MITIGATION REPORT
TRANSMITTAL AND SELF-CERTIFICATION

DEPARTMENT OF THE ARMY PERMIT NUMBER: **NAE-2006-3128**
PROJECT TITLE: The Gateway at Scarborough (Cabela's): Larrabee Farms Wetland Mitigation Project

PERMITTEE: The New England Expedition – Scarborough, LLC
MAILING ADDRESS: 220 Elm Street, Ste 104, New Caanan, CT 06840

AUTHORIZED AGENT: Grondin Aggregates, LLC
MAILING ADDRESS:
Ken Grondin
11 Bartlett Road
Gorham, Maine 04038
TELEPHONE: 207.854.1147

ATTACHED MITIGATION REPORT TITLE: The Gateway at Scarborough (Cabela's): First Year Wetland Mitigation Monitoring Report

PREPARERS: Boyle Associates (207.541.9100)

DATE: December 19, 2008

CERTIFICATION OF COMPLIANCE: I certify that the attached report is accurate and discloses that the mitigation required by the Department of the Army Permit **[is]** **[is not]** in full compliance with the terms and conditions of that permit.

CORRECTIVE ACTION: A need for corrective action **[is]** **[is not]** identified in the attached report.

CONSULTATION: I **[do]** **[do not]** request consultation with the Corps of Engineers to discuss a corrective strategy or permit modification.

CERTIFIED:_____
(Signature of permittee) Date

The Gateway at Scarborough (Cabela's): Wetland Mitigation Project

Grondin Aggregates, LLC: Larrabee Farms Wetland Mitigation Project Site

Maine DEP NRPA Project Number: L-23242-26-A-N
U.S. Army Corps of Engineers (New England District) Dep. of Army Permit Number: NAE-2006-3128

First Year Wetland Mitigation Monitoring Report

Prepared By: Boyle Associates, 1000 Riverside Street, Portland, Maine 04103
Date: December 19, 2008

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Appendix A -- An as-built plan showing topography to 1-foot contours, any inlet/outlet structures and the location and extent of the designed plant community types (e.g., shrub swamp). Within each community type the plan shall show the species planted—but it is not necessary to illustrate the precise location of each individual plant. There should also be a soil profile description and the actual measured organic content of the topsoil. This should be included in the first monitoring report unless there are grading or soil modifications or additional plantings of different species in subsequent years.

Appendix B -- A vegetative species list of volunteers in each plant community type. The volunteer species list should, at a minimum, include those that cover at least 5% of their vegetative layer.

Appendix C -- Representative photos of each mitigation site taken from the same locations for each monitoring event. Photos should be dated and clearly labeled with the direction from which the photo was taken. The photo sites must also be identified on the appropriate maps.

Appendix D – Tables

- Tables 1 – 5: Soils Data
- Table 6: Fauna List
- Table 7: PSS/PFO Creation Area Plot Data
- Table 8: Herbaceous Vegetation Cover List

Appendix E – Copy of Permits

- MDEP NRPA Permit
- ACOE DOA Permit

Project Overview Form

Corps Permit No.: NAE-2006-3128
Mitigation Site Name(s): Larrabee Farms Wetland Mitigation Site: The Gateway at Scarborough (Cabela's)
Monitoring Report _____: _____Year 1__ of ___10 years_
Name and Contact Information for Permittee (left) and Agent (right):

New England Expedition – Scarborough, LLC 220 Elm Street, Ste 104 New Caanan, CT 06840	Grondin Aggregates, LLC Ken Grondin #207.854.1147 11 Bartlett Road Gorham, ME 04038

Name of Party Conducting the Monitoring: Boyle Associates (Lauren Leclerc #207.541.9100)

Date(s) of Inspection(s) (Specific to Monitoring): September 11, 15, 16, 17, 18, 22, 23

Project Summary:
First year monitoring procedures were conducted at the emergent, scrub-shrub and forested wetland creation areas at the Larrabee Farms Wetland Mitigation Site. These wetland areas were created as compensation for wetland functions and values impacted by construction of the Gateway at Scarborough (anchored by Cabela's). Construction of the project impacted approximately 4.47 acres of freshwater wetland (2.49 acres wet meadow, 1.29 acres forested and 0.69 of mixed forested/shrub/open water wetlands) and included installation of new culverts under an existing access road. Wetland compensation totals 31.55 acres and consists of 4.55 acres of wetland creation (2.10 acres PEM, 0.35 acres PSS and 2.10 acres PFO), preservation of 14.93 acres of existing upland and preservation of 12.07 acres of existing wetland preservation (including a stretch of the Nonesuch River). Wetland mitigation took place at Grondin Aggregate's Larrabee Farms Wetland Mitigation Site, a multi-user mitigation project site.

Location of and Directions to Mitigation Site:
The Larrabee Farms Wetland Mitigation Site is located in the town of Scarborough, approximately 1 mile southeast of the corner of Route 114 and Beech Ridge Road.

Start and Completion Dates for Mitigation:

Conservation easement recorded - Cumberland County Registry of Deeds	Spring 2007
Final wetland grading began	February 2007
Final wetland grading completed	Oct. 15, 2007
Hydroseeding with wetland herbaceous seed mix completed Installation of woody vegetation completed	Oct. 15, 2007

Performance Standards are/are not being met:
The success standards for hydrology, shrub and tree density, invasive species and slope and soils stabilization are being met. The success standard for aerial cover by hydrophytes is not yet being fully met. Additionally, a 0.65-acre section of the creation area was not completed as designed and will be regraded during the winter of 2008. Additional remediation suggestions are discussed below.

Dates of Corrective or Maintenance Activities Conducted Since Last Report:
Hand removed small clumps of *Typha latifolia* in lower wetland creation area 9/2007 and 6/2008.

Recommendations for Additional Remedial Actions (more information discussed under "Success Standards" located in the "Summary" portion of this report)**:**

- Finish grade and install additional wetland topsoil and herbaceous seed on northeastern section of creation area that was not finished as designed; install woody plants in the area in spring 2009;
- Remove portions or all of berm between upper two creation cells to allow better flow of surface hydrology between the two cells and install a level spreader in the lower cell; and,
- Monitor herbivory (specifically from deer and turkeys) through winter 2009 to assess impacts.

Requirements

Performance Standards

The wetland creation areas will be assessed once annually during the growing season (May-October) for at least 10 years. Monitoring will take place twice per season during the first through fifth years following planting. One visit will take place in the spring, and will include a general site walk and assessment of general site health, an assessment of any winter damage and in order to determine any corrective needs. A second site visit will take place between June and October to assess plant mortality/vitality and to gather data for the annual monitoring reports. The data gathering and reporting procedure will then take place once during the first through fifth years, and during the 7th and 10th years, if necessary, following construction.

Success Standards:

1. Hydrology • Adequate to support the designed wetland type: • Proposed hydrology being met: • Percentage of site meeting proposed hydrology: • Too wet/dry areas identified and corrective measures proposed:	 Yes Yes 70-80% Yes
2. Proposed vegetation diversity and/or density goals for woody plants from the plan met:	Yes
3. Aerial cover a. Each mitigation site has at least 80% aerial cover, by noninvasive species: b. Emergent areas have at least 80% cover by noninvasive hydrophytes: c. Scrub-shrub and forested cover types have at least 60% cover by noninvasive hydrophytes, of which at least 15% are woody species:	 Yes No Yes
4. Common reed (*Phragmites australis*), Purple loosestrife (*Lythrum salicaria*), Russian and Autumn olive (Elaeagnus spp.), Buckthorn (Rhamnus spp.), Japanese knotweed (*Polygonum cuspidatum*), and/or Multiflora rose (*Rosa multiflora*) plants at the mitigation site(s) are being controlled:	Yes
5. All slopes, soils, substrates, and constructed features within and adjacent to the mitigation site(s) are stable:	Yes

In general, the mitigation area is doing well and is successfully providing wetland functions and values similar to those provided by wetlands impacted by construction of The Gateway at Scarborough. Wetland functions and values being provided across the site include wildlife habitat, groundwater recharge/discharge, floodflow alteration, educational and scientific value, production export, and recreational value. There is a dominance of hydrophytic vegetation, formation of hydric soils and seasonal to semi-permanent saturation in the upper part of the soil profile. Finally, survivorship of the planted shrubs and trees is high and plant density is very high. Based on hydrology and soil conditions, and the low occurrence of invasive species, percent aerial coverage of non-invasive hydrophytes in the emergent creation areas is expected to be trending toward success, or meeting this success standard during the next monitoring session.

GPS location of the boundaries of the various created wetland habitat types that were planted in 2007 in accordance with the mitigation plan indicate that the entire mitigation site was not completed as designed. A 0.65-acre portion of the wetland creation site that was not constructed in 2007 will require additional grading and planting. This area is located at the northwestern end of the project site near the adjacent quarry. This is discussed in detail under "Success Standards" located in the "Summary" portion of this report.

Additional minor concerns with site hydrology were encountered, mainly in the PEM creation portions of the project area. While these areas have abundant evidence of hydrology, including saturation throughout much of the growing season, ponded water, and growth of volunteer hydrophytic vegetation, vegetation growth overall was less robust than in other areas of the site. We have made two suggestions for additional minor earthwork to help bring additional sources of hydrology to these areas. These are discussed in detail under "Success Standards" located in the "Summary" portion of this report.

