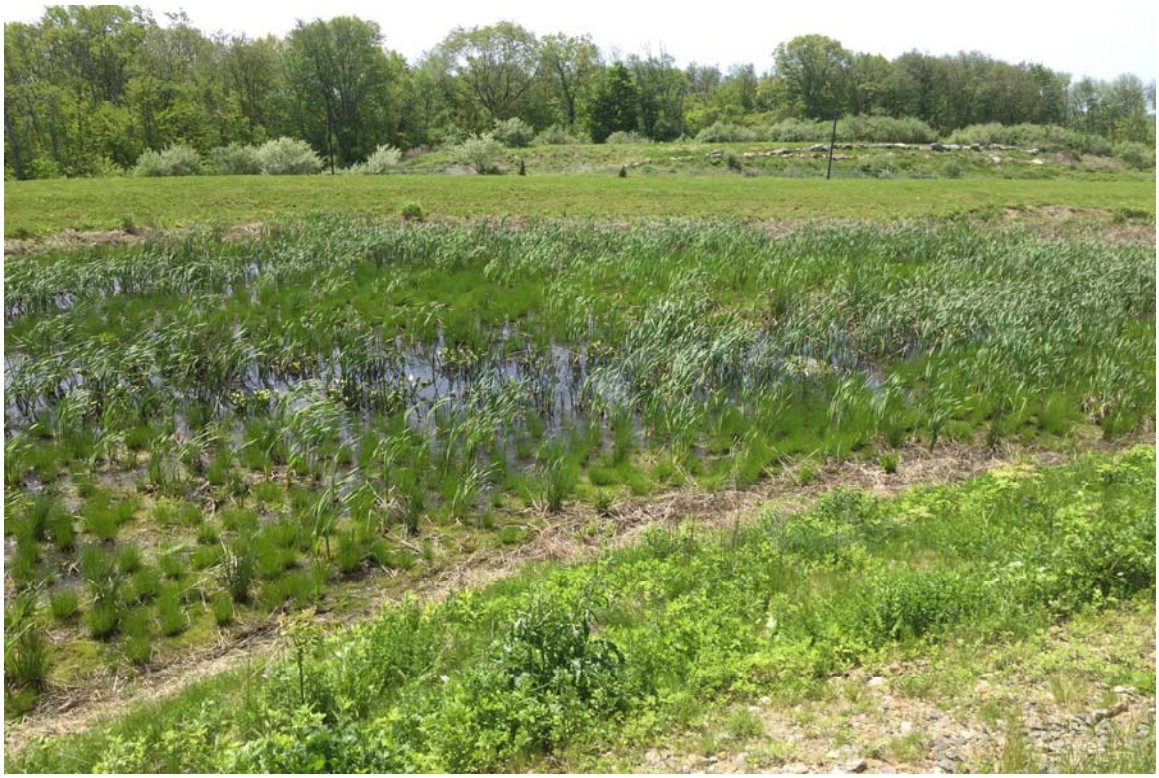

Photo 3: View of Basin 'A' high and low marsh zones looking south.

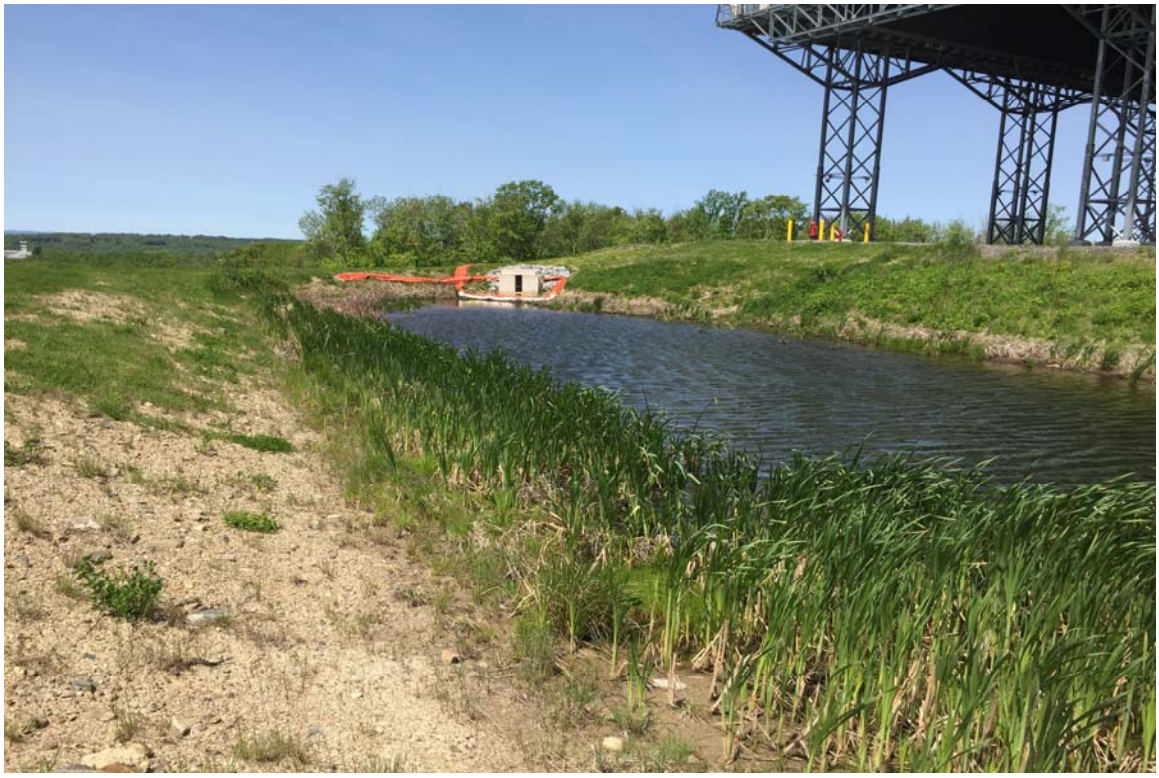

Photo 4: View of Basin 'A' micropool looking west.

Photo 5: Close up of Basin 'A' high and low marsh plants.

Photo 6: Close up of Basin 'A' high and low marsh plants.

Photo 7: Close up of Basin 'A' high and low marsh plants.

Photo 8: Close up of Basin 'A' high and low marsh plants.

