

Annual Monitoring Report #1  
for Vermont Transco's  
Zelazny Wetland Mitigation/Restoration Project

November 30, 2006



Reference: ACOE Permit # NAE-2004-856

## **PROJECT SUMMARY:**

VT Transco's US Army Corps of Engineers (ACOE) permit # NAE-2004-856, which was issued on December 21, 2005, requires mitigation for wetland impacts associated with construction of the Northwest Vermont Reliability Project (NRP). In December 2005, VELCO purchased the 62 acre Zelazny property located in Pittsford, Vermont, as a mitigation site and recorded a Declaration of Restrictive Covenants as required by the ACOE. It is planned that eventually, the property will be transferred to the Vermont Department of Fish and Wildlife (VTF&W) for long-term protection and management.

The goal of the NRP Wetland Mitigation and Restoration Plan is to establish a "Riparian Forest Buffer" throughout a large portion of the property, which is currently degraded by dense stands of reed canary grass (*Phalaris arundinacea*), and is not adequately regenerating to forest after agricultural abandonment. Over a two year period, VT Transco will plant approximately 7,000 native tree seedlings on this property. In addition to the plantings, three ditches on site will be plugged to restore floodplain hydrology along Otter Creek. Also, for safety and hydrology purposes, several buried, corroding metal culverts in the field will be removed up to a point 50' from Otter Creek and filled.

## **EXISTING SITE CONDITIONS:**

As described above, the existing site conditions primarily consist of abandoned agricultural field, dominated by non-native reed canary grass (*Phalaris arundinacea*). The area experiences regular cycles of flooding and receding waters after rainfall events associated with the hydrology of the nearby Otter Creek. Site conditions are currently being modified as part of the Wetland Mitigation Plan. As part of this plan, Section 1 (see attached map) was chemically treated to inhibit the growth of the reed canary grass. Additionally, 3101 native tree seedlings have been planted in this area to facilitate the restoration of this site into a forested wetland and riparian buffer. Site conditions will continue to develop as VT Transco implements additional wetland mitigation efforts.

## **PROJECT UPDATE:**

The following activities were conducted between the period ranging from September 2005 through November 30, 2006:

1. NRCS, VT Transco's partner in this project completed mowing (brush hogging) of the three planting sections in September 2005, as shown on Slides 1 and 2.

2. VELCO purchased the Zelazny property on December 13, 2005, and recorded the Declaration of Restrictive Covenants on January 6, 2006.
3. Clearing of the right-of-way and construction of the 345 kV transmission line component of the NRP commenced in late January 2006.
4. In spring of 2006, VT Transco executed a contract and purchase order with The Nature Conservancy's native plant nursery in Whitehall, NY, for 7,179 one- to two-year old seedling stock. Due to poor seed crop for some species, The Nature Conservancy nursery provided approximately one-half of the seedling stock in 2006, and the remaining stock for planting in 2007. This phased planting approach was agreed to by ACOE.
5. Because of the phased planting approach, only Section 1 (8.3 acres) was chemically treated by a licensed applicator on June 16, 2006, in preparation for fall planting (see Slides 3, 4 and 5). Remaining Planting Sections 2 and 3 will be chemically treated in May or June of 2007, in preparation for fall 2007 planting.
6. In compliance with the terms of the property's WRP easement, gates were installed at the railroad crossing on August 9, 2006, to prevent access by unauthorized vehicles (see Slide 6).
7. On September 22, 2006, VT Transco issued an RFP for tree planting services for Section 1 to five contractors. The scope of work for the RFP involved the transportation of approximately 3,101 one to two year old seedlings (tubelings) from The Nature Conservancy's native plant nursery in Whitehall, NY, and planting the tubelings within the 8.3 acre Section 1, at a density of approximately 440 stems/acre. Pursuant to the approved plan, the new tubelings were spaced on a grid of 14' x 7', mulched with 2' x 2' pinned black plastic matting, staked, and protected with plastic tree guards. Three bids were received and evaluated. The contract was subsequently awarded to Leon Anderson of LA Restorations of Proctor, Vermont, who commenced work on October 4, 2006. All the seedlings were planted by October 31, and all protections were in place on November 13, when a final inspection was performed (see Slides 7 through 15). Due to a shortage of cottonwood (*Populus deltoids*) seedlings this year, The Nature Conservancy substituted the order with other species planned to be planted, resulting in a final count for Section 1 of 840 silver maple (*Acer saccharinum*), 100 green ash (*Fraxinus pennsylvanica*), 512 cottonwood (*Populus deltoids*), 867 bur oak (*Quercus macrocarpa*), and 782 black willow (*Salix nigra*).
8. A second RFP for the Zelazny site was issued on September 28, 2006. This solicitation was for earthwork associated with the restoration project, and included a) three ditch plugs as per the detail provided in the restoration plan, b) excavation, removal and disposal of two buried metal culverts up to a point 50'