Summary Data

Describe the monitoring inspections, and provide their dates, that occurred since the last report.

Wetland Creation Monitoring
General site walks were conducted throughout winter, spring and summer of 2008 to assess general site health and to determine if any winter damage occurred which would warrant correction measures. Some herbivory from turkeys and deer was observed, mainly on the larches. However, no significant damage was observed, and no corrective measures were recommended except to suggest allowing hunters access to the site. In-depth monitoring of the creation area occurred in September 2008. As discussed in the 2007 as-built report (30 October 2007): "(w)hile some areas were planted solely with tree or shrub species, most of the plants were installed in clumps, with tree and shrub plantings close together and dispersed over the site. Much of the creation area will presumably grow to achieve a PSS/PFO or PFO/PSS description, showing co-dominance among the tree and shrub species with interspersed pockets of both wetland types." Thus, for the first year of monitoring we reviewed the PSS and PFO areas together as a PFO/PSS wetland type. In subsequent monitoring seasons, as the site begins to reach maturity and the PSS and PFO habitats begin to become clear, we will map and monitor the habitats separately.

Linear transects were established 25 feet apart in a generally north-to-south direction across the upper and lower wetland creation areas. Six-foot wide transects with varying lengths were used to create rectangular plots in order sample twenty-five percent (25%) of the mixed scrub-shrub/forested (PSS/PFO) wetland creation area and twenty-three percent (23%) of the emergent (PEM) wetland creation areas (0.62 acres of the 2.20-acre PSS/PFO creation area and 0.49 acres of the 1.7-acre PEM creation area). Every other transect end was marked with wooden stakes. The locations of each transect were GPS-located using a survey-grade GPS unit. All herbaceous vegetation was identified to species level and aerial cover was determined for each species within each plot. For planted woody species, if more than 50% of the total plant was located within the sample plot, the plant was counted. Please see Figure 1 for a depiction of the monitoring transects.

Success Standards
1) Hydrology
Is the proposed hydrology met at the site?
Yes – but it could be better.

As anticipated, the primary source of hydrology in the wetland creation areas comes from groundwater interception and surface runoff from the adjacent quarry area. Further hydrologic input is provided by surface runoff and atmospheric deposition. General hydrology across the wetland mitigation area varies from seasonally saturated to occasionally flooded. Indicators of hydrology include sporadic pockets of standing water (up to 12 inches deep), water-stained leaves, and evidence of reducing conditions within the soil profiles. Furthermore, most of the wetland shrubs and trees planted are alive and growing, indicating an adequate hydrologic regime. Most of the lowest cell, located in the southeast end of the project, showed evidence of saturation throughout the year.

The PEM creation areas, as designed, are drier than the adjacent PSS/PFO areas. These areas are not meeting the success standard for aerial coverage by hydrophytes and could possibly take advantage of some additional surface water throughout the year. We provide suggestions for increasing hydrology in these PEM areas below.

What percentage of the site is meeting projected hydrology levels?
We estimate that 70-80% of the site is meeting the projected hydrology levels as evidenced by: the presence of reducing conditions within the soil profile, ponded water within the lowest portions of the site, and signs of drainage through the rip rap overflow spillways.

Areas that are too wet or too dry should be identified along with suggested corrective measures.
While the northern portion of the mitigation site (adjacent to the quarry) seemed drier than desired in September 2008, hydrophytes and woody vegetation are thriving in this area. It is in the PEM creation areas on the northern rim of the project where additional surface hydrology could be helpful to increase hydrophytic plant density. Similarly, the western portion of the southern (lower) creation cell is

somewhat drier than desired. Both of these areas were designed to be wet meadows, so while they should be drier than the adjacent PSS/PFO areas, we expected these PEM area to maintain more hydrology late into the fall. However, while spring visits showed saturated conditions and all pits within the pit-and-mound microtopography flooded through June, the site was dry in September. There appears to be adequate sources of hydrology nearby, so we have a few suggestions to help utilize and the spread the water. Two pools excavated in the adjacent rock quarry and used as a source for dust control and initial plant watering on the site, have continued to recharge rapidly. These pools have maintained an elevation similar to that of the topsoil in the adjacent wetland creation area, and as predicted, during heavy precipitation and high groundwater events, the ponds have flooded over the quarry floor and into the wetland. Regrading the 0.65-acre portion of the creation site next to the quarry will help direct more surface flow from the quarry toward the creation areas (regrading work is discussed below). Removal of the central berm will help spread the surface water out across the site rather than concentrating it through the riprap spillway.

Suggested regrading: A 0.65-acre portion of the wetland creation site that was not adequately constructed in 2007 will require additional grading and planting. This area is located at the northwestern end of the project site near the adjacent quarry. During 2008 site monitoring, the wetland monitors GPS-located the boundaries of the different types of habitats within the creation area (PEM, PSS, PFO). In general, PSS and PFO areas are still forming, and most of the area was planted with mixes of both shrubs and trees, installed in clumps throughout the site and based on site conditions during planting (as described in the mitigation plan). The PEM areas geo-located in 2008 includes the portions of the site that, due to hydrology or herbaceous plant density, appear to be trending towards permanent stasis as a PEM wetland. Our 2008 findings indicate that the overall, completed creation site (all habitat types) is 3.9 acres. PFO/PSS habitats make up 2.2 acres of the site and PEM areas make up 1.7 acres of the site. We suggest that the regraded portion of the site is installed as a continuation of the existing conditions, with ½ of the additional area graded with pit and mound microtopography and planted with tree species, and the other half (northern half) seeded for PEM development (to provide a total of 2.53 acres of PFO, PSS and PFO/PSS and 2.02 acres of PEM). This will bring the creation area into congruence with the mitigation plan and permitted requirements: 4.55 acres. Grondin has agreed to conduct the earthwork in December 2008, and to install herbaceous seed mix and 132 new trees in this area in spring 2009 (400/acre*0.33 acre). A limited number of these trees (not more than 100) will be transplanted from the adjacent creation areas where plant densities greatly exceed mitigation goals and from areas where trees were planted very close together (3 feet or less). A wetland mitigation specialist will be onsite during construction and planting to oversee activities and to ensure accordance with these suggestions and permit conditions, and to approve which plants are transported. Coarse woody debris will be installed to cover approximately 4% of the extension.

We also suggest that Grondin remove most of the berm located between the two, upper wetland creation cells. This feature was originally constructed to control excess surface runoff from the adjacent quarry. A riprap drainage feature was left in the center of this berm and was observed to be functioning in terms of allowing overland flow between the two upper cells. However, as discussed before, the two PEM creation areas found on the northern end of the upper cells are drier than anticipated. By removing the berm and converting it into additional PEM wetland habitat, we believe that it will allow additional surface flow into existing PEM sites.

The lower wetland cell was graded during frozen conditions and the resulting pit and mound microtopography is relatively flat. One goal for this monitoring session was to establish whether plant stress would dictate the need for higher mounds in order to provide drier habitat for some of the planted shrubs. However, site monitors did not observe prolonged flooding and/or saturation in this area, rather, appropriate hydrology was observed over most of the site. Woody plantings are thriving in this area and no remedial action, such as the installation of additional mounds, is recommended in the southern creation cell. The western PEM creation area in the lower cell, however, appears drier than the rest of the site. Herbaceous cover in this area is thin and richness is low. Therefore, we suggest installing a small level spreader to acquire additional hydrology from the adjacent detention basin located at the bottom of the riprap spillway. This will provide additional hydrology during periods of high precipitation. Excess hydrology from this area will continue to tend south and off the site via the riprap overflow spillway that leads to the adjacent floodplain of the Nonesuch River.

2) The proposed vegetation diversity and density goals for woody plants from the plan are met.
Yes – the density of planted woody species exceeds the density goal.

The planted densities for the PSS/PFO creation areas were 600 shrubs/acre and 400 trees/acre. The planted density *goal*, as described in the Corps checklist, is 500 trees and shrubs per acre (of which at least 350 per acre are tree species for PFO creation areas). Based on the investigated plot data, the average density of shrubs was determined to be approximately 813 shrubs per acre and the average density of trees was determined to be approximately 551 trees per acre, for a total density of over 1,300 woody plants/acre. As discussed above, up to 100 trees may be relocated from the creation to the creation area extension being installed in the northwest corner of the site. These will be harvested from areas where it appears tree species may be too close together or from where removal of trees would benefit shrub species. A wetland mitigation specialist will be onsite during planting time. For additional details on the shrub and tree plantings, please see Table 7 in Appendix B.

3) a. Each mitigation site has at least 80% aerial cover, excluding planned open water areas or planned bare soil areas (such as for turtle nesting), by noninvasive species.
Yes.

Based on transect data, average aerial cover by non-invasive species was approximately 75% throughout the wetland creation site. The transect areas did include some planned non-vegetated areas such as sand mounds (turtle nesting islands) and a few of the deeper pits and puddles excavated during the initial construction, so overall the estimate of aerial cover is approximately 75-80% (see Table 8 in App. D).

3) b. Planned emergent areas on each mitigation site have at least 80% cover by noninvasive hydrophytes.
No.