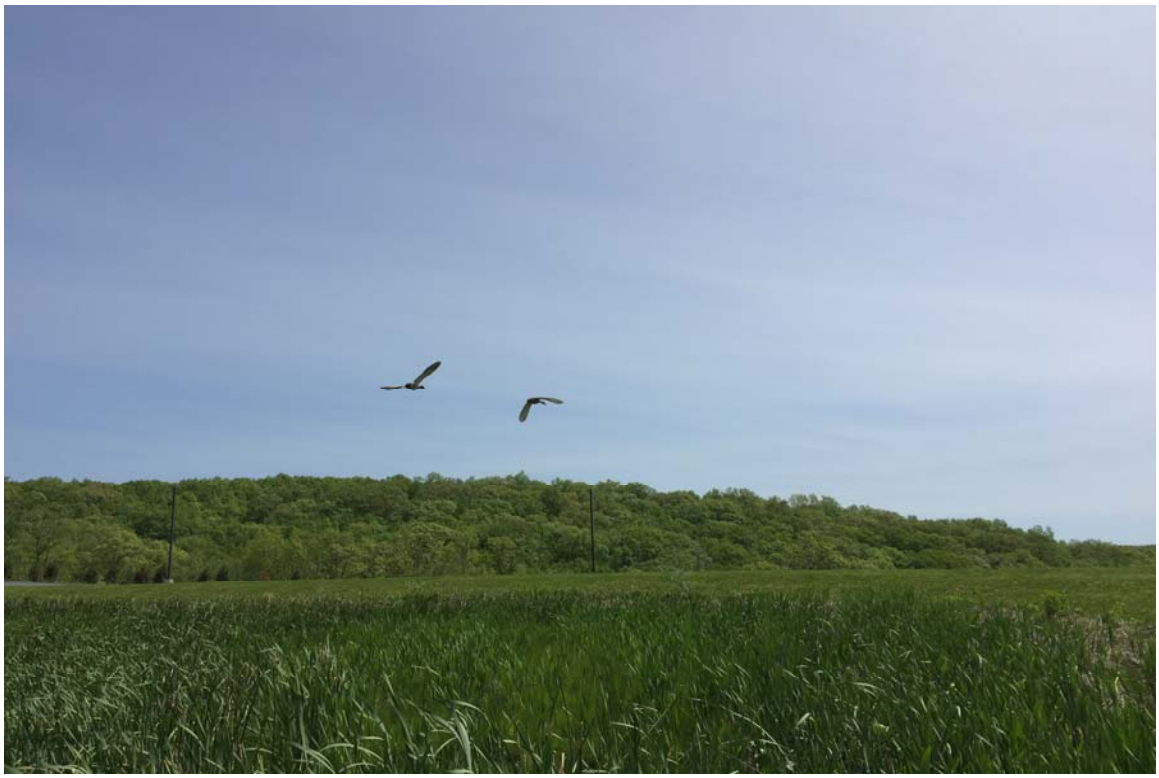

Photo 9: View of Basin 'A' mallard ducks.

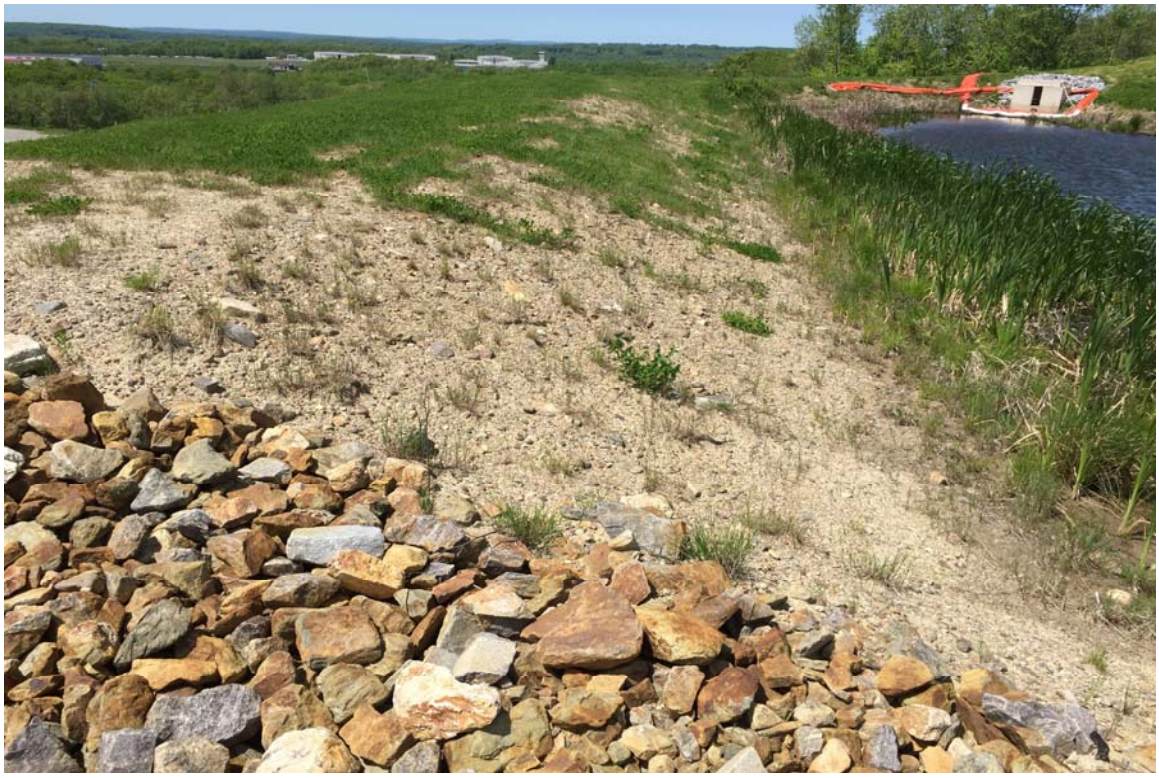

Photo 10: View of small sparsely vegetated southern side slope area in Basin 'A' looking west.

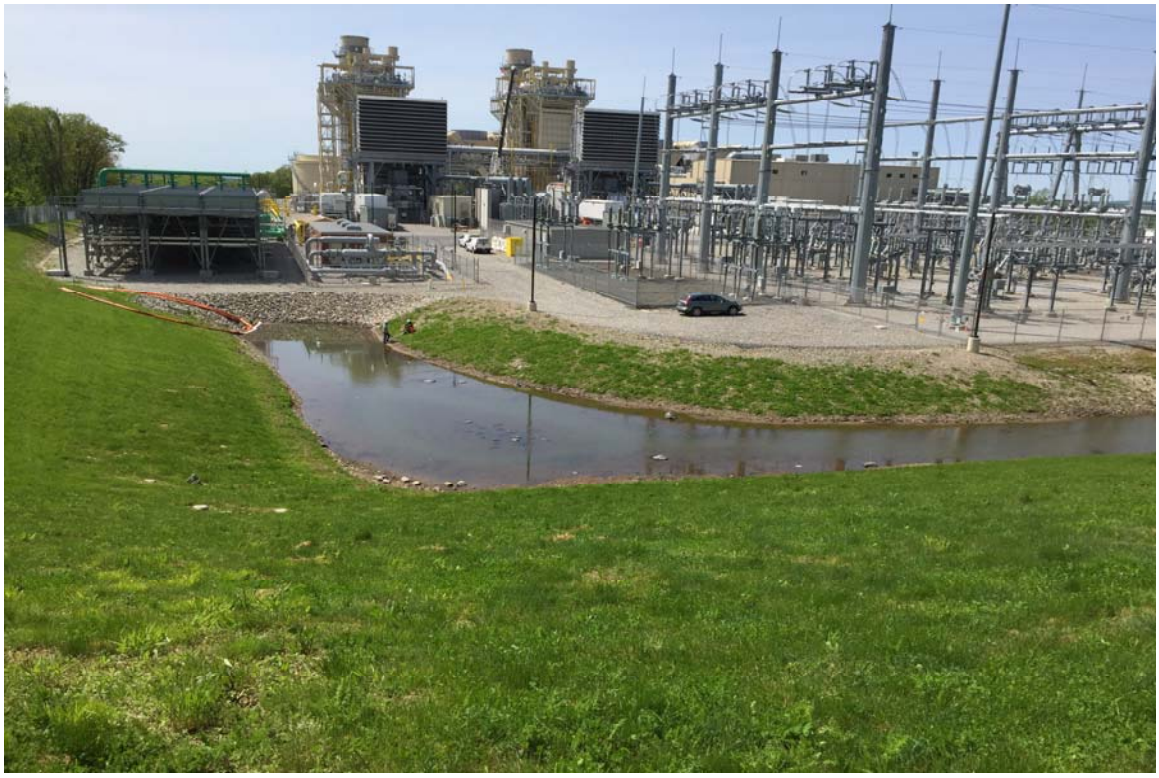

Photo 11: Overview of Basin 'B' (north basin) looking south at high and low marsh zones and micropool (in background).

