SUPPLEMENTAL DRAFT
ENVIRONMENTAL IMPACT STATEMENT

for the

TRI-LAKES RELIABILITY PROJECT

January 2008

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ACRONYMS AND ABBREVIATIONS

AADT	Annual Average Daily Traffic
ACOE	U.S. Army Corps of Engineers
APA	Adirondack Park Agency
APE	area of potential effect
asl	above sea level
Bypass Route	6.0 mile route around the Forest Preserve
CEAs	critical environmental areas
cfl	compact florescent light
Constitutional Amendment	Amendment to New York State Constitution
dbh	diameter at breast height
DEIS	Draft Environmental Impact Statement
East Alternate	Route 56 East Alternate
EWP	Environmental Work Plan
FEIS	Final Environmental Impact Statement
FERC	Federal Energy Regulatory Commission
Forest Preserve	Raquette Boreal State Forest Preserve or State Owned Lands in the Adirondack Park
HDD	horizontal directional drilling
kV	Kilovolt
NGOs	non-government organizations
NHL	National Historic Landmark
NMC	Notices of Minor Change
NRCS	Natural Resources Conservation Services
NRHP	National Register of Historic Places
NYPA	New York Power Authority
NYSDEC	New York State Department of Environmental Conservation
NYSDPW	New York State Department of Public Works
PVC	polyvinyl chloride
Route 56	State Highway Route 56
ROW	right of way
SDEIS	Supplemental Draft Environmental Impact Statement
SEQRA	State Environmental Quality Review Act
SFEIS	Supplemental Final Environmental Impact Statement
SHPO	State Historic Preservation Office
SLMP	State Land Master Plan
SPDES	State Pollution Discharge Elimination System
SSURGO	Soil Survey Geographic Database
TRP	Temporary Revocable Permit
UMP	Unit Management Plan
Underground Alternate	Route 56 Underground Alternate
West Alternate	Route 56 West Alternate

EXECUTIVE SUMMARY

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BACKGROUND

In response to initiatives of elected and municipal officials and interested citizens in the Tri-Lakes Region, an Agreement was executed in September 2004 by and among the villages of Lake Placid and Tupper Lake, National Grid, and the New York Power Authority (NYPA) to help alleviate longstanding power problems in the Region through short- and long-term solutions. The Tri-Lakes Reliability Project (the Project), a new 46 kilovolt (kV) line and associated facilities from Stark to Piercefield, is one of the long-term solutions identified by National Grid and NYPA. The purpose of the Project is to increase the reliability of the electric system in the Region through improvements to capacity and delivery.

The Project is being developed as a cooperative effort between NYPA and National Grid (also known as the Applicants). NYPA is the applicant for all permits and approvals required for construction and operation of the Project. National Grid is responsible for design, engineering, procurement, construction, installation, testing, and overall Project management. National Grid will operate and maintain the new line after it is energized. NYPA will be owner of the line until 2012, at which time the line will be sold to National Grid.

The Draft Environmental Impact Statement (DEIS) for Project was accepted as complete and made available for public review on November 30, 2005. During the State Environmental Quality Review Act (SEQRA) process in 2005 and 2006, the analysis of alternatives included an evaluation of the feasibility of building a 1.86 mile portion of the line on Raquette Boreal State Forest Preserve (Forest Preserve) lands along State Highway Route 56 ("Route 56 Alternate"). A Final Environmental Impact Statement (FEIS) was filed and deemed complete on February 17, 2006. A findings statement was issued which accepted the mitigation measures outlined in the FEIS and approved the proposed action.

On March 13, 2006, the Adirondack Park Agency (APA) approved routing for this 46 kV power line, which runs from Stark to Piercefield ("Stark Falls Alternate"). This approved route does not use the Route 56 corridor through the Forest Preserve; the approved route bypasses the Forest Preserve ("Bypass Route"). The Applicants obtained the required permits from federal, state, and municipal agencies to construct and operate the Stark Falls Alternate using the Bypass Route.

The Route 56 Alternate, which would have generally sited the 46 kV line along State Route 56 from Stark to Sevey Corners, was not selected as a part of the preferred route because of its susceptibility to the "potential for delays as a result of the Forest Preserve issues" (DEIS Appendix A, § 2.4.6). Specifically, there were concerns about a potential need for an amendment to the New York State Constitution (Constitutional Amendment) if the 46kV line was sited along and adjacent to Route 56 ROW, which includes over 1.8 miles of Forest Preserve lands.

The Constitutional Amendment process is lengthy, requiring first, passage of a concurrent resolution in the legislature authorizing the measure to be put on a state-wide ballot, second, passage of the identical resolution by a newly elected legislature after an intervening general election, and third, approval by the voters of the State at a general election. The time required made this option less attractive than the Bypass Route. Because of the pressing need to license and construct the Project, the Route 56 Alternate was not selected as the preferred route.

While the Applicants were moving forward with the Stark Falls Alternate using the Bypass Route, several legislators and members of four environmental groups encouraged the Applicants to pursue, by Constitutional Amendment, a route through the Forest Preserve adjacent to Route 56. An alignment along Route 56 partly on Forest Preserve lands represents a shorter route with potential for fewer environmental impacts than the cross-country Bypass Route, which is part of the Stark Falls Alternate. (See Appendix A for copies of position statements of environmental and resident associations supporting the route over Forest Preserve lands.)

In 2006, the Legislature passed a concurrent resolution authorizing the power line to cross Forest Preserve lands. Second passage was planned for 2007, and it was expected that the measure would be approved by the voters at the 2007 general election. However, the concurrent resolution had technical flaws that were not discovered until 2007. First passage of a concurrent resolution that corrected those flaws occurred in 2007. Second passage of the resolution is expected in 2009, after the 2008 intervening legislative election. The proposed amendment is expected to be on a state-wide ballot and approved by the voters in 2009.

The Applicants cannot wait until 2009 to construct the power line because the Project is urgently needed to reinforce the delivery systems for the Lake Placid-Tupper Lake-Saranac Lake area. The existing electric transmission lines and associated facilities in the current configuration have reached their limit to reliably serve the load in the region, while the load of the Tupper Lake-Saranac Lake municipal electric systems continues to grow. Peak demand for electricity on the transmission and subtransmission systems in the Tri-Lakes Region occurs in the winter months, during severely cold weather, when outages can cause the loss of heat, light, and water service in residences, schools, and businesses. These events can create significant concerns for public health and safety.

In advance of the Constitutional Amendment and to accommodate the in-service date, New York State agreed to permit the use of lands that are in the Forest Preserve for the construction and operation of the Project. Under the Environmental Conservation Law and applicable regulations, the New York State Department of Environmental Conservation (NYSDEC) has discretion to enforce compliance with the laws, regulations, rules, and policies affecting the Forest Preserve. NYSDEC has determined that the construction of the power line is in the best interests of the public and, in an agreement with NYPA and National Grid, has exercised its discretion in authorizing the use of the Forest Preserve lands for construction and operation of the 46 kV transmission line (the Agreement). Danger tree removal has been included as part of the Agreement.

THE SDEIS

In this Supplemental Draft Environmental Impact Statement (SDEIS), NYPA and National Grid evaluate three alternate alignments to the Bypass Route: the Route 56 East Alternate (East Alternate), the Route 56 West Alternate (West Alternate), and the Route 56 Underground Alternate (Underground Alternate), which would include a portion over Forest Preserve lands. This SDEIS examines the environmental impacts of the three proposed alternate routes through the Forest Preserve along State Route 56. For the purpose of this SDEIS, the Project Area begins approximately 1.0 mile north of the northern boundary of the Forest Preserve on Route 56, ends approximately 0.05 mile south of the southern boundary of the Forest Preserve on Route 56, and includes the routes around and through the Forest Preserve. (See Figure 1, Project Overview) The above information provides historical context for the Tri-Lakes Reliability Project as currently permitted. This SDEIS only addresses the Project Area as defined herein. The Project Area is described in greater detail in Section 1 of the SDEIS.

This SDEIS describes existing conditions within the Bypass Route and Route 56 Alternate Routes and identifies the potential impacts of construction and operation. Existing conditions are described in Section 2. The impacts of construction and operation of the alternate routes are compared in Section 3. The effects of construction and operation of the West Alternate are discussed in Sections 4 and 5, respectively, along with any proposed techniques for impact mitigation.

The Bypass Route requires 55 total acres of clearing, of which 3.93 acres are forested wetlands and 0.87 acre is non-forested wetland. The Bypass crosses four regulated streams and three non-regulated streams and is approximately 6.9 miles in length. Permanent wetland impacts include 0.18 acre of fill to enable access trail construction. Approximately 19,000 trees would be removed from the Bypass right of way (ROW). Engineering and construction factors are rated as “difficult” based on the length and off-road location of this route. The Bypass affects four private property owners.

The West Alternate requires approximately 19.5 total acres of clearing, and the East Alternate requires 15 acres of clearing. Because wetlands occur on the portion of the route common to both Alternates, the total number of cleared acres on each Alternate includes 1.1 acres of forested wetlands and 0.16 acre of non-forested wetland. The East and West Alternates cross two regulated streams and no non-regulated streams. Visual impacts are considered to be low/moderate for the West Alternate and moderate for the East Alternate. Approximately 3,077 trees would be removed from the West Alternate ROW over privately owned lands, and approximately 1,762 trees would be removed from the East Alternate ROW over privately owned lands. Both routes would require the removal of 1,926 trees in the Forest Preserve. Engineering and construction factors for the West Alternate are rated as standard, and those factors for the East Alternate are rated difficult/standard. The Underground Alternate, although it results in only 2.6 acres of clearing and has minimal visual impacts, requires complex construction methodology and has the highest cost. During construction of the Route 56 Alternate Routes, impacts will generally occur in the immediate vicinity of the ROW. These impacts will be short-term and minimized by the timing of these activities and continuous movement of construction activities along the ROW. The use of appropriate environmental controls as specified in the Environmental Work Plan (EWP), Appendix B of this SDEIS, will avoid or mitigate impacts to environmental resources.

During operation, occasional limited impacts will occur as a result of inspection and maintenance or due to restoration of storm damaged facilities. The most significant operational impact is the potential for incremental long-term visual effects. A significant portion of the Route 56 East and West Alternates is located along existing highway/utility corridors and will be overbuilt with existing utilities in approximately the same location as existing structures. The exception is the 1.0-mile segment of the West Alternate north of the Forest Preserve, which will be overbuilt with existing utilities that will be transferred from the east side of Route 56 and will be set back approximately 200 feet from the roadway, thereby screening the transmission facilities from view. The portion of the East and West Alternates in the Forest Preserve south of the parcel owned by Willis Coleman, formerly known as the Hamm's in-holding, would be located where no power lines, overhead or otherwise, currently exist. The use of vertical configuration wood poles (similar to existing structures) along existing ROW and horizontal configuration structures in the Forest Preserve would reduce potential impact. Careful structure placement and appropriate ROW vegetation management should further reduce potential visual impact.

Long-term visual impacts also would result from the removal of trees from the transmission line ROW and within the danger tree zone outside of the ROW. Reliability is the key to the success of this transmission line and cannot be achieved without clearing danger trees. This includes the portion of the ROW that is adjacent to Forest Preserve lands. Cutting danger trees would reduce the need for continual maintenance for many years and would significantly minimize the possibility of outages. After danger tree removal, the herbaceous and shrub layer would be allowed to regenerate. In the Forest Preserve, outside the cleared transmission line ROW, danger tree removal would occur on a selective basis, determined by tree height at specific distances from the ROW, to preserve the visual quality of the Forest Preserve and minimize unnecessary tree removal.

The Project will enhance the reliability of the power delivery system in the villages and the region and should significantly reduce the number of power outages in the area. Benefits of increased reliability include fewer outages during the winter when the loss of heat can create significant public safety concerns, fewer lost days of school, and fewer losses to area businesses from closure due to outages.

The West Alternate affects three private property owners, and the East Alternate affects four private property owners. The private lands along the northern section of both the East and West Alternates are held by the same land owner. The West Alternate is the route favored by this landowner because he considers it is the best use of the land. For this reason, and based on visual and engineering and construction factors, the West Alternate has been selected as the preferred route.

In the event that for any reason one of the supplemental alternatives is not approved, the Applicants will construct and operate the Project as already approved in the Stark Falls Alternate.

SECTION 1

DESCRIPTION OF THE PROPOSED ACTION

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1.1 PROJECT DESCRIPTION

1.1.1 Proposed Action

This SDEIS compares the three alternate alignments- the Route 56 West Alternate, the Route 56 East Alternate, and the Route 56 Underground Alternate- and refers to the conditions of the approved Bypass Route. The Bypass Route and the three alternates are presented in Figure 2, Maps 1 through 4 and show respective pole numbers for each alternate. The northern limit of each route is shown at Pole 161 on the west side of Route 56. The southern limit of each route is shown at Pole 287 on the east side of Route 56.

The Bypass diverges from Route 56 at Pole 161 and proceeds cross-country north of the Forest Preserve in a generally southwest alignment through a largely unpopulated area. (See Figure 2, Map 1 of 4.) Most of this portion of the Bypass is located on logged over lands (previously disturbed forest). Near the northwest edge of the Forest Preserve the Bypass proceeds due south at Pole 208. At Pole 226, the Bypass is located adjacent to an existing jeep trail. The Bypass then proceeds south and east near the southern boundary of the Forest Preserve and just north of Sevey Bog on an existing logging road and merges with State Route 56 at Pole 286 and crosses to the east of Route 56 at Pole 287. There are 126 poles on the Bypass Route.

The West Alternate would begin at Pole 161 and proceed south along the west side of Route 56 to Pole 181, cross over to Pole 182 on the east side prior to the northern boundary of the Forest Preserve, and continue along the east side over Forest Preserve lands to Pole 189. The West Alternate then would cross to Pole 190 on the west side of Route 56. Poles 190 to 192 and 194 to 196 would be on the west side of Route 56, and Pole 193 would be on the east side. The West Alternate would continue on the east side of Route 56 from Pole 197 to Pole 287. (See Figure 2, Map 2 of 4.) This alternate, approximately 3.40 miles in length, would be offset between 100 and 400 feet from the west side of Route 56 north of the Forest Preserve and would be aligned along the eastern perimeter of the DOT ROW along the east side of Route 56. There would be 71 poles on the West Alternate.

The East Alternate would start at Pole 161 on the west side of Route 56, cross to Pole 162 on the east side of Route 56, proceed on the east side from Pole 162 to Pole 182, and continue along the same alignment as the West Alternate to Pole 287. (See Figure 2, Map 3 of 4.) This alternate, approximately 3.39 miles in length, would be aligned proximate to the eastern perimeter of the DOT ROW along the east side of Route 56. There would be 70 poles on the East Alternate. The Underground Alternate would begin at Pole 161 as overbuild to Pole 181. Starting at the northern boundary of the Forest Preserve (Pole 182), the line would be placed underground along the east side of Route 56 to Pole 228, the southern boundary of the Route 56 ROW siting over Forest Preserve lands. The 46 kV line would then be located on new overhead to Pole 287. (See Figure 2, Map 4 of 4.)

Access from Route 56 to the Raquette River is an issue on all of the Route 56 Alternates. There are two access points within the area of the proposed action. Jamestown Falls Road is the official, State-owned access point from Route 56; an easement across the transmission line ROW will be required for this road. The Moody Falls Canoe Carry Trailhead, also a State-owned access point, is an informal access point with no vehicular access or parking facilities; the Applicants do not consider this to be a safe location and cannot support its use.

The majority of the private lands along the northern section of both the East and West Alternates are held by the same land owner. The West Alternate is the route favored by this landowner because it is the best use of the land. For this reason, and based on the visual and engineering and construction factors discussed in this SDEIS, the West Alternate is the preferred route.

1.1.2 Project Background

In response to initiatives of elected and municipal officials and interested citizens in the Tri-Lakes Region, an Agreement was executed in September 2004 by and among the Villages of Lake Placid and Tupper Lake, National Grid, and NYPA to help alleviate longstanding power problems in the Region through short- and long-term solutions. The Project is located in the Adirondack Park in St. Lawrence County, New York is such a long-term solution. The purpose of the Project is to increase the reliability of the electric system in the Region through improvements to capacity and delivery.

In 2005, several route alternates were evaluated that were designed to bring a new 46 kV Line into Tupper Lake from either the west or northwest. The two alternate routes, known as the Newton Falls Alternate, and the Stark Falls Alternate, were discussed in detail in the previously submitted and approved DEIS and FEIS. On March 3 and 4, 2005 a pre-application meeting with the Adirondack Park Agency and the NYSDEC was held.

Environmental concerns about the alternate routes raised by Agency staff focused primarily on visual and wetland/water resources. Specific to the Newton Falls Alternate were concerns related to the alignment's crossing of and proximity to the Oswegatchie River, an APA designated Study River. The APA's "Policy on Agency Review of Proposals for New Telecommunications Towers and Other Tall Structures in the Adirondack Park" emphasizes the requirement that the project be "substantially invisible," which raised concerns regarding the APA designated scenic river status of the South Branch Grass River and the alignment's proximity to State Route 3. Adoption of a 150-200 foot offset from the edge of the proposed ROW was determined to be an acceptable setback to protect the visual quality viewed from the roadway. Also, the concept of overbuild as a means of consolidating existing and proposed utilities on the same structure within existing ROWs was supported as a routing option for much of the Newton Falls Route east of Sevey Corners, common also to the Stark Falls Alternate.

Environmental concerns specific to the Stark Falls Alternate focused on that portion of the route that would pass over the Forest Preserve on State Route 56. Specifically, any overhead alignment along State Route 56 would require several acres of clearing within the Forest Preserve. There would also be the introduction of utility structures within that portion of the NYSDOT ROW that is currently devoid of any overhead utilities, resulting in visual impact within the Forest Preserve. An underground alternate was also investigated that mitigated some of the potential for clearing and visual impacts but would have unacceptable construction and maintenance costs. Applicable to both an underground or overhead alternate over State Forest Preserve lands was the overriding question of the need for a New York State Constitutional Amendment. As a result of this meeting, a routing option was considered for the Stark Falls Alternate that included an alternate route to the west of the Forest Preserve that would avoid State Route 56 through the State Forest Preserve. The Stark Falls Alternate with the Bypass Route around the Forest Preserve was selected as the Preferred Route and the Newton Falls alignment was the Alternate Route.

A DEIS was prepared by Tetra Tech EC, Inc., The LA Group, and Vanderweil Engineers on behalf of NYPA, the Lead Agency. The DEIS was accepted as complete and made available for public review on November 30, 2005. A Public Hearing on the DEIS was held on January 11, 2006 at the Ivy Terrace Room, 38 Boyer Avenue, Tupper Lake, and the comment period remained open until January 31, 2005. Several non-government organizations (NGOs) spoke in favor of the Preferred Route versus the Alternate Route. However, some expressed concern that the alignment around the Forest Preserve near Sevey Bog was unacceptable and ecologically harmful. Additionally, the Adirondack Mountain Club expressed concern that the Bypass Route would prevent any future expansion of the Forest Preserve. Other concerns included the cost to maintain an electric line for six miles through forestland, the remoteness of the alignment jeopardizing maintenance and repair, and long-term electric reliability issues.

Notwithstanding the concerns of the NGOs, NYPA and National Grid were given the task of alleviating longstanding electrical power problems in an expeditious and cost effective fashion, while balancing environmental, engineering, and legal concerns, including the protection of the Forest Preserve. Because an amendment to Article XIV, Section 1 of the New York State Constitution might be required to remove land from the Forest Preserve for the transmission line ROW along Route 56 in the Forest Preserve, the Project applicants determined that the legislative process would preclude the timely completion of the Project. It was decided that the Bypass Route would be the most practicable route and would meet the projected in-service date of winter 2008. Therefore, the alignment along Route 56 through the Forest Preserve was not pursued.

An FEIS was filed and deemed complete on February 17, 2006. At this point the Preferred Route was the Stark Falls Alternate with the 6-mile bypass around the Forest Preserve. On March 13, 2006 a findings statement was issued by NYPA, which accepted the mitigation measures outlined in the FEIS and approved the proposed action. The Stark Falls Alternate was determined to be the best alternate with the least environmental impacts. NYPA and National Grid proceeded to obtain the required permits from federal, state, and municipal agencies to construct and operate the Stark Falls Alternate as approved through the SEQRA process.

The Preferred Route was approved by the APA on March 13, 2006. NYPA received permits for the Stark Falls Alternate Route from the APA, NYSDEC, and the U.S. Army Corps of Engineers (ACOE) (see Table 1.1-1 below). The Stark Falls Alternate Route, now known as the Permitted Route, is a transmission line that originates at a new substation in the Town of Parishville and terminates at a new regulator station located in the vicinity of the existing Piercefield Substation in the Town of Piercefield, a distance of 26.8 miles. The new Townline Substation is located approximately 3,100 feet north of the town of Colton town line on the east side of Raquette River Road. It will interconnect with the existing 115 kV system. The 46 kV line proceeds southwest about one-half mile and intersects with Joe Indian Road and proceeds on new ROW on the west side of State Route 56. The line continues along State Route 56 for about 7.1 miles and proceeds west, then south, and back east for 6 miles around the Forest Preserve. The line rejoins State Route 56 and proceeds south approximately 1.5 miles to Sevey Corners where it intersects with State Route 3. The line follows State Route 3 approximately 4.5 miles to a point one-half mile north of Gale, passes southeast on new ROW for about 4,000 feet, and rejoins State Route 3 south and east of Gale. The line parallels State Route 3 about 2.7 miles to a point due southeast of Dead Creek. At this location, the line leaves State Route 3 to avoid steep slopes and a narrow ROW and traverses 3,800 feet of new ROW. The line rejoins State Route 3 and proceeds into Piercefield. The line connects to a new regulator station near the existing Piercefield Substation at the Brookfield Hydroelectric facility where the line connects to an existing 46 kV line to Tupper Lake.

1.1.3 Constitutional Amendment

While the Applicants were moving forward with the Permitted Route, representatives from several environmental groups encouraged the pursuit of a Constitutional Amendment that would allow construction of a transmission line over Forest Preserve lands along State Route 56. This alignment represents a shorter route and results in potentially less environmental impact than the Bypass Route due to its shorter length, from pole 161 to pole 287. Additionally, this alignment has the support of the environmental groups and interested citizens as demonstrated by the letters and testimony favoring this alignment over the Bypass during the public review process. (See Appendix A.)

The constitutional change process involves action by the state legislature in two separate legislative sessions.. The final step in the legislative process is the ratification of the Constitutional Amendment by the voters. During the initial submission of the Constitutional Amendment for approval by the Senate and Assembly, it was determined that the proposed Amendment had errors. The public vote on the corrected Constitutional Amendment will not occur prior to the required September 2008 in-service date. The

Project must be operational by the winter of 2008-2009 as per a Settlement Agreement approved by the Federal Energy Regulatory Commission (FERC).

In advance of the Constitutional Amendment, by means of the Agreement, NYSDEC has authorized the use of the Forest Preserve lands for construction and operation of the Project. Danger tree clearing outside of the ROW is an important reliability factor of this Project. The limited acreage available for construction on the lands to be removed from the Forest Preserve could affect the integrity of the transmission line. To maintain the reliability of the line, National Grid and NYPA have been granted the right under the Agreement to cut danger trees outside of the transmission line ROW.

The Agreement does not change or cause the State to relinquish ownership of the Forest Preserve land, until passage of the Constitutional Amendment. National Grid and NYPA, with the support of NYSDEC, will exercise good faith in attempting to secure the Constitutional Amendment. Should the legislature fail to act, or the referendum vote fail to succeed, National Grid and NYPA will continue to pursue a Constitutional Amendment. The Agreement remains in full force as long as the Applicants continue good faith attempts to obtain the Constitutional Amendment

1.1.4 Project Alternates

This SDEIS examines the environmental, visual, cultural, and traffic impacts of the of the three proposed Route 56 Alternate Routes through the Forest Preserve along State Route 56 described in Section 1.1.1, juxtaposed with the approved Bypass Route. The Bypass Route and the alternate routes are discussed in more detail in Section 3 of this document. The SDEIS is prepared pursuant to the SEQRA and NYPA's implementing regulations, 21 NYCRR Part 461.

The remainder of the Project is currently under construction as approved under the SEQRA process and permitted by the regulatory authorities. National Grid has commenced construction of the northerly portion of the Permitted Route, and has delayed the start of construction in the area of the Forest Preserve pending SEQRA determination and permit review submission and completion of this SDEIS and the subsequent Supplemental Final Environmental Impact Statement (SFEIS) and revisions to the existing permits.

1.1.5 Permit Requirements

Table 1.1-1 identifies the state and federal agencies that are involved in the review of this Project and indicates the status of their reviews.

Table 1.1-1: State and Federal Agencies Reviewing the Tri-Lakes Project

AGENCY	PERMIT/REVIEW	STATUS
Adirondack Park Agency	Involved agency for review of the DEIS Issues Adirondack Park Agency Act, Section 814 Order for construction of new facilities in the Adirondack Park by a state agency Issues Wild, Scenic and Recreational Rivers System Act Permit. Issues Article 24 Wetland Permit	Permit # 2005-325 Permit # 2005-325A (first set of Notices of Minor Change [NMC]) Letter of permit compliance dated April 16, 2007 for Condition C to address field changes Permit # 2005-325B for NMC 06-03C Letter of permit compliance dated Aug 8, 2007 for Condition 10e Sevey Bog Road Relocation Letter of permit compliance dated August 7, 2007 for Condition 10a for Environmental Inspector Permit # 2005-325C dated October 3, 2007 for southern marshalling yard NMC Permit # 2005-325D (second set of NMC's) dated October 31, 2007
NYS Dept. of Environmental Conservation	Involved agency for review of DEIS. Consults and comments on potential impacts to rare, threatened and endangered species. Issues Section 401 Water Quality Certificate Issues State Pollution Discharge Elimination System (SPDES) permit for construction stormwater.	Only NYS endangered species identified is the spruce grouse DEC Permit # 6-4099-00048/0001 DEC Permit #NYR 10N413 under General Permit No. GP-02-01 or GP-0-08-001
NYS Dept of Transportation	Involved agency for review of DEIS Issues Highway Work Permit for any work in state roads.	NYS DOT Utility Highway Work Permit # 07-07-0634 Issued permit for Northern Section of Route on August 30, 2007 Pending: NYS DOT Utility Highway Work Permit for remainder of Project
NY Office of Parks, Recreation and Historic Preservation	Consults with State Agencies regarding potential impacts to historic properties and archeological sites.	No adverse affect letter, with conditions, from James Warren of OPRHP February 16, 2006. No adverse affect letter from Cynthia Blakemore, SHPO, on 1st 8.5 miles, based on Phase IB dated July 7, 2007.
U.S. Army Corps of Engineers	Issues Section 404 (Clean Water Act) permit for work in wetlands. Issues Section 10 (Rivers and Harbors Act) Navigable Water Crossing permit.	ACOE Permit #2005-01263-YN Dated July 23, 2007
U.S. Fish and Wildlife Service	Consults with ACOE concerning potential impacts to federally listed threatened and endangered species.	USFWS letter dated May 27, 2005 - No federally listed species

SECTION 2

EXISTING ENVIRONMENT

SECTION 2 EXISTING ENVIRONMENT

2.1 SOILS AND SLOPES

2.1.1 Description of Soils

A variety of soils, including hydric, upland, and highly erodible soils are found in the Project Area, along the proposed Bypass and the Route 56 Alternates. Identified in the Natural Resources Conservation Service's (NRCS) Soil Survey Geographic Database (SSURGO) for St. Lawrence County, NY, these soils have formed from parent materials such as glacial till, glacial outwash and fluvial deposits, so textural families are coarse (coarse loamy, sandy skeletal, sandy, etc.). The variation of slope between all of the soils is from 0 percent to 35 percent.

Table 2.1-1 summarizes the soil complexes that are found within the Bypass and the Route 56 Alternate ROWs. For a description of the soil series encountered on all routes, see Section 3.1.2 of the DEIS.

Table 2.1-1: Soils Comparison for All Routes

Map Unit ID	Soil Complex	Route 56 East Alternative	Route 56 West Alternative	Bypass Route
376C	Colton-Duxbury-Adams 3 to 15 percent slope	X	X	X
376D	Colton-Duxbury-Adams 15 to 35 percent slope	X	X	X
021	Dawson-Fluvaquents-Loxley 0 to 2 percent slope	X	X	
023	Loxley-Dawson 0 to 2 percent slope	X	X	X
363B	Adams Sand 3 to 15 percent slope	X	X	X
745C	Crary-Potsdam 3 to 15 percent slope			X
741C	Potsdam-Tunbridge-Crary 3 to 15 percent slope	X	X	
741D	Potsdam-Tunbridge-Crary 15 to 35 percent slope			X
380D	Colton-Duxbury-Dawson 15 to 35 percent slope			X
380B	Colton-Duxbury-Dawson 0 to 15 percent slope	X	X	
709B	Adirondack-Tughill-Lyme 0 to 8 percent slope	X	X	X
365	Naumburg-Croghan 0 to 3 percent slope			X

2.1.2 Topography and Slope

Route 56 runs parallel to the Raquette River in the Project Area. (See Figure 3, Slope and Soils) The topography and slope along the Route 56 Alternate routes are very similar. Topography along Route 56 varies from a high elevation of approximately 1,519 feet above sea level (asl) near Pole 171, to approximately 1,466 feet asl in Moody Falls. Slopes generally range from 0 to 15 percent at a minimum and 45 to 60 percent at a maximum; however, the majority of slopes are within the lower range. Topography of the Bypass varies from a high elevation of 1,575 feet asl just west of Pole 250, to approximately 1,466 feet asl in Moody Falls near Pole 287. Slopes generally range from 0 to 15 percent at a minimum and 30 to 45 percent as a maximum.

Figure 3 shows the soils along the Route 56 Alternate Routes and the Bypass Route, including all the areas with greater than 15 percent slopes. Soil mitigation measures would be employed as appropriate and

specified by Sections 4, Environmental Impacts of Construction and Mitigation Measures, and 5, Environmental Impacts of Operation and Mitigation Measures, of this SDEIS and the EWP, Appendix B.

2.1.3 Soil Characteristics and Restrictions

2.1.3.1 *Bypass Route*

The soils found within the ROW of the Bypass Route that exhibit the highest potential for erosion (based on the soil erosion factor and slope) are summarized in Table 2.1-2. The most common soil complex within the Bypass ROW with the highest potential for erosion is the Colton-Duxbury-Adams complex. This soil complex is found in areas with slopes ranging from 15 to 30 percent for approximately 969 feet (approximately 3 percent at the Bypass). Approximately 1,544 feet (approximately 4 percent of the Bypass) of the total Bypass ROW would affect potentially highly erodible soil complexes located on slopes ranging from 15 to 30 percent. There are no slopes within the ROW of the Bypass Route that are 30 percent or greater.

2.1.3.2 *Route 56 East Alternate and Underground Alternate*

The soils found within the Route 56 East Alternate and Underground Alternate ROWs that exhibit the highest potential for erosion are also summarized in Table 2.1-2. The most common soil complexes within the ROW that exhibit the highest potential for erosion are the Potsdam-Tunbridge-Crary complex and Colton-Duxbury-Adams complex. These soil complexes occur in areas with slopes ranging from 15 to 30 percent for approximately 2,008 feet (approximately 11 percent of the East and Underground Alternates) and 1,609 feet (approximately 9 percent of the East and Underground Alternates), respectively. These same soils also are located within the East Alternate and Underground Alternate ROWs where slopes are greater than or equal to 30 percent. The Potsdam-Tunbridge-Crary complex is found on these slopes for approximately 540 feet (approximately 3 percent of the East and Underground Alternates), and the Colton-Duxbury-Adams complex is found for approximately 312 feet (approximately 2 percent of the East and Underground Alternates). In total, approximately 4,535 feet (approximately 25 percent of the East and Underground Alternates) of the ROW would affect potentially highly erodible soil complexes located on slopes ranging from 15 to 30 percent, and approximately 983 feet (approximately 6 percent of the East and Underground Alternates) of potentially highly erodible soil complexes located on slopes that are 30 percent or greater.

