

**APPENDIX V**  
**TRAFFIC IMPACT EVALUATION AND ASSESSMENT**  
**KAGE, OCTOBER 14, 2021**

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# **TRAFFIC IMPACT EVALUATION AND ASSESSMENT**

**Bridgehampton to Buell 69kV Underground Cable Installation  
Towns of Southampton and East Hampton  
Suffolk County, New York**

**Prepared for:**

**PSEG Long Island  
175 Old Country Road  
Hicksville, New York 11801**

**October 14, 2021**

**Rev.3**

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## **1. OVERVIEW OF ALTERNATIVES CONSIDERED**

This section outlines the Proposed Action and Alternatives for which an assessment of the potential impacts that might result from construction activities on local traffic patterns. Additionally, this Section provides the basis for which the extent of the work areas, maintenance, and protection of traffic (MPT), work zone traffic control (WZTC) and any detour requirements and limits for the Proposed Action and each Alternative.

The Proposed Action Route A runs 5.12 miles from the Bridgehampton Substation beneath the existing LIPA owned and/or controlled overhead Right-of-Way (ROW) and perpendicularly crosses seven (7) active roadways. This will be constructed through a combination of open trench and horizontal directional drill (HDD) and jack-and-bore methodologies. The construction activities described for this route are based on the current engineering design dated 8/4/2020.

The route for Alternative 3 (Alternative Route B) runs south bound from the Bridgehampton Substation approximately 2.5 miles along CR79 Bridgehampton Sag Harbor Turnpike, eastbound approximately 5 miles along NY27 Montauk Highway and northbound approximately 0.75 miles along Cove Hollow Road to the Buell Substation. There is no preliminary for this route.

The route for Alternative 2 and Alternative 4 (Alternative Route C) runs northbound approximately 1.3 miles along CR79 Bridgehampton Sag Harbor Turnpike, eastbound approximately 1 mile along Jermain Avenue and southbound approximately 5.2 miles along NY114 Hampton St/Sag Harbor Turnpike to the Buell Substation. There is no preliminary design for this route.

## **2. EXISTING TRAFFIC CONDITIONS**

The existing roadway classifications, Average Annual Daily Traffic (AADT), and roadway configuration will be considered in analyzing the impacts to traffic during construction. The functional classification of roadways is a designation by which streets and highways can be categorized according to the character of traffic service that they are intended to provide. Individual roads and streets serve traffic as part of a network of roads through which the traffic moves. Functional classification defines the nature of this movement by defining the part that any road or street should play in serving the flow of trips through a highway network and the type of access it provides to adjacent properties. Functional classification describes the importance of a particular road or network of roads to the overall system and is used with the anticipated character of the area.

The roadways are classified by the New York State Department of Transportation (NYSDOT). A Principal Arterial Other is defined by NYSDOT as a roadway that serves the major centers of activity of a metropolitan area and carry the highest traffic volume. A Minor Arterial is defined by NYSDOT as a roadway that interconnects with and augments the urban principal arterial system and provides service to trips of moderate length at somewhat lower of travel mobility than principal arterials. NYSDOT defines a Local Road as all facilities not on any of the higher systems and serve primarily to provide direct access to abutting land and higher order systems. Tables 1, 2 and 3 provide a summary of the roadways analyzed.

## Existing Traffic Control Devices

### *Traffic Signals*

Most intersections within the Proposed Action area are not signalized. The following are the signalized intersections located along Alternative Routes B and C:

NY27 and CR79  
NY27 and Sagg Rd  
NY27 and NY114  
CR79 and Jermain Ave  
NY114 and Stephen Hands Path

The traffic signals identified are owned and maintained by either NYSDOT or Suffolk County Department of Public Works. The traffic signals are actuated and use inductance loop detection for phase activation. Where existing crosswalks are located the phase activation is combined with pedestrian push buttons.

### *Signs*

Existing signs within the project area include, but are not limited to, parking, stop, street name, guide, regulatory and warning signs. Their condition varies from poor to good. There are multiple intersections within the Proposed Action area and along the Alternative routes where minor cross streets or driveways are controlled by stop signs.

### *Pavement Markings*

Throughout the Proposed Action area and along the Alternative routes, double yellow lines separate two-way traffic, while white line and edge lines delineate auxiliary turn lanes, through lanes, shoulder and on street parking. Pavement markings are in fair to good condition.

### *Bike Lanes*

NY27 has an existing bike lane in the shoulder of the roadway. The bike lane is delineated with pavement markings from CR79 to Old Montauk Highway. NY114 has a dedicated bike lane starting at Lighthouse Lane and terminating at Lincoln Street. The bike lane is located on both the east and west sides of the roadway and is delineated with pavement markings and a stamped brick strip. The bike lane continues delineated with pavement markings south of Lincoln Street and terminated north of the Toilsome Lane round-about.

ROAD	NYSDOT CLASSIFICATION	POSTED SPEED LIMIT	AADT	ROADWAY CONFIGURATION	LENGTH ALONG ROADWAY
CR79 (Bridgehampton Sag Harbor Turnpike)	Principal Arterial Other	35	7806	2-Lane, 2-Way	0 Miles
Widow Gavits Rd	Local	None Posted	N/A	2-Lane, 2-Way	0 Miles
Sagg Rd	Minor Arterial	25	2355	2-Lane, 2-Way	Crossing
Wainscott NW Rd	Minor Arterial	30	1110	2-Lane, 2-Way	Crossing
Stephen Hands Path	Minor Arterial	30	6556	2-Lane, 2-Way	Crossing
Buckskill Rd	Local	30	817	2-Lane, 2-Way	Crossing
Cove Hollow Rd	Local	30	2277	2-Lane, 2-Way	Crossing

TABLE 1 – Proposed Action Route A Impacted Roadways

ROAD	NYSDOT CLASSIFICATION	POSTED SPEED LIMIT	AADT	ROADWAY CONFIGURATION	LENGTH ALONG ROADWAY
CR79 (Bridgehampton Sag Harbor Turnpike)	Principal Arterial Other	35	7806	2-Lane, 2-Way	2.5 Miles
NY27 (Montauk Highway)	Principal Arterial Other	30/40	20998	2-Lane, 2-Way	5 Miles
Cove Hollow Rd	Local	30	2277	2-Lane, 2-Way	0.75 Mile

TABLE 2 – Alternative Route B Impacted Roadways

ROAD	NYSDOT CLASSIFICATION	POSTED SPEED LIMIT	AADT	ROADWAY CONFIGURATION	LENGTH ALONG ROADWAY
CR79 (Bridgehampton Sag Harbor Turnpike)	Principal Arterial Other	35	7806	2-Lane, 2-Way	1.3 Miles
Jermain Ave	Local	25	Not Available	2-Lane, 2-Way	1 Mile
NY114 (Hampton Road/E Hampton Sag Harbor Turnpike)	Principal Arterial Other	30/45	7514	2-Lane, 2-Way	5.2 Miles

TABLE 3 – Alternative Route C Impacted Roadways

### 3. WORK ZONE TRAFFIC CONTROL DURING CONSTRUCTION

Construction of the Proposed Action will require approximately 12-18 months to construct. This schedule assumes that construction would occur over the entire year, although there may be times when inclement weather requires temporary shutdowns. It is anticipated that normal construction work hours are 7 AM to 5 PM, Monday through Friday with the potential for weekend work as necessary. However, some time-sensitive tasks may be performed outside those hours, at night or on weekends.

Installation involves a 3 step process the sequence of which may vary due to construction requirements. Step 1 involves the installation of the underground vaults that are utilized to splice the underground cables together after they are pulled through the conduits. The vaults are typically 8 feet by 16 feet long and approximately 10 feet deep accounting for the grade. The vaults generally require a 200-foot to 300-foot work area. Step 2 involves the installation of the conduit. The size and depth of the trench required for the installation typically varies between three to five feet wide. The depth of the trench can vary depending on surface grades or avoidance of underground utilities but is typically five to six feet wide.

When working within roadways, at the end of the workday, the trench is typically closed and temporary asphalt or steel plates are placed, allowing the roadway to remain fully opened until the subsequent workday. During construction, approximately 200 feet of trench can be installed daily within the roadway. Step 3 involves the pulling of the cable through the conduits to the vaults where the cables are spliced. This phase will require the same type of work zone traffic control as steps 1 and 2 due to the size of the reel required for the cable and for the safety of the traveling public and the construction staff.

Entrance and exit treatments from the work zone onto existing public rights of way or streets will be constructed as described in NYSDOT 209-05 Construction Entrance/Exit Standard Drawing. The entrance/exit includes the placement of geotextile for stabilization of existing soils with the addition of 6-inches of crushed stone or gravel. It accommodates drainage when grades make it necessary by installing culverts to carry storm water below the entrance along the edge of roadway. As the trucks and equipment travel over the crushed stone exiting the construction area along the ROW the sediment from the tires is vibrated off and settles onto the crushed stone. The construction entrance/exit will be inspected weekly for sediment accumulation within the stone surface and for general condition. All soil erosion and sediment control measures shall be in accordance with NYSDOT Standard Specifications and Details Section 209. All sediment removed during maintenance of the practice shall be considered unsuitable material and disposed of away from sensitive resources.

MPT signage will be placed on the encroached roadway to alert the traveling public of trucks entering and exiting. MPT signage will be placed upstream and downstream in both directions approaching the construction entrance/exits. Signs will be placed based on the posted speed limit and NYSDOT 619-11 Table 619-4 Advance Warning Sign Spacing.

Prior to commencing construction, PSEGLI will obtain required permits and approvals from regulatory agencies applicable to the project. Acquisition of easements will also be completed before construction begins on those affected areas as needed. MPT signage and detours will be verified in the field and local jurisdictions notified of anticipated start of construction.

### **Proposed Action Route A**

MPT at the five of the seven active roadway crossings will utilize practices consistent with NYSDOT 619-60 Flagging Operation 2-Lane 2-Way Roadway Standard Detail. This MPT treatment will allow for the open trench required for the installation of the duct banks and for pulling the underground cable. Typically, this will consist of closing the roadway in one direction and using an Alternating, One Way Traffic MPT scheme with flaggers to move vehicles around the work area. The work zone for the installations at the crossings is approximately 200 feet long.

All traffic volume information is provided by NYSDOT. The maximum peak hour volume along the route is the morning peak at Stephen Hands Path which experiences 585 vehicles per hour per lane (vphpl). The maximum peak hour volume for the additional roadways along the route is less than 585 vphpl. According to Analytical Methods for Deriving Work Zone Capacities from Field Data (Edara, Kianfar, & Sun, 2012) and adopted by the NJDOT, the work zone capacity for an alternating, one way closure is 600-750 vphpl. Therefore, the actual peak volume (585) is less than the accepted maximum work zone capacity for this treatment and the alternating, one way traffic pattern is appropriate for use.

The vaults are installed first and are utilized to splice the underground cables together after they are pulled through the conduits. There are fourteen (14) utility vaults to be installed along Proposed Action Route A.

Table 4 below shows areas where the Alternating, One Way Traffic MPT scheme will be required for the installation of the vaults.

Vault	Location	Peak Hour Volume	MPT
3	Adjacent to Sagg Road	212 (AM Peak) 286 (PM Peak)	Alternating, One Way Traffic
11	Adjacent to Stephen Hands Path	585 (AM Peak) 552 (PM Peak)	Alternating, One Way Traffic

TABLE 4 – Proposed Action Route A MPT Schemes

The HDD is an additional installation method and will be utilized between the west side of Bridgehampton-Sag Harbor Turnpike and directly east of Widow Gavits Road and pass below both roadways. Therefore, traffic will not be impacted at these locations. Construction entrances/exits, if required, will be constructed and signage will be placed as shown in NYSDOT 619 Standard Drawings.

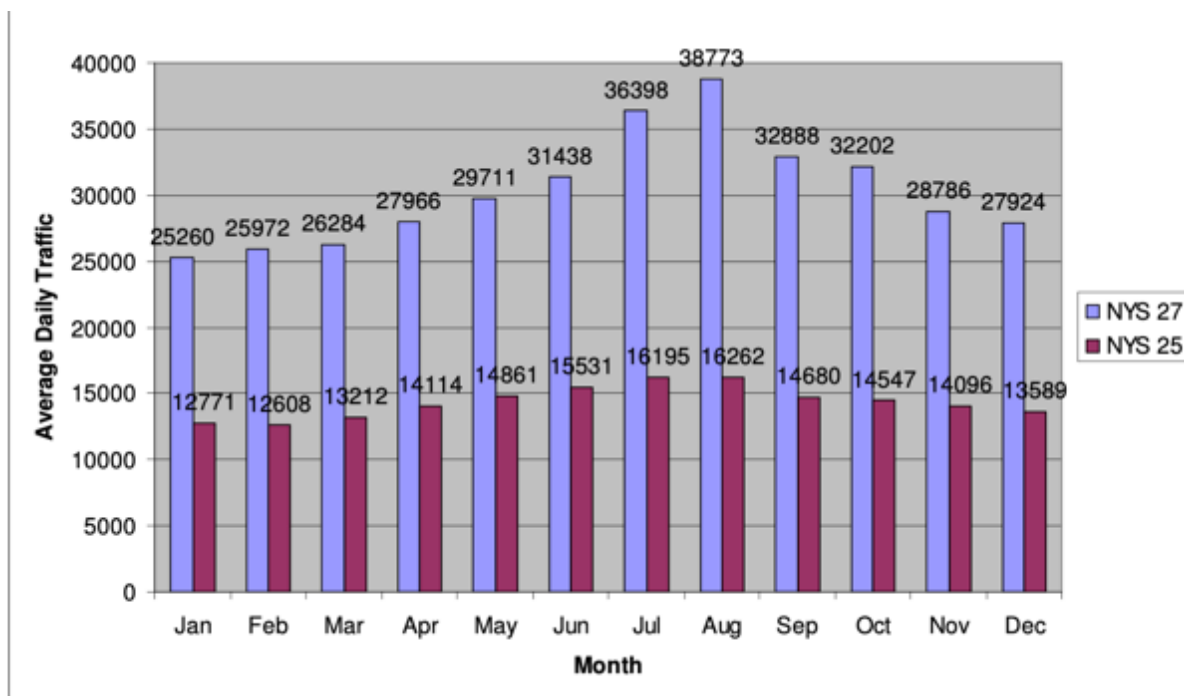
HDD is a trenchless method that will be utilized for installation below the Long Island Railroad tracks. There will be no impacts to the Long Island Railroad.

The impacts to traffic are minimized along Proposed Action Route A due to the limited amount of construction in roadways and use of appropriate MPT's.



## Alternative Route B

This route follows NY27 (Montauk Highway) which is the only east-west road in this area of Long Island. Montauk Highway carries traffic from Southampton to Montauk. According to NYSDOT the traffic volume on Montauk highway is 20,998 AADT which is made up of 65% passenger vehicles, 25% light duty trucks, 9% trucks or heavy vehicle and 1% buses. This area of Long Island has a significant seasonal population. According to The Sustainable East End Develop Strategies (SEEDS) the year-round population of the Town of East Hampton is 20,275, the total population in season (year-round plus seasonal residents) is 93,756. Several studies and reports, including SEEDS have noted worsening traffic congestion in eastern Long Island. Also noted is that the general pattern of commuting to work is one where automobile commuting is prevalent and public transit usage is limited. A seasonal traffic volume by month was performed by SEEDS (see below) and found that the volumes on NY27 increase to a maximum of 38,773 average daily traffic in August. This study was performed on the NY27 corridor on the entire East End. These patterns reveal that traffic peaks generally occur from June through September.



Sustainable East End Development Strategies (SEEDS) Traffic Volumes

Alternative Route B would also feature installations along CR79 (Bridgehampton-Sag Harbor Turnpike) and Cove Hollow Road. Table 5 features specifics for each roadway. The installation of the vaults and conduits would occur within the existing roadways and road shoulders where possible. Placement would vary to avoid existing utilities within the area. Table 5 provides MPT practices for Alternative B.

ROAD	PEAK HOUR VOLUMES	ROADWAY CONFIGURATION	APPROXIMATE WIDTH OF ROADWAY	APPROXIMATE ROW WIDTH	LENGTH ALONG ROADWAY	APPROXIMATE DURATION OF CONSTRUCTION (Length/200)
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CR79	679 (AM) 883 (NOON) 824 (PM)	2-Lane, 2-Way	34'	60'	2.5 Miles	70 Days
NY27	1549 (AM) 1662 (NOON) 1640 (PM)	2-Lane, 2-Way	44'	70'	5 Miles	140 Days
Cove Hollow Rd	199 (AM) 201 (NOON) 202 (PM)	2-Lane, 2-Way	22'	65'	0.75 Mile	20 Days

TABLE 5 – Alternative B MPT Schemes

Maintenance and Protection of Traffic along the roadways will require a variety of practices consistent with NYSDOT Standards. Where the construction area lies adjacent to the roadway or in the shoulder, the MPT will follow NYSDOT 619-20 Shoulder Closure 2-Lane, 2-Way Roadway Standard Detail. This scenario will have minimum impact to traffic because the travel lanes will not be affected, and traffic will flow normally.

Where the construction area lies within a lane of the roadway, the MPT will follow NYSDOT 619-60 Flagging Operation 2-Lane 2-Way Roadway Standard Detail. Typically, this will consist of closing the roadway in one direction and using an Alternating, One Way Traffic MPT scheme with flaggers to move vehicles around the work area.

The daily work zone for the installations is approximately 200 feet long. The work zone capacity for an alternating, one way closure is 600-750 vehicles per hour per lane. The peak hour volumes along CR79 and NY27 are greater than the capacity for alternating, one-way closures. Therefore, detours will be required during construction on CR79 and NY27.

Where the construction area lies within the center of the roadway, the roadway will need to be closed and the MPT will follow NYSDOT 619-66 Road Closure with Off Site Detour 2-Lane, 2-Way Roadway. This MPT will have the greatest impact to traffic. Where this is required on CR79 or NY27 coordination with Suffolk County, NYSDOT, government officials, and the community will be required due to the high AADT and the limited number of alternate routes and the seasonal increase in traffic volumes.

The following detours are selected based on roadway classification. Since the detours are required for Primary Arterials Other, the routes are also on Primary Arterials Other. This contributes to the length of the detour routes but is necessary to ensure that the detour roadways can handle car and truck traffic. These detours will be required when the MPT is a flagging operation or a road closure.

The detour for construction along CR79 northbound is approximately 14.4 miles long. Traffic will be detoured east on NY27, north on the Highway Behind the Lots, north on NY114, west on Ferry Street and south on CR79 (see Figure 2).

The detour for construction along CR79 southbound is approximately 14.4 miles long. Traffic will be detoured north along CR79, east on Ferry Road, south on NY114, south on the Highway Behind the Lots, then west along NY27 (see Figure 3).

The detour for construction along NY27 westbound is approximately 16 miles long. Traffic will be detoured north on the Highway Behind the Lots, north on NY114, west on Ferry Street, south on CR79, then east on NY27 (see Figure 4).

The detour for construction along NY27 eastbound is approximately 16 miles long. Traffic will be detoured north along CR79, east on Ferry Street, south on NY114, south on the Highway Behind the Lots, then west along NY27 (see Figure 5).

The disadvantages of a detour are:

- Longer driving time
- Higher user costs
- Lower level of service on the detour route
- Higher traffic volumes and accident rates on the detour route
- Driver confusion
- Disruption to local business traffic and emergency vehicles

### Alternative Route C

This route impacts CR79 and NY114 which are north-south roadways that connect NY27 to Sag Harbor. According to NYSDOT, Bridgehampton-Sag Harbor Turnpike (CR79) has a traffic volume that is made up of 69% passenger vehicles, 24% light duty trucks, 7% trucks or heavy vehicle and 1% buses. East Hampton-Sag Harbor Turnpike (NY114) has a traffic volume that is composed of 60% passenger vehicles, 31% light duty trucks, 9% heavy trucks, and 2% buses. Table 6 features specifics for each roadway.

ROAD	PEAK HOUR VOLUMES	ROADWAY CONFIGURATION	APPROXIMATE WIDTH OF ROADWAY	APPROXIMATE ROW WIDTH	LENGTH ALONG ROADWAY	APPROXIMATE DURATION OF CONSTRUCTION (Length/200)
CR79	679 (AM) 883 (NOON) 824 (PM)	2-Lane, 2-Way	34'	60'	1.3 Miles	35 Days
Jermain Ave	Not Available	2-Lane, 2-Way	32'	50'	1 Mile	30 Days
NY114	751 (AM) 928 (NOON) 919 (PM)	2-Lane, 2-Way	36'	65'	5.2 Miles	140 Days

TABLE 6 – Alternative C MPT Schemes

The installation of the vaults and conduits would occur within the existing roadway and road shoulders where possible. Placement would vary to avoid existing utilities within the area. The alignment of the route would require a variety of MPT schemes depending on exact location of the vaults and conduit.

Maintenance and Protection of Traffic along the roadways will require a variety of practices consistent with NYSDOT Standards. Where the construction area lies adjacent to the roadway or in the shoulder, the MPT will follow NYSDOT 619-20 Shoulder Closure 2-Lane, 2-Way Roadway Standard Detail. This scenario will have minimum impact to traffic because the travel lanes will not be affected, and traffic will flow normally.

Where the construction area lies within a lane of the roadway, the MPT will follow NYSDOT 619-60 Flagging Operation 2-Lane 2-Way Roadway Standard Detail. Typically, this will consist of closing the roadway in one direction and using an Alternating, One Way Traffic MPT scheme with flaggers to move vehicles around the work area.

The daily work zone for the installations is approximately 200 feet long. The work zone capacity for an alternating, one way closure is 600-750 vehicles per hour per lane. The peak hour volumes along CR79 and NY114 are greater than the capacity for alternating, one-way closures. Therefore, detours will be required during construction on CR79 and NY114.

Where the construction area lies within the center of the roadway, the roadway will need to be closed and the MPT will follow NYSDOT 619-66 Road Closure with Off Site Detour 2-Lane, 2-Way Roadway. This MPT will have the greatest impact to traffic. Where this is required on CR79 or NY114 coordination with Suffolk County, NYSDOT, government officials, and the community will be required due to the high AADT and the limited number of alternate routes and the seasonal increase in traffic volumes.

The following detours are selected based on roadway classification. This contributes to the length of the detour routes but is necessary to ensure that the detour roadways can handle car and truck traffic.

The detour for construction along CR79 northbound is approximately 12.5 miles long. Traffic will be detoured east along NY27, north along NY114, west on Ferry Street, then south on CR79 (see Figure 2).

The detour for construction along CR79 southbound is approximately 14.5 miles long. Traffic will be detoured north on Main Street, east on Ferry Street, south on NY114, west on NY27, then north on CR79 (see Figure 3).

The detours for construction on Jermain Avenue will only be required if a full closure of the roadway is necessary for construction.

The detour for construction along Jermain Avenue eastbound, west of Madison Street is approximately 1 mile long. Traffic will be detoured north along CR79 and south along Madison Street, then west on Jermain Avenue (see Figure 6).

The detour for construction along Jermain Avenue westbound, west of Madison Street is approximately 1 mile long. Traffic will be detoured north along Madison Street and south on CR79 (see Figure 6).

The detour for construction along Jermain Avenue eastbound, east of Madison Street is approximately 0.5 miles long. Traffic will be detoured north along Madison Street, east on Henry Street, east on Elizabeth Street, and south on NY114 (see Figure 7).

The detour for construction along Jermain Avenue westbound, east of Madison Street is approximately 0.5 miles long. Traffic will be detoured north along NY114, west on Elizabeth Street, west on Henry Street, and south on Madison Street (see Figure 7).

The detour for construction along NY114 northbound is approximately 10 miles long. Traffic will be detoured west on NY27, north on CR79, east on Ferry Road, then south on NY114 (see Figure 8).

The detour for construction along NY114 southbound is approximately 10 miles long. Traffic will be detoured east on Ferry Street, south on CR79, then east on NY27 (see Figure 9).

The disadvantages of a detour are:

- Longer driving time
- Higher user costs
- Lower level of service on the detour route
- Higher traffic volumes and accident rates on the detour route
- Driver confusion
- Disruption to local business traffic and emergency vehicles

#### **4. SUMMARY OF AVOIDANCE, MINIMIZATION AND MITIGATION**

Construction activities could potentially result in some disruption to the local transportation system. Recommended mitigation to reduce potential construction related impacts to the extent practicable include the following:

- Use Proposed Action Route to minimize traffic impacts
- Use NYSDOT designed construction entrance/exits
- Use MUTCD and NYSDOT approved signage of work zones
- Use temporary detours to reduce traffic volumes
- Store material on private utility right-of-way
- Restore all impacted areas

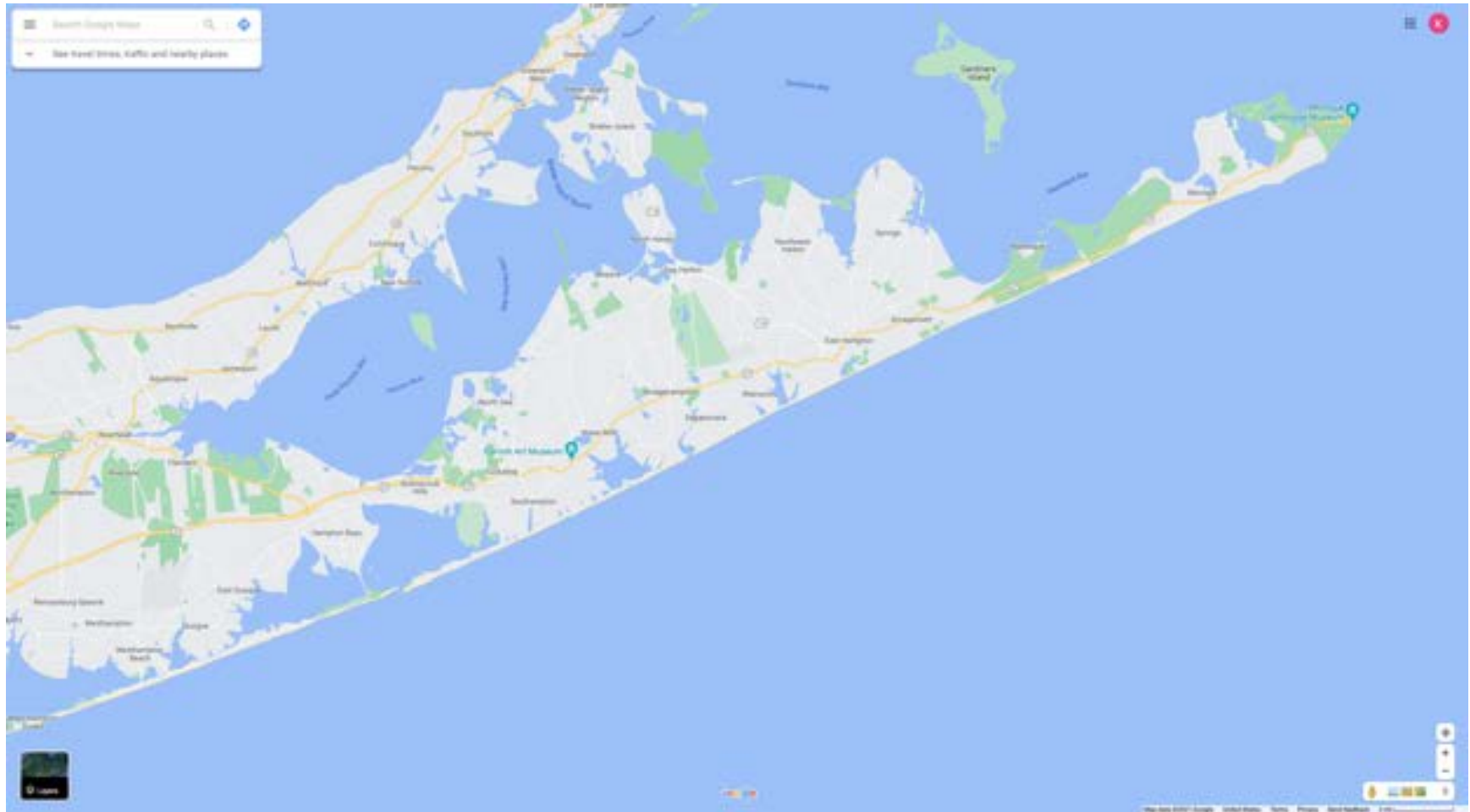


FIGURE 1 -Map of East End



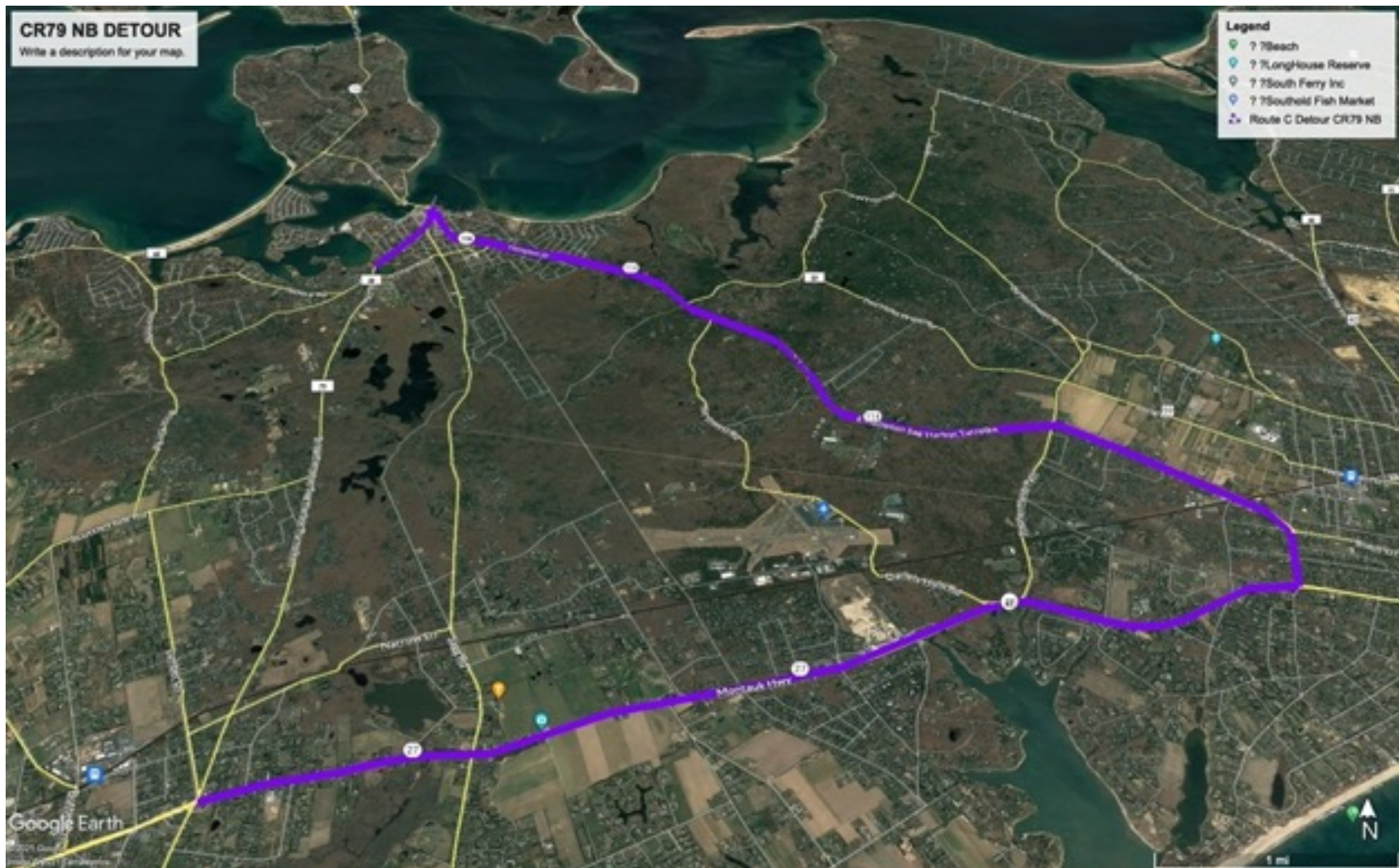


FIGURE 2 – CR79 NB Detour – Work Zone on CR79



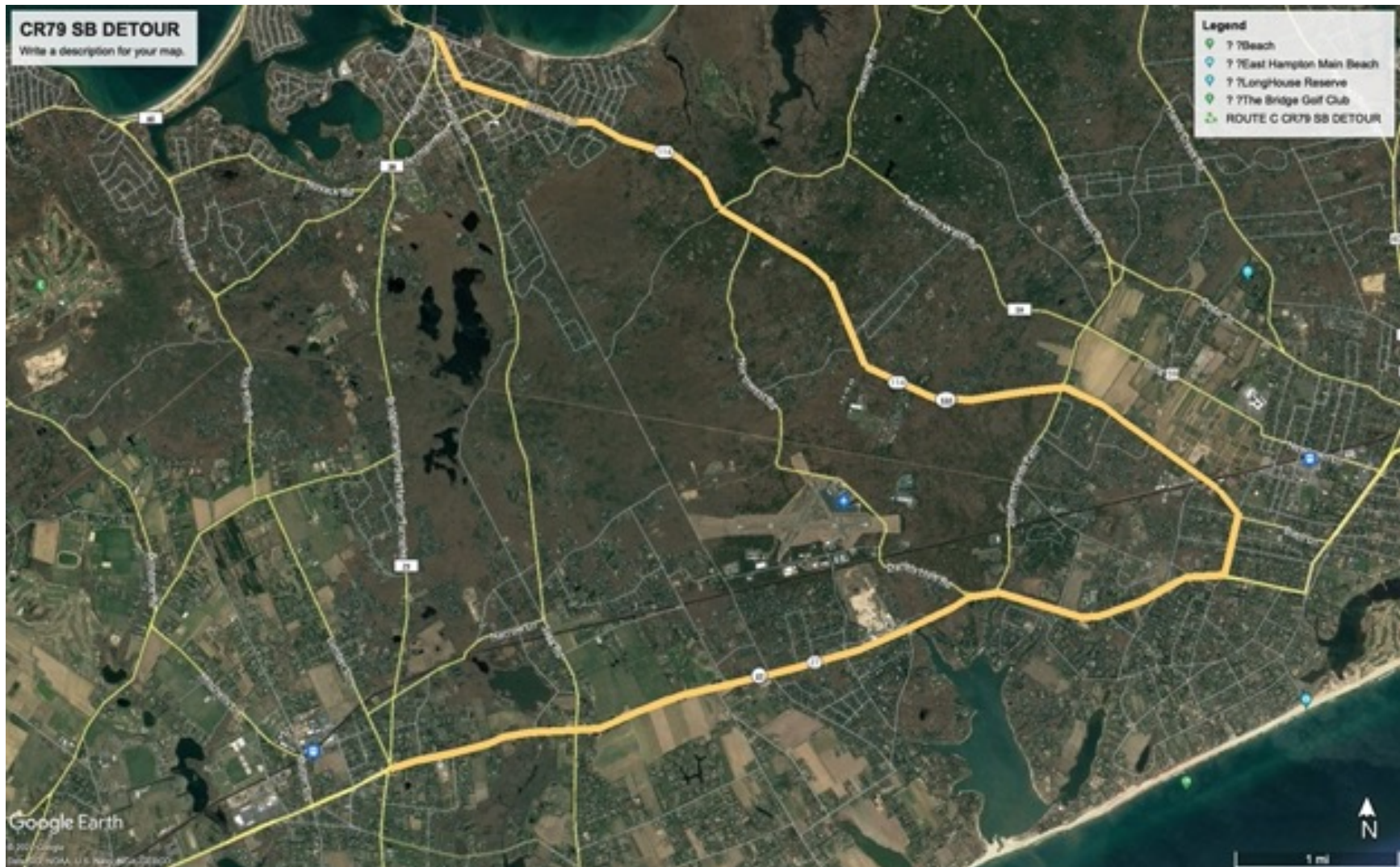


FIGURE 3 – CR79 SB Detour – Work Zone on CR79



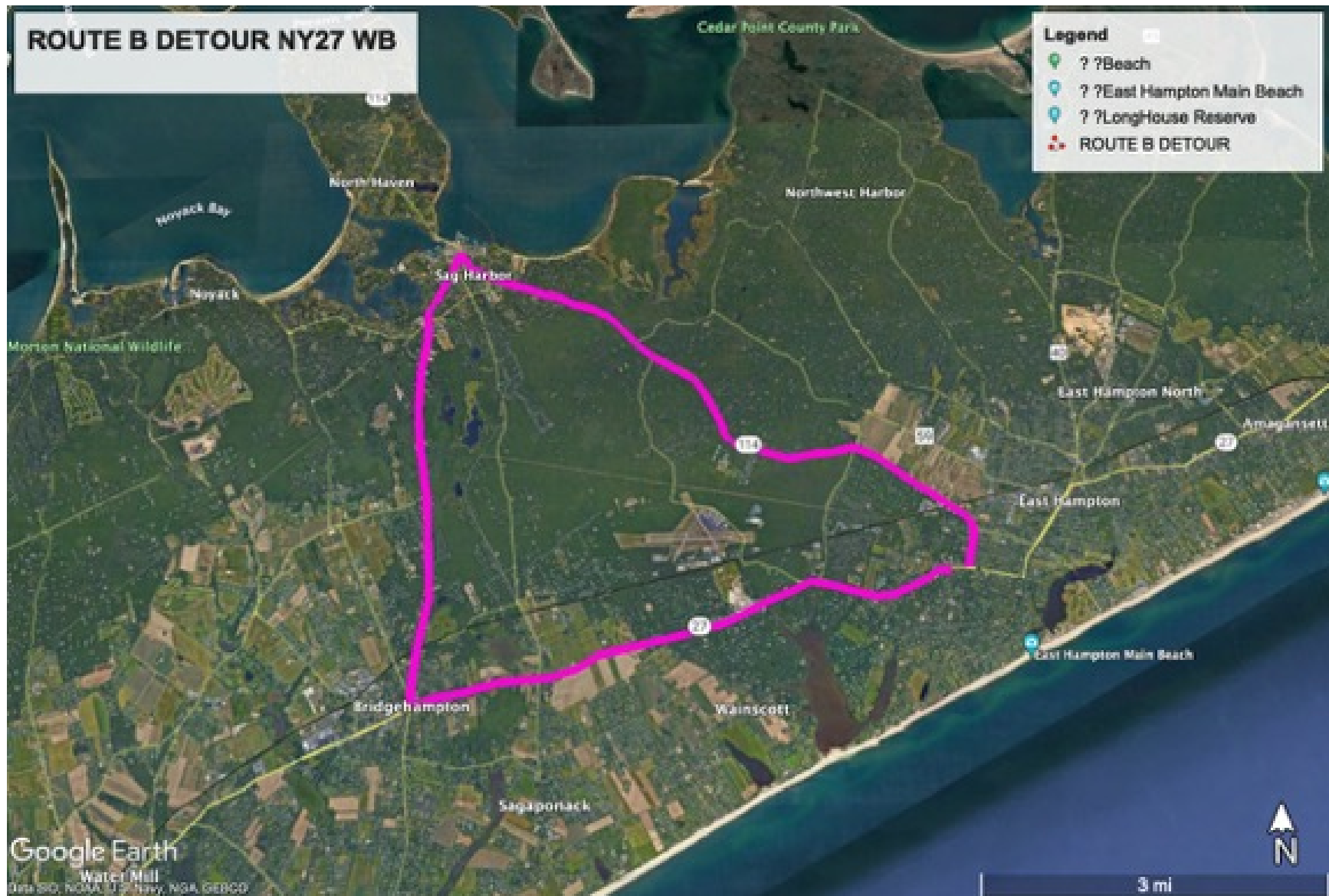




FIGURE 5 – NY27 EB Detour – Work Zone on NY27



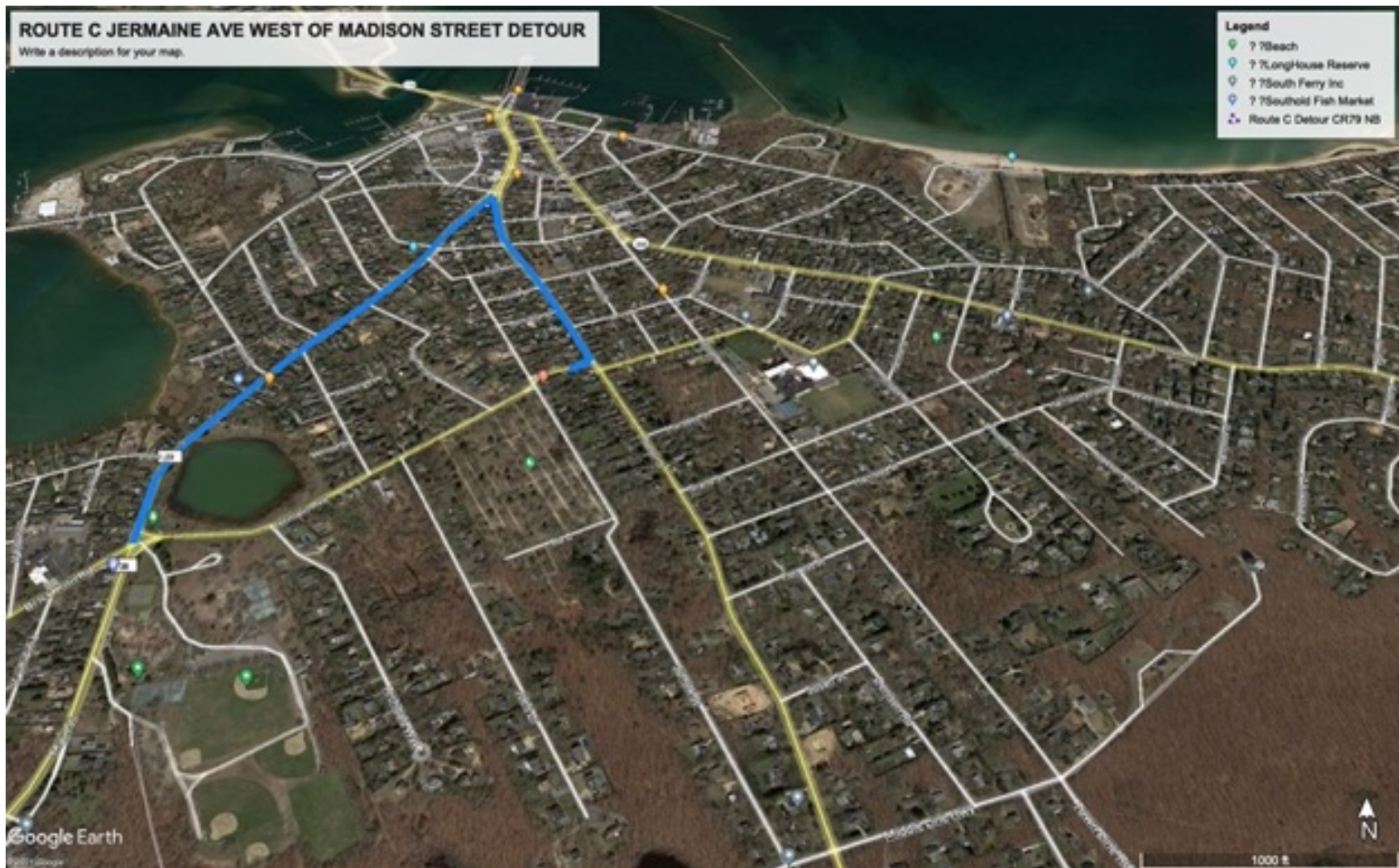


FIGURE 6 – Jermain Ave West of Madison St Detour





FIGURE 7 – Jermain Ave East of Madison St Detour



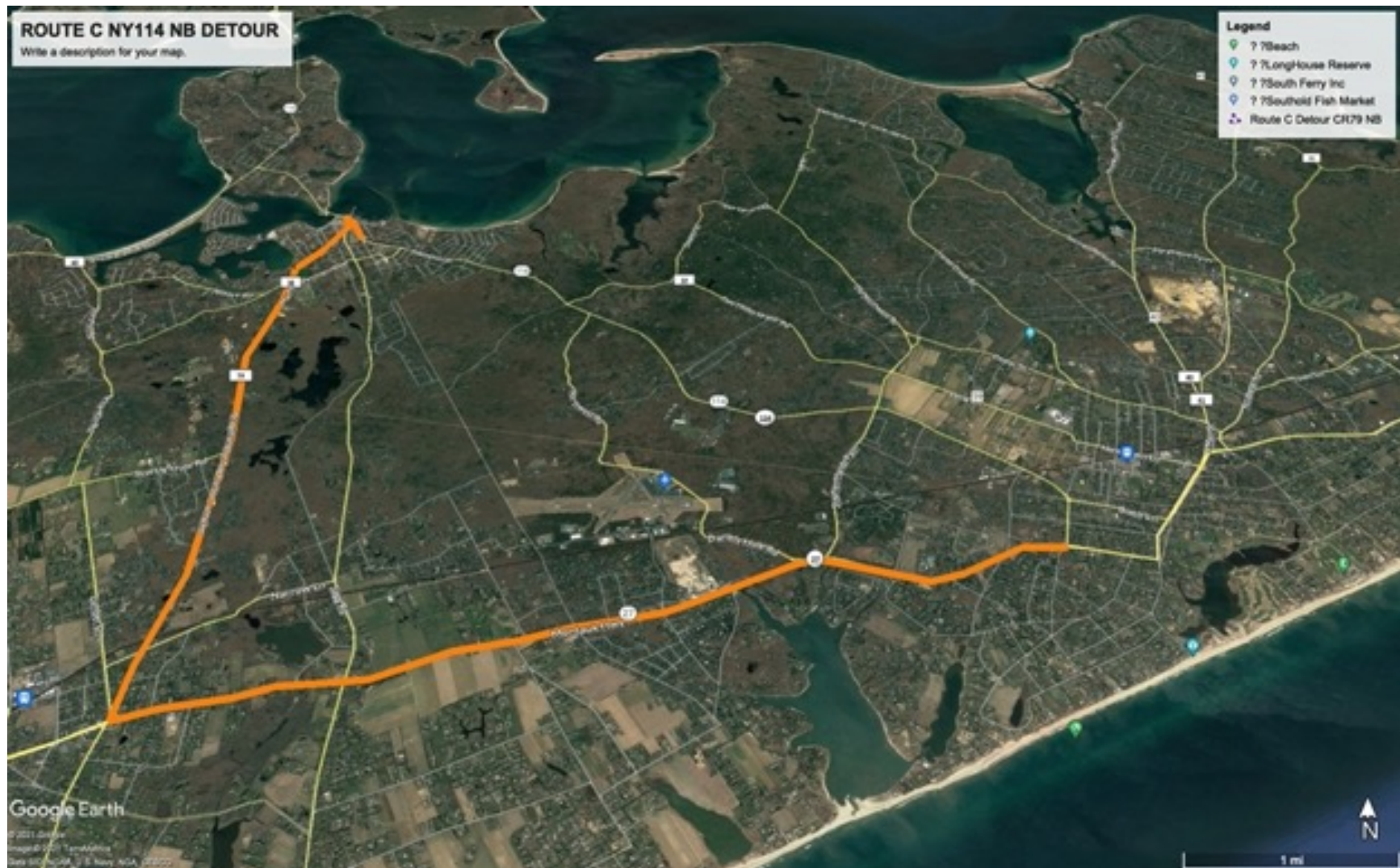


FIGURE 8 –NY114 NB Detour – Work Area on NY114

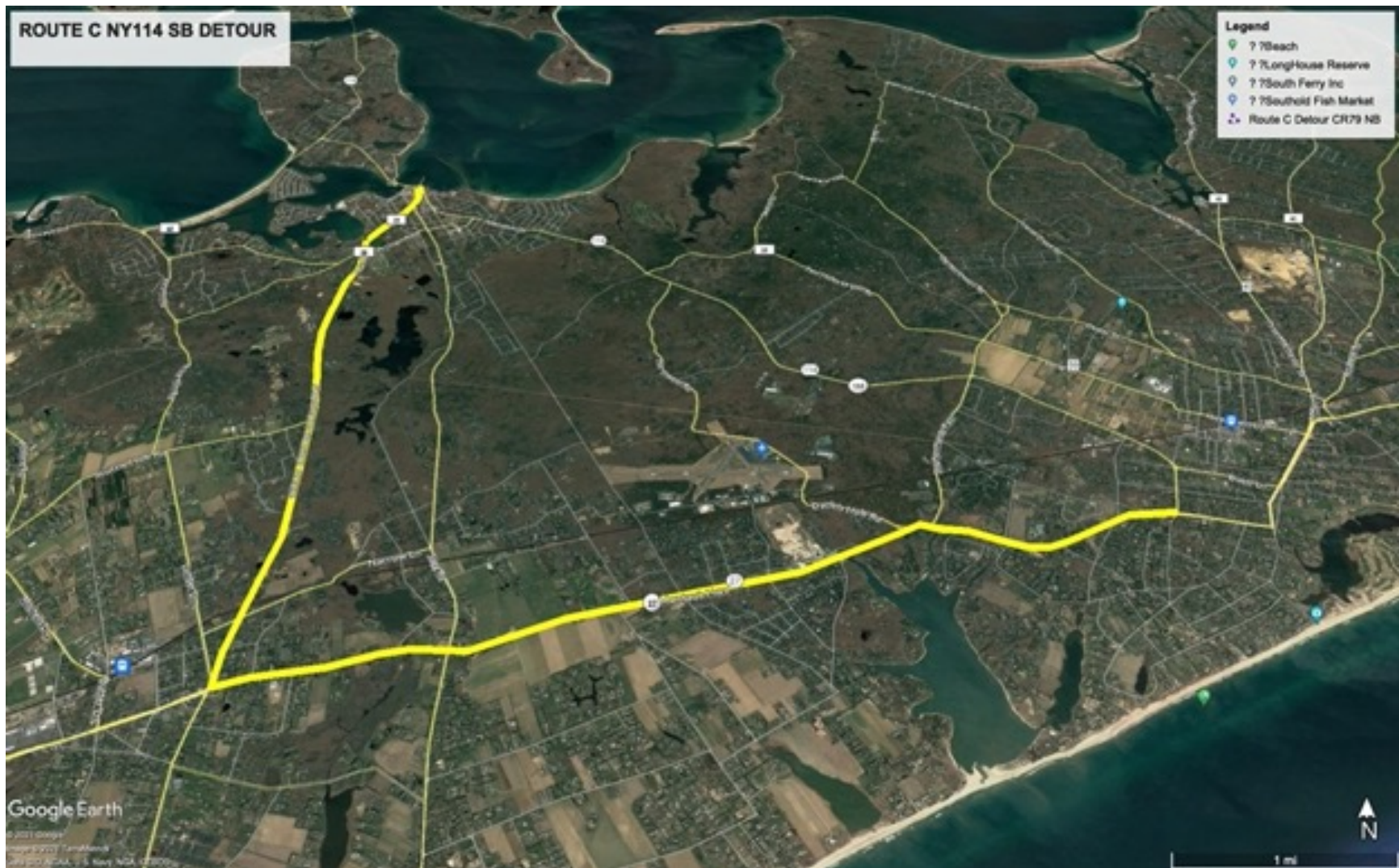


FIGURE 9 –NY114 SB Detour – Work Area on NY114



# **TRAFFIC IMPACT EVALUATION AND ASSESSMENT**

**Bridgehampton to Buell 69kV Underground Cable Installation  
Towns of Southampton and East Hampton  
Suffolk County, New York**

## **ATTACHMENT A. TYPICAL SECTIONS**

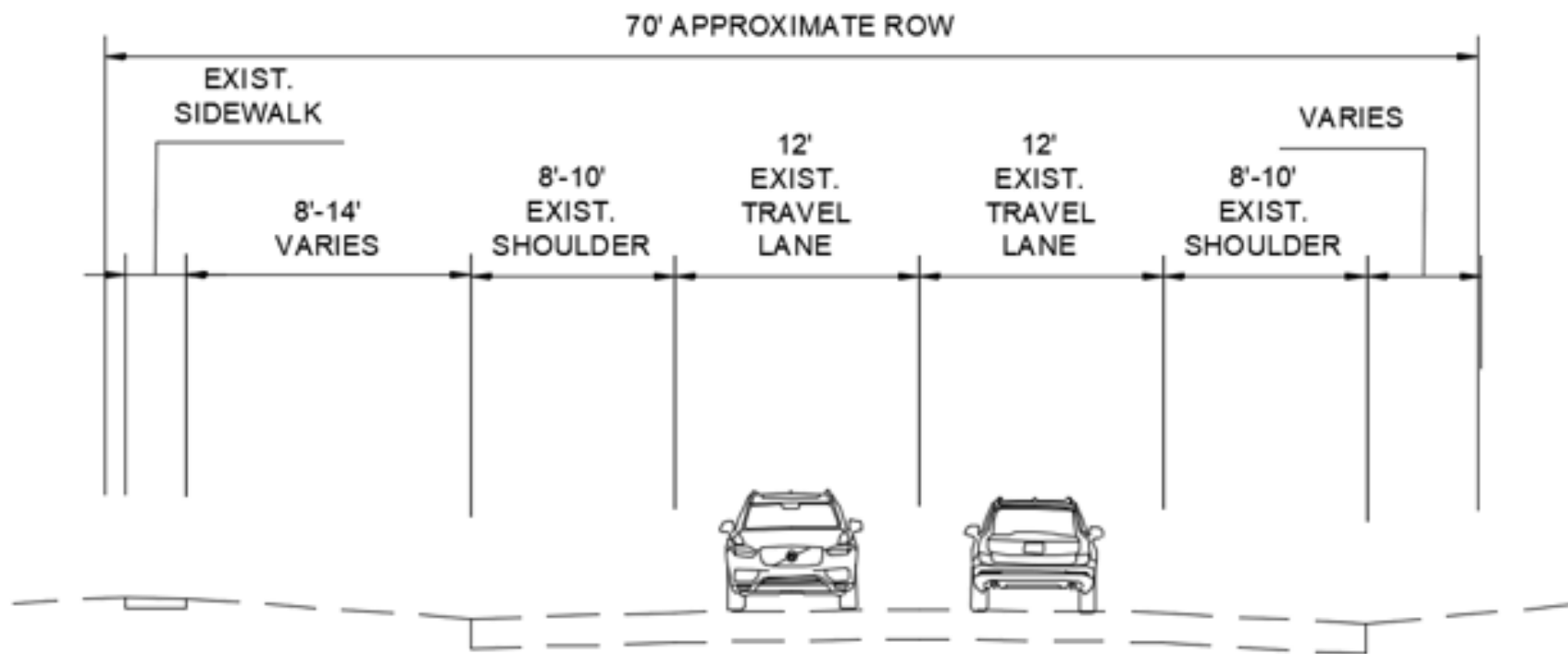
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A1. Existing Typical Cross Section, NY27 Montauk Highway near Norris Ave, Looking East..... 3

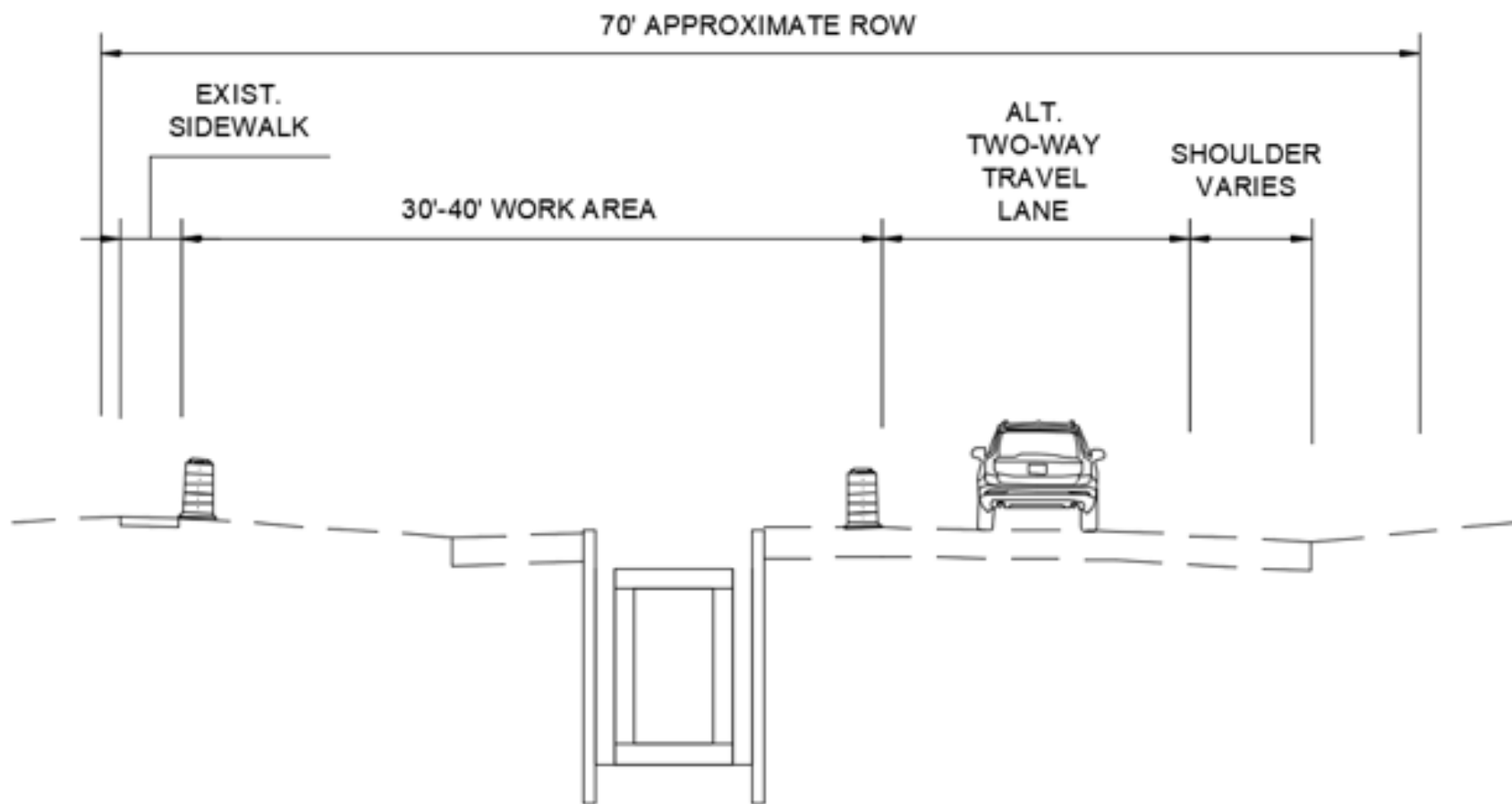
A2. Proposed Typical Cross Section for LANE Closure for Electrical Vault Installation, NY27  
Montauk Highway..... 4

A3. Proposed Typical Cross Section for SHOULDER Closure for Electrical Vault Installation, NY27  
Montauk Highway..... 5

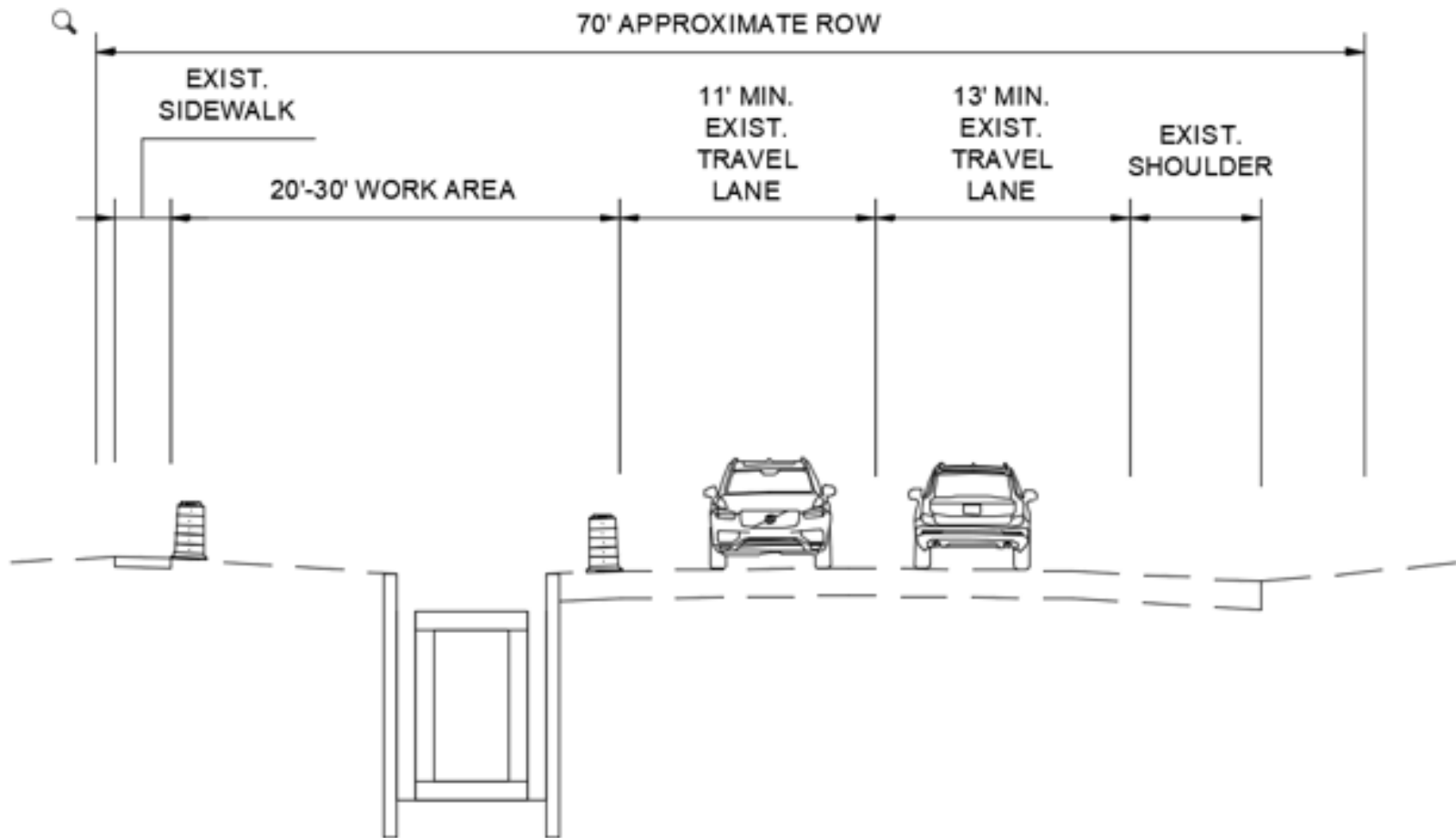




A1. Existing Typical Cross Section  
 NY27 Montauk Highway near Norris Ave, Looking East



A2. Proposed Typical Cross Section for Lane Closure for Electrical Vault Installation  
NY27 Montauk Highway



A3. Proposed Typical Cross Section for Shoulder Closure for Electrical Vault Installation  
 NY27 Montauk Highway