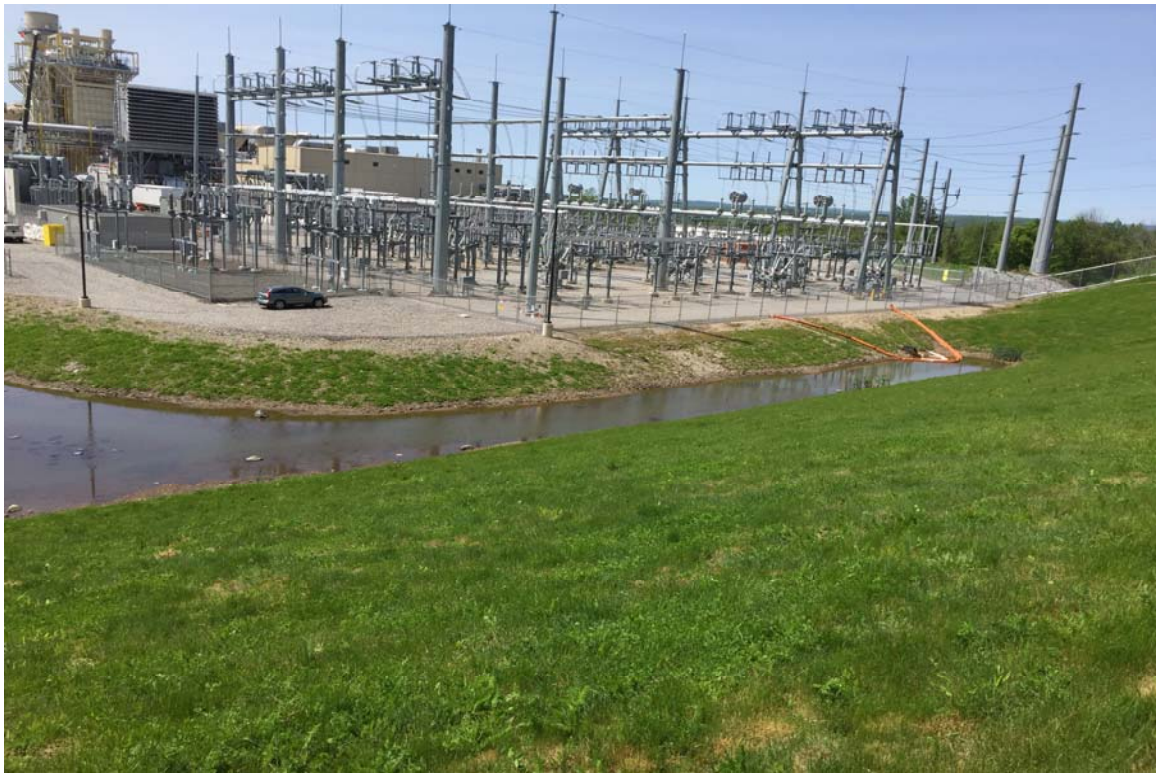

Photo 12: Overview of Basin 'B' looking southwest at high and low marsh zones and forebay in far right side of photo.

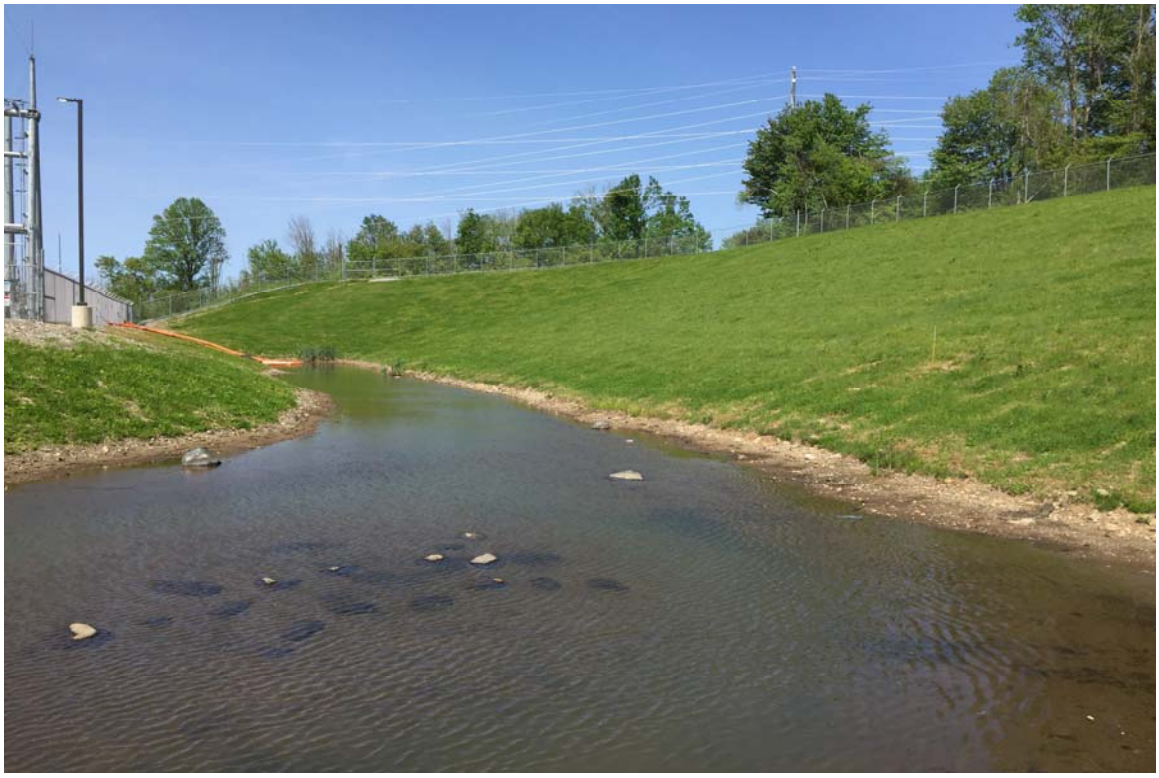

Photo 13: View of Basin 'B' high and low marshes (general lack of vegetation) looking west with forebay in background.