from Otter Creek, followed by backfilling, seeding and mulching, and c) installation of an access ramp off West Creek Road. (A permit for construction of the access ramp was issued by the Town of Pittsford in September 2006). Two bids were received, and Markowski Excavating (Markowski) was awarded the contract. The earthwork has not commenced due to the prevailing wet conditions at the site and access restrictions associated with the existing railroad crossings. LA Restorations marked off an access route and culvert removal work area in Section 1 and did not plant seedlings within those areas in order to enable Markowski to perform the required work without disrupting the seedlings. VT Transco personnel also conducted a site visit with Markowski, VTrans and Vermont Railway representatives on November 2 to discuss equipment access across the railroad tracks. As a result, Vermont Railway has requested that VT Transco suspend the earthwork component of the project until they are able to repair the visibly damaged rail crossing. Once the railroad crossing is repaired, VT Transco expects to complete the ditch plugs and culvert removals this winter or during drier periods in summer 2007.

#### **ACTIVITIES PLANNED FOR 2007:**

The anticipated activities for 2007 include the installation of ditch plugs and culvert removals, chemical treatment of Sections 2 and 3, RFP preparation and tree planting for Sections 2 and 3 in fall 2007, and possible mowing of Section 1 in summer 2007 depending on reed canary grass prominence.

#### **INSPECTIONS AND MORTALITY:**

Section 1 was inspected approximately 2 months after chemical spraying. The treatment was deemed successful, as shown on Slides 5 and 6.

A final inspection of the newly planted seedlings and associated protective measures was conducted on November 13. All work was performed satisfactorily and many plantings had already been in the ground for over 4 weeks. Additionally, the mild fall weather has been beneficial for vegetative establishment. VT Transco will continue to monitor the site in accordance with the Wetland Mitigation and Restoration Plan.

#### **PROBLEMS AND ADAPTIVE MANAGEMENT:**

A third culvert and "swirl hole" was discovered extending to Otter Creek near the middle of Section 1. LA Restoration personnel observed water discharging from the hole when Otter Creek reached high flow events. This culvert will be crushed in place and the "swirl hole" area will be restored when the earthwork contractor is on site. Removal of this culvert will reduce the volume of excessive flooding in Section 1 (see

slides 16 and 17). VT Transco will acquire all required state and federal authorizations to perform this additional culvert removal work.

#### **PROGRESS TOWARDS MITIGATION/RESTORATION GOALS:**

To date, VT Transco has accomplished several major objectives towards achieving the overall project goal of establishing a "Riparian Forest Buffer" at the Zelazny property. Project activities outlined above will be supplemented by additional required work, which will include: the construction of an access ramp, the installation of ditch plugs, removal of several culverts, the performance of additional vegetative control activities, and the planting of seedlings in Sections 2 & 3. Actual construction and planting schedules will be dependent on weather conditions and Vermont Railway repairing the existing railroad crossing to allow Markowski crews to access the site.