2.1.3.3 *Route 56 West Alternate*

The soils found within the Route 56 West Alternate ROW that are potentially highly erodible, are similar to those soils found along the Route 56 East Alternate (see Table 2.1-2). There is one additional soil complex, however, associated with the West Alternate. This soil is Dawson-Fluvaquents-Loxley complex. This soil is found in an area within the ROW that has slopes ranging from 15 to 30 percent for approximately 131 feet. The most common soil complexes within the ROW are the same as the East Alternate soil complexes. The Potsdam-Tunbridge-Crary complex is crossed for approximately 2,008 feet (approximately 11 percent of the West Alternate), and the Colton-Duxbury-Adams complex is crossed for approximately 1,338 feet (approximately 7 percent of the West Alternate). In areas within the ROW where slopes are 30 percent or greater and coincide with soil complexes that are potentially highly erodible, the Potsdam-Tunbridge-Crary complex is crossed for approximately 540 feet (approximately 3 percent of the West Alternate), and the Colton-Duxbury-Adams complex is crossed for approximately 131 feet (approximately 1 percent of the West Alternate). In total, approximately 4,395 feet (approximately 25 percent of the West Alternate) of the Route 56 West Alternate ROW would affect potentially highly erodible soil complexes located on slopes ranging from 15 to 30 percent, and approximately 685 feet (approximately 4 percent of the West Alternate) of potentially highly erodible soils located on slopes that are 30 percent or greater.

Table 2.1-2: Soils with Moderate to High Erosion Potential and Steep Slopes (15-29% Slopes and ≥30% Slopes)

Bypass Route

Map Unit ID	Soil Complex	Approximate Length (ft) 15-29.9% Slopes	Percent of Total	Approximate Length (ft) >30% Slopes	Percent of Total
376C	Colton-Duxbury-Adams 3 to 15 percent slope	9.0	0.02	0	0
376D	Colton-Duxbury-Adams 15 to 35 percent slope	969.2	2.67	0	0
741D	Potsdam-Tunbridge-Crary 3 to 15 percent slope	235.9	0.65	0	0
745C	Crary-Potsdam 3 to 15 percent slope	329.4	0.91	0	0
	Total	**1,544**	**4.3**	**0**	**0**

Route 56 East Alternative

Map Unit ID		Approximate Length (ft) 15-29.9% Slopes	Percent of Total	Approximate Length (ft) >30% Slopes	Percent of Total
376C	Colton-Duxbury-Adams 3 to 15 percent slope	917.6	5.12	131.1	0.73
376D	Colton-Duxbury-Adams 15 to 35 percent slope	1,609.2	8.98	311.9	1.74
741C	Potsdam-Tunbridge-Crary 3 to 15 percent slope	2,008.2	11.21	539.6	3.01
	Total	**4,535**	**25.31**	**982.6**	**5.5**

Route 56 West Alternative

Map Unit ID		Approximate Length (ft) 15-29.9% Slopes	Percent of Total	Approximate Length (ft) >30% Slopes	Percent of Total
376C	Colton-Duxbury-Adams 3 to 15 percent slope	917.6	5.11	131.1	0.73
376D	Colton-Duxbury-Adams 15 to 35 percent slope	1,338.1	7.45	0	0.00
021	Dawson-Fluvaquents-Loxley 0 to 2 percent slope	131.0	0.73	14.1	0.08
741C	Potsdam-Tunbridge-Crary 3 to 15 percent slope	2,008.2	11.18	539.6	3.00
	Total	**4,395**	**24.46**	**684.8**	**3.8**

This comparison shows that the Route 56 Alternates encounter more soils that are at a higher risk of erosion than the Bypass Route. Approximately 25 percent of the East and Underground Alternate ROWs would encounter potentially highly erodible soil complexes on steep slopes ranging from 15 to 30 percent, and approximately 6 percent of the East Alternative ROW would encounter potentially highly erodible soils on slopes that are 30 percent or greater. Approximately 25 percent of the West Alternative ROW would encounter potentially highly erodible soil complexes on steep slopes ranging from 15 to

30 percent, and approximately 4 percent of the West Alternative ROW would encounter potentially highly erodible soils on slopes that are 30 percent or greater. Approximately 4 percent of the Bypass ROW would encounter potentially highly erodible soil complexes on steep slopes ranging from 15 to 30 percent. The Bypass ROW does not encounter potentially highly erodible soils on slopes that are 30 percent or greater.

Erodible soils on steep slopes that occur within the ROW may not necessarily occur in all of the pole locations. The erodibility factors discussed above are considered in the engineering of the transmission facilities such that structures appropriate to the site conditions would be designed. In addition, measures would be used during construction to manage potential erosion (see Section 4).

2.2 FOREST COVER

Terrestrial Communities

Terrestrial communities consist of broadly defined upland habitats, open lands, barrens and woodlands, forested uplands, and human influenced landscapes. A list of upland plant species encountered in upland communities during field surveys is presented in Table 2.2-1.

Table 2.2-1: Plant Species Encountered in Uplands

Scientific name	Common Name	Wetland Indicator Status
Trees		
Abies balsamea	Fir, Balsam	FAC
Acer rubrum	Maple, Red	FAC
Acer saccharum	Maple, Sugar	FACU-
Betula alleghaniensis	Birch, Yellow	FAC
Betula papyrifera	Birch, Paper	FAC+
Betula populifolia	Birch, Gray	FAC
Fagus grandifolia	Beech, American	FACU
Larix laricina	Larch, American	FACW
Ostrya virginiana	Hop-Hornbeam, Eastern	FACU-
Picea abies	Spruce, Norway	UPL
Picea rubens	Spruce, Red	FACU
Pinus strobus	Pine, Eastern White	FACU
Pinus sylvestris	Pine, Scotch	NI
Populus grandidentata	Aspen, Big-Tooth	FACU-
Populus tremuloides	Aspen, Quaking	FACU
Prunus pennsylvanica	Cherry, Fire	FACU-
Prunus serotina	Cherry, Black	FACU
Tsuga canadensis	Hemlock, Eastern	FACU
Shrubs		
Acer pensylvanicum	Maple, Striped	FACU
Acer spicatum	Maple, Mountain	FACU-
Alnus incana spp. rugosa	Alder, Speckled	FACW+

Table 2.2-1: Plant Species Encountered in Uplands		
Scientific name	**Common Name**	**Wetland Indicator Status**
Amelanchier canadensis	Service-Berry, Oblong-Leaf	FAC
Amelanchier x intermedia	Shadbush, Swamp	FACW
Celtis occidentalis	Hackberry, Common	FACU
Vaccinium angustifolium	Blueberry, Lowbush	FACU-
Vaccinium myrtilloides	Blueberry, Velvet-Leaf	FAC
Viburnum acerifolium	Viburnum, Maple-Leaf	UPL*
Viburnum cassinoides	Wild Raisin	FACW
Viburnum lantanoides	Hobble-Bush	FAC
Herbs		
Achillea millefolium	Yarrow, Common	FACU
Aralia nudicaulis	Sarsaparilla, Wild	FACU
Asarum canadense	Wild ginger	NI
Asclepias syriaca	Milkweed, Common	NI
Aster umbellatus	Aster, Flat-top	FACW
Brachyelytrum erectum	Shorthusk Bearded	NI
Clematis virginiana	Bowers, Virgin's	FAC
Clintonia borealis	Beadlily, Blue	FAC
Coptis trifolia	Goldthread, Alaska	FACW
Cornus canadensis	Bunchberry, Canada	FAC-
Dactylis glomerata	Grass, Orchard	FACU
Dalibarda repens	Robin-Run-Away	FAC
Daucus carota	Queen Anne's Lace	NI
Dryopteris intermedia[1]	Woodfern, Evergreen	FACU
Erythronium americanum	Trout Lily, Yellow	NI
Festuca rubra	Fescue, Red	FACU
Fragaria vesca	Strawberry, Woodland	NI
Galium sp.	Bedstraw	-
Hypericum spp.	St. John's-Wart	-
Lolium perenne	Ryegrass, Perennial	FACU-
Lonicera spp.	Honeysuckle	-
Lycopodium annotinum[1]	Clubmoss, Stiff	FAC
Lycopodium clavatum[1]	Pine, Running	FAC
Lycopodium lucidulum	Clubmoss, Shining	FACW-
Lycopodium obscurum[1]	Clubmoss, Tree	FACU
Maianthemum canadense	Canada mayflower	FAC-
Mitchella repens	Partridge-Berry	FACU

Table 2.2-1: Plant Species Encountered in Uplands

Scientific name	Common Name	Wetland Indicator Status
Oxalis europaea	Woodsorrel, Upright Yellow	UPL
Plantago major	Plantain, Common	FACU
Poa pratensis	Bluegrass, Kentucky	FACU
Podophyllum peltatum	May-Apple	FACU
Potentilla spp.	Cinquefoil	-
Pteridium aquilinum	Fern, Bracken	FACU
Rosa multiflora	Rose, Multiflora	FACU
Rubus allegheniensis	Blackberry, Allegheny	FACU-
Rubus hispidus	Blackberry, Bristly	FACW
Solidago spp.	Goldenrod	-
Taraxacum officinale	Dandelion, Common	FACU-
Thelypteris noveboracensis[1]	Fern, New York	FAC
Thelypteris thelypteroides	Fern, Marsh	FACW+
Trientalis borealis	Starflower, American	FAC
Trillium spp.[1]	Trillium	-
Uvularia sessilifolia	Bellwort	FACU-
Vicia sp.	Vetch	-

[1] Exploitably vulnerable listed species are native plants that are not necessarily rare or uncommon, but may be desirable for commercial use and could become rare, threatened, or endangered if subjected to unchecked commercial exploitation.

The following are descriptions of the main upland plant communities found in the areas of the Bypass Route and the Route 56 Alternates. Wetland plant communities in this area are described in Section 2.3. These are defined to correspond with those in the ecological community classification used by the New York Natural Heritage Program (Edinger *et al.*, 2002).

Beech-Maple Mesic Forest

Most of the forested uplands within the Project Area consist of beech-maple dominated communities. These areas are hardwood forests where sugar maple and American beech are co-dominant. Also present in the canopy are yellow birch and red maple. In the proposed Project Area, black cherry was found to contribute significantly to the composition of the beech-maple community, often being a dominant or codominant of the canopy. Common understory trees and tall shrubs are hobblebush, striped maple, and witch hazel. Dominant ground layer species are star flower, Canada mayflower, shining clubmoss, painted trillium, purple trillium, and evergreen wood fern.

Spruce-Northern Hardwood Forest

This is a common mixed hardwood-conifer forest in which red spruce, sugar maple, beech, yellow birch, and red maple are codominant, along with scattered balsam fir and white pine. Subcanopy trees and shrubs include striped maple, mountain maple. Characteristic shrubs are hobblebush, and Canada yew. Typical ground layer plants are common wood-sorrel, evergreen wood fern, shining clubmoss, wild sarsaparilla, bluebead lily, goldthread, bunchberry, Canada mayflower, and twisted stalk.

Pine-Northern Hardwood Forest

This forest type occupies the sandy and gravelly soil that underlies much of the area along the Bypass and Route 56 Alternate routes. The dominant trees are white pine and red pine; these are mixed with scattered paper birch and quaking aspen. Commonly, there are additional hardwoods and conifers such as yellow birch, red maple, balsam fir, and red spruce. Characteristic shrubs are lowbush blueberry, sheep laurel, wild raisin, and shadbush. The herbaceous layer often is comprised of bracken fern, wintergreen, Canada mayflower, bunchberry, star flower, bluebead lily, painted trillium, spreading ricegrass, and Pennsylvania sedge.

Successional Northern Hardwoods

The Bypass Route crosses several locations exhibiting evidence of recent or historic logging. Subsequently, successional hardwood forests have developed and contribute significantly to the landscape of the Project Area. Characteristic trees and shrubs include quaking aspen, bigtooth aspen, paper birch, gray birch, black cherry, red maple, white pine, and fire cherry. This is a broadly defined community with much variation.

Balsam Flats

In addition to Beech-Maple communities, Balsam Flats are common within the landscape of the Project Area. These upland forest areas exhibit moist, well-drained soils and are usually located in low areas adjacent to swamps or on ridges and knolls within swamps. The dominant tree is balsam fir, which occurs either in pure stands or in mixed stands with red spruce, yellow birch, red maple, and black cherry. The shrub layer frequently includes hobblebush and wild raisin, with wood sorrel, bunchberry, and wild sarsaparilla common in the herbaceous layer. Often acting as a transitional zone between upland areas and wetlands, balsam flats can be distinguished from wetlands by the presence of black cherry and occasional American beech and the absence of sphagnum mosses.

Spruce Flats

A mixed forest that occurs in locations similar to the balsam flats, spruce flats are found on soils which are strongly podzolized, loamy to sandy, and seasonally moist, but not saturated and not peaty. Typically, the dominant trees are red spruce and red maple mixed with smaller numbers of yellow birch, black cherry, and hemlock. Smaller numbers of other northern hardwoods, such as beech may also be present. The shrub layer is sparse or patchy, and may include sheep laurel and blueberries. Characteristic herbs are goldthread, dewdrop, bunchberry, and Canada mayflower.

Pine Plantations

Some stands dominated by white pine or red pine (sometimes Scotch Pine) are plantations, with the trees growing in obvious rows. Usually, they are mixed with other conifers and hardwoods that have seeded into the stand, such as red maple, beech, black cherry, and red spruce. Herbaceous layer vegetation is sparse due to a dense layer of pine needles, but in many places there is a moderately dense growth of bracken fern and lowbush blueberry.

Spruce Plantation

In a few locations, there are stands dominated by Norway spruce. Since this is a non-native species, these stands are most likely to be plantations. In the four to six decades since they were planted, other trees have become established in these stands, mainly balsam fir.

Mowed Roadside

Mowed Roadsides occur primarily in the proposed overbuild areas of the Bypass and Alternate Routes. This covertype is found adjacent to forest and wetland edges and generally exhibits low species diversity

with a dominance of grasses, sedges, and rushes. Common species include red fescue, Kentucky bluegrass, and various common weeds like Queen Anne's lace and common dandelion, which are often found in plant mixes used for roadside stabilization.

2.2.1 Bypass Route

A large part of the upland areas of the northern and western segments of the Bypass Route are covered with successional northern hardwood forests, parts of which have been selectively logged over the past five to ten years (see Figure 4, "Vegetation Covertype"). Dominant trees include sugar maple, red maple, beech, yellow birch, black cherry, red spruce, and balsam fir. There is a section east of Pole 179 (see Figure 2, Map 1 of 4) that has not been logged recently and is more typical of a beech-maple mesic forest. There is a large area between Pole 179 and Pole 215 that appears to be an old conifer plantation of Norway spruce. These may have been planted during the depression when there was great interest in Norway spruce as a timber source in the Northeast. The wetland covertypes typical of the northern segment of the Bypass Route are discussed in Section 2.3.

Much of the rest of the Bypass Route is also successional northern hardwood forest and has been subject to logging. The Sevey Bog area and most of the other wetlands crossed by the Bypass Route are hardwood-alder-coniferous swamps. To the east of the Sevey Bog are large stands of white pine plantation.

2.2.2 Route 56 East and West Alternates

Fieldwork conducted in March 2006 and October 2007 included collecting community type data for the Route 56 Alternates (see Figure 4, "Vegetation Covertype"). Of particular concern along the Route 56 Alternates are the vegetation community types that are located on lands that would be removed from the Forest Preserve.

The Route 56 Alternates contain several forest cover community types on lands in the ROW adjacent to Forest Preserve. Approximately one-third is White Pine Plantation. The second most common community type is Red Pine Plantation. Beech-Maple Mesic Forest and Balsam Fir-Tamarack Swamp together make up another third of the lands. The community type that is least prevalent is the Pine-Northern Hardwoods Forest.

The northern section of the Route 56 West Alternate located on the west side of Route 56 and on private lands contains Beech-Maple Mesic Forest and Pine-Northern Hardwoods Forest community types. The northern section of the East Alternate located on the east side of Route 56 and on private lands contains Beech Maple Mesic Forest and Pine Northern Hardwood Forest.

2.3 WETLANDS AND STREAMS

2.3.1 Streams

The portion of the Tri-Lakes Reliability Project considered in this SDEIS lies within the St. Lawrence River watershed. The streams in this area are tributaries or sub-tributaries of the Raquette River or the Grasse River. Under the Environmental Conservation Law (Article 15), New York regulates surface freshwater resources within the Project area as best usage classifications (6 NYCRR Part 701). The ACOE also regulates construction, excavation, or deposition of materials in, over, or under navigable waters of the United States pursuant to Section 10 (33 USC 403). The Route 56 Alternates will not require New York State or ACOE permits for the crossing of the streams because no stream disturbance will occur. Surface water crossings are shown on Figure 5, "Streams." Table 2.3-1, "Waterbodies Crossed by the Bypass and Route 56 Alternates" lists each watercourse crossed by the Bypass and Route 56 Alternate routes and the legal status of each waterbody.

New York State water quality classifications of watercourses fall into four categories, Classes A, B, C, and D. Classification A is assigned to waters used as a source for drinking water. Classification B indicates best usage for swimming and other contact recreation, but not for drinking. Classification C is for waters supporting fisheries and suitable for non-contact activities. All other watercourses are designated as D. Waters with classifications A, B, and C may also have a standard of (T), indicating that it may support a trout population, or (TS), indicating that it may support trout spawning. Additionally, small lakes and ponds with a surface area of ten acres or less, located within the course of a stream, are considered to be part of a stream and are subject to regulation under the stream protection category of the Protection of Waters Program (6 NYCRR Part 608). Streams protected under these regulations are those assigned classifications or standards of A, B, and C(T). Streams on State forest preserve lands are not assigned classifications under this system. All waters within 100 feet of the boundaries of State-owned forest preserve lands are assigned to Class A. Waterbodies crossed by the routes compared in this SDEIS include three Class D and six Class C(T) streams, as presented in Table 2.3-1.

2.3.1.1 *Bypass Route*

The Bypass crosses seven streams, two of which are intermittent, and the remainder of which are perennial. Four of the streams have water standards classifications of C(T), and the others are D. Four streams are in the Raquette River drainage basin and the other three are in the Grasse River drainage basin.

2.3.1.2 *Route 56 East and West Alternates*

There are two stream crossings on the Route 56 segment are in the portion that is common to both the East and West Alternates. Both streams are tributaries of the Raquette River and have standards classifications of C(T).

The USGS topographic map indicates a stream crossing the Route 56 segment approximately 1500 feet from Pole 167, in the area where the East and West Alternates are separate. No stream has been found in this area by the field crews that surveyed these routes for vegetation, streams, and wetlands. The topographic map indicates this stream to be the outlet for a small pond northeast of Crooked Lake; however, the NYSDEC waters listings (6NYCRR Part 910) indicate that this pond drains to Crooked Lake.

Table 2.3-1: Waterbodies Crossed by the Bypass and Route 56 Alternates

Stream Identification Number[1]	Waters Index Number	Channel Identifier[2]	Waterbody Name	Flow Regime	Stream Classification[3]
Bypass Segment					
N/A	unmapped trib. of SL-1-74-P63-3	ALT2-2A/B-ST	Subtrib. of Crooked Lake	Perennial	D
A15P910-581	SL-1-74-P63-3	ALT2-6C/D-ST	Trib. of Crooked Lake	Perennial	D
N/A	unmapped trib. of SL-2-59-32-3-3	ALT4-2C-ST	Subtrib. of Dead Creek	Intermittent	D
A15P910-1053	SL-2-59-32-3-3	ALT4-2F/G-ST	Trib. of Dead Creek	Intermittent	C(T)
A15P910-1051	SL-2-59-32-2-2	ALT5-2A-ST	Trib. of Windfall Brook	Perennial	C(T)
N/A	unmapped trib. of SL-1-77	ALT5-2Q/R-ST	Subtrib. of Raquette River	Perennial	C(T)*
N/A	unmapped trib. of SL-1-77	ALT5-2T/U-ST	Subtrib. of Raquette River	Perennial	C(T)*

Table 2.3-1: Waterbodies Crossed by the Bypass and Route 56 Alternates

Stream Identification Number[1]	Waters Index Number	Channel Identifier[2]	Waterbody Name	Flow Regime	Stream Classification[3]
Route 56 Segment (East and West alternates)					
A15P910-576	SL-1-74	S11-1A/B-ST	Trib. of Raquette River	Perennial	C(T)
A15P910-582	SL-1-77	S11-1E/F-ST	Trib. of Raquette River	Perennial	C(T)

[1] Stream identification numbers identify the place in the NYSDEC regulations (6NYCRR) where the stream is described; e.g., A15P910-1053 refers to Article 15, Part 910, item 1053.

[2] Channel IDs were assigned to streams during fieldwork to delineate stream channels and wetlands, and indicate their approximate locations along the transmission route.

[3] Streams are classified according to best usage under 6 NYCRR Part 701 as follows:

Class A: waters are suitable for drinking, primary and secondary contact recreation and fishing, and for the survival and propagation of fish;
Class B: waters are suitable for primary and secondary contact recreation and fishing, and for the survival and propagation of fish;
Class C: waters are suitable for fishing, and for the survival and propagation of fish; and
Class D: waters are suitable for fishing.

Stream classifications modified by the standard (T), as in C(T), indicate that it may support a trout population.

* An unmapped perennial stream has the same classification as the water to which it is directly tributary.

2.3.2 Wetlands

Wetlands within the Bypass and Route 56 Alternate ROWs were determined by field delineation during 2005, 2006 and 2007 and are shown on Figure 6, "Wetlands." The protocol for field delineation is described below. Cover classes assigned to the wetlands were based on the National Wetland Inventory classification hierarchy (Cowardin *et al*., 1979).

Field Delineation Methods

For wetland crossings greater than 50 feet in length, delineation followed the protocol detailed in the ACOE 1987 Wetland Delineation Manual using the routine on-site wetland determination method. This method incorporates a three-parameter approach using vegetation, soils and hydrology to identify the presence of freshwater wetlands. Wetlands less than 50 feet in length were delineated using the parameters of vegetation and hydrology in the 1985 New York State Freshwater Wetlands Delineation Manual (Browne *et al.*, 1995). Wetland crossings that were between 50 feet and 100 feet in length along the ROW were inspected for all three parameters using one wetland sample station and one upland sample station. Wetlands crossings greater than 100 feet were delineated using a pair of sample stations at each side of the crossings. Wetland boundaries were identified in the field with pink surveyor flagging, and corresponding GPS waypoints were recorded using Trimble© GeoXT™ handheld units.

Wetland boundaries were initially identified through visual assessment of vegetation and hydrology. This visual boundary was used to establish two sample points (one wetland and one upland) to verify the boundary of the wetland by analyzing dominant vegetation, soil classification, and hydrology at each sample point. Dominant vegetation in each strata (tree, shrub, herbaceous) was identified using an appropriate regional field guide (Newcomb 1977) and assigned a wetland indicator status obtained from Reed, 1988. The plant communities of each wetland sample and corresponding upland sample were categorized according to a list of ecological communities known to occur in New York State as described in Edinger, et al., 2002.

Soil samples were collected using a hand auger or spade shovel at depths no less than 18 inches unless the auger or spade was refused due to shallow bedrock. Soil characteristics were recorded in standard soil log format using a Munsell Soil Color Chart (Kollmorgen Corporation 1975). A visual assessment of primary (e.g., inundation or soil saturation), and secondary (e.g., oxidized rhizospheres or water-stained leaves) features of wetland hydrology was conducted. Sketch maps and site photographs were recorded concurrent with sample station data. Sample station data sheets, sketch maps, and site photographs recorded during the field efforts are contained in Appendix C.

Delineators characterized all wetlands within 50 feet of either side of the centerline of the proposed ROWs. Several sections of the Project occurred immediately adjacent to unimproved roads or jeep trails. In these circumstances, teams conducted delineations from the edge of the unimproved road/jeep trail to a boundary line 100 feet from the ROW. In other sections, existing paved roads fell within the ROW limits and no adjustment to survey width was made.

Palustrine Wetlands

According to Cowardin *et al*. (1979), the wetlands within the Project area are part of the Palustrine system, which includes wetlands dominated by trees, shrubs, persistent emergent species, and emergent mosses or lichens which occur in nontidal or brackish water conditions. Within the Project area, the Palustrine system comprises four major classes, which are described as follows:

- Forested Wetland (PFO) – Forested Wetland is characterized by woody vegetation that is 18 feet or taller. It normally possesses an overstory of trees, an understory of young trees or shrubs, and an herbaceous layer.
- Scrub-Shrub Wetland (PSS) – The Scrub-Shrub Wetland includes areas dominated by woody vegetation less than 20 feet tall. The species include true shrubs, young trees or shrubs that are small or stunted because of environmental conditions, and a herbaceous layer. They may represent a successional stage leading to Forested Wetland, or they may be relatively stable communities.
- Emergent Wetland (PEM) – The Emergent Wetland class is characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. The vegetation is present most of the growing season in most years. These wetlands are usually dominated by perennial plants. Emergent wetlands maintain the same appearance year after year.
- Open Water (POW) – Although not described in Cowardin *et al. (1979)* as a separate class, this designation is used to characterize wetland areas. Open Water refers to land below the mean high water associated with ponds and rivers. The nearshore areas oftentimes include shrubs and emergent vegetation. In deeper water, the vegetation may include floating and submerged vegetation such as duckweed and pond-lilies. In some locations there is no visible vegetation present.

Individual wetlands within the Project area range in size from small isolated pockets to large complexes of bog, shrub swamp, forested swamp, and emergent marshes. Palustrine wetlands most typically consisted of red maple hardwood swamp, alder-dogwood shrub swamp, and shallow emergent marsh cover types or communities. Wetlands crossed by the alternates discussed in this SDEIS are shown in Figure 6.

2.3.2.1 *Ecological Community Characteristics*

The following are descriptions of ecological communities in wetlands encountered during field surveys in the Project area during field survey efforts. Community designations follow Edinger *et al.* (2002) and distinguish communities based on composition of organisms and ecological processes. Descriptions, including dominant, codominant, and characteristic plant species, for wetlands communities encountered

during field efforts are provided in the following sections. A complete list of plants species found in wetlands during the field effort is provided in Table 2.3-2, "Plant Species Encountered in Wetlands."

Red Maple Hardwood Swamp

The Red Maple Hardwood Swamp is the most common wetland cover type occurring in the proposed ROW. These wetlands may consist of a monospecific canopy of red maple or a codominance of red maple and yellow birch, often with more yellow birch than red maple. Red spruce occasionally occurs at the periphery or on hummocks within the wetlands. These swamps often have gaps in the canopy allowing for a dense understory with many saplings and a thick shrub layer containing species such as winterberry, alders, and wild raisin. The herbaceous layer may be quite diverse; however, the dominant species is often sensitive fern or cinnamon fern. Characteristic herbs include trout-lily and Canada mayflower and may include other herbaceous vegetation, such as marsh marigold and various sedges, in open areas under gaps in the canopy.

Table 2.3-2: Plant Species Encountered in Wetlands

Scientific name	Common name	Wetland Indicator Status
Trees		
Abies balsamea	Fir, Balsam	FAC
Acer pensylvanicum	Maple, Striped	FACU
Acer rubrum	Maple, Red	FAC
Acer saccharum	Maple, Sugar	FACU-
Betula alba	Birch, White	FAC+
Betula alleghaniensis	Birch, Yellow	FAC
Betula populifolia	Birch, Gray	FAC
Fagus grandifolia	Beech, American	FACU
Juniperus virginiana	Cedar, Eastern Red	FACU
Larix laricina	Larch, American (Tamarack)	FACW
Picea rubens	Spruce, Red	FACU
Pinus strobus	Pine, Eastern White	FACU
Populus grandidentata	Aspen, Big-Tooth	FACU-
Populus tremuloides	Aspen, Quaking	FACU
Prunus pensylvanica	Cherry, Fire	FACU-
Prunus serotina	Cherry, Black	FACU
Salix discolor	Willow, Pussy	FACW
Tsuga Canadensis	Hemlock, Eastern	FACU
Shrubs		
Acer spicatum	Maple, Mountain	FACU-
Alnus incana spp. Rugosa	Alder, Speckled	FACW+
Amelanchier Canadensis	Service-Berry, Oblong-Leaf	FAC
Amelanchier x intermedia	Shadbush, Swamp	FACW
Cornus amomum	Dogwood, Silky	FACW
Cornus racemosa	Dogwood, Gray	NI
Cornus stolonifera	Dogwood, Red-Osier	FACW+
Ilex verticillata[1]	Winterberry, Common	FACW+
Kalmia angustifolia[1]	Sheep-Laurel	FAC

Table 2.3-2: Plant Species Encountered in Wetlands

Scientific name	Common name	Wetland Indicator Status
Prunus pennsylvanica	Cherry, Fire	FACU-
Rhododendron spp.	Rhododendron	-
Salix nigra	Willow, Black	FACW+
Salix spp.	Willow	-
Spiraea alba	Meadow-Sweet, Narrow-Leaf	FACW+
Spiraea latifolia	Meadow-Sweet, Broad-Leaf	FAC+
Spiraea tomentosa	Steeple-Bush	FACW
Vaccinium corymbosum	Blueberry, Highbush	FACU
Viburnum lantanoides	Hobblebush	NI
Viburnum cassinoides	Wild Raisin	FACW
Herbs		
Aster novi-belgii	Aster, New York	FACW+
Aster umbellatus	Aster, Flat-top	FACW
Athyrium filix-femina[1]	Fern, Subarctic Lady	FAC
Calamagrostis Canadensis	Reedgrass, Blue-Joint	FACW+
Caltha palustris	Marsh-Marigold, Common	OBL
Cardamine diphylla	Toothwort, Two-Leaf	FACU*
Carex crinita	Sedge, Fringed	OBL
Carex intumescens	Sedge, Bladder	FACW+
Carex lurida	Sedge, Lurid	NI
Carex spp.	Sedge	-
Carex stricta	Sedge, Uptight	OBL
Carex vulpinoidea	Sedge, Fox	OBL
Chamaedaphne calyculata	Leatherleaf	OBL
Chelone glabra[1]	Turtlehead, White	OBL
Clintonia borealis	Beadlily, Blue	FAC
Coptis trifolia	Goldthread, Alaska	FACW
Cornus Canadensis	Bunchberry, Canada	FAC-
Dalibarda repens	Robin-Run-Away	FAC
Dryopteris intermedia[1]	Woodfern, Evergreen	FACU
Dryopteris sp.	Woodfern	-
Equisetum spp.	Horsetail	-
Erythronium americanum	Trout Lily, Yellow	NI
Eupatoriadelphus fistulosus	Joe-Pye-weed, Hollow	FACW
Fragaria virginiana	Strawberry, Virginia	FACU
Galium palustre	Bedstraw, Marsh	OBL
Gaultheria hispidula	Snowberry, Creeping	FACW
Gentiana linearis[1]	Gentian, Narrow-leaf	OBL
Geum laciniatum	Avens, Rough	FAC+
Glyceria melicaria	Grass, Melic Manna	OBL
Impatiens capensis	Touch-me-not, Spotted	FACW

Table 2.3-2: Plant Species Encountered in Wetlands

Scientific name	Common name	Wetland Indicator Status
Impatiens sp.	Touch-me-not	FACW
Iris versicolor	Blueflag	OBL
Juncus effuses	Rush, Soft	FACW+
Ledum groenlandicum[1]	Labrador-Tea, Greenland	OBL
Lycopodium lucidulum[1]	Clubmoss, Shining	FACW-
Lycopodium obscurum[1]	Clubmoss, Tree	FACU
Lycopus americanus	Horehound, Water	OBL
Maianthemum canadense	Canada Mayflower	FAC-
Onoclea sensibilis	Fern, Sensitive	FACW
Osmunda cinnamomea[1]	Fern, Cinnamon	FACW
Osmunda claytoniana[1]	Fern, Interrupted	FAC
Osmunda regalis[1]	Fern, Royal	OBL
Panax trifolius	Ginseng, Dwarf	NI
Panicum dichotomiflorum	Grass, Fall Panic	FACW-
Panicum spp.	Grass, Panic	-
Phalaris arundinacea	Grass, Reed Canary	FACW+
Phragmites australis	Reed, Common	FACW
Pleurozium schreberi	Stem Moss, Big Red	NI
Ribes glandulosum	Currant, Skunk	FACW
Rubus allegheniensis	Blackberry, Allegheny	FACU-
Rubus hispidus	Blackberry, Bristly	FACW
Rubus idaeus	Raspberry, Common Red	FAC-
Rubus pubescens	Blackberry, Dwarf	FACW
Rubus wheeleri (= R. setosus)	Dewberry	FACW
Scirpus cyperinus	Wool-Grass	FACW+
Scirpus spp.	Bulrush	-
Solidago patula	Golden-rod, Rough Leaf	OBL
Solidago rugosa	Goldenrod, Wrinkled	FAC
Solidago spp.	Goldenrod	-
Sphagnum spp.	Sphagnum	-
Thalictrum dioicum	Meadow-Rue, Early	FAC
Thalictrum pubescens	Meadow-Rue, Tall	FACW+
Thelypteris thelypteroides	Fern, Marsh	FACW+
Thuidium spp.	Moss, Feather	-
Tiarella cordifolia	Foamflower, Heart-Leaf	FAC-
Trientalis borealis	Starflower, American	FAC
Typha latifolia	Cattail, Broad-Leaf	OBL
Uvularia sessilifolia	Bellwort, Sessile-Leaf	FACU-
Veratrum viride	False-Hellebore, American	FACW+

[1] Exploitably vulnerable listed species are native plants that are not necessarily rare or uncommon, but may be desirable for commercial use and could become rare, threatened, or endangered if subjected to unchecked commercial exploitation.