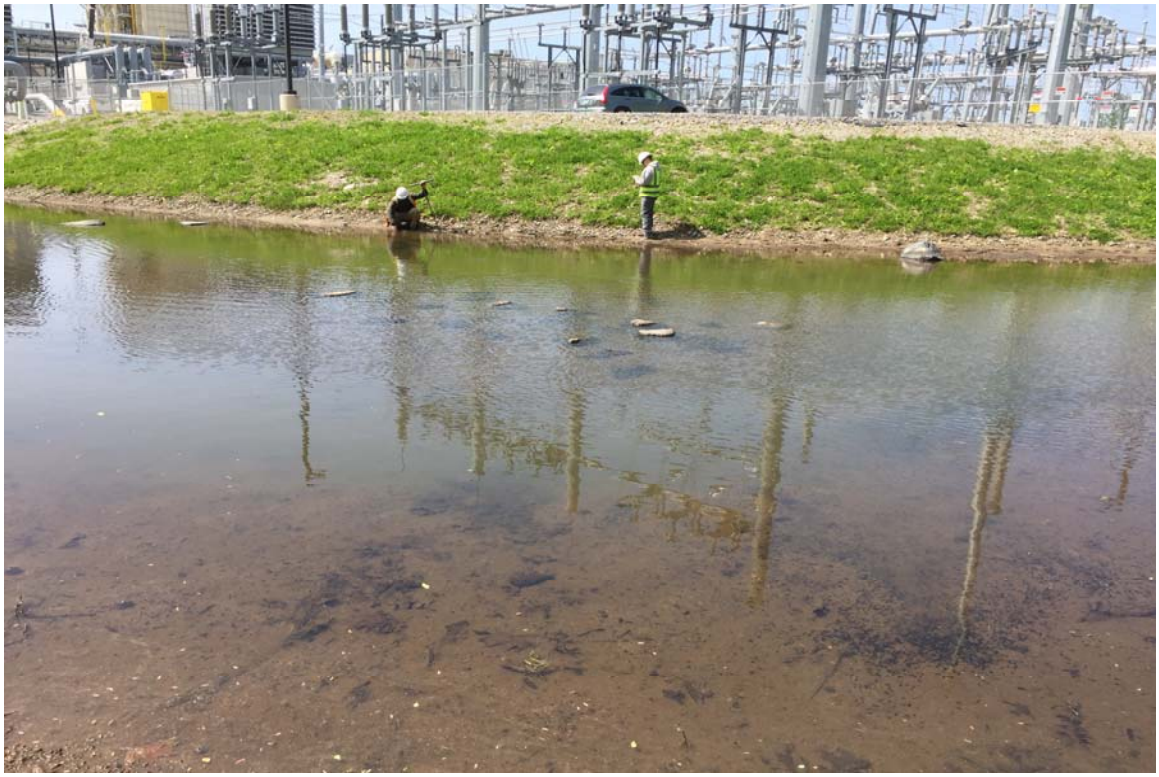

Photo 14: View of Basin 'B' high and low marshes near micropool edge looking southwest.

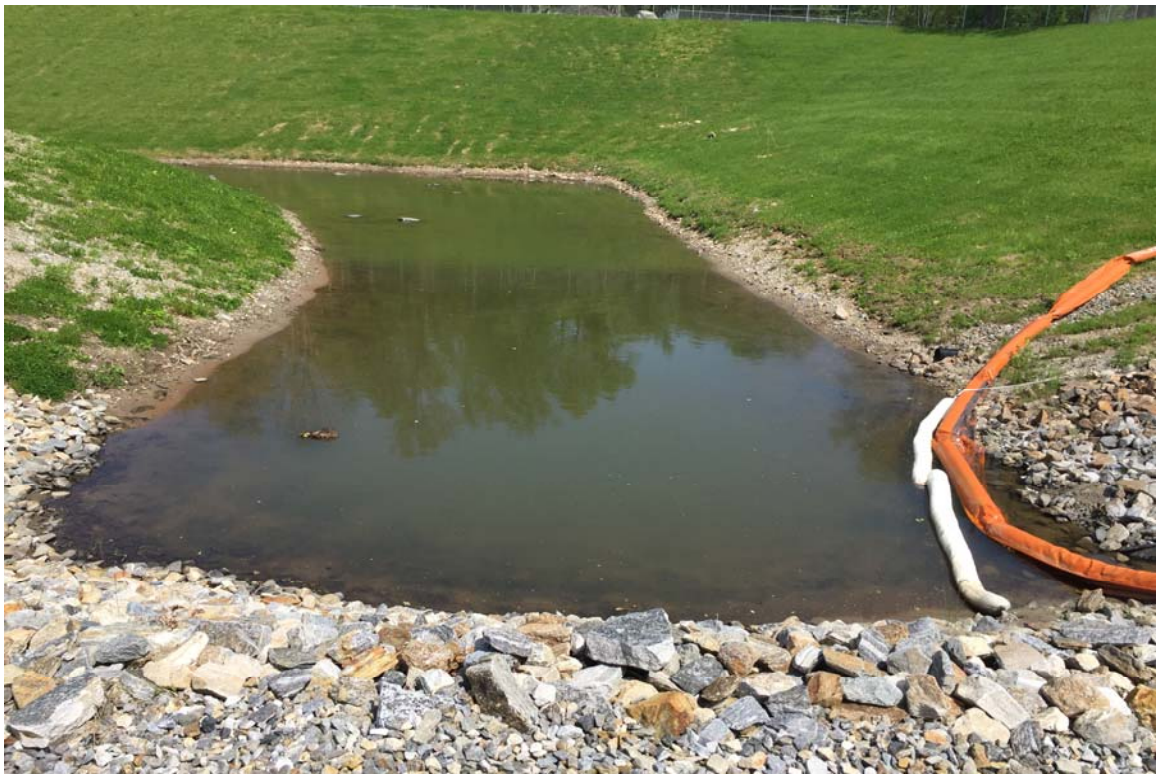

Photo 15: View of Basin 'B' micropool looking north.

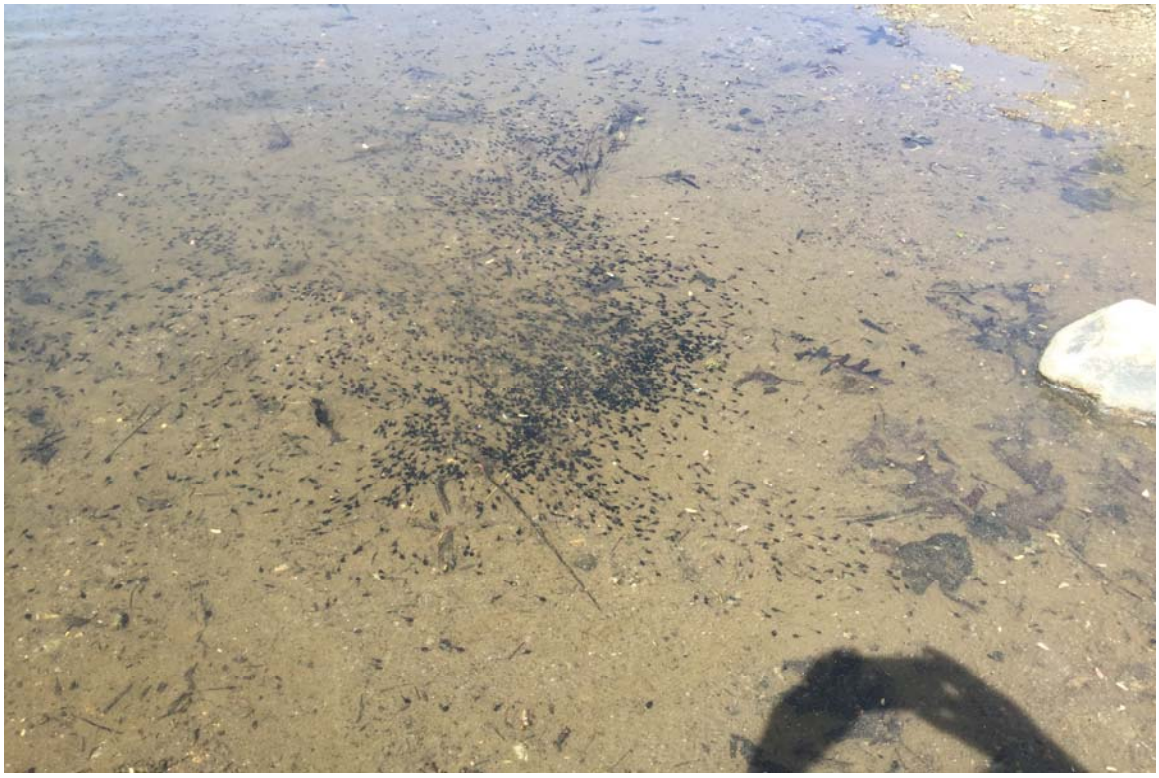

Photo 16: View of numerous tadpoles (likely green frog based on adult observations) in Basin 'B'.