Average aerial cover by non-invasive herbaceous hydrophytes was determined to be forty-two percent (42%). This was tallied by transecting across both the scrub-shrub and emergent wetland creation areas. From an overall visual survey, the scrub-shrub/forested wetland creation areas and the emergent creation areas had similar amounts and diversity of herbaceous vegetation. It is likely that the mitigation site will meet be trending toward success during the next growing season, as hydrophytic herbaceous vegetation appears to be successfully colonizing and spreading across the mitigation site. The low percentage of aerial coverage appears to reflect an abundance of upland vegetation, not an abundance of invasive species. Implementing the suggested grade changes may help increase the dominance of hydrophytes.

3) c. Planned scrub-shrub and forested cover types have at least 60% cover by noninvasive hydrophytes, of which at least 15% are woody species.
Yes.

Monitors observed sixty-eight percent (68%) aerial cover by non-invasive hydrophytes in the scrub-shrub and forested creation areas (herbaceous vegetation *and* woody vegetation). Twenty-five percent (25%) of the cover is by woody hydrophytes, and this number is expected to increase as the shrubs and trees continue to grow.

4) Common reed (*Phragmites australis*), Purple loosestrife *(Lythrum salicaria*), Russian and Autumn olive (*Elaeagnus* spp.), Buckthorn (*Rhamnus* spp.), Japanese knotweed (*Polygonum cuspidatum*), and/or Multiflora rose (*Rosa multiflora*) plants at the mitigation site(s) are being controlled.
Yes.

The only invasive and noxious species observed within the creation area were barnyard grass (*Echinochloa crusgalli*), bird's-foot trefoil (*Lotus corniculatus)*, and broad-leaf cattail (*Typha latifolia*). These were observed in very small numbers and were noted for further monitoring. Cattails were hand removed on two occasions from the lower creation area, once in fall of 2007 and once in the spring of 2008. This effort has kept the populations confined to small pockets on the site, in sections of the planned wet areas where the site had sufficient groundwater discharge to create isolated areas of prolonged flooding.

5) All slopes, soils, substrates, and constructed features within and adjacent to the mitigation site(s) are stable.
Yes.

All slopes, soils, substrates and constructed features within and adjacent to the mitigation site are stable.

Soils data:
Five soil profiles were investigated within the wetland creation site (three from the PEM areas and two from PSS/FO areas). Soils observed consisted of dark and very dark A horizons underlain by grayish-brown horizons with concentrations. Two of the five profiles keyed as hydric following the Field Indicators for Identifying Hydric Soils in New England, Version 3 (HSNE3). The three profiles that did not key as hydric show evidence of reducing soil conditions.

Please see Tables 1 through 5 in Appendix D for representative soil profile descriptions for each creation type. The HSNE3 hydric soil indicator reference is indicated in parentheses after the wetland creation type.

Remediation
Some hand removal of clumps of cattails took place in late 2007 and early 2008 in order to reduce the threat of cattail blocking out desirable species. This has apparently helped to keep the cattail numbers down while the other plants move in. Additional and more substantial remedial actions designed to increase surface hydrology are discussed in detail under "Success Standards" located in the "Summary" portion of this report.

Erosion Control Measures:
No erosion problems were observed onsite. Temporary measures, such as silt fence, were removed upon completion of the project in October 2007. Erosion control mulch remains in place around the lower perimeter of the wetland creation site and will be left to degrade in place. The permanent rip rap spillways are functioning as planned.

Visual Estimate of Percent Cover of Non-invasive and Invasive Species:
The average percent vegetative cover by non-invasive plants at the mitigation site is over 100%. The average percent cover of invasive species is 3% (primarily by *Echinochloa crusgalli* and *Typha latifolia).*

Fish and Wildlife Use at the Site:
Please see Table 6 in Appendix D.

General health and vigor of the surviving plants, prognosis for their future survival, and a diagnosis of the cause(s) of morbidity or mortality:
Overall, planted shrub species (*Aronia melanocarpa, Betula populifolia*, *Cornus sericea*, *Ilex verticillata*, *Salix discolor*, *Vaccinium corymbosum*, *Viburnum cassinoides*, and *Viburnum dentatum*) and tree species (*Acer rubrum*, *Fraxinus pennsylvanica*, *Larix laricina*, *Pinus strobus*, *Quercus bicolor*, and *Ulmus americana*) appear to be healthy and growing. Hydrology appears adequate for these plants and there is limited evidence of death from herbivory, flooding, or desiccation. These plants have a high likelihood of survival. Monitors noted some herbivore impacts during the winter and spring months from turkey scratching and deer browse, particularly to *Larix laricina* plants. We suggest continued monitoring of the trees and shrubs for impacts from animals throughout the winter of 2008/2009.

Maps

Maps must be provided to show the location of the compensatory mitigation site relative to other landscape features, habitat types, locations of photographic reference points, transects, sampling data points, and/or other features pertinent to the mitigation plan. In addition, the submitted maps must clearly delineate the mitigation site boundaries to assist in proper locations for subsequent site visits. Each map or diagram must fit on a standard 8 ½ x 11" piece of paper and include a legend and the location of any photos submitted for review.

PLEASE SEE FIGURE 1 ON NEXT PAGE (10) FOR A CLOSEUP OF MITIGATION TRANSECTS AND AS BUILT CONDITIONS; SEE APPENDIX E FOR ADDITIONAL MAPS.

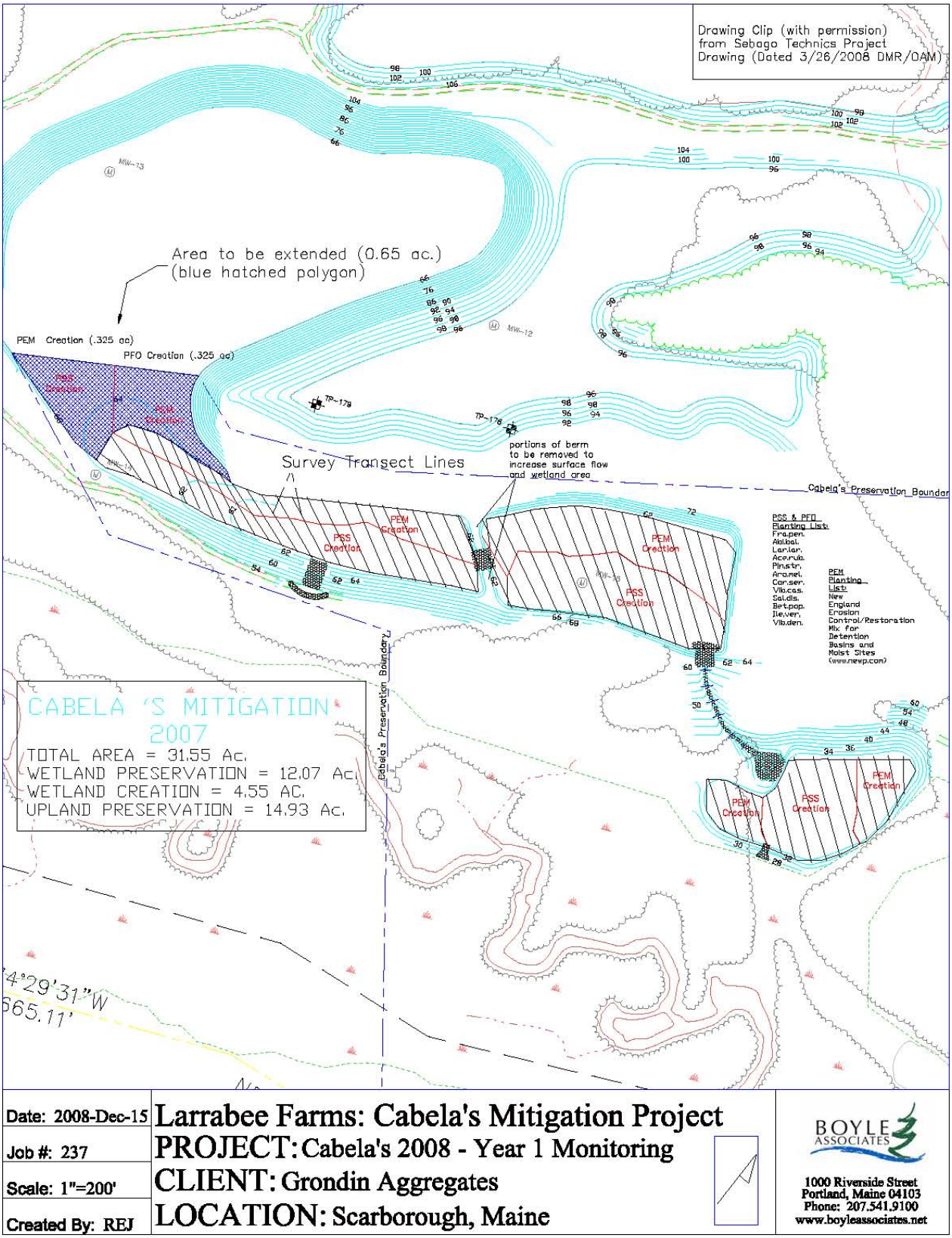


Figure 1. Site map and survey transect centerlines.

Conclusions (1 page)

In general, and as can be noted from the photographs and data, the wetland creation areas are responding well after 1 year. In the wetland creation area, hydrology appears to be adequate to achieve wetland conditions. Pockets of standing water were observed within the creation area and there is evidence of reducing conditions in the soil profiles. Planted woody vegetation is growing well, and herbaceous cover increased throughout the first year. Wildlife usage within the wetland creation site and surrounding habitat preservation areas is abundant year-round.