Shrub Swamp

Shrub Swamps are dominated by tall shrubs that occur along the shore of lakes or rivers, in a wet depression not associated with lakes, or in a transitional zone between a marsh, swamp, or bog and an upland community. This is a broadly defined, highly variable cover type that includes several distinct communities and many intermediates. Shrub Swamps may have a single dominant shrub species or be codominated by a mixture of species. Speckled alder is the most frequently dominating shrub of this community within the Project area, and these areas are often characterized as an alder thicket. Red osier dogwood, silky dogwood, and meadowsweet also occur either as dominant species or codominant with speckled alder. Various other shrub species with occasional occurrence include highbush blueberry, smooth alder, willows, and viburnums. These wetland communities are frequently associated with stream complexes and may contain portions of emergent wetland sedges and grasses.

Shallow Emergent Marsh

Shallow emergent marshes are permanently saturated and seasonally flooded wetlands that have a variety of herbaceous vegetation. Common dominant herbaceous plants within the Project area are woolgrass, cattails, reedgrass, reed canary grass, sedges, and meadow-rues. A Marsh must have less than 50 percent cover of peat and tussock-forming sedges such as tussock sedge; otherwise it may be classified as a sedge meadow. Other characteristic plants of shallow emergent marshes include blue flag iris, sensitive fern, cinnamon fern, and rushes. Shallow emergent marshes commonly have scattered shrub species including speckled alder, dogwoods, willows, and meadow sweet.

Floodplain Forest

Floodplain forest typically occurs on mineral soils of river floodplains and river deltas. These communities are characterized by their flood regime, with low-lying areas typically flooding annually in spring and higher areas flooding irregularly. Most are dry by summer's end; however, some of these communities may be flooded again in late summer or early autumn by heavy precipitation associated with tropical storms.

Species compositions within floodplain forest communities are quite variable, primarily due to seed dispersal along associated waterways; therefore, dominant species often vary locally. Dominant tree species in floodplain forest communities in the Project area include red maple, sugar maple, and yellow birch. Characteristic shrub species include oblong-leaf serviceberry, wild raisin, and hobblebush. Common herbaceous species include trout-lily, ferns, sedges, and grasses.

Spruce-Fir Swamp

Spruce-fir swamps are often found in drainage basins occasionally flooded by beaver. These swamps are fairly dense with a canopy cover of 80 to 90 percent, usually dominated by red spruce. Codominant trees include balsam fir, red maple, and tamarack. Other less frequently occurring trees include yellow birch, white pine, and hemlock. The shrub layer usually comprises less than 20 percent cover and contains dominant species such as alders, wild raisin, winterberry, and sapling canopy species. Characteristic herbs include cinnamon fern, Canada mayflower, goldthread, Canada bunchberry, and robin-run-away. In addition, *Sphagnum* mosses often dominate the groundlayer.

Spruce-fir swamps occur in lowlands where they may grade into upland areas such as spruce flats or balsam flats. Spruce-fir swamps are distinguishable by lower elevations, wetland soils, the presence of *Sphagnum* mosses, and the absence of black cherry, a characteristic upland species of spruce flats and balsam flats.

Balsam Fir-Tamarack Swamp

The balsam fir-tamarack swamp is a variation of the spruce-fir swamp. This cover type is not described by Edinger *et al*. (2002) but was encountered frequently during field delineation. The canopy is usually less dense than that of the spruce-fir swamp consists of balsam fir and tamarack. In some instances tamarack exists as a monoculture, in which case the cover type is labeled as a tamarack swamp. Occasional hardwood species such as yellow birch or red maple may also contribute to the canopy composition.

The understory is variable and may contain a significant shrub layer composed of wild raisin, meadowsweet, alders, and sapling stage canopy species. Characteristic understory species include Canada mayflower, Labrador tea, and various fern species.

Black Spruce-Tamarack Bog

Black-spruce-tamarack bogs occur on acidic peatlands in cool, poorly drained depressions. The characteristic canopy trees are black spruce and tamarack; in any given stand either tree may be dominant or codominant. Canopy cover is variable, ranging from open canopy woodlands with as little as 20 percent cover of evenly spaced canopy trees to closed canopy forests with 80 to 90 percent cover.

In more open canopy stands there is usually a well-developed shrub layer characterized by leatherleaf, speckled alder, wild raisin, and raspberry. In closed canopy stands the shrub layer is usually sparse; however, the species composition is similar to that of the open canopy stand. Characteristic herbs include reed canary grass, blue flag iris, sedges, and grasses. *Sphagnum* mosses are also common and may be very abundant in black spruce-tamarack bogs.

Northern White Cedar Swamp

This community was encountered at one location on the Bypass Route. It is located adjacent to Sevey bog and is fed by a small perennial stream approximately three feet wide. Northern white cedar is codominant in the canopy with balsam fir, red spruce, and hemlock. The shrub layer consists of saplings of canopy species along with honeysuckle and raspberry. Cinnamon fern and *Sphagnum* mosses make up the herbaceous layer.

Hemlock-Hardwood Swamp

These swamps usually have a fairly closed canopy (70 to 90% cover), sparse shrub layer, and low species diversity. The tree canopy is typically dominated by hemlock, and co-dominated by yellow birch and red maple. Other less frequently occurring trees include white pine, and balsam fir. Characteristic shrubs include saplings of canopy trees plus highbush blueberry, viburnums, winterberry, and mountain holly. Typical herbs are cinnamon fern and sensitive fern, sedges, goldthread, Canada mayflower, mountain sorrel, foamflower, and sarsaparilla.

2.4 CULTURAL RESOURCES

On August 22, 2005, NYPA met with the New York State Office of Parks, Recreation, and Historic Preservation, which functions as the State Historic Preservation Office (SHPO), to discuss the Tri-Lakes Reliability Project. NYPA and the SHPO also discussed the types of cultural resources studies that would be performed as part of the permitting effort for the Project. In 2005, NYPA conducted Phase 1A archeological investigations and an architectural survey for the Tri-Lakes Reliability Project. Field investigations to identify aboveground evidence of archeological sites and areas that could be characterized as having the potential to contain intact archeological resources focused on the 6.9 mile Bypass Route around the Forest Preserve. No prehistoric archeological sites were observed during this walkover survey. Phase 1B archeological surveys were recommended for undisturbed non-wetland areas with slopes less than 15 percent, including approximately 5.3 miles, approximately 48.5 acres, of the

Bypass. Phase 1B surveys were not recommended in wetlands, in areas with steep slopes greater than 15 percent, and in areas intensively disturbed by logging, sand and gravel mining, and other construction, including a total of 0.87 mile along the Bypass, or 7.9 acres. A Phase 1A cultural resources report was provided to the SHPO in August 2005; an addendum to that report was submitted to the SHPO in December 2005. NYPA and the SHPO agreed that an in-field architectural survey would be performed to determine if any structures within the area of potential effect (APE) were potentially eligible for listing on the National Register of Historic Places (NRHP). No such properties were identified on the Bypass Route. A report of the architectural survey and its findings was submitted to the SHPO in December 2005.

The Adirondack Park Forest Preserve is listed as a National Historic Landmark (NHL) based on the political history of the formation of the Park in 1890. The Forest Preserve and a handful of other areas obtained an early and comprehensive level of protection based on their unique or pristine natural settings. Most of the other lands that were protected during that period of time became or were created as National Parks or monuments. The Forest Preserve is unique for the protective mechanism tied to the State Constitution. The landmark protection afforded the Forest Preserve would remain unchanged by virtue of the addition of private land into the Forest Preserve to replace the six acres removed for construction of the 46 kV line.

In September 2006, the Applicants' cultural consultant conducted an initial Phase 1B investigation of the areas previously identified as archaeologically sensitive in the Phase IA report to determine the presence of subsurface archaeological sites within the APE. On the Bypass Route, one historic period archaeological site potentially eligible for inclusion in the State or National Registers of Historic Places, Site Alt 6-1, was identified during the Phase IB investigation. In its February 2007 Phase 1B Report, the Applicants' cultural consultant recommended that the site be avoided or subject to a Phase II site evaluation prior to the commencement of ground-disturbing activities.

In June 2007, as a result of consultation with the SHPO, NYPA agreed to conduct additional archaeological investigations, the results of which were included in a June 2007 addendum report. The area investigated, the northern section of the Project from Reference Marker S1 to Reference Marker S9.6, was outside the scope of this SDEIS. In a letter dated July 6, 2007, the SHPO noted no further concerns regarding construction along the northern section of the Project, which allowed construction to commence.

In August 2007, a second cultural consultant conducted additional Phase IB archaeological investigations not previously included in the February 2007 Phase 1B Report. These investigations included the Route 56 East Alternate and the Route 56 West Alternate (including the Underground Alternate). For this Phase IB fieldwork, shovel tests were excavated at 50-foot (15 m) intervals on a single transect to test the APE. In areas where the entire APE was undisturbed, a shovel test was excavated at each proposed pole location. Tests between poles were staggered with every other test 25 feet (7.5 m) from centerline on one side of the APE and the other tests 25 feet (7.5 m) from centerline on the other side. In undisturbed areas at the edge of the APE farthest from the road, a single transect of tests at 50-foot (15 m) intervals was excavated. Observing this procedure, the length of the APE within the East and West Alternate ROWs was shovel tested with the exception of areas of disturbance, excessive slope, or standing water.

The cultural consultant reported the results of its field investigations to the NYPA and National Grid in November 2007. No precontact artifacts, deposits, or features were found on the Route 56 Alternate routes during the addendum Phase IB investigations. No historic period archeological sites/finds were identified on the West Alternate or on the East Alternate, compared to one historic period archeological site identified on the Bypass.

2.5 LAND USE

Landscape character is largely determined by topography, land use, vegetation and water features. In terms of climatic, geological, ecological, and spatial characteristics, the Adirondack Park (the "Park") can be considered a single regional landscape, and thus the Project area is entirely within this single regional landscape.

Low population density, moderate to heavy forest cover and rolling topography characterize the Project environs. The Project area is located within the Adirondack lowlands. The St. Lawrence River Valley is located to the north and northwest of the Project area, and the Adirondack highlands are located to the east. Dense deciduous forest, meandering streams, and shallow wetlands are characteristic of the area. Figure 7, "Land Use" depicts the land uses and cover types in the Project area.

2.5.1 Bypass Route

The Bypass Route is located entirely on private property. It leaves Route 56 at Pole 161 (see Figure 7). The Bypass Route would create a new cut through forested lands. The access roads would be built on existing jeep trails and logging roads, and some new access roads would be constructed. The Bypass would be located entirely within lands that are classified as Resource Management and Rural Use land use by the APA. The purpose of the Resource Management category is to protect fragile lands and enhance forest, agricultural, recreational, and open space resources. The purpose of the Rural Use category is to encourage those rural land uses that preserve open spaces and protect natural resources. These overriding natural resource and public considerations are basic and essential to the unique character of the Park. The private lands that the Bypass route would traverse are lands that are managed for forestry purposes; they are important to the wood using industry and insure raw material needs. Transmission lines are considered to be of secondary compatibility in Resource Management and Rural Use lands. A secondary compatible use is generally compatible with a land use category if the overall intensity of the use does not alter the character of the designated land use.

2.5.2 Route 56 East and West Alternates

2.5.2.1 *Land Use Classification*

The Route 56 Alternates involve construction of approximately 1.0 mile of 46 kV transmission line adjacent to or within the NYSDOT Route 56 ROW corridor north of the Forest Preserve (see Figure 7, Pole 161 to 182), 1.8 miles within the Forest Preserve (see Figure 7, Pole 183 to 227), and 0.05 mile south of the Forest Preserve (see Figure 7, Pole 228 to 287, the last numbered pole of the Bypass). In the segment north of the Forest Preserve, there is an existing electrical distribution line along the road corridor. The West Alternate new 46 kV transmission line with distribution would be built on the west side of Route 56 offset between 100 and 400 feet from the road ROW. Title to the land on this side of Route 56 is held by one private landowner and is categorized by the APA as Rural Use. On the East Alternate, the segment on the east side of Route 56 north of the Forest Preserve is held by two private landowners. These lands are identified by the APA as Rural Use. On both alternate routes, at a distance of approximately 0.5 mile south of the northern boundary of Forest Preserve (Pole 192) is an in-holding surrounded by Forest Preserve lands. (See Figure 2, Maps 1 through 4.) This in-holding, now known as the Willis Coleman parcel, was referred to previously as Hamm's. A number of private land owners now hold titles to this parcel. Approximately seven structures would occupy the ROW adjacent to this parcel and affect only Willis Coleman. The land is identified by the APA as Rural Use.

The APA definition of Rural Use is as follows:

1) Character description: Rural use areas are those areas where natural resource limitations and public considerations necessitate fairly stringent development

constraints. These areas are characterized by substantial acreages of one or more of the following: fairly shallow soils, relatively severe slopes, significant ecotones, critical wildlife habitats, and proximity to scenic vistas or key public lands. In addition, these areas are frequently remote from existing hamlet areas or are not readily accessible.

Consequently, these areas are characterized by a low level of development and variety of rural uses that are generally compatible with the protection of the relatively intolerant natural resources and the preservation of open space. These areas and the Resource Management areas provide the essential open space atmosphere that characterizes the Park.

2) Purposes, policies and objectives: The basic purpose and objective of Rural Use areas is to provide for and encourage those rural land uses that are consistent and compatible with the relatively low tolerance of the areas' natural resources and the preservation of the open spaces that are essential and basic to the unique character of the Park. Another objective of Rural Use areas is to prevent strip development along major travel corridors in order to enhance the aesthetic and economic benefit derived from a park atmosphere along these corridors.

Residential development and related development and uses should occur on large lots or in relatively small clusters on carefully selected and well designed sites. This would provide for further diversity in residential and related development opportunities in the Park (APA Act Section 805, 3.f.).

In Rural Use, major public utilities have a secondary compatibility rating.

South of the Forest Preserve, the 0.05 mile common to both Route 56 Alternates is held by one private landowner and is categorized by the APA as Resource Management.

Resource Management is defined as follows:

1) Character description: Resource Management areas are lands where the need to protect, manage, and enhance forest, agricultural, recreational and open space resources is of paramount importance because of overriding natural resource and public considerations. Open space uses include forest management, agriculture and recreational activities.

Many Resource Management areas are characterized by substantial acreages of one or more of the following: shallow soils, severe slopes, elevations of over twenty five hundred feet, flood plains, proximity to designated or proposed wild or scenic rivers, wetlands, critical wildlife habitats or habitats of rare and endangered plant and animal species.

Other Resource Management areas include extensive tracts under active forest management that are vital to the wood using industry and necessary to insure its raw material needs.

Important and viable agricultural areas are included in resource management areas, with many farms exhibiting a high level of capital investment for agricultural buildings and equipment. These agricultural areas are of considerable economic importance to segments of the Park and provide for a type of open space, which is compatible with the Park's character.

2) Purposes, policies and objectives: The basic purposes and objectives of Resource Management areas are to protect the delicate physical and biological resources, encourage proper and economic management of forest, agricultural and recreational resources, and preserve the open spaces that are essential and basic to the unique character of the Park. Another objective of these areas is to prevent strip development along major travel corridors in order to enhance the aesthetic and economic benefits derived from a park atmosphere along these corridors (APA Act Section 805, 3.g.).

In Resource Management areas major public utilities have a secondary compatibility rating.

2.5.2.2 *Route 56 Corridor History and Regulatory Setting*

The Route 56 corridor is managed by NYSDOT as a rural highway corridor; however, the highway is not assigned a specific classification other than as a highway. The use and management of the corridor is described in the State Land Master Plan (SLMP) and the NYSDOT Guidelines for Highways within the Park.

The highway corridor that is now Route 56 has been managed by different levels of government for purposes of transportation for the last 160 years. An early highway between Colton and Long Lake is depicted on maps from 1865 (Raquette UMP 2006).

Portions of the highway corridor were organized as a St. Lawrence County Road prior to the creation of the Park in 1890. St. Lawrence County transferred the ROW to the New York State Department of Public Works (NYSDPW), a predecessor of NYSDOT in 1882. This transfer covered the Route 56 Alternate routes and included most of the road from Sevey Corner to Colton, and beyond.

Between 1925 and 1931, NYSDPW undertook a project to construct a concrete road along the Route 56 corridor and increased the ROW width to 100 feet (Raquette UMP 2006).

Between 1986 and 1989, NYSDOT completed an improvement project along the Route 56 corridor. This work included minor realignment of the road bed, drainage improvements and re-surfacing. This work resulted in the current alignment of Route 56. APA Permit 86-1036 describes that improvement project. At that time NYSDOT had identified 19 non-standard design features. A non-standard design feature can be anything that results in a road alignment insufficient for a road's design speed. These features may include embankments in the ROW that are too steep, road curves that are too tight, and fixed objects such as rock ledges that are too close to the road. To correct some of these non-standard design features, a transfer from the NYSDOT land bank was made. A 0.099 acre transfer was completed. The land bank for NYSDOT was created in a 1959 Constitutional Amendment. The land bank was set at 400 acres. This land bank allows NYSDOT to transfer new land into the Forest Preserve to compensate for work in the Forest Preserve along the NYSDOT travel corridors. Transfers from the NYSDOT land bank are only authorized for State highway improvements.

The guidelines for management and use in the SLMP state that the primary travel corridor guideline will be to "achieve and maintain a park-like atmosphere on state lands within the travel corridor that complements the total Adirondack environment."

The SLMP also states that "utility companies will be permitted and encouraged to bury their telephone and electric transmission and distribution lines in the highway ROW."

The NYSDOT Guidelines for Highways within the Park states that "whenever practical, all utilities that conflict with clear zone or must otherwise be moved shall be relocated underground or on one side of the highway on one line of poles. An analysis should be conducted to determine the appropriate location of

utilities on each project. Special consideration to undergrounding utilities should be given in areas of high visual interest (p18)."

The Applicants considered the option of undergrounding the transmission line in the road ROW. Local distribution already exists along the northern segment of Route 56 in the Forest Preserve (Pole 182 to 197). The segment of Route 56 in the Forest Preserve south of the Coleman parcel (Pole 198 to 228), where there currently are no transmission facilities, is only 1.3 miles long. High voltage transmission lines within the Park have been constructed above ground, such as the 115 kV line into Lake Placid. Because overhead lines already are present in the Park, and, in particular, the Forest Preserve, undergrounding the transmission line to preserve this short 1.3 mile span does not provide significant benefit. Construction of underground cable would require some clearing in order to facilitate installation. A buried cable line ROW must remain clear of vegetation to allow access for repair and maintenance. In addition, repairs to underground lines result in longer outages than those to aboveground lines. Locating the point of failure is more difficult, and repair of the failed cable necessitates excavation. Notwithstanding SLMP recommendations and NYSDOT guidelines, undergrounding was not deemed a viable route option by the Applicants.

Lands that are being removed from the Forest Preserve for the transmission line ROW must be reclassified for private land use. The six acres of land would be reclassified as either Resource Management or Rural Use. Neither designation would allow construction of a principal building.

Section 805 of the APA Act has a provision for making changes to the plan map. The agency may put forward an amendment to reclassify land from any land use area to any other land use area or areas at the request of any owner of record of the land involved or at the request of the legislative body of a local government, if the land involved is less than twenty-five hundred acres. There must be a public hearing on the amendment and an affirmative vote of two-thirds of the APA Board members.

All plan changes must be consistent with Article 801 of the Act and the land use and development plan. The agency's decision shall be consistent with and reflect the regional nature of the land use and development plan and the regional scale and approach used in its preparation. The request to amend the plan or a notice of determination must be provided to local and regional officials for review and comment. If a public hearing is required it must be held in the municipality in which the land is located after not less than 15 days' public notice. The APA must act on all requests within 120 days of receipt except when a public hearing is required; the public hearing must be scheduled within 90 days of the request, and the APA must act within 60 days of the close of the hearing. The land classification amendment would be initiated after the Project has been approved. This timeline is separate from that for the Project.

2.5.2.3 *Applicable Zoning Regulations*

The construction of a major public utility, such as this Project, is a Class A Regional Project, subject to the jurisdiction of the APA. Although local municipal review does not apply to actions undertaken by a state agency, the APA will require that the more restrictive local conditions (if any exist) be followed for the Project. For example, if a local regulation requires a 100-foot setback, and the APA requires a 50-foot setback, the APA will enforce the local 100-foot requirement.

2.5.2.4 *Shoreline Restrictions, and Scenic and Recreational Rivers Act*

All Route 56 Alternates are classified as a major public utility by the APA Act in terms of land use. However, in APA regulations implementing the Rivers Act (9 NYCRR 577.2(p)), the transmission line constitutes a "river area utility use" and rivers project pursuant to sections 577.5(b)(1)(ix) and 577.5(c)(1) as to that portion of the line within the privately-owned river area. The Route 56 Alternates are in the river area, a ¼ mile zone from either bank in which land use and development is regulated by the APA. As such, an APA permit is needed for most new uses and structures in the river area.

The Raquette River is designated Scenic and Recreational under the New York State Wild, Scenic and Recreational Rivers Systems Act. A scenic river is a river, or section of river, that is free from diversions or impoundments, has limited road access, and is largely undeveloped. The Route 56 Alternates are located, in some places, within the one-quarter mile river area of the Raquette River as shown in Figure 5. However, clearing is not a regulated activity in the river area.

Part 575 of the APA Rules and Regulations regulates land use and development of all shorelines in the Park. Any body of water in the Park that is navigable by boat or canoe is subject to shoreline restrictions (Section 806 of the APA Act). Permits may be required for structures, lot widths, and septic system setbacks, and must adhere to specific cutting restrictions. Although two NYSDEC classified streams would be crossed by the Route 56 Alternates, none are navigable; therefore, the shoreline restrictions do not apply. See Figure 5, "Streams."

2.5.2.5 *Access to Forest Preserve Lands*

There are two access points to the Raquette River along the Route 56 Alternate Routes. The first access point leads to Moody Falls on the Raquette River. This access point is mentioned in the Raquette Boreal Forest Unit Management Plan (UMP) as a marked canoe carry trailhead. At the southern end of the Route 56 Alternate routes, near Sevey Bog Road (Poles 226 and 227, as shown on Figure 2, Maps 2 and 3 of 4) and on the east side of Route 56, there is a locally used trail marked with yellow canoe carry trail markers that leads to the Raquette River (see Figures 8a and 8b, "Canoe Carry Trailhead, From Across Route 56, Looking East, and Looking East," respectively). There are no official pull offs along the road in this location. Our analysis has determined that there are poor site distances along this section of Route 56, making this an unsafe location for motor vehicles to pull off the road. No improvements have been made in this location, and the use of the path is not encouraged.

The second access point is Jamestown Falls Road. This is located on State lands, is a State owned road, and is the only water access site. Jamestown Falls Road is located adjacent to proposed Pole 202 (Figure 2, Maps 2 and 3 of 4). This access road must be maintained as an easement across the transmission line ROW.

2.6 VISUAL RESOURCES

The Project area is located within the Adirondack lowlands, with the St. Lawrence River Valley to the north and northwest and the Adirondack highlands to the east. Moderate to heavy forest cover with rolling, variable topography characterize the area and limit long vista opportunities.

The Adirondack Park is a mix of public and private lands that occupies approximately 6,500,000 acres in northern New York State.

Existing distribution lines and poles are either adjacent to or offset from local roads, and are back-dropped or sky-lighted. Where poles are back-dropped, surrounding vegetation is well developed and filled in, providing effective screening for the wood poles and conductors.

2.6.1 Bypass Route

The Bypass Route involves cross-country construction and would create a new ROW cut into the forest. See Figure 9, "Bypass Route Typical ROW Cross Sections." The Bypass around the Forest Preserve is approximately 6.9 miles. The northern portion of the Bypass is where the line diverges from State Route 56 and strikes out cross-country to the west through a largely unpopulated area. Turning south, the bypass route connects with an existing logging road. The route then turns east and continues to follow the logging road as it passes north of Sevey Bog to reconnect with State Route 56. The Bypass traverses five private properties. The first parcel is used primarily for recreation. The other lands along the Bypass are utilized for commercial forestry and hunting camps.

This Bypass ROW would not be visible from the Route 56 travel corridor except where is intersects with Route 56. It would be visible by land owners and others engaged in recreational activities in the area; however, it would be minimally visible because of the dense vegetation surrounding the cut and the relatively narrow nature of the ROW.

2.6.2 Route 56 West and East Alternates

The northern 1.0 mile of the Route 56 West Alternate would be located on the western side of Route 56, setback between ±100 and ±400 feet. This portion of the route is located on private lands and would hold distribution as overbuild. See Figure 10, "West Alternate Typical ROW Cross Section." When the route reaches the northern boundary of the Forest Preserve, it switches to the east side of Route 56. Similarly, the Route 56 East Alternate would carry distribution north of the Forest Preserve, but on the east side of Route 56. See Figure 11, "East Alternate Typical ROW Cross Section." From the northern boundary of the Forest Preserve to the Coleman parcel, there are existing poles with local distribution. On both Alternate Routes, new poles would be installed on this 0.5 mile segment. After the Coleman parcel only the 46 kV transmission line (without distribution) would be constructed where no line currently exists.

The existing poles along the 1.0 mile segment of Route 56 prior to the northern boundary of the Forest Preserve are vertical configuration structures. The new poles that would be placed on private lands would be vertical configuration structures. These structures would be wood poles that vary in height from 38 to 70 feet above grade and require guying. They are used because cable, telephone and multiple phase local distribution are carried in addition to the transmission line. Because of its offset from Route 56 and intervening dense vegetation, the West Alternate ROW, vertical pole structures, and guy wires would not be visible from the travel corridor, except at its intersections with Route 56. The East Alternate ROW and transmission facilities, however, would be visible from Route 56.

From the northern boundary of the Forest Preserve to the Coleman parcel, the poles would be vertical configuration structures with overbuild; the poles on the Coleman parcel would be vertical configuration. From the Coleman parcel south, the poles located adjacent to Forest Preserve lands would be horizontal configuration structures with cross arms, creating the "T" shape, and would range in height from 38 to 57 feet above grade, with the majority 40 feet above grade. These poles would carry only the 46 kV line. A visual assessment was conducted in an effort to show the affects of the transmission line ROW clearing adjacent to lands in the Forest Preserve. See the Visual Impact Assessment, attached in Appendix D, which includes photographic simulations. The height of the poles would generally be less than that of the surrounding vegetation, thereby allowing the vegetation back-drop to provide a screening effect. The horizontal configuration allows for shorter poles, which permit the use of push braces instead of span guys. A span guy consists of a guy wire that crosses over the road to a stub pole. At the stub pole, an angle guy wire to the ground is installed. A push brace consists of an angled support pole that provides all the support necessary (without guy wires) for the shorter horizontal configuration pole. Because the push brace does not require guying, there would be no visible wires crossing the roadway in the Forest Preserve. To maintain the short pole height in the Forest Preserve, the Applicant would not provide space on the poles for cable or telephone.

The transmission line ROW in the Forest Preserve is 32 feet east of the centerline for the most part, and 32 feet west of the centerline from Pole 190 to Pole 191. In most cases, the width of clearing would be minimized because the transmission line ROW is adjacent to the existing NYSDOT ROW and/or overlaps the NYSDOT ROW. Outside the cleared transmission line ROW, danger tree removal would occur on a selective basis, determined by tree height at specific distances from the ROW, to preserve the visual quality of the Forest Preserve and minimize unnecessary tree removal.

2.7 TRANSPORTATION AND TRAFFIC

2.7.1 Regional Road Network

Travel via automobile is the dominant form of transportation in the Adirondack Park. The Project primarily follows State Route 3 and State Route 56 in the Adirondack Park in St. Lawrence County, New York. The West, East, and Underground Alternate routes traverse a total of approximately 3.4 miles along Route 56, including 1.86 miles on Route 56 over Forest Preserve lands. The Bypass Route travels cross-country on new ROW around the Forest Preserve for approximately 6.9 miles following a network of existing logging roads and trails. The nearest interstate freeways are I-87, east of the Park, and I-81, west of the Park. Access to the Route 56 Alternates or the Bypass Route would be from the interstates via the state and local road network, then State Route 56 from the north or State Route 3 from the east or west. Both state roads are two-lane, rural roads. There are relatively low levels of existing traffic on these roads, based on Annual Average Daily Traffic (AADT) counts. Table 2.7-1 displays AADT counts for various segments of Routes 3 and 56, highlighting the fact that automobile congestion is not a regional concern. Based on the "Adirondack Park in the Twenty-First Century, Technical Reports", the Adirondack Region could sustain 100 percent growth and the existing road capacity would not be hindered (State of New York, 1990).