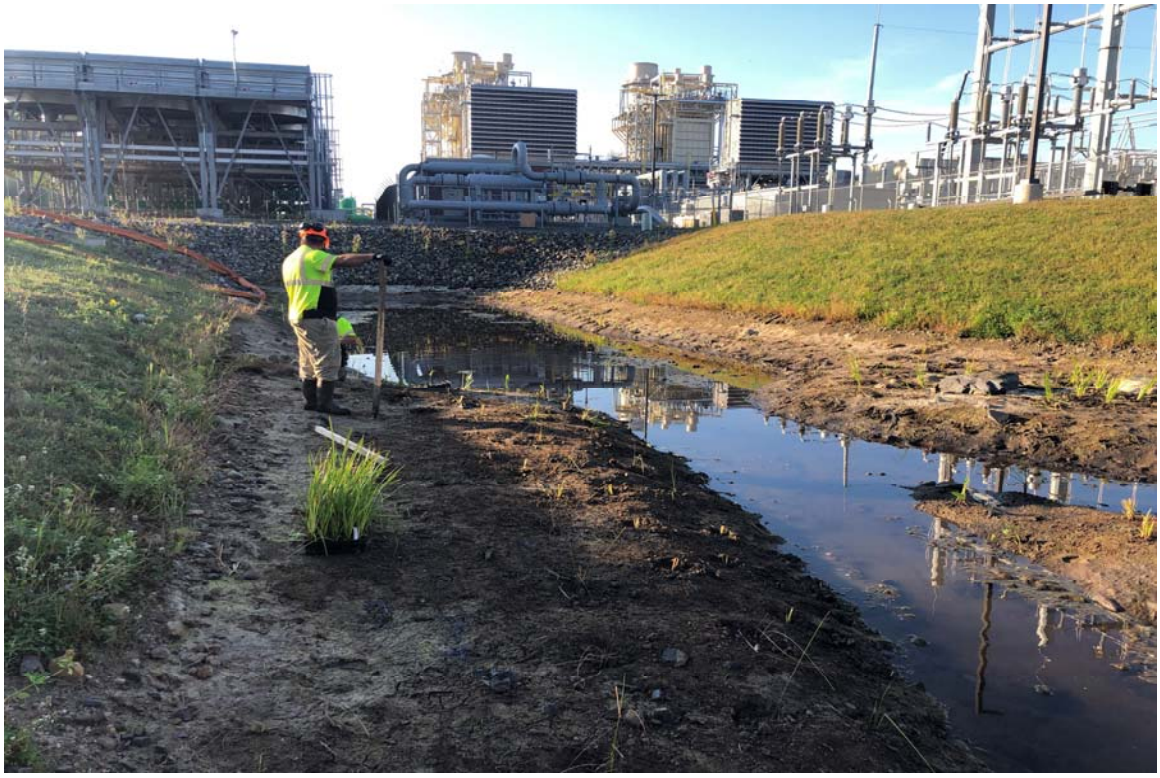

Photo 17: View of Basin 'B' high and low marsh replanting work looking south with micropool in background.

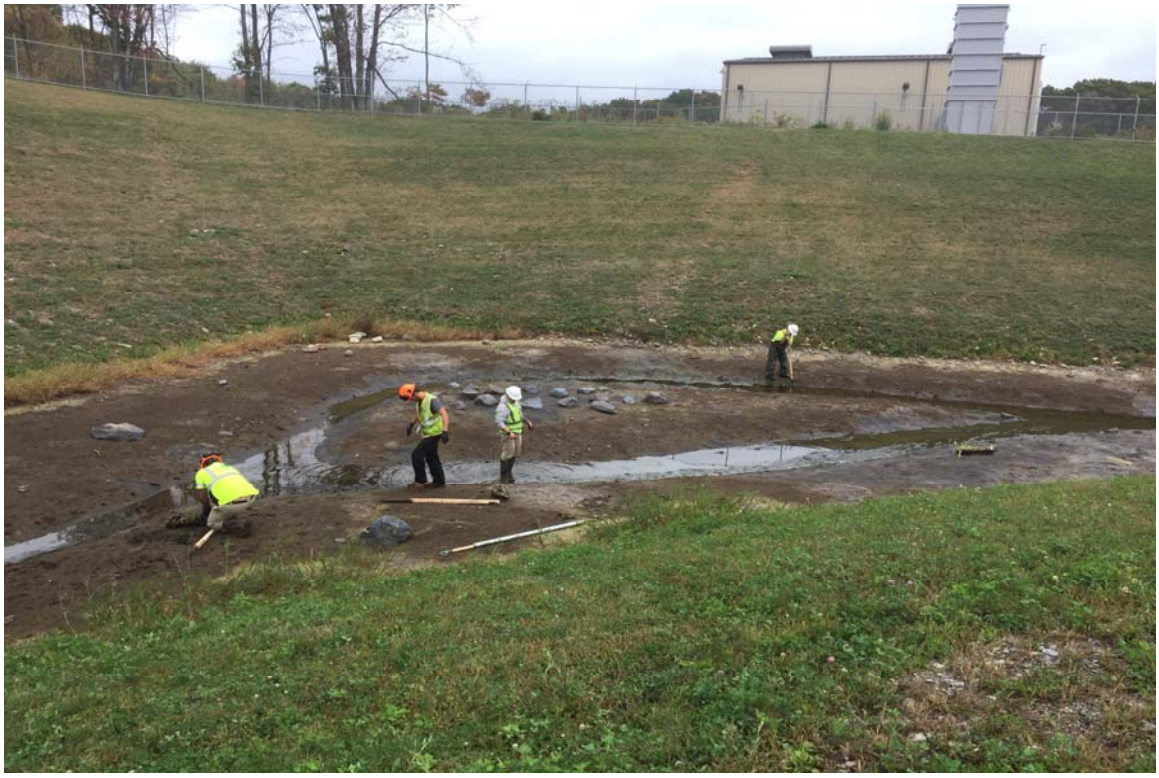

Photo 18: View of Basin 'B' high and low marsh replanting work looking east.