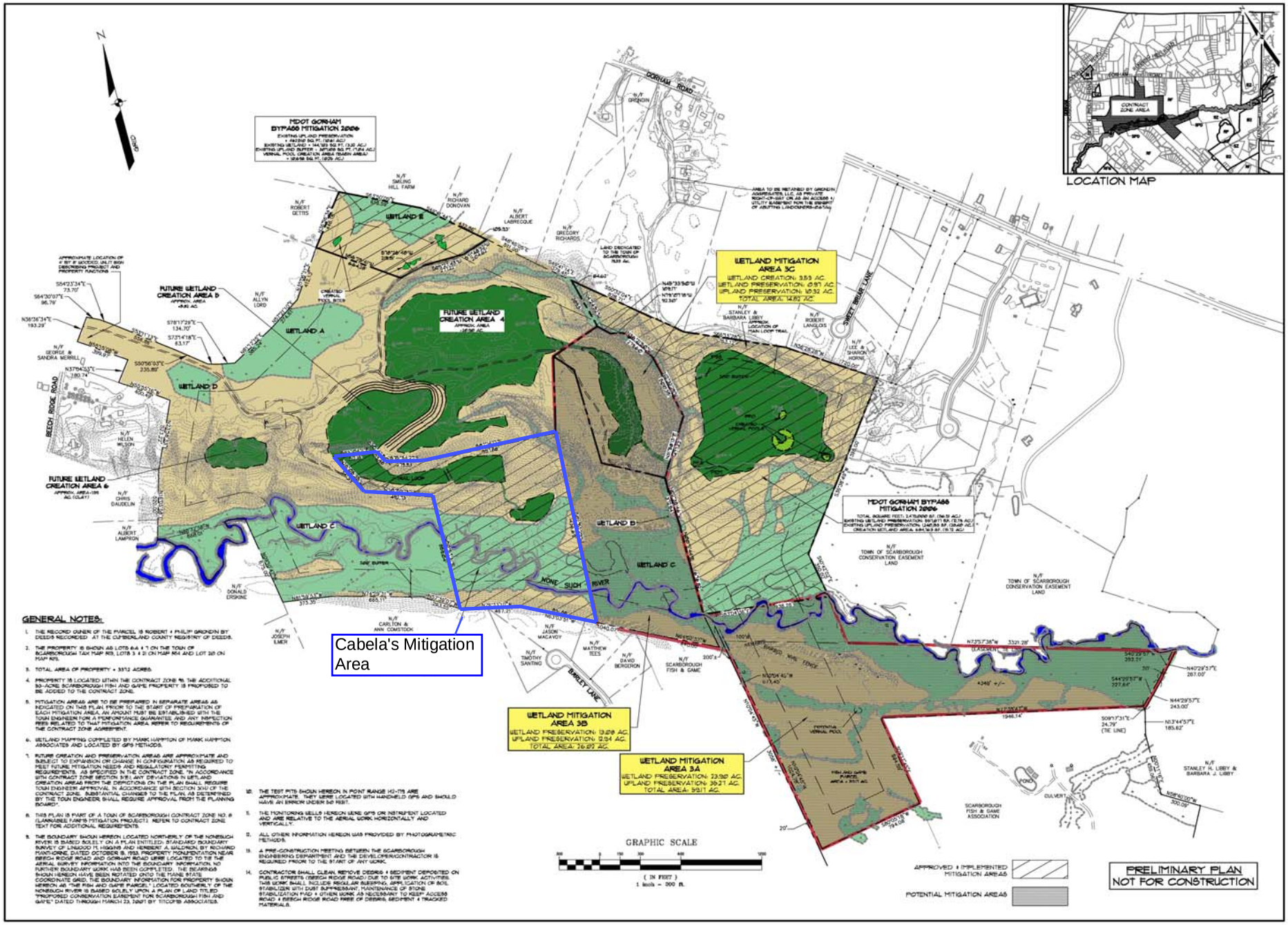
There are some concerns, however, that will need to be addressed and monitored. A 0.65-acre portion of the wetland creation site was not constructed in 2007 and will require grading and planting. This area is located at the northwestern end of the project site near the adjacent quarry. We suggest that the regraded portion of the site is installed as a continuation of the existing conditions, with ½ of the additional area graded with pit and mound microtopography and planted with tree species, and the other half (northern half) seeded for PEM development. This will bring the creation area into congruence with the mitigation plan and permitted requirements (i.e. 4.55 total creation acres). Grondin has agreed to conduct the earthwork in December 2008, and will install 132 trees in this area in spring 2009 (400/acre*0.33 acre). A limited number of these trees (not more than 100) will be transplanted from the adjacent creation areas where plant densities greatly exceed mitigation goals. A wetland mitigation specialist will be onsite during construction and planting to oversee activities and to ensure accordance with these suggestions and permit conditions, and to approve which plants are transported. Coarse woody debris will be installed to cover approximately 4% of the extension.

We also suggest that Grondin remove most of the berm located between the two, upper wetland creation cells. This feature was originally constructed to control excess surface runoff from the adjacent quarry. A riprap drainage feature was left in the center of this berm and was observed to be functioning in terms of allowing overland flow between the two upper cells. However, as discussed before, the two PEM creation areas found on the northern end of the upper cells are drier than anticipated. By converting the berm area into additional PEM wetland habitat, we believe that it will help direct additional surface flow to existing PEM sites.

The lower wetland cell was graded during frozen conditions and the resulting pit and mound microtopography is relatively flat. One goal for this monitoring session was to establish whether plant stress would dictate the need for higher mounds in order to provide drier habitat for some of the planted shrubs. However, site monitors did not observe prolonged flooding and/or unreasonable saturation in this area, rather, appropriate hydrology was observed over most of the site. Woody plantings are thriving in this area and no remedial action, such as the installation of additional mounds, is recommended in the southern creation cell. The western PEM creation area in the lower cell, however, appears drier than the rest of the site. Therefore, we suggest installing a small level spreader to acquire additional hydrology from the adjacent detention basin located at the bottom of the riprap spillway. This will provide additional hydrology during periods of high precipitation. Excess hydrology from this area will continue to tend south and off the site via the riprap overflow spillway that leads to the adjacent floodplain of the Nonesuch River.

<u>Appendix A</u> -- An as-built plan showing topography to 1-foot contours, any inlet/outlet structures and the location and extent of the designed plant community types (e.g., shrub swamp). Within each community, type the plan shall show the species planted—but it is not necessary to illustrate the precise location of each individual plant. There should also be a soil profile description and the actual measured organic content of the topsoil. This should be included in the first monitoring report unless there are grading or soil modifications or additional plantings of different species in subsequent years.

- Please see Figure 1 on page 10 of this report for a close-up site map.
- Soil Profile Descriptions are included in Tables 1 through 5 in Appendix D.
- A site map showing the Cabela's location in comparison to the overall Larrabee Farms site is attached in this appendix.



GENERAL NOTES:

1. THE RECORD OWNER OF THE PARCEL IS ROBERT & PHILIP GRONDIN BY DEEDS RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS.
2. THE PROPERTY IS SHOWN AS LOTS 6A & 7 ON THE TOWN OF SCARBOROUGH TAX MAP R05, LOTS 3 & 21 ON MAP R14 AND LOT 20 ON MAP R25.
3. TOTAL AREA OF PROPERTY = 33.12 ACRES.
4. PROPERTY IS LOCATED WITHIN THE CONTRACT ZONE #5. THE ADDITIONAL 93-ACRE SCARBOROUGH FISH AND GAME PROPERTY IS PROPOSED TO BE ADDED TO THE CONTRACT ZONE.
5. MITIGATION AREAS ARE TO BE PREPARED IN SEPARATE AREAS AS INDICATED ON THIS PLAN. PRIOR TO THE START OF PREPARATION OF EACH MITIGATION AREA, AN AMOUNT MUST BE ESTABLISHED WITH THE TOWN ENGINEER FOR A PERFORMANCE GUARANTEE AND ANY INSPECTION FEES RELATED TO THAT MITIGATION AREA. REFER TO REQUIREMENTS OF THE CONTRACT ZONE AGREEMENT.
6. WETLAND MAPPING COMPLETED BY MARK HAMPTON OF MARK HAMPTON ASSOCIATES AND LOCATED BY GPS METHODS.
7. FUTURE CREATION AND PRESERVATION AREAS ARE APPROXIMATE AND SUBJECT TO EXPANSION OR CHANGE IN CONFIGURATION AS REQUIRED TO MEET FUTURE MITIGATION NEEDS AND REGULATORY PERMITTING REQUIREMENTS. AS SPECIFIED IN THE CONTRACT ZONE, "IN ACCORDANCE WITH CONTRACT ZONE SECTION 3(B), ANY DEVIATIONS IN WETLAND CREATION AREAS FROM THE DEPICTIONS ON THE PLAN SHALL REQUIRE TOWN ENGINEER APPROVAL. IN ACCORDANCE WITH SECTION 3(H) OF THE CONTRACT ZONE, SUBSTANTIAL CHANGES TO THE PLAN, AS DETERMINED BY THE TOWN ENGINEER, SHALL REQUIRE APPROVAL FROM THE PLANNING BOARD".
8. THIS PLAN IS PART OF A TOWN OF SCARBOROUGH CONTRACT ZONE NO. 8 (LARRABEE FARMS MITIGATION PROJECT). REFER TO CONTRACT ZONE TEXT FOR ADDITIONAL REQUIREMENTS.
9. THE BOUNDARY SHOWN HEREON LOCATED NORTHERLY OF THE NONESUCH RIVER IS BASED SOLELY ON A PLAN ENTITLED "STANDARD BOUNDARY SURVEY OF LINWOOD H. HIGGINS AND HERBERT A. WALDRON, BY RICHARD MANTHORNE, DATED OCTOBER 18, 1993. PROPERTY MONUMENTATION NEAR BEECH RIDGE ROAD AND GORHAM ROAD WERE LOCATED TO TIE THE AERIAL SURVEY INFORMATION INTO THE BOUNDARY INFORMATION. NO FURTHER BOUNDARY WORK HAS BEEN COMPLETED. THE BEARINGS SHOWN HEREON HAVE BEEN ROTATED ONTO THE MAINE STATE COORDINATE GRID. THE BOUNDARY INFORMATION FOR PROPERTY SHOWN HEREON AS "THE FISH AND GAME PARCEL" LOCATED SOUTHERLY OF THE NONESUCH RIVER IS BASED SOLELY UPON A PLAN OF LAND TITLED "PROPOSED CONSERVATION EASEMENT FOR SCARBOROUGH FISH AND GAME" DATED THROUGH MARCH 23, 2007 BY TITCOMB ASSOCIATES.
10. THE TEST PITS SHOWN HEREON IN POINT RANGE H2-175 ARE APPROXIMATE. THEY WERE LOCATED WITH HANDHELD GPS AND SHOULD HAVE AN ERROR UNDER 5-10 FEET.
11. THE MONITORING WELLS HEREON WERE GPS OR INSTRUMENT LOCATED AND ARE RELATIVE TO THE AERIAL WORK HORIZONTALLY AND VERTICALLY.
12. ALL OTHER INFORMATION HEREON WAS PROVIDED BY PHOTOGRAMETRIC METHODS.
13. A PRE-CONSTRUCTION MEETING BETWEEN THE SCARBOROUGH ENGINEERING DEPARTMENT AND THE DEVELOPER/CONTRACTOR IS REQUIRED PRIOR TO THE START OF ANY WORK.
14. CONTRACTOR SHALL CLEAN, REMOVE DEBRIS & SEDIMENT DEPOSITED ON PUBLIC STREETS (BEECH RIDGE ROAD) DUE TO SITE WORK ACTIVITIES. THIS WORK SHALL INCLUDE REGULAR SWEEPING, APPLICATION OF SOIL STABILIZER WITH DUST SUPPRESSANT, MAINTENANCE OF STONE STABILIZATION PAD & OTHER WORK AS NECESSARY TO KEEP ACCESS ROAD & BEECH RIDGE ROAD FREE OF DEBRIS, SEDIMENT & TRACKED MATERIALS.

REV.	BY:	DATE:	STATUS:
B	DMR/DAM	3/26/08	REVISED PER BOYLE ASSOCIATES COMMENTS
A	DMR/DAM	3/14/08	SUBMIT FOR CLIENT REVIEW

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

Sebago Technics
Engineers & Surveyors You Can Build On
One Chabot Street
Westbrook, ME 04092-1339
Tel (207) 854-1027

PROJECT NO.	FIELD BOOK	DESIGN	CHKD	DRAWN
01494	–	DMR	DAM	SAB

SEPT. 2008 MITIGATION CONCEPT PLAN OF: LARRABEE FARMS WETLAND MITIGATION PROJECT

GORHAM ROAD AND BEECH RIDGE ROAD
SCARBOROUGH, MAINE

GRONDIN AGGREGATES, LLC
11 BARLETT ROAD
GORHAM, MAINE 04038

DATE	SCALE
9/12/08	1"=300'

SHEET 1 OF 1

01494-08CON-S.dwg, TAB:S1

Appendix B – A vegetative species list of volunteers in each plant community type. The volunteer species list should, at a minimum, include those that cover at least 5% of their vegetative layer*.

Volunteer Species

Scientific Name	Common Name	Indicator Status	Percent Aerial Cover (On average, per plot)
Agrostis perennans	Upland Bentgrass	FACU	1
Ambrosia artemisiifolia	Annual Ragweed	FACU	1
Carex lurida	Shallow Sedge	OBL	1
Digitaria sanguinalis	Hairy Crabgrass	FACU-	6
Echinochloa crusgalli	Barnyard Grass	FACU	2
Juncus acuminatus	Sharp-fruited Rush	FACW	1
Juncus canadensis	Canada Rush	OBL	1
Juncus effusus	Soft Rush	FACW+	5
Lolium perenne	Perennial Ryegrass	FACU-	2
Lotus corniculatus	Bird's-foot Trefoil	FACU-	1
Polygonum pensylvanicum	Pennsylvania Smartweed	FACW	1
Trifolium arvense	Hare's foot Clover	NI	1
Trifolium pratense	Red Clover	FACU-	2
Trifolium repens	White Clover	FACU-	3
Typha latifolia	Broad-leaved Cattail	OBL	1

*Being that this is the first year of monitoring, percent aerial cover by volunteer species is low. Therefore, all volunteer species with 1% aerial cover or greater (within the area of the mitigation site surveyed) are included in the volunteer species table. For additional species observed, please see Table 8 in Appendix D.

<u>Appendix C</u> -- Representative photos of each mitigation site taken from the same locations for each monitoring event. Photos should be dated and clearly labeled with the direction from which the photo was taken. The photo sites must also be identified on the appropriate maps.

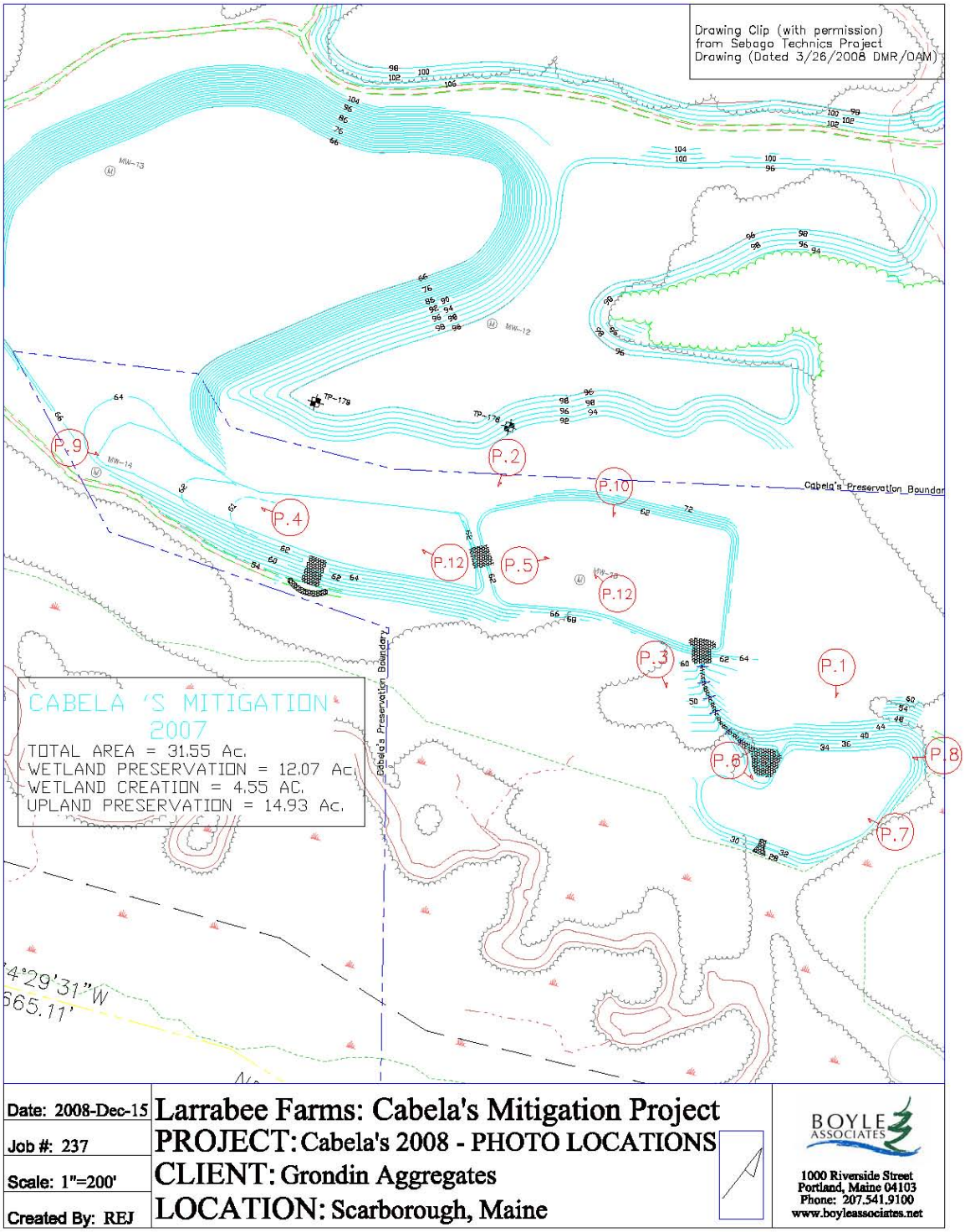


Figure 2. Photo locations for 2008 monitoring report ("P.1 = Photo 1, "P.2"= Photo 2, et cetera).

