



Peermont Project



Borough of Stone Harbor Upgrades

June 13, 2015

Purpose & Need

- Surrounding area has grown substantially over the years
- Existing substation and transmission lines are near their load capacity
- New infrastructure is required to meet growing electric demand
- Increased reliability from steel pole infrastructure during coastal storms & extreme weather

Peermont Project – Transmission Route Overview



Transmission Route Detail – Great Channel Crossing

UNDERGROUND 69 KV CROSSING OF THE GREAT CHANNEL

INTERCONNECTING MIDDLE TOWNSHIP WITH THE BOROUGH OF STONE HARBOR



Summary of Upgrades for the Peermont Project

- Two existing 23kV transmission lines will be upgraded to new 69kV transmission lines to accommodate need for additional capacity
- Steel pole designs for transmission projects are now a standard across the Atlantic City Electric service territory to withstand extreme weather events
- Wood poles will be replaced with galvanized steel poles on the island and causeways
- 12kV distribution lines in Stone Harbor and Avalon will be recondored as part of the project
- The existing Peermont Substation will be demolished and rebuilt with a new 69/12kV substation

Improving Reliability

- Some existing poles and wires on the island are approaching 45 years old
- The salty coastal environment puts wood utility poles and equipment at a higher risk for damage, especially during significant storm events such as Hurricane Sandy
- Upgrading wood poles to steel poles with additional capacity at 69kV will allow ACE to continue to provide safe reliable electric service to customers on 7 Mile Island well into the future
- New poles are designed to withstand 120 mph winds

March 2013 Storm Stone Harbor Blvd

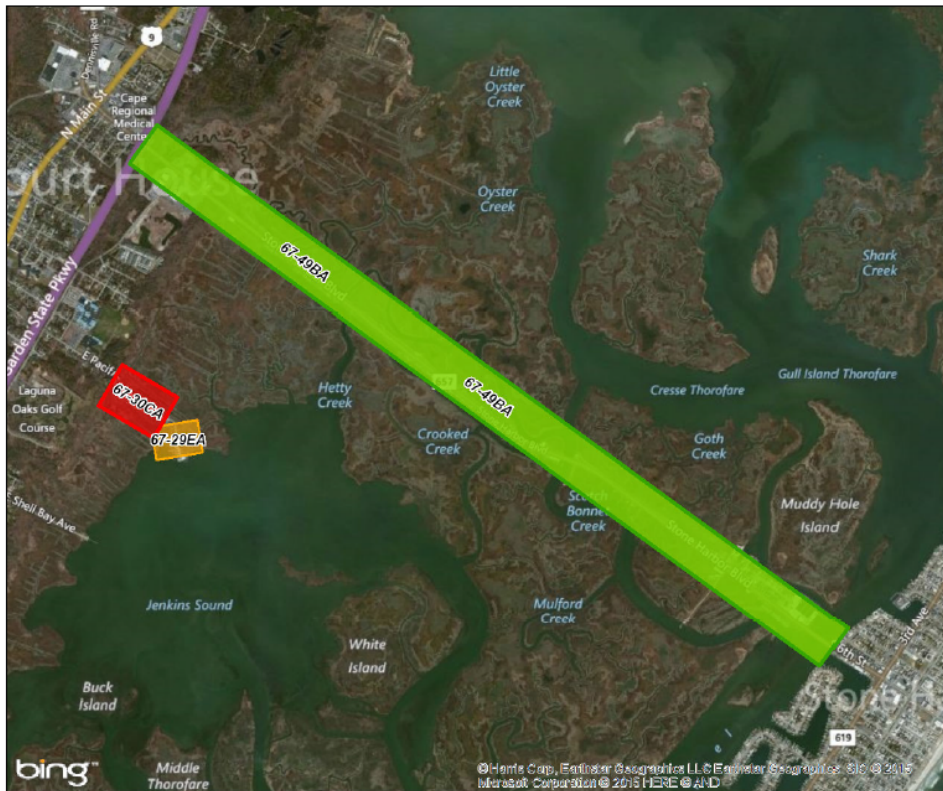


Benefits of Steel Poles

- Self Supporting
 - Steel poles can eliminate the need for guy wires, stub poles & push poles
- Longevity
 - Steel poles have a longer service life than wood poles and require much less maintenance over time
- Size
 - New poles will be taller and slightly larger in diameter due to National Electric Safety Code requirements and ACE electrical clearance standards
 - Regardless of the new pole material, many of the pole dimensions would be similar
 - Many of the new conductors will be raised
- Visual Impact
 - All steel poles are uniform in shape, size, and color

Avian Protection Standards – Addressing Collision Risk

- Line marking addresses collision risk for birds moving across water ways and marsh



Avian Protection Standards – Addressing Electrocutation Risk

- Transmission - Use of longer insulators to allow safe perching



Table 10-1. Recommended distances for horizontal and vertical wire clearances on transmission lines.

| kV | HORIZONTAL SPACING (INCHES) | VERTICAL SPACING (INCHES) |
|-----|-----------------------------|---------------------------|
| ≤60 | 60 | 40 |
| 69 | 62 | 42 |
| 115 | 71 | 51 |
| 138 | 76 | 56 |
| 230 | 94 | 74 |

Source: APLIC 2008; NESC calculations

- Distribution Under Build - Use of longer crossarms and protective covers to allow safe perching on crossarms



Avian Protection Standards – Mary Armacost Park

- Heron Rookery between 71st and 74th Street
 - Great Egrets
 - Black-crowned Night Herons



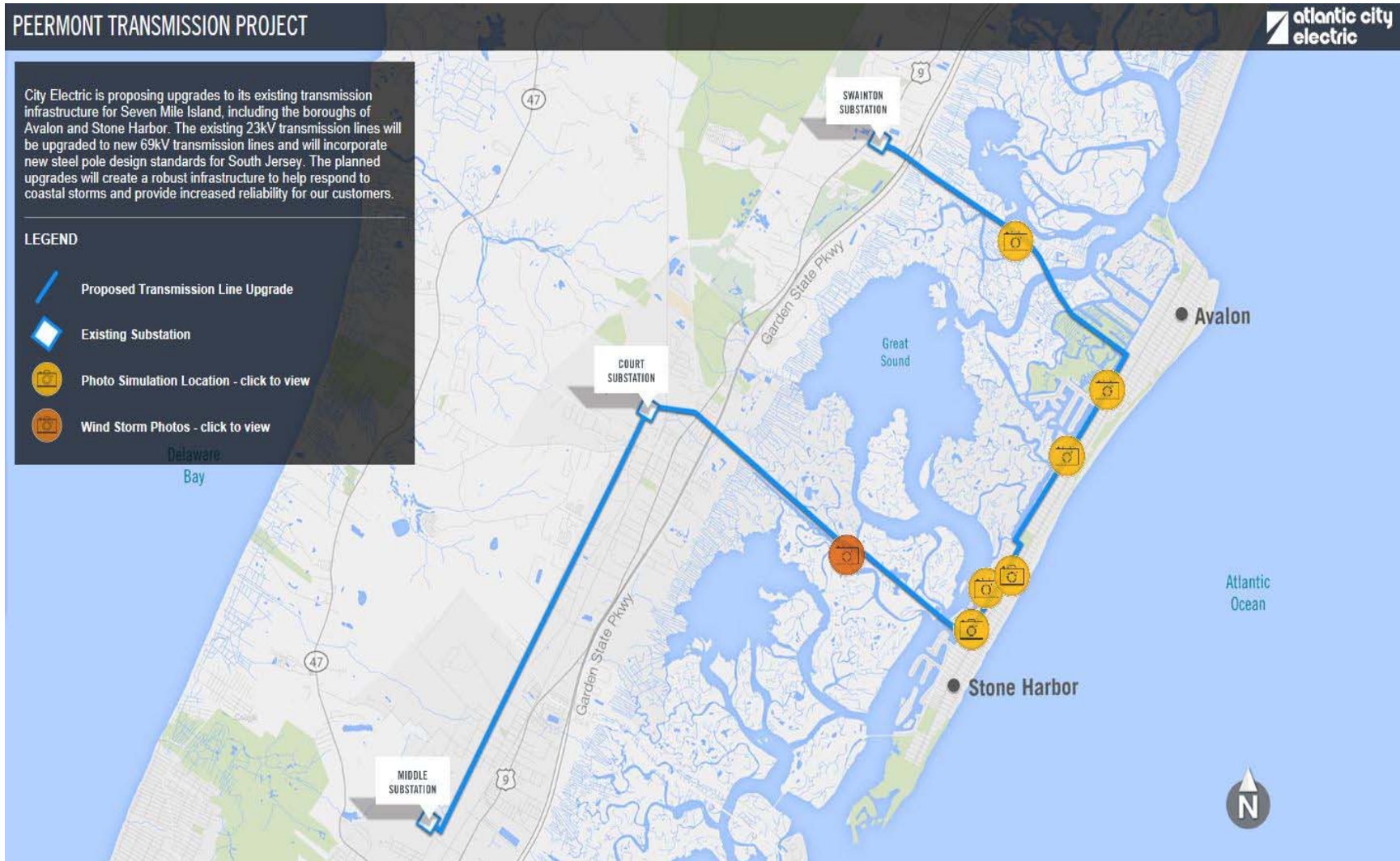
- Implementing line marking (collision risk) and protective covers (electrocution risk)