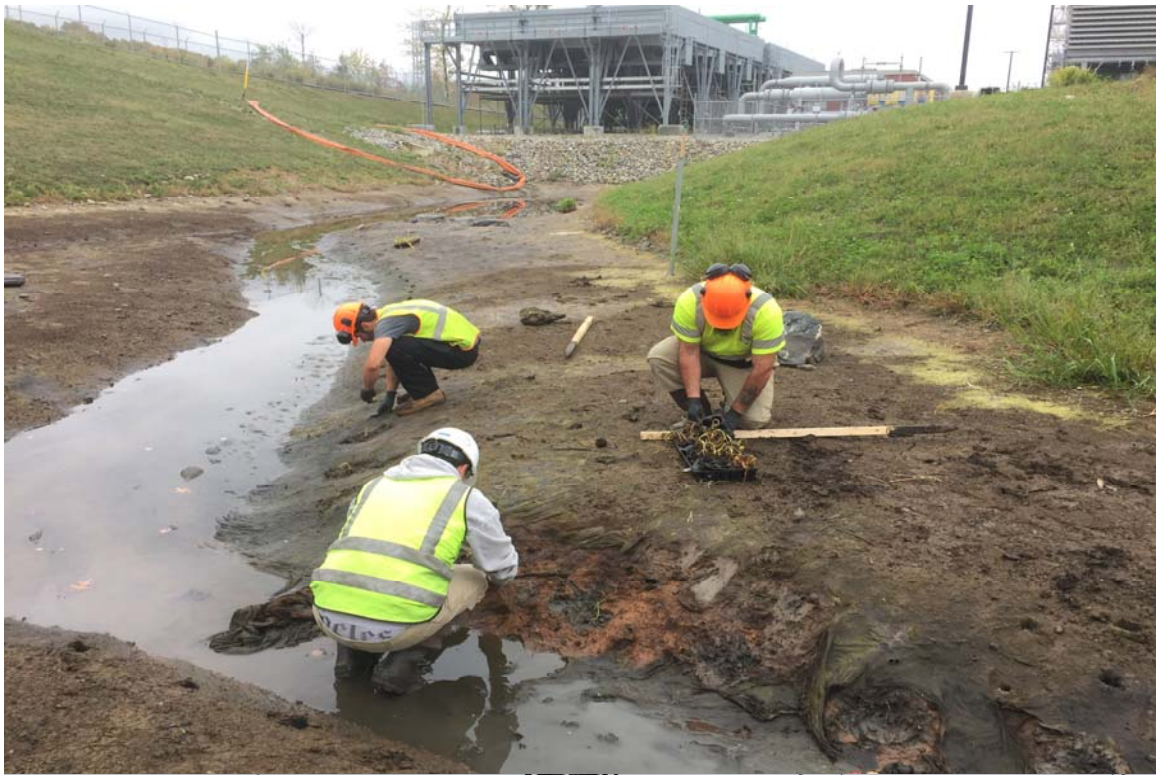

Photo 19: View of Basin 'B' high marsh replanting work looking south with micropool in background.

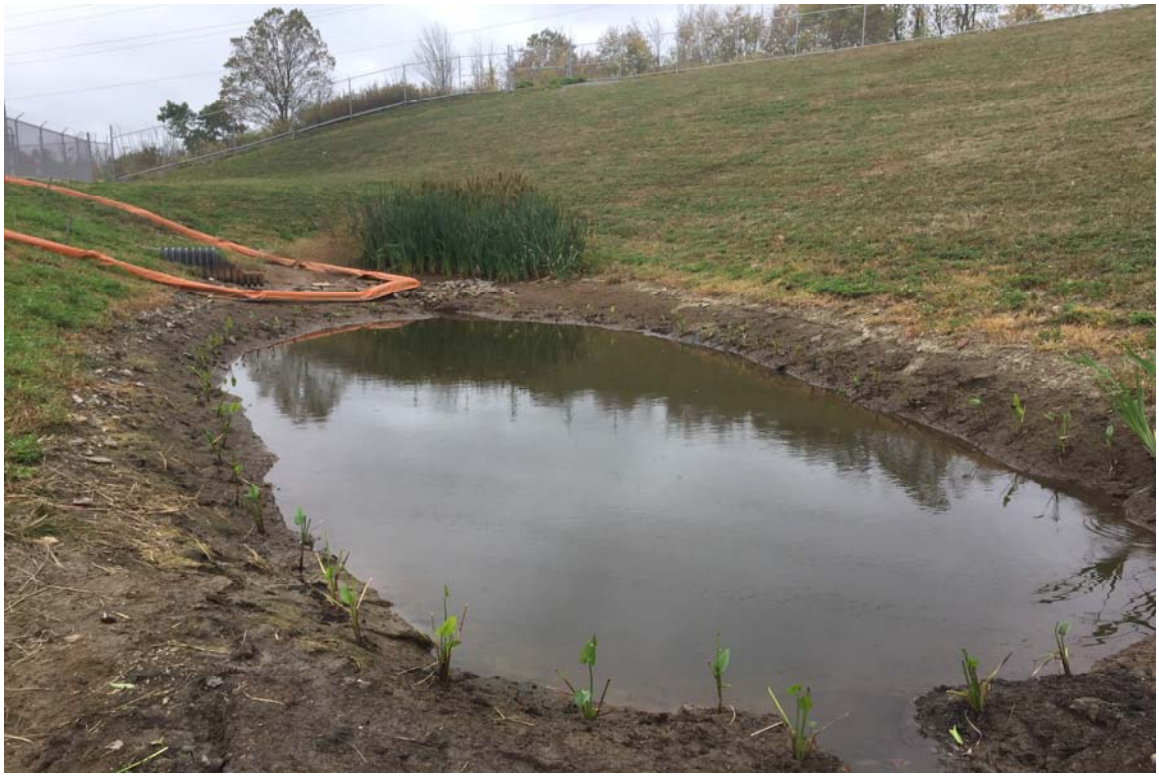

Photo 20: View of Basin 'B' forebay replantings looking west; stand of cattails at western end of forebay.

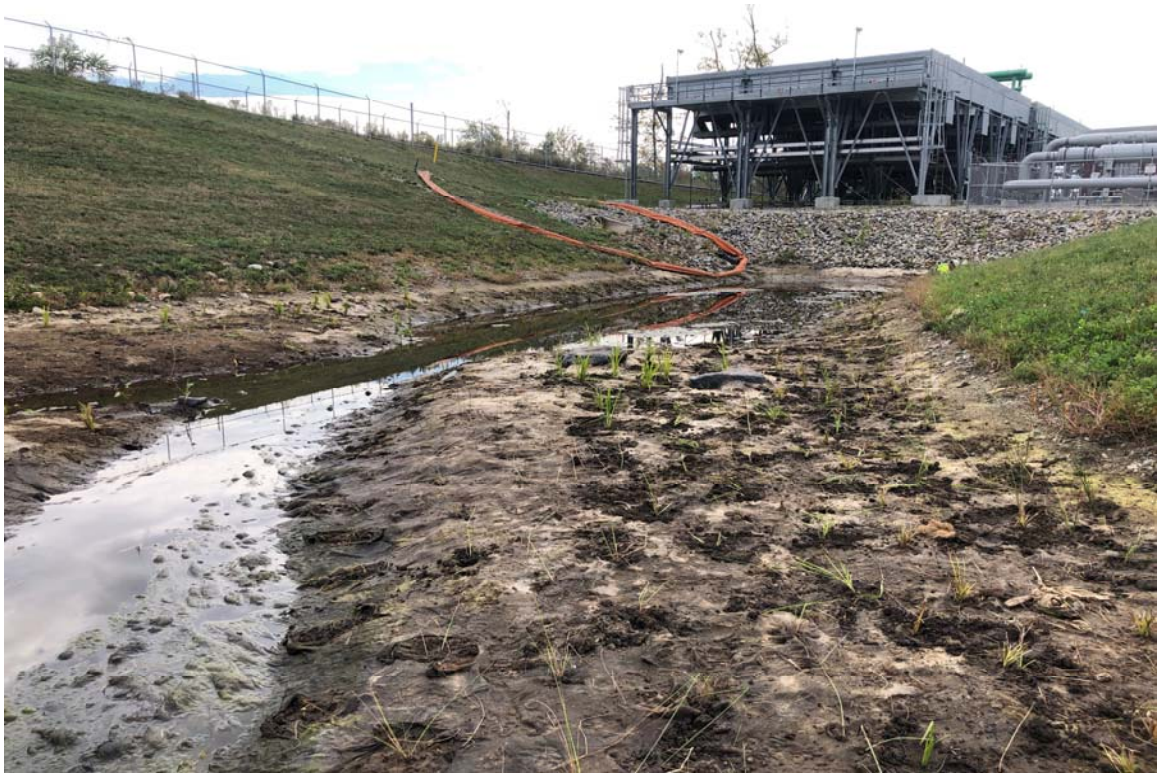

Photo 21: View of Basin 'B' completed replanting of high and low marshes looking south with micropool in background.