Photo 1. Facing south towards southeastern wetland creation cell during soil tests, 07-Sep-2006.

Photo 2. Facing south towards separator berm and spillway between upper two cells (28-Mar-2007.) Most of this berm will be removed in 2008/2009.

Photo 3. Facing southeast towards southeastern creation cell just after snowmelt in 2007, 28-Mar-2007.

Photo 4. Facing west across northwestern creation cell at watering activities just after plant installation and mulching, 26-Sep-2007.

Photo 5. Facing northeast inside of northeastern creation cell after ½" rain event, 26-Oct-2007.

Photo 6. Facing southeast towards southeastern creation cell after ½" rain event, 26-Oct-2007.

Photo 7. Facing northwest at lower creation cell from southeastern boundary (over PEM towards PSS) during mitigation monitoring, 16-Sep-2008.

Photo 8. Facing west across lower creation cell from northeastern boundary (over PEM), 16-Sep-2008.

Photo 9. Facing west across the upper wetland creation cell from the southwestern boundary, 16-Sep-2008.

Photo 10. Facing south/southwest across the eastern half of the upper creation cell, planted trees and shrubs are obscured by the herbaceous vegetation and photo washout in this picture, 16-Sep-2008.

Photo 11. Facing north/northwest across the eastern half of the upper creation area, 17-Sep-2008.

Photo 12. Facing north/northwest across the western half of the upper creation cell, towards the quarry – planted shrubs and trees can be seen well in this picture, 17-Sep-2008.

Appendix D. Tables

Table 1. Soil profile 1 in southwestern PEM creation area (HSNE3 Indicator VI.).

Depth	Horizon	Matrix	Redox	Texture
0-8	A	10YR2/2	10YR5/8 – 2%	Sandy loam
8-9	B	10YR4/2	10YR5/8 – 10%	Sandy loam
9+	Refusal			

Table 2. Soil profile 2 in southern PSS/PFO creation area (not hydric).

Depth	Horizon	Matrix	Redox	Texture
0-15	A	10YR3/2	7.5YR4/6 – 2% Oxidized rhizospheres	Sandy loam
15-20+	B	10YR5/3	10YR5/1 – 2% 10YR4/6 – 5% 10YR2/1 – 10% 10YR5/6 – 5%	Silt loam

Table 3.Soil profile 3 in southeastern PEM creation area (HSNE3 Indicator VII).

Depth	Horizon	Matrix	Redox	Texture
0-11	A	10YR3/2	10YR5/6 – 2%	Sandy loam
11-20+	B	2.5Y5/2	10YR4/6 – 30%	Clay

Table 4. Soil profile 4 in northern PSS/PFO creation area (not hydric).

Depth	Horizon	Matrix	Redox	Texture
0-16	A	10YR3/2	7.5YR4/6 – 2% 2.5Y5/6 - 2%	Sandy loam
16-18	B1	2.5Y5/2	2.5Y4/1 – 5%	Sandy loam
18-22+	B2	2.5Y6/4	10YR5/8 – 5% 10YR5/6 – 10% 10YR3/2 – 5% 10YR5/1 – 10%	Loamy sand

Table 5. Soil profile 5 in northern PEM creation area (not hydric).

Depth	Horizon	Matrix	Redox	Texture
0-14	A	10YR3/2	None observed	Sandy loam
14-17	B	10YR4/1	None observed	Gravely sand
17+	Refusal			

Table 6: Fauna Species List April through September 2008 (wetland creation area)

Common Name	Scientific Name	Field ID Methodology	Use
Birds:			
Black-capped chickadee	*Parus atricapillus*	visual	feeding, nesting
American goldfinch	*Carduelis tristis*	visual	feeding, nesting
Song sparrow	*Melospiza melodia*	visual	feeding, nesting
Cedar waxwing	*Bombycilla cedrorum*	visual	feeding
Red-tailed hawk	*Buteo jamaicensis*	visual	feeding
American crow	*Corvus brachyrhynchos*	visual	feeding, roosting
Savannah sparrow	*Passerculus sandwichensis*	visual	feeding
Mallard	*Anas platyrhynchos*	visual	feeding
Killdeer	*Charadrius vociferus*	visual	feeding, nesting
European starlings	*Sturnus vulgaris*	visual	feeding
Wild turkey	*Meleagris gallopavo*	visual	feeding
Blue jay	*Cyanocitta cristata*	visual	feeding
Pileated woodpecker	*Dryocopus pileatus*	visual	feeding, roosting
Gray catbird	*Dumetella carolinensis*	visual	feeding
American robin	*Turdus migratorius*	visual	feeding
Flycatcher species	Empidonax species	visual	feeding
Northern flicker	*Colaptes auratus*	song	feeding
White-breasted nuthatch	*Sitta carolinensis*	visual	feeding
Chipping sparrow	*Spizella passerine*	visual	feeding
American woodcock	*Scolopax minor*	probe holes	feeding
Northern shrike	*Lanius excubitor*	visual	roosting
Snow buntings	*Plectrophenax nivalis*	visual	feeding
American kestrel	*Falco sparverius*	visual	feeding
Northern harrier	*Circus cyaneus*	visual	feeding
Mammals:			
White-tailed deer	*Odocoileus virginianus*	scat, tracks	feeding
Moose	*Alces alces*	tracks	feeding
Fox	*Vulpes vulpes*	visual	feeding
Raccoon	*Procyon lotor*	tracks	feeding
Coyote	*Canis latrans*	tracks	feeding
Amphibians:			
Green frog	*Rana clamitans*	visual	feeding, breeding
Wood frog	*Rana sylvatica*	visual	feeding, breeding
American toad	*Bufo americanus*	visual	feeding, breeding
Leopard frog	*Rana pipiens*	visual	feeding
Wood Turtle*	*Glyptemys insculpta*	visual	feeding
Gray tree frog	*Hyla versicolor*	visual	feeding

*Maine Species of Special Concern

Table 7. Cabelas Wetland Mitigation Year One Monitoring Results - 2008
Scrub/Shrub and Forested Wetland Areas

Plot # ("S"=southern, lower cell; "N"=norther, upper cell) (Date Surveyed)	Length (ft) Width (ft)	Area (sq. ft. then acreage)	Plants	Number of Plants	Tree & Shrub Species/Acre	Trees /Acre	Shrubs /Acre
S5	78	468	Cose	2	**1303**	**372**	**931**
(9/15/08)	6	0.011	Frpe	2			
			Ilve	1			
			Pist	2			
			Sadi	3			
			Vica	3			
			Vide	1			
			Total	**14**			
S6	153	918	Acru	5	**1329**	**902**	**427**
(9/15/08)	6	0.021	Frpe	4			
			Lala	2			
			Pist	2			
			Qubi	3			
			Ulam	3			
			Vica	9			
			Total	**28**			
S7	172	1032	Acru	2	**1013**	**380**	**633**
(9/15/08)	6	0.024	Bepo	1			
			Cose	4			
			Frpe	1			
			Lala	1			
			Pist	4			
			Qubi	1			
			Sadi	2			
			Vaco	3			
			Vica	3			
			Vide	2			
			Total	**24**			
S8	179	1074	Acru	1	**852**	**527**	**324**
(9/15/08)	6	0.025	Bepo	1			
			Cose	6			
			Frpe	5			
			Pist	4			
			Qubi	2			
			Ulam	1			
			Vaco	1			
			Total	**21**			
S9	153	918	Bepo	2	**1613**	**522**	**1091**
(9/15/08)	6	0.021	Cose	4			
			Frpe	3			
			Ilve	3			
			Pist	4			
			Qubi	4			
			Sadi	1			
			Vaco	2			
			Vica	8			
			Vide	3			
			Total	**34**			
S10	126	756	Bepo	2	**1325**	**691**	**634**
(9/15/08)	6	0.017	Cose	4			
			Frpe	1			
			Ilve	2			
			Lala	5			
			Pist	4			
			Qubi	1			
			Ulam	1			
			Vica	3			
			Total	**23**			

Plot # ("S"=southern, lower cell; "N"=norther, upper cell) (Date Surveyed)	**Length (ft) Width (ft)**	**Area (sq. ft. then acreage)**	**Plants**	**Number of Plants**	**Tree & Shrub Species/Acre**	**Trees /Acre**	**Shrubs /Acre**
S11	97	582	Acru	1	**1871**	**748**	**1123**
(9/15/08)	6	0.013	Arme	2			
			Bepo	2			
			Frpe	3			
			Ilve	1			
			Lala	1			
			Pist	4			
			Qubi	1			
			Vica	9			
			Vide	1			
			Total	**25**			
S12	67	402	Cose	2	**1084**	**542**	**542**
(9/15/08)	6	0.009	Frpe	1			
			Lala	2			
			Qubi	1			
			Ulam	1			
			Vica	2			
			Vide	1			
			Total	**10**			
N2	25	150	Bepo	1	**1452**	**0**	**1452**
(9/17/08)	6	0.003	Cose	1			
			Vica	1			
			Vide	2			
			Total	**5**			
N3	84	504	Acru	2	**1556**	**519**	**1037**
(9/17/08)	6	0.012	Bepo	3			
			Qubi	4			
			Sadi	1			
			Vaco	1			
			Vica	4			
			Vide	3			
			Total	**18**			
N4	110	660	Acru	2	**1980**	**858**	**1122**
(9/17/08)	6	0.015	Arme	3			
			Cose	3			
			Frpe	6			
			Ilve	1			
			Lala	1			
			Pist	1			
			Qubi	1			
			Sadi	1			
			Ulam	2			
			Vaco	5			
			Vide	4			
			Total	**30**			
N5	130	780	Bepo	3	**894**	**279**	**614**
(9/17/08)	6	0.018	Cose	1			
			Frpe	1			
			Ilve	2			
			Pist	2			
			Ulam	2			
			Vaco	2			
			Vica	2			
			Vide	1			
			Total	**16**			
N6	130	780	Acru	2	**2234**	**558**	**1675**
(9/17/08)	6	0.018	Arme	2			
			Bepo	6			
			Cose	3			
			Frpe	5			

