APPLICATION FOR HIGHLANDS APPLICABILITY AND WATER QUALITY MANAGEMENT PLAN CONSISTENCY DETERMINATION

SUSQUEHANNA-ROSELAND 500 KV TRANSMISSION LINE

SUSSEX AND MORRIS COUNTIES, NEW JERSEY

Submitted to:
New Jersey Department of Environmental Protection
Division of Watershed Management
Attn: Highlands Applicability Determination
Trenton, New Jersey

Submitted by:
Public Service Electric and Gas Company
Newark, New Jersey

Prepared by:
The Louis Berger Group, Inc.
Morristown, New Jersey

September 2008
September 5, 2008

TRANSMITTED VIA FEDERAL EXPRESS TO:
Lawrence J. Baier, Director
New Jersey Department of Environmental Protection
Division of Watershed Management
Attn: Highlands Applicability Determination
401 E. State Street, P.O. Box 418
Trenton, NJ 08625-0418

Re: Request for Highlands Applicability Determination for
Susquehanna-Roseland 500 kV Transmission Line
Sussex and Morris Counties, New Jersey

Dear Mr. Baier:

Public Service Electric and Gas Company (PSE&G), a subsidiary of Public Services Enterprise Group submits herein a New Jersey Department of Environmental Protection Division of Watershed Management (NJDEP DWM) application for a Highlands Applicability and Water Quality Management Plan (WQMP) Consistency Determination (Highlands Applicability Determination). The Louis Berger Group Inc. (Berger) was contracted by PSE&G to prepare environmental permit applications associated with the proposed Susquehanna-Roseland 500 kilovolt (kV) transmission line.

PJM Interconnection (PJM), an independent company which operates the electric power grid in thirteen states, including New Jersey and Pennsylvania, has determined upgrades to the existing electric system are necessary to ensure safe and reliable electric service for customers of PSE&G and PPL Electric Utilities Corporation (PPL), and for the rest of the mid-Atlantic region. In 2007, PJM conducted a fifteen year planning study to forecast future transmission expansions required to maintain reliability and integrity of the power grid. Data collected during the study indicated 23 existing power lines in northern New Jersey and eastern Pennsylvania will become overloaded within the fifteen year study period, with some exceeding capacity as early as 2013. As a result, PSE&G and PPL have been ordered by PJM to construct a new 500 kV transmission line between the Susquehanna Switching Station near Berwick, Pennsylvania and PSE&G’s existing Roseland Substation by the summer of 2012.

Portions of the project are located within the New Jersey Highlands Preservation and Planning Areas. Any entity proposing to undertake an activity in the Preservation Area that requires any environmental land use or water permit from the NJDEP shall either clearly stipulate that the proposed activity is subject to the Highlands Act in an application to the NJDEP for an HPAA, or obtain an Highlands Applicability Determination, before submitting an application for the environmental land use or water permit. The proposed project will require a Freshwater Wetlands Individual Permit and a Flood Hazard Area Individual Permit from the NJDEP; therefore, PSE&G is submitting this application for a Highlands Applicability Determination.

As required by the Highlands Water Protection and Planning Act Rules (Highlands Act Rules), PSE&G is submitting this Highlands Applicability Determination. In addition, PSE&G is requesting an exemption from the Highlands Act Rules in accordance with NJAC 7:38-2.3(a) 11. The enclosed application includes the following:

- Two copies of the Highlands Applicability Determination Form;
- Application fee in the amount of $750.00 (Check No. 4000269054);
- Two copies of the Application Report; and
- Two signed and sealed wetland plans.
We trust the enclosed application material will allow NJDEP DWM to commence its review for this project. Should you have any questions or require further information, please contact Robert Pollock of PSE&G at (908) 692-6253 or Edward Samanns of The Louis Berger Group Inc. at (973) 407-1468.

Sincerely,

Raymond Tripodi
Manager – Corporate Licenses and Permits

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PART I
INTRODUCTION

PJM Interconnection (PJM), an independent company which operates the electric power grid in thirteen states, including New Jersey and Pennsylvania, has determined upgrades to the existing electrical system are necessary to ensure safe and reliable electric service for customers in eastern Pennsylvania and Northern New Jersey, including customers of Public Service Electric and Gas Company (PSE&G), Jersey Central Power & Light Company, Sussex Rural Electric Company, and PPL Electric Utilities Corporation (PPL). In 2007, PJM conducted a fifteen year planning study to forecast future transmission expansions required to maintain reliability and integrity of the power grid. Data collected during the study indicated 23 existing power lines in northern New Jersey and eastern Pennsylvania will become overloaded within the fifteen year study period, with some exceeding capacity as early as 2013. As a result, PSE&G and PPL have been ordered by PJM to construct a new 500 kV transmission line between the Susquehanna Switching Station near Berwick, Pennsylvania and PSE&G’s existing Roseland Substation by the summer of 2012. In addition, the 500 kV transmission line must tie into the existing Branchburg to New York 500 kV transmission line.

A multi-disciplinary routing team participated in a comprehensive alternative route identification process to establish a Preferred Route for the Susquehanna to Roseland Transmission Line Project in New Jersey. An initial step in this process included the identification of a study area that would include all reasonable Potential Routes to connect the existing Susquehanna switching station in Pennsylvania with the existing East Hanover/Roseland switching station in New Jersey. The study area was established in collaboration with PPL. Based on the routing team’s assessment of the advantages and disadvantages of the three Alternative Routes under consideration, the routing team selected Alternative B as the Preferred Route in New Jersey.

Alternative B would be constructed entirely within the existing Roseland-Bushkill 230 kV right-of-way (ROW). This route would follow the existing ROW from the Susquehanna switchyard to intervening substations located in northeastern Pennsylvania, cross the Delaware River near Bushkill, continue east along the existing Roseland to Bushkill ROW and terminate at the existing East Hanover/Roseland switching station (which would likely require expansion). Within New Jersey the existing ROW is approximately 150 feet wide and 44 miles long and loops into three substations. A new 500 kV switching station is proposed near Highway 15 (Jefferson), north of the existing ROW and intersecting the Branchburg to New York 500 kV transmission line. The proposed switching station must be situated in this location as the switching station ties into the Branchburg to New York line for electric grid reliability. The existing structures would be replaced with new structures capable of supporting both the 500 kV and 230 kV transmission lines from the Delaware River to the East Hanover/Roseland switching station. The preferred alternative is located within portions of Hardwick Township in Warren County, Stillwater Township, Fredon Township, Newton Town, Andover Township, Byram Township and Sparta Township in Sussex County, and Jefferson Township, Rockaway Township, Kinnelon Borough, Boonton Township, Montville Township, Parsippany-Troy Hills Township and East Hanover in Morris County.

The project area is located within portions of the New Jersey Highlands Preservation Area and Planning Area (Figure 1). As required by the Highlands Water Protection and Planning Act Rules (Highlands Act Rules), PSE&G is submitting this Highlands Applicability and Water Quality Management Plan Consistency Determination (Highlands Applicability Determination). In addition, PSE&G is requesting an exemption from the Highlands Act Rules in accordance with NJAC 7:38-2.3(a)11.
Part II of the application package includes a completed Highlands Applicability and Water Quality Management Plan (WQMP) Consistency Determination Application Form. Part III presents additional information regarding this project including project location, description of proposed activities, and purpose and need.

Part IV presents information required for a Highlands Applicability Determination as outlined in Sections 7:38-2.3, 2.4, 9.1, 9.2 and 10.2 of the Highlands Act Rules. Subchapter 2 of the Highlands Act Rules describes the applicability of the Highlands Act and activities which are exempt for the Highlands Act. Subchapter 9 of the Highlands Act Rules describes the application contents for a Highlands Applicability Determination, while Subchapter 10 clarifies application fee requirements. The project’s compliance with applicable goals of the Preservation Area as outline in Section 10(b) of the Highlands Act and the goals, objectives and policies of the Highlands Regional Master Plan (July 30, 2008) are included in Part IV.
New Jersey Department of Environmental Protection

Highlands Applicability and Water Quality Management Plan (WQMP)
Consistency Determination Application Form
(Highlands Applicability Determination)

PLEASE TYPE OR PRINT CLEARLY

For tips on filling out this application visit: www.nj.gov/dep/highlands/hadshep.htm

Note: Pursuant to N.J.A.C. 7:38-2.4(a) any person proposing to undertake an activity that constitutes a major Highlands development may stipulate that their proposed project or activity that needs a Department permit is not exempt from the Highlands Act vis-à-vis an application for a Highlands Preservation Area Approval without first obtaining a Highlands Applicability Determination.

This form includes the following four sections:
Section I. General Highlands applicant information;
Section II. Information for determination whether a project or activity is a major Highlands development;
Section III. Information for determination whether Highlands regulatory requirements are applicable to a project or activity; and
Section IV. Information for determination whether the project or activity is consistent with the Areawide Water Quality Management Plan (WQMP).

Complete all sections of the form and provide two copies of the form and all attachments:

Section I. General Highlands Applicant Information

1. NAME OF PROJECT: Susquehanna-Roseland 500 kV Transmission Line
   Property Owner’s Last Name or Company Name, Type of Development (Example: Doe. Minor Subdivision. Doe. Single-Family Home)

2. DATE OF APPLICATION: September 5, 2008

3. PROPERTY OWNER: Public Service Electric and Gas (PSE&G)
   NAME/AGENCY/COMPANY: Morton A. Plawner

   ADDRESS: 80 Park Plaza, 7-G
   Street Address

   Newark, NJ 07102-4194
   City State Zip

   CONTACT PERSON: Morton A. Plawner
   PHONE: (973) 430.6474
   FAX: ( )
   E-MAIL Morton.Plawner@pseg.com

4. APPLICANT OR AGENCY SUBMITTING REQUEST:
   NAME/AGENT/ENGINEER: Raymond A. Tripodi, P.R., P.E. - Manager

   AGENCY/COMPANY: Public Service Electric and Gas (PSE&G)
5. **APPLICATION FEE:** There is no fee for applications submitted by the New Jersey Department of Transportation. A fee of $100.00 for individual applicants proposing improvements costing $100,000 or less; municipalities; or applicants seeking a determination based on receipt of a woodland management plan or a determination if an agricultural or horticultural activity is not regulated as a major Highlands development and $750.00 for all other applicants, paid as follows:

- The fee shall be paid by personal check, certified check, attorney check, government purchase order, or money order;
- The fee shall be made payable to "Treasurer, State of New Jersey";
- Each check, purchase order, or money order must be marked with the name of the applicant and
- Each check, purchase order, or money order must indicate that the fee is for a Highlands Applicability Determination.

The total project or activity cost for this application is $______________.

6. **LOCATION OF PROJECT:**

   A. **MUNICIPALITY:** Ryham, Sparta, Hopatcong, Jefferson, Rockaway, Kinnelon & Montville

   B. **COUNTY:** Sussex and Morris

   C. **LOT(S):** See Appendix A of Application

   D. **BLOCK(S):** See Appendix A of Application

   E. **ADDRESS OF PROJECT LOCATION:** See Part III, Section 1.0 of Application

   F. **TOTAL ACREAGE OF PROJECT SITE:** 520 acres

   G. **STATE PLANE COORDINATES OF CENTER OF DEVELOPMENT AREA**

      X: Figure 1

      Y: Figure 2

      (See item number 7 below for information on obtaining state plane coordinates)

   H. **WATER QUALITY MANAGEMENT PLAN:** Upper Delaware, Sussex & Northeast

   I. **WATERSHED MANAGEMENT AREA:** WMAs 1, 2, 3 and 6
7. ADDITIONAL REQUIREMENTS:

☐ Municipal Tax Map(s) delineating the project site by Lot(s) and Block(s); and
☐ A copy of a USGS Quad map or portion thereof (1:24,000 scale, include title-name of Quad), with the project site boundaries clearly delineated.

GIS coverage and the State Plane coordinates for a point at the approximate center of the site. Please use NAD 1983. The accuracy of these coordinates should be within 50 feet of the actual point. For assistance in determining the State Plane coordinates for a site, contact the Department's Geographic Information (GIS) Office at (609) 777-0672 or see the iMAP webpage at nj.gov/dep/gis/depsplash.htm.

(NOTE: a disk containing the USGS Quad map information recorded in a digital GIS format at a minimum scale of 1:12,000 may be submitted in lieu of a hard copy)

8. DESCRIPTION OF PROJECT/ACTIVITY:

PROVIDE A NARRATIVE DESCRIPTION OF THE PROPOSED PROJECT OR ACTIVITY:
(Attach additional pages if necessary) See Part III, Section 2.0 of Application
Section II. Highlands Major Development Determination

Determination as a major Highlands development located within the Highlands Preservation Area will institute specific design and performance standards. Please provide all of the following:

1. Site Plan(s) certified by a licensed New Jersey Professional Engineer that clearly detail the following (FOR APPLICABLE PROJECT/ACTIVITIES):
   - All proposed site improvements
   - Total area of disturbance, existing and proposed—including supporting area calculation
   - A metes and bounds disturbance area delineation description
   - Total area of existing impervious surface at the site
   - Total area of permanent impervious cover to be generated by the project—including supporting area calculation
   - Delineation of all forest on the site—if forest area is being disturbed, include area calculation for the disturbed portion(s)
   - A copy of the official proof of filing for the Site Plan(s) or Subdivision Plat(s) (this includes a county signature and stamp)

2. Proof that the public notice requirements below have been met. To prove that a document has been sent to a person, submit either the white postal receipt bearing the recipient’s name, address, the date material was sent by certified mail and the cost to the sender, or the green certified mail return receipt card. If a project is located in more than one municipality or county, the notice requirements below must be met for each municipality and county in which the site is located:
   - Proof that the municipal clerk and the Highlands Council were sent a copy of the entire application and supporting documentation submitted to the Department; and
   - Proof that a completed copy of the notice letter (see Attachment A) was sent to:
     1) The Municipal Environmental Commission (if one exists);  
     2) The Municipal Planning Board;  
     3) The Municipal Construction Official;  
     4) The County Planning Board; and  
     5) The County Environmental Commission (if one exists).

3. Is the project considered a Capital Improvement pursuant to The Highlands Water Protection and Planning Act, N.J.S.A. 13:20-1 et seq.?
   - [ ] No  [ ] Yes

4. Is the project proposed solely for Agricultural or Horticultural purposes pursuant to N.J.A.C. 7:38-1.4?
   - [ ] No  [ ] Yes
5. DEPARTMENT PERMITS REQUIRED (Check all that apply):

☐ Water Allocation  ☐ Water Main Extension  ☐ Freshwater Wetlands
☐ Flood Hazard Control Area  ☐ 50 or More Realty Improvements (residential)
☐ Sewer Extension (TWA)  ☐ Other type of Treatment Works Approval
☐ New NJPDES DSW  ☐ Modification to NJPDES DSW  ☐ Expansion/Re-rating NJPDES DSW
☐ New NJPDES DGW  ☐ Modification to NJPDES DGW  ☐ Expansion/Re-rating NJPDES DGW
☐ New NJPDES SIU  ☐ Modification to NJPDES SIU

☐ No Department permits are required

NOTE HERE which, if any, of the above permits have already been received:

__________________________________________________________

__________________________________________________________

__________________________________________________________

__________________________________________________________

6. IS THE PROPOSAL REQUIRED AS PART OF AN ADMINISTRATIVE ORDER, COURT ORDER, NJDEP ADMINISTRATIVE CONSENT ORDER (ACO), OR A JUDICIAL CONSENT ORDER TO WHICH THE NJDEP IS A PARTY, FROM A STATE OR FEDERAL COURT?

☐ No  ☐ Yes, copy attached
Highlands Applicability and Water Quality Management Plan (WQMP)
Consistency Determination Application Form
(Highlands Applicability Determination)

SECTION III—Highlands Preservation Area Regulatory Requirement
Applicability Determination:

This section of the application form is to be used to apply for a Highlands Applicability Determination letter for any of the following:

- All exemptions under N.J.S.A. 13:20-1 et seq.
- All other activities not regulated by the Highlands Water Protection and Planning Act under N.J.S.A. 13:20-1 et seq.

NOTE: The person who signs the exemption request as the applicant must be the owner of the site, or a person with sufficient legal authority over the site to carry out all requirements of any authorization issued.

EXEMPTION APPLICATION REQUIREMENTS:

In addition to the requirements of Section I and II above and Section IV below, to be deemed administratively complete, an application for a Highlands Applicability Determination letter of exemption from the requirements of the Highlands Water Protection and Planning Act must include the following information for the type of exemption being requested or the non-regulated activity, as listed below. Check off the box to the left of the exemption number for the type of exemption being requested:

1. For an exemption for the construction of a single-family dwelling, for an individual’s own use or the use of an immediate family member, the following information is required:
   - A copy of a deed, closing or settlement statement, title policy, tax record, mortgage statement or any other official document showing that the lot was legally owned by the applicant on or before August 10, 2004; or
   - If the applicant does not own the property, a copy of the binding contract of sale executed by the seller and the applicant on or before May 17, 2004 for the lot on which the house is to be constructed; and
   - An official document certifying that the single-family dwelling proposed for construction is intended for the applicants own use or the use of an immediate family member of the owner or buyer of the property identified in the certification by name and relationship to the applicant; and
   - A notarized statement, from the property owner, indicating that the property subject to the review has not been subdivided, merged, or in other ways had its lot lines adjusted subsequent to the date of the submitted deed; and
   - A land survey certified by a licensed New Jersey Professional Land Surveyor showing what currently exists on the lot.

2. For an exemption for the construction of a single-family dwelling on a lot in existence on August 10, 2004, not for use by the owner or an immediate family member, provided that construction does not result in the ultimate disturbance of one or more acres or a cumulative increase in impervious surface by one-quarter acre or more the following information is required:
   - A copy of a recorded deed or plat, closing or settlement statement, title policy, tax record, mortgage statement or any other official document showing that the lot was created on or before August 10, 2004; and
A notarized statement, from the property owner, indicating that the property subject to the review has not been subdivided, merged, or in other ways had its lot lines adjusted subsequent to the date of the submitted deed; and

A land survey certified by a licensed New Jersey Professional Land Surveyor showing the proposed metes and bounds disturbance area delineation, along with a narrative description of that area; and

The metes and bounds disturbance area delineation is the total area of the site to be disturbed (which must be limited to less than 1 acre), including the proposed disturbance and the existing disturbance that is to remain. Existing disturbance beyond the allowable metes and bounds area must be demolished/restored and restricted from future disturbance including mowing, unless that area is exempted by virtue of being agriculture.

A site plan certified by the appropriate licensed New Jersey Professional showing all existing development (distinguishing between what will be removed and what will remain) and proposed development, including all structures, grading, clearing, impervious surface that doesn't result in 0.25-acre or more, limits of disturbance that do not result in 1 acre or more, and the metes and bounds disturbance area delineation for the project. Also include supporting calculated values for proposed impervious surfaces, proposed areas of disturbance, and areas of existing disturbance to be restored (if any).

(Note: If a conservation restriction is required as a condition of your applicability determination, you will be notified in your determination letter.)

3. For an exemption for the construction of a major Highlands development that has received certain municipal and state approvals on or before March 29, 2004, the following information is required:

A. A copy of a resolution by the local authority, granting one of the following approvals on or before March 29, 2004:
   - Preliminary or final site plan approval;
   - Preliminary or final subdivision approval, as applicable, where no subsequent site plan approval or proof of filing is required;
   - Minor subdivision approval where no subsequent site plan approval is required; or
   - A copy of a final municipal building or construction permit.

B. In addition to the information provided above, submit proof that the project has obtained at least one of the following DEP permits, if applicable to the proposed major Highlands development, on or before March 29, 2004:
   - A permit or certification pursuant to the Water Supply Management Act, N.J.S.A. 58:1A-1 et seq.;
   - A water extension permit or other approval or authorization pursuant to the Safe Drinking Water Act, N.J.S.A. 58:12A-1 et seq.;
   - A certification or other approval or authorization pursuant to the Realty Improvement Sewerage and Facilities Act (1954), N.J.S.A. 58:11-23 et seq.; or
   - A treatment works approval pursuant to the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq.

C. If none of the approvals at "B" above are required for the project or activity, submit proof that at least one of these following DEP permits has been obtained on or before March 29, 2004, if applicable to the proposed major Highlands development:
   - A permit or other approval or authorization issued pursuant to the Freshwater Wetlands Protection Act, N.J.S.A. 13.9B-1 et seq.; or
• A permit or other approval or authorization issued pursuant to the Flood Hazard Area Control Act, N.J.S.A. 58:16A-50 et seq.

D. A folded copy of the preliminary site plan or subdivision plat. If the subdivision plat was not filed and the subdivision has expired then a copy of the resolution or a court order extending the subdivision approval prior to the date of its expiration.

E. A copy of a letter from the local governing body, verifying that the use and zoning of the site have not changed since the approval specified in “A” above, and verifying that municipal approval is still valid, or verifying that the use and zoning have changed, but that the change does not do any of the following:
   • Require submittal of a new or amended application for the proposed project; or
   • Require approval of a new or amended application by local authorities.

F. Any other information necessary to determine if the applicant is eligible for exemption under N.J.S.A. 13:20-1 et seq.

4. For an exemption for reconstruction of any building or structure for any reason within 125% of the footprint of the lawfully existing impervious surfaces on the site, provided that the reconstruction does not increase the lawfully existing impervious surface by one-quarter acre or more, the following information is required:
   • A site plan certified by the appropriate licensed New Jersey Professional showing all existing impervious surfaces, including all structures, grading, clearing, impervious surface and limits of disturbance, existing on the site on August 10, 2004; and all proposed development including all structures, impervious surfaces, clearing limits, and limits of disturbance, including grading. Also include supporting calculated values for existing and proposed impervious surfaces for the project/activity;
   • A land survey certified by a licensed New Jersey Professional Land Surveyor showing all existing impervious surface, including all structures, grading, clearing, impervious surface and disturbance limits, existing on the site on August 10, 2004; and
   • Photographs keyed to the site plan; and
   • A copy of any official documentation indicating the original date of construction of the building or structure or otherwise establishing the lawfulness of existing impervious surfaces (for example: a construction permit with the approved construction plan issued by a municipal official).

5. For an exemption for improvement(s) to a legally existing single-family dwelling in existence on August 10, 2004, including but not limited to an addition, garage, shed, driveway, porch, deck, patio, swimming pool, or septic system where that improvement shall maintain the use as a single-family dwelling and does not permit use of the structure as a multiple dwelling unit, the following information is required:
   • A copy of any official documentation proving the single-family dwelling was in existence on August 10, 2004;
   • A certification from the municipal clerk that the municipality considers the dwelling lawfully constructed and occupied;
   • A description of the proposed improvement; and
   • A certification from the applicant that the property and all improvements will continue to be used for single-family dwelling purposes.
6. For an exemption for any improvement, for non-residential purposes, to a place of worship owned by a non-profit entity, society or association, or association organized primarily for religious purposes, or a public or private school, or a hospital, in existence on August 10, 2004, including but not limited to new structures, an addition to an existing building or structure, a site improvement, or a sanitary facility, the following information is required:
   □ A copy of any official documentation indicating that the place of worship, public or private school or hospital was in existence on August 10, 2004;
   □ For improvements to a place of worship, documentation showing that the entity, society or association, or association organized primarily for religious purposes has non-profit status;
   □ A site plan certified by the appropriate licensed New Jersey Professional showing all existing impervious surfaces, including all structures, grading, clearing, impervious surface and limits of disturbance, existing on the site on August 10, 2004; and all proposed development including all structures, impervious surfaces, clearing limits, and limits of disturbance, including grading; and
   □ A certification of occupancy for any existing buildings or structures on the property.

7. For an exemption for any activity conducted by a landowner in accordance with an approved woodland management plan issued pursuant to the Farmland Assessment Act, N.J.S.A. 54:4-23.3 or for public lands, the normal harvesting of forest products in accordance with a forest management plan approved by the State Forester, the following information is required:

   For a private landowner with an approved woodlot management plan:
   □ A copy of the applicant’s tax bill showing that the site has farmland assessment tax status under the New Jersey Farmland Assessment Act, N.J.S.A. 54:4-23.1 et seq.;
   □ A brief description of the activities for which the exemption is claimed including:
     ▪ The total area of woodlands that is the subject of the approved woodland management plan;
     ▪ The length of time that the area to be managed has been in use for woodland management; and
   □ A copy of the approved woodlot management plan; or

   For public lands with a forest management plan approved by the State Forester:
   □ A brief description of the activities for which the exemption is claimed including:
     ▪ The total area where the normal harvesting of forest products occurs; and
     ▪ The length of time that the area to be managed has been in use for normal harvesting of forest products; and
   □ A copy of a forest management plan approved by the State Forester (contact the Department at (609) 292-2531 for information on how to obtain a forest management plan).

8. For an exemption for the construction or extension of trails with non-impervious surfaces on publicly owned lands or on privately owned lands where a conservation or recreational use easement has been established and filed with the deed for the lots on which the easement exists, the following information is required:
   □ A site plan certified by the appropriate licensed New Jersey Professional showing the proposed trail construction with details including the location and width of existing and proposed trails and those off-site trails to which they connect, if any;
   □ A written description of the non-impervious materials to be used; and
   □ For privately owned property, a copy of a deed for the property, including the language establishing the conservation or recreational use easement on the property.
9. For an exemption for the routine maintenance and operations, rehabilitation, preservation, reconstruction, or repair of transportation or infrastructure systems by a State entity or local government unit, provided that the activity is consistent with the goals and purposes of the Highlands Water Protection and Planning Act and does not result in the construction of any new through-capacity travel lanes of 2,640 feet or more not including tapers, the following information is required:

- A site plan certified by the appropriate licensed New Jersey Professional showing the existing and proposed transportation or infrastructure system;
- A written description of the work to be conducted, the purpose of the activity and how that purpose is consistent with the goals and purposes of Highlands Water Protection and Planning Act; and
- A brief description of the State entity or local government unit that is sponsoring and overseeing the proposed activities.

10. For an exemption for the construction of transportation safety projects and bicycle and pedestrian facilities by a State entity or local government unit, provided that the activity does not result in the construction of any new through-capacity travel lanes of 2,640 feet or more not including tapers, the following information is required:

- A site plan certified by the appropriate licensed New Jersey Professional showing the proposed transportation safety project, bicycle or pedestrian facility;
- A written description of the specific type of project to be constructed and the purpose of the project; and
- A brief description of the State entity or local government unit that is sponsoring and overseeing the proposed activities.

11. For an exemption for the routine maintenance and operations, rehabilitation, preservation, reconstruction, repair or upgrade of public utility lines, rights-of-way, or systems by a public utility, provided that the activity is consistent with the goals of purposes of the Highlands Water Protection and Planning Act, the following information is required:

- A site plan certified by the appropriate licensed New Jersey Professional showing the existing and proposed public utility lines, rights of way, or systems;
- A written description of the work to be conducted, the purpose of the activity and how that purpose is consistent with the Highlands Water Protection and Planning Act; and
- The identity of the public utility that is sponsoring the proposed activities.

12. For an exemption for the reactivation of rail lines and rail beds existing on August 10, 2004, the following information is required:

- A site plan certified by the appropriate licensed New Jersey Professional showing the location of the existing rail lines and rail beds, and
- A brief description of the project for reactivation, including the sponsoring entity, the work to be conducted to accomplish the project, and an estimated schedule for completion.

13. For an exemption for the construction of a public infrastructure project approved by public referendum prior to January 1, 2005 or a capital project approved by public referendum prior to January 1, 2005, the following information is required:

- A copy of the public referendum question as it appeared on the official ballot;
- Documentation showing that the referendum was approved; and
- A resolution from the municipal or county governing body or certification by an official in the relevant state department, as the case may be, that describes the proposed project and it's
location and affirms that the proposed project is the same as that approved in the referendum.

14. For an exemption for mining, quarrying, or production of ready mix concrete, bituminous concrete, or Class B recycling materials occurring or which are permitted to occur on any mine, mine site, or construction materials facility existing on June 7, 2004, the following information is required:
   a. A site plan certified by the appropriate licensed New Jersey Professional showing the location of existing and proposed activity and development;
   b. Any type of official documentation (tax records, local or state permits, bills of sale, lading etc.) demonstrating that the mine or facility was in existence and operating on June 7, 2004, and included the land on which the proposed activity or development will occur; and
   c. A copy of a Certificate of Registration issued by the Commissioner of Labor pursuant to N.J.S.A. 34:6-98.4.

15. For an exemption for the remediation of any contaminated site pursuant to N.J.S.A. 58:10B-1 et seq., the following information is required:
   a. A copy of a site plan certified by the appropriate licensed New Jersey Professional indicating the area above or below ground where contamination will be removed or remediated;
   b. A brief description of the remediation activity to be conducted including any structures, impervious surfaces, clearing of vegetation or water diversion being proposed;
   c. A copy of a letter, application, order, or any other documentation demonstrating that the remediation activities are required in accordance with N.J.S.A. 13:58:10B-1 et seq.; and
   d. The name of the case manager handling or supervising remediation at DEP.

16. For an exemption for activities on lands of a federal military installation existing on August 10, 2004, the following information is required:
   a. A site plan certified by the appropriate licensed New Jersey Professional showing the general location of the proposed activities as being within the borders of a federal military installation and the activity's location with respect to the Highlands Region boundaries; and
   b. A letter briefly describing the proposed activities signed by an official of the installation.

17. For an exemption for a major Highlands development located within an area designated as Planning Area 1 (Metropolitan), or Planning Area 2 (Suburban) pursuant to the State Planning Act, 52:18A-196 et seq., as of March 29, 2004, that on or before March 29, 2004 has been the subject of a settlement agreement and stipulation of dismissal filed in the Superior Court, or a builder's remedy issued by the Superior Court, to satisfy the constitutional requirement to provide for the fulfillment of the fair share obligation of the municipality in which the development is located, the following information is required:
   a. A copy of the settlement agreement and stipulation of dismissal filed in the Superior Court, or builder's remedy issued by the Superior Court;
   b. A copy of any site plans certified by the appropriate licensed New Jersey Professional, maps or other documentation clearly indicating the location of the fair share housing to be provided in accordance with the settlement agreement and stipulation of dismissal filed in the Superior Court, or a builder's remedy issued by the Superior Court and the location of all proposed structures, service or access roads, and infrastructure with respect to the boundaries of Planning Area 1 or 2, as the case may be;
   c. A copy of all municipal approvals obtained for the project, or the schedule for applying and obtaining such approvals; and
   d. A proposed schedule for completion of the entire project including township approvals, site preparation, installation of utilities and roads, and construction of all buildings.
PROJECTS/ACTIVITIES NOT REGULATED BY THE HIGHLANDS WATER PROTECTION AND PLANNING ACT, N.J.S.A. 13:20-1et seq. APPLICATION REQUIREMENTS:

"Major Highlands development" means, except as otherwise provided pursuant to subsection a. of section 30 of this act:
(1) any non-residential development in the preservation area;
(2) any residential development in the preservation area that requires an environmental land use or water permit or that results in the ultimate disturbance of one acre or more of land or a cumulative increase in impervious surface by one-quarter acre or more;
(3) any activity undertaken or engaged in the preservation area that is not a development but results in the ultimate disturbance of one quarter acre or more of forested area or that results in a cumulative increase in impervious surface by one-quarter acre or more on a lot; or
(4) any capital or other project of a State entity or local government unit in the preservation area that requires an environmental land use or water permit or that results in the ultimate disturbance of one acre or more of land or a cumulative increase in impervious surface by one-quarter acre or more.

Major Highlands development shall not mean an agricultural or horticultural development or agricultural or horticultural use in the preservation area

For a farming or horticulture activity under N.J.S.A. 13:20-1et seq., the following information is required:

- A copy of the applicant's tax bill showing that the site has farmland assessment tax status under the New Jersey Farmland Assessment Act, N.J.S.A. 54:4-23.1 et seq.; and
- A brief description of the activities for which the exemption is claimed, including:
  - The types of farming or horticulture that will be pursued;
  - Best management practices currently employed and/or to be employed;
  - The length of time that the area to be disturbed has been in use for farming or horticulture; and
- The square footage or acreage of the entire site, of the impervious surfaces already existing on the site, and the total amount of impervious surface on the site if the proposed activity is permitted.

(Note: If the proposed increase in agriculture or horticulture activity will result in 3% or more of the site being covered by impervious surface, applicants should contact the local soil conservation district for additional assistance.)

For a residential project in the preservation area that does not constitute a major Highlands Development at N.J.S.A. 13:20-3,

- A land survey certified by a licensed New Jersey Professional Land Surveyor showing the proposed metes and bounds disturbance area delineation, along with a narrative description of that area; and

The metes and bounds disturbance area delineation is the total area of the site to be disturbed (which must be limited to less than 1 acre), including the proposed disturbance and the existing disturbance that is to remain. Existing disturbance beyond the allowable metes and bounds area must be demolished/ restored and restricted from future disturbance including mowing, unless that area is exempted by virtue of being agriculture.

- A site plan certified by the appropriate licensed New Jersey Professional showing all existing development (distinguishing between what will be removed and what will remain) and proposed development, including all structures, grading, clearing, impervious surface that doesn't result in 0.25-acre or more, limits of disturbance that do not result in 1 acre or more, and the metes and bounds disturbance area delineation for the project.
Also include supporting calculated values for proposed impervious surfaces, proposed areas of disturbance, and areas of existing disturbance to be restored (if any).

(Note: If a conservation restriction is required as a condition of your applicability determination, you will be notified in your determination letter.)

☐ Other (explain why the proposal does not constitute a major Highlands development at N.J.S.A. 13:20-3)
Highlands Applicability and Water Quality Management Plan (WQMP)
Consistency Determination Application Form
(Highlands Applicability Determination)

Section IV. Project or Activity WQMP Consistency Determination

This section of the application form is to be used for the determination of whether a project or activity is consistent with the applicable Areawide Water Quality Management Plan.

1. PROJECTED WASTEWATER FLOW:

☐ No wastewater is generated from this project/activity.

Depending on the type of wastewater treatment and type of development, there are different criteria to use to determine the total projected wastewater flow. Use the attached projected flow criteria under N.J.A.C. 7:14A-23.3 or N.J.A.C. 7:9A-7.4 to determine the total amount of wastewater the proposed project will generate. Check the appropriate box to indicate which table was used and complete Table 1 below:

☐ N.J.A.C. 7:9A-7.4, Standards for Individual Subsurface Sewage Disposal Systems

TYPE of DEVELOPMENT (check and complete all that apply):

☐ Residential
  ☐ Type of Dwelling Units
  ☐ Number of Dwelling Units
  ☐ Bedrooms Per

☐ Commercial/Institutional
  ☐ Total Square Footage of Structures
  ☐ Maximum Building Occupancy
  ☐ Specify Type of Establishment

☐ Industrial
  ☐ Total Square Footage of Structures
  ☐ Maximum Building Occupancy
  ☐ Specify Type of Establishment

☐ Other
  ☐ Total Square Footage of Structures
  ☐ Specify Type of Establishment

---

Table 1. EXISTING wastewater flows (if applicable)

<table>
<thead>
<tr>
<th>Establishment Type</th>
<th>Measurement Unit</th>
<th>Number of Units</th>
<th>Gallons per day (gpd)</th>
<th>Projected Flows (gpd)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Total amount of wastewater being generated =
Table 2. PROPOSED wastewater flows

<table>
<thead>
<tr>
<th>Establishment Type *</th>
<th>Measurement Unit</th>
<th>Number of Units</th>
<th>Gallons per day (gpd)</th>
<th>Projected Flows (gpd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
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<tr>
<td>X</td>
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</tr>
</tbody>
</table>

Total amount of wastewater this project will generate =

*If the proposal is for a new or expanded industrial facility that will generate industrial process wastewater which is not provided for on the attached projected flow criteria tables, provide a basis for the total projected wastewater discharge from the proposal site. Where other forms of wastewater (such as domestic, stormwater, non-contact cooling water, etc.) will be generated on site and treated by the proposed industrial wastewater treatment facility, include the basis for these flow projections as well.

2. PROPOSED METHOD OF WASTEWATER TREATMENT (check as indicated):
   - A. Individual Subsurface Sewage Disposal Systems < 2,000 gallons per day
   - B. New Discharge to Ground Water ≥ 2,000 gallons per day
   - C. Conveyance to an existing wastewater treatment facility (DGW or DSW):
     Name and Location of Facility:
     NJPDES Permit #: ___________________________
     Permitted Capacity: _________________________

3. IF THE METHOD OF WASTEWATER TREATMENT PROPOSED IS "C" ABOVE, APPLICANT MUST ALSO PROVIDE THE FOLLOWING:
   - A letter from the above facility verifying the existence and extent of wastewater collection infrastructure on August 10, 2004, and that adequate capacity is available, with a written commitment to service the proposed project.
   - A copy of a site plan or other appropriately scaled map, showing the point of connection to the wastewater collection system as it existed on August 10, 2004.

4. PROPOSED WATER SUPPLY SOURCE (checks one of the following and fill in the blanks):
   - Water Purveyor
     Name of Purveyor ____________________________
   - Residential Wells
     Number of residential wells __________________
   - Commercial or Industrial Wells
     Number of wells ____________________________
   - Irrigation Wells
     Number of wells ____________________________

Projected peak water use in gallons per day ____________________________
CERTIFICATION:

An application shall be signed by the person or persons specified below:
1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively;
3. For a municipality, State, Federal, or other public entity, by either a principal executive officer or ranking elected official; or
4. For an entity not covered at (a) 1 through 3 above, by all individual owners of record.

I HEREBY CERTIFY THAT THE ABOVE INFORMATION IS ACCURATE, TO THE BEST OF MY KNOWLEDGE.

SIGNATURE: ___________________________ DATE: 9-3-08

PRINT OR TYPE NAME: Morton A. Plawner

TITLE: Vice President and Treasurer

WHICH OF THE ABOVE CERTIFICATION CATEGORIES IS BEING PROVIDED? 1

Additional information may be required upon review by the Department
SEND COMPLETED APPLICATION FORM AND ATTACHMENTS TO:
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATERSHED MANAGEMENT
ATTN: HIGHLANDS APPLICABILITY DETERMINATION
401 E. STATE ST. PO BOX 418
TRENTON, NJ 08625-0418
PART III
PROJECT DESCRIPTION AND PURPOSE

1.0 PROJECT LOCATION

1.1 ROSELAND-BUSHKILL TRANSMISSION LINE RIGHT-OF-WAY
Alternative B would be constructed entirely within the existing Roseland – Bushkill 230kV transmission line ROW. This route would cross the Delaware River within the Delaware Water Gap National Recreation Area in Hardwick Township at the crossing point of the existing Roseland – Bushkill 230kV line. It would then continue within the existing right-of-way, crossing the Appalachian Trail, and cross Stillwater and Fredon Townships. In Andover Township, the line would cross portions of Kittatinny Valley State Park. Continuing east into Sparta Township, the line would enter the Highlands Planning Area and Highlands Preservation Area before interconnecting with a proposed new switching station in Jefferson Township. From Jefferson, the line would head east across the Rockaway River WMA in Jefferson Township, Picatinny Arsenal and the Wildcat Ridge WMA in Rockaway Township, the Buck Mountain Forest Legacy Tract in Kinnelon Borough, and the Pyramid Mountain Natural Historical Area in Montville Township. The line would then turn south toward the Montville Substation, cross Route 1-287, and continue south to a crossing of Route I-80. On the south side of Route I-80, the line would turn to the southeast and cross Troy Meadows, continuing to the East Hanover/Roseland Switching Station.

Portions of the preferred alternative are located in the New Jersey Highlands Preservation and Planning Area (Figure 1). U.S. Geological Survey (USGS) quadrangle maps depicting portions of the project area within the Highlands Preservation Area are included as Figure 2. Local road maps depicting the project area within the Highlands Preservation Area are included as Figure 3. New Jersey State Plane coordinates (North American Datum 83) for points located at 1,000 foot intervals along the entire length of the project area are included on Figures 2 and 3. Block and lot information for the project area is included in Appendix A. The total length of Alternative B is 45.7 miles, of which approximately 17.3 miles is located within the Highland Preservation Area.

1.2 JEFFERSON SWITCHING STATION
The proposed Jefferson switching station is identified as Block 6, Lot 128 on the tax map of Sparta Township, Sussex County and Block 320.04, Lots 3 and 5 on the tax map of Jefferson Township, Morris County. The project centers approximately on a northing of 789,222.74 feet and an easting of 464,301.498 feet using the New Jersey State Plane Coordinates (NAD 1983) (latitude 41° 00’ 00” and longitude 73° 36’ 01”). The property is owned by PSE&G and is located entirely within the Highlands’ Preservation Area.

2.0 DESCRIPTION OF PROPOSED ACTIVITIES
To accomplish PJM mandate, PSE&G and PPL will construct a new 500 kV transmission line between the Susquehanna switching station near Berwick, Pennsylvania and PSE&G’s existing East Hanover/Roseland switching station in the Borough of Roseland, Essex County, New Jersey. Additionally, the new 500 kV transmission line must be tied into the existing Branchburg-New York line. The proposed project will involve four main efforts: 1) upgrade the existing 230 kV transmission line to a double circuit 500 kV/230 kV transmission line; 2) construction of temporary access roads; 3) construction of a new switching station in Jefferson Township, Morris County; and 4) removal of existing 230 kV transmission line and structures.
2.1 Up-Grade of Existing Roseland-Bushkill 230 kV Transmission Line

Upgrades to the existing 230 kV transmission line in the Highlands Preservation Area will consist of the construction of approximately 75 new 500 kV transmission structures, ranging in height from 150 to 195 feet, within the existing 150-foot wide ROW. Proposed new structure locations will closely match the existing 230 kV steel lattice structure locations. The spans between proposed structures would range from approximately 500 feet to 2,700 feet. Depending on site-specific conditions, the proposed 500 kV transmission line will consist of double circuit (D/C) steel pole and D/C lattice structures. The transmission towers will carry both the new 500 kV lines and the existing 230 kV line so as to avoid the need for a widened ROW width, thus avoiding impacts to natural resources. Typical examples of transmission tower types are provided in Figures 4A to 4C.

Foundations will typically consist of cylindrical, steel reinforced concrete on which the base of the lattice steel pole structure is bolted. Each foundation is designed specifically for each structure site based on subsurface conditions. Foundation dimensions will vary from structure to structure and depending on subsurface soil and rock conditions the foundation may range from 4 to 12 feet in diameter and up to 40 feet deep in unconsolidated sediments. In general, structure locations overlying solid bedrock will require smaller foundations. Steel pole structure types will require larger, but fewer foundations than lattice structure types. For steel pole structures typical foundation dimensions, assumed for impacts calculations include a single 10-foot diameter cylindrical foundation, while lattice foundations consists of 3-foot diameter cylindrical foundation for each of the four legs.

2.2 Construction of Temporary Construction Access Roads

Part of the overall design effort is to ensure that adequate construction access is available to each structure site. Construction would, in most cases, require that each structure site be accessible by equipment capable of exploring excavations for the foundations, trucks to deliver concrete necessary for each foundation, and cranes capable of erecting the structures. Smaller vehicles will also have to reach all sites to deliver materials and workers. Helicopter access may also be necessary in areas with steep slopes or wetland areas which prohibit ground access. It is assumed the majority of construction access roads will be located within the ROW and accessed from public roadways to the maximum extent possible.

In addition to the construction of access roads located within the existing ROW, temporary construction access roads located outside of the existing ROW would be required. Proposed off ROW access roads are shown on the Wetland Plans included as Appendix G. Efforts to minimize disturbance associated with the proposed access roads has been and will continue to be undertaken at the design and permitting stage and additional minimization efforts will occur during construction. Minimization measures include relocating the access road outside of wetlands, wetland transition areas, and riparian areas when feasible; reducing the width from 30 feet in width to 16 feet; the installation of a geotechnical stabilization fabric; and positioning the path to avoid potentially suitable habitat for species of concern. Temporary access roads located in upland areas will be excavated to a depth of approximately 12 inches and consist of a gravel aggregates surface course over the geotechnical stabilization fabric.

For proposed access roads located within wetland transition areas and riparian buffers, geotextile fabric will be overlain onto the existing ground elevation, followed by the addition of timber matting or gravel aggregate, which will allow for future restoration of disturbed wetland transition areas and riparian areas. Excavation of the top 12 inches of material will not occur.

If construction of a temporary access road within a wetland is unavoidable, efforts will be made to minimize impacts through the use of temporary matting. Depending on site specific conditions, temporary wetland crossings could consist of timber matting, tire matting or other suitable construction mats. The placement of geotextile under the matting will further segregate the crossing from the underlying soil and protect the root mat. The use of matting during construction and its subsequent
rezoned at the completion of construction would not permanently impact Highland open waters or riparian areas. Excavation of material for the construction of temporary access roads located within wetlands will not occur.

Temporary access to towers that does not require the construction of a temporary access road as outlined above, temporary matting will be used to minimize ground disturbance, as necessary.

### 2.3 Construction of Jefferson Switching Station

Construction of the Jefferson switching station will occur within property owned by PSE&G and adjacent to the existing Branchburg-New York ROW. The Jefferson switching station (is a 500 kV air-insulated switchyard which will consist of six (6) 500 kV circuit breakers and sixteen (16) 500kV disconnect switches arranged in a breaker-and-one-half arrangement to accommodate four (4) 500 kV overhead transmission line positions. The outgoing transmission lines will connect to the proposed East Hanover 500 kV switching station, the existing Branchburg 500 kV switching station (PSE&G), the proposed Lackawanna 500kV switching station (PP&L), and the existing Ramapo 500kV switching station (Consolidated Edison). The existing Branchburg-Ramapo 500 kV transmission line (5018) will be connected into and out of the new station and a new 500 kV line from East Hanover to Lackawanna will be constructed. The proposed Jefferson 500kV switching station will include a control enclosure that will house control and protective relay equipment, station auxiliary power equipment, and utility communication equipment.

New 500 kV transmission structures, ranging in height from 150 to 195 feet, will be constructed within a 500-foot wide ROW adjacent to the existing ROW. Depending on site-specific conditions, the proposed 500 kV transmission line will consist of double circuit (D/C) steel pole and D/C lattice structures. The existing access road from Weldon Road to the switching station will be improved.

### 3.0 Purpose and Need

The Pennsylvania-Jersey-Maryland Regional Transmission Operator (PJM), an independent company that operates the electric power grid in 13 states, including New Jersey and Pennsylvania, has determined upgrades to the existing electric system are necessary to ensure safe and reliable electric service for customers in eastern Pennsylvania and Northern New Jersey, including customers of Public Service Electric and Gas Company (PSE&G), Jersey Central Power & Light Company, Sussex Rural Electric Company, and PPL Electric Utilities Corporation (PPL). In 2007, PJM conducted a 15-year planning study to forecast future transmission expansions required to maintain reliability and integrity of the power grid. Data collected during the study indicated 23 existing transmission lines in Northern New Jersey and southern Pennsylvania will become overloaded within the 15-year study period, with some exceeding capacity as early as 2013. This can cause cascading transmission line outages, potentially resulting in major regional brownouts and blackouts.

As a result of PJM’s study, PSE&G and PPL have been ordered by PJM to construct a new 500-kilovolt kV transmission line between the Susquehanna switching station near Berwick, Pennsylvania and PSE&G’s existing East Hanover/Roseland switching station in Roseland Borough, Essex County, New Jersey, by the summer of 2012. This line must tie into the existing Branchburg to New York 500-kV transmission line requiring a switching station. This solution will resolve the overloading conditions in Northern New Jersey and Pennsylvania. There are no suitable lower voltage local alternatives for providing the required relief from the significant transmission system reliability and congestion challenges identified for the northeast portion of the PJM region.
4.0 PROPOSED DISTURBANCE

The selection of Alternative B as the preferred alternative minimizes adverse environmental impacts, as the majority of the proposed alignment is located within the existing ROW. However, due to the nature of the proposed project, unavoidable temporary and/or permanent impacts to regulated Highlands Resource Areas including forested areas, Highlands open waters and steep slopes will occur. The design and placement of tower locations, on and off-ROW access roads, and the Jefferson switching station were engineered to first avoid and then minimize impacts to regulated areas. Approximate acreages of existing and proposed disturbance, existing and proposed impervious surfaces, existing forested areas and proposed disturbed forested areas are shown on Table 1. The project’s compliance with the purpose and goals of the Highlands Act are outlined in Part IV of this application.

**Table 1. Approximate Acreage of Disturbance**

<table>
<thead>
<tr>
<th>ROW Acreage</th>
<th>Existing Disturbance (acres)</th>
<th>Proposed Additional Disturbance (acres)</th>
<th>Existing Impervious Surfaces (acres)</th>
<th>Proposed Additional Impervious Surfaces (acres)</th>
<th>Existing Forested Areas (acres)</th>
<th>Proposed Forest Disturbance (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROW</td>
<td>339.8</td>
<td>339.8</td>
<td>0.0</td>
<td>4.3</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Access Roads and Jefferson Switching Station</td>
<td>22.7</td>
<td>17.4</td>
<td>5.5 (temporary)</td>
<td>5.8</td>
<td>0.0</td>
<td>5.4</td>
</tr>
<tr>
<td>Total</td>
<td>362.5</td>
<td>357.2</td>
<td>25.9</td>
<td>10.4</td>
<td>7.8</td>
<td>111.8</td>
</tr>
</tbody>
</table>

Impervious surfaces are associated with the switching station footprint, which consists of densely packed gravel and concrete base pads.

Approximately 18.8 acres of forest disturbance is required for the construction of the double circuit Branchburg-New York and Jefferson-Roseland transmission line connection to the switching station and 1.6 acres of forest disturbance is associated with the construction of the Jefferson switching station and access road.

Existing disturbance includes residential, commercial and industrial areas, roadways and existing paths and vegetative communities which have been altered from their natural state, including mowed turf, athletic fields and clear-cut areas. The ROW was considered to be an existing disturbed area as a result of the altered and managed vegetative communities (continually mowed and bush-hogged) and the existing overhead transmission lines. Proposed disturbance includes temporary and permanent impacts associated with construction of the transmission structures and the Jefferson switching station (i.e. vegetative clearing, additional impervious surfaces, access roads, tower foundations). Existing impervious surfaces include roadways, buildings, parking lots, etc. Temporary access roads were not considered as proposed additional impervious surfaces as these areas will consist of matting, loosely packed gravel aggregates and/or wooden planks.

Proposed additional impervious surfaces for the ROW were calculated using typical foundation types for 38 steel pole structures (approximately 0.002 acres of additional impervious surface per pole) and 37 lattice structures (approximately 0.00065 acres of additional impervious surface per pole). Additional impervious surfaces for the Jefferson switching station includes the proposed switching station footprint (approximately 7.7 acres of densely packed gravel and concrete base pads) and construction of...
approximately five additional transmission structures (less than 0.01 acres of disturbance due to tower footings).

Existing forested areas within the Jefferson switching station and off-ROW access roads were calculated using recent aerals to delineate the vegetative communities including upland forests and wetland forests. As a result of current PSE&G vegetative management protocols for the existing ROW, the majority of vegetative communities located within the ROW currently consist of open meadows, low-lying scrub/shrub communities, palustrine emergent wetlands, palustrine scrub/shrub wetlands, successional fields and maintained lawn/landscaped areas.

Construction of new towers and access roads within the existing ROW will not result in impacts to forested areas. Construction of off-ROW access roads will temporarily impact approximately 5.4 acres of forested areas. Impacts to forested areas are necessary for the widening of existing paths and dirt roads to accommodate construction vehicles. Construction of the Jefferson switching station will permanently impact approximately 20.4 acres of forested areas (including approximately 18.8 acres of forest disturbance associated with the expansion of the existing ROW).

In accordance with the State of New Jersey Board of Public Utility (BPU) Vegetative Management Rules (N.J.A.C. 14:5-9.6(e)), if a transmission line is upgraded or newly constructed after December 18, 2006 the width of the clearing under the transmission line shall meet the minimum requirements of the National Electrical Safety Code (C2-2007). The National Electric Safety Code pertains to worker safety and proximity to the lines with or without maintenance tools (i.e. crane, etc.), and can be affected by vegetative height. Vegetation management is defined as the removal of vegetation or the prevention of vegetative growth, to maintain safe conditions around energized conductor(s) and ensure reliable electric service. Vegetation management consists of biological, chemical, cultural, manual and mechanical methods to control vegetation in order to prevent hazards caused by the encroachment of vegetation on energized conductor(s), and to provide utility access to the conductor. In addition, pursuant to N.J.A.C. 14:5-9.6(e) each electric public utility (EDC) shall ensure that the following requirements for transmission lines are met:

1. Clearing under transmission lines shall be wide enough within the EDC’s right of way so that no vegetation or parts of vegetation will grow or fall into the transmission lines;
2. An EDC shall not allow any vegetation taller than 15 feet at maturity to grow anywhere within a transmission line right of way (border zone);
3. The preferred growth in a wire zone shall be grasses or a low-growing, compatible, scrub-shrub plant community to obtain a meadow effect where possible. An EDC shall not allow woody plants that naturally mature above three feet tall to grow in the wire zone;
4. The EDC shall not allow any woody plant species that naturally matures above 15 feet to grow in the border zone.
5. Non-woody agricultural crops, not exceeding 12 feet in height at maturity, may be grown anywhere in the right of way;
6. Only grass vegetation not exceeding a height of 18 inches shall be permitted to grow within three feet of any structure;
7. Where an EDC has cleared a right of way of vegetation and bare soil is exposed, the EDC shall comply with the soil erosion requirements of the applicable soil conservation district in order to prevent soil erosion.
8. To the extent that any plant species identified as invasive and non-indigenous to New Jersey poses a threat to the maintenance of the right of way or a hazard to electrical transmission conductors, the EDC shall make reasonable efforts to actively eliminate from the entire right of way the species identified as invasive and non-indigenous. To do so, the EDC shall use the best integrated vegetation management practices available and practical.
All vegetation management conducted within the proposed ROW including tree trimming practices will be performed in accordance with the standards and accepted procedures set forth in N.J.A.C. 14:5-9.5(a). PSE&G's current vegetation management policy is to clear to between 175 to 200 feet width for 500 kV lines. This width allows for clearance from any trees that may fail, or blow down, or break apart from outside the easement, thus being in conformance with the BPU and North American Electric Reliability Corporation (NERC) regulations. This distance also provides the necessary space to use the live-line equipment necessary to repair or maintain the line if something fails. PSE&G has reduced the cleared ROW requirements for this project through the use taller structures thereby avoiding additional impacts to natural areas.

Depending on site specific factors and vegetation re-growth rates, vegetation maintenance consisting of brush mowing and tree trimming typically occurs every three to four years. Transmission lines and associated ROW's are inspected annually for compliance with appropriate regulations, if vegetative regrowth is composed of compatible species and it is well within allowable clearances, then the span would not have to be maintained that year. In addition, PSE&G is currently authorized to conduct vegetative clearing within wetlands located along the existing ROW under a Freshwater Wetland General Permit.

The proposed Susquehanna-Roseland 500 kV transmission line is a critical northeast transmission line which will ultimately supply reliable electric service for customers in eastern Pennsylvania and Northern New Jersey. Line failure and design risks associated with tree clearances and ROW widths have been minimized through the existing design and vegetative clearances needed to avoid outages/blackouts. Any reduction in these parameters puts the public at risk for health and safety, thus violating NERC, Federal Energy Regulatory Commission (FERC) and BPU regulatory requirements to provide safe and reliable electricity.
PART IV
PROJECT COMPLIANCE WITH HIGHLANDS ACT RULES REQUIREMENTS

1.0 SUBCHAPTER 2. JURISDICTION, APPLICABILITY AND EXEMPTIONS

7:38-2.3 EXEMPTIONS
Pursuant to N.J.A.C. 7:38-2.3(a)11 of the Highlands Act Rules “The routine maintenance and operations, rehabilitation, preservation, reconstruction, repair, or upgrade of public utility lines, rights-of-way, or systems, by a public utility, provided that the activity is consistent with the goals and purposes of the Highlands Act” are exempt from the requirements of the Highlands Act Rules.

The proposed project consists of the upgrade of the existing Roseland-Bushkill 230 kV transmission line from Hardwick Township, Warren County to the Borough of Roseland, Essex County to a 500 kV/230 kV double-circuit transmission line and the construction of a switching station located in Jefferson Township, Morris County and Sparta Township, Sussex County. The project is consistent with the goals and purpose of the Highlands Act as this project will not result in permanent adverse impacts to significant natural, scenic, and other resources representative of the Highlands Region and will not induce further development within the Highlands Preservation Area. A detailed description of the project’s compliance with the goals, objectives and policies of the Highlands Regional Master Plan (July 30, 2008) is included in Part IV, Section 4.0 of the application.

By definition as stated in the Highlands Act Rules “Public utility” shall include every individual, copartnership, association, corporation or joint stock company that owns, operates, manage or control within New Jersey any railroad, street railway, traction railway, autobus, charter bus operation, special bus operation, canal, express, subway, pipeline, gas, electricity distribution, water, oil, sewer, solid waste collection, solid waste disposal, telephone or telegraph system, plant or equipment for public use, under privileges granted by New Jersey or by any political subdivision therefore.

PSE&G is an operating public utility engaged principally in the transmission of electric energy and distribution of electric energy and natural gas in certain areas of New Jersey. PSE&G is subject to regulation by the New Jersey Board of Public Utilities (BPU) and the Federal Energy Regulatory Commission (FERC).

7:38-2.4 HIGHLANDS APPLICABILITY DETERMINATION
Any person proposing to undertake any activity in the Preservation Area that requires any environmental land use or water permit from the NJDEP shall either clearly stipulate that the proposed activity is subject to the Highlands Act in an application to the NJDEP for an HPAA, or obtain an Highlands Applicability Determination, before submitting an application for the environmental land use or water permit.

The proposed project will require a Freshwater Wetlands Individual Permit and a Flood Hazard Area Individual Permit from the NJDEP; therefore, PSE&G is submitting this application for a Highlands Applicability Determination prior to the submission of this permit application.

2.0 SUBCHAPTER 9. APPLICATION CONTENTS

7:38-9.1 BASIC APPLICATION INFORMATION.

Application forms for a Highlands Applicability Determination are included in Part II of this application. As required by NJAC 7:38-9.1(c) and (d) the application is signed by Morton A. Plawner, Vice President and Treasurer of PSE&G.

7:38-9.2 APPLICATION REQUIREMENTS FOR A HIGHLANDS APPLICABILITY DETERMINATION

In accordance with NJAC 7:38-9.2(b), the following information is provided to the NJDEP as part of this application (two copies):

1. Completed copies of the Highlands Applicability Determination application form. See Part II of this application.

2. Required application review fee as set forth at NJAC 7:38-10. A check in the amount of $750.00 is included as part of this application.

3. The name and location of the proposed project (see Part III, Section 1.0 of this application).
   Lot and Block information is included in Appendix A.
   Municipality and County information is included in Appendix A.
   The proposed project (within the Preservation Area) includes approximately 340 acres located within the existing ROW, 23 acres of potential off-ROW construction access roads and 158 acres for the Jefferson switching station. Total land acreage of the proposed project is approximately 520 acres. See Table 1 for detailed information regarding acreage of existing and proposed disturbance, existing and proposed impervious surfaces, existing forested areas and proposed disturbed forested areas.
   Tax maps for the project area are included in Appendix F.
   USGS quadangle maps depicting portions of the project area within the Highlands Preservation Area are included as Figure 2. New Jersey State Plane coordinates (North American Datum 83) for points located at 1,000 foot intervals along the entire length of the project area are included on Figure 2.

4. Folded site plan, signed and sealed by a licensed New Jersey Professional Engineer showing proposed site improvements (tower locations, switching station and off-ROW access roads) are included in Appendix G. See Table 1 for detailed information regarding acreage of existing and proposed disturbance, existing and proposed impervious surfaces, existing forested areas and proposed disturbed forested areas. At the present time, municipal site plans have not been filed.

5. Proof that the public notices requirements have been met, including white certified mail postal receipts, are included in Appendix C. A list of county and municipal agencies notified is included in Appendix B. A copy of the sample notification letter sent to each agency is included in Appendix C.

6. Capital improvement is defined as any facility for the provision of public services with a life expectancy of three or more years, owned and operated by or on behalf of the State or a political subdivision therefore. The proposed project is not a capital improvements project.

7. The proposed project is not considered an agricultural or horticultural development.

8. Based on the proposed alignment and the wetland delineation report, PSE&G anticipates the following NJDEP permits and certifications may be required for the development of the proposed project: Individual Freshwater Wetland Permit; Water Quality Certificate, Flood Hazard Area Individual Permit, Stormwater Management Plan Approval, Green Acres Diversion and a Phase I/II Cultural Resource Survey Report.

9. The proposed project is not required as part of an administrative order, court order, administrative consent order (ACO) with the NJDEP, or a judicial consent order.
The proposed project will not result in the generation of wastewater nor require a water supply source; therefore no additional information as required by NJAC 7:38-9.2(c) is submitted.

In accordance with NJAC 7:38-9.2(d)(11), the following information is provided:

1. Site plans, signed and sealed by a licensed New Jersey Professional Engineer, showing the existing and proposed public utility lines, ROW and switching station are included in Appendix G.

2. A written description of the proposed project is included in Part III, Section 2.0 of this application. The purpose and need of the proposed project is included in Part III, Section 3.0. The project’s compliance with the purpose and goals of the Highlands Act is provided in Part IV, Section 3.0. A detailed description of the project’s compliance with the goals, objectives and policies of the Highlands Regional Master Plan (July 30, 2008) is included in Part IV, Section 4.0 of the application.

3. PSE&G is the public utility that is sponsoring the proposed upgrade of the existing 230 kV transmission line and associated construction of the Jefferson switching station.

3.0 COMPLIANCE WITH PURPOSE AND GOALS OF THE HIGHLANDS ACT

Within the New Jersey Highlands Region, activities within the Planning and Preservation Area are regulated by the Highlands Water Protection and Planning Act (NJAC 13:20-4 et. seq) (Highlands Act). The lands within the Preservation Area are subject to the standards outlined in the Highlands Act and are governed by the rules and regulations (Highlands Water Protection and Planning Act Rules (Highlands Act Rules) subsequently adopted by the New Jersey Department of Environmental Protection. The Highland Act Rules established the environmental standards and procedures by which the NJDEP reviews any application pursuant to the Highlands Act.

Decisions on uses and development of Highlands Area resources require the consideration of a project with regard to its consistency with the purpose and goals of Highlands Act. Depending on the proposed project’s location, purpose, design, and the surrounding Highlands Area resources, different goals may be applicable in the decision-making process. The project’s compliance with applicable goals of the Preservation Area as outlined in Section 10(b) of the Highlands Act is discussed below.

3.1 PROTECT, RESTORE, AND ENHANCE THE QUALITY AND QUANTITY OF SURFACE AND GROUND WATERS

Construction of approximately 75 new structures will result in approximately 0.10 acre of additional impervious surfaces within the existing ROW associated with tower foundations. Construction of the temporary off-ROW access roads will result in approximately 5.5 acres of disturbance due to the need to provide a stable and cleared travel width of 16-feet for construction equipment. The gravel surfaces will be temporary and pervious. Pre-existing site conditions will be re-established at the conclusion of construction, therefore additional impervious surfaces are not expected to occur. Construction of the Jefferson switching station will result in the additional disturbance of approximately 20.4 acres, of which approximately 7.7 acres will consist of impervious surfaces (densely packed gravel and concrete pads) associated with the switching station and the construction for new transmission structures (less than 0.01 acres of impervious surface). The existing access road will be improved to a pervious gravel road.

The Stormwater Management Rules (N.J.A.C. 7:8) set forth the required components of regional and municipal stormwater management plans, and establish the stormwater management design and performance standards for new development. These standards intend to minimize the adverse impact of stormwater runoff on water quality and water quantity and loss of groundwater recharge in receiving waterbodies. In accordance with N.J.A.C. 7:8-5.2 (d)(2) the construction of an aboveground utility line is exempt from the groundwater recharge, stormwater runoff quantity, and stormwater runoff quality requirements at N.J.A.C. 7:8-5.4 and 5.5 provided that the existing conditions are maintained to the
maximum extent practicable. The replacement of the existing towers with new towers does not result in a change to existing conditions along the existing ROW since each tower would result in a less than a 0.002-acre increase in impervious areas associated with footings for each tower.

Due to the proposed increase of impervious surface and greater than one acre of land disturbance, the proposed Jefferson switching station qualifies as a “major development” under N.J.A.C. 7:8-1.2. The switching station must comply with the NJDEP Stormwater Management Rules. A project of such nature requires that runoff quantity, runoff quality and groundwater recharge be addressed. An analysis will be undertaken in accordance with the procedures outlined in the New Jersey Stormwater Best Management Practices Manual. The requirements and the capability of meeting the above requirements will be discussed in the Flood Hazard Area Individual Permit Application Engineering Report, which will be submitted to the NJDEP for review in the upcoming months.

During the proposed construction, stormwater management measures will be employed to control soil erosion by stormwater runoff. A Soil Erosion and Sediment Control Plan will be prepared for the proposed project in accordance with the latest version of the Morris, Warren and Sussex Counties’ Soil Conservation District requirements. Emphasis will be placed on ensuring that sediments are prevented from entering adjacent watercourses and wetlands. Soil disturbance will be minimized to the amount feasible to complete the proposed project. Disturbed areas will be seeded and restored to vegetative cover following construction.

Unavoidable impacts to surface waters, including all Highlands open waters and regulated riparian areas, would be mitigated in accordance with the Freshwater Wetland Protection Act Rules (N.J.A.C. 7:7A) and the Flood Hazard Area Control Act Rules (N.J.A.C. 7:13).

The proposed project will not generate pollutants and, through compliance with existing Stormwater Management Rules and Soil Erosion and Sediment Control requirements will not result in short or long term impacts to water quality and quantity. In addition, the proposed project will not impact the regenerative capacity of aquifers or other surface or ground water supplies. The proposed project will not adversely affect the quality and quantity of surface and ground waters; therefore, the project is consistent with the purpose and goals of the Highland Act.

3.2 PRESERVE EXTENSIVE AND CONTIGUOUS AREAS OF LAND IN ITS NATURAL STATE

Within the Highlands Preservation Area, the Highlands Act strives to preserve extensive and, to the maximum extent possible, contiguous areas of land in its natural state thereby ensuring the continuation of a Highlands environment which contains the unique and significant natural, scenic, and other resources representative of the Highlands Region.

PSE&G is currently authorized to conduct vegetative clearing within the existing ROW under a Freshwater Wetland General Permit. This permit authorizes the removal of trees and tall growing saplings and shrubs to ensure that the ROW is maintained in a cleared condition pursuant to the Board of Public Utilities (BPU) requirements. Re-clearing of the ROW is necessary to prevent interference with the reliable flow of electrical power and to allow vehicular access when necessary for maintenance or repairs. As a result, the majority of vegetative communities located within the ROW currently consist of open meadows, low-lying scrub/shrub communities, palustrine emergent wetlands, palustrine scrub/shrub wetlands, successional fields and maintained lawn/landscaped areas. Therefore, construction within the existing ROW will not result in the degradation of contiguous forested area.

Construction of off-ROW access roads will temporarily impact approximately 5.4 acres of forested areas. Proposed construction access roads follow existing access routes to the ROW to minimize impacts to
natural resources. Improvements to these roads will not result in the division or degradation of contiguous tracts of forest or natural lands.

Construction of the Jefferson switching station (including vegetation clearing within expanded ROW) will permanently impact approximately 20.4 acres of forested areas. The removal of this forested area will occur along side an existing cleared ROW and will not divide a contiguous tract of forest. To offset upland forest loss, PSE&G proposes to mitigate in accordance with NJAC 7:38-3.9 and replace upland forest with forest of equal ecological value and functions.

The proposed project will not result in the fragmentation of contiguous areas of land in its natural state; therefore the project is consistent with the purpose and goals of the Highland Act.

3.3 PROTECT THE NATURAL, SCENIC, AND OTHER RESOURCES OF THE HIGHLANDS REGION
Within the Highlands Preservation Area, the Highlands Act protects the natural, scenic, and other resources of the Highlands Region, including but not limited to contiguous forests, wetlands, vegetated stream corridors, steep slopes, and critical habitat for fauna and flora.

- Contiguous Forests
PSE&G is currently authorized to conduct vegetative clearing within wetlands located along the existing ROW under a Freshwater Wetland General Permit. As a result, the majority of vegetative communities located within the ROW currently consist of open meadows, low-lying scrub/shrub communities, palustrine emergent wetlands, palustrine scrub/shrub wetlands, successional fields and maintained lawn/landscaped areas. Therefore, construction within the existing will not result in the degradation of contiguous forested areas.

Construction of off-ROW access roads will temporarily impact approximately 5.4 acres of forested areas. Proposed construction access roads follow existing access routes to the ROW and will not divide contiguous tracts of forest. Construction of the Jefferson switching station (including vegetation clearing within expanded ROW) will permanently impact approximately 20.4 acres of forested areas, of which approximately 12.7 acres within the additional ROW will be maintained as open meadow and low-lying scrub/shrub communities. The removal of forested area within the expanded ROW will occur along side an existing cleared ROW and will not divide a contiguous tract of forest. To offset upland forest loss, PSE&G proposes to mitigate in accordance with NJAC 7:38-3.9 and replace upland forest with forest of equal ecological value and functions. Therefore, the project complies with the goals and purpose of the Act.

- Wetlands and Stream Corridors
All areas within the existing ROW and proposed Jefferson switching station were inspected for the presence of wetlands and open waters in September, October and November 2007. Wetlands were delineated in accordance with the procedures outlined in the Federal Manual for Identifying and Delineating Jurisdictional Wetlands (Federal Interagency Committee for Wetland delineation, 1989). An application for a Letter of Interpretation (LOI) line verification was submitted to the NJDEP DLUR on May 29, 2008. Delineated wetlands and state open waters are shown on the wetland plans included in Appendix G.

PSE&G will utilize the information from the wetland delineation to assist in developing permit documents, including demonstrating the avoidance and minimization of impacts to wetlands, transition areas and riparian areas, including Highlands open waters. The design and placement of tower locations, temporary on and off-ROW construction access roads, and the Jefferson switching station layout were conducted in accordance with the Section 404(h)(1) guidelines of the federal Clean Water Act and the state Freshwater Wetlands Protection Act. However, due to the need to provide construction access to
each individual tower and the existing location of the 230 kV transmission towers, impacts to regulated areas are unavoidable. PSE&G will obtain the necessary permits to proceed with upgrades to the existing 230 kV transmission line and the construction of the Jefferson switching station including a NJDEP Freshwater Wetland Individual Permit, NJDEP Flood Hazard Area Individual Permit, a Water Quality Certificate and if necessary a Highlands Preservation Area Approval. Impacts to freshwater wetlands, wetland transition areas and riparian areas will be mitigated in accordance with NJAC 7:7A and NJAC 7:13. Therefore, the project complies with the goals and purpose of the Act.

- Steep Slopes
The New Jersey Highlands Water Protection and Planning Council's Geographic Information System (GIS) digital data was used to examine steep slopes within the Highlands Preservation Area along the project corridor. Areas with slopes greater than 20 percent present a constraint to vehicle access and will be avoided to the extent possible. Within the project limit, approximately 1.2 acres of undeveloped land has slopes greater than 20 percent. 8.1 acres of undeveloped land has slopes between 15 and 20 percent, and 25.4 acres of riparian areas has slopes between 10 and 15 percent (Figure 5). To reduce potential impacts to steep slopes, wetlands and other resource areas, construction access to some structures within the Highlands Preservation Areas may occur via helicopters. Construction activities are not expected to permanently impact any steep slope areas. Therefore, the project complies with the goals and purpose of the Act.

- Critical Habitat
A literature review and desktop analysis of various mapping utilities, including the NJDEP Landscape Project (Version 3.0) critical wildlife habitat map, Natural Heritage Program Grid Map of rare plants and ecological communities, Natural Heritage Priority Site maps, and the NJDEP and Rutgers University mapping of vernal habitats, was conducted to identify potential threatened and endangered species and associated habitat within the vicinity of the existing ROW and the proposed Jefferson switching station. Information obtained from The Nature Conservancy and the New Jersey Audubon Society was also considered. A habitat assessment was conducted from September through November 2007 to determine if NJDEP mapped habitats are suitable for the noted species or for additional listed species. Mapped conditions from the various databases utilized in the preliminary assessment were ground verified during the field investigation to determine if observed on-site habitats are suitable for locally documented rare wildlife or plant species. Targeted follow-up field assessments were conducted at various segments of the ROW to gather additional data where particularly sensitive rare plant and wildlife species may have an impact on any proposed activities. All field assessments for rare species habitats were conducted by personnel with experience with these species.

The NJDEP Natural Heritage Program (NHP) and the U.S. Fish and Wildlife Service (USFWS) were contacted to obtain information on any known occurrences of federal or state endangered, threatened, proposed, or candidate species of flora or fauna or any critical habitats known to support those species within the vicinity of the project area (including areas located outside of the Preservation Area). Agency correspondence is provided in Appendix D. In June 2008, rare, threatened and endangered species information was revised utilizing NJDEP Landscape Project Version 2.1 and 3.0 (Highlands Extended Boundary) information. According to the Landscape Project Version 3.0, potential habitat for eighteen listed species (threatened, endangered or species of concern) are mapped within the ROW and Jefferson switching station (Table 2).

In a response dated March 17, 2008, the USFWS identified eleven segments of the existing ROW that contained potential suitable bog turtle habitat. The NJDEP Landscape Project (Version 2.1 and 3.0) identified four areas within the ROW as having potential bog turtle habitat. In addition, wetland investigations identified additional wetlands areas as having the potential to contain suitable bog turtle habitat. A Phase I bog turtle survey including “Bog Turtle Habitat Evaluations – Field Forms” were
completed at each wetland identified as potential bog turtle habitat. The surveys were conducted by a USFWS Qualified Bog Turtle Surveyor. Within the Highlands Preservation Area, the following wetlands were identified as suitable bog turtle habitat: Wetlands 99, 101, 105, 106, 110 and 124. The proposed project, including tower locations and temporary access roads, will not result in impacts to wetlands identified as potential bog turtle habitat.

In the USFWS March 17, 2008 letter the federally endangered Indian Bat (Myotis sodalis) was identified as potentially occurring within the project area. Since the portion of the project within the existing ROW does not affect existing forest cover, no potential impacts to this species are likely. Within the proposed Jefferson switching station site, PSEG conducted a habitat assessment and a mist net survey. The mist net surveys was conducted in July 2008 in accordance with USFWS protocols by a USFWS Qualified Indiana Bat surveyor. Indiana bats were not observed during the mist net surveys. To further avoid potential impacts to this species, PSEG will implement the seasonal tree clearing restrictions as presented in the March 17, 2008 letter form the USFWS.

PSEG will construct the new towers and switching station in accordance with the Suggested Practices for Avian Protection on Power Lines: the State of the Art in 2006 and will implement an Avian Protection Plan (APP) in accordance with guidelines form the Avian Powerline Interaction Committee. Through these efforts PSEG will minimize the potential for harm to migratory birds, including large raptors. Seasonal restrictions on tree clearing will further minimize disruption to these species.

The proposed project will not adversely affect potential habitat for listed species; therefore, the project is consistent with the purpose and goals of the Highlands Act.

Vernal Pools

During the wetland delineation, 16 wetland areas were identified as potentially containing vernal pool habitat. In addition, Rutgers Center of Remote Sensing and Spatial Analysis (CRSSA) and NJDEP Endangered and Nongame Species (ENS) vernal pool mapping indicated four vernal pools were located either directly or within the immediate vicinity of the project area. A vernal pool assessment was completed from March through May 2008 for each area identified as potential vernal pool habitat. Surveys were conducted in accordance with protocols established by the NJDEP and included hydrology, vegetation, and observation of reptile and amphibian species. Within the Highlands Preservation Area, the following wetlands were identified as containing vernal pools: Wetlands 35, 116, 117, 124, 125, 131, 138/138A and 146. The proposed project will not result in impacts to wetlands identified as containing vernal pools. The proposed project will not adversely affect vernal pools within the project area; therefore, the project is consistent with the purpose and goals of the Highlands Act.

The proposed project will not adversely affect the natural, scenic, and other resources of the Highlands Region, including but not limited to contiguous forests, wetlands, riparian areas, steep slopes, critical habitat and vernal pools; therefore, the proposed project is consistent with the purpose and goals of the Highland Act.
TABLE 2. LISTED SPECIES WITHIN HIGHLANDS PRESERVATION AREA

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td><strong>Herptiles</strong></td>
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<tr>
<td>Bog Turtle</td>
<td>Clemmys muhlenbergii</td>
<td>LT/E</td>
</tr>
<tr>
<td>Longtail salamander</td>
<td>Eurycea longicauda</td>
<td>T</td>
</tr>
<tr>
<td>Timber rattlesnake</td>
<td>Crotalus horridus</td>
<td>E</td>
</tr>
<tr>
<td>Wood turtle</td>
<td>Clemmys insculpta</td>
<td>T</td>
</tr>
<tr>
<td>Marbled salamander</td>
<td>Ambystoma opacum</td>
<td>SC</td>
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<tr>
<td>Northern copperhead snake</td>
<td>Ambystoma texana</td>
<td>SC</td>
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<tr>
<td><strong>Mammals</strong></td>
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<tr>
<td>Bobcat</td>
<td>Lynx rufus</td>
<td>E</td>
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<tr>
<td>Indiana bat</td>
<td>Myotis sodalis</td>
<td>LE/E</td>
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<tr>
<td><strong>Birds</strong></td>
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<td></td>
</tr>
<tr>
<td>Bald eagle</td>
<td>Haliaetus leucocephalus</td>
<td>E</td>
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<tr>
<td>Barred owl</td>
<td>Strix varia</td>
<td>T</td>
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<tr>
<td>Cooper’s hawk</td>
<td>Accipiter Cooperi</td>
<td>T</td>
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<tr>
<td>Northern goshawk</td>
<td>Accipiter gentilis</td>
<td>E</td>
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<tr>
<td>Red-headed woodpecker</td>
<td>Melanerpes erythrocephalus</td>
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<tr>
<td>Red-shouldered hawk</td>
<td>Buteo lineatus</td>
<td>E</td>
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<tr>
<td>Golden-winged warbler</td>
<td>Verrivora chrysoptera</td>
<td>SC</td>
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<tr>
<td>Great blue heron</td>
<td>Ardea herodias</td>
<td>SC</td>
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<tr>
<td>Veery</td>
<td>Catharus fuscescens</td>
<td>SC</td>
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<tr>
<td>Yellow-breasted chat</td>
<td>Icteria virens</td>
<td>SC</td>
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</tbody>
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Status Key
- LE - Federally Endangered
- LT - Federally Threatened
- E - State Endangered
- T - State Threatened
- SC - Special Concern

3.4 PRESERVE FARMLAND AND HISTORIC SITES AND OTHER HISTORIC RESOURCES

* Farmland
The proposed project would not result in the taking of land located outside of the existing ROW or land already owned by PSEG. Temporary construction access roads located outside of the existing ROW would be required; however, these areas would be restored to pre-existing conditions after the completion of construction activities. Therefore, minimal impacts to farmland are expected to occur as a result of the proposed project. Therefore, the proposed project is consistent with the purpose and goals of the Highlands Act.

* Historic Resources
To determine the proposed project’s potential affect on cultural resources, background research consisting of a baseline regional literature review of prehistoric (pre-contact) and historic period contexts provided in published and un-published literature was completed. This contextual research was supplemented by Alternative Route specific review of the files maintained by the New Jersey Historic Preservation Office (NJHPO) pertaining to previously identified historic and archaeological resources that have been listed or determined to be eligible for listing in the National Register of Historic Places (NRHP) and/or the New Jersey Register of Historic Places (NJRHP) within 1,000 feet of the centerline of the existing ROW.
Information regarding historic architectural resources that have been previously documented as part of county planning surveys but for which an official determination of eligibility was not issued by the NJ SHPO or the Keeper of the National Register was also collected. Information regarding archaeological sites which have been registered with the New Jersey State Museum (NJSM) and which have been assigned a Smithsonian trinomial numbering system (SITS) number was also compiled for each of the three Alternative Routes.

Historic architectural properties greater than 50 years of age are likely to be visually affected by the new transmission line if the relationship of proposed tower structure height to topographic and vegetative conditions does not prohibit visual accessibility. Visual effects are unavoidable and would be associated with each structure location in varying degrees. Attemps to minimize and/or mitigate such visual effects will be a key component of the project. As per NJ SHPO requirements, an assessment of potential visual and direct effects to previously identified historic architectural resources, as well as an inventory and evaluation assessment of previously un-surveyed architectural properties greater than 50 years of age within a 1.5 mile radius of each tower structure location will be required. In addition, the proposed project would also affect the historic (1920s) existing 230-kV transmission line and associated historic substations. As a result, eligibility evaluation, and assessment of the effects to the existing 230-kV transmission line and associated historic substations would be required.

Alternative B would require no new right-of-way property acquisition, thereby likely eliminating direct effects to known and potential historic architectural properties. Additionally, ground disturbance associated with the establishment of new right-of-way is not necessary. As a result, direct effects to known and potential archaeologi cal sites within the existing right-of-way and proposed tower structure locations would be avoided where possible during the design and construction process. Archaeological sites within the off-ROW access roads are likely to be directly affected through either actual construction activities and or compaction of archaeological deposits and/or features as a result of construction vehicle traffic. Therefore, ground disturbing activities would seek to avoid previously recorded archaeological resources. Archaeological subsurface testing will be conducted in areas of high archaeological sensitivity. Areas of proposed ground disturbance within 500 feet of surface potable water less than 15% of areas of proposed ground disturbance within 500 feet of previously registered archaeological sites; areas of proposed ground disturbance within 300 feet of non-extant historic structures) to identify the presence or absence of previously un-recorded archaeological resources that may be affected by the proposed project.

Although structure height would increase as part of the project, and although visual effects to previously documented historic architectural properties may not be unavoidable, because Alternative B would use the existing right-of-way, the replacement of existing tower structures along the existing 230-kV right-of-way would minimally change viewsheds to from known and potential historic architectural resources.

3.5 PRESERVE OUTDOOR RECREATION OPPORTUNITIES

Within the Highlands Preservation Area, the Highland Act strives to preserve outdoor recreational opportunities, including hunting and fishing, on publicly owned land. Construction of the 500 kV transmission line would occur within the existing ROW and would not result in the permanent taking of land located outside of the existing ROW. Temporary construction access roads located outside of the existing ROW would be required; however these areas would be restored to pre-existing conditions after the completion of construction activities. Current land use along the existing ROW, including fishing and hunting, would not be impacted as a result of the proposed project.

Construction of the Jefferson switching station would result in the permanent disturbance of 20.4 acres of forest land currently owned by PSE&G (including clearing of forested areas for transmission towers); however this land is not publicly owned land. Therefore, permanent impacts to outdoor recreation
The findings are not expected to occur as a result of the proposed project and the proposed project is consistent with the purpose and goals of the Highlands Act.

3.6 PROHIBIT OR LIMIT CONSTRUCTION OR DEVELOPMENT

Within the Highlands Preservation Area, the Highland Act prohibits or limits to the maximum extent possible construction or development which is incompatible with preservation of this unique area.

A multi-disciplinary routing team participated in a comprehensive alternative route identification process to establish a Preferred Route for the proposed transmission line in New Jersey. All reasonable potential routes to connect the existing Susquehanna switching station in Pennsylvania with the existing switching station in East Hanover Roseland, New Jersey were reviewed. Alternatives were evaluated to determine the environmental consequences associated with implementation. The selected Preferred Alternative was the route which was practicable, met project goals, and avoided and minimized environmental impacts.

Permanent and temporary impacts associated with the construction of the 500 kV transmission line and the Jefferson switching station would be mitigated in accordance with all applicable state regulations, including the State Freshwater Wetlands Protection Act Rules and the Flood Hazard Act Rules. During design of tower locations, on-ROW and off-ROW access roads, and the Jefferson switching station, efforts to first avoid and then minimize impacts to Highland’s resources have been incorporated into the design process.

Construction of the proposed project would not result in secondary development, including residential, commercial and industrial development. The project will not facilitate the local distribution of electrical power and therefore will not directly serve future development.

4.0 COMPLIANCE WITH GOALS OF THE HIGHLANDS REGIONAL MASTER PLAN

The goals, policies and objectives of the Highlands Regional Master Plan (RMP) provide the substantive standards and direction for implementing the goals and requirements of the Highlands Act. During NJDEP review of permits or approvals for activities within the Preservation Area, the NJDEP shall apply the standards of the Highlands Act Rules and those outlined in the RMP. The project’s compliance with applicable goals of the RMP are discussed below.

4.1 NATURAL RESOURCES

Goal 1A: Protection of large areas of contiguous forested lands of the Highland Region to the maximum extent possible

Goal 1B: Protection and enhancement of forests in the Highlands Region.

The Forest Resource Area includes high ecological value forest areas, including those forested areas that exhibit the least fragmentation and vital for the maintenance of ecological processes. The Highlands Council spatially delineated the Forest Resource Area by including those forested areas that express one or more of the following indicators: a contiguous forest patch of equal to or greater than 500 acres in size; an area consisting of >250 acres of core forest area greater than 300 feet from an altered edge, or areas that include >15% of mean total forest cover and mean distance to nearest patch (HUC14 only).

According to New Jersey Highlands Water Protection and Planning Council’s Geographic Information System (GIS) digital data, approximately 187.1 acres of the within the existing ROW, construction access roads, and proposed Jefferson switching station property occur within Forest Areas identified as within the Forest Resources Area exists (Figure 6). The
The majority of mapped Forest Areas occurs within the property containing proposed switching station (approximately 160 acres) and will not be disturbed by the proposed project. The proposed project will impact (permanent and temporary) approximately 25.8 acres of forested areas. The removal of forested areas associated with the Jefferson switching station (20.4 acres) will occur along an existing cleared ROW and will not divide a contiguous tract of forest. Approximately 12.7 acres of this area will be maintained as open meadow and low-lying scrub/shrub communities within the expanded ROW.

The project will protect approximately 160 acres of forest at the switching station, minimize the expanded width of ROW to 150-feet at the new switching station through the use of single tower, double-circuited transmission lines, and avoid forest impacts along the existing 150-foot ROW through the use of taller towers. Therefore, the project is consistent with Goals 1A and 1B of the RMP.

Goal 1D: Protection, restoration and enhancement of Highlands open waters and riparian areas.

All areas within the existing ROW and proposed Jefferson switching station were inspected for the presence of wetlands and open waters in September, October and November 2007. However, due to the need to construct new towers in close proximity to existing towers, and to provide temporary construction access to each individual tower (new and old), permanent and temporary impacts to jurisdictional wetlands and open waters are unavoidable. PSE&G will obtain the necessary permits to proceed with upgrades to the existing 230kV transmission line and the construction of the Jefferson switching station including a NJDEP Freshwater Wetland Individual Permit, NJDEP Flood Hazard Area Individual Permit, and a Water Quality Certificate. These permits will require the avoidance and minimization of impacts throughout the project corridor. Permanent impacts will be limited to the footprints of new towers. Existing towers within the ROW will be removed and the area revegetated. Impacts to freshwater wetlands and transition areas, and riparian areas will be mitigated in accordance with NJAC 7:7A and NJAC 7:13. Through this regulatory process which requires impact avoidance, minimization and mitigation, the project will comply with Goal 1D of the RMP.

Goal 1E: Protection and enhancement of the natural, scenic, and other resources of the Highlands Region by protection of steep slopes from inappropriate development and disturbance.

According to New Jersey Highlands Water Protection and Planning Council’s GIS digital data, approximately 1.2 acres of undeveloped land with slopes greater than 20 percent, 8.1 acres of undeveloped land with slopes between 15 and 20 percent and 25.4 acres of riparian areas with slopes between 10 and 15 percent exists within the ROW and proposed Jefferson switching station (Figure 5). To reduce potential impacts to steep slopes, wetlands and other resource areas, access to some structures may occur via helicopters. No permanent impacts to steep slopes are expected. Therefore, the project complies with Goal 1E of the RMP.

Goal 1F: Protection and enhancement of critical wildlife habitats, significant natural areas and vernal pools.

According to New Jersey Highlands Water Protection and Planning Council’s GIS digital data, approximately 486 acres of critical habitat exists within the project area (Figure 6). The NJDEP Natural Heritage Program (NHP) and the U.S. Fish and Wildlife Service (USFWS) were contacted to request information on any known occurrences of federal or state endangered, threatened, proposed, or candidate species of flora or fauna or any critical habitats known to support those species within the vicinity of the project area (including areas located
outside of the Preservation Area. Agency correspondence is provided in Appendix D. Mapped habitat for rare, threatened and endangered species information was obtained using the NJDEP Landscape Project Version 2.1 and 3.0 (Highlands Extended Boundary) information. A habitat assessment was conducted along the existing ROW and proposed Jefferson switching station to determine if mapped habitats are suitable for the noted species or for addition listed species.

A Phase I bog turtle survey including “Bog Turtle Habitat Evaluations Field Forms” were completed at each wetland identified as potential bog turtle habitat. Within the Highlands Preservation Area, the following wetlands were identified as suitable bog turtle habitats: Wetlands 99, 101, 105, 106, 110 and 124. No permanent impacts to these wetlands are anticipated.

Within the proposed Jefferson switching station site, PSE&G conducted a habitat assessment and a mist net survey for the federally endangered Indian Bat (Myotis sodalis) in July 2008 in accordance with USFWS protocols by a USFWS Qualified Indiana Bat surveyor. Indiana bats were not observed during the mist net surveys. To further avoid potential impacts to this species, PSE&G will implement the seasonal tree clearing restrictions as presented in the March 17, 2008 letter from the USFWS. The portion of the project within the existing ROW does not affect existing forest cover; therefore, no potential impacts to this species are likely.

A vernal pool assessment was completed from March through May 2008 for each area identified as potential vernal pool habitat. Within the Highlands Preservation Area, the following wetlands were identified as containing vernal pools: Wetlands 35, 116, 117, 124, 125, 131, 138/138A and 146. No permanent impacts to vernal pools are expected.

The proposed project will have minimal permanent impacts to vegetation along the existing ROW, amounting to approximately 0.1 acre associated with tower footings. Existing towers will be dismantled and the area restored. At the Jefferson switch station, permanent impacts to 2.7 acres of land within the existing disturbed ROW will occur as part of the switching station construction. Approximately 12.7 acres of forest will be converted to open meadow and low-lying scrub shrub communities within the expanded ROW. An additional 5.4 acres of forest will be temporarily disturbed along proposed off-ROW construction access roads.

PSE&G has avoided and minimized the amount of disturbance to potential critical habitats through the planning and design layout of proposed towers, switching station and access roads. Strategies to minimize potential impacts will be implemented during the construction of the project. Therefore, the project complies with Goal IF of the RMP.

Goal 1K. Protection of ground water quality and public safety regarding karst features in the Highlands.

Portions of the project area are located within areas mapped as Carbonate Rock Areas by the New Jersey Highlands Water Protection and Planning Council’s Interactive Map. Geotechnical site investigations, including test borings, will be conducted at each proposed tower location to determine underlying bedrock and to identify potential constraints. The proposed project will be designed and constructed such that the potential for damage to karst features and the contamination of ground water are avoided. The proposed project does not involve the construction of septic systems, placement of underground storage tanks, solid waste landfills, hazardous waste storage and disposal or hazardous materials storage and handling. Therefore, the project has minimal potential to affect ground water quality either during or after construction and complies with Goal 1K of the RMP.
Goal 1L: Protection of Highlands Region Lakes from the impact of present and future development.

Portions of the project area are located within areas mapped as Lake Management Areas by the New Jersey Highlands Water Protection and Planning Council’s GIS digital data (Figure 7). However, the proposed project will not result in direct and indirect development of the shoreline including the construction/placement of rip-rap, bulkheads, walls, docks, piers, boathouse or residential, commercial or industrial developments. Clearing of vegetation along the existing ROW is authorized by a Freshwater Wetland General Permit and a requirement of Federal and State regulations. The proposed project will not result in the generation of wastewater nor require the construction of septic systems, cesspools or other wastewater management systems.

Stormwater management measures will be employed during construction to control soil erosion by stormwater runoff. A Soil Erosion and Sediment Control Plan will be prepared and implemented in accordance with the latest version of the New Jersey State and Morris, Warren and Sussex Counties’ Soil Conservation District requirements. Emphasis will be placed on ensuring that sediments are prevented from entering adjacent watercourses and wetlands. In addition, this project will not support future development within the Highlands Region. Therefore, the project complies with Goal 1L of the RMP.

4.2 WATER RESOURCES AND WATER UTILITIES

Goal 2D: Maintenance of hydrologic integrity through the protection of ground water recharge
Goal 2E: Improvement of ground water recharge through regional management efforts
Goal 2G: Protection, restoration and enhancement of the water quality of the Highlands Region

According to New Jersey Highlands Water Protection and Planning Council’s GIS digital data, portions of the project area are located within Prime Ground Water Recharge Areas (Figure 7). The proposed project will not reduce the natural ground water recharge volume or directly or indirectly contribute to or result in water quality degradation. Construction of the proposed towers will result in approximately 0.10 acre of additional impervious surfaces associated with structure foundations.

Construction of the temporary off-ROW access route will result in temporary ground disturbance. The temporary access route will be improved to a pervious gravel road bed. Pre-existing site conditions will be re-established at the conclusion of construction. Construction of the Jefferson switching station will result in the additional disturbance of approximately 20.4 acres, of which only approximately 7.7 acres will consist of a densely packed gravel base associated with the switching station. The Stormwater Management Rules (N.J.A.C. 7:8) set forth the required components of regional and municipal stormwater management plans, and establish the stormwater management design and performance standards for new development. These standards intend to minimize the adverse impact of stormwater runoff on water quality and water quantity and loss of groundwater recharge in receiving waterbodies. The proposed stormwater facility for the switching station will be designed in compliance with the Stormwater Management Rules (NJAC 7:8) and therefore will protect both water quality and groundwater infiltration at this site.

The project will not interrupt groundwater recharge or affect water quality either during or after construction; therefore, the project will comply with Goals 2D, 2E and 2G of the RMP.
Goal 2H: Limitation of the type and amount of human development in the well-head protection areas of public water supply wells

Portions of the project area are located within areas mapped as Well-Head Protection Areas (2, 5 and 12 year tiers) by the New Jersey Highlands Water Protection and Planning Council’s GIS digital data. However, the proposed will not result in the discharge of pathogens, persistent organic or toxic chemicals either during or after construction. Therefore, the project will comply with Goal 2H of the RMP.

Goal 2I: Limitation of the expansion of water and wastewater infrastructure in the Preservation Area
Goal 2J: All existing and future development in the Highlands Region that use public water supply systems are served by adequate and appropriate infrastructure
Goal 2K: All existing and future development in the Highlands Region that use public wastewater treatment systems are served by adequate and appropriate infrastructure

The proposed project will not result in the expansion or creation of a public water supply system, public wastewater collection and treatment system or a community on-site treatment facility. In addition, the proposed project will not result in the generation of wastewater nor require a permanent water supply source. Therefore, the project will comply with Goals 2I, 2J and 2K of the RMP.

4.3 AGRICULTURAL RESOURCES
Goal 3A: Protection and enhancement of agricultural resources and the agricultural industry in the Highlands Regions
Goal 3C: Minimize construction of non-agricultural development-inducing water and wastewater infrastructure in agricultural resource areas

According to New Jersey Highlands Water Protection and Planning Council’s GIS digital data, Agricultural Resources Areas do not occur within the project area. The proposed project would not result in the taking of land located outside of the existing ROW. Temporary construction access roads located outside of the existing ROW would be required; however, these areas would be restored to pre-existing conditions after the completion of construction activities. Therefore, minimal temporary impacts to farmland are expected to occur as a result of the proposed project and the project complies with Goals 3A and 3C of the RMP.

4.4 HISTORIC, CULTURAL, ARCHAEOLOGICAL AND SCENIC RESOURCES
Goal 4A: Protection and preservation of the historic, cultural and archaeological resources of the Highlands Region
Goal 4B: Protection and enhancement of the scenic resources within the Highlands Region.

Historic architectural properties greater than 50 years of age are likely to be visually affected by the new transmission line if the relationship of proposed tower structure height to topographic and vegetative conditions does not prohibit visual accessibility. Visual effects are unavoidable and would be associated with each tower location in varying degrees. Attempts to minimize and/or mitigate such visual effects will be a key component of the project. As per NJ SIPO requirements, an assessment of potential visual and direct effects to previously identified historic architectural resources, as well as an inventory and evaluation/assessment of previously un-surveyed architectural properties greater than 50 years of age within a 1/3 mile radius of each tower structure location will be required. In addition, the proposed project would also affect the historic (1920s) existing 230-kV transmission line and associated historic
substation. As a result, eligibility evaluation, and assessment of the effects to the existing 230-kV transmission line and associated historic substations would be required.

Alternative B would require no new right-of-way property acquisition within the Highlands Preservation Area, thereby likely eliminating direct effects to known and potential historic architectural properties within the Highlands Region. Additionally, ground disturbance associated with the establishment of new right-of-way is not necessary. As a result, direct effects to known and potential archeological sites within the existing right-of-way and proposed tower structure locations would be avoided where possible during the design and construction process. Archaeological sites within the off-ROW access roads are likely to be directly affected through either actual construction activities and/or compaction of archaeological deposits and or features as a result of construction vehicle traffic. Therefore, ground disturbing activities would seek to avoid previously recorded archaeological resources. Archaeological subsurface testing will be conducted in areas of high archaeological sensitivity (areas of proposed ground disturbance within 500 feet of surface potable water less than 15% slopes; areas of proposed ground disturbance within 500 feet of previously registered archaeological sites; areas of proposed ground disturbance within 300 feet of non-extant historic structures) to identify the presence or absence of previously un-recorded archaeological resources that may be affected by the proposed project.

The project will need to comply with NJSHP requirements for surveys, impact assessments and mitigation measures to protect the scenic and cultural resources along the ROW in order to receive permit authorization; therefore, the project will comply with Goals 4A and 4B of the RMP.

4.5 **Land Use Capability Zones**

**Goal 6B:** Preservation of the land and water resources and ecological function of Highlands Area in the Protection Zone.

**Goal 6C:** Limitation of development in the Protection Zone to development and redevelopment which does not adversely affect the natural resources of the Highlands Region ecosystem.

**Goal 6D:** Protection and enhancement of agricultural uses and preservation of associated land and water resources in Highlands Areas in the Conservation Zone.

**Goal 6H:** Guide development away from environmentally sensitive and agricultural lands and promote development and redevelopment in or adjacent to existing developed lands.

According to New Jersey Highlands Water Protection and Planning Council's GIS digital data, portions of the project area are located within the Protection and Conservation Zone (Figure 9). The proposed project will be designed to minimize adverse affects to natural resources of the Highlands Region. During the Alternative Route selection process, Alternative B was identified as the route which was practicable, met project goals, and avoided and minimized environmental impacts. Permanent and temporary impacts associated with the construction of the 500 kV transmission line and the Jefferson switching station would be mitigated in accordance with all applicable state regulations, including the Freshwater Wetlands Protection Act Rules and the Flood Hazard Area Act Rules. During design of tower locations, on-ROW and off-ROW access roads, and the Jefferson switching station efforts to first avoid and then minimize impacts Highlands resources has been made. Construction of the proposed project would not result in secondary development, including residential, commercial and industrial development; therefore, the project will comply with Goals 6B, 6C, 6D, and 6H of the RMP.
4.6 LANDOWNER EQUITY

Goal 7F: Ensure that Highlands Act Exemptions are properly issued and monitored

In accordance with NJAC 7:38-2.3(a)11, activities associated with the reconstruction and upgrades of public utility lines, right-of-ways and systems are exempted provided activities are consistent with the goals and purposes of the Highlands Act, the RMP, or other regulations adopted by a local government unit specifically to conform them with the RMP.

As demonstrated within the application materials, the proposed project is consistent with the goals and purposes of the Highlands Act and the Regional Master Plan and the intent of the exemption for a public utility project. The proposed project has minimized potential impacts through the use of an existing ROW to the greatest extent possible within the Highlands Preservation Area.
Roseland - Bushkill PSE&G ROW

Proposed Jefferson Switching Station

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**FIGURE 3: LOCAL ROAD MAP**

Roseland - Bushkill PSE&G ROW
Andover, Sparta and Byram Townships
and Hopatcong Boro, Sussex County, New Jersey
Jefferson Township, Morris County, New Jersey

The Louis Berger Group, Inc.
412 Mount Kemble Ave
Morristown, NJ 07960

September 2008
Sheet 1 of 3
This map was developed using New Jersey Highlands Water Protection and Planning Council’s Geographic Information System digital data, but this secondary product has not been verified by the Highlands Council and is not state-authorized.
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PSEG

FIGURE 5: CONSTRAINTS MAP
Undeveloped Land and Riparian Areas Slopes
Roseland - Bushkill PSEG ROW
Kinnelon Boro, Montville, Boonton, and Denville Townships
Morris County, New Jersey

The Louis Berger Group, Inc.
412 Mount Kemble Ave
Morristown, NJ 07960

September 2008
Sheet 3 of 3
FIGURE 6: CONSTRAINTS MAP
Forest Area within the Forest Resource Areas, Critical Habitat and Conservation Priority Areas

Roseland - Bushkill PSE&G ROW
Jefferson and Rockaway Townships,
Morris County, New Jersey

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412 Mount Kemble Ave
Morristown, NJ 07960

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Sheet 2 of 3

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Roseland - Bushkill PSE&G ROW

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FIGURE 5: CONSTRAINTS MAP
Forest Area within the Forest Resource Areas, Critical Habitat and Conservation Priority Areas
Roseland - Bushkill PSE&G ROW
Kinnelon Boro, Montville, Boonton, and Denville Townships
Morris County, New Jersey

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Morristown, NJ 07960

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FIGURE 8: CONSTRAINTS MAP

Riparian and Open Water Protection Areas
Roseland - Bushkill PSE&G ROW
Kinnelon Boro, Montville, Boonton,
and Denville Townships
Morris County, New Jersey

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## APPENDIX A

**BLOCK AND LOT INFORMATION FOR PARCELS LOCATED WITHIN THE HIGHLANDS PRESERVATION AREA**

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MUNICIPAL AGENCIES

Township of Boonton, Morris County

A) Municipal Clerk: Barbara Shepard
   Municipal Building
   155 Powerville Road
   Boonton Twp, NJ 07005

B) Municipal Planning Board: Mr. William Denzler, Chairman
   Municipal Building
   155 Powerville Road
   Boonton Twp, NJ 07005

C) Municipal Construction Official: Mr. Edward Bucceri
   Municipal Building
   155 Powerville Road
   Boonton Twp, NJ 07005

D) Municipal Environmental Commission: Mr. Barry Brantner, Chairman
   Municipal Building
   155 Powerville Road
   Boonton Twp, NJ 07005

Township of Jefferson, Morris County

A) Municipal Clerk: Lydia Magnotti
   Municipal Building
   1033 Weldon Rd.
   Lake Hopatcong, NJ 07849

B) Municipal Planning Board: Mr. Clifford Williams, Chairman
   Municipal Building
   1033 Weldon Rd.
   Lake Hopatcong, NJ 07849

C) Municipal Construction Official: Mr. Thomas Mahoney
   Municipal Building
   1033 Weldon Rd.
   Lake Hopatcong, NJ 07849

D) Municipal Environmental Commission: Mr. Clifford Williams, Chairman
   Municipal Building
   1033 Weldon Rd.
   Lake Hopatcong, NJ 07849
Borough of Kinnelon, Morris County

A) Municipal Clerk: Elizabeth Sebrowski, RMC
   Municipal Building
   130 Kinnelon Rd.
   Kinnelon, NJ 07405

B) Municipal Planning Board: Mr. William Powell, Chairman
   Municipal Building
   130 Kinnelon Rd.
   Kinnelon, NJ 07405

C) Municipal Construction Official: Mr. Russ Heiney
   Municipal Building
   130 Kinnelon Rd.
   Kinnelon, NJ 07405

D) Municipal Environmental Commission: Ms. Eileen Zappia, Chairperson
   Municipal Building
   130 Kinnelon Rd.
   Kinnelon, NJ 07405

Township of Montville, Morris County

A) Municipal Clerk: Trudy Atkinson
   Municipal Building
   195 Changebridge Rd.
   Montville, NJ 07045

B) Municipal Planning Board: Mr. Ladis Karkowsky, Chairman
   Municipal Building
   195 Changebridge Rd.
   Montville, NJ 07045

C) Municipal Construction Official: Mr. Brian Laurd
   Municipal Building
   195 Changebridge Rd.
   Montville, NJ 07045

D) Municipal Environmental Commission: Ms. Michele Caron, Chairwoman
   Municipal Building
   195 Changebridge Rd.
   Montville, NJ 07045
Township of Rockaway, Morris County

A) Municipal Clerk: Mary Cilurso
   65 Mount Hope Rd.
   Rockaway, NJ 07866

B) Municipal Planning Board: Mr. Morton Dicker, Chairman
   65 Mount Hope Rd.
   Rockaway, NJ 07866

C) Municipal Construction Official: Mr. Andrew Santilippo
   65 Mount Hope Rd.
   Rockaway, NJ 07866

D) Municipal Environmental Commission: Mr. Pat Matarazzo, Chairman
   65 Mount Hope Rd.
   Rockaway, NJ 07866

Township of Byram, Sussex County

A) Municipal Clerk: Doris Flynn
   Municipal Building
   10 Mansfield Dr.
   Byram, NJ 07874

B) Municipal Planning Board: Mr. George Shivas, Chairman
   Municipal Building
   10 Mansfield Dr.
   Byram, NJ 07874

C) Municipal Construction Official: Mr. Richard O’Connor
   Municipal Building
   10 Mansfield Dr.
   Byram, NJ 07874

D) Municipal Environmental Commission: Ms. Sheila Hall, Co-Chairperson
   Ms. Rowena McNulty, Co-Chairperson
   Municipal Building
   10 Mansfield Dr.
   Byram, NJ 07874
Borough of Hopatcong, Sussex County

A) Municipal Clerk: Ms. Lorraine Stark, RMC
   111 River Styx Rd.
   Hopatcong, NJ 07843

B) Municipal Planning Board: Mr. Sam C. Hoagland, Chairman
   111 River Styx Rd.
   Hopatcong, NJ 07843

C) Municipal Construction Official: Mr. William O'Connor
   111 River Styx Rd.
   Hopatcong, NJ 07843

D) Municipal Environmental Commission: Ms. Mary Takaes, Chairperson
   111 River Styx Rd.
   Hopatcong, NJ 07843

Township of Sparta, Sussex County

A) Municipal Clerk: Miriam Tower
   Municipal Building
   65 Main St.
   Sparta, NJ 07871

B) Municipal Planning Board: Mr. William Hookway III, Chairman
   Municipal Building
   65 Main St.
   Sparta, NJ 07871

C) Municipal Construction Official: Mr. Jan Op’t Hof
   Municipal Building
   65 Main St.
   Sparta, NJ 07871

D) Municipal Environmental Commission: Chairperson
   Municipal Building
   65 Main St.
   Sparta, NJ 07871
COUNTY AGENCIES

Morris County

A) Morris County Planning Board: Mr. Raymond Zabihach, Division Head
30 Schuyler Place
Morristown, NJ 07960

B) Morris County Environmental Commission: None

Sussex County

A) Sussex County Planning Board: Mr. Eric Snyder, Director
Sussex County Division of Planning
1 Spring Street
Newton, NJ 07860

B) Sussex County Environmental Commission: Mr. Herbert J. Yardley, Administrator/Health Officer
Department of Environmental and Public Services
1 Spring Street
Newton, NJ 07860

HIGHLAND COUNCIL

A) New Jersey Highlands Council John Weingart, Chairman
New Jersey Highlands Council
100 North Road
Chester, NJ 07930
APPENDIX D
AGENCY CORRESPONDENCE
VIA CERTIFIED MAIL

September 12, 2008

Mr. Weingart, Chairman

New Jersey Highlands Council
North Road

Mays Landing, NJ 08330

Re: Susquehanna-Roseland 500 kV Transmission Line
Highlands Applicability Determination
Warren, Sussex and Morris Counties, New Jersey (JR2797)

Dear Mr. Weingart,

This letter is to provide you with legal notification that Public Service Electric and Gas Company (PSE&G), a subsidiary of Services Enterprise Group is submitting a Highlands Applicability and Water Quality Management Plan (WQMP) Applicability Determination Application Form (Highlands Applicability Determination) to the New Jersey Department of Environmental Protection (NJDEP) Division of Watershed Management under the Highlands Water Protection and Planning Act (NJAC 7:38). PSE&G and their consultants, The Louis Berger Group Inc. (Berger) and Commonwealth Associates, are preparing engineering plans, environmental reports and environmental permit applications associated with the proposed Susquehanna-Roseland 500 kilovolt (kV) transmission line.

The Highlands Applicability Determination will establish that the proposed project is one of the following: exempt from these a major Highlands development, or unregulated by the NJDEP. In addition, the Highlands Applicability Determination will establish whether or not the proposed project is consistent, not addressed, or inconsistent with the applicable area-wide Water Quality Management Plan. PSE&G is applying for the following determinations:

- Exemption (establishes whether the project is exempt from the Highlands Water Protection and Planning Act rules)
- Major Highlands development (establishes whether or not the project is a major Highlands development under the Highlands Water Protection and Planning Act rules. If a proposed project is determined to be a major Highlands development and is not exempt, the project will be subject to these rules.)
- Unregulated by NJDEP (establishes if the project is agricultural or horticultural and thus not regulated by the NJDEP under the Highlands Water Protection and Planning Act rules)

The proposed project shall also be reviewed for consistency with the applicable area-wide Water Quality Management Plan. A determination of consistent not addressed, or inconsistent shall be issued.

A copy of the application for Highlands Applicability Determination is enclosed as required by the Highlands Water Protection and Planning Act Rules. The NJDEP welcomes comments and any information you may provide concerning the proposed project and site. Written comments should be submitted to the NJDEP within 30 days after the NJDEP publishes the application in the DEP Bulletin. The NJDEP shall consider all written comments submitted within this time. The NJDEP may, in its discretion, consider comments submitted after this date. Comments cannot be accepted by telephone. Please send any comments you may have in writing, along with a copy of this letter, to: New Jersey Department of Environmental Protection, Division of Watershed Management, Bureau of Watershed Regulation, PO Box 418, Trenton, New Jersey 08625.

The standards governing Highlands Applicability Determinations are found in the NJDEP’s Highlands Water Protection and Planning Act Rules at NJ.A.C. 7:38, which can be viewed on the NJDEP Highlands website or at the county law library in the county courthouse. The NJDEP will notify each relevant Clerk’s Office of the determination on the application. If you have any questions or comments on the application, please contact Robert Pollock of PSE&G at (980) 692-6253 or Edward Samanns of The Louis Berger Group, Inc. at (732) 474-4468.

Sincerely,

[Signature]

PSE&G
Services Corporation

[Address]

[Telephone Number]
Raymond A. Tripodi, Manager
Corporate Licenses and Permits
PSE&G Services Corporation
80 Park Plaza
Newark, New Jersey 07102-4194

Dear Mr. Tripodi:

The U.S. Fish and Wildlife Service (Service) has reviewed your February 20, 2008 request for information on the presence of federally listed endangered and threatened species in the vicinity of PSEG's proposed Roseland to Bushkill Electric Transmission Line to be located in Morris, Sussex, and Warren Counties, New Jersey. The proposed project involves installation of 45 miles of new 500-kV overhead electric transmission lines along an existing 150-foot-wide right-of-way (ROW) in 15 municipalities. The project also involves construction of two new switching stations, in Jefferson and East Hanover Townships, Morris County. The proposed station sites comprise approximately 23 acres in East Hanover and 142 acres in Jefferson; these areas are currently wooded.

AUTHORITY

This response is pursuant to Section 7 the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) (ESA) to ensure the protection of federally listed endangered and threatened species. These comments do not preclude separate review and comments by the Service pursuant to the National Environmental Policy Act of 1969 as amended (83 Stat. 382; 42 U.S.C. 4321 et seq.); the Bald and Golden Eagle Protection Act (54 Stat. 250; 16 U.S.C. 668-668d); or the December 22, 1993 Memorandum of Agreement among the U.S. Environmental Protection Agency, New Jersey Department of Environmental Protection (NJDEP), and the Service, if project implementation requires a permit from the NJDEP pursuant to the New Jersey Freshwater Wetlands Protection Act (N.J.S.A. 13:9B et seq.).
FEDERALLY LISTED SPECIES

Indiana Bat

The project area is located within the geographic range of the federally listed (endangered) Indiana bat (Myotis sodalis). Most of the ROW, and the proposed Jefferson Station, are located in foraging habitats used by Indiana bats in spring and fall, before and after hibernation. Portions of the ROW, and the proposed Jefferson and East Hanover Stations, are located within the foraging ranges of known Indiana bat maternity colonies. Indiana bats from these maternity colonies may forage and roost in the project area during the summer breeding season. A reproductive female from one of these maternity colonies was previously captured within the ROW in Rockaway Township, Morris County. To date, Indiana bats have not been documented along portions of the ROW west of Newton, Sussex County, but this western section of the project is within the potential range of this species. Additional information about the Indiana bat is enclosed.

The Service offers the following preliminary recommendations to protect the Indiana bat:

1. Seasonally restrict tree clearing from April 1 to September 30 at the proposed East Hanover Station, and along the ROW in Hardwick Township (Warren County), Stillwater and Fredon Townships and Newton (Sussex County), and East Hanover Township (Morris County).

2. Seasonally restrict tree clearing from April 1 to November 15 at the proposed Jefferson Station, and along the ROW in all other municipalities not listed in #1, above.

3. Identify any 1-mile segments of the ROW (each approximately 18 acres) where proposed tree clearing totals over 6 acres. For any such segments, provide the Service with project plans showing the locations and acreage of proposed tree clearing, as well as photographs and a characterization of wooded areas to be cleared (e.g., typical tree species and sizes, understory structure).

4. Preserve at least 150-foot wooded upland buffers around wetlands and open waters at the proposed station locations.

5. Minimize tree clearing at the proposed station locations, preferentially preserving trees that provide suitable roosts for Indiana bats (see enclosed list). If the station footprint will not occupy the entire property, seek to maintain at least 24 suitable roost trees per acre, and consider placing portions of the property not needed for station development under conservation easement.
6. Provide the Service with project plans for the proposed stations, showing the locations and acreage of proposed tree clearing, as well as photographs and a characterization of wooded areas to be cleared (e.g., typical tree species and sizes, under story structure).

Upon review of the project information requested above, the Service may request a site visit and may recommend mist net and telemetry studies to determine bat use of particular areas. If recommended, mist netting must be carried out by a recognized, qualified surveyor (see enclosed list) between May 15 and August 15 according to Service guidelines (enclosed). The Service will work cooperatively with PSEG to identify and refine conservation measures necessary to avoid adverse effect to the Indiana bat.

**Bog Turtle**

Two known occurrences of the federally listed (threatened) bog turtle (*Clemmys muhlenbergii*) are located along the ROW, within Segments 66/1-66/2 and 48/4-49/1 (reference is to the IGDS field in the GIS file provided with your February 20, 2008 letter). The following eleven segments of the ROW contain areas of potential bog turtle habitat previously identified by the NJDEP.

- 42/1-42/2
- 42/2-42/3
- 43/2-43/3
- 52/5-53/1
- 53/1-53/2
- 53/5-53/6
- 58/1-58/2
- 59/1-59/2
- 55/3-55/4
- 55/4-55/5
- 59/4-60/1

Additional areas of potential habitat along the ROW may have been previously identified by PSEG during surveys conducted under your NJDEP Freshwater Wetland General Permit for vegetation maintenance. However, other portions of the ROW may not have been surveyed for bog turtle habitat to date. Where present in the ROW, bog turtles may be disturbed or injured by the proposed construction activities, and may be adversely impacted by any temporary or permanent impacts to wetlands including clearing, filling, draining, shading, and changes in erosion, sedimentation, water quality, or surface or groundwater hydrology. Therefore, the Service requests that a recognized, qualified surveyor (see enclosed list) inspect (i.e., Phase 1 survey) all scrub/shrub and emergent wetlands in the ROW that have not been previously surveyed for the presence or absence of bog turtle habitat. Guidance for performing bog turtle habitat surveys is enclosed. Surveyors must avoid stepping on the tops of hummocks because this can destroy turtle nests and eggs. The results of any survey, whether showing presence or absence of bog turtle habitat, must be forwarded to this office for review; please include photographs and the qualifications of the surveyor(s).

The Service recommends that PSEG adopt the following conservation measures for all identified areas of known and potential bog turtle habitat along the ROW.
1. Employ a recognized qualified bog turtle surveyor to mark the known and potential bog turtle habitat in the field, clearly flagging these areas including a 150-foot buffer. Remove all flagging when work is completed in the area.

2. Instruct workers to avoid stepping on hummocks and tussocks when working in flagged wetlands, to avoid the possibility of crushing turtle nests or eggs.

3. Prohibit use of motorized vehicles within flagged wetlands.

Phase 2 (visual) surveys and/or additional conservation measures may be necessary if the above recommendations cannot be adopted. Phase 2 surveys must be carried out at specific times between April 15 and June 15. Additional information on the bog turtle is enclosed.

MIGRATORY BIRDS

The Migratory Bird Treaty Act (40 Stat. 755; 16 U.S.C. 703-712) prohibits the take of migratory birds, their parts, nests, and eggs, even when incidental to an otherwise lawful activity. To minimize avian electrocution and collision risks, the Service recommends constructing the proposed new power line and stations in accordance with the Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. If PSEG has not already done so, the Service also recommends preparation of an Avian Protection Plan (APP). Both the Suggested Practices document and guidance for preparing APPs are available from the Avian Powerline Interaction Committee (http://www.apfic.org/).

CONCLUSION

The proposed project may adversely affect the federally listed Indiana bat and/or bog turtle. Therefore, further consultation with the Service is necessary pursuant to Section 7 of the ESA. Through the informal consultation process, the Service will work cooperatively with PSEG to avoid adverse effects to federally listed species. In addition, the Service appreciates the cooperation of PSEG in minimizing hazards to migratory birds.

Except for the above-mentioned species, no other federally listed or proposed threatened or endangered flora or fauna are known to occur within the vicinity of the proposed project. If additional information on listed and proposed species becomes available or if project plans change, this determination may be reconsidered.

Please refer to our web site at http://www.fws.gov/northeast/njfieldoffice. Endangered for current lists of federally listed and candidate species in New Jersey. The web site also provides a link to the National Bald Eagle Management Guidelines, and contacts for obtaining current information regarding State-listed and other species of concern from the New Jersey Natural Heritage Endangered and Nongame Species Programs.
Please contact Wendy Walsh at (609) 383-3938, extension 48, if you have any questions or require further assistance regarding federally listed threatened or endangered species.

Sincerely,

[Signature]

John C. Staples
Assistant Supervisor
LISTED SPECIES - MAMMALS

Indiana bat (*Myotis sodalis*)

The Indiana bat was first protected on March 11, 1967 under the Endangered Species Preservation Act of 1966 and is currently listed as endangered pursuant to the ESA. Indiana bats hibernate in caves and abandoned mine shafts from October to April, depending on climatic conditions. Between early August and mid-September, Indiana bats arrive near their hibernation caves and engage in swarming and mating activity. Swarming at cave entrances continues into mid or late October. During this time, the bats forage and build fat reserves for hibernation. Many areas of New Jersey have not been surveyed for the presence of the Indiana bat. The past extensive mining that has taken place in some areas of New Jersey has resulted in numerous abandoned mine shafts that may provide suitable conditions for use by the Indiana bat as hibernacula. However, the openings of many of these shafts have collapsed or been purposefully sealed to prevent human access, making determination of Indiana bat use difficult.

After emerging from hibernation, Indiana bats once again forage in the vicinity of the hibernation site before migrating to summer habitats. Where Indiana bats go after dispersing from their hibernacula in New Jersey is not well known. Until recently, little was known about the summer habitat of the Indiana bat. Female Indiana bats occupy summer maternity roosts under the loose tree bark of dead, dying, or live trees along riparian, floodplain, or upland forests. Female Indiana bats raise a single offspring each year. The summer roosts of adult males are often found near maternity roosts, but where most males spend the day is unknown. Some adult males remain near the hibernaculum and have been found in caves during the summer. Proposed projects in the following counties should be reviewed to determine if suitable summer or winter habitat is present: Essex, Hunterdon, Passaic, Somerset, Sussex, Union, and Warren. If suitable habitat is present and will be altered or removed, the project site should be surveyed for the presence of the Indiana bat.

Indiana bats, as with all eastern United States bat species, feed almost exclusively on insects. Indiana bats forage for flying insects in and around the tree canopy at night. A variety of upland and wetland habitats are used as foraging areas, including flood plain, riparian, and upland forests; pastures; clearings with early successional vegetation; cropland borders; and wooded fencerows. Preferred foraging areas are streams, associated flood plain forests, and impounded bodies of water such as ponds and reservoirs. The abundance of mature trees within the floodplain and upland forest in northern New Jersey provide suitable maternity, summer, and foraging habitat for the Indiana bat. If maternity roost sites are located within a project area, clearing of mature trees could adversely affect the Indiana bat through disturbance or destruction of maternity or summer roost trees. Threats to the Indiana bat include disturbance or killing of hibernating and maternity colonies; vandalism and improper gating of hibernacula; fragmentation, degradation, and destruction of forested summer habitats; and use of pesticides and other environmental contaminants.
Enclosure – Characteristics of Indiana Bat Summer Habitat

Potential summer habitat for Indiana bats features at least 24 suitable roost trees per acre. Tree characteristics such as loose or shaggy bark, crevices, and hollows are more important than tree species. Suitable roost trees include any of the following:

- live shagbark hickories (*Carya ovata*) over 9 inches in diameter at breast height (dbh);
- lightning-struck trees over 9 inches dbh;
- dead, dying, or damaged trees of any species over 9 inches dbh with at least 10 percent exfoliating bark;
- den trees, broken trees, or stumps over 9 inches dbh and over 9 feet in height; and
- live trees of any species over 26 inches dbh.

Trees as small as 5 inches dbh have been used as maternity roosts and trees as small as 3 inches dbh have been used by roosting males; therefore, smaller dbh trees with the aforementioned characteristics should be retained if larger dbh trees are not present.

The following are examples of native tree species that should be included in planting plans designed to provide suitable roosts for Indiana bats in New Jersey.

<table>
<thead>
<tr>
<th>Red maple</th>
<th><em>Acer rubrum</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver maple</td>
<td><em>Acer saccharinum</em></td>
</tr>
<tr>
<td>Sugar maple</td>
<td><em>Acer saccharum</em></td>
</tr>
<tr>
<td>Yellow birch</td>
<td><em>Betula alleghaniensis</em></td>
</tr>
<tr>
<td>Gray birch</td>
<td><em>Betula populifolia</em></td>
</tr>
<tr>
<td>Bitternut hickory</td>
<td><em>Carya cordiformis</em></td>
</tr>
<tr>
<td>Sweet pignut hickory</td>
<td><em>Carya ovalis</em></td>
</tr>
<tr>
<td>Shagbark hickory</td>
<td><em>Carya ovata</em></td>
</tr>
<tr>
<td>White ash</td>
<td><em>Fraxinus americana</em></td>
</tr>
<tr>
<td>Green ash*</td>
<td><em>Fraxinus pennsylvanica</em></td>
</tr>
<tr>
<td>White pine</td>
<td><em>Pinus strobus</em></td>
</tr>
<tr>
<td>Eastern cottonwood*</td>
<td><em>Populus deltoides</em></td>
</tr>
<tr>
<td>White oak*</td>
<td><em>Quercus alba</em></td>
</tr>
<tr>
<td>Pin oak</td>
<td><em>Quercus palustris</em></td>
</tr>
<tr>
<td>Northern red oak</td>
<td><em>Quercus rubra</em></td>
</tr>
<tr>
<td>Post oak</td>
<td><em>Quercus stellata</em></td>
</tr>
<tr>
<td>American elm*</td>
<td><em>Ulmus americana</em></td>
</tr>
<tr>
<td>Slippery elm</td>
<td><em>Ulmus rubra</em></td>
</tr>
</tbody>
</table>

* preferred roost tree species

Revised 2/6/2008
RECOGNIZED QUALIFIED INDIANA BAT SURVEYORS

The following list includes individuals recognized by the U.S. Fish and Wildlife Service, New Jersey Field Office, and the New Jersey Department of Environmental Protection (NJDEP), Endangered and Nongame Species Program as qualified to conduct surveys for Indiana bats. This list may not include all individuals qualified to survey for this species. This list will be updated periodically. Inclusion of names on this list does not constitute endorsement by the Service, the NJDEP, or any other U.S. Government agency or State agency.

Various techniques are used to sample and study bats in New Jersey, including hibernacula surveys, mist netting, acoustic detection, and radio-telemetry. Some individuals on this list may not be qualified to conduct all techniques. A scientific collecting permit from the NJDEP is required to capture bats in New Jersey.

Hal Bryan
EcoTech, Inc.
313 Capital Avenue
P.O. Box 8
Frankfort, Kentucky 40602-0008
Phone: (502) 223-8136

Dr. Virgil Brack
Environmental Solutions & Innovations, LLC
781 Neeb Road
Cincinnati, Ohio 45233
Phone: (513) 451-1777
Fax: (513) 451-3321
e-mail: vbrack@environmentalSI.com

Karen Campbell
Biology Department
Albright University
P.O. Box 15234
Reading, Pennsylvania 19612-5234
Phone: (610) 921-7728
Fax: (610) 921-7550

John Chenger
Bat Conservation & Management, Inc.
220 Old Stone House Road
Carlisle, Pennsylvania 17013
Phone: (717) 241-2228
Fax: (717) 241-2228
e-mail: jchenger@batmanagement.com

Bryon Dubois
Trident Environmental Consultants
1856 Route 9
Toms River, New Jersey 08755
Phone: (732) 818-8699
Fax: (732) 818-3744
e-mail: bdubois@tridentenviro.com

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Fuller, Mossbarger, Scott & May
1901 Nelson Miller Parkway
Louisville, Kentucky 40223
Phone (502) 212-5000
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Fax: (614) 486-4387
E-mail: made2@zande.com

Russ Romme
BHE Environmental, Inc.
11733 Chesterdale Road
Cincinnati, Ohio 45246
Phone: (513) 326-1500
Fax: (513) 326-1550
e-mail: rmome@bheenv.com

Chris Sanders
Sanders Environmental, Inc.
322 Borealis Way
Belleville, PA 16823
Phone: (814) 659-8257
E-mail: Sanders@sargate.com
June 27, 2008

Mr. Pollock

Permit Cinema
Park Plaza, Mail Code T17H
Newark, NJ 07102

Existing Rozeland - Bushkill 230 kV Transmission Line

Mr. Pollock:

Thank you for your data request regarding rare species information for the above referenced project site in Morris, Sussex, Warren, and Essex Counties.

Records of the Natural Heritage Database and the Landscape Project (Version 3 in the highlands region, Version 2.1 elsewhere) are based on a representation of the boundaries of your project site in our Geographic Information System (GIS). We make every effort to accurately transfer your project bounds from the topographic map(s) submitted with the request for Data into our Geographic Information System. We do not typically verify that your project bounds are accurate, nor do we check them against other sources.

We have checked the Natural Heritage Database and the Landscape Project habitat mapping for occurrences of any rare plant species or wildlife habitat on the referenced site. Please see Table 1 (attached) for species list and conservation status.

We have also checked the Natural Heritage Database and the Landscape Project habitat mapping for occurrences of any rare wildlife species or wildlife habitat within one mile of the referenced site. Please see Table 2 for species list and conservation status. This table excludes any species listed in Table 1.

Requests submitted as part of a Flood Hazard Area Control Act (FHACA) rule application, we report records for all rare plant species and ecological communities tracked by the Natural Heritage Program that may be on your project site. (In some borderline cases these records may be described as on or in the immediate vicinity of your project site.) A subset of these plant species are also covered by the FHACA rules when the records are located within one mile of the project site. These searches will only report occurrences for those plant species identified under the FHACA regulations as being semi-depending on the watercourse.

We have checked the Natural Heritage Database for occurrences of rare plant species or ecological communities. The Natural Heritage Database has records for occurrences of limestone fen, talus slope community and Lycopodium annotinum that may be on the site, and for twenty-four occurrences of rare plant species covered by the Flood Hazard Area Control Act that may be within one mile of the site. The attached lists provide more information about these occurrences. Because some species are sensitive to disturbance or sought by collectors, this information is provided to you on the condition that no specific locational data are released to the general public. This is not intended to preclude your submission of this information to regulatory agencies from which you are seeking permits.

Attached is a list of rare species and ecological communities that have been documented from Morris, Sussex, Warren, and Essex Counties. If suitable habitat is present at the project site, these species have potential to be present.

The Natural Heritage Program reviews its data periodically to identify priority sites for natural diversity in the State. Priority sites are some of the State's best habitats for rare and endangered species and ecological communities.
Seven of these sites are located within or near the areas you have outlined. Please refer to the enclosed Natural Heritage Priority Site Maps for the locations and boundaries of these sites. On the back of each Priority Site Map is a report describing the significance of the site. You may find the site biodiversity significance rating to be useful if you need to prioritize among the sites in your environmental assessment.

If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend that you visit the Interactive I-Map-NJ website at the following URL, http://www.state.nj.us/dep/gis/depsplash.htm or contact the Division of Fish and Wildlife, Endangered and Nongame Species Program at (609) 292 9400.

PLEASE SEE THE ATTACHED 'CAUTIONS AND RESTRICTIONS ON NHP DATA'.

Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

Herbert A. Lord
Herbert A. Lord
Data Request Specialist

cc: Robert J. Cartica
NHP File No. 08-General
CAUTIONS AND RESTRICTIONS ON NATURAL HERITAGE DATA

The quantity and quality of data collected by the Natural Heritage Program is dependent on the research and observations of many individuals and organizations. Not all of this information is the result of comprehensive or site-specific field surveys. Some natural areas in New Jersey have never been thoroughly surveyed. As a result, new locations for plant and animal species are continuously added to the database. Since data acquisition is a dynamic, ongoing process, the Natural Heritage Program cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of New Jersey. Information supplied by the Natural Heritage Program summarizes existing data known to the program at the time of the request regarding the biological elements or locations in question. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. The attached data is provided as one source of information to assist others in the preservation of natural diversity.

This office cannot provide a letter of interpretation or a statement addressing the classification of wetlands as defined by the Freshwater Wetlands Act. Requests for such determination should be sent to the DEP Land Use Regulation Program, P.O. Box 401, Trenton, NJ 08625-0401.

The Landscape Project was developed by the Division of Fish & Wildlife, Endangered and Nongame Species Program in order to map critical habitat for rare animal species. Natural Heritage Database response letters will also list all species (if any) found during a search of the Landscape Project. However, this office cannot answer any inquiries about the Landscape Project. All questions should be directed to the DEP Division of Fish and Wildlife, Endangered and Nongame Species Program, P.O. Box 400, Trenton, NJ 08625-0400.

This cautions and restrictions notice must be included whenever information provided by the Natural Heritage Database is published.
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<tr>
<td>Spartogranum minimum</td>
<td>Small Burr-reed</td>
<td>E</td>
<td></td>
<td></td>
<td>G5</td>
<td>S1</td>
<td>1993-09-30</td>
<td>Y</td>
</tr>
<tr>
<td>Spartogranum minimum</td>
<td>Small Burr-reed</td>
<td>E</td>
<td></td>
<td></td>
<td>G5</td>
<td>S1</td>
<td>1993-09-30</td>
<td>Y</td>
</tr>
<tr>
<td>Thuja occidentalis</td>
<td>Arborvitae</td>
<td>E</td>
<td></td>
<td></td>
<td>G5</td>
<td>S1</td>
<td>2007-06-19</td>
<td>Y</td>
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<tr>
<td>Triglochin maritima</td>
<td>Seaside Arrow-grass</td>
<td></td>
<td></td>
<td></td>
<td>G5</td>
<td>S1</td>
<td>2007-06-19</td>
<td>Y</td>
</tr>
</tbody>
</table>

24 Records Selected
Natural Heritage Priority Site

Green Pond Mountain

Morris County
Natural Heritage Priority Site

Green Pond Mountain

Locational Information

- **Quad Name:** Dover; Newfoundland; Boonton; Franklin
- **County:** Morris
- **Municipality:** Rockaway Twp; Jefferson Twp

Description of Site

An extensive matrix of forests, talus slopes, wooded wetlands and aquatic plant communities on Green Pond Mountain.

Boundary Justification

Boundaries drawn to include the watersheds on Green Pond Mountain which drain into Green Pond and Green Pond Brook.

Biodiversity Rank  \[B4V1\]

Contains habitat for a concentration of state critically imperiled, imperiled and rare plant species.
Natural Heritage Priority Site
Lake Denmark
Morris County
Natural Heritage Priority Site
Lake Denmark

Locational Information
Quad Name: Dover; Boonton; Newfoundland  
County: Morris  
Municipality: Rockaway Twp

Description of Site
A large glacial lake and adjacent herbaceous, shrubby and forested wetlands.

Boundary Justification
Boundary matches that of the watershed basin. It includes the lake and adjacent wetland habitats and lands draining toward the wetlands.

Biodiversity Rank: B4VL
The site contains excellent populations of state-imperiled and other rare species.
Natural Heritage Priority Site

Millbrook Gap

Warren County
Natural Heritage Priority Site
Millbrook Gap

Locational Information
Quad Name: Flatbrookville
County: Warren
Municipality: Hardwick Twp

Description of Site
Wet roadside seepage slope.

Boundary Justification
Includes wetland habitat for rare plant.

Biodiversity Rank [B4]
Only known occurrence for state critically imperiled plant species.
Natural Heritage Priority Site

Muckshaw Ponds
Sussex County
Natural Heritage Priority Site
Muckshaw Ponds

Locational Information

Quad Name: Newton West
County: Sussex
Municipality: Fredon Twp; Andover Twp; Newton Town

Description of Site

Series of sinkholes and one larger pond surrounded by steep, wooded dolomite ridges.

Boundary Justification

The primary boundary includes globally rare upland forest, globally imperiled wetlands, and associated rare plants and animals. The secondary boundary includes the karst watershed and adjacent upland buffer.

Biodiversity Rank: [B3]

High quality assemblage of globally rare upland and wetland natural communities with nine State Endangered plants and one State Threatened animal.
Natural Heritage Priority Site

Site 564

Sussex County
Natural Heritage Priority Site
Site 564

Locational Information

Quad Name: Newton East; Newton West
County: Sussex
Municipality: Andover Twp; Newton Town

Description of Site
A shrub and herb dominated wetland surrounded by limestone ridges and mixed hardwood forest dissected by logging roads. The wetland comprises part of the headwaters of Stickle Pond to the southeast.

Boundary Justification
Primary boundary contains species and community occurrences. Secondary boundary contains entire watershed.

Biodiversity Rank [B1]
Contains significant natural community with numerous globally and state-imperilled plant/animal species.
Natural Heritage Priority Site
Splitrock Reservoir Site

Locational Information

Quad Name: Boonton
County: Morris
Municipality: Rockaway Twp

Description of Site

The site contains mixed deciduous woodlands with steep slopes that are very rocky in places, with a few permanent and intermittent streams.

Boundary Justification

Boundary is drawn to contain contiguous habitat for a plant species that is critically imperiled in the state, and lands that drain toward the habitat.

Biodiversity Rank: BSVT

The site contains the only documented occurrence of a plant species that is critically imperiled in the state.
Natural Heritage Priority Site
Valhalla Hemlock Glen
Morris County
Natural Heritage Priority Site
Valhalla Hemlock Glen

Locational Information
Quad Name: Pompton Plains
County: Morris
Municipality Montville Twp

Description of Site
Rocky slopes in hemlock ravine and associated wetlands along small stream.

Boundary Justification
Includes known extent of rare plant population plus additional buffer.

Biodiversity Rank [B5V4]
Contains a good occurrence of a state imperiled plant species.
-EXPLANATIONS OF CODES USED IN NATURAL HERITAGE REPORTS

- States and Wildlife Service categories and their definitions of endangered and threatened plants and animals have been modified from the U.S. Fish and Wildlife Service (F.R. Vol. 50 No. 188; Vol. 61, No. 40; F.R. 50 C.F.R. Part 17). Federal Status codes reported for species follow the most recent

- **E** Taxa formally listed as endangered.
- **T** Taxa formally listed as threatened.
- **EI** Taxa already proposed to be formally listed as endangered.
- **TI** Taxa already proposed to be formally listed as threatened.
- **S** Taxa for which the Service currently has on file sufficient information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species.
- **X** Similarity of appearance species.

**NJ STATE STATUS CODES**

- The state status codes represent the state status after the Endangered and Nongame Species Conservation Act of 1973 (N.S.A. 23:2A-13 et. seq.); the list of nongame species is based on the list defining status of indigenous, nongame wildlife species of New Jersey (N.J.A.C. 7:25-4.13) and the list defining status of non-native nongame wildlife species of New Jersey (N.J.A.C. 7:25-4.17(a)). The status codes and definitions provided reflect the most recent revisions in the New Jersey Register, Monday, June 3, 1991.

- **D** Declining species—a species which has exhibited a continued decline in population numbers over the years.
- **E** Endangered species—an endangered species is one whose prospects for survival within the state are in immediate danger due to one or more factors—a loss of habitat, over exploitation, predation, competition, disease. An endangered species requires immediate assistance or extinction will probably follow.
- **X** Extirpated species—a species that formerly occurred in New Jersey, but is not now known to exist within the state.
- **I** Introduced species—a species not native to New Jersey that could not have established itself here without the assistance of man.
- **R** Increasing species—a species whose population has exhibited a significant increase, beyond the normal range of its life cycle, over a long time period.
- **T** Threatened species—a species that may become endangered if conditions surrounding the species begin to or continue to deteriorate.
- **P** Perennial species—a species whose occurrence in New Jersey is at the extreme edge of its present natural range.
- **S** Stable species—a species whose population is not undergoing any long-term increase/decrease within its natural cycle.
- **U** Undetermined species—a species about which there is not enough information available to determine the status.

- States followed by a slash (/) indicate a dual status. First status refers to the state breeding population, and the second status refers to the non-breeding population.
SC: Special Concern - applies to animal species that warrant special attention because of some evidence of decline, inherent vulnerability to environmental deterioration, or habitat modification that would result in their becoming a Threatened species. This category would also be applied to species that meet the foregoing criteria and for which there is little understanding of their current population status in the state.


E: Native New Jersey plant species whose survival in the State or nation is in jeopardy.

REGIONAL STATUS CODES FOR PLANTS AND ECOLOGICAL COMMUNITIES

LP: Indicates taxa listed by the Pinelands Commission as endangered or threatened within their legal jurisdiction. Not all species currently tracked by the Pinelands Commission are tracked by the Natural Heritage Program. A complete list of endangered and threatened Pinelands species is included in the New Jersey Pinelands Comprehensive Management Plan.

H: Indicates taxa or ecological communities protected by the Highlands Water Protection and Planning Act within the jurisdiction of the Highlands Preservation Area.

EXPLANATION OF GLOBAL AND STATE ELEMENT RANKS

The Nature Conservancy developed a ranking system for use in identifying elements (species and ecological communities) of natural diversity most endangered with extinction. Each element is ranked according to its global, national, and state (or subnational in other countries) rarity. These ranks are used to prioritize conservation work so that the most endangered elements receive attention first. Definitions for element ranks are after The Nature Conservancy (1997) Chapter 4.4.1-4 through 4.4.1.3-3.

GLOBAL ELEMENT RANKS

G1: Critically imperiled globally because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.

G2: Imperiled globally because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extinction throughout its range.

G3: Either very rare and local throughout its range or found locally (very abundantly at some of its locations) in a restricted range (i.e., a single western state, a physiographic region in the East) or because of other factors making it vulnerable to extinction throughout its range, with the number of occurrences in the range of 21 to 100.

G4: Apparently secure globally; although it may be quite rare in parts of its range, especially at the periphery.

G5: Demonstrably secure globally; although it may be quite rare in parts of its range, especially at the periphery.

GH: Of historical occurrence throughout its range i.e., formerly part of the established biota, with the expectation that it may be rediscovered.

GU: Possibly in part range-wide but status uncertain; more information needed.

CX: Believed to be extinct throughout range (e.g., passenger pigeon) with virtually no likelihood that it will be rediscovered.

C7: Species has not yet been ranked.

CNR: Species has not yet been ranked.
Critically imperiled in New Jersey because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres). Elements as ranked are often restricted to very specialized conditions or habitats and/or restricted to an extremely small geographical area of the state. Also included are elements which were formerly more abundant, but because of habitat destruction or some other critical factor of its biology, they have been demonstrably reduced in abundance. In essence, these are elements for which, even with intensive searching, sizable additional occurrences are unlikely to be discovered.

Imperiled in New Jersey because of rarity (6 to 20 occurrences). Historically many of these elements may have been more frequent but are now known from very few extant occurrences, primarily because of habitat destruction. Diligent searching may yield additional occurrences.

Rare in state with 21 to 100 occurrences (plant species and ecological communities in this category have only 21 to 50 occurrences). Includes elements which are widely distributed in the state but with small populations/acreage or elements with restricted distribution, but locally abundant. Not yet imperiled in state but may soon be if current trends continue. Searching often yields additional occurrences.

Apparently secure in state, with many occurrences.

Demonstrably secure in state and essentially in eradicateable under present conditions.

Accidental in state, including species (usually birds or butterflies) recorded once or twice or only at very great intervals, hundreds or even thousands of miles outside their usual range; a few of these species may even have bred on the one or two occasions they were recorded; examples include European strays or western birds on the East Coast and vice-versa.

Elements that are clearly exotic in New Jersey including those taxa not native to North America (introduced taxa) or taxa deliberately or accidentally introduced into the State from other parts of North America (adventive taxa). Taxa ranked SE are not a conservation priority or additional introduced occurrences of C1 or C2 elements may be exceptions.

Elements of historical occurrence in New Jersey. Despite some searching of historical occurrences and/or potential habitat, no extant occurrences are known. Since not all of the historical occurrences have been field surveyed, and unsearched potential habitat remains, historically ranked taxa are considered possibly extant, and remain a conservation priority for continued field work.

Elements have potential to occur in New Jersey, but no occurrences have been reported.

Elements reported from New Jersey, but without persuasive documentation which would provide a basis for either accepting or rejecting the report. In some instances documentation may exist, but as of yet, its source or location has not been determined.

Elements erroneously reported from New Jersey, but this error persists in the literature.

Elements believed to be in peril but the degree of rarity uncertain. Also included are rare taxa of uncertain taxonomical standing. More information is needed to resolve rank.

Elements that have been determined or are presumed to be extirpated from New Jersey. All historical occurrences have been searched and a reasonable search of potential habitat has been completed. Extirpated taxa are not a current conservation priority.

Elements presumed extirpated from New Jersey, but native populations collected from the wild exist in cultivation.
SZ Not of practical conservation concern in New Jersey, because there are no definable occurrences, although the taxon is native and appears regularly in the state. An SZ rank will generally be used for long distance migrants whose occurrences during their migrations are too irregular (in terms of repeated visitation to the same locations), transitory, and dispersed to be reliably identified, mapped, and protected. In other words, the migrant regularly passes through the state, but enduring, mappable element occurrences cannot be defined.

Typically, the SZ rank applies to a non-breeding population (N) in the state — for example, birds on migration. An SZ rank applies to a few instances also apply to a breeding population (B), for example certain lepidoptera which regularly die out every year with no significant return migration.

Although the SZ rank typically applies to migrants, it should not be used indiscriminately. Just because a species is on migration does not mean it receives an SZ rank. SZ will only apply when the migrants occur in an irregular, transitory and dispersed manner.

B Refers to the breeding population of the element in the state.

N Refers to the non-breeding population of the element in the state.

T Element ranks containing a "T" indicate that the infraspecific taxon is being ranked differently than the full species. For example, the *palaestris var. homotricha* is ranked "G327 SH" meaning the full species is globally secure but the global rarity of the var. homotricha has not been determined; in New Jersey the variety is ranked historic.

Q Elements containing a "Q" in the global portion of its rank indicates that the taxon is of questionable, or uncertain taxonomic rank; e.g., some authors regard it as a full species, while others treat it at the subspecific level.

I Elements documented from a single location.

Note To express uncertainty, the most likely rank is assigned and a question mark added (e.g., G2?). A range is indicated by combining two ranks (e.g., G1' G2, S' S3').

IDENTIFICATION CODES

These codes refer to whether the identification of the species or community has been checked by a reliable individual and is indicative of significant habitat.

Y Identification has been verified and is indicative of significant habitat.

BLANK Identification has not been verified but there is no reason to believe it is not indicative of significant habitat.

? Either it has not been determined if the record is indicative of significant habitat or the identification of the species or community may be confusing or disputed.

Revised November 2007
APPENDIX E - QUALIFICATIONS OF PREPARERS

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