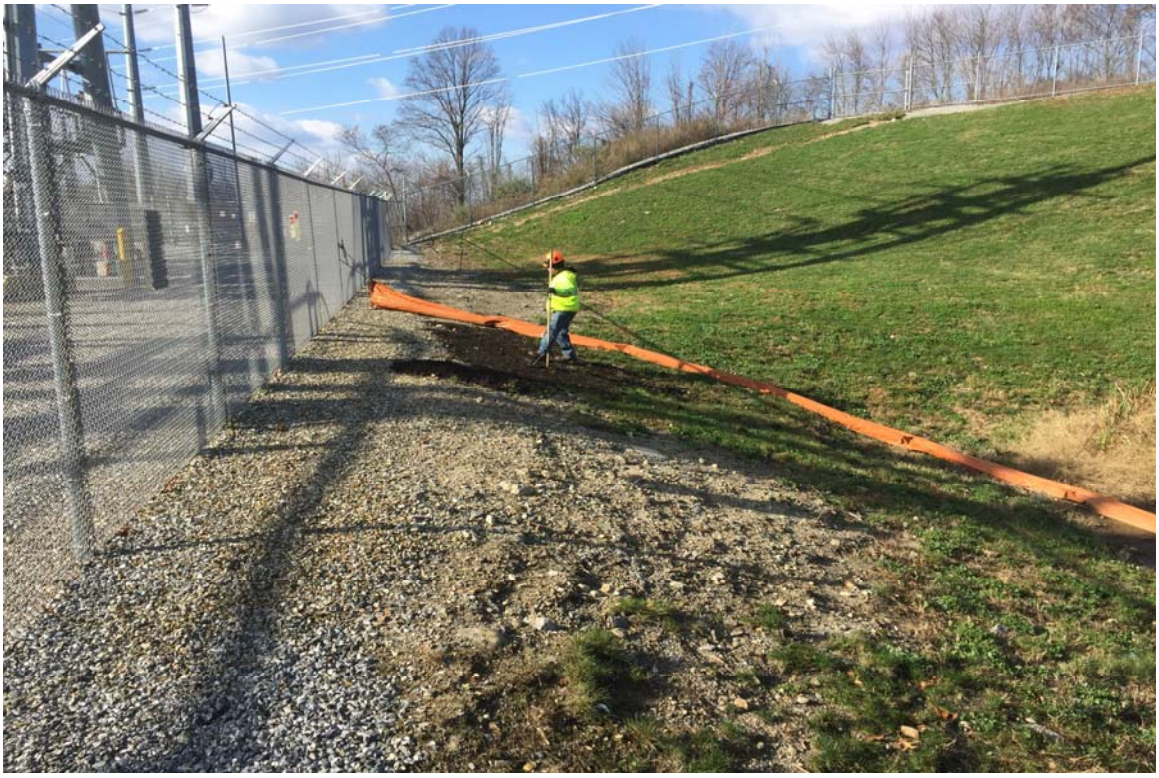

Photo 22: View of Basin 'B' side slope areas being stabilized with loam looking west.

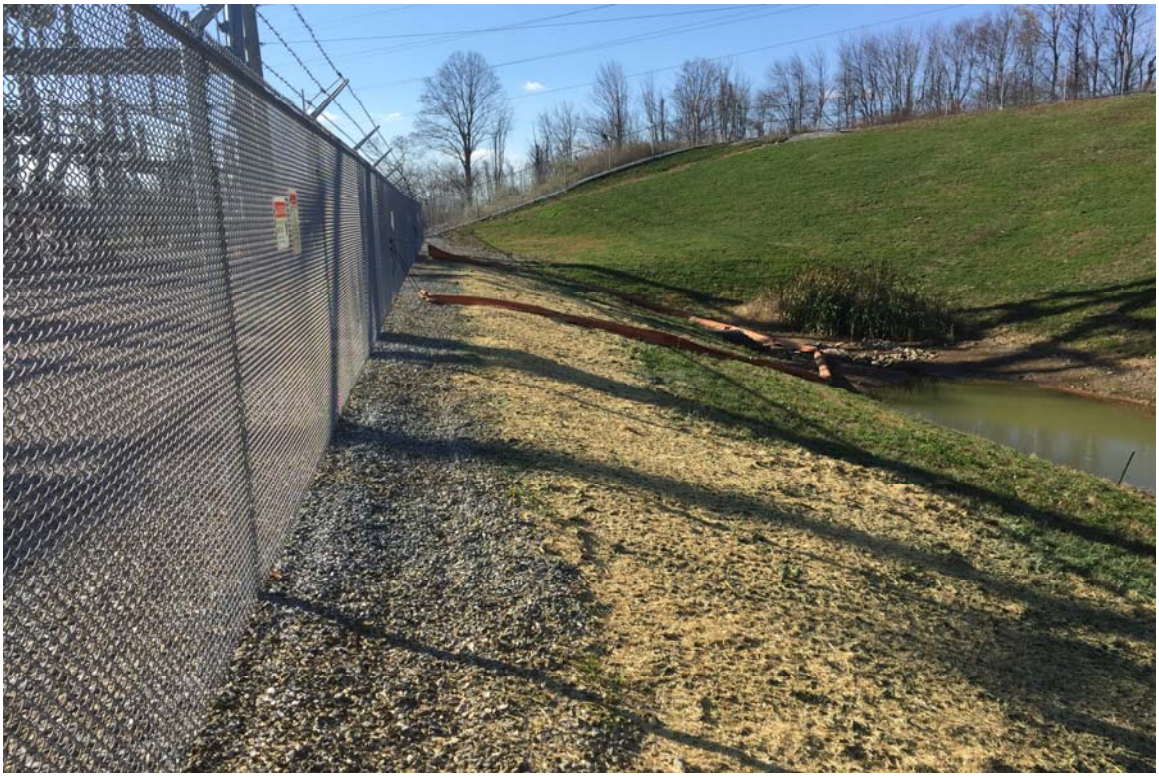

Photo 23: View of Basin 'B' side slope areas hydroseeded and mulched looking west.