Plot # ("S"=southern, lower cell; "N"=norther, upper cell) (Date Surveyed)	Length (ft) Width (ft)	Area (sq. ft. then acreage)	Plants	Number of Plants	Tree & Shrub Species/Acre	Trees /Acre	Shrubs /Acre
			Ilve	2			
			Sadi	6			
			Ulam	3			
			Vaco	1			
			Vica	10			
			Total	**40**			
N7	126	756	Acru	4	**1498**	**980**	**519**
(9/17/08)	6	0.017	Bepo	1			
			Cose	1			
			Frpe	1			
			Lala	4			
			Pist	5			
			Qubi	3			
			Sadi	1			
			Vaco	2			
			Vica	2			
			Vide	2			
			Total	**26**			
N8	141	846	Acru	1	**1081**	**618**	**463**
(9/17/08)	6	0.019	Arme	2			
			Bepo	1			
			Cose	2			
			Frpe	1			
			Ilve	1			
			Lala	7			
			Qubi	2			
			Ulam	1			
			Vaco	1			
			Vica	2			
			Total	**21**			
N9	130	780	Acru	2	**1731**	**447**	**1284**
(9/17/08)	6	0.018	Arme	3			
			Bepo	3			
			Cose	3			
			Ilve	4			
			Lala	2			
			Qubi	2			
			Ulam	2			
			Vaco	4			
			Vica	4			
			Vide	2			
			Total	**31**			
N10	122	732	Acru	1	**1309**	**417**	**893**
(9/17/08)	6	0.017	Arme	5			
			Bepo	2			
			Ilve	1			
			Pist	1			
			Qubi	4			
			Sadi	2			
			Ulam	1			
			Vica	4			
			Vide	1			
			Total	**22**			
N11	111	666	Bepo	2	**1177**	**458**	**719**
(9/17/08)	6	0.015	Cose	3			
			Frpe	2			
			Lala	4			
			Ulam	1			
			Vaco	2			
			Vica	3			
			Vide	1			

Plot # ("S"=southern, lower cell; "N"=norther, upper cell) (Date Surveyed)	Length (ft) Width (ft)	Area (sq. ft. then acreage)	Plants	Number of Plants	Tree & Shrub Species/Acre	Trees /Acre	Shrubs /Acre
			Total	**18**			
N12	114	684	Bepo	2	**1083**	**701**	**382**
(9/17/08)	6	0.016	Cose	1			
			Frpe	2			
			Lala	2			
			Pist	1			
			Qubi	3			
			Ulam	3			
			Vide	3			
			Total	**17**			
N13	108	648	Arme	3	**1076**	**269**	**807**
(9/17/08)	6	0.015	Bepo	1			
			Cose	2			
			Frpe	1			
			Ilve	1			
			Lala	1			
			Qubi	2			
			Sadi	3			
			Vide	2			
			Total	**16**			
N14	110	660	Arme	1	**1848**	**594**	**1254**
(9/17/08)	6	0.015	Bepo	2			
			Cose	1			
			Ilve	5			
			Lala	4			
			Qubi	2			
			Ulam	3			
			Vaco	9			
			Vica	1			
			Total	**28**			
N15	101	606	Bepo	4	**1006**	**216**	**791**
(9/17/08)	6	0.014	Ilve	2			
			Lala	2			
			Qubi	1			
			Sadi	3			
			Vide	2			
			Total	**14**			
N16	70	420	Frpen	1	**104**	**104**	**0**
(9/17/08)	6	0.010	**Total**	**1**			
N17	18	108	Vide	1	**403**	**0**	**403**
(9/17/08)	6	0.002	**Total**	**1**			
N18	22	132			**0**	**0**	**0**
(9/17/08)	6	0.003	**Total**	**0**			
N19	57	342	Acru	1	**127**	**127**	**0**
(9/17/08)	6	0.008	**Total**	**1**			
N20	66	396	Bepo	1	**440**	**220**	**220**
(9/17/08)	6	0.009	Cose	1			
			Frpa	1			
			Ulam	1			
			Total	**4**			
N21	71	426	Bepo	1	**920**	**102**	**818**
(9/17/08)	6	0.010	Cose	6			
			Sani	1			
			Ulam	1			
			Total	**9**			
N22	77	462	Acru	1	**943**	**283**	**660**
(9/17/08)	6	0.011	Bepo	3			
			Cose	2			
			Ulam	2			

Plot # ("S"=southern, lower cell; "N"=norther, upper cell) (Date Surveyed)	**Length (ft) Width (ft)**	**Area (sq. ft. then acreage)**	**Plants**	**Number of Plants**	**Tree & Shrub Species/Acre**	**Trees /Acre**	**Shrubs /Acre**
			Vide	2			
			Total	**10**			
N23	80	480	Acru	1	**363**	**272**	**91**
(9/17/08)	6	0.011	Bepo	1			
			Ulam	2			
			Total	**4**			
N24	90	540	Acru	5	**1452**	**1129**	**323**
(9/17/08)	6	0.012	Lala	1			
			Qubi	3			
			Ulam	5			
			Vaco	2			
			Vide	2			
			Total	**18**			
N25	95	570	Acru	3	**1299**	**688**	**611**
(9/17/08)	6	0.013	Arme	1			
			Cose	3			
			Ilve	1			
			Lala	1			
			Qubi	2			
			Ulam	3			
			Vaco	2			
			Vide	1			
			Total	**17**			
N26	87	522	Acru	1	**1001**	**250**	**751**
(9/17/08)	6	0.012	Cose	4			
			Ilve	2			
			Lala	1			
			Ulam	1			
			Vaco	2			
			Vica	1			
			Total	**12**			
N27	83	498	Acru	2	**1749**	**787**	**962**
(9/17/08)	6	0.011	Arme	1			
			Bepo	1			
			Cose	1			
			Frpe	1			
			Ilve	3			
			Lala	4			
			Ulam	2			
			Vaco	3			
			Vica	2			
			Total	**20**			
N28	77	462	Acru	2	**2357**	**943**	**1414**
(9/17/08)	6	0.011	Arme	4			
			Bepo	2			
			Ilve	5			
			Lala	2			
			Pist	2			
			Ulam	4			
			Vaco	2			
			Vica	1			
			Vide	1			
			Total	**25**			
N29	78	468	Acru	4	**1862**	**1024**	**838**
(9/17/08)	6	0.011	Arme	3			
			Bepo	1			
			Ilve	1			
			Lala	1			
			Pist	2			
			Qubi	1			

Plot # ("S"=southern, lower cell; "N"=norther, upper cell) (Date Surveyed)	**Length (ft) Width (ft)**	**Area (sq. ft. then acreage)**	**Plants**	**Number of Plants**	**Tree & Shrub Species/Acre**	**Trees /Acre**	**Shrubs /Acre**
			Ulam	3			
			Vaco	1			
			Vica	3			
			Total	**20**			
N30	74	444	Acru	2	**2256**	**785**	**1472**
(9/17/08)	6	0.010	Arme	5			
			Lala	1			
			Qubi	2			
			Ulam	3			
			Vaco	6			
			Vica	3			
			Vide	1			
			Total	**23**			
N31	67	402	Acru	3	**1734**	**433**	**1300**
(9/17/08)	6	0.009	Ilve	4			
			Ulam	1			
			Vaco	4			
			Vica	4			
			Total	**16**			
N32	58	348	Acru	1	**1127**	**501**	**626**
(9/17/08)	6	0.008	Qubi	1			
			Ulam	2			
			Vaco	3			
			Vide	2			
			Total	**9**			
N33	53	318	Acru	1	**822**	**548**	**274**
(9/17/08)	6	0.007	Qubi	1			
			Ulam	2			
			Vide	2			
			Total	**6**			
N34	59	354	Acru	1	**1231**	**861**	**369**
(9/17/08)	6	0.008	Cose	2			
			Frap	2			
			Sadi	1			
			Ulam	4			
			Total	**10**			
N35	66	396	Acru	1	**1320**	**330**	**990**
(9/17/08)	6	0.009	Arme	5			
			Cose	1			
			Frap	1			
			Qubi	1			
			Sadi	2			
			Vica	1			
			Total	**12**			
N36	72	432	Acru	1	**1916**	**403**	**1513**
(9/17/08)	6	0.010	Bepo	3			
			Cose	1			
			Frpe	2			
			Ilve	2			
			Qubi	1			
			Sadi	3			
			Vaco	1			
			Vica	2			
			Vide	3			
			Total	**19**			
N37	71	426	Acru	3	**2045**	**920**	**1125**
(9/17/08)	6	0.010	Arme	2			
			Bepo	2			
			Cose	1			
			Frpe	2			

