report

ADAMS, DAYTER & SHEEHAN, LLP
ATTORNEYS AT LAW

39 NORTH PEARL STREET
ALBANY, NEW YORK 12207

(518) 463-3385
FAX (518) 463-3440

ORIG. FILES
C 99-T-1423
COPIES:
MR. P. AGRESTA
MR. D. MACKS
MR. A. DAVIS
MR. E SCHROM

February 8, 2000

By Hand
Hon. Walter T. Moynihan
Administrative Law Judge
New York State Department of Public Service
Three Empire State Plaza
Albany, New York 12223

Re: Case 99-T-1423 - LIPA - Riverhead to Southampton Underground Transmission Line

Dear Judge Moynihan:

Pursuant to your Ruling, issued December 23, 1999, enclosed please find a copy of the Final EM&CP, including for construction Plan and Profile drawings. Staff and LIPA are in agreement with the Final EM&CP, except for Sheet 28 of the Plan and Profile drawings. Sheet 28 is subject to change depending on Your Honor's resolution of the routing issue at the western approach to the Shinnecock Canal.

Thank you.

Very truly yours,

ADAMS, DAYTER & SHEEHAN, LLP

By: Timothy P. Sheehan
Timothy P. Sheehan

Attorneys for Long Island Power Authority

cc: Paul Agresta, Esq. (by hand)
Active Party List
Hon. Debra Renner (5 copies)

# RIVERHEAD TO SOUTHAMPTON 138KV UNDERGROUND TRANSMISSION LINE PROJECT

## NEW YORK STATE PUBLIC SERVICE COMMISSION CASE NO. 99-T-1423

# ENVIRONMENTAL MANAGEMENT AND CONSTRUCTION PLAN

LIPA
Long Island Power Authority

**LONG ISLAND POWER AUTHORITY**

**FEBRUARY 2000**

# TABLE OF CONTENTS

# TABLE OF CONTENTS
(Cont'd.)

# RIVERHEAD – SOUTHAMPTON CABLE PROJECT
# ENVIRONMENTAL MANAGEMENT AND CONSTRUCTION PLAN

## 1.0 ENVIRONMENTAL PROTECTION AND MITIGATION

Specific environmental protection and mitigation measures have been developed for the Riverhead–Southampton Cable Project to protect vegetation, water resources and cultural resources. Sensitive land uses and noise-sensitive areas have been identified, and special construction practices and procedures have been developed to address these areas. To ensure compliance with these procedures and provide for environmental protection, the requirements outlined in this Environmental Management and Construction Plan (EM&CP) will be incorporated into the appropriate construction specifications and contract documents. The Environmental Coordinator and Project Compliance Manager, in conjunction with the Project Manager, Field Coordinators and Natural Resources Manager, will ensure that the requirements of this EM&CP are adhered to during the construction of the project.

### 1.1 Vegetation

The proposed route, from its western terminus at the Riverhead Substation to Exit 65 of Route 27 (Sunrise Highway) in Hampton Bays, is located within Suffolk County's Central Pine Barrens. The vegetation is dominated by Pitch Pine–Oak Forest that can be found from the Riverhead Substation to Route 27. In addition, there are patches of transitional Pitch Pine-Oak-Heath Woodland, Pitch Pine-Heath Barrens, and Pitch Pine-Scrub Oak Barrens along the Proposed Route. A goal of the project is to install the cables with a minimum amount of vegetation disturbance. In the Central Pine Barrens, minimal selective removal of trees will be necessary at the intersection of

Speonk-Riverhead Road and Route 27. This location is identified on sheet 8 of the revised Plan and Profile drawings (Attachment 1). Less selective clearing of trees will be necessary in a small area along the south side of Route 27 on both sides of Bellows Pond Road. This area is identified on sheet 23 of the revised Plan and Profile drawings. If any additional tree removal becomes necessary within the Central Pine Barrens, the Applicant will consult with the Commission staff and interested agencies. It will also be necessary to trim some trees along Speonk-Riverhead Road to minimize accidental damage due to construction equipment. Details for the proposed work along Speonk-Riverhead Road are provided on sheets 5 – 8 of the Plan and Profile drawings. The trench will be installed within the paved roadway as required to maintain a 6 feet wide "No Disturbance Buffer" along the west side of the road.

The proposed route from Exit 65 of Route 27 to the Southampton Substation is outside the boundaries of the Central Pine Barrens, nonetheless, efforts will be made to minimize the number of trees removed from the construction path in this area. Efforts will also be made to minimize damage to trees adjacent to the construction path. These efforts will include judicious pruning of limbs and protection of exposed roots.

This section describes mitigation measures designed to minimize potential adverse impacts to existing vegetation from construction of the project along the various rights-of-way from the Riverhead Substation to the Southampton Substation. Generally, the width of the construction area will be approximately 25 feet and will include portions of roadways and vegetated rights-of-way. At specific manhole locations the width of the construction work area may be greater than 25 feet. Standard vegetation protection and clearing methods that will be utilized along the entire route are described below.

The objectives of the vegetation plan are to minimize damage to existing vegetation, treat or replace damaged or removed vegetation, restore disturbed vegetated areas, control erosion, and provide for appropriate clearing and disposal of vegetation which must be removed. Proper plant pruning procedures will be followed for vegetation clearing. Landscaping for restoration of disturbed areas is discussed in Section 3.2 of this document and will consist of the following as required: topsoil replacement, seeding, fertilizing and mulching as well as any special plantings and landscaping.

### 1.1.1 Delineation of Existing Vegetation

The extent of existing trees is shown on the Plan and Profile drawings for the project route. Prior to construction, trees that require trimming and clearing will be identified and noted on the field-issued drawings. Photographs of areas in which significant tree trimming and/or clearing will occur will be taken prior to construction activities. The Natural Resource Manager will approve all tree removal and trimming activities. Locations in which tree clearing will occur are listed in Table 1.

### 1.1.2 Topsoil and Vegetation Protection

During excavation of the cable trench in vegetated areas, if there is an appreciable layer of topsoil it will be segregated from subsoils by scraping off the topsoil prior to excavation, if possible. The topsoil will be segregated from other soils, stored next to the trench in a location where it will not be subject to construction traffic. After the conduits have been installed in the trench, the trench will be backfilled, with the topsoil being placed on top of the sub-soils. To prevent wind erosion

and dust problems while being temporarily stockpiled, the topsoil will be sprayed with water or covered and staked when necessary.