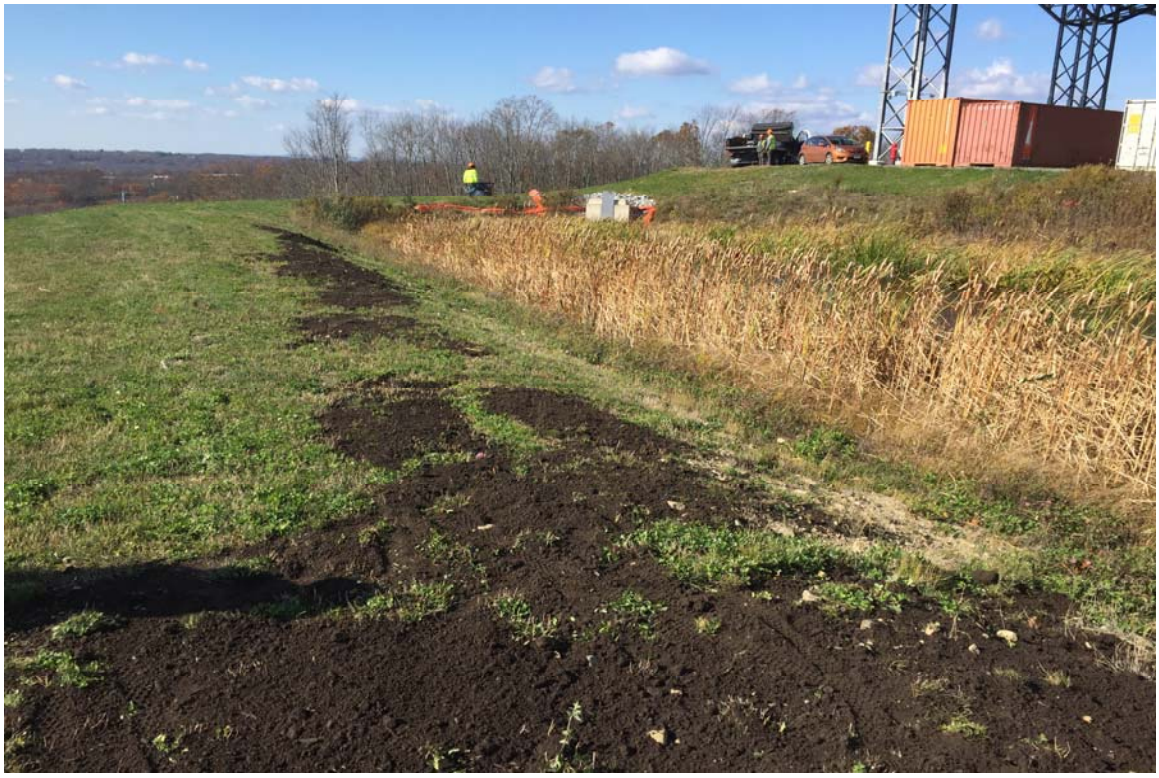

Photo 24: View of Basin 'A' side slope areas stabilized with loam looking west.

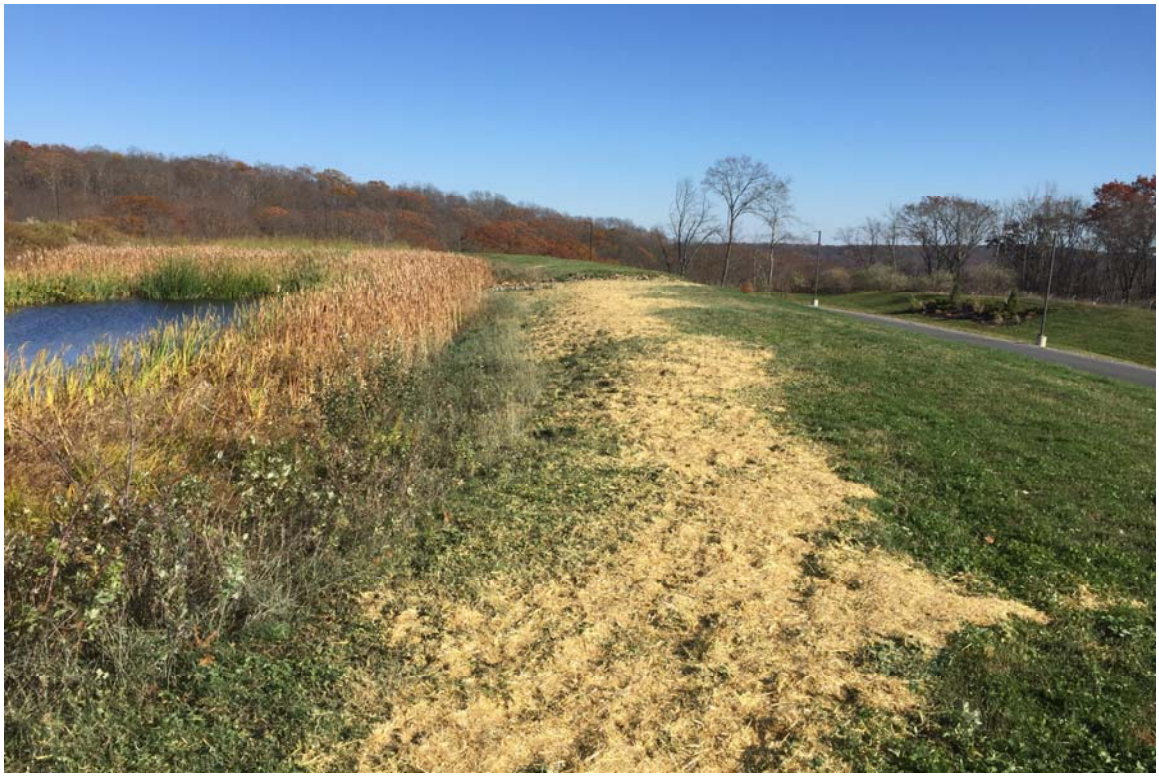

Photo 25: View of Basin 'A' side slope areas hydroseeded and mulched looking east.

Attachment B

DEEP Correspondence

Dean Gustafson

From: Missell, Danielle <Danielle.Missell@ct.gov>
Sent: Wednesday, June 12, 2019 10:43 AM
To: Dean Gustafson
Cc: Caiola, Jeff
Subject: RE: PGP-201409826/NAE-2014-2062 - CPV Towantic Energy Center, 16 Woodruff Hill Road, Oxford, CT: Wetland Mitigation Monitoring Spring 2019 Status Update

Hi Dean,
Jeff has forwared me you email. Thank you for your update on the mitigaiton areas. We do not need to review the updated plan pior to planting for the north basin. Just include what was done in the monitoring report. I agree with your assessment of the cattails in the south basin. There is no need to eradicate/control the cattails in this situation.
Thanks
Danielle

Danielle Missell
Environmental Analyst
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Connecticut Department of Energy and Environmental Protection
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From: Hoskins, Douglas
Sent: Friday, May 24, 2019 3:49 PM
To: Dean Gustafson <dgustafson@allpointstech.com>
Cc: Deb Leonardo <DLeonardo@allpointstech.com>; Caiola, Jeff <Jeff.Caiola@ct.gov>
Subject: Re: PGP-201409826/NAE-2014-2062 - CPV Towantic Energy Center, 16 Woodruff Hill Road, Oxford, CT: Wetland Mitigation Monitoring Spring 2019 Status Update

Hello Dean,

Got your call and forwarded it Jeff Caiola of the Land and Water Resources Division (the old IWRD), as I no longer work there.

From: Dean Gustafson <dgustafson@allpointstech.com>
Sent: Friday, May 24, 2019 1:09 PM
To: Hoskins, Douglas
Cc: Deb Leonardo
Subject: PGP-201409826/NAE-2014-2062 - CPV Towantic Energy Center, 16 Woodruff Hill Road, Oxford, CT: Wetland Mitigation Monitoring Spring 2019 Status Update

Good afternoon Doug,

Following up on my voicemail message from yesterday, we performed our spring inspection of the two stormwater wetland basins on Wednesday. We will need to replant the north basin due to plant failures from two attempts last year and will likely adjust the plant types slightly since the seasonal inundation depths are a few inches higher than designed due to the influx of groundwater discharge into that basin. Let me know if you need to review and approve the revised planting schedule for the north basin.

The south basin is very well established in vegetation for all planting zones; I've attached some representive photos. However, there are dense stands of cattail (both narrow-leaved and broad-leaved, which is the more dominant of the two) across large portions of this south basin, particularly the western end as your approach the micro pool. Both cattail species are listed as invasive/unacceptable plant species (Appendix K, COE NED New England Compensatory Mitigation Guidance). If this were a true wetland creation area I wouldn't question the need to control the cattails. However, considering the stormwater wetland basins were only a requirement of DEEP to provide additional compensation beyond the In-Lieu Fee Payment (which the Corps only required) and the principal function of developing the stormwater basins as wetland stormwater features was to provide enhanced stormwater renovation, I question the need and effectiveness of trying to eradicate/control the cattails. Those plants are certainly providing enhanced stormwater renovation (i.e., nutrient assimilation) and although over time may reduce wildlife utilization (through diminished plant species diversity), wildlife utilization was not a planned principal function of these stormwater basins considering that are contained with the fenced limits of a large power plant.

Please let me know if you are in agreement with this cattail assessment and feel free to give me a call to discuss further.

Thank you,
Dean

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