Table 2.7-1: Annual Daily Traffic for Routes 3 and 56

NYS Route	Between		Year	AADT
3	CR 60	Tooley Road	2002	1282
3	Tooley Road	Rt. 56 Sevey	1999	1675
3	Rt. 56 Sevey	Franklin Co. Line	2001	1931
56	Rt. 3	Stark	2002	905

New York State and the Federal Highway Administration have designated specific roads in the state for their regional scenic, recreational, cultural, historic and archeological significance. Route 3 is a designated Scenic Byway known as the Olympic Byway. Route 56 does not have such a distinction.

2.7.2 Rail Service

There are currently no active rail lines in the area. The Adirondack High Peaks Wilderness Train operates as a scenic train from Saranac Lake to Lake Placid. Current plans call for linking the train to the Thendara Station line, which would travel through Tupper Lake. Also, inactive rail lines run from Watertown to Newton Falls, and are known as the Mohawk, Adirondack, and Northern Railroad, owned by Genesee Valley Transportation. The lines were used to transport paper and paper pulp products from the Newton Falls Paper Company to other plants for distribution.

2.7.3 Air Service

Regional air service is provided from the Adirondack Regional Airport in Saranac Lake. Commercial and private flights can be accommodated 365 days a year. The airport features two rental car companies and offers daily commuter service to Plattsburgh and Boston. The airport opened in 1949 and has been operated by the Town of Harrietstown since 1965. The airport is located approximately 30 miles from Piercefield. There is also a landing strip located about 3 miles north and east of the proposed Stark Falls Substation.

SECTION 3

ALTERNATES

SECTION 3 ALTERNATES

3.1 NO ACTION – NO TRANSMISSION LINE

Under the no action alternative, the proposed 46 kV line would not be constructed and the reliability that it would provide and the power delivered on it would not be available to the Region. A large number of new hotel units and housing units are scheduled to be constructed in Lake Placid that are likely to be constructed regardless of whether or not the new line is built. Although not as significant in size or quantity, other housing units are also likely to be built in the Village of Tupper Lake over time. Given that the existing electric delivery system is already at its limit for capacity, with new development in the two villages and their accompanying increase in demand for power, it is likely that the frequency and duration of outages would increase and that requests for curtailment of electric use would become a common event during the winter months. The consequences of these outages and curtailments would translate to increased hardship, health and safety concerns for area residents and visitors, frequent interruptions to education through lost days of school, and financial losses to area businesses. Without improvement to the system, it is also possible that frequent outages could influence some non-residents to look elsewhere for recreation opportunities and thus exacerbate the financial losses to the region.

The no action alternative will cause the Tri Lakes area to continue to be subject to unacceptable levels of power outages resulting in several risks to public health and safety. Given the critical nature of the reliability issue in the Tri-Lakes Region and the fact that reasonable short-term solutions to address this issue have been exhausted, the no action alternative is unacceptable.

3.2 PERMITTED ROUTE: BYPASS ROUTE (THE "BYPASS")

3.2.1 Route

The Bypass Route, approved as part of the Preferred Route in a Findings Statement dated March 13, 2006, utilizes overhead construction and entirely avoids the section of Route 56 ROW sited over Forest Preserve (see Figure 2, Map 1 of 4). The Bypass diverges from Route 56 at Pole 161 and proceeds cross-country north of the Forest Preserve in a generally southwest alignment through a largely unpopulated area. Most of this portion of the Bypass is located on logged over (previously disturbed) forest. At Pole 208 the Bypass proceeds due south around the western boundary of the Forest Preserve. Starting at Pole 226, the Bypass is located adjacent to an existing jeep trail. The Bypass then proceeds south and east and then due east at Pole 267 along the southern boundary of the Forest Preserve just north of Sevey Bog on an existing logging road, crossing Route 56 and ending at Pole 287. The Bypass Route is approximately 6.9 miles in length

3.2.2 Construction Assessment

As shown on Table 3.1-1, the Bypass requires 55 total acres of clearing, of which 3.93 acres are forested wetlands and 0.87 acre is non-forested wetland. Clearing activities would involve the cutting of approximately 19,000 trees with a diameter greater than 3 inches diameter at breast height (dbh) on private lands. See Appendix E, "Tree Count Estimates." The impact of ROW clearing on the Bypass Route would be the conversion of successional forest to herbaceous and open shrub cover and a change in species composition adjacent to the ROW. The Bypass crosses four regulated streams and three non-regulated streams. The wetland crossing (355 feet) of Sevey Bog has been identified as a potentially environmentally sensitive wetland crossing by the NYSDEC and APA. Sevey Bog contains preferred spruce grouse breeding habitat. The Bypass would site two poles (199 and 238) in wetlands. Permanent wetland impacts include 0.18 acre of fill to enable access trail construction. Wetland mitigation would be required for this permanent impact. A wetland mitigation area has been submitted and approved for a site

owned by National Grid in Tupper Lake near both the Tupper Lake substation and a mitigation wetland constructed in the fall of 2007.

The Bypass would require avoidance of the one historic period archeological site identified on that route. This site (Alt6-1) is approximately 6,000 square feet in size; it would be possible to avoid affecting the site by realigning a pole. The Forest Preserve is an NHL property based on its political history. The Bypass would circumvent the Forest Preserve; therefore, there would be no affect to archeological resources.

The construction of the Bypass Route would prevent uninterrupted westward expansion of the Forest Preserve lands. Although the Bypass Route would not adversely affect existing Wild Forest conditions, its location immediately to the west of the Forest Preserve would create an inconsistency in the area that would reduce the wilderness character of any future western expansion of the Forest Preserve.

Visual impacts associated with construction of the Bypass would be limited only to the two access locations at Route 56. There is minimal potential for visual impact along the majority of this segment, since there are no opportunities for the general public to view the line once it diverges from Route 56. Additionally, although a new cut is being made through the forest, visibility of the construction of the proposed corridor is reduced by the existing topography and dense vegetation.

Engineering and construction factors are rated as “difficult” based on the length and off-road location of this route. A portion of the Bypass is closed between May 1 and July 31 to protect sprouse grouse breeding, thereby prolonging construction. The Bypass contains minimal erodible soils on steep slopes.

The Bypass Route requires 126 poles, which would be delivered by flat bed trucks. Materials and equipment would be transported on Routes 3 and 56; however, clearing and installation activities would take place off the roadway. There would be two access points on Route 56, at Poles 161 and 286, north and south of the Forest Preserve. All vehicles would use these access points to reach the work zone. There could be brief interruptions of traffic flow in the vicinity of these access points for entering and exiting vehicles. A flagman would halt or redirect traffic as necessary. Although construction of the Bypass would not necessitate lane closures on Route 56, there would be more vehicles on the local roadways by virtue of the longer construction period and the greater number of vehicle trips required.

The Bypass affects four private property owners.

Land acquisition and direct construction costs of the Bypass Route are anticipated to be approximately $3,276,500.

3.2.3 Operation Assessment

The Bypass Route is located on private lands and would consist of a 75 foot wide ROW with danger tree rights obtained for an additional 50 to 60 feet on either side of the ROW. The ROW would be cleared of all vegetation. Danger tree rights would allow the Applicants to remove all trees that are of a height that could potentially contact the transmission line, leaving herbaceous and shrub cover. An inspection and monitoring program is proposed on a 5-year schedule to locate vegetation growth and the presence of danger trees. Vegetation determined to be a threat would be removed. Vegetation control would mainly be achieved by mowing with tractor-mounted brush mowers, and by herbicide application. Herbicides would be selectively applied from the ground with backpack sprayers or vehicle-mounted sprayers. Any herbicides applied would be in accordance with applicable state and federal statutes and regulations. Vegetation management is not expected to cause soil disturbance on the ROW.

Impacts to wetlands and surface water quality as a result of the operation of the Bypass could potentially result from vegetation maintenance activities. The post-construction species composition adjacent to streams and within wetlands crossed by the ROW is expected to be characteristic of local scrub-shrub and

emergent non-forested cover types. Impacts to these areas resulting from the 5-year vegetation management program would be limited to the effects of maintaining low-growing vegetation within wetlands and along streams in the ROW. Stream warming is not expected to be an issue during the operation phase, primarily because the amount of vegetation being removed would not cause great changes in the amount of light penetrating to the ground. The relatively narrow ROW width proposed and maintenance of a scrub-shrub or herbaceous cover adjacent to streams and wetlands would provide adequate amounts of shade species to help sustain existing water temperatures.

Operation of the Bypass transmission facilities would continue to necessitate avoidance of the archeological site identified on this route. Vehicles and equipment would have to circumvent the site during vegetation clearing and repair activities. Maintenance and repair work would be visually the same as routine maintenance and repair work on existing lines. The Bypass operation phase would have little impact on area transportation systems. It would generate minimal traffic, and almost all repair and maintenance activities would occur off-road.

3.3 PREFERRED ROUTE: ROUTE 56 WEST ALTERNATE (THE "WEST ALTERNATE")

3.3.1 Route

The West Alternate begins at Pole 161 and proceeds along the west side of Route 56 to Pole 181, crossing over to Pole 182 on the east side prior to the northern boundary of the Forest Preserve, and continuing along the east side over Forest Preserve lands to Pole 189. The West Alternate then crosses to Pole 190 on the west side of Route 56. Poles 190 to 192 and 194 to 196 are on the west side of Route 56, and Pole 193 is on the east side. The West Alternate continues on the east side of Route 56 from Pole 197 to Pole 287, for a total distance of approximately 3.40 miles (see Figure 2, Map 2 of 4). There are 71 poles on the West Alternate. Building on the east side of Route 56 south of Pole 181 is preferred since it would be an overbuild and also would avoid the fiber optic cable located underground on the west side of Route 56.

Within the Forest Preserve, the West Alternate is 1.86 miles long, 0.5 mile from the northern boundary (Pole 182) to the Willis Coleman parcel (Pole 192), 0.4 mile along the Coleman parcel (from Pole 192 to Pole 198), and 1.0 mile to the southern boundary of the Forest Preserve (Pole 228). The existing distribution line would be replaced with new taller poles with the new 46 kV line and existing distribution line attached (overbuild) from the northern boundary of the Forest Preserve to the Coleman parcel. South of the Coleman parcel, the 46 kV line would be located on new poles without distribution to the southern boundary of the Forest Preserve. Local distribution is not necessary in this section since no housing or development will occur in the Forest Preserve. Shorter poles allow for the use of push braces and minimize visual impacts. From the southern boundary of the Forest Preserve to Pole 287, the 46 kV line has been sited on the east side of Route 56 to avoid Fox Marsh and the underground Verizon fiber optic cable on the west side.

3.3.2 Construction Assessment

The areas where the mapped soil complexes along the West Alternate have high erosion potential and are located on slopes ranging from 15 to 30 percent make up approximately 25 percent of the total West Alternate route. The maximum slope on the construction route under the conductor is 20 percent. Some areas of open sand faces and highly erodible soils are known to exist on the ROW. The anticipated amount of highly erodible soils on steep slopes is more common along the West Alternate than along the Bypass Route and less than what occurs along the East and Underground Alternate routes.

The width of clearing along Route 56 would be wider than the current Route 56 roadway ROW. The tree clearing along the Route 56 ROW would be either 32 feet from the centerline adjacent to Forest Preserve lands or 37.5 feet from the centerline on private lands, increasing the overall width of the ROW.

However, the cleared ROW of the portion of the West Alternate north of the Forest Preserve would be between 100 and 400 feet off the roadway, thereby retaining the existing roadway ROW width on that portion of Route 56. There are vegetation edges along the existing Route 56 maintained ROW; therefore, ROW clearing for the West Alternate Route is not expected to contribute to a change in species composition. On the remainder of the West Alternate ROW, detectable changes in the forest cover would depend on the quality of the forest impacted. In the areas where the ROW has been maintained and managed, the tree stands may be less mature; therefore, the loss of tree cover would be less striking. In the Forest Preserve where cutting is prohibited, the trees tend to be larger and in some areas have been replanted as monoculture forest stands to aid in reforestation of damage after regional forest fires in the early 20th century. There the loss of large trees or monoculture forest stands as part of the ROW preparation would be more conspicuous. Regardless, conversion of forested lands to herbaceous and open shrub cover as a result of clearing along an existing, maintained ROW would not be as significant as clearing in unbroken forest.

As shown on Table 3.1.1, the West Alternate requires 19.5 total acres of clearing, of which 1.1 acres are forested wetlands and 0.16 acre is non-forested wetland. The West Alternate crosses two regulated streams. No endangered species habitats have been identified on the West Alternate. Approximately 3,077 trees would be removed from the West Alternate ROW on private lands and 1,926 from Forest Preserve lands. The section of ROW on the west side of Route 56 north of Forest Preserve from Pole 161 to Pole 181 would be set back between 100 and 400 feet from the roadway, thereby screening the construction in this area from view. Visual impacts would be associated with ROW clearing, grubbing, installing poles, stringing conductors and placement of traffic management setups. Several pieces of equipment (described in more detail in Section 4) would be present along the corridor for a few months.

No archaeological sites were found along Route 56. The Forest Preserve is an NHL property based on its political history. The West Alternate would use six acres of Forest Preserve lands for construction of the 46 kV transmission line. However, construction of the West Alternate would not impact the NHL status of the Forest Preserve. The only impact to the NHL (removal of Forest Preserve lands) would be mitigated by the addition of private lands.

Construction of the West Alternate would not significantly impact the land use of the area. Construction would not encourage a shift in existing land uses nor encourage new land uses in the area. The only change in land use would occur in the Forest Preserve south of the Coleman parcel where the new 46 kV line would be installed where no electric lines currently exist. Engineering and construction factors are rated as “standard” based on the shorter length of the route and the location of the ROW proximate to or along Route 56. The West Alternate from Pole 161 to Pole 181 is located on relatively flat land. South of Pole 182, specifically between proposed Poles 211 and 217, the West Alternate contains some erodible soils on steep slopes, requiring push braces to support the poles. A push brace consists of an angled pole that provides support (without guy wires) for a vertical pole. Because the push brace does not require guying, there are no visible wires crossing the roadway.

Seventy-one (71) poles would be installed on the West Alternate. Pole installation and framing activities would be the same as on the Bypass. Access road improvements would not be required. Installation equipment would remain on site until the construction phase is completed. During non-working hours, the equipment would be positioned on the outside edge of the road ROW to avoid intruding onto the roadway.

Construction of the West Alternate would result in minor traffic delays and additional vehicular traffic on the local roadway network. The construction of the transmission line would require a lane closure on Route 56 in the vicinity of the ongoing activity. The closure would be announced by appropriate signage along the roadway and clearly marked with cones or similar barriers. A flagman would direct traffic around the closure. During non-working hours, the closure signs and barricades would be removed and

stored in the ROW. Detour routing of traffic would not be necessary because the work is not anticipated to require closure of the entire roadway.

The West Alternate affects three private property owners.

Land acquisition and direct construction costs for the West Alternate are estimated to be approximately $1,540,550.

The construction impacts and mitigation measures of the West Alternate are discussed in more detail in Section 4 of this SDEIS.

3.3.3 Operation Assessment

To maintain the reliability of the transmission facilities on the West Alternate, it will be necessary to continue to remove danger trees as part of the vegetation management program. Danger trees would be removed along Route 56 north and south of the Forest Preserve outside the 75-foot ROW. In the Forest Preserve outside the 32-foot ROW danger tree removal would be covered by the Agreement or a TRP. The northern 1.0 mile of the proposed route along Route 56 is located on private lands and would consist of a 75 foot ROW (37.5 feet from the centerline) with danger tree rights obtained for an additional 50 to 60 feet beyond the ROW. Where danger tree rights have been obtained on private lands, all trees that are of a height that could potentially contact the transmission line would be removed, leaving smaller trees, underbrush, and shrubs. On lands adjacent to the Forest Preserve, danger trees also must be removed; however a more selective process would be employed based on tree height and distance from the transmission line.

During the operations phase, there would be no impacts to soils or cultural resources; impacts to wetlands and waterways would be minimal as a result of vegetation clearing; the six acres removed from the Forest Preserve for the transmission line ROW would require reclassification to Resource Management or Rural Use; maintenance and repair work would be visually the same as routine maintenance and repair work on existing lines, except that such work would not be visible from the Route 56 travel corridor on the northern 1.0 mile of the West Alternate; and operation of the West Alternate would have little effect on area transportation systems. Operation activities are not expected to have any effect on the NHL. If unanticipated human remains were uncovered during operation activities, work in the vicinity would stop temporarily, the site would be evaluated, and mitigation measures would be implemented before the work recommenced. There would be minimal effect on traffic in the area due to maintenance vehicles and equipment.

In the areas where slope is greater than 15 percent, mitigation measures would be used during operation. Such mitigation measures would include rolled erosion control products and geotextile erosion control fabrics, among others listed above. As stated before, erosion control practices would be implemented that are tailored to the specific conditions of each area of concern. The operation impacts and mitigation measures of the West Alternate are discussed in more detail in Section 5 of this SDEIS.

3.4 ROUTE 56 EAST ALTERNATE (THE “EAST ALTERNATE”)

3.4.1 Route

The Route 56 East Alternate begins at Pole 161 on the west side of Route 56, crosses to the east side at Pole 162, and then continues south on the east side of Route 56 to Pole 181. The East Alternate proceeds through the Forest Preserve from Pole 182 to Pole 287 along the same alignment as the West Alternate (see Figure 2, Map 3 of 4). The East Alternate is approximately 3.39 miles long and contains 70 poles.

3.4.2 Construction Assessment

The mapped soil complexes along the East Alternate that have high erosion potential and are on slopes 15 to 30 percent, account for approximately 25 percent of the total route. In the areas where the slope is 30 percent or greater, approximately 6 percent of the total route crosses potentially highly erodible soils on these slopes. The anticipated amount of highly erodible soils on steep slopes is more common along this route than along the Bypass Route. Erosion control measures would be employed as required during construction activities.

As shown on Table 3.1-1, the East Alternate requires 15 total acres of clearing, of which 1.1 acres are forested wetlands and 0.16 acre is non-forested wetland. The East Alternate crosses two regulated streams and no non-regulated streams. No endangered species habitats have been identified on the East Alternate. Unlike the West Alternate, the East Alternate would be placed at the easterly edge of the Route 56 DOT ROW for the entire length of the route. Approximately 1,762 trees would be removed from the East Alternate ROW on private lands and 1,926 from Forest Preserve lands. Visual impacts would be similar to those described for the West Alternate but would be longer in duration because there is more construction in the immediate vicinity of Route 56. Engineering and construction factors are rated as "difficult/standard" based on the location of the ROW along the Route 56 transportation corridor and the need for more traffic mitigation measures than required for the West Alternate. South of Pole 182, specifically between proposed Poles 211 and 217, the East Alternate contains some erodible soils on steep slopes, requiring push braces to support the poles.

No archaeological sites were found along Route 56. The Forest Preserve is an NHL property based on its political history. Similar to the West Alternate, the East Alternate would use six acres of Forest Preserve lands for construction of the 46 kV transmission line. Construction of the East Alternate would not impact the NHL status of the Forest Preserve. The only impact to the NHL (removal of Forest Preserve lands) would be mitigated by the addition of private lands into the Forest Preserve. The NHL's status is governed by the State Constitution, which requires that removal of Forest Preserve lands be fully compensated.

The same equipment and construction impacts and mitigation measures identified for the West Alternate also pertain to this route.

The East Alternate affects four private property owners.

Land acquisition and direct construction costs for the East Alternate is estimated to be approximately $1,639,100.

3.4.3 Operation Assessment

Operation impacts of the East Alternate would be similar to those of the West Alternate, except on the portion of the route north of the Forest Preserve where the East Alternate ROW is along the east side of Route 56. The northern 1.0 mile of the proposed route along Route 56 is located on private lands and would consist of a 75 foot ROW (37.5 feet from the centerline) with danger tree rights obtained for an additional 50 to 60 feet beyond the ROW. Where danger tree rights have been obtained on private lands, all trees that are of a height that could potentially contact the transmission line would be removed, leaving smaller trees, underbrush, and shrubs. On lands adjacent to the Forest Preserve, danger trees also must be removed; however a more selective process would be employed based on tree height and distance from the transmission line. Vegetation control would mainly be achieved by mowing with tractor-mounted brush mowers. North of the Forest Preserve, these vehicles would be visible from the Route 56 travel corridor on the East Alternate because there would be no intervening vegetation to screen the ROW, as there on the West Alternate.

During the operation phase, there would be no impacts to soils, and impacts to wetlands and waterways would be minimal as a result of vegetation clearing. The six acres removed from the Forest Preserve for the transmission line ROW would require reclassification to Resource Management or Rural Use and replacement with private lands that would be reclassified as Forest Preserve lands. There would be no impacts to cultural resources as none were identified in the East Alternate ROW; however, if unanticipated human remains were uncovered during operation activities, work in the vicinity would stop temporarily, the site would be evaluated, and mitigation measures would be implemented before the work recommenced. There would be minimal effect on traffic in the area due to maintenance vehicles and equipment.

3.5 ROUTE 56 UNDERGROUND ALTERNATE (THE "UNDERGROUND ALTERNATE")

3.5.1 Route

The Underground Alternate places the 46 kV line underground within existing ROW for 2.2 miles through the Forest Preserve (see Figure 2, Map 4 of 4). The balance of this Alternate is 1.0 mile of overbuild north of the Forest Preserve on the east side of Route 56 and 0.05 mile of new overhead south of the Forest Preserve on the east side of Route 56.

3.5.2 Construction Assessment

The potential for highly erodible soils and steep slopes on the Underground Alternate is the same as the East Alternate as discussed in Section 3.3.2.

As shown on Table 3.1-1, the Underground Alternate requires 2.6 total acres of clearing. There would be no clearing of wetlands or stream banks because the Underground Alternate would be bored under these resources. There would be minor clearing north and south of the Forest Preserve where new transmission facilities would be installed and minimal clearing in the Forest Preserve in some areas where trenching would occur. No endangered species habitats have been identified on the Underground Alternate. Visual impacts are considered to be low. Approximately 1,762 trees would be removed from private lands and 658 trees from the DOT ROW in the Forest Preserve.

Visual impacts resulting from construction activities on the Underground Alternate would be very similar to those described for the East Alternate for the northern one-mile and the southern 0.05 mile of the Underground Alternate route along Route 56. The middle 1.86 miles within the Forest Preserve would include horizontal directional drilling (HDD) and trenching activities to install the line underground. The HDD construction would include boring equipment, dump trucks and slurry pits, and the trenching would be accomplished by use of trencher or track hoe. Because of the complexities associated with underground construction, with unknown soil and/or bedrock conditions, it is likely that construction activities would last several weeks longer than any of the other alternates, thereby affecting the visual quality of the Forest Preserve for a longer period.

Engineering and construction factors are rated as "complex" based on the construction methodology required for the underground portion of the route. Construction of the portions of the route north and south of the Forest Preserve would use the same methods as the East and West Alternates. Construction of the underground section (2.2 miles) in the Forest Preserve would use trenching methodology, rock boring, and horizontal directional drilling (HDD). HDD would be used in wetlands. There would be a total of five bores for a distance of 2,780 feet. Trenching would be used for the remainder of the route in the Forest Preserve. Areas of erodible soils on steep slopes increase the complexity of the trenching operation.

There are six wetlands located along the eastern edge of Route 56. In one location the wetland is located far enough from the grassy shoulder such that the installation of a trench as described below would result in no temporary clearing. HDD would be used to avoid trenching through the five other wetlands. To avoid potentially having the bore stray under roadway pavement, the alignment would be located approximately 15 feet off the edge of pavement. HDD would be constructed as described in Appendix B (EWP) of this SDEIS. The entry pit would be approximately 20 feet long, 10 feet wide, and 6 feet deep with the exit pit about half this size. There would be a total of five bores at a length of 2,780 feet.

In locations where there is a relatively flat 20 to 25 foot wide grassed shoulder adjacent to Route 56 pavement, the trench would be located 10 feet off the edge of pavement. A backhoe would be required to dig a trench approximately 3.5 feet wide by 7 feet deep. Standard trench boxes would be used to shore the trench walls. The 46 kV line, comprised of six polyvinyl chloride (PVC) conduits encased in cement, would be laid in the trench. No tree clearing would be required during or after construction. This construction technique occurs along 5,200 linear feet of roadway alignment.

There are other locations where there are relatively steep sandy slopes adjacent to the paved shoulder. In these locations a cut configuration would be used. The trench would be located 6 feet from the edge of pavement. This would require the clearing of approximately 9 feet of trees and shrubs. Additionally, a portion of the slope would be removed and a trench opened and stabilized with sheet piling. The sheet piling is required to prevent failure of the roadway pavement. Once the conduit has been installed in the trench, the sheet piles would be removed and the slope rebuilt with suitable materials. This configuration occurs along 2,800 linear feet of roadway alignment.

There are some locations where the ROW is located on a steep side slope. There are approximately 4 to 5 feet of flat dirt shoulder next to the edge of pavement; from the shoulder, the side slope drops at almost a 2:1 incline. These slopes are approximately 20 to 50 feet deep. In these locations a trench would be dug along the edge of pavement and sheet piling driven at the edges to maintain the paved roadway. A portion of the slope would be filled. These slopes are primarily vegetated with grasses; therefore, no clearing would be required. This construction technique occurs along 1,400 linear feet of roadway alignment.

The soil disturbing activities required to construct the underground line have the potential to uncover human remains. This would require work in the vicinity to stop temporarily and mitigation measures to be implemented before the work could recommence.

The underground construction of the transmission line would require a lane closure on Route 56 in the vicinity of the ongoing activity. The closure would be announced by appropriate signage along the roadway and clearly marked with cones or similar barriers. A flagman would direct traffic around the closure. During non-working hours, the closure signs and barricades would be removed and stored in the ROW.

The Underground Alternate affects four private property owners.

Land acquisition and direct construction costs for the Underground Alternate is estimated to be approximately $11,839,100.

3.5.3 Operation Assessment

Reliability of underground systems is influenced by the ability to restore the line. If a cable “faults,” an underground explosion occurs that results in a separation of the cable creating an “open” in the line. When this occurs, locating the fault is difficult and can take a long time, requiring that repair crews travel the length of the line. To reach the fault, the soil over the line must be excavated, and when the repair is completed, the trench must be filled and the ROW restored. This soil disturbing operation could result in erosion, which would be mitigated by the use of erosion control measures. Repair work in and adjacent to wetlands and streams would be carefully conducted to minimize impacts to these resources. All of this

delays the restoration of the system. The underground repair operation would be visible along the Route 56 travel corridor for a longer time than an overhead repair operation and would require more extensive traffic mitigation. The potential cost of underground line repair could be higher as a result of the longer outage time and the more complex mitigation measures.

Although the underground section (2.2 miles) in the Forest Preserve is not as wide as the ROW required for overhead facilities, it must remain clear of vegetation to facilitate access for repair and maintenance. An inspection and monitoring program is proposed on a 5-year schedule to locate vegetation growth that could have the potential to interfere with underground line maintenance. Vegetation determined to be a threat would be removed. Vegetation control would mainly be achieved by mowing with tractor-mounted brush mowers, and by controlled herbicide application (as specified in the EWP, Appendix B).

3.6 CONCLUSION

On March 9, 2006, NYPA received approval from the APA to construct the transmission line on a route which in the northern segment generally stays within the Route 56 corridor but avoids Forest Preserve land by traversing private property. Routing the transmission line through private property requires the line to be longer with more vegetation clearing, to cross more wetlands and streams, to be less accessible for construction and operation, and to have less visual impacts than routing the transmission line so that it crosses Forest Preserve lands. For these reasons, the East and West Alternates have been developed and evaluated. The Underground Alternate was considered as a means of avoiding impacts to wetlands and areas of unstable slope conditions, minimizing vegetation clearing, and reducing visual impacts along Route 56 within the Forest Preserve. This alternate has been deemed infeasible due to the complexity of construction and its high cost (over three times the cost of the Bypass).

The East and West Alternates have lower construction costs than the other considered routes. In this Section of the SDEIS, we have discussed several of the advantages of the Route 56 Alternates through the Forest Preserve. The West Alternate has a lower construction cost than the East Alternate and, because it is set back from the roadway and screened by vegetation, it requires less traffic mitigation and has minimal visual impacts north of the Forest Preserve. The private lands along the northern section of both the East and West Alternates are held by the same land owner. The West Alternate is the route favored by this landowner because it is the best use of the land. For this reason, and based on the aforementioned factors, the West Alternate has been selected as the Preferred Route. But the Applicants will build the permitted Bypass Route if other alternatives cannot be constructed in the time frame to meet the required in-service date of Winter 2008/2009.

Table 3.1-1: Alternates Analysis

Alternate	Total Length Miles	Total Clearing Acres	Wetlands Permanent Fill Acres	Forested Wetlands Cleared Acres	Non-Forested Wetlands Cleared Acres	Regulated Stream Crossings	Non-Regulated Stream Crossings	Estimated Number of Trees Removed in ROW	Endangered Species Habitat	Visual Impacts	Cultural Sites	Engineering and Construction	Land Acquisition and Construction Cost	Number Private Properties Affected
Bypass Route	6.9	55	0.18	3.93	0.87	4	3	Private 19,000 FP 0	Spruce Grouse	Low[1]	1	Difficult[5]	$3.2 million (constr) + $76,500 (land) = $3,276,500	**4**
Route 56 East Alternate	3.39	15	0	1.1	0.16	2	0	Private 1,762 FP 1,926*	No	Moderate[2]	0	Difficult/ Standard[6]	$1.6 million (constr) + $39,100 (land) = $1,639.100	**4**
Route 56 West Alternate	3.4	19.5	0	1.1	0.16	2	0	Private 3,077 FP 1,926*	No	Low/ Moderate[3]	0	Standard[7]	$1.5 million (constr) + $40,550 (timber + replacement land) = $1,540,550	**3**
Underground Alternate	3.39	2.6	0	0	0	2	0	Private 658** FP 1,926*	No	Low[4]	0	Complex[8]	$11.8 million (constr) + $30,000 (FP) + $9,100 (north of FP) = $11,839,100	**4**

* Includes trees in transmission line ROW in Forest Preserve; does not include trees in DOT ROW in Forest Preserve.
**Includes trees only in DOT ROW in Forest Preserve.
[1]Minimally visible at intersection with Rt. 56, visible only from recreational trails and properties in the area.
[2]Visible from Rt. 56; new transmission facilities south of Coleman parcel in Forest Preserve.
[3]Not visible from Rt. 56 north of the Forest Preserve; visible from Rt. 56 on remainder or alignment; new transmission facilities south of Coleman parcel in Forest Preserve.
[4]Visible only north and south of Forest Preserve.
[5]Cross country route; portion closed May 1-July 31; minimal erodible soils on steep slopes
[6]Standard construction; some erodible soils on steep slopes, traffic mitigation needed north of Forest Preserve
[7]Standard construction; some erodible soils on steep slopes, no traffic mitigation needed north of Forest Preserve
[8]Trenching and drilling construction methods

SECTION 4
ENVIRONMENTAL IMPACTS OF CONSTRUCTION AND MITIGATION MEASURES

SECTION 4 ENVIRONMENTAL IMPACTS OF CONSTRUCTION AND MITIGATION MEASURES

The following discussion concerns the Route 56 West Alternate, which has been selected as the Preferred Route (see Section 3.0). The mitigation measures described below include, but are not limited to, the methods available and/or proposed for management of construction impacts of the West Alternate.