Plot # ("S"=southern, lower cell; "N"=norther, upper cell) (Date Surveyed)	Length (ft) Width (ft)	Area (sq. ft. then acreage)	Plants	Number of Plants	Tree & Shrub Species/Acre	Trees /Acre	Shrubs /Acre
			Lala	2			
			Qubi	2			
			Vica	4			
			Vide	2			
			Total	**20**			
N38	70	420	Acru	1	**1763**	**933**	**830**
(9/17/08)	6	0.010	Arme	1			
			Bepo	1			
			Frpe	5			
			Pist	1			
			Qubi	1			
			Sadi	1			
			Ulam	1			
			Vaco	3			
			Vide	2			
			Total	**17**			
N39	75	450	Acru	1	**1549**	**871**	**678**
(9/17/08)	6	0.010	Bepo	2			
			Cose	3			
			Frpe	4			
			Ilve	1			
			Pist	1			
			Qubi	2			
			Ulam	1			
			Vide	1			
			Total	**16**			
N40	78	468	Arme	1	**2420**	**558**	**1862**
(9/17/08)	6	0.011	Bepo	3			
			Cose	3			
			Ilve	7			
			Lala	3			
			Ulam	3			
			Vica	1			
			Vide	5			
			Total	**26**			
N41	78	468	Acru	4	**2420**	**1303**	**1117**
(9/17/08)	6	0.011	Bepo	5			
			Cose	3			
			Frpe	1			
			Lala	2			
			Pist	2			
			Qubi	3			
			Sadi	1			
			Ulam	2			
			Vaco	1			
			Vica	2			
			Total	**26**			
N42	95	570	Acru	1	**2063**	**688**	**1376**
(9/17/08)	6	0.013	Bepo	1			
			Cose	3			
			Ilve	2			
			Lala	2			
			Pist	1			
			Qubi	3			
			Sadi	1			
			Ulam	2			
			Vaco	1			
			Vica	10			
			Total	**27**			
N43	67	402	Ilve	2	**2167**	**867**	**1300**
(9/17/08)	6	0.009	Lala	2			

Plot # ("S"=southern, lower cell; "N"=norther, upper cell) (Date Surveyed)	**Length (ft) Width (ft)**	**Area (sq. ft. then acreage)**	**Plants**	**Number of Plants**	**Tree & Shrub Species/Acre**	**Trees /Acre**	**Shrubs /Acre**
			Pist	6			
			Sadi	2			
			Vica	7			
			Vide	1			
			Total	**20**			
						Species/Acre	
PSS Creation Average						**813**	
PFO Creation Average						**551**	
Total Woody Plants per Acre						**1363**	
Total sq ft PSS/PFO Surveyed		27126					
Total acreage PSS/PFO Surveyed		0.62					

Table 8: Wetland Creation Area Herbaceous Vegetation (Plot Data)				
Scientific Name	**Common Name**	**ME Indicator Status**	**Average % Aerial Cover Across Entire Site**	**Average % Aerial Cover in Each Plot in Which Plant was found**
**Agrostis perennans*	Upland Bentgrass	FACU	0.7	10
**Agrostis stolonifera*	Creeping Bentgrass	FACW	25.3	26
Ambrosia artemisiifolia	Annual Ragweed	FACU	1.1	5
Aster vimineus	Small White Aster	FAC	0.3	2
Bidens cernua	Nodding Beggar-ticks	OBL	0.0	1
Carex lurida	Shallow Sedge	OBL	1.3	5
Carex scoparia	Pointed Broom Sedge	FACW	0.1	1
Daucus carota	Queen Anne's Lace	UPL	0.2	2
Digitaria sanguinalis	Hairy Crabgrass	FACU-	5.5	11
Echinochloa crusgalli	**Barnyard Grass**	**FACU**	**1.7**	**5**
**Elymus virginicus*	Virginia Wild Rye	FACW-	3.9	9
Eupatorium perfoliatum	Common Boneset	FACW+	0.1	2
**Euthamia graminifolia*	Grass leaved goldenrod	FAC	0.3	3
Festuca myuros	Rat-tail Fescue	NI	0.1	2
Festuca rubra	Creeping Red Fescue	FACU	9.9	12
Heracium species	Hawkweed species	NI	0.0	1
Juncus acuminatus	Tapertip Rush	FACW	0.7	5
Juncus bufonius	Toad Rush	FACW	0.0	2
Juncus canadensis	Canada Rush	OBL	0.6	8
Juncus tenuis	Path Rush	FAC-	0.1	1
Juncus effusus	Soft Rush	FACW+	5.1	10
Lolium perenne	Perennial Ryegrass	FACU-	2.4	9
Lotus corniculatus	**Bird's-foot Trefoil**	**FACU-**	**0.7**	**8**
Medicago lupulina	Black Medick	UPL	0.0	1
Panicum clandestinum	Deertongue	FAC+	0.0	1
**Panicum virgatum*	Switchgrass	FAC	3.0	8
Phleum pratense	Timothy	FACU	0.1	1
Plantago major	Common Plantain	FACU	0.0	1
Polygonum lapathifolium	Willow-weed	FACW+	0.1	1
Polygonum pennsylvanicum	Pennsylvania Smartweed	FACW	1.2	6
Polygonum sagittatum	Arrowleaf Tearthumb	OBL	0.0	1
Potentilla species	Cinquefoil species	NI	0.0	1
**Scirpus cyperinus*	Woolgrass	FACW+	0.3	10
Solidago rugosa	Rough-stemmed goldenrod	FAC	0.0	2
Trifolium arvense	Haresfoot Clover	NI	0.8	4
Trifolium pratense	Red Clover	FACU-	2.4	5
Trifolium repens	White Clover	FACU-	2.9	7
Typha latifolia	**Broad-leaved Cattail**	**OBL**	**0.9**	**10**
Verbena hastata	Blue Vervain	FACW+	0.1	1
Vicia cracca	Cow Vetch	UPL	0.1	1
non-dominants			7.1	9
		Total:	78.9	
* in seed mix				
Red plants are considered invasive or noxious.				
Green plants are hydrophytes.				

Overall Average % aerial cover by herbaceous vegetation	79
Overall Average % cover of non-invasive herbaceous vegetation	76
Average % cover of hydrophytic non-invasive herbaceous vegetation in plot	42

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

THE NEW ENGLAND EXPEDITION - SCARBOROUGH, LLC	) SITE LOCATION OF DEVELOPMENT ACT
Scarborough, Cumberland County	) NATURAL RESOURCES PROTECTION ACT
THE GATEWAY AT SCARBOROUGH	) FRESHWATER WETLAND
L-23242-26-A-N (approval)	) WATER QUALITY CERTIFICATION
L-23242-TG-B-N	) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S.A. Sections 481 et seq. and 480-A et seq., and Section 401 of the Federal Water Pollution Control Act, the Department of Environmental Protection has considered the application of THE NEW ENGLAND EXPEDITION – SCARBOROUGH, LLC with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. Summary: The applicant proposes a mixed use development on approximately 73 acres of land located on two parcels on the Payne Road in Scarborough. The project known as The Gateway at Scarborough includes Gateway Shoppes on a 40.9 acre parcel on the northwest side of Payne Road and Gateway Square on a 32.7 acre parcel on the southeast side of Payne Road. Gateway Shoppes includes a Cabela's retail store, three retail facilities, two restaurants, parking areas, and access roads. Gateway Square includes a hotel, a restaurant, a bank, two retail facilities, and four office buildings. The total developed area is approximately 62 acres. The project is shown on a set of plans, the first of which is entitled "The Gateway at Scarborough," prepared by OEST Associates, Inc., with a last revision date of February 26, 2007.

The applicant is seeking approval under the Natural Resources Protection Act (NRPA) to alter approximately 4.47 acres of freshwater wetland. The applicant also submitted an NRPA Permit by Rule Notification Form for the installation of new culverts under an existing access road (PBR #41783).

B. Current Use of Site: The site of the proposed Gateway Shoppes includes woodland, abandoned hay field, and a house and barn. The Gateway Square parcel includes wooded upland and a gravel road that provided access from Payne Road to a former gravel pit located on the site. The Gateway Square site also includes a manmade pond in the gravel pit and a small family cemetery.

DEPARTMENT OF THE ARMY PERMIT

Permittee The New England Expeditions – Scarborough, LLC, 220 Elm Street, Suite 104, New Caanan, CT 06840

Permit No. NAE-2006-3128

Issuing Office New England District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description:

Fill approximately 4.47 acres and indirectly impact approximately 0.69 acres of freshwater wetlands in order to develop two parcels into "The Gateway Shoppes at Scarborough", a mixed use commercial development. The cornerstone of the project is a 130,000 square foot Cabela's retail store but the combined development of the two parcels will also include space for smaller retailers, restaurants, a bank, office space, and a hotel.

This work is shown on the attached plans entitled "The New England Expeditions-Scarborough, LLC" on eight sheets revised "02-24-07".

Project Location:

In wetlands adjacent to an unnamed tributary to Mill Brook at Scarborough, Maine

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on 28 MAR 2012. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.