Trees and shrubs that will not be removed during construction will be protected from injury. In areas where construction is immediately adjacent to trees and shrubs and there is a high potential for damage to the vegetation, temporary fencing will be erected parallel to the trenching operation so as to reduce the possibility of accidental damage to trees and shrubs due to construction equipment. This temporary, project-limiting fencing will be installed along the west side of Speonk-Riverhead from County Road 51 to Route 27, as specified on sheets 5 – 8 of the Plan and Profile drawings. Additionally, temporary fencing will be installed along the south side of the proposed construction path, on either side of Bellows Pond Road, as specified on sheet 23 of the Plan and Profile drawings. If necessary, trees within close proximity of the trench and in danger of being damaged by construction equipment will be protected with timber-framed boxes appropriately sized to protect them. The frame will be self-supporting to avoid tree damage, with the support posts for the frame placed to avoid damage to major tree roots. Other protective measures, such as tying of branches and wrapping in burlap may be employed if deemed necessary by the Natural Resources Manager.

Visual surveys to assess vegetation damage will be routinely conducted by the Project Compliance Manager and/or the Natural Resources Manager.

Signs, barricades or other material will not be secured to trees or shrubs.

No pesticides or herbicides will be used on the Project.

1.1.3 Vegetation Trimming and Necessary Removal

Generally, the construction route was designed to minimize trimming and removal of trees and shrubs. At two locations, in the Central Pine Barrens, removal of trees will be necessary.

As stated above, some tree trimming will be required along Speonk-Riverhead Road. To minimize tree trimming to the furthest extent possible, construction operations in this area will take place from the roadway, east of the trench. Under no circumstances will vehicles or equipment be allowed to operate from the west side of the trench if such operation threatens the integrity of the trees alongside the road. As detailed in the design drawings, the centerline of the trench will be located approximately 20 feet west of the centerline of the road. If for any reason the trench deviates from the design location, such deviation will be towards the road. The southbound lane of Speonk-Riverhead road will be closed during construction. The only activities permitted in the above referenced "No Disturbance Buffer" will be the laydown and fusion of conduits and laydown of cable.

Some clearing of trees will be required at the intersection of Route 27 and Speonk-Riverhead Road, at the intersection of Route 27 and Bellows Pond Road, and at several locations along Route 27, east of Exit 65. Clearing will also be required along portions of the Long Island Rail Road (LIRR) right-of-way east of Hill Station Road. In

these cases, tree removal is necessary due to limited existing cleared areas within the rights-of-way, and other physical constraints, along with various cable design requirements. As stated above, areas in which clearing is required are identified in Table 1.

In those areas where clearing is necessary, the right-of-way will be clearly flagged so that only those trees within the certified corridor will be cleared. Tree removal will be kept to the absolute minimum required for safe and efficient installation of the conduits, especially in those areas of the project adjacent to residential properties. By doing so, existing sound attenuation attributable to natural vegetation will be maintained as much as possible. Tree and shrub removal will be conducted according to standard tree removal practices and performed by experienced and qualified personnel. These personnel will operate under the direction of the Natural Resources Manager. Roots and stumps of removed trees will be excavated and removed to a depth not less than 18 inches below existing ground level. Shrub stumps and roots will be excavated on an individual basis as determined by the Project Compliance Manager. Tree clearing will not obstruct public roadways or walkways, other existing utilities, paths and other similar improvements.

Trees, shrubs, and branches planned for removal will be identified by the Project Compliance Manager prior to construction. The Project Compliance Manager will work with the Natural Resources Manager and the Contractor to minimize impacts. As stated above, areas outside of the boundaries of the certified corridor will not be cleared.

Tree trimming will be conducted by qualified and approved personnel in accordance with recognized tree surgery practices. Approval of tree

trimming and removal personnel will be the responsibility of the Natural Resources Manager.

Cleared vegetation will be disposed of by chipping and hauling off site for disposal. Chips will not be spread on the right-of-way.

1.1.4 Plant Root Protection and Excavation Methods

Generally, the construction trench will be excavated to a depth of approximately five feet and a width of approximately 42 inches at the bottom. Because of the sandy nature of the soils along the route, it is anticipated that the trench may be up to eight feet wide at grade. However, existing conditions and interferences may also affect trench depth and width at some locations.

In designated areas where the trench will be directly adjacent to mature or significant trees, special precautions will be taken so as not to disturb the roots of these trees. Excavations will be kept to the absolute minimum size necessary to safely and efficiently install the conduits. Whenever large tree roots are encountered, and excavation by mechanical means could cause significant damage to the roots, further excavation in the root vicinity will be done by hand.

Tree roots will be protected from damage. If roots need to be or accidentally become severed, roots will be cut clean and natural resins will be allowed to seal the cuts. Roots will be exposed for the minimum amount of time required for excavation, conduit installation and backfilling of the trench.

### 1.1.5 Ground Cover Protection

To the extent possible, construction activities will avoid damage to existing grass and other ground cover. Construction and ancillary activities will be confined to the smallest possible area required for safe and efficient installation of the cable.

Stockpiling of debris and construction materials or storing of equipment on unpaved areas will be permitted only in predesignated areas at the direction and/or with the approval of the Project Compliance Manager.

## 1.2 Water Resources

The protection of surface waters and groundwater resources is a primary objective of this EM&CP. Specific protection measures are discussed below.

### 1.2.1 Surface Water Resources

The Project involves crossing the Shinnecock Canal. The canal crossing will be accomplished by attaching the cable conduits to the steel framework on the underside of the roadway bridge. At either end of the bridge the conduits will make their vertical descent by being attached to the concrete bridge piers which are located approximately 10 feet landward of canal bulkheads. Once at ground level, the conduits will again be installed in the trench.

Details for this phase of the project are provided in the previously filed design drawings (Drawings RVR38-FS-02000-0 and RVR38-FS-02001-0).

Special procedures will be utilized to minimize and contain any falling debris during construction. These methods will include the use of solid work platforms and protective netting and/or tarpaulins to catch debris. The platform and barriers will be sufficient to effectively isolate the work area from the canal and prevent the accidental discharge of debris into the water and adjacent roadways. The Project Manager will inspect all barriers and control measures prior to construction at the canal. Additionally, because of varying intensities and flow direction of the currents in the canal, along with boat traffic, it is not currently anticipated that boat or barge mounted equipment will be utilized to attach the conduits to the bridge. The Project Compliance Manager will be responsible for providing the United States Coast Guard with timely notification so that the work at the bridge can be included in the Coast Guard's Local Notice to Mariners.

Spoils will not be stockpiled or deposited where there is a possibility that sediment may enter the canal during rain events or accidental releases. All storm drains within 100 feet of the canal will be protected during construction activities by use of one or more of the following measures: haybales, sediment control fencing, filter fabric and/or solid barriers placed over storm drain inlets. These measures are further discussed in Section 1.3 - Erosion and Drainage Control.

Equipment or machinery will not be washed in the proximity of the canal.

Under no circumstances will vehicles or equipment be refueled in the proximity of the canal.

### 1.2.2 Groundwater Resources

The Applicant will ensure that excavation and grading will be performed in such a manner that the site will be effectively drained. It is not anticipated that any water diversion devices will be required on the project. Water will be able to drain naturally. Existing drainage patterns will not be permanently altered.

It is not anticipated that any dewatering will be required on this project. However, if it is required, the Project Compliance Manager will be immediately notified, prior to any dewatering. Any dewatering will be performed by use of submersible pumps (i.e., mudsuckers, sump pumps, etc.). Wellpoint dewatering will not be utilized. Groundwater encountered during construction will be pumped from the excavation, settled and/or filtered through sediment filter bags and discharged into storm drains or other existing drainage systems. If no storm drains or other drainage systems are available, water may be discharged to the ground, provided the discharge location is down gradient from the excavation.

The cables will be installed via directional drilling at the two freshwater wetlands located along the proposed route. The first wetland is located along the LIPA right-of-way, north of County Road 51. The second wetland is located on the LIRR right-of-way, west of Southampton College. These locations are identified on sheets 2, 32 and 33 of the Plan and Profile drawings. A minimum of 20 feet of cover will be maintained when the cable traverses under the wetlands. Entry and exit pits will be located outside the wetland boundaries. No personnel or equipment will enter into the wetlands.

## 1.3 Erosion and Drainage Control

The potential for erosion at a construction site is determined by the existing soil, slope, rainfall intensity and planned construction methods. Erosion and sedimentation can be controlled effectively if certain principles are followed in the use and treatment of the construction area. These principles are:

- Leaving the trench and stockpiled material exposed for the shortest time possible,
- Reducing runoff velocity and directing runoff,
- Detaining runoff and trapping sediment, and
- Releasing runoff safely to existing storm drains.

These principles will be applied to the project construction areas. Erosion control practices, which will be followed for the duration of the project, will include a planned rapid construction period and minimum time period where the trench will be left exposed. Grading will occur on those areas planned for immediate construction to minimize potential runoff. A minimal construction area will be maintained. Permanent vegetation will be reestablished as soon as possible following construction in unpaved areas.

During trench excavation, materials that are temporarily stockpiled will be protected from erosion through the use of temporary measures, such as hay bales or silt fencing. To prevent wind erosion and dust problems, the stockpiles will be sprayed with water or covered and staked if necessary. Excavated material will not be stockpiled along public streets.

As discussed above in Section 1.2.2, if dewatering of the trench is necessary, the water will be filtered through a sediment filter bag prior to discharge in order to trap sediment and to help diffuse the flow of water. Diffusion of the

flow will help reduce the potential of soil scouring. Any sediment trapped within the filter bag will be removed at the conclusion of the dewatering operation and returned to the trench during backfill operations.

Where necessary, disturbed areas will be protected with mulch. Mulch is essential in establishing good groundcover where it is difficult to establish plants. By reducing runoff, the mulch will allow more water to infiltrate the soil and reduces the loss of soil moisture by evaporation. It also helps to hold seed in place and reduces seedling damage from soil heaving caused by freezing and thawing.

Hydro-seeding (or hydro-mulching), in which grass seed, fertilizer and mulch are applied as a slurry will be used on grassy roadway shoulders, especially along the unpaved road shoulders traversed west of the Shinnecock Canal.

A temporary grass cover or jute netting will be used in areas where revegetation may take longer. Jute netting, a coarse, open-mesh, web-like material, may be applied directly on the soil to protect exposed soils and newly seeded areas, and to hold down straw mulch.

## 1.4 Sensitive Land Uses

Sensitive land uses were identified during the routing of the Riverhead-Southampton Cable Project and are noted in the Application. Sensitive land uses include schools, hospitals and emergency facilities (police, fire and ambulance). Hospitals, police and fire stations, and ambulance facilities are considered sensitive land uses because construction activities have the potential for disrupting usual emergency vehicle routes. Schools are considered sensitive land uses due to the potential for disruption of normal school bus access and pedestrian traffic and the necessity for providing site

security. When construction takes place in the vicinity of an identified sensitive land use, all emergency vehicle access will be maintained to ensure public health and safety. All non-emergency vehicle access will likewise be maintained.

Recreation areas traversed by the project are also considered sensitive land uses. The land immediately adjacent to either side of the Shinnecock Canal is considered a recreational area, as saltwater fishing is popular along both sides of the canal. As such, precautions will be taken so as not to unnecessarily impede vehicular traffic to the edge of the canal. Impacts will be minimized by working in this area during weekdays only, when recreational use is lighter.

## 1.5 Noise-Sensitive Areas

Residential areas immediately adjacent to the route are generally considered noise-sensitive, although actual ambient noise levels may vary depending on location and proximity to high traffic areas. During construction in these areas, which are limited to the segment east of Route 24 (Exit 65 of Route 27), construction will bring noise levels higher than ambient levels. However, all construction activities will be undertaken to minimize potential noise problems, and all construction vehicles and equipment will be equipped with appropriate engine exhaust mufflers.

It is currently anticipated that work will take place between the hours of 7:00 AM and 7:00 PM in those areas considered to be noise-sensitive, although work may extend beyond 7:00 PM in order to safely complete an activity, such as completing a splice or backfilling the trench or manhole. Extended hours may be worked only with prior approval by the Project Compliance Manager. Heavy construction equipment will be outfitted with low noise

mufflers. If the use of low noise mufflers does not adequately mitigate construction noise, temporary noise barriers may be erected to reduce, deflect or control noise when working between the hours of 7:00 PM and 7:00 AM. In the event these noise control measures are not effective, the Applicant will consider rescheduling the use of heavy equipment in noise-sensitive areas.

If work is to be conducted after dusk and/or during evening hours, auxiliary lighting will be made available so that work may continue in a safe manner. All traffic signs related to the project will be sufficiently lit during evening work hours so as to provide adequate traffic safety for the public.

## 1.6 Cultural Resources

The New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) has confirmed that no historic sites will be impacted by the project. In addition, Dr. David Bernstein, Director of the Institute for Long Island Archaeology at the State University of New York at Stony Brook, was retained to conduct an archaeological survey of the route, as OPRHP had identified several potential significant archaeological sites in the general vicinity of the project route. All field work pertaining to the survey has been completed. One small prehistoric Native American site was identified during Stage 1 of the survey and the results suggest that the site is a stone tool manufacturing station. There will be no site preparation or construction in the area between stations 920+00 and 985+00 (as depicted on sheets 32 through 34 of the Underground Transmission Line Route Plan) until the Applicant has submitted and received approval of detailed plans for access, construction and restoration of the facility indicating resource protections appropriate to project cultural resources at that site, as an amendment to this EM&CP.

Work will stop immediately in the event that any suspected archaeological or cultural resource is encountered during construction. All suspected resources will be examined by a certified professional archaeologist. If the resources are believed to meet or have the potential for meeting eligibility criteria for the State or National Registers of Historical Places or are believed to be archaeologically significant, OPRHP, the State Archeologist and Commission Staff will be notified and advised of proposed mitigation measures. It is proposed that the OPRHP and Commission Staff would review and comment on the proposed mitigation measures. After concurrence, the Applicant will ensure that appropriate mitigation measures are implemented.

## 2.0 STANDARD CONSTRUCTION PRACTICES

Construction of the Riverhead-Southampton Cable Project will be carried out in accordance with standard construction practices and detailed construction specifications. These practices and specifications are embodied in this EM&CP.

### 2.1 Construction Equipment Requirements

Generally, construction activities associated with a typical section of trench are estimated to have a duration of seven to ten workdays. This includes layout and fusing of conduit, pavement breaking (as necessary), excavation, laying of conduit, backfilling, and temporary restoration. Manhole installation, which will require similar activities, may take as long as 10 to 15 work days. Construction activities associated with cable pulling and splicing will extend the duration of the activities at the manhole locations.

Noise impacts due to construction activities are directly related to the type of equipment required (magnitude) and the average length of construction time (duration).

The loudest pieces of equipment are associated with breaking up the pavement and excavating the trench. These equipment items include pneumatic and hydraulic equipment including pavement saws and trenching machines. Cranes will also be utilized to lift and place conduit in the trenches and to install the various manholes.

**Village of Southampton:**

Generally, construction activities will occur from 7:00 AM to 6:00 PM Mondays through Saturdays. Work will not take place on Sundays within the Incorporated Village of Southampton.

It will be necessary to include some evening/night-time hours (6:00 PM to 7:00 AM ) in the schedule to accommodate splicing and final testing. No evening/night-time work will occur within the Village of Southampton except splicing and final testing activities at the manhole, which may be conducted in the Village on a 24-hour per day basis, when necessary.

LIPA shall provide written notice to the Village of Southampton and to residents of all affected neighborhoods prior to evening/night-time construction, and shall indicate a contact person and 24-hour telephone number for handling complaints related to construction noise.

During hours that are otherwise noise restricted (6:00 PM to 7:00 AM), LIPA will use noise attenuated generators and compressors (such as Quiet Zone™ or similar equipment) and/or portable noise barriers to minimize noise from construction activities.

**Town of Southampton (Outside Village):**
Generally, construction activities will occur from 7:00 AM to 7:00 PM Mondays through Saturdays. Work may also take place on Sundays from 7:00 AM to 7:00 PM.

**Residential Areas, including Route 27, from Exit 65 to the Shinnecock Canal and from Peconic Road to the Village of Southampton line:**
It will be necessary to include some evening/night-time hours (7:00 PM to 7:00 AM) in the schedule to accommodate splicing and final testing. No evening/night-time work will occur within the residential areas of the Town of Southampton except splicing and final testing activities at the manhole, which may be conducted in the Town on a 24-hour per day basis, when necessary. LIPA shall provide written notice to the Town of Southampton and to residents of all affected neighborhoods prior to evening/night-time

construction, and shall indicate a contact person and 24-hour telephone number for handling complaints related to construction noise.

During hours that are otherwise noise restricted (7:00 PM to 7:00 AM), LIPA will use noise attenuated generators and compressors (such as Quiet Zone™ or similar equipment) and/or portable noise barriers to minimize noise from construction activities.

**Non-Residential Areas, including:**

- **Riverhead Substation to Route 51;**
- **Route 51, from the LIPA right-of-way to Speonk-Riverhead Road;**
- **Speonk-Riverhead Road (especially in proximity of Suffolk Community College; and**
- **Route 27 from Speonk-Riverhead Road to Exit 65 (Route 24).**

LIPA shall be free to conduct all construction activities in these areas on 24-hour basis, as needed.

## 2.2 Construction Methods

The trench centerline, manhole locations, and details relating to the project construction are shown on the Plan and Profile drawings. Specific procedures and methods pertaining to trench excavation and protection of work areas are detailed below.

### 2.2.1 Trench Excavation

The limits of excavation will be identified prior to excavation. The excavation limits will be clearly identified by the Contractor and approved by the Field Coordinators and Project Compliance Manager. Public utilities will be notified and requested to mark their underground services according to the New York State Department of Public Service regulations, to avoid disruptions or damage. Prior to excavating, testholes will be dug at potential interference areas to assure avoidance of other underground utilities. In addition, the Applicant will comply with the applicable New York State Department of Public Service gas regulations when construction is required near existing gas lines. Prior to excavation, arrangements will be made to accommodate individual needs, such as maintaining continuous access to businesses and private properties during construction.

Pavement will be sawcut prior to excavation. The pavement within the saw-cutting limits will be broken into pieces, loaded onto dump trucks and removed from the site (see Section 3.1 - Cleanup and Disposal).

After pavement removal, excavation for the pipeline trench and manholes will be performed using a backhoe or other suitable excavating equipment. Excavated roadway material (i.e., asphalt or concrete) will not be stockpiled along public streets, but rather loaded onto dump trucks and removed from the site. This material will not be used to backfill the excavation. Other excavated materials that are temporarily stockpiled will not be stockpiled over catch basins, manholes, vault covers, or other utilities. Large rocks encountered during excavation will be removed and disposed of off-site.

### 2.2.2 Trench Shoring

Trench shoring will be used when necessary to prevent caving of surrounding earth and pavement and to support the walls of the excavations until the conduits and/or manholes are set in place. Installation of temporary sheet piling and shoring will be in accordance with OSHA (Occupational Safety and Health Administration) requirements. It will also be necessary to shore the excavation along certain areas of Route 27, where the trench is in close proximity to the paved roadway shoulder. The decision to shore in these areas and the adequacy of trench shoring will be determined by the Project Manager, Field Coordinators and the NYSDOT Area Engineer.

Trench shoring will be removed prior to backfilling operations.

### 2.2.3 Root Protection During Trench Excavation

Tree and shrub roots in the trench excavation area that become severed during excavation will be cut clean according to standard pruning practices, as described in Section 1.1.4.

In designated areas where the trench will be directly adjacent to mature or significant trees, special precautions will be taken so as not to disturb the major roots of these trees. Excavations will be kept to the absolute minimum size necessary to safely and efficiently install the conduits. Whenever large tree roots are encountered, and excavation by mechanical means could cause significant damage to the roots, further excavation in the root vicinity will be done by hand.

Roots will be exposed for the minimum amount of time required for excavation, conduit installation and backfilling of the trench.

## 2.3 Worksite Safety

All worksites will be kept as neat and clean as possible, free from hazards that could cause accidents and annoyances. The Contractor will be responsible for properly fastening or protecting all equipment that could under conditions of storm and/or darkness be the cause of accidents, service interruptions, conflict with the operation of existing utilities, or endanger persons or property. The Contractor will provide and maintain all worksite security including trench covers, signs, lights, barricades, and warning devices to minimize hazards from open trenches and to maintain the movement of vehicles and pedestrian traffic. Jacking pits and directional drilling pits will be secured with appropriate fencing and/or rigid barriers so as to prevent unauthorized entry and to ensure public safety.

The health and safety of construction workers will be protected. OSHA-approved fire and first aid equipment will be provided by the Contractor at each construction site. Emergency police, fire and hospital phone numbers and locations will be made available at all field locations. Trench shoring will be used when necessary to prevent the caving of surrounding earth and pavement (see Section 2.2.2 - Trench Shoring). All excavations will comply with the requirements of OSHA standards. Generally, trench walls more than five feet high will be shored if the trench will be entered into by workers. In addition, bracing and shoring of trenches less than five feet in depth may be required. Pre-fabricated welding/shoring boxes may be utilized to satisfy the need for trench shoring.

At least five days prior to construction, notice will be sent to all emergency services such as fire departments, police departments and hospitals. This advance notice will provide sufficient information for the public and emergency services to plan alternate routes which avoid the construction area and potential congestion. Additionally, sufficient information will be provided so that adequate response can be made to the worksite in the event of a medical or fire emergency. In all instances access to fire hydrants and emergency vehicle access will be maintained on all roadways within the project area.

Access for emergency vehicles to and from their facilities will be maintained at all times, as per New York State Department of Transportation regulations. (see also Section 2.5 - Traffic Control Plan).

While work is taking place along the LIRR right-or-way, from Hill Station Road to the Southampton Substation, it may be necessary to employ a railroad flagman to ensure the safety of construction workers and the public. The need for a flagman will be determined jointly by the Applicant and the designated Long Island Railroad official.

## 2.4 Fuel, Oil, and Chemical Storage and Handling

Training and instruction will be provided to all contractor personnel to ensure that the following requirements are met.

No fuels, oils, lubricants, chemicals, or other potentially harmful substances required during construction will be stored in the construction area. Storage of these materials will not occur within 100 feet of the Shinnecock Canal or the freshwater wetlands located along the LIPA easement or LIRR right-of-way. Additionally, these materials will not be stored near any school or park

or other areas that children would frequent. Should any of the above mentioned materials be accidentally spilled on the right-of-way, the Contractor will take immediate action to contain and recover the spilled materials. Immediate notification will be made to the Field Coordinator and/or Project Manager who will be responsible to notify the KeySpan Energy/LIPA 24-Hour Spill Response Program by means of the designated Spill Pager. Notification will also be made to the Project Compliance Monitor and/or Environmental Coordinator. Depending on the severity of the spill, cleanup procedures will be undertaken immediately by KeySpan Hazardous Materials Responders or designated Spill Response Contractors. Suitable absorbent materials will be readily available in sufficient quantities for containment and clean-up purposes.

Most fueling of construction vehicles and equipment will be accomplished along the right-of-way by use of a dedicated fuel-dispensing vehicle. Sufficient quantities of absorbent pads and containment materials will be on hand. Fueling of construction equipment and vehicles will not occur within 100 feet of the Shinnecock Canal or the freshwater wetlands described above. Personnel responsible for fueling of vehicles will be fully trained in spill prevention and containment and will be provided with copies of KeySpan/LIPA's General Operating Procedure "Management of and Response to Non-Fuel Oil Spills from Company Operations" (GO-10329) and KeySpan/LIPA's "Spill Notification Directory." Designated fuel-dispensing vehicles will be returned to a designated staging site away from the construction areas. These sites may be either a KeySpan/LIPA Operations Center or other appropriate site.

No pesticides or herbicides will be used on the Riverhead-Southampton Cable Project.

## 2.5 Traffic Control Plan

All work within State highway rights-of-way will be performed according to the traffic and safety standards and other requirements as required by the NYSDOT. Work within Suffolk County and Town of Southampton rights-of-way will be performed in accordance with the respective agency's requirements. Maintenance and protection of traffic for all construction will comply with rules and regulations included in the New York State Manual of Uniform Traffic Control Devices and the New York State Department of Transportation Standard Specifications and Standard Details. The standard practices which are most applicable to the cable installation as described below will be used to mitigate the impacts of construction:

As necessary, flagmen or police officers will be employed to direct traffic through the work zone. Flagmen will be used to protect motorists and pedestrians from injury due to the construction equipment and to protect construction workers from oncoming motor vehicles. Standard construction signage according to the New York State Manual of Uniform Traffic Control Devices will be used to supplement flagmen and police officers.

When two-way traffic is alternately placed in one lane, the traffic flow will be maintained by flagmen or police. It is currently anticipated that this procedure will be utilized along Speonk-Riverhead Road, Newtown Road, Canal Road, Peconic Road, Longview Road, and Hill Station Road.

In those areas where lane closure is required, and a significant traffic impact could result from such closure, construction will be scheduled for off-peak periods (e.g., between 10:00 a.m. and 3:00 p.m.) in order to reduce the congestion during the morning and evening rush hours.

The Applicant will publish a public notice indicating proposed construction schedules. This notice will be published in a local newspaper at least five days prior to construction. This notice will be in addition to the notifications made to local emergency services such as fire departments, police departments, and hospitals.

It is currently anticipated that the only road closing will be on Hill Station Road at the LIRR overpass. Access is such that while trenching and conduit installation takes place under and approaching the overpass structure, there will not be sufficient room to provide for a single lane of traffic. Signage will be provided at both ends of Hill Station Road, at Montauk Highway (Rte. 27A) and Sunrise Highway (CR 39) informing motorists of the closure. Residents of the area proximate to Hill Station Road and emergency services will be given notice of the road closure at least 48 hours in advance. Access for emergency vehicles will be maintained at all times. Road plates will be available at this location so that the trench can be covered immediately in the event of an emergency.

All construction signs will be covered or removed when the work they pertain to is not in progress.

Temporary signs will not be placed at any location where they would be obscured by temporary or permanent objects. Visibility will be maintained throughout construction activities.

As part of the basic maintenance and protection of traffic, the Contractor will be required to perform maintenance cleaning of the pavements within the contract limits when directed by the Field Coordinator. Maintenance cleaning means the removal of debris from any source which, in the opinion of the Field Coordinator or other designated representative, impedes the flow of

traffic or storm water or poses a potential safety hazard. In the event the Contractor's construction vehicles track dirt or other debris outside the construction area, he will be directed by the Field Coordinator to perform maintenance cleaning. Any travel lane closed for construction will be swept clean by the Contractor before the lane is re-opened to traffic. This may require the use of mechanized street sweepers.

## 2.6 Construction Schedule

It is currently anticipated that construction will commence upon receipt of the PSC Certificate and be substantially complete by July 1, 2000. This schedule is dictated by the need to provide an additional electric feed into Long Island's South Fork before the projected summer peak load season. Multiple locations will be worked simultaneously. In some locations, some aspects of final restoration, such as re-vegetation, may take place later in the year to coincide with more favorable growing conditions. Final paving may also take place later to allow for proper compaction of soils.

## 2.7 General Design Criteria

The general design criteria for the Riverhead-Southampton Cable Project were provided in the Article VII Application. The cable design and performance will meet all aspects of the latest version of Association of Edison Illuminating Companies Standard AEIC CS-7, Insulated Cable Engineers Association (ICEA) S-66-524, and American Society For Testing Materials (ASTM) B-3. System design will comply with applicable sections of the National Electric Code (NEC) and the National Electrical Safety Code (NESC). The detailed design is reflected in the Plan and Profile drawings.

The baseline (i.e., centerline) of the trench and the location of manholes is shown on the Plan and Profile drawings, along with other existing utilities and associated roadway features (i.e., curbs, medians, driveways, etc.). The designed depth of the trench is indicated in the profile portion of the Plan and Profile drawings.

## 2.8 Construction Paths

To safely and efficiently move personnel and equipment to, from, and along the construction corridor, it will be necessary to construct temporary construction paths along two stretches of the project. These locations are:

- LIPA right-of-way, from Route 24 to County Road 51.
- LIRR right-of-way, from Hill Station Road to Southampton Sub-Station.

These construction paths are necessary because of significant grade changes along the route and/or because of unstable soil conditions. The paths will be constructed immediately adjacent to the proposed trench. Along the LIRR right-of-way, the construction path may be constructed partially on the LIPA easement area, which is immediately adjacent to the LIRR right-of-way, provided temporary working easements can be obtained from the affected private property owners. The paths will be rough graded prior to the installation of crushed stone, gravel, or other suitable materials. After installation of the cables, all such materials will be removed. The paths will be returned to original grade, except in those localized areas where there is significant existing erosion.

## 3.0 RESTORATION

Vegetation restoration for the construction areas will include preparation of the soil for subsequent plantings, application of topsoil (if necessary) on unpaved areas, and the seeding of grass and planting of shrubs and trees. The Natural Resources Manager will survey vegetation restorations and record vegetation areas and plantings that are not satisfactory. Vegetation plantings will be performed by a qualified nursery and supervised by the Natural Resources Manager. Restoration also includes the repair and replacement of sidewalks, curbs, and road pavement. Temporary restoration, including hydroseeding or mulching of grassy areas and temporary paving of disturbed roadways will be performed within 10 days of backfilling of the trench. Final restoration will be performed in conformance with the time frames detailed below. The Applicant will notify the Commission within 10 days following completion of final restoration.

### 3.1 Cleanup and Disposal

Cleanup and disposal of vegetation will occur on a daily basis during trimming and construction clearing. Cleared vegetation will not be burned, buried or stockpiled along the right-of-way, and will be removed at the end of each workday wherever and whenever possible. Cleared vegetation will be disposed of by chipping and hauling. Obstructions caused by cleared materials will be removed as soon as possible during the workday.

All debris resulting from demolition, clearing, grubbing or stripping will be disposed of at an approved construction debris disposal area in compliance with all applicable regulations. Trucks leaving the work site will be safely loaded and covered. Prior to construction, the Applicant will obtain the locations of proposed disposal sites from the Contractor.

Upon completion of temporary paving all excess sand and backfill material will be hauled from the work site and roadways will be swept clean. No equipment, tools, sheathing, signs, lights, barriers or debris will be left at a completed section of the pipeline.

## 3.2 Vegetation

Vegetation restoration will consist of one or more of the following: replacement of damaged and removed trees, shrubs and ground cover, soil stabilization and placement of appropriate topsoil, and reseeding of grass areas. Furnishing and replacement of vegetation and topsoil are discussed in the following sections.

### 3.2.1 Soil Stabilization, Aeration, and Fertilization

In unpaved areas, and where deemed necessary and feasible by the Natural Resources Manager, pre-existing topsoil will be re-applied over the closed trench. No topsoil from off-site will be brought in. Excess soils will be removed from the site, although excess topsoil may be used in other areas along the project route where it is needed.

Foreign materials and any contaminated soils will not be used for topsoil. Following placement of topsoil, the area will be raked and large stones, rocks and weeds will be removed. The replaced soil will be properly graded to conform to existing ground level. The topsoil will be worked and applied under dry conditions.

No chemical fertilizers will be used. If deemed necessary, naturally derived peat humate and mycorrhizae biostimulants will be added to the soil to enhance plant establishment.

### 3.2.2 Mulching

Mulch will be applied to areas that will be seeded in erosion prone locations and can also be used to protect areas brought to final grade at an unfavorable time for seeding or plant transplanting. The areas can then be planted when the time is appropriate without removing the mulch. Mulch will also be applied to the immediate vicinity of replacement plants to encourage the retention of moisture. Mulching will reduce loss of soil moisture by evaporation and will decrease the possibility of seedling damage from soil heaving caused by freezing and thawing.

Mulch will be spread uniformly in a continuous blanket of sufficient thickness. The mulch may be spread by hand or machine. Mulch may be spread before or immediately after planting. Anchorage, such as jute mesh, will be used as required.

See Section 1.3 - Erosion and Drainage Control for additional information concerning mulching.

### 3.2.3 Vegetation Plantings

A detailed preconstruction vegetative survey, complete with photographs, will be performed by the Natural Resources Manager.

In the area east of the freshwater wetland on the LIRR right-of-way, the Applicant is working with the Town of Southampton on a specialized restoration plan. This area is dominated by maritime grasslands and maritime heathlands which are considered unique.

There will be no site preparation or construction in the area between stations 920+00 and 985+00 (as depicted on sheets 32 through 34 of the Underground Transmission Line Route Plan) until the Applicant has submitted and received approval of detailed plans for access, construction and restoration of the facility indicating resource protections appropriate to protect biological resources at that site, as an amendment to this EM&CP.

From Hill Station Road to the Southampton Substation, reseeding will be performed using native seed mixes.

In the vicinity of Newtown Road in Hampton Bays and along the LIRR right-of-way, from Hill Station Road to Southampton College, special attention will be paid to maintaining those existing trees that provide significant screening for residential structures.

Trees, shrubs, grass and groundcover plants removed or damaged as a result of construction activity will be replaced if deemed necessary by the Natural Resources Manager. An assessment of damage to remaining trees and shrubs will be conducted one growing season following construction to record latent damage. Construction-related damage will be determined by the Project Compliance Manager and Natural Resources Manager, with consideration given to the condition of the tree at the time of construction as recorded during the vegetation survey.

Remedial repairs will be made to trees damaged by construction activities. Repairs will be completed by an experienced tree surgeon. The Natural Resources Manager, or authorized representative, will

identify all trees, shrubs and groundcover plants necessary for replacement and will supervise the plant replacement.

Replacement trees, shrubs, and other groundcover plants will be of species typical of the area depending on nursery availability. In natural areas, the area will be re-seeded with native grass species and tree seedlings will be planted. In improved areas, the areas will be re-seeded with native grass species and native or non-native trees and shrubs will be planted to replace landscape trees. Agreements will be established with adjacent property owners to provide the newly planted trees and/or shrubs with adequate water.

Plants which fail to meet specifications as described by the American Standard for Nursery Stock will be rejected by the Natural Resources Manager. All plants will be properly protected from damage or drying during transport between the nursery and time of planting.

The Natural Resources Manager will direct the Contractor, who will furnish, plant, dig, transplant, fertilize and replace all plant material. Tree and shrub planting methods will follow New York State Department of Transportation standard planting specifications. All plantings will have a one-year replacement guarantee.

The Applicant will coordinate right-of-way maintenance schedules and techniques so as to prevent damage to plantings.

### 3.2.4 Groundcover Restoration

Roadway median strips and grass shoulders which are damaged will be repaired by regrading and hydro-seeding equivalent to the existing

grassy turf type. The entire seeded area will be watered with a fine spray until a uniform moisture depth of one inch has been obtained. If hydro-seeding is not feasible appropriate grass seed will be utilized. Seeding may be performed by means of broadcasting or drill seeding. Mulching and anchoring the mulch may be necessary in some areas. Upon final restoration, groundcover will be a minimum of 70%.

3.2.5 Planting Time Periods

For optimum growth and success, deciduous plants will be planted from approximately March to May and/or from approximately October to December. Evergreen plants will be planted from approximately April to May and/or from approximately September to October. No planting shall be conducted in frozen topsoil or when the soil is in an unsatisfactory working condition as determined by the Natural Resources Manager.

If grassy areas are approved for seeding, the seeding will be conducted during optimal time periods which are approximately between April and May for spring seeding and approximately August and September for fall seeding. Seeding will not be permitted during high winds or when the ground surface is too wet or too dry for proper working.

3.2.6 Plant Inspection and Maintenance

The Natural Resources Manager will inspect plants in containers prior to planting and will inspect plant locations to verify compliance with appropriate landscaping plans. The Natural Resources Manager will also conduct an inspection after completion of planting and a final

inspection at the end of the maintenance period to ensure that previous deficiencies have been corrected.

Maintenance of all tree, shrub and herbaceous vegetation will consist of a thorough inspection of all species following planting (end of second growing season). All dead trees and shrubs will be replaced with individuals of the same species during the planting period specified. Grass areas will be surveyed to determine degree of success. Unsuccessful, thin and bare patches will be replanted with seed of the same species mix and quality.

## 3.3 Paving Replacement

Project site restoration will include removal of temporary access, complete grading of all scarified or rutted areas, removal of debris, and replacement of curbs and roadways.

### 3.3.1 Sidewalks and Curbs

In the event a sidewalk or curb is damaged during construction, it will be replaced, or restored to at least as-found condition.

### 3.3.2 Paving

The Applicant will determine the limits by which pavement preceding the open trench will be scarified in preparation for removal.

After the conduits have been laid, the backfill and restoration activities will take place in two stages. The first stage will include the backfilling of the trench and compacting of the backfill materials in layers to

minimize settling. In paved areas, temporary restoration of the pavement will be made as soon as possible after backfilling operations are complete (within 10 days). Upon completion of the temporary paving all excess sand and backfill material will be hauled from the site and the site swept clean.

The second stage of pavement restoration will consist of permanent repaving after the excavation has been allowed to settle. Provided the project is installed in the first half of 2000, it is currently anticipated that final paving will be performed before January 2001. The Applicant will ensure that permanent repaving will restore the surface to final grade and condition at least as good as found prior to construction, meeting the requirements of the agency having jurisdiction over the roadway. Pre- and post-construction photos of road surfaces will be used to document the paving restoration.

## 4.0 PROJECT SUPERVISION

### 4.1 Project Management

The Project Manager will have overall responsibility for the project including engineering, design, construction, and coordination of the various construction-related activities.

The Project Manager will be assisted by the Environmental Coordinator, Project Compliance Manager, Natural Resources Manager, Engineering Manager, and Field Coordinators.

The Project Manager will be responsible for ensuring that construction is in conformance with the project schedule, the authorized budget, the design and contract documents and the EM&CP. The Project Manager will have stop-work authority and will be assisted by Field Coordinators who will be on the job throughout the construction and restoration period. The Field Coordinators will also have stop-work authority.

The Engineering Manager will be responsible to assure proper installation and testing of the cable and assorted equipment while providing engineering support throughout the project.

The Project Compliance Manager will be responsible for monitoring the site environment and communicating the environmental criteria of the EM&CP to the Contractors, Project Manager and Field Coordinators.

The Natural Resource Manager will be available throughout all construction phases of the project. The Natural Resource Manager will assist the

Environmental Coordinator and Project Compliance Manager and will help ensure implementation of environmental protection provisions specified by the Commission for construction and site-restoration activities.

The Natural Resource Manager and/or Project Compliance Manager will administer any authorized changes to the EM&CP required during the project. The Natural Resource Manager will have stop-work authority and will be authorized to direct the Project Manager to take specific steps to enforce environmental requirements.

## 4.2 Complaint Procedures

Individuals along the construction work area will receive notification of the anticipated start of construction as well as the location of the Applicant's Operations Center in their immediate area.

Complaints concerning construction and operation of the certified facilities will be routed to the Applicant's Community Relations Office, which will fully discuss the nature of the complaint with the complainant. Thereupon, the Applicant will investigate the problem and the course of action necessary to address the situation.

Upon completion of all actions with respect to the complaint, the Project Compliance Manager will record the outcome of the investigation as well as the resolution program, and file completed forms with the Commission staff upon project completion.

The Applicant will organize and conduct site compliance audits during the clearing, construction and restoration of the project. These audits will be held along the project route on a monthly basis prior to energization of the project

and at least semi-annually for at least one year after the project is fully energized. In addition to a field review of the project, the audit agenda will also include a review of all complaints received and their proposed or actual resolution. Any significant comments, concerns, or suggestions made by the public, local governments or State agencies will also be reviewed at the monthly audits.

## 4.3 Public Notification

Public notification of commencement of construction will be made as discussed in Section 2 of this EM&CP. A public notice will be published in a local newspaper at least five days prior to construction.

Residents and business owners with the potential to be significantly impacted by the project will receive personal notification at least 48 hours prior to construction adjacent to their properties. These advance notices will enable the public and emergency services to plan alternate routes and permit services indirectly affected by the construction to mitigate the impact, such as rerouting emergency routes to avoid the construction area and detour congestion. Each local department or agency normally having jurisdiction over the roads in the project vicinity will be notified at least 5 days in advance of the approximate date construction will begin. Arrangements will be made to accommodate individual needs such as maintaining continuous access to businesses and private properties during construction.

Conventional barricades, warning lights, signs, traffic cones, flagmen, and police will be used to redirect pedestrian and vehicular traffic in order to accommodate construction activities, if necessary.

## TABLE 1

## AREAS OF TREE CLEARING

| Design Drawing Sheet # | Stations | Approximate Linear Footage | Comments |
|---|---|---|---|
| 23 | 655+00<br>658+50 | 300 Ft. | At Bellows Pond Road |
| 25 | 725+50<br>726+75 | 125 Ft. | |
| 25 | 729+00<br>730+00 | 100 Ft. | |
| 26 | 736+50<br>737+00 | 50 Ft. | W/O Squiretown Road |
| 26 | 738+75<br>739+50 | 75 Ft. | E/O Squiretown Road |
| 27 | 779+00<br>781+75 | 275 Ft. | At Rest Area |
| 27 | 789+00<br>791+00 | 200 Ft. | |
| 27/28 | 794+50<br>799+00 | 450 Ft. | W/O Newtown Road |
| 28/29 | 828+50<br>832+00 | 350 Ft. | Entrance Ramp to S.R. 27 |
| 29 | 839+50<br>842+00 | 250 Ft. | |
| 29 | 844+00<br>846+00 | 200 Ft. | W/O D.O.T. Yard |
| 29 | 858+00<br>860+50 | 250 Ft. | At Ascent to Peconic Rd. |
| 32 | 920+00<br>924+00 | 400 Ft. | E/O Hill Station Road |
| 32 | 935+50<br>944+25 | 875 Ft. | W/O Wetland |
| 33 | 955+75<br>956+25 | 50 Ft. | |
| 33 | 965+00<br>966+75 | 175 Ft. | |
| 33 | 968+25<br>969+00 | 75 Ft. | |
| 33 | 971+75 | 50 Ft. | |

| Design Drawing Sheet # | Stations | Approximate Linear Footage | Comments |
|---|---|---|---|
| | 972+25 | | |
| 33 | 972+75<br>975+00 | 225 Ft. | W/O College |
| 34 | 986+00<br>987+25 | 125 Ft. | W/O College Entrance |
| 34/35 | 993+75<br>1010+50 | 1,675 Ft. | E/O College to<br>St. Andrews Road |
| 35 | 1011+00<br>1013+50 | 250 Ft. | E/O St. Andrews Road |
| 35/36 | 1032+00<br>1057+00 | 2,500 Ft. | E/O Tuckahoe Lane to<br>Magee Street |
| 36 | 1067+00<br>1068+75 | 175 Ft. | E/O Moses Lane |
| 37 | 1070+00<br>1070+50 | 50 Ft. | |
| 38 | 1101+00 | 25 Ft. | At Terminal Structure @<br>LIPA Property |