4.1 SOILS AND SLOPES

Soil disturbance would be kept to a minimum during West Alternate construction. Most soil disturbing construction activities would occur during drier summer months. Tree clearing is proposed to take place in April; hole excavation from May through August; pole framing and installation from July through September; and conductor stringing from August through October. Streams and wetlands would be avoided to the greatest extent possible. Unless carefully managed, however, soil erosion is possible during construction activities. To minimize the potential for soil erosion, the Applicants have proposed the mitigation techniques as described in the EWP, Appendix B Soil erosion is a function of soil texture, vegetative cover and slope. Finer textured soils tend to be more erodible than more coarse textured soils. Soils that occur only on nearly level slopes may have soil textures that are highly erodible, but because the soils are nearly level, the erosion hazard is very low while the erodibility may be relatively high. In areas where steep slopes and erodible soils coincide, push braces would be used to provide additional support to the poles. The design of the transmission facilities would take these conditions into consideration, and the structures most appropriate for particular soil and slope conditions would be used.

Clearing would occur within the 75-foot transmission line ROW on private property along Route 56 outside of the Forest Preserve on the West Alternate, or within the 32-foot transmission line ROW on Route 56 within the Forest Preserve. Temporary and permanent erosion control measures, as specified in the EWP, would be implemented as appropriate, for grading and construction activities. Erosion and sediment control devices that would be implemented include stabilized construction entrances, use of geotextiles, log culverts, French drains, silt fences, mulch, seeding, rolled erosion control products, turbidity curtains, check dams, sediment basins and dewatering devices. The application of these devices is described in detail in the EWP.

To manage potential impacts on soils from construction activities, erosion control practices would be implemented that are tailored to the specific conditions of each area of concern. Resources and measures that would be used, as appropriate to site-specific conditions, to minimize impacts resulting from construction include the following:

- Stabilized construction entrances would be installed at the entrance/exit of a construction site in order to reduce tracking dirt and debris onto public roadways. Construction entrances are a temporary measure and would be removed when construction is complete.
- Geotextile (rolled erosion control products) may be used for temporary stabilization on disturbed slopes where temporary seeding does not provide sufficient stabilization. These fabrics may also be used in the construction of work trails and temporary access points.
- Corrugated metal or plastic culverts constructed as part of the West Alternate, depending on weather and field conditions, may be permanent structures that would continue to route runoff into natural channels.
- French drains may be used as water equalization devices for standing water or spring seepage, depending on weather and field conditions. These also may be permanent structures that would remain in the work trail after construction.
- Silt fencing would be used as a temporary sediment control measure during grading and construction of the 46 kV line ROW. It would be installed along the contour of the land

downstream and adjacent to unstabilized soils, to prevent sediment laden runoff from entering downslope areas, streams and wetlands.

- Mulch would be used as temporary stabilization in conjunction with seeding, or used as temporary stabilization of disturbed slopes. Work trails along the prepared ROW will be constructed of wood chips. Wood chip work trails minimize soil disturbance along the ROW. Straw mulch would not be used unless absolutely necessary. In accordance with APA regulations, hay would not be used in the Project Area.
- Seeding would be used as a temporary and a permanent method to stabilize disturbed areas and return them to a native cover. Conservation seed mixes approved by the St. Lawrence County NRCS would be used. As preferred by APA, the grass varieties selected for use would not be invasive. The preferred seed mix, which conforms to the "Development in the Adirondack Park" guidelines is the Adirondack mix, a combination of 43.6 percent boreal creeping red fescue, 34.3 percent perennial rye grass, and 17 percent Canadian bluegrass.
- Rolled erosion control products made from biodegradable materials, may be installed as temporary or permanent stabilization to cover bare and newly planted soil on slopes of over 30 percent as well as open areas, or drainage swales.
- Turbidity curtains would be used as a temporary control measure when work is required in or near a water body or in stream channels when directional drilling is used. Its purpose is to catch ancillary siltation that may enter a water body from the work area.
- Rock check dams may be used as temporary or permanent control devices to slow stormwater runoff in a ditch line. Sand/gravel bags may be used to create a check dam in a ditch line or to construct a temporary sediment basin.
- Sediment basins would be used to protect surface water from runoff produced during grading or construction activities. They would be temporary in nature; however, some may be left as permanent treatment devices as determined in the field during construction activities. Locations of temporary sediment basins would be determined prior to construction and would be spaced according to calculations based on soil type and slope.
- Silt bag dewatering devices may be used at bore sites, bore pits and receiving pits. These are temporary devices used during boring. Sediments collected during dewatering may be removed from the bags and reused on site for grading or fill.
- Waterbars may be used as a permanent erosion control measure to gradually turn water out of an up-gradient ditch and across a road. Waterbars are usually placed on a diagonal across a work trail, with use and placement based on the height of surrounding embankments, natural topography, the presence of desirable vegetation, road surface material and its tendency to erode, and other man-made features such as pole locations.

To ensure the long-term stability of the ROW and adjacent properties, following construction, disturbed areas would be restored to as natural a state as practicable using conservation seed mixes comprised of native species and low growing native plants. In accordance with APA regulations, hay bales would not be used in order to avoid the introduction of invasive species. Straw may be used to a limited extent.

The soil series along the West Alternate north of the Forest Preserve, on the west side of Route 56, are the same as those found along the East and Underground Alternates, with one exception. The mapped soil complex with the Map Unit ID 021 (Dawson-Fluvaquents-Loxley soil complex) is found along this portion of the West Alternate, but does not occur along the East and Underground Alternates. The remainder of the West Alternate follows the same route as the Underground and East Alternates. The areas where the mapped soil complexes along the West Alternate have high erosion potential and are located on slopes ranging from 15 to 30 percent make up approximately 25 percent of the total route. In the areas where the slope is 30 percent or greater, approximately 4 percent of the total ROW crosses

potentially highly erodible soils on these slopes. In the areas where slope is greater than 15 percent, mitigation measures would be used during construction. Such mitigation measures would include rolled erosion control products and geotextile erosion control fabrics, among others listed above. As stated before, erosion control practices would be implemented that are tailored to the specific conditions of each area of concern.

4.2 FOREST COVER

Forested uplands account for the greatest amount of land area to be impacted by construction activities. The existing vegetation within these areas is primarily made up of second or third generation deciduous, coniferous, and mixed forest communities. The direct impact to these areas as a result of ROW clearing would be the conversion of successional forest to herbaceous and open shrub cover. In addition, the removal of existing canopy species would increase moisture loss and surface temperature within the ROW. These impacts would be greatest on the west side of Route 56 north of the Forest Preserve, which would be off-road, new construction where the landscape is unbroken forest and there is currently no existing ROW. Following construction activities it is expected that natural regeneration of vegetative species would occur; therefore, the resulting plant community is expected to comprise of early successional low shrubs and young trees that may be selectively managed every five years.

Existing roads, improved trails, and private driveways would be used to gain access to the ROW on the west side of Route 56 north of the Forest Preserve. Where access to the ROW cannot be achieved via existing roads, a 12-20 foot wide work trail would be constructed of native subsoil materials. Work trails would also be constructed inside the ROW and serve as an access route between transmission line structures and used during construction and maintenance activities. The access road may be stabilized with wood chips as described in the EWP.

In addition to direct impacts from vegetation clearing, there could be secondary effects on vegetation that is not cleared during construction. Construction of the ROW through forested areas would create vegetation edges where none previously existed. This may expose the species remaining on the edge of the ROW to increased levels of sunlight and wind, which could increase moisture evaporation and wind throws. This could result in a change in species composition adjacent to the ROW, were species adapted for open, dry habitat with direct sunlight may begin to establish.

Within the Project Area, only two invasive species, common reed and Japanese knotweed, were documented along the ROW during wetland field efforts. The threat of dispersal and introduction of invasive plant species like common reed, purple loosestrife, and Japanese knotweed during construction activities would be prevented by adhering to the construction techniques detailed in Section 4.2.1 of the EWP. The Applicants would continue to monitor and quarantine invasive species as necessary, and as required by, the “Right of Way Management Plan, Invasive Plant Species Management Addendum.”

Potential impacts to forested wetlands are similar to impacts to forested upland areas and are mainly associated with the change from forest vegetation to that of scrub-shrub and emergent vegetation. Since the composition of wetland vegetation is heavily dependent upon hydrology, it is important to avoid rutting of wetland soils by construction equipment. Responsible construction techniques such as exploiting existing roads for access to wetland sites and the use of matting, as detailed in Section 4.4.2 of the EWP, would aid to minimize rutting. Woody wetland vegetation that must be cleared during construction would generally be left were it falls, unless it is feasible to remove it by use of a winch line without causing damage to the wetland.

Non-forested areas within the ROW consist of emergent and scrub-shrub wetlands, residential areas, recently logged lands, and existing maintained ROW. Impacts to non-forested wetlands and areas already disturbed by logging are expected to be short term and the vegetation should return to pre-construction conditions in one to two growing seasons. The impacts to maintained ROW would vary depending on the

width and the type of vegetation adjacent to the existing ROW. In many of these areas the vegetation consists primarily of various grasses and weeds commonly used for roadside stabilization.

The width of clearing along Route 56 would be wider than the current Route 56 roadway ROW. The tree clearing along the Route 56 ROW would be either 32 feet from the centerline adjacent to Forest Preserve lands or 37.5 feet from the centerline on private lands, increasing the overall width of the ROW. However, the cleared ROW of the portion of the West Alternate north of the Forest Preserve would be between 100 and 400 feet off the roadway, thereby retaining the existing ROW width on that portion of Route 56. There are vegetation edges along the existing Route 56 maintained ROW; therefore, ROW clearing for the West Alternate is not expected to contribute to a change in species composition. On the remainder of the West Alternate ROW, detectable changes in the forest cover would depend on the quality of the forest impacted. In the areas where the ROW has been maintained and managed, the tree stands may be less mature; therefore, the loss of tree cover would be less striking. According to the "Adirondack Atlas" (Jenkins 2004), the Project Area was part of agricultural lands and areas affected by forest fires prior to 1916. These areas were subsequently planted with pines, and natural re-growth occurred where planting did not occur. In the Forest Preserve where cutting is prohibited, the trees tend to be larger. There, the loss of large trees as part of the ROW preparation would be more conspicuous. Regardless, conversion of forested lands to herbaceous and open shrub cover as a result of clearing along an existing, maintained ROW would not be as significant as clearing in unbroken forest.

For a West Alternate to have an open space impact, the change in the environment must be perceivable and at a level of impact that is readily apparent to the public. Commitment of the land to a wider utility corridor or to a new utility corridor does not change the open space characteristics of the area. Open space, or the image of open space, is a development pattern that preserves greenspace to an extent that the undeveloped landscape is the dominant portion of the setting. Open space can range from untouched forest to an agricultural setting that includes necessary agriculturally related buildings or facilities. The transition from developed lands to undeveloped properties is an important component of open space, as these areas show the changes in the environmental conditions. The development of a wider ROW that involves pushing the tree line back from the roadway does not change the transition from developed to undeveloped land. The new tree line edge would remain a definitive beginning of the undeveloped land and would not alter the overall context of the mixed forest tree species.

The customary means of determining impacts to Forest Preserve lands is to assess the number of trees to be cut. Three separate field investigations were conducted to determine the number of trees to be cut on the Route 56 Alternates. The complete field reports are included in Appendix E, "Tree Count Estimates." Approximately 5,003 trees would be cut in the West Alternate ROW, roughly one-quarter of the number of trees required for the Bypass ROW. Of those 5,003 trees, 3,077 trees are in the 75-foot ROW on privately owned land and 1,926 trees are in the 32-foot ROW outside of the NYSDOT ROW on Forest Preserve land.

Table 4.2-1: Trees to be Cleared within Forest Preserve Lands Along NYS Route 56

Tree Species	Number Counted	Trees within DOT ROW	Trees outside DOT ROW
Abies balsamea (Balsam Fir)	401	68	333
Acer rubrum (Red Maple)	241	39	202
Acer saccharum (Sugar Maple)	173	16	157
Amelanchier sp. (Shadbush)	3	-	3
Betula alleghaniensis (Yellow birch)	9	-	9
Betula papyrifera (Paper Birch)	21	6	15
Betula populifolia (Gray Birch)	10	1	9

Table 4.2-1: Trees to be Cleared within Forest Preserve Lands Along NYS Route 56

Fagus grandifolia (American Beech)	85	5	80
Larix laricina (Tamarack)	170	21	149
Malus sylvestris (Wild Apple)	1		1
Ostrya virginiana (Hop Hornbeam)	9	1	8
Picea mariana (Black Spruce)	7	2	5
Picea rubens (Red Spruce)	64	15	49
Pinus resinosa (Red Pine)	464	254	210
Pinus strobus (White Pine)	540	83	457
Pinus sylvestris (Scotch Pine)	96	96	-
Populus balsamifera (Balsam Poplar)	18	-	18
Populus grandidentata (Bigtooth Aspen)	67	18	49
Populus tremuloides (Quaking Aspen)	96	17	79
Prunus serotina (Black Cherry)	107	16	91
Thuja occidentalis (Eastern White Cedar)	2	-	2
Totals	2,584	658	1,926

The Project's main purpose is to deliver power to the Tri Lakes region. Power can only be delivered reliably when the line is clear of obstructions and danger trees. To ensure this level of reliability, it is necessary to clear danger trees existing outside of the 32 foot ROW in the Forest Preserve as soon as clearing for the line and pole placement are complete. This would provide a dependable transmission line immediately after it is energized.

The northern 1.0 mile of the proposed route along Route 56 is located on private lands and would consist of a 75 foot wide ROW with danger tree rights obtained for an additional 50 to 60 feet on either side of the ROW. Where danger tree rights have been obtained on private lands, all trees that are of a height that could potentially contact the transmission line would be removed, leaving smaller trees, underbrush, and shrubs. On lands adjacent to the Forest Preserve, danger trees also must be removed; however a more selective process would be employed, as shown in Figure 12, "Selective Clearing."

Figure 12 illustrates, in a schematic, the profile of the selective clearing concept. The schematic illustrates the concept on a flat plane. Figure 13, "Selective Clearing Simulation," shows how the final ROW adjacent to Forest Preserve would appear after danger trees have been cleared. As shown in Figure 12, it is necessary to protect the wire security zone. The wire security zone is defined as the air space around the conductor, which must be free of all plant growth to insure reliable continuity of service. This area is a buffer zone to prevent the electrical faults between the 46kV line and surrounding vegetation. The extent of the wire security zone is measured from the conductor at 257º final sag and at the 30º blowout position. For a 46kV line, the recommended wire security zone is 15 feet.

Between June 13 and 15, 2007 and on July 24 and 25, 2007, fieldwork was conducted along Route 56 on Forest Preserve lands. Danger trees were counted, resulting in an estimate for the entire length of the Route 56 Alternate routes in Forest Preserve of 1,005. Danger trees were chosen based on height only, and species recorded.

The Agreement authorizes the removal of danger trees outside of the transmission line ROW on Forest Preserve lands. The limited acreage available for construction of the line on lands to be removed from Forest Preserve has severely constrained design; therefore, a more flexible definition of a danger tree is necessary. For this reason, a danger tree outside of the six acres is defined as "any tree that could invade the wire security zone (within 15 feet of the wire)," and must be removed for reliability purposes.

4.3 WETLANDS AND STREAMS

4.3.1 Streams

The majority of the stream crossings occur on streams that are perennial, but which are mostly less than 5 feet wide. The West Alternate crosses only two streams. Potential impacts to surface waters are likely to be minimal and occur during the construction. Construction methods that could cause impacts include clearing and grading of stream banks. Construction methods employed to minimize impacts to surface waters include silt fencing, dewatering structures, silt bags, and mats according to permit specifications and the plan drawings as described in Appendix B, EWP.

On some crossings, it may be necessary to cut or remove vegetation. Many streams crossed by West Alternate facilities are shaded and less than 10 feet wide. In these areas, impacts of sun exposure to in-stream temperature would be minimal because these areas would be allowed to revegetate with herbaceous and low growing shrubby vegetation. Also, low-growing vegetation and ground cover immediately adjacent to stream banks would be preserved. In addition, reseeding would occur within 14 days of the crossing. Native plantings may be used to help stabilize banks and any wetland disturbances to reduce degradation in environmentally sensitive areas

Use of equipment for clearing and grading of banks, and land construction for ROW access could cause compaction of soil, resulting in increased surface runoff of water into streams and other surface waterbodies. This increased runoff could cause erosion of streambanks and an increase in turbidity and sedimentation in waterbodies. Because the length of streambank that would be cleared would be relatively narrow (75 feet on private lands and 32 feet from the centerline adjacent to Forest Preserve lands) and would be revegetated, there would not be significant impacts from runoff. Water quality and quantity calculations were not required for the West Alternate because there are no new impervious surfaces.

In addition, there would be unavoidable clearing impacts to riparian vegetation. Transmission facilities have been engineered as practicable to avoid pole placement in stream banks. Safe, reliable electrical transmission requires a vegetation-free wire security zone. To compensate for streamside clearing, a complex of sun tolerant low growing grasses, forbs and shrubs would be encouraged in accordance with the National Grid long-term vegetation management plan.

Access through streams would be limited to tracked equipment and the use of brush mats where necessary in accordance with permit specifications and dates. Where water levels are high but temporary as a result of a recent rain event, the crossing device would be installed after water levels drop to normal. During installation, care would be taken to avoid damaging bank vegetation that does not require removal or modification. Vehicular traffic through all streams would be kept to a minimum and limited to designated crossings.

Refueling vehicles and storage of fuel, oil, or other fluids near surface waters could create a potential for contamination if a spill were to occur. This hazard would be eliminated by restricting the refueling of construction vehicles and the storage of hazardous materials to areas further than 100 feet from all surface waters.

Stream banks disturbed during construction would be restored to their original contour and adequately stabilized, to the greatest extent practicable. Procedures used to ensure stabilization would include segregation of excavated soils and restoration to original horizons, revegetation with conservation grasses and clover, installation of erosion control blankets on all exposed surfaces following final grading, use of transplanted wild plantings to provide additional bank stabilization, and use of rip-rap to stabilize stream banks that exhibit chronic erosion problems.

4.3.2 Wetlands

Table 4.3-1, "Wetland Crossings – West Alternate" presents data on each of the wetland crossings, expressed in terms of acres of new ROW or linear feet. Acreage of wetland was determined by directly measuring the area of the wetlands within the proposed ROW. Impacts that would occur at these areas are primarily associated with vegetation clearing necessary to prepare the ROW and construct the facilities. In these instances, clearing is removing tree canopy and some of the shrub layer but leaving the lower growing herbaceous plants. In locations where the proposed 46 kV line does not follow an existing distribution line, a new 75-foot-wide ROW would be cleared outside of the Forest Preserve, and a 32-foot ROW would be cleared along Forest Preserve lands. It was assumed that along existing distribution lines, ROW is already cleared and maintained on a regular basis by National Grid, typically 12.5 feet on either side of the centerline of the existing ROW. The addition of the 46 kV line (overbuild) would require an additional 25 feet of clearing beyond the 12.5 feet on either side to maintain a 75-foot ROW. In these situations only the new clearing (beyond the 12.5 feet on either side of the centerline) was considered a new impact to wetlands and is presented in Table 4.3-1.

Cover classes were assigned by determining the most abundant cover class in the wetland. A wetland was assigned multiple cover classes if more than one class comprised at least 30 percent area coverage. A summary of wetlands crossings by cover class for the Route 56 West Alternate is presented in Table 4.3-2, "Summary of Wetland Crossing by Cover Class – West Alternate."

A total of 1.26 acres, all the result of wetland clearing, would be impacted by 1,592 linear feet of ROW crossings (see Table 4.3-2). Wetlands with a combination of forested and shallow emergent marsh covertypes are most abundant in this route, occupying 0.83 acre or ±66% of the total. The next most abundant covertype is swamp forest, with 0.27 acres (±21%). The remainder of the impacted area is occupied by emergent marsh, with 0.10 acre (7.9%) and by shrub swamp, with 0.06 acre (±5%). In the PEM and PSS cover types, the vegetation is short which lessens the need to clear. There would be no permanent fill in wetlands on the Route 56 West Alternate.

Table 4.3-1: Wetland Crossings - West Alternate

ID	Wetland Class	Covertype[2]	Overall Functions/ Values Score[1]	Wetland Area in ROW (acres)
S11-1A/B	PEM	shallow emergent marsh	2	0.05
S11-1D	PFO	balsam fir-tamarack swamp	2	0.27
S11-1E/F	PSS	shrub swamp	2	0.06
S11-1G/H/I/J	PFO/PEM	balsam fir-tamarack swamp	2	0.53
S12-1A	PEM	shallow emergent marsh	2	0.05
S12-1B	PFO/PEM	balsam fir-tamarack swamp	2	0.30

[1] The wetland value ratings were determined from guidance provided in the Adirondack Park Agency Rules and Regulations, Part 578. This rating system assigns a value of one to four with one being the highest. The value ratings indicate the overall worth of a given wetland based on wetland cover type, and specific intrinsic and extrinsic wetland characteristics as defined in Parts 578.5 and 578.6.

[2] In some cases, the wetland class and covertype data presented in this table differ from those presented in the Draft Environmental Impact Statement for the Tri-Lakes Reliability Project (Sept. 29, 2005). This represents an update of data for certain wetlands as a result of more recent fieldwork and a revision of covertype names to bring them in conformance with those described in section 2.3 of this document.

Wetland impacts on the West Alternate include only ROW clearing. Wetland impacts have been avoided and minimized to the greatest extent practicable through careful line and work trail routing. Section 578.3(p) of the APA Act does not regulate clearing of wetlands less than three acres. Using the calculated

wetland clearing impacts and the EWP mapping, it was determined that there would be no impacts equal to or greater than 3 acres to any one wetland.

Table 4.3-2: Summary of Wetland Crossings by Cover Class - West Alternate

Cover Class	Linear Feet	Acres
PFO	235	0.27
PSS	80	0.06
PEM	265	0.10
PFO/PSS		
PFO/PEM	1012	0.83
PSS/PEM		
PFO/PSS/PEM		
Total	1592	1.26

4.4 CULTURAL RESOURCES

4.4.1 Archeological Resources

The West Alternate would not require any avoidance measures because there have been no archeological sites identified on this route. However, West Alternate construction techniques could involve ground disturbing activities that have the potential to impact undisturbed human remains. If ground-disturbing activities result in the exposure of unanticipated human remains, work would stop temporarily in the immediate vicinity of the discovery. National Grid would consult with OPRHP to determine the appropriate steps to evaluate the discovery and to develop acceptable mitigation measures. Construction activities would resume only following written confirmation from the OPRHP that the mitigation measures were satisfactorily implemented.

4.4.2 Architectural and Historical Resources

The Forest Preserve is an NHL property based on its political history. The West Alternate would use six acres of Forest Preserve lands for construction of the 46 kV transmission line. However, construction of the West Alternate would not impact the NHL status of the Forest Preserve. The only impact to the NHL (removal of Forest Preserve lands) would be mitigated by the addition of private lands into the Forest Preserve. The private parcel proposed to be added to the Forest Preserve is located along the south branch of the Grass River within the Town of Clare. Construction activities are not expected to have any effect on the NHL.

4.5 LAND USE

4.5.1 Land Use Classification

Construction of the West Alternate would not significantly impact the land use of the area. Construction would not encourage a shift in existing land uses nor encourage new land uses in the area. The only changes in land use would occur in the Forest Preserve south of the Coleman parcel where the new 46 kV line would be constructed where no electric lines currently exist. In these situations, land would be cleared for the ROW and maintained as a dedicated utility corridor. Wherever possible, to reduce overall clearing and land use impacts, the ROW follows existing distribution corridors.

Land along the West Alternate is classified by APA as Rural Use and Resource Management. In Rural Use and Resource Management lands, major public utilities have a secondary compatibility rating. Lands along state highways adjacent to Rural Use and Resource Management areas are regulated by the APA as critical environmental areas (CEAs). In locations in the travel corridor's CEAs where poles and local distribution lines already exist, the construction of the West Alternate transmission facilities, including higher poles and a wider ROW, would not significantly alter the character of the ROW. An offset from the NYSDOT ROW was considered, but was rejected because of the need to remove more land from the Forest Preserve and of the closer proximity of the transmission line ROW to the River Area.

The lands required for the transmission line ROW would be removed from the Forest Preserve by the proposed Constitutional Amendment. Part of the Constitutional Amendment requires that other lands be added to the Forest Preserve from private land stock. The land use classification of these lands would be changed from private to state-owned Forest Preserve.

4.5.2 Route 56 Corridor History and Regulatory Setting

4.5.2.1 Impacts

The 46 kV transmission line would occupy land that is currently part of the Forest Preserve. When this land comes under private control by National Grid it would have to be classified in accordance with Section 805 of the APA Act. The possible classification is either as Resource Management or as Rural Use.

Reclassification as Resource Management or Rural Use would help maintain the open space character of the park. The six acres in the Forest Preserve that would be reclassified are not sufficient to allow a principal building right. As a secondary compatible use in Resource Management and Rural Use areas, and generally compatible with the transportation corridor along which it is located, the transmission line would be in conformity with APA guidelines and would have minimal impacts on nearby uses (Section 805(3)(a)).

A major characteristic of the 46 kV ROW is that it would be immediately adjacent to the NYS Route 56 corridor. This would be a highly compatible with the character of the immediately surrounding land. The Route 56 corridor has limited wetlands and water courses, and does not contain unique features. The overall quality of the land along Route 56 is compatible with development, is not fragile, and does not provide expansive vistas of undeveloped land characteristic of open expanses of land. Therefore, the West Alternate would not create a significant change to the character of the corridor.

4.5.2.2 Applicable Zoning Regulations

No zoning changes or variances are required for construction of the West Alternate. The West Alternate is in compliance with local ordinances. The West Alternate would not alter the zoning or require a variance in the Town of Colton.

No significant impacts on land use or zoning are anticipated during construction of the West Alternate; therefore no mitigation measures are proposed.

4.5.2.3 Shoreline Restrictions and Scenic and Recreational Rivers Act

The West Alternate does not cross or go along any waterway that is subject to Part 575, Shoreline Restrictions, of the APA Rules and Regulations, or Section 806, Shoreline Restrictions, of the APA Act.

4.5.2.4 Access to Forest Preserve Lands

The Applicants would not provide formal access at any location along Route 56 in the Forest Preserve. Official access to the Raquette River exists as a marked trail from Route 56 between proposed poles 223

and 225; however, there is no formal parking along Route 56. No formal parking currently exists, and all current use is at the risk of the user when accessing this trail, or any other part of the Forest Preserve from Route 56. The Applicants would not encourage access to the Raquette River along the Route 56. It has been determined that encouraging access by constructing pull off areas is not safe on the West Alternate because of high traveling speeds, short sight distances, and curves in the road.

4.6 VISUAL RESOURCES

Visual impact is assessed in terms of the anticipated change in visual resources, including whether there would be a change to the visual character or quality of significant scenic and aesthetic resources. The Visual Impact Assessment for the West Alternate is attached as Appendix D. Construction activities that may result in visual impacts include ROW clearing, access road construction, installation of poles, conductor stringing, traffic management and horizontal directional drilling and trenching. These potential impacts are discussed below.

The northern one mile of the West Alternate is offset from the Route 56 corridor several hundred feet. Therefore, the visual impacts associated with construction activities are confined to the two access locations along Route 56. Visual impacts during construction along the eastern edge of Route 56 would be associated with ROW clearing, grubbing, installing poles, stringing conductors and placement of traffic management setups in accordance with NYSDOT specifications. In general, construction activities would be very similar to routine roadway and local distribution ROW maintenance that occurs along Route 56 from Pole 182 to the end of Coleman's parcel. Several pieces of construction equipment would be present along the corridor for a few months. Depending on the time of the year, exposed soils could result in fugitive dust. This fugitive dust would be controlled by periodic wetting as described in the EWP.

4.7 TRAFFIC AND TRANSPORTATION

4.7.1 Construction Equipment and Traffic

An analysis of traffic impacts associated with the construction of the West Alternate must encompass clearing, material delivery, and installation activities because all of these activities would require travel on or work adjacent to Route 56. Detailed descriptions of construction practices to be used for construction of the proposed transmission line are presented in the EWP, Appendix B to this SDEIS.

The ROW would be cleared of all trees and brush. Danger tree removal outside of the ROW would be conducted in accordance with the EWP. The largest number of pieces of heavy equipment would be mobilized during the ROW preparation phase. This would include the use of normal tree harvesting equipment, including trucks, skidders, tree shears, and whole tree chippers. Clearing equipment would be delivered to the site by truck. The equipment would remain on site until the ROW preparation phase is completed. During non-working hours, the equipment would be positioned on the ROW to avoid intruding onto the roadway.

Construction material would be stored off-site in marshalling yards near the Project Area. From the marshalling yards, flat bed trucks would be used to haul the material to the site. Approximately 71 poles would be installed on the West Alternate. Framing, attaching the insulators and hardware to the pole, would be completed on the ground prior to erection, or in the air following installation of the pole. An earth auger or backhoe would be used to excavate the hole for the pole. A small crane would be required to lift the pole off the ground while the hole is being excavated, installing the pole into the excavated hole, and supporting the pole while the hole is backfilled. Installation equipment would remain on site until the installation phase is completed. During non-working hours, the equipment would be positioned on the ROW to avoid intruding onto the roadway.

The following list describes the approximate number and type of construction vehicles that would be on or adjacent to existing roadways during construction:

- Clearing (two crews)
  - 3-4 Log Trucks
  - 3 Pickup Trucks
  - 1 Service Truck
  - 2 Skidders
  - 1 Shear
  - 1 Chipper
- Pole hole excavation (two crews)
  - 1 Auger Truck
  - 1 Bedrock Drill Truck
- Pole setting (4 crews)
  - 4 Bucket Trucks
  - 4 Pickup Trucks
- Line stringing (2 crews)
  - 2 Bucket Trucks
  - 2 Pickup Trucks
  - 2 Pullers

The construction of the transmission line would require a lane closure on Route 56 in the vicinity of the ongoing activity. The closure would be announced by appropriate signage along the roadway and clearly marked with cones or similar barriers. A flag man would direct traffic around the closure. During non-working hours, the closure signs and barricades would be removed and stored in the ROW.

Construction of the West Alternate would result in minor traffic delays and additional vehicular traffic on the local roadway network. Construction would cause short-term lane closures along the Route 56 corridor. Most of the large scale land clearing and pole setting activities would occur between April and September. This schedule would impact traffic during the summer months when seasonal visitation is highest. However, notification of any anticipated lane closures would be posted and provided to local media outlets for distribution prior to construction of that section of ROW. Detour routing of traffic would not be necessary because the work along Route 56 is not anticipated to require closure of the entire roadway, and lane closures are not anticipated to cause extensive delays for motorists. Lane closures would be clearly marked with cones or similar barriers, and flag personnel would direct and control traffic. In addition, construction workers would be required to park in one of the staging areas identified for the Project and would be transported to the construction sites as a group.

SECTION 5
ENVIRONMENTAL IMPACTS OF OPERATION AND MITIGATION MEASURES

SECTION 5 ENVIRONMENTAL IMPACTS OF OPERATION AND MAINTENANCE

5.1 SOILS AND SLOPES

Operation of the West Alternate is anticipated to have no effect on soils within the ROW or on adjacent properties. Once operational, the only activity that would occur on the ROW would be routine maintenance and emergency repairs to the 46 kV line and regular vegetation maintenance (mowing, brush cutting, etc.), neither of which are soil disturbing activities.

5.2 FOREST COVER

5.2.1 Danger Tree Removal and Maintenance

Public Service Commission Case 04-E-0822 requires enhanced transmission right-of-way management practices by electric utilities. The case states that "trees outside the ROW (that due to their condition or location) pose a particular danger to the transmission facility are what the utilities should designate and track as "danger trees," and that "utilities shall establish programs as recommended by staff to track and remove such danger trees." The order further states that "each utility must exercise its full rights for vegetation management (and require such rights where necessary to ensure system reliability) and not allow either vegetation or other incompatible uses to threaten lines." The order is clear that there is zero tolerance for vegetation caused outages. It is essential that the danger trees outside of the ROW and within the Forest Preserve be managed immediately following construction to ensure reliability.

National Grid generally requires that all danger and hazard trees be cleared outside of a transmission line ROW to maintain reliability. In the case of the West Alternate ROW on Forest Preserve lands, this would require an additional 50 feet of clearing, at a minimum. A selective clearing method would be used adjacent to Forest Preserve lands to the greatest extent practicable. All trees outside of the ROW that could enter the wire security zone would be considered danger trees and would be removed.

Reliability is the key to the success of this transmission line, and reliability cannot be achieved without clearing danger trees along the length of the ROW. This includes the portion of the ROW that is adjacent to Forest Preserve lands. No allowance for danger trees would be made in the Constitutional Amendment, therefore, danger tree removal must be included as part of the initial administrative action that allows for construction of the line. The Agreement authorizes danger tree removal in the Forest Preserve. Cutting danger trees during construction would relieve National Grid from continual maintenance of this portion of the ROW through multiple clearing cycles and more importantly would virtually eliminate the chances of fallen trees creating outages.

The Agreement authorizes removal of danger trees outside of the 32 foot transmission line ROW on lands that remain in the Forest Preserve. After ratification of the Constitutional Amendment, the mechanism for danger tree maintenance on Forest Preserve lands would be a temporary revocable permit (TRP) from the NYSDEC. A TRP is required from the NYSDEC for use of state lands for certain purposes, including the use and maintenance of ROWs or easements on Forest Preserve lands.

5.3 WETLANDS AND STREAMS

5.3.1 Streams

Impacts to surface water quality as a result of the operation of the West Alternate could potentially result from vegetation maintenance activities. These impacts include the potential increase in water temperatures, turbidity, and related adverse effects to local fisheries adjacent to the stream crossings. However, these impacts are expected to be short-term and minimal.

The loss of vegetation that serves to shade surface waterbodies can lead to an increase in water temperatures and related adverse effects to local fisheries. There is an inverse relationship between water temperature and the amount of available dissolved oxygen, a common limiting factor to many fish. For the West Alternate, an inspection and monitoring program is proposed on a 5-year schedule to locate vegetation growth and the presence of "danger trees" that have the potential to interfere with transmission line operation. Vegetation determined to be a threat would be removed. Stream warming is not expected to be an issue during the operation phase of the West Alternate, primarily because the amount of vegetation being removed would not cause great changes in the amount of light penetrating to the ground. The relatively narrow ROW width proposed (75 feet on private lands and 32 feet in the Forest Preserve) and maintenance of a scrub-shrub or herbaceous cover adjacent to streams and wetlands would provide adequate amounts of shade species to help sustain existing water temperatures.

The use of herbicides would be restricted to upland applications to woody vegetation described in the EWP and within designated buffer zones. Herbicides would not be applied in any manner within potable water supplies or wetlands or within 100 feet of wetlands. In addition, herbicides would not be applied during winds greater than 10 miles per hour. Use of these techniques would ensure that the introduction of herbicides into non-target areas is avoided or minimized. Prior to ratification of the Constitutional Amendment, which would remove six acres from New York State-owned Forest Preserve lands, herbicides would not be used in the 32-foot ROW in the Forest Preserve.

5.3.2 Wetlands

The post-construction species composition within wetlands crossed by the ROW is expected to be characteristic of local scrub-shrub and emergent non-forested cover types. Impacts to these areas resulting from 5-year management schedule would be limited to the effects of maintaining low-growing vegetation within wetlands in the ROW. Inspection and monitoring would be conducted along the ROW to determine whether vegetation has reached heights considered to pose a threat to the normal operation of the transmission line. Woody vegetation, in or out of wetlands, that has grown to a height that could potentially compromise the transmission line would be removed or trimmed. However, selective clearing is unlikely to affect the vegetation composition of wetlands within the ROW.

Selective herbicide use would be implemented in accordance with permit conditions and would be restricted by the use of buffer zones around wetlands and waterbodies. These buffer zones would minimize the effects of herbicides on the plant and animal communities in wetlands as well as reduce the possibility of introducing herbicides into wetland systems. Prior to ratification of the Constitutional Amendment, which would remove six acres from New York State-owned Forest Preserve lands, herbicides would not be used in the 32-foot ROW in the Forest Preserve.

The APA, NYSDOT, NYSDEC, and the Adirondack Nature Conservancy have worked together to inventory and control invasive vegetative species in the Park by developing management plans specific to certain locations. Invasive species control was conducted in 2006 in compliance with the Right of Way Vegetation Management Plan. National Grid would follow the guidelines outlined in the invasive species management plans during the operation phase of the West Alternate.

5.4 CULTURAL RESOURCES

It is anticipated that operation impacts to archeological resources would be minimal. Operation and maintenance of West Alternate facilities would have no effect on archeological resources since no additional ground disturbing activities are anticipated to occur. If ground-disturbing activities take place that result in the exposure of unanticipated human remains, work would stop temporarily in the immediate vicinity of the discovery. National Grid would consult with OPRHP to determine the appropriate steps to evaluate the discovery and to develop acceptable mitigation measures. Once the mitigation (which could involve professional archeological data recovery or another alternative mitigation) had been implemented,

the operation activities would resume following written confirmation from the OPRHP that the mitigation measures were satisfactorily implemented.

Operation impacts on architectural resources also are anticipated to be minimal. It is highly unlikely that there would be viewshed impacts as a result of West Alternate operation. No direct impacts to the Forest Preserve are expected due to West Alternate operation.

5.5 LAND USE

5.5.1 Land Use Classification

The West Alternate would have a negative affect on the northern most parcel of this route by limiting the recreational use of the property; however, operation of the West Alternate would not significantly impact land use in the area. Following the Route 56 corridor, the transmission line essentially maintains the current use and minimizes the introduction of utilities among non-utility land uses. Construction of the 46 kV transmission line adjacent to the existing NYSDOT ROW reduces the overall amount of land being committed to development. This expansion of the transportation corridor in Rural Use and Resource Management areas is the type of appropriate use of corridors to consolidate development.

The six acres being removed from the Forest Preserve for the transmission line may be reclassified as Resource Management or Rural Use. Because six acres are less than either of the required minimum lot sizes, no building rights would be associated with this land. In Resource Management or Rural Use lands the construction of a major public utility has a secondary compatibility rating. As a secondary compatible use, it does not change the fundamental character of the area.

The 46 kV transmission line would require the clearing of trees in the ROW. Currently in an area classified as Rural Use there is a local distribution line that ends at the Coleman parcel. This local distribution line is within the NYSDOT ROW and is not subject to intensive management. The 46 kV transmission line would, on the contrary, have a ROW that would be cleared of trees.

A major public utility has a secondary compatibility rating under the Adirondack Park Land Use Plan. Secondary compatible uses “are those which are generally compatible with such areas depending upon their particular location and impact upon nearby uses and conformity with overall intensity guidelines for such areas.” The West Alternate is generally compatible with existing land use, particularly the overbuild portion of the routes, which follows the APA’s guidance regarding the consolidation of utilities. The intensity of the clearing activity has been moderated by building adjacent to the NYSDOT ROW. In the areas adjacent to Forest Preserve, the forest edge would be subject to a restricted level of clearing.

5.5.2 Route 56 Corridor History and Regulatory Setting

There would be no effects on the history or regulatory setting of the corridor from the operation of the West Alternate.

5.5.3 Applicable Zoning Regulations

Zoning regulations do not apply to the operation of the West Alternate.

5.5.4 Shoreline Restrictions and Scenic and Recreational Rivers Act

The West Alternate has only two regulated stream crossings. Further, the West Alternate does not cross any waterbodies that are under the jurisdiction of the New York Wild, Scenic, and Recreational Rivers Systems Act.

At stream and river crossings, small trees and shrubs would be maintained to the extent possible during operation and maintenance of the proposed facilities. Following construction, desirable plants would be allowed to grow.

5.5.5 Access to Forest Preserve Lands

The Applicants would not provide formal access to Forest Preserve lands at any location along the West Alternate. Any use of the existing canoe carry trailhead access point is at the risk of the user and would remain that way once the West Alternate is operational.

One of NYSDEC's action items in the UMP is to negotiate an agreement with the property owners south of the Forest Preserve for an easement across their lands to create an access point and parking facility. If this occurs after the West Alternate is completed, an easement across the transmission line ROW would be required; this would raise safety issues. As part of the action item, if the easement is obtained, the existing canoe carry location, Jamestown Falls Road, would be closed. NYSDEC would continue to maintain access at the existing location in the event that the easement is not feasible. The proposed easement location has inadequate sight distances based on the Transportation and Traffic Engineering Handbook (ITE 1982), which states that stopping sight distances for roads with a design speed of 60 miles per hour must be between 525 and 650 feet. At approximately 600 feet in either direction of the proposed access point, there are hills that do not allow proper sight distances. The Applicants believe that this is not a safe access point and anticipate that NYSDOT would not grant a permit.

5.6 VISUAL RESOURCES

The general character of the Project area, with gently rolling hills and medium to dense forest cover, prevents the opportunity for long, open vistas. As a result, routine operation and maintenance of the West Alternate would result in little visual impact. However, there would be certain activities that may result in localized visual impacts. These activities include: inspection, maintenance and repair, and vegetation management. Also, the structures and conductors would be viewed for the operational life of the West Alternate.

The following are the types of visual impact on the West Alternate:

- Structure configurations;
- ROW widening;
- New transmission line; and
- Tapered ROW edge.

North of Forest Preserve. The northern segment of the West Alternate would be constructed between 100 and 400 feet off of Route 56 and will not be visible from the road ROW.

Northern Boundary of Forest Preserve to the Coleman parcel. The 0.5-mile segment of overbuild that is adjacent to Forest Preserve lands currently has vertical configuration poles. The new overbuild facilities would be horizontal configuration. The horizontal configuration poles would be taller than the existing local distribution poles because they would be carrying a transmission line in addition to local distribution. The horizontal configuration was chosen over the alternative vertical configuration (the other pole type used for the West Alternate) because it allows for a shorter pole height than the vertical configuration and the use of push braces instead of span guys. The segment of overbuild adjacent to Forest Preserve lands would be built using the horizontal configuration poles, and the transmission line ROW would be 32 feet from the centerline. The visual impact of this would be the installation of taller poles and the widening of the existing transmission line ROW. This would be a minimal visual impact because there are existing poles and an existing transmission line ROW.

South of the Coleman parcel. The 1.3-mile segment south of the Coleman parcel would introduce a transmission line with no local distribution and no space for cable or telephone. There is currently no power line along this section of Route 56. The construction of this portion of the line would be an entirely new visual impact within the travel corridor. The visual effect on this segment of Route 56 would be minimized to the greatest extent practicable. This has been done by using horizontal configuration poles, using push braces instead of span guys, reducing the ROW width as much as engineering practices would allow, and keeping the line on one side of the road.

The impact to visual resources is contained within the travel corridor and affects only those traveling in the corridor. There are no views of the new transmission line from outside of the travel corridor. The visual effects of the West Alternate have been minimized to the greatest extent practicable.

Transmission lines and support structures are inspected by aerial and ground surveillance on at least an annual basis. The inspections would be conducted to locate damaged lines, structures, and conductors, and to report any conditions that may adversely affect transmission operations or the area surrounding the transmission facilities. During inspections, the condition of vegetation in the ROWs and access roads would also be noted. Inspection observations would be used to plan routine maintenance and vegetation management. Maintenance and repair to poles and the line would occur as needed. Maintenance and repair work would be visually the same as routine maintenance and repair work on existing lines.

Vegetation would be periodically cleared to maintain adequate clearance from conductors and poles. Vegetation management would include controlling vegetation within the ROW and removing trees adjacent to the ROW that could fall onto the conductors and/or poles. Vegetation control would mainly be achieved by mowing with tractor-mounted brush mowers and restricted herbicide use, as described above in Section 5.3.

Vegetation management would also consist of selective planting to encourage low-growing plans species and discourage tall-growing plant species. Vegetation at ROW edges would be tapered to soften the visual impact of the line corridors. See Figure 12.

5.7 TRAFFIC AND TRANSPORTATION

Operation and maintenance of the West Alternate would have little effect on area transportation systems. It would generate minimal traffic, introducing new vehicles in the area during routine maintenance activities as workers use the local road network to access the ROW. In the event of emergency maintenance activities that might occur during an outage event, additional repair and maintenance vehicles would be using the local road network. This would occur infrequently and have little effect on the local traffic.

SECTION 6
UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

SECTION 6 UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

In both construction and operation of the proposed 46 kV line, adverse impacts are unavoidable. During construction of the proposed facility, impacts such as construction noise, air emissions, traffic delays on Route 56, and temporary displacement of animals and birds, are unavoidable and adverse, but of short duration and/or contingent on mitigation. In the long-term, operation of the proposed line would result in impacts such as changes in land use for newly acquired ROW, loss of forest habitat, and changes in visual quality which would last for the life of the Project.

The following table identifies unavoidable adverse impacts that would occur as the result of construction and operation of the West Alternate Route.

Table 6.0-1: Unavoidable Adverse Impacts

Impact	Long or Short-Term	Mitigation
Erosion and Sedimentation	Short-term for duration of construction	Detailed plans have been developed to minimize erosion and sedimentation.
Displacement of species in edge habitat	Short-term for duration of construction	Displaced individuals would most likely move to adjacent undisturbed areas during construction.
Periodic disturbance and displacement,of wildlife from ROW maintenance	Intermittent long-term	Limit maintenance activities during breeding and nesting seasons. Limited use of herbicides in ROW.
Alteration of wetlands	Long-term	Minimize clearing in wetlands. Protect areas around wetlands. No herbicide applications in wetlands
Clearing or alteration of habitat in ROW	Long-term	Maximize use of previously disturbed road or utility corridors.
Loss of canopy tree species in forested wetlands/creation of scrub shrub wetlands	Long-term	Selective clearing and selective retention of compatible low-growing species would be used in wetland areas.
Change in Land Use for Acquired ROW	Long-term	Maximize use of existing utility and roadway corridors/ROW.
Addition of new visual elements along Route 56 adjacent to Forest Preserve	Long-term	Consolidation of proposed 46 kV line with existing utilities. Use of wood poles. Routing along existing road or utility corridors wherever possible. Minimize clearing on embankments and near shorelines. Use of selective clearing and plantings.

SECTION 7
RELATIONSHIP BETWEEN THE LOCAL SHORT-TERM USE OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

SECTION 7 RELATIONSHIP BETWEEN THE LOCAL SHORT-TERM USE OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

With any development project, there are tradeoffs between impacts on the natural and man-made environments and the resulting project-related benefits. The Bypass and Alternate Routes considered in this SDEIS have similar impacts, including ROW acquisition, increased traffic, increased noise, changes in the visual environment, and the loss of natural areas such as forest land, wetlands, and wildlife habitat. These impacts, however, do not outweigh the long-term benefits of the Tri-Lakes Reliability Project and, in general, can be mitigated. The proposed 46 kV line is designed to improve reliability in the Tri-Lakes Region and benefit the local citizens and businesses. Reducing the number and duration of potential outages in the Tri-Lakes Region would reduce shutdowns and unproductive time. Also, reducing outages would result in health and safety benefits. Therefore, although there would be impacts to man's environment, clearly the Tri-Lakes Reliability Project would enhance the long-term productivity of the region.

SECTION 8
IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

SECTION 8 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Construction of the West Alternate would involve a commitment of a range of natural, physical, human, and fiscal resources. ROW acquired for the construction and subsequent operation of the 46 kV line would constitute a semi-permanent commitment for the life of the project.

The removal of six acres of land from the Forest Preserve for construction of the transmission line would permanently change the character of that land. The Forest Preserve was established in 1890. If not familiar with the history of Route 56, one might assume that very little has changed on these lands over the last 117 years. However, these lands have been adjacent to roadway development, which has changed the character of the forest. Prior to establishment of the Forest Preserve, the road corridor was a county highway. In the 1920s, the NYSDPW completed upgrades of the road corridor, which probably included intrusion into the Forest Preserve. The installation of telephone and electric distribution lines to Hamm's Inn involved work on Forest Preserve lands. Also, plantation planting of conifers is found in a number of locations within the Forest Preserve, which indicates that the forest land has not been entirely preserved without any changes. Reclamation plantings were common after fires, and there have been fires in the vicinity of Carry Falls Reservoir (McMartin B., 1994).

The West Alternate would result in the long-term elimination of existing forest cover on the six acres subject to the pending Constitutional Amendment. In the short term, these six acres would be controlled by NYSDEC administrative actions that would specify and limit the use of the land. Eventually, the six acres would be classified into either a Resource Management or Rural Use land use category that would determine the allowable uses. Additionally, an APA permit would control future use of the transmission line ROW corridor as part of its findings or permit conditions.

Along with the Constitutional change, the Forest Preserve's overall size is protected by a provision that requires adding private land into the Forest Preserve when lands are removed from it. The land that would be added to the Forest Preserve is located in the Town of Clare and is along the shore of the South Branch of the Grass River. This maintains the Forest Preserve's overall size. Converting formerly private lands into Forest Preserve lands would change the tax status of the parcel in the Town of Clare. The loss of tax revenues from private land owners in the Town of Clare would be small due to the size of the parcel being transferred. The Town of Clare would receive minimal additional tax revenues from New York State for the additional Forest Preserve land. The Town of Colton real property tax assessment would increase by a small amount.

The overall consequences of the removal of the six acres from the Forest Preserve for the West Alternate are less environmental impacts, better use of land resources, improved or consistent amount of Forest Preserve land in the Adirondack Park, and minor changes in tax revenues in both the Towns of Clare and Colton.

Construction and operation of the West Alternate would also require consumption of fossil fuels. Additionally, the West Alternate would require expenditure of labor, and natural resources would be used in the fabrication and preparation of necessary construction materials. These expenditures would be, for the most part, irretrievable. However, they are not in short supply, and their use would not have an adverse effect upon continued availability of these resources.

SECTION 9
CUMULATIVE IMPACTS, GROWTH INDUCING EFFECTS AND SECONDARY IMPACTS

SECTION 9 CUMULATIVE IMPACTS, GROWTH INDUCING EFFECTS AND SECONDARY IMPACTS

Construction and operation of the 46 kV line is not anticipated to have significant cumulative, growth inducing, or secondary impacts in the Project Area. Cumulative impacts result from other simultaneous or subsequent actions which are included in any long-range plan of which the action under consideration is a part; likely to be undertaken as a result thereof; or dependent thereon (SEQR Regulations Part 617.7 (c)(2)). Secondary effects, where appropriate, are discussed in terms of effects caused by the construction of the proposed facilities that occur later in time or further removed from the proposed action, but are still reasonably foreseeable.

The cumulative, growth inducing, and secondary impacts of the Tri-Lakes Reliability Project as a whole were discussed in the DEIS. In summary, because this is a reliability project, construction and operation of the proposed 46 kV line is not expected to induce growth in the area. Certain assumptions were made for the analysis of cumulative impacts of the Project, namely that activities such as logging, seasonal residential development, and sand and gravel operations in the area would continue over the life of the Project, that existing guidelines and regulations would continue to control development to minimize impact and maintain the rural character of the region, and finally that maximizing the use of existing transportation and utility corridors and employing the mitigation techniques presented in the DEIS and the EWP (Appendix B of this SDEIS) would minimize construction and operation impacts. Past actions, including development of State Routes 3 and 56 and existing adjacent utilities, also were considered in the analysis. Potential future improvements to these highways, residential development, and logging activities were included in the assessment of potential future cumulative impacts.

The DEIS concluded that the Project would not contribute significantly to cumulative impacts in the region. While the introduction of more reliable energy would assist existing homes and businesses in the region, it is not expected to result in cumulative, growth inducing, or secondary impacts in the area. The West Alternate, which has been selected as the Preferred Route, is part of the overall Project, and as such, is not expected to alter the conclusions of the DEIS with regard to cumulative impacts.

9.1 SOILS AND SLOPES

The West Alternate would require a 32-foot ROW in the Forest Preserve. This ROW (totaling 6 acres) would be cleared of all vegetation. Soil erosion is possible during construction activities. Soil erosion is a function of soil texture, vegetative cover and slope. The application of the erosion control devices and mitigation measures described in this SDEIS would minimize cumulative impacts resulting from erosion.

9.2 FOREST COVER

More forest cover would be cleared along the Bypass (55 acres) than along the Route 56 West Alternate (19.5 acres). It is estimated that approximately19,000 trees would be cut along the Bypass, whereas only approximately 5,000 trees would be cut along the West Alternate. The cumulative impacts to the forest cover are less along the West Alternate due to its shorter length and proximity to the transportation corridor. Once the transmission line is constructed, lands that were forested would be converted to shrub and grass cover, therefore reducing the amount of forest cover along the West Alternate Route. Because the West Alternate is located mostly within an existing highway corridor, its overall impact to vegetation and wildlife habitat would be significantly less than that of the Bypass. The West Alternate is not expected to contribute significant cumulative impacts or secondary impacts to forest cover.

9.3 WETLANDS

9.3.1 Wetlands and Streams

Construction and operation of the West Alternate would have minimal cumulative and secondary effects on wetland resources. The West Alternate Route would result in the modification of approximately 1.26 acres of wetland from wooded to scrub/shrub or emergent marsh wetlands. There would be no placement of fill in wetlands. Assuming that approved plans are in place for addressing potential impacts to wetlands, the contribution of the West Alternate to cumulative impacts on wetlands should be small.

9.3.2 Streams

The West Alternate would cross two NYSDEC regulated streams but would have negligible impact on them as a result of minimal shoreline clearing. The line would cross these streams in the existing Route 56 road corridor. The West Alternate's contribution to cumulative impacts on water resources is expected to be minimal with the implementation of mitigation procedures described in the EWP, Appendix B. Operation and maintenance of the proposed 46 kV facilities would not result in discharges to surface waters. No secondary impacts are anticipated.

9.4 CULTURAL RESOURCES

No archeological or architectural sites have been identified on the West Alternate Route. No cumulative, growth inducing, or secondary effects on cultural resources are anticipated from construction or operation of the West Alternate. The Adirondack Park Forest Preserve is listed as an NHL based on its political history; the landmark protection afforded the Forest Preserve would remain unchanged as a result of the construction and operation of the West Alternate. The West Alternate is not expected to result in significant cumulative impacts or secondary impacts to the NHL.

9.5 LAND USE

Cumulative impacts on land use may result from the deployment of the West Alternate. Growth inducing aspects include the potential for the West Alternate, as part of the overall Project, to stimulate new residential, commercial or industrial activity that would not occur if the Project were not built. Improvement of the existing electrical infrastructure protects the general health and safety of the region and could alleviate an impediment to industry, commerce and residential development in the region. While possible, such growth would likely occur incrementally, if at all. Other factors exist which affect growth in the region, such as its remoteness and rural quality, would continue to affect potential growth. The introduction of more reliable energy would assist existing homes and businesses but is not expected to be a stimulus for new growth.

The West Alternate would not result in cumulative affects on land use in the immediate area. The northern portion of this segment would be located on private lands that are currently utilized for logging purposes, but would not prevent this use in the future. The portion that is located over Forest Preserve lands would be removed by Constitutional Amendment for the purpose of this Project, and would be reclassified as either Rural or Resource Management. This would not add any principal building rights because the six-acre parcel would not allow a principal building under either land classification.

New lands being added to the Forest Preserve as a result of the proposed Constitutional Amendment are located in the Town of Clare along the South Branch of the Grass River. The addition of this land to the Forest Preserve would aid in creating continuous State ownership along the South Branch of the Grass River.

9.6 VISUAL RESOURCES

The northern segment of West Alternate would be located on private lands set back from Route 56 and would not be visible except at the point where the line crosses the highway corridor and proceeds along the east side of Route 56. The visual impact would occur along the portion of this route south of the Coleman parcel where the transmission line would be constructed over Forest Preserve lands where no overhead utilities exist in the highway corridor. The visual setting is changed due to the widening of the ROW and the addition of utility poles in an area that did not previously contain overhead infrastructure.

These new transmission facilities in the Forest Preserve would change the character of the transportation corridor from an area with forest edge near the road to a wider, more open corridor. In addition, pushing the ROW edge back in the Forest Preserve would expose some older, larger trees that would be cut as part of the danger tree management program. Tree cutting on the West Alternate in the Forest Preserve will be managed by NYSDEC under the Agreement. The tree clearing necessary for the West Alternate would not significantly reduce the number of trees in the Adirondack Park.

Cumulative impacts to the visual resources in the region would not result from the Route 56 West Alternate. This type of visual setting is not uncommon in the area. There would be a consolidation of visual intrusions because the transmission line would be placed along the existing highway corridor.

9.7 TRAFFIC AND TRANSPORTATION

It is reasonable to assume that the location of electric transmission facilities within or close to existing NYSDOT ROW on Route 56 will be considered in the design and construction of any future road projects. Because construction of the West Alternate is not expected to be a stimulus to new growth beyond what is normally projected for this area, it is anticipated that only a minimal number of vehicles would be added to the local road network. There are currently relatively low levels of existing traffic on Route 56. In addition, NYSDOT has a statutorily limited transportation corridor in the Forest Preserve within which to make improvements. There would be no cumulative impacts related to traffic and transportation.

SECTION 10
IMPACTS OF THE PROPOSED ACTION ON THE USE AND CONSERVATION OF ENERGY

SECTION 10 IMPACTS OF THE PROPOSED ACTION ON THE USE AND CONSERVATION OF ENERGY

The Proposed Action (West Alternate) discussed in this SDEIS is part of the Tri-Lakes Reliability Project, which is anticipated to have a positive effect on the efficient use and conservation of energy in the Tri-Lakes region. The Project will help provide the Villages of Lake Placid and Tupper Lake and the surrounding area with more reliable power to significantly reduce outages that have caused health and safety concerns for area residents. Additional capacity provided by the new 46 kV line and other related equipment is estimated to be sufficient to serve the forecasted loads for about 25 to 30 years. Those involved in locally-controlled development will consider the use of this capacity in their future plans.

NYPA, which supplies electricity to the municipal electric utilities in the Villages of Tupper Lake and Lake Placid, and National Grid, which serves the surrounding communities, have over the past 20 years implemented proactive conservation and demand side management programs to promote energy savings, reduce demand and relieve system constraints. Both Villages participated in NYPA's Wattbuster program in the 1980s and 90s for in-home installation of energy saving products. In 2005 NYPA completed almost 70 energy efficiency audits at a targeted sampling of municipal offices, businesses and residences in the Villages to further encourage conservation through the use of energy efficient methods and products. In 2007, following up on an audit recommendation, a total of over 210 energy-efficient refrigerators were installed in public housing in the Villages. Lake Placid has installed, and Tupper Lake is researching the feasibility of, a System Control and Data Acquisition (SCADA) system that electronically collects real time customer information to control loads during peak demand periods. Lake Placid recently adopted a rate structure to encourage conservation by significantly increasing rates if customers go over a certain usage level. The goal is to discourage excessive heating of empty vacation homes. Both Tupper Lake and Lake Placid have instituted moratoriums on the use of electric heat. Lake Placid Boy Scout troops recently established an energy conservation program involving the sale of compact florescent light (cfl) bulbs to local residents and business. As of November 2007, the Boy Scouts have sold over 20,000 clfs. Currently the Village of Lake Placid has proposed revisions to its contract with NYPA to allow residents to get credit on their electric bills for using alternative-energy systems such as solar panels and wind turbines.

NYPA has conducted other energy conservation activities in the region, including energy efficiency work at many facilities of the Olympic Regional Development Authority, such as the recent installation of energy efficient snow guns; and at several municipal buildings in Saranac Lake. NYPA has also sponsored and participated in several regional energy fairs. In late 2006, NYPA announced a $500,000 effort to save energy and deploy clean energy technologies in the Adirondacks, involving an energy efficiency upgrade and a solar project at the Adirondack Park Agency headquarters in Ray Brook, Essex County. NYPA has recently audited the Sunmount facility, a New York State mental health facility, in Tupper Lake. Other audits include the County of Franklin, Tupper Lake Library and the Lake Placid Center for the Arts.

The municipal electric systems in Tupper Lake and Lake Placid have also undertaken a variety of energy conservation measures in addition to the work they have done with NYPA and National Grid. Among the initiatives adopted by Tupper Lake are the rehabilitation of over 300 municipal housing units with energy conservation components and the installation of high-efficiency street lights. Lake Placid's activities have included implementing a load management system on hot water heaters, installing energy-efficient lighting for municipal buildings and streets, installing a solar unit at the Lake Placid High School, and using infrared scanning to detect system losses.

From 1989 through 1994 National Grid offered its customers an extensive Demand-Side Management program. The program, offered to residential, commercial and industrial customers, covered a wide range of technologies and rebate offerings. National Grid spent between $30 and $50 million annually on rebates and programs to increase customer efficiency. A partial listing of program offerings included energy audits, lighting, high efficiency motors, variable speed drives, refrigerator round-ups, water heating wraps, custom measures, HVAC, farm efficiency and load management. A significant reduction in megawatt-hours resulted from the programs, with significant participation from all customer classes.

In addition, National Grid has employed the following measures to conserve energy and reduce outages: voltage reductions and rolling black/brown-outs during periods of peak demand; installation of temporary local generation and voltage enhancing equipment; public appeals to residents and businesses; and requests for reduced use during extremely cold temperatures. National Grid also has developed plans for load shedding and peak shaving as part of its overall load management planning.

During the past few winters, the combination of public appeals and temporary additional diesel generators, changes to the configuration of the electric system, and new voltage boosting equipment have helped to maximize the capability of the local electric systems during periods of extreme cold. This has reduced the need for rolling black/brown-outs. However, these temporary measures have provided only interim relief and are inadequate to meet the region's electric needs over the longer term.

Upon completion of the Tri-Lakes Reliability Project, energy conservation, as it has in the past, will continue to be an important factor in meeting load requirements; yet there may be infrequent situations where load shedding still would be necessary. Energy conservation improvements made to facilities in Lake Placid, Tupper Lake, and throughout the region as part of the demand side management programs will remain intact and continue to assist in reducing and managing the load. NYPA and National Grid are continuing to work with their customers to inform them of conservation programs and to assist them in the implementation of ways to reduce their energy consumption. The Project is an essential element of the larger Tri-Lakes Reliability Program, which includes a broad spectrum of conservation programs to encourage efficient use of electricity and conservation of energy in the region.

SECTION 11

REFERENCES

SECTION 11 REFERENCES

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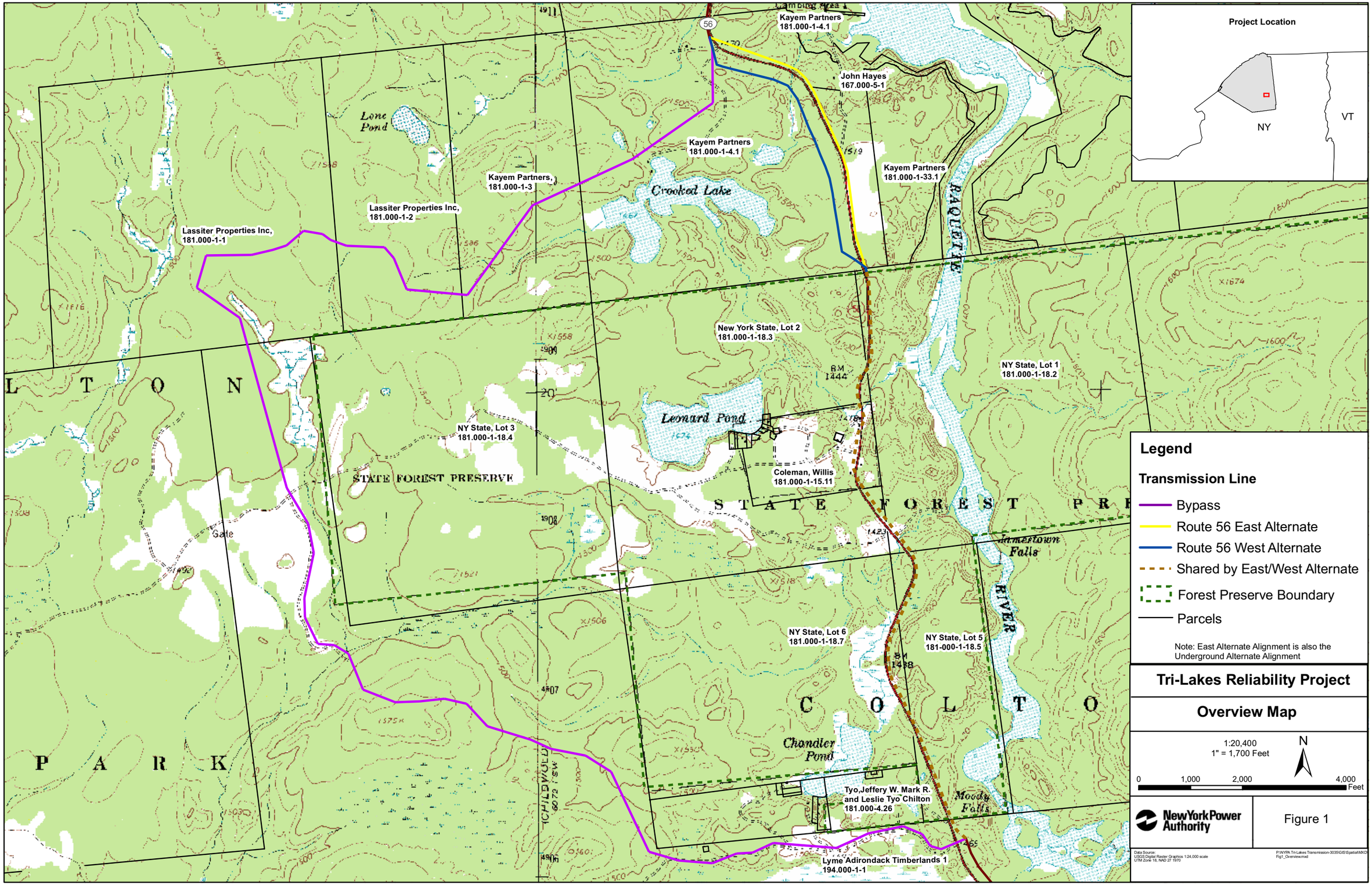
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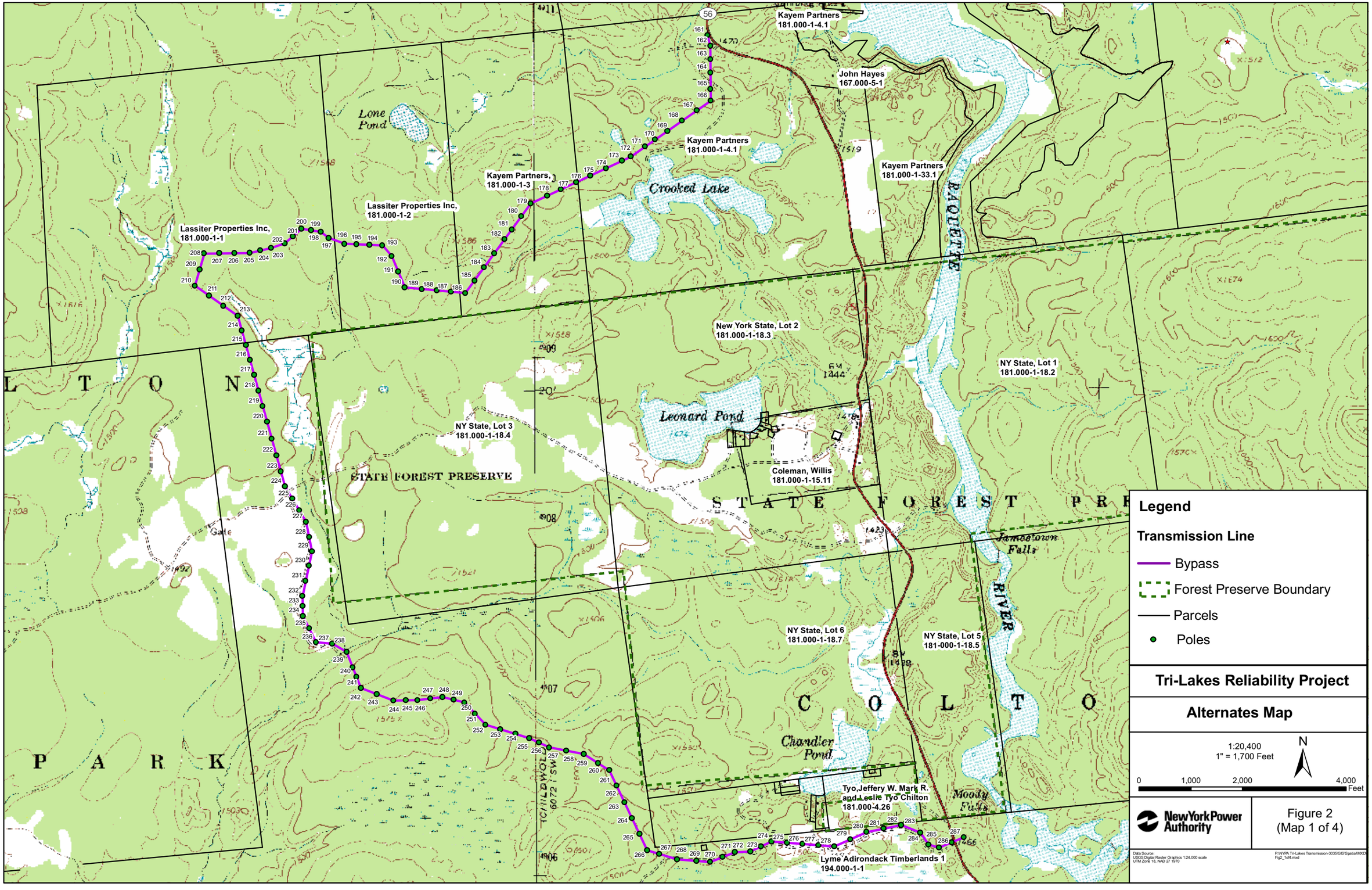
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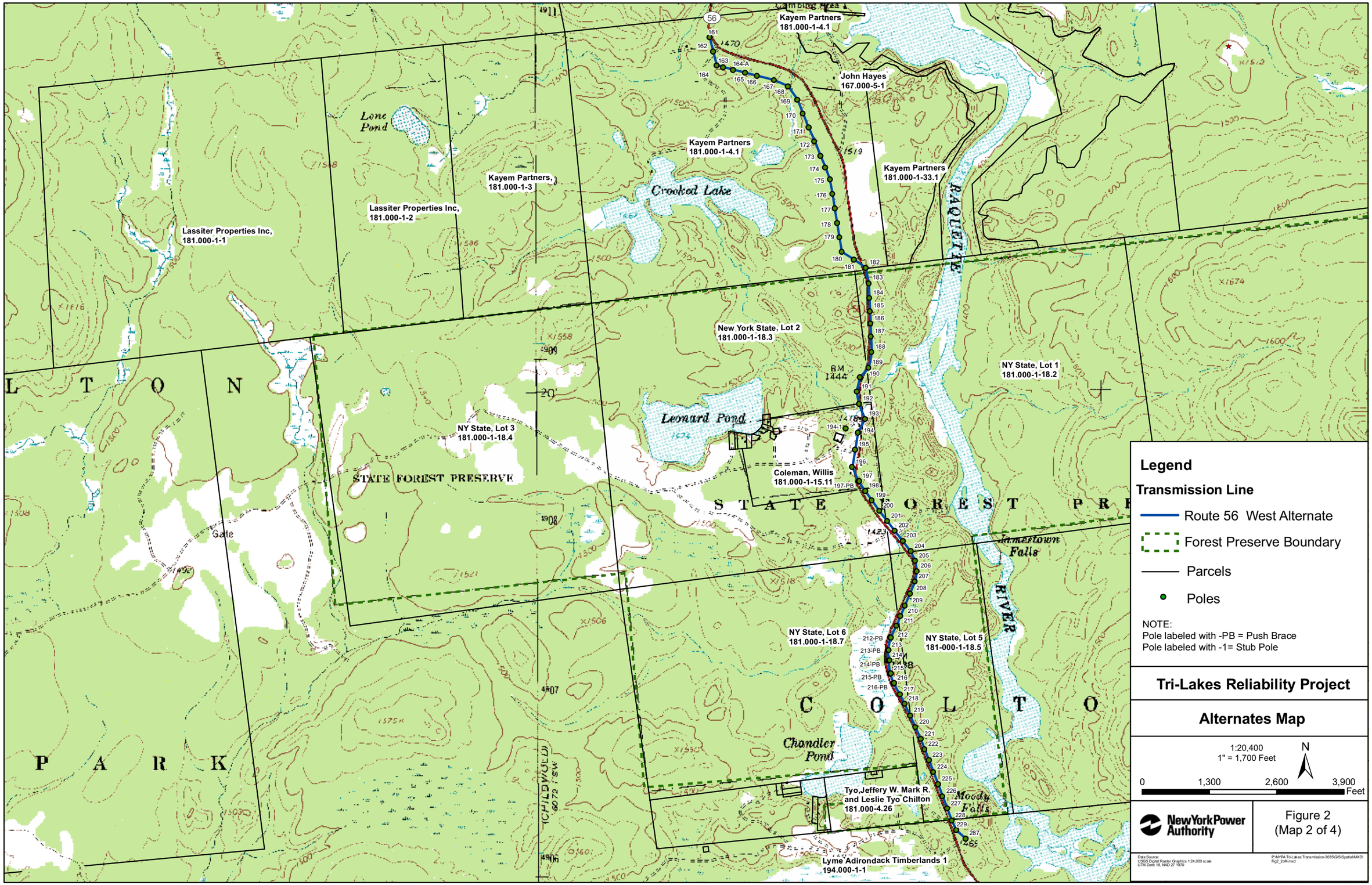
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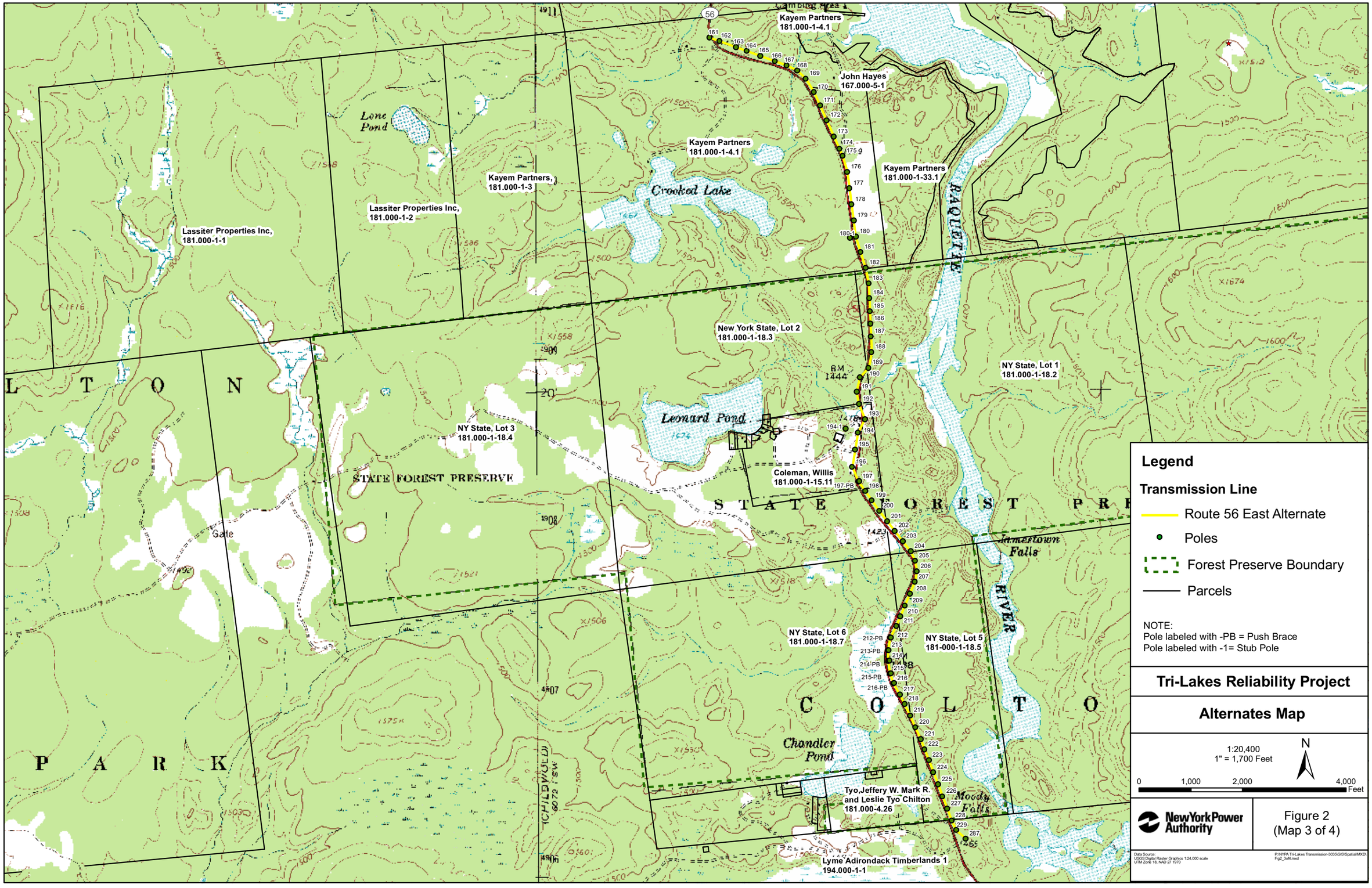
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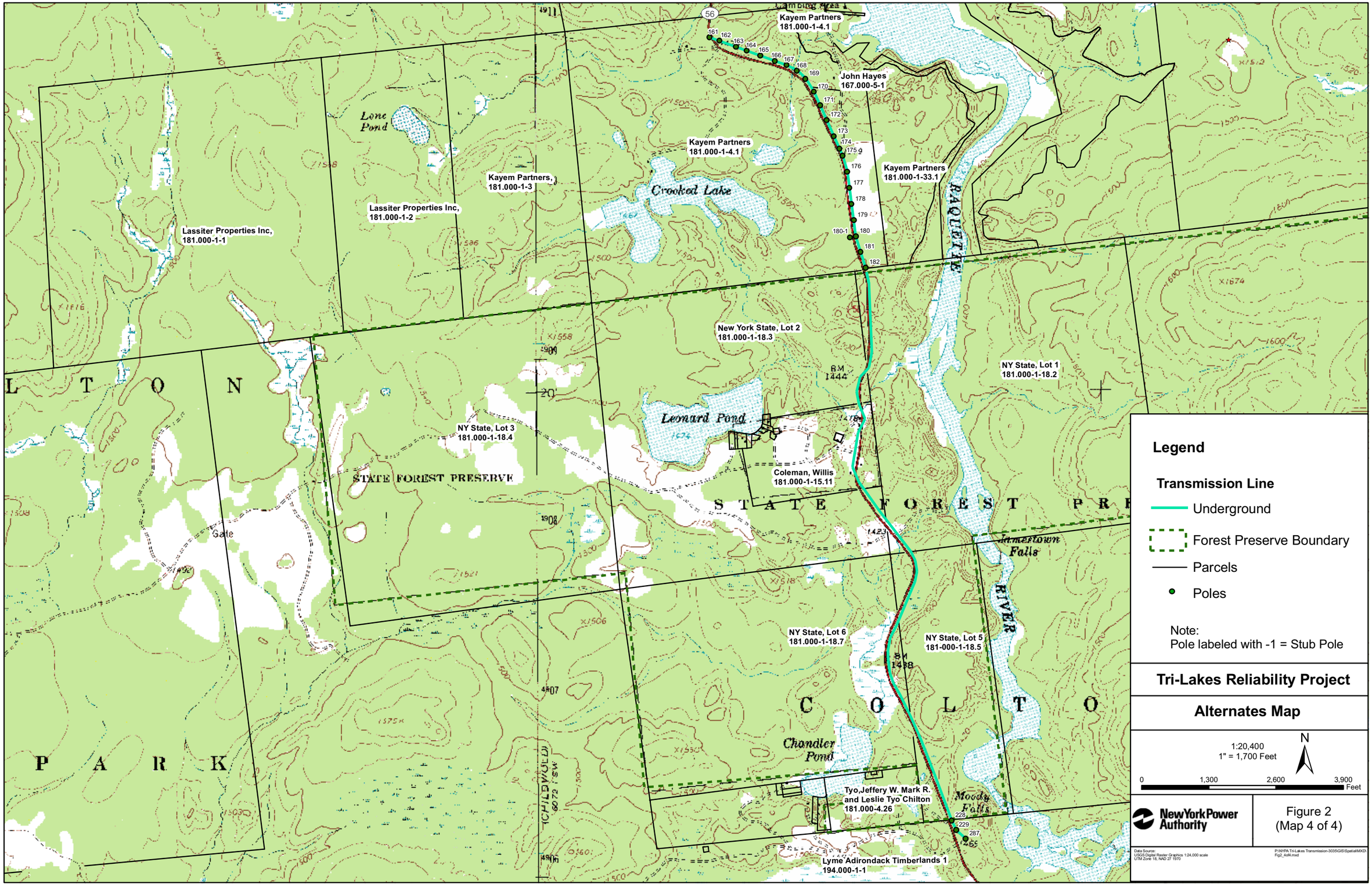
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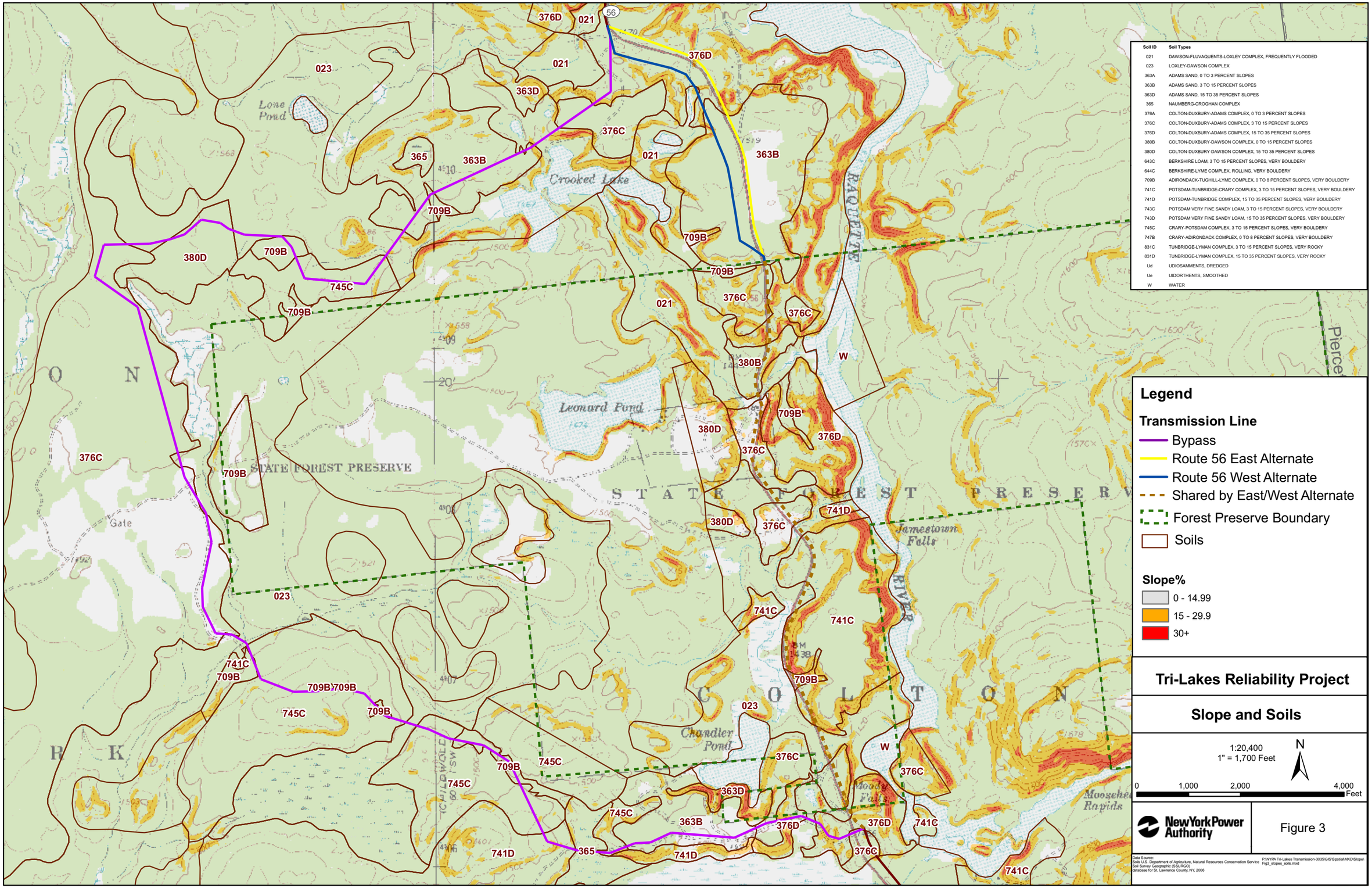
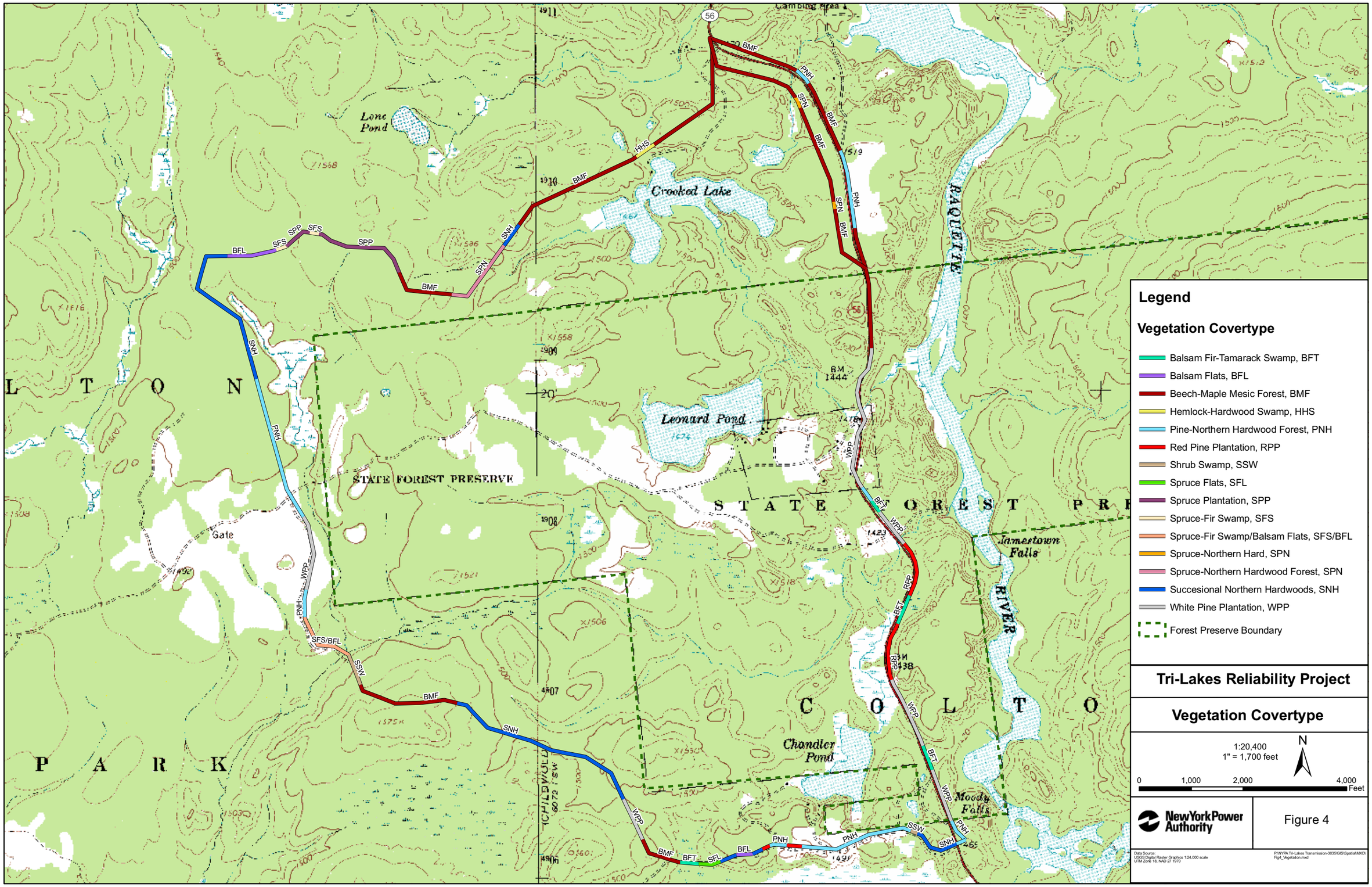
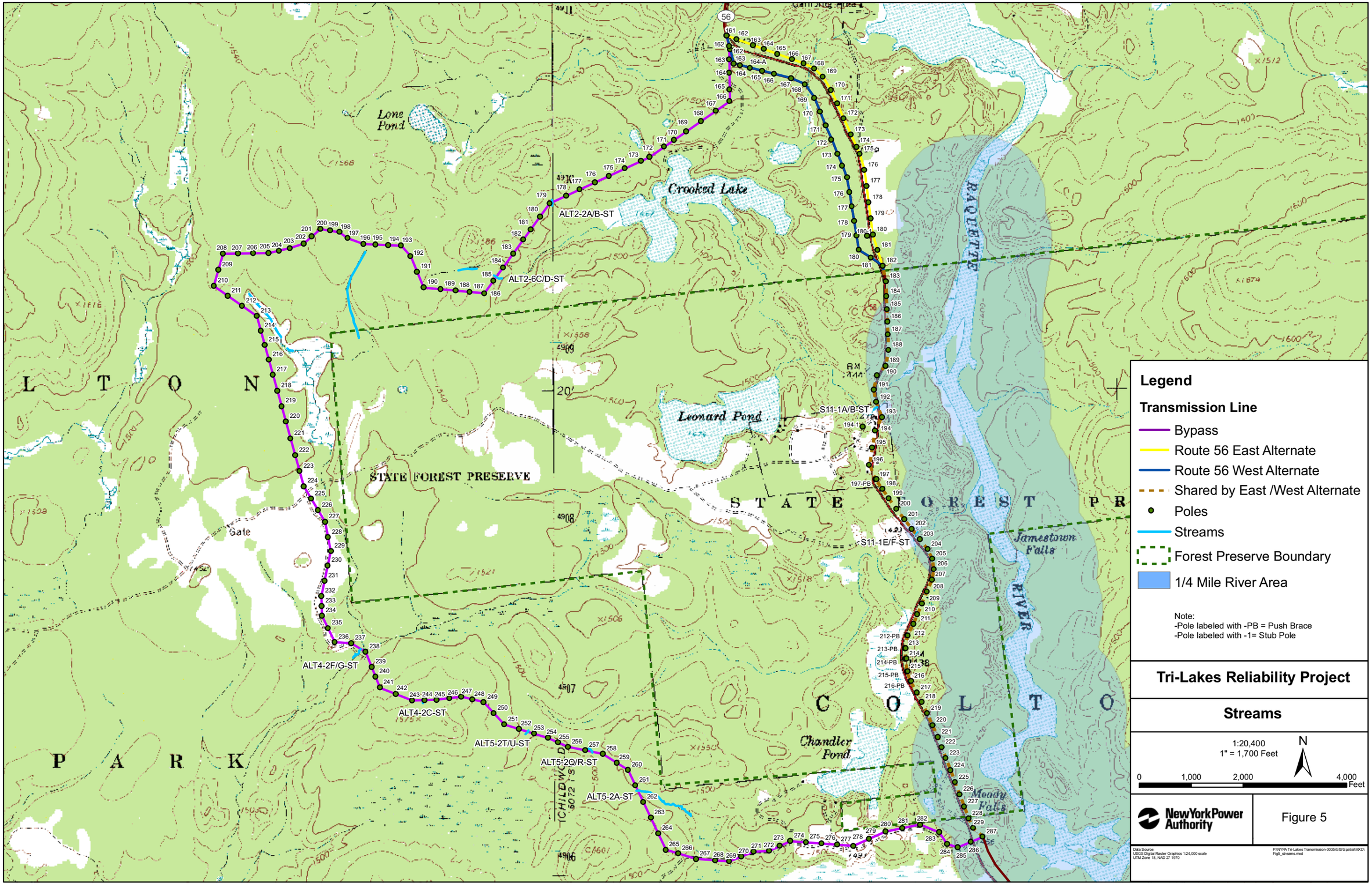
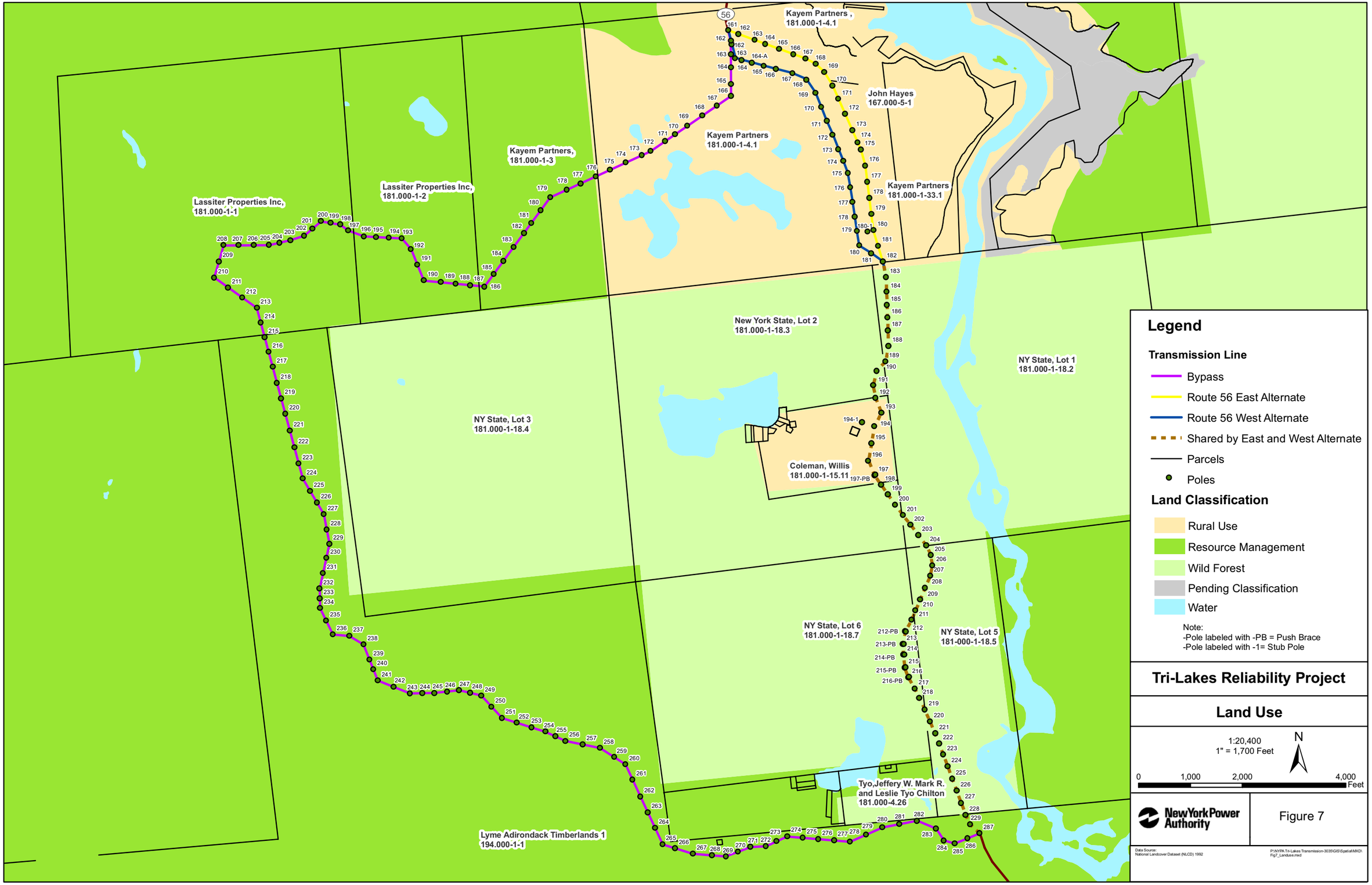
0
1,300
2,600
3,900
Feet
New York Power Authority
Figure 2
(Map 4 of 4)
Data Source:
USGS Digital Raster Graphics 1:24,000 scale
UTM Zone 18, NAD 27 1970
P:\NYPA Tri-Lakes Transmission-3035\GIS\Spatial\MXD\
Fig2_4of4.mxd