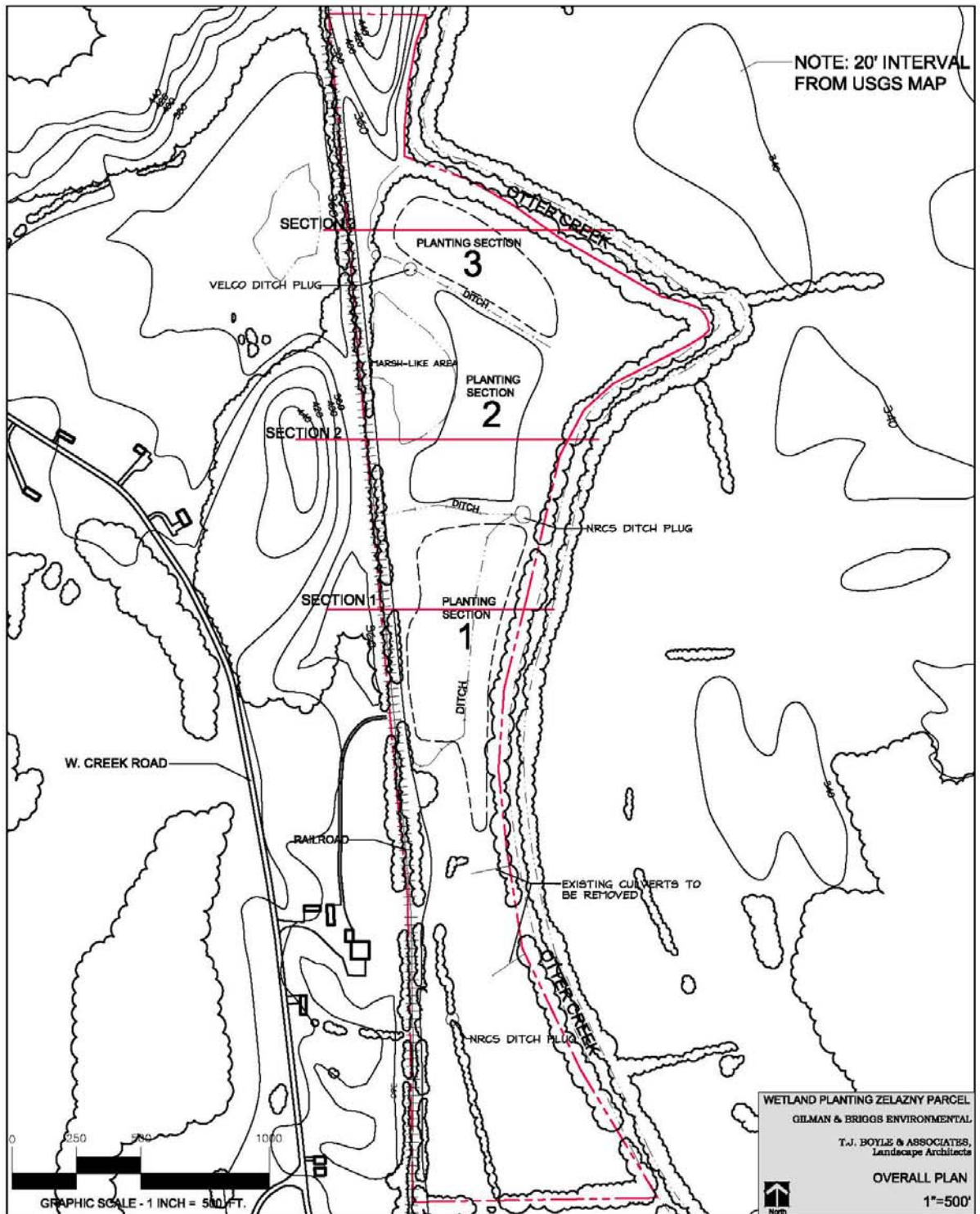
**SUMMARY OF COSTS INCURRED SINCE LAST REPORT** (not including VELCO staff time or legal services):

Purchase price for 62 acre parcel:	\$ 35,000.00
2006 property taxes:	1,658.31
Gate installation at railroad crossing:	944.60
2006 Chemical treatment of Section 1:	1,740.00
2006 TNC tree stock for Section 1:	6,651.65
2006 Planting services for Section 1:	<u>18,183.27</u>

Total for this period:	\$ 64,177.83
------------------------	--------------

Total to date:	\$ 64,177.83
----------------	--------------

# SLIDE 1: OVERALL PLAN SHOWING SECTIONS 1, 2 AND 3





## **SLIDE 2: FOLLOWING BRUSH HOGGING – SEPTEMBER 2005**





**SLIDE 3: SECTION 1 AREA CHEMICALLY TREATED IN JUNE 2006**



**SLIDE 4: SECTION 1 FOLLOWING CHEMICAL TREATMENT - AUGUST 2006**





**SLIDE 5: SECTION 1 FOLLOWING CHEMICAL TREATMENT – AUGUST 2006**





**SLIDE 6: GATE INSTALLED AT RAILROAD CROSSING – AUGUST 2006**



**SLIDE 7: SECTION 1 VIEW LOOKING NORTHEAST – OCTOBER 2006  
PRIOR TO PLANTING**





**SLIDE 8: SECTION 1 VIEW LOOKING SOUTHWEST – OCTOBER 2006  
PRIOR TO PLANTING**



**SLIDE 9: INITIAL STAKING OF SECTION 1 AT PRESCRIBED SPACING -  
VIEW LOOKING SOUTH – OCTOBER 2006**





**SLIDE 10: BUR OAK SEEDLING – NOVEMBER 2006**





**SLIDE 11: SILVER MAPLE SEEDLING – NOVEMBER 2006**





**SLIDE 12: SECTION 1 PLANTING COMPLETED – NOVEMBER 2006  
VIEW LOOKING NORTH**





**SLIDE 13: SECTION 1 PLANTING COMPLETED – NOVEMBER 2006  
VIEW LOOKING SOUTH**





**SLIDE 14 : SECTION 1 PLANTING COMPLETED – NOVEMBER 2006  
VIEW OF NORTHEAST CORNER OF SECTION 1 NEAR DITCH**





**SLIDE 15: LEON ANDERSON – NOVEMBER 13, 2006**





**SLIDE 16: NEWLY DISCOVERED CULVERT – NOVEMBER 13, 2006**





**SLIDE 17: NEWLY DISCOVERED CULVERT – NOVEMBER 13, 2006**

