

**PSEG LONG ISLAND LLC**  
**On Behalf of and as Agent for the**  
**LONG ISLAND LIGHTING COMPANY d/b/a LIPA**

**Syosset to Oakwood Project**

**EXHIBIT 3**  
**ALTERNATIVES**

## **Exhibit 3 - Alternatives**

### **3.1 Analysis of Alternatives**

Alternative routes, including the use of existing utility, railroad, and transportation corridors and overhead versus underground construction, have been considered as alternative solutions to the Project<sup>1</sup> to fulfill the needs described in Exhibit E-4 – Engineering Justification.

### **3.2 Existing Utility, Railroad, or Transportation Corridors**

To mitigate the potential impacts of a new electric transmission line, the use of existing utility, railroad, and transportation corridors is generally preferred over the creation of a new corridor. Accordingly, the Applicant evaluated the feasibility of constructing the facility in existing utility, rail and transportation ROW between Woodbury Terminal South and Oakwood Substation. The Applicant considered the LIRR commuter rail transport ROW, overhead electric transmission ROW, and many public roadways ROW with existing facilities in the study area.

The Applicant reviewed the potential to use the LIRR commuter rail as a ROW. While the Port Jefferson branch of the LIRR passes both Woodbury Terminal South and the Oakwood Substation, the Applicant concluded that this ROW is an inadequate solution due to a number of considerations. The presence of existing utilities in the LIRR ROW and its narrow width would prevent the installation of a new underground or overhead line without widening the ROW or relocating many of the existing facilities that occupy it. Widening of the LIRR ROW would be impeded by existing residences along its route. Finally, maintenance and operations of the new transmission lines would be affected by coordination with an active commuter railway.

The construction of a 138kV line in the LIRR ROW could cause potential disruptions to LIRR service. The MTA, which owns the LIRR, has certain requirements for open-cut trench techniques used to install new utilities in LIRR corridors. One requirement is that utilities cannot be installed within the “zone of influence” of the tracks. The MTA uses this zone to reduce construction disturbance to the tracks and defines it as anywhere on or above a 2:1 slope beginning at the edge of the tracks. Based on the location of the zone of influence of this LIRR ROW, its current width is insufficient to fit an additional 138kV circuit.

The Applicant considered overhead options for installing the new line. There are no existing overhead corridors between Woodbury Terminal South and Oakwood Substation. The creation of such would require additional temporary and permanent easements and the removal of encroachments. Furthermore, during the early 1970’s Article VII certification case for existing line 138-676, which runs between the Syosset and Greenlawn Substations, the Town of Huntington objected to undergrounding the section between Woodbury Terminal South and Oakwood Substation due to visual impacts to the community, and that

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<sup>1</sup> For clarity and consistency, the Application includes a Glossary that defines terms and acronyms used throughout the Application.

section of the line was certified and installed underground. The Applicant therefore determined an overhead alternative for this Project to be infeasible due to the environmental, cost, and social impacts.

The Applicant also considered constructing the new circuit as an overhead line in public roadways. However, this overhead alternative would raise numerous electrical clearance issues with constructability, existing utilities, and social considerations (such as visual impacts) associated with overhead lines. Therefore, the Applicant did not further pursue this alternative.

### **3.3 Routes Considered**

The Applicant developed a routing analysis to analyze various route options for the Project. The Applicant defined a study area to identify the location of a 138kV transmission line between the Oakwood Substation and Woodbury Terminal South. The study area is approximately 4.2 miles by 4.7 miles and encompasses both terminal points, and approximately 9,328 acres, with 6,101 acres in the Town of Huntington and 3,227 acres in the Town of Oyster Bay.

Maps and publicly available data from local, state, and federal agencies were reviewed and field reconnaissance was conducted to determine routing constraints and opportunities within the study area. Routing constraints found in the study area included the presence of other underground utilities, community spaces such as schools and business districts, and the LIRR.

The locations of environmentally sensitive areas within the study area were identified and the Applicant examined them for classification as either exclusion areas or avoidance areas. An exclusion area is an area that cannot be crossed by a transmission line due to applicable laws or regulations. For this Project, no exclusion areas were found.

An avoidance area is an area for which a transmission line crossing is not prohibited by law or regulation but requires special considerations or mitigation measures. Examples of avoidance areas are parks, schools, cemeteries, habitats for threatened or endangered species, and federally-owned land (e.g., USACE).

Opportunity areas within the study area were also determined and considered during transmission line route identification. Opportunity areas include existing corridors such as existing roads or other transmission line ROW. Opportunity areas are considered lower-impact areas, meaning areas with a relatively low likelihood of containing existing natural, social, or cultural resources that could be negatively impacted by an underground transmission line.

The study also accounted for New York State identified Disadvantaged Communities (“DAC”) within the evaluation area in accordance with Climate Leadership Community Protection Act (“CLCPA”) directives. One such community was identified in the Town of Huntington, which encompasses the Oakwood Substation, thus making avoidance impossible. However, the Disadvantaged Communities (“DAC”) and other Potential Environmental Justice Areas (“PEJA”) were categorized in the study.

The evaluation of the potential routes included a systematic comparison of the alternatives based on social, environmental, and engineering factors that represent potential adverse effects on resources in the study area. The route selection process sought to maximize the use of existing linear corridors (e.g., public roads)

to minimize potential impacts to the environment, the use of protected open space lands, the need to acquire private property, and traffic disruption during construction. The list of engineering, environmental, and social factors considered in the routing analysis is set forth below:

- General
  - Total length (feet)
  - Length in county road and state road ROW (feet)
- Engineering/Technical
  - Total number of road crossings (count)
  - Rating of Constructability – trenchless crossings (score)
  - Rating of Constructability – existing utilities (score)
  - Rating of Constructability – ROW/road width (score)
  - Rating of Constructability – traffic (score)
- Environmental
  - Length within 100 feet of NYSDEC Freshwater Wetlands (feet)
  - Length through Critical Environmental Areas (“CEA”) (feet)
  - Length through coastal boundary (feet)
  - Length through threatened and endangered species areas (feet)
- Human/Social
  - Number of historic resources within 500 feet (count)
  - Length through archaeological buffers (feet)
  - Land use score (score)
  - Number of sensitive receptors (public or private) within 1,000 feet (count)
  - Residences within 200 feet (count)
  - DACs and PEJAs (acres within 1,000 feet) (count)

There were 24 potential routes identified within the study area. The analysis of these possible routes involved tabulating all factors identified above. For all scores assigned in the analysis, lower ratings are associated with easier construction and lower total impact. These factors were developed and tailored to the specific characteristics that were identified in the study area and along the preliminary alternative routes.

### **3.3.1 Proposed Route**

The Proposed Route, which is approximately 2.8 miles in length, makes use of Woodbury Road, West Pulaski Road, Oakwood Road, and West 11th Street. The Proposed Route ranks first out of all possible routes within the study area, because it has low constructability rating, meaning greater ease in construction for road width and existing utilities. Additionally, this Route has the fewest residences within 200 feet

(approx. 54 residences) and avoids passing directly by any schools. However, it does have higher scores for its length within the coastal boundary and on county roads.

From Woodbury Terminal South, the Proposed Route travels generally northeast on Woodbury Road for approximately one mile until it reaches West Pulaski Road. The Proposed Route continues east for approximately 1.1 miles to Oakwood Road, where it turns south for 0.37 miles. The Proposed Route continues east on West 11<sup>th</sup> street for 0.17 miles until it crosses the LIRR tracks just northwest of the Oakwood Substation. Using trenchless methods, the line crosses the LIRR tracks into the Oakwood Substation parcel.

#### *3.3.1.1 Variation to Proposed Route*

A variation to the Proposed Route was identified, which ranked second out of all potential routes. Where the Proposed Route turns south off West Pulaski Road onto Oakwood Road, the variation instead continues straight until Kilburn Avenue where it turns south for 0.3 miles, then turns southwest onto Railroad Street for 0.08 miles before following the Proposed Route to cross into the Oakwood Substation parcel.

Compared to the Proposed Route, the variation has more traffic and travels on narrower roads, is within 200 feet of more residences (approx. 139 residences), and is within 1,000 feet of more PEJAs. This variation has a total approximate length of 2.75 miles between the Oakwood Substation and Woodbury Terminal South.

#### *3.3.2 Alternative Routes*

Two alternate routes, both south of the Proposed Route, were identified and are considered generally geographically diverse from the Proposed Route to the extent practicable and still within the study area, as shown in Figure 3-1 Alternate Routes Considered.

##### *3.3.2.1 Alternative Route 1*

Alternative Route 1 begins at Woodbury Terminal South and, approximately 0.83 miles into Woodbury Road, continues onto West Rouges Path for approximately 1.3 miles. The West Rouges Path section would require two crossings of the LIRR (one crossing would require trenchless methods, and both crossings would require LIRR crossing permits). Continuing straight, the route crosses onto Oakwood Road where it continues on the same route as the Proposed Route. This alternative is approximately 1,800 feet shorter than the Proposed Route, minimizing the length along county roads. Alternative Route 1 travels for approximately 2.34 miles between Oakwood Substation and Woodbury Terminal South.

##### *3.3.2.2 Alternative Route 2*

Alternate Route 2 travels north on Woodbury Road for approximately 0.51 miles. The Route then turns southeast onto East Gate Drive where it meanders south for approximately 0.37 miles to Oakridge Drive (for approximately 0.09 miles) then to Great Meadow Lane (for approximately 0.26 miles) then to Forestdale Drive (for approximately 0.22 miles). The Route then turns east onto Colonial Drive (for approximately 0.09 miles) and then north onto Cold Spring Hills Road for approximately 0.11 miles. The

Route turns east onto West 22<sup>nd</sup> Street for approximately 0.65 miles to Oakwood Road. Traveling for approximately 0.50 miles on Oakwood Road, the route turns east onto Craven Street (for approximately 0.18 miles) then north into West Stepar Place for approximately 0.14 miles before entering Oakwood Substation at the south. Compared to the Proposed Route, Alternative Route 2 is approximately 2,300 feet longer, running generally along narrow residential streets, and is within 200 feet of nearly 200 additional residences. This alternative is also directly adjacent to the Oakwood Primary Center and Stimson Junior High School.

### 3.3.2.3 *Analysis of Alternative Routes*

Through analysis of the alternative routes, as shown in Table 3-1 Route Data (Unweighted), the Applicant determined that the Proposed Route would have the least negative impact and prove the most easily constructable option.

<b>Table 3-1 Route Data (Unweighted)</b>			
<b>Route Factor</b>	<b>Proposed Route</b>	<b>Alternate Route 1</b>	<b>Alternate Route 2</b>
Total length (feet)	14,118	12,266	16,417
Constructability Rating – trenchless crossings (score)	3	5	2
Constructability Rating – utility congestion (score)	141	260	164
Constructability Rating – road width (score)	340	339	431
Constructability Rating – traffic (score)	331	206	302
Total number of road crossings (count)	1	2	2
Length in state road ROW (feet)	0	0	0
Length in county road ROW (feet)	12,456	3,714	5,023
Length within 100 feet of NYSDEC Freshwater Wetlands (feet)	180	622	0
Length through CEAs (feet)	13,025	9,327	5,905
Length through coastal boundary (feet)	1,273	1,273	0
Length through threatened and endangered species areas (feet)	9,561	10,038	11,855
Number of historic resources within 500 feet (count)	3	6	1
Length through archaeological buffers (feet)	0	0	0
Land use score (score)	1,935	1,823	2,632
Number of sensitive receptors within 1,000 feet (count)	79	62	168
Residences within 200 feet (count)	54	66	249
DACs or PEJAs (ac. within 1,000 feet) (acres)	108.5	89.3	162.9

## 3.4 Alternative Methods to Fulfill Energy Requirements

### 3.4.1 *Energy Efficiency, Demand-Side Management and Distributed Generation*

The Project is a component part of the portfolio of projects selected by the NYISO's Board of Directors to collectively satisfy the Commission-declared LI PPTN. The completion of all components of the portfolio is required to satisfy the LI PPTN. Accordingly, the Applicant does not consider energy efficiency, demand side management, or distributed generation as viable alternatives to a new 138kV circuit between Woodbury Terminal South and Oakwood Substation.

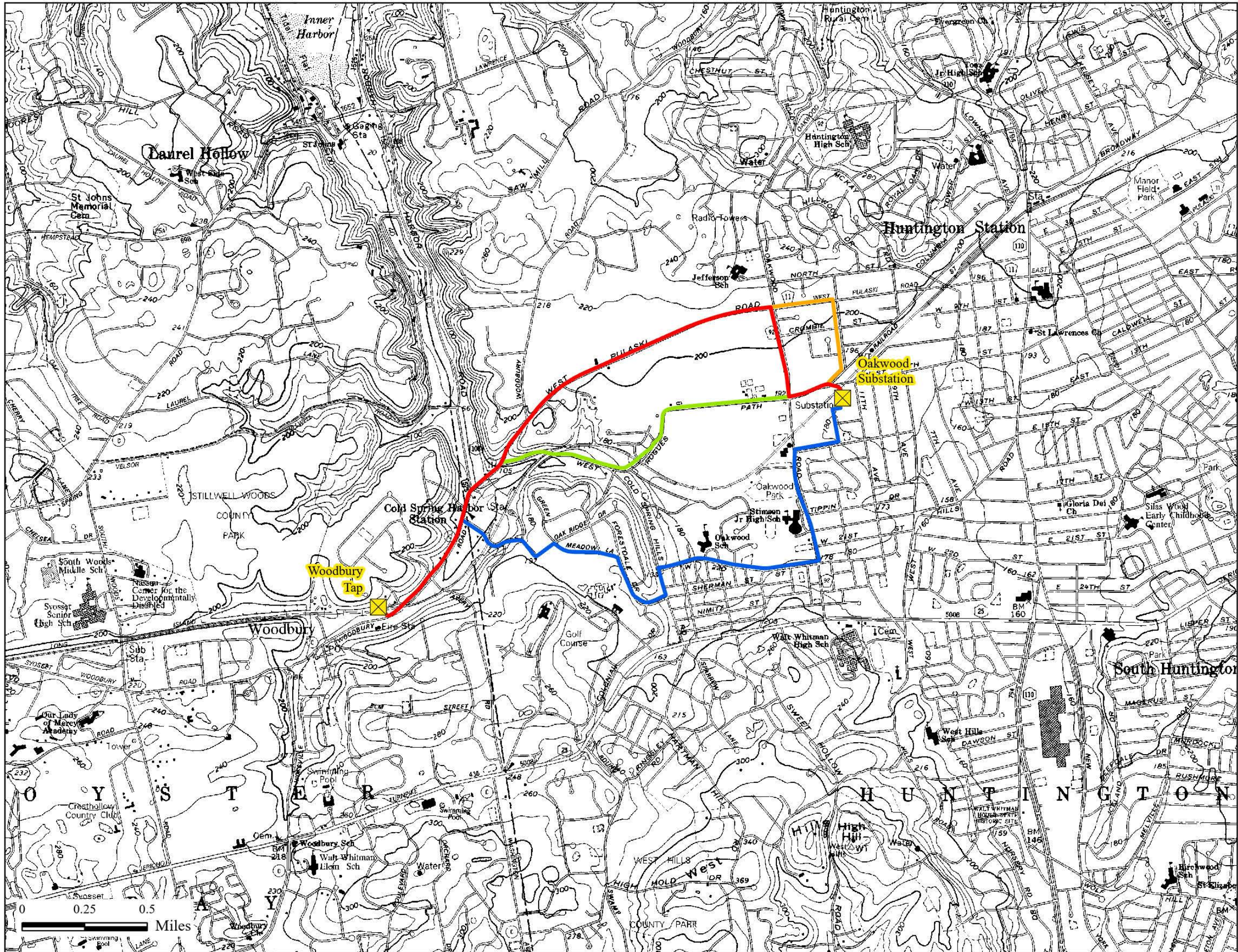
#### **3.4.2      *No Action Alternative***

The Project is a component part of the portfolio of projects selected by the NYISO's Board of Directors to collectively satisfy the Commission-declared LI PPTN. No action is not a viable alternative because the completion of all components is required to satisfy the LI PPTN.






**Figure 3-1**

**Alternative Routes Considered**





**LEGEND**

-  Project Site
-  Proposed Route
-  Proposed Route Variation
-  Alternate Route 1
-  Alternate Route 2

Sources:  
 1. Project details prepared by Burns & McDonnell, January 2025.  
 2. NYSDOT 1:24k Topographic Quad Maps, Accessed January 2025.



**PROJECT TITLE**



Syosset to Oakwood

**SHEET TITLE**

Figure 3-1  
 Alternative Routes  
 Considered

DATE 03/25/2025

DRN. BY CR/MK

CHK. BY SH

FIGURE NO. 3-1



**PRELIMINARY - NOT FOR CONSTRUCTION**