Soil ID | Soil Types
021 | DAWSON-FLUVAQUENTS-LOXLEY COMPLEX, FREQUENTLY FLOODED
023 | LOXLEY-DAWSON COMPLEX
363A | ADAMS SAND, 0 TO 3 PERCENT SLOPES
363B | ADAMS SAND, 3 TO 15 PERCENT SLOPES
363D | ADAMS SAND, 15 TO 35 PERCENT SLOPES
365 | NAUMBERG-CROGHAN COMPLEX
376A | COLTON-DUXBURY-ADAMS COMPLEX, 0 TO 3 PERCENT SLOPES
376C | COLTON-DUXBURY-ADAMS COMPLEX, 3 TO 15 PERCENT SLOPES
376D | COLTON-DUXBURY-ADAMS COMPLEX, 15 TO 35 PERCENT SLOPES
380B | COLTON-DUXBURY-DAWSON COMPLEX, 0 TO 15 PERCENT SLOPES
380D | COLTON-DUXBURY-DAWSON COMPLEX, 15 TO 35 PERCENT SLOPES
643C | BERKSHIRE LOAM, 3 TO 15 PERCENT SLOPES, VERY BOULDERY
644C | BERKSHIRE-LYME COMPLEX, ROLLING, VERY BOULDERY
709B | ADIRONDACK-TUGHILL-LYME COMPLEX, 0 TO 8 PERCENT SLOPES, VERY BOULDERY
741C | POTSDAM-TUNBRIDGE-CRARY COMPLEX, 3 TO 15 PERCENT SLOPES, VERY BOULDERY
741D | POTSDAM-TUNBRIDGE COMPLEX, 15 TO 35 PERCENT SLOPES, VERY BOULDERY
743C | POTSDAM VERY FINE SANDY LOAM, 3 TO 15 PERCENT SLOPES, VERY BOULDERY
743D | POTSDAM VERY FINE SANDY LOAM, 15 TO 35 PERCENT SLOPES, VERY BOULDERY
745C | CRARY-POTSDAM COMPLEX, 3 TO 15 PERCENT SLOPES, VERY BOULDERY
747B | CRARY-ADIRONDACK COMPLEX, 0 TO 8 PERCENT SLOPES, VERY BOULDERY
831C | TUNBRIDGE-LYMAN COMPLEX, 3 TO 15 PERCENT SLOPES, VERY ROCKY
831D | TUNBRIDGE-LYMAN COMPLEX, 15 TO 35 PERCENT SLOPES, VERY ROCKY
Ud | UDIOSAMMENTS, DREDGED
Ue | UIDORTHENTS, SMOOTHED
W | WATER
Legend
Transmission Line
Bypass
Route 56 East Alternate
Route 56 West Alternate
Shared by East/West Alternate
Forest Preserve Boundary
Soils
Slope%
0 - 14.99
15 - 29.9
30+
Tri-Lakes Reliability Project
Slope and Soils
1:20,400
1" = 1,700 Feet
N
0
1,000
2,000
4,000
Feet
NewYorkPower Authority
Figure 3
Data Source:
Soils U.S. Department of Agriculture, Natural Resources Conservation Service
Soil Survey Geographic (SSURGO)
database for St. Lawrence County, NY, 2006
P:\NYPA Tri-Lakes Transmission-3035\GIS\SpatialMXD\Slope\
Fig3_slopes_soils.mxd
Lone Pond
Crooked Lake
Leonard Pond
STATE FOREST PRESERVE
Jamestown Falls
Chandler Pond
Moody Falls
Moosehead Rapids
RAQUETTE
RIVER
Pierce
Gate
C O L T O N
R K
O N
56


Legend
Vegetation Covertype
Balsam Fir-Tamarack Swamp, BFT
Balsam Flats, BFL
Beech-Maple Mesic Forest, BMF
Hemlock-Hardwood Swamp, HHS
Pine-Northern Hardwood Forest, PNH
Red Pine Plantation, RPP
Shrub Swamp, SSW
Spruce Flats, SFL
Spruce Plantation, SPP
Spruce-Fir Swamp, SFS
Spruce-Fir Swamp/Balsam Flats, SFS/BFL
Spruce-Northern Hard, SPN
Spruce-Northern Hardwood Forest, SPN
Succesional Northern Hardwoods, SNH
White Pine Plantation, WPP
Forest Preserve Boundary
Tri-Lakes Reliability Project
Vegetation Covertype
1:20,400
1" = 1,700 feet
N
0
1,000
2,000
4,000
Feet
NewYorkPower Authority
Figure 4
Data Source:
USGS Digital Raster Graphics 1:24,000 scale
UTM Zone 18, NAD 27 1970
P:\NYPA Tri-Lakes Transmission-3035\GIS\Spatial\MXD\
Fig4_Vegetation.mxd
Lone Pond
Crooked Lake
Leonard Pond
Chandler Pond
Jamestown Falls
Moody Falls
RAQUETTE
RIVER
STATE FOREST PRESERVE
STATE FOREST PR
COLTON
PARK
Gate
Camping Area
BMF
HHS
SNH
SPN
PNH
SPP
SFS
BFL
SFS/BFL
SSW
WPP
RPP
BFT
SFL

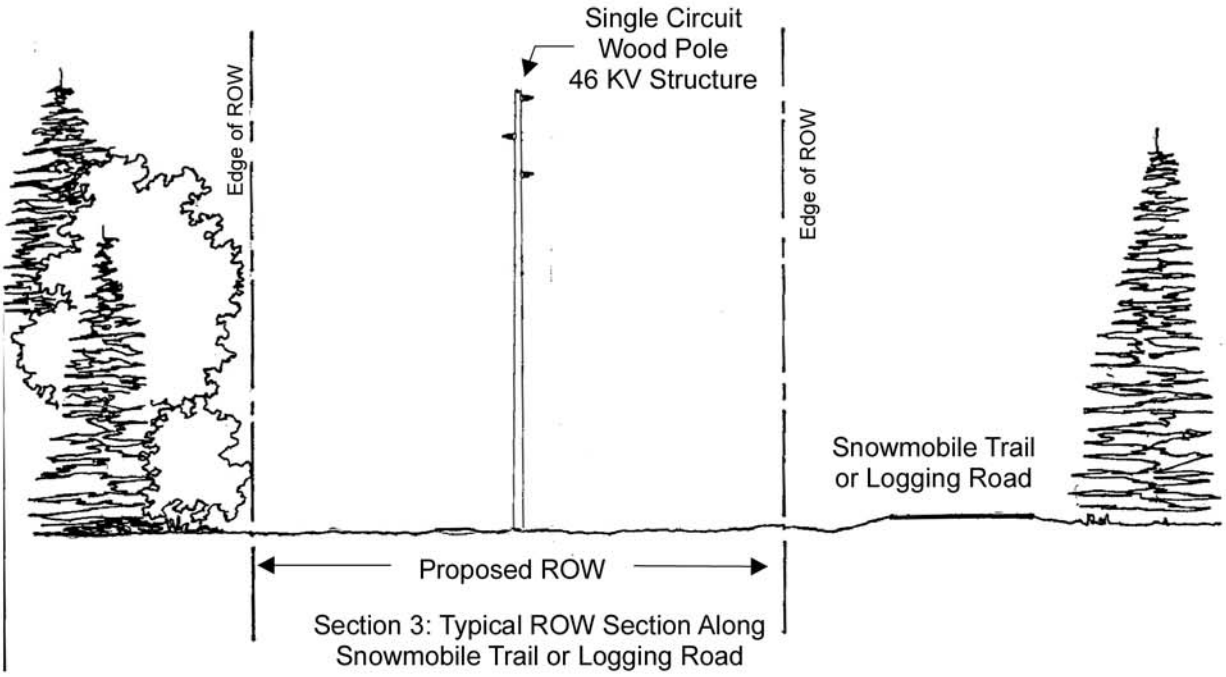

Legend
Transmission Line
Bypass
Route 56 East Alternate
Route 56 West Alternate
Shared by East /West Alternate
Poles
Streams
Forest Preserve Boundary
1/4 Mile River Area
Note:
-Pole labeled with -PB = Push Brace
-Pole labeled with -1= Stub Pole
Tri-Lakes Reliability Project
Streams
1:20,400
1" = 1,700 Feet
0
1,000
2,000
4,000
Feet
N
NewYorkPower Authority
Figure 5
Data Source:
USGS Digital Raster Graphics 1:24,000 scale
UTM Zone 18, NAD 27 1970
P:\NYPA Tri-Lakes Transmission-3035\GIS\Spatial\MXDs\
Fig5_streams.mxd
Lone Pond
Crooked Lake
Leonard Pond
Chandler Pond
Jamestown Falls
Moody Falls
RAQUETTE
RIVER
STATE FOREST PRESERVE
STATE FOREST PR
COLTON
PARK
LTON
Gate
ALT2-2A/B-ST
ALT2-6C/D-ST
S11-1A/B-ST
S11-1E/F-ST
ALT4-2F/G-ST
ALT4-2C-ST
ALT5-2T/U-ST
ALT5-2Q/R-ST
ALT5-2A-ST

Lone Pond
Crooked Lake
Leonard Pond
Chandler Pond
Jamestown Falls
Moody Falls
RAQUETTE
RIVER
STATE FOREST PRESERVE
STATE FOREST PRESERVE
PARK
ALT1-2A/B
ALT1-2C
ALT2-2A/B
ALT2-6A/B
ALT2-6C/D
ALT2-6E/F
ALT2-6G/ALT3-6A
ALT3-6C/D
ALT3-4B
ALT3-4C
ALT3-2A/B
Alt4-9J
ALT4-2F/G
Alt4-2D/E
ALT4-2A
ALT4-2B
ALT4-2C
ALT5-2X/Y
ALT5-2V/W
ALT5-2T/U
ALT5-2S
ALT5-2Q/R
ALT5-2O/P
ALT5-2M/N
ALT5-2A/B/C/D/E
ALT5-3A/B
ALT6-3B
S11-1A/B
S11-1D
S11-1E/F
S11-1G/H/I/J
S12-1A
S12-1B
S13-3B/C/D
Legend
Transmission Line
Bypass
Route 56 East Alternate
Route 56 West Alternate
Shared by East/West Alternate
Pole
Forest Preserve Boundary
Wetlands
Note:
-Pole labeled with -PB = Push Brace
-Pole labeled with -1= Stub Pole
Tri-Lakes Reliability Project
Wetlands
1:20,400
1" = 1,700 Feet
N
0
1,000
2,000
4,000
Feet
NewYorkPower Authority
Figure 6
Data Source:
USGS Digital Raster Graphics 1:24,000 scale
UTM Zone 18, NAD 27 1970
P:\NYPA Tri-Lakes Transmission-3035\GIS\Spatial\MXD\
Fig6_wetlands.mxd

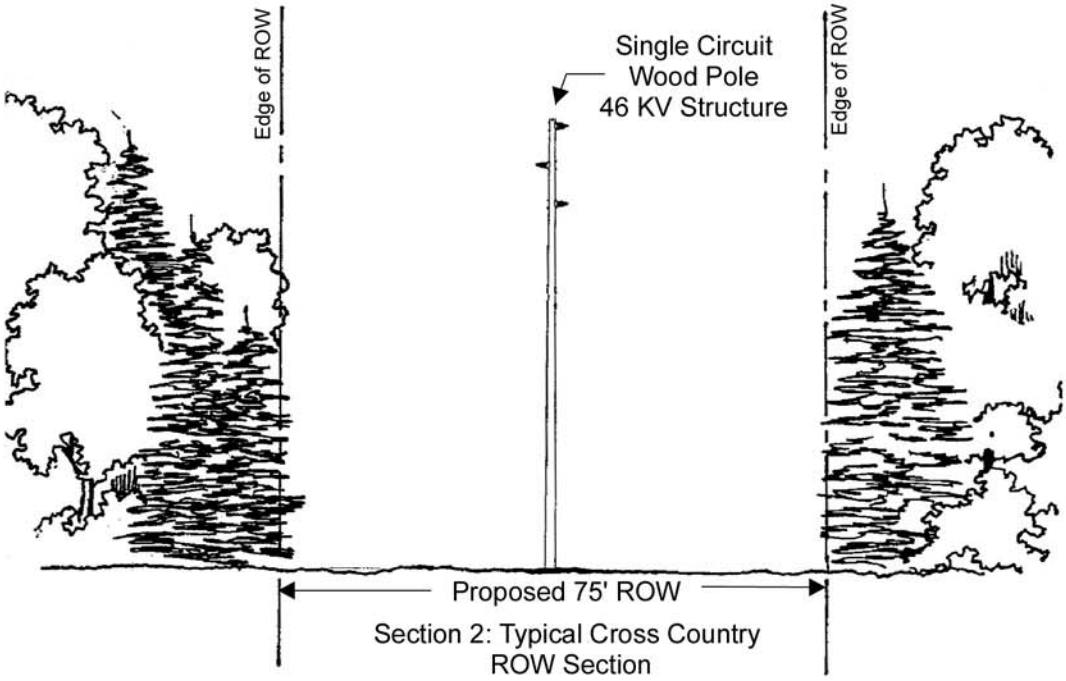

Kayem Partners ,
181.000-1-4.1
John Hayes
167.000-5-1
Kayem Partners
181.000-1-4.1
Kayem Partners,
181.000-1-3
Lassiter Properties Inc,
181.000-1-2
Lassiter Properties Inc,
181.000-1-1
Kayem Partners
181.000-1-33.1
New York State, Lot 2
181.000-1-18.3
NY State, Lot 1
181.000-1-18.2
NY State, Lot 3
181.000-1-18.4
Coleman, Willis
181.000-1-15.11
NY State, Lot 6
181.000-1-18.7
NY State, Lot 5
181-000-1-18.5
Tyo,Jeffery W. Mark R.
and Leslie Tyo Chilton
181.000-4.26
Lyme Adirondack Timberlands 1
194.000-1-1
Legend
Transmission Line
Bypass
Route 56 East Alternate
Route 56 West Alternate
Shared by East and West Alternate
Parcels
Poles
Land Classification
Rural Use
Resource Management
Wild Forest
Pending Classification
Water
Note:
-Pole labeled with -PB = Push Brace
-Pole labeled with -1= Stub Pole
Tri-Lakes Reliability Project
Land Use
1:20,400
1" = 1,700 Feet
N
0
1,000
2,000
4,000
Feet
NewYorkPower Authority
Figure 7
Data Source:
National Landcover Dataset (NLCD) 1992
P:\NYPA Tri-Lakes Transmission-3039\GIS\Spatial\MXD\
Fig7_Landuse.mxd

Tri Lakes Reliability Project	
Canoe Carry Trailhead From Across Route 56 Looking East	
New York Power Authority	Figure 8a

Tri Lakes Reliability Project	
Canoe Carry Trailhead Looking East	
New York Power Authority	Figure 8b



Section 3: Typical ROW Section Along Snowmobile Trail or Logging Road



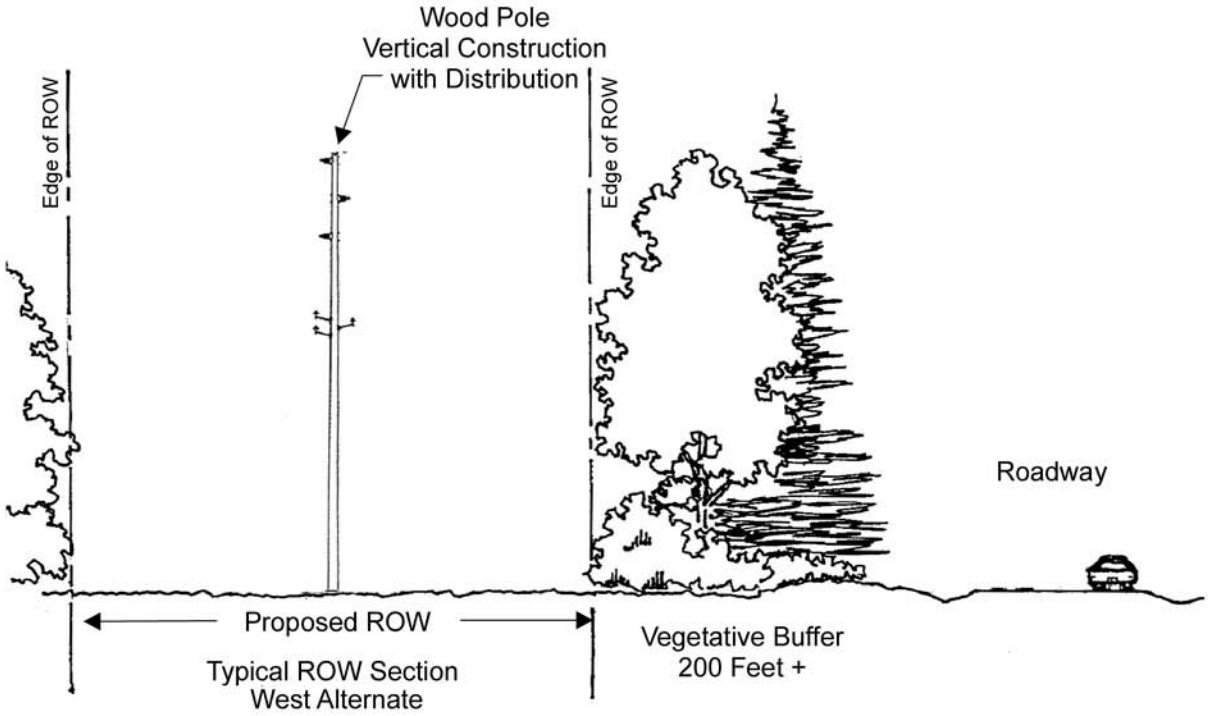
Section 2: Typical Cross Country ROW Section

Tri Lakes Reliability Project

Bypass Route Typical ROW Cross Sections

New York Power Authority

Figure 9

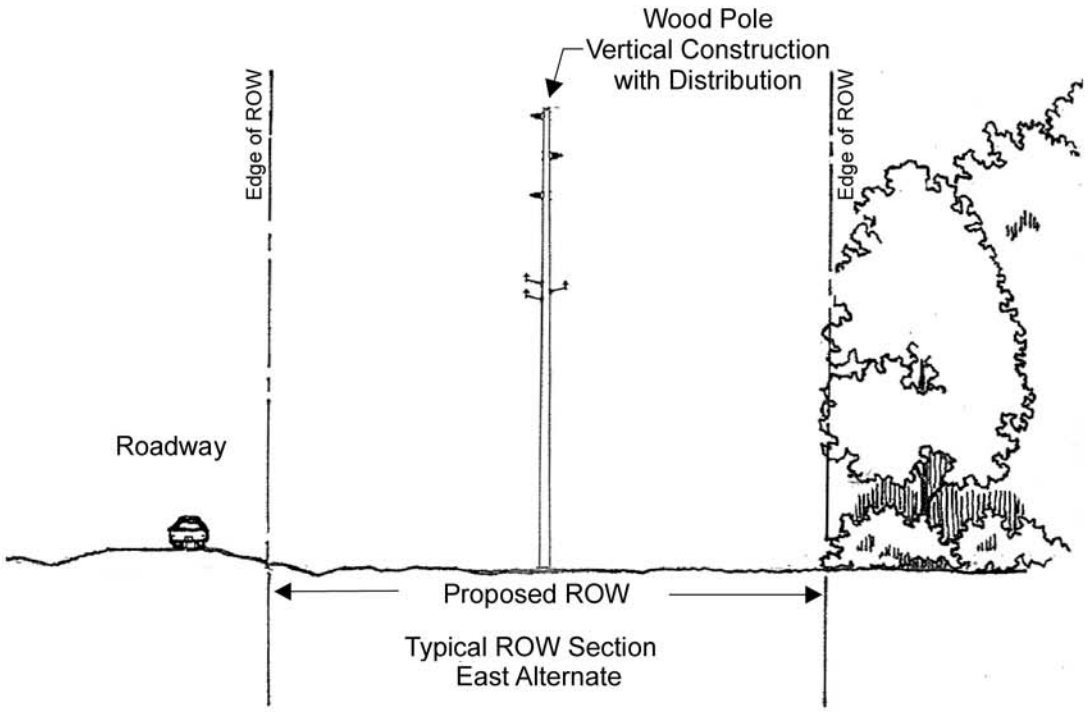


Tri Lakes Reliability Project

West Alternate Typical ROW Cross Section Looking North

New York Power Authority

Figure 10

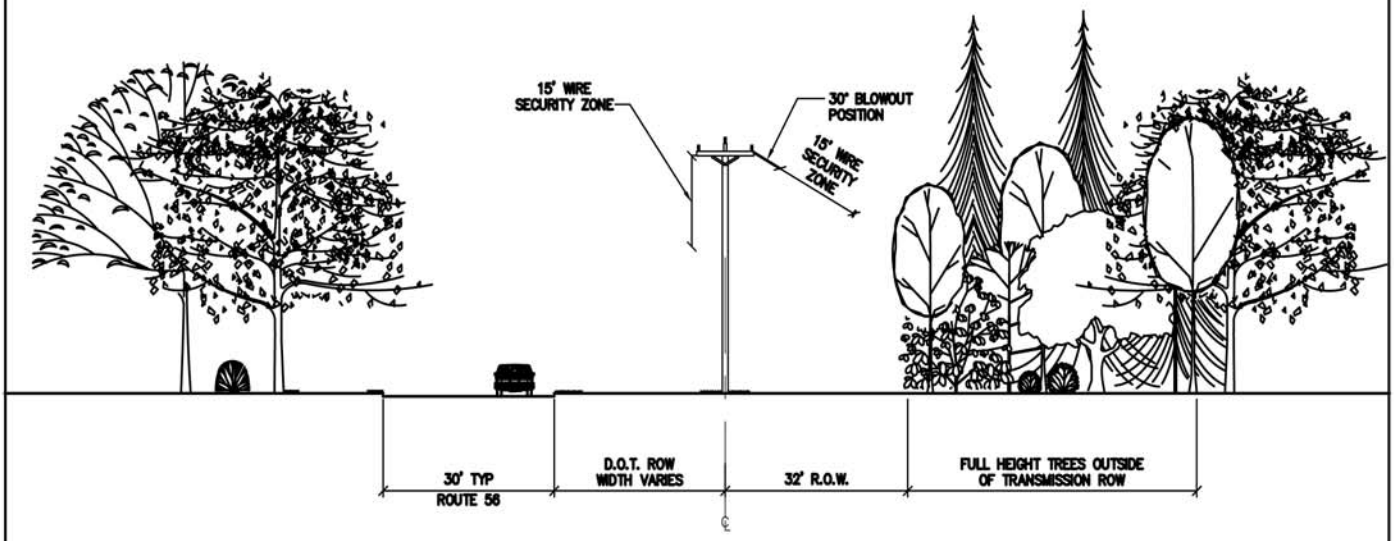


Tri Lakes Reliability Project

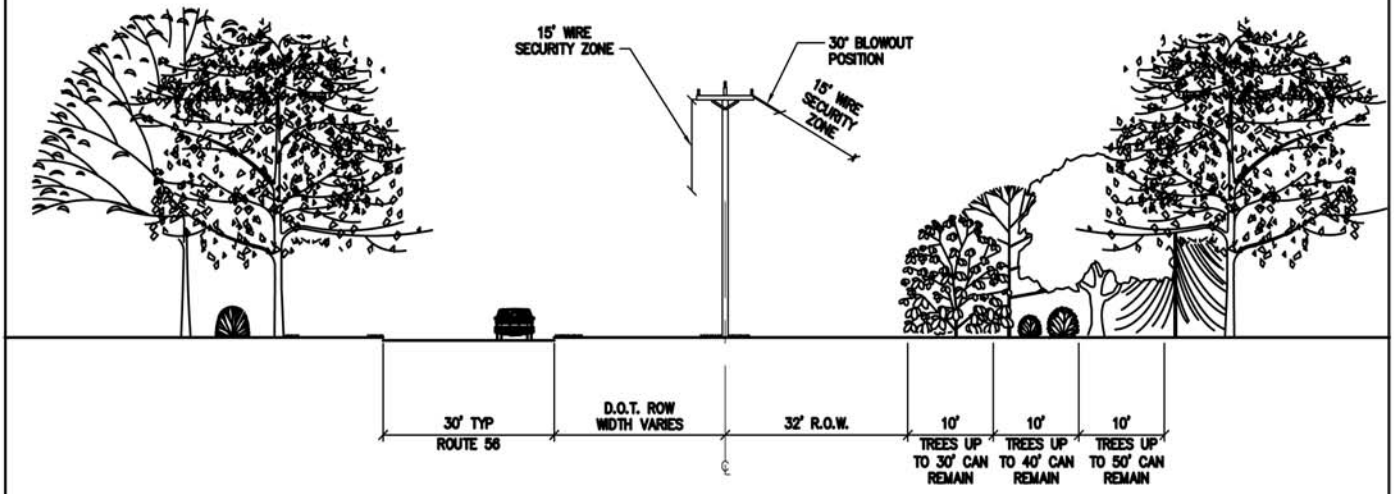
East Alternate Typical ROW Cross Section Looking North

New York Power Authority

Figure 11



ELEVATION–
INITIAL CLEARING



ELEVATION–
DANGER TREE CLEARING

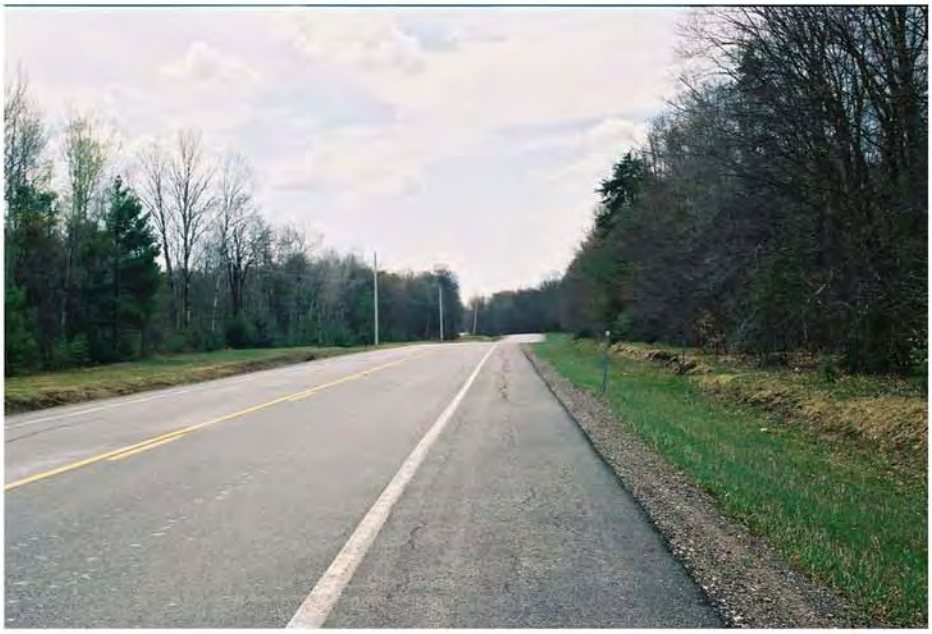
Tri Lakes Reliability Project

Selective Clearing

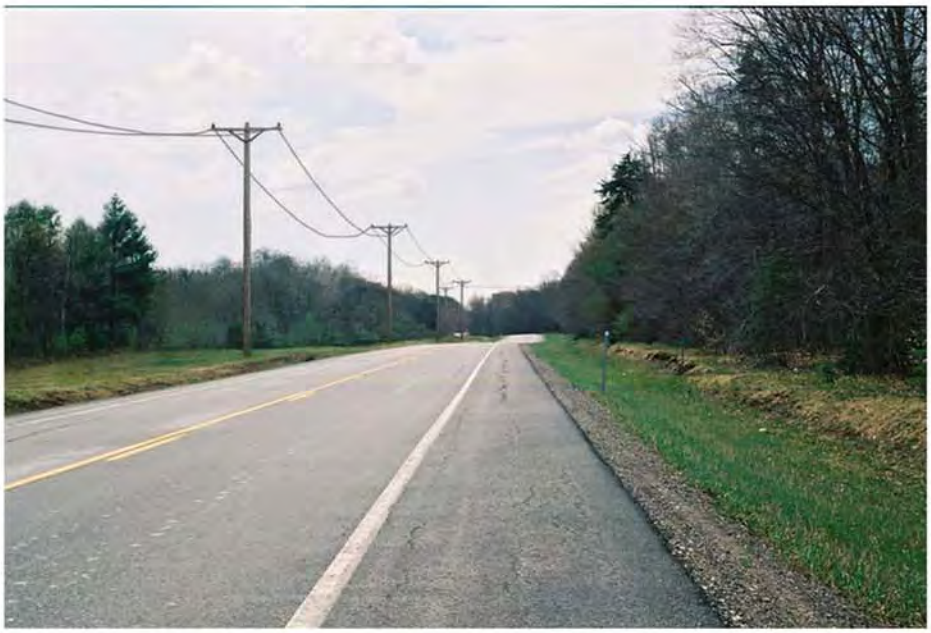
NTS

New York Power Authority

Figure 12



Before Selective Clearing



After Selective Clearing

Tri Lakes Reliability Project	
Selective Clearing Simulation	
New York Power Authority	**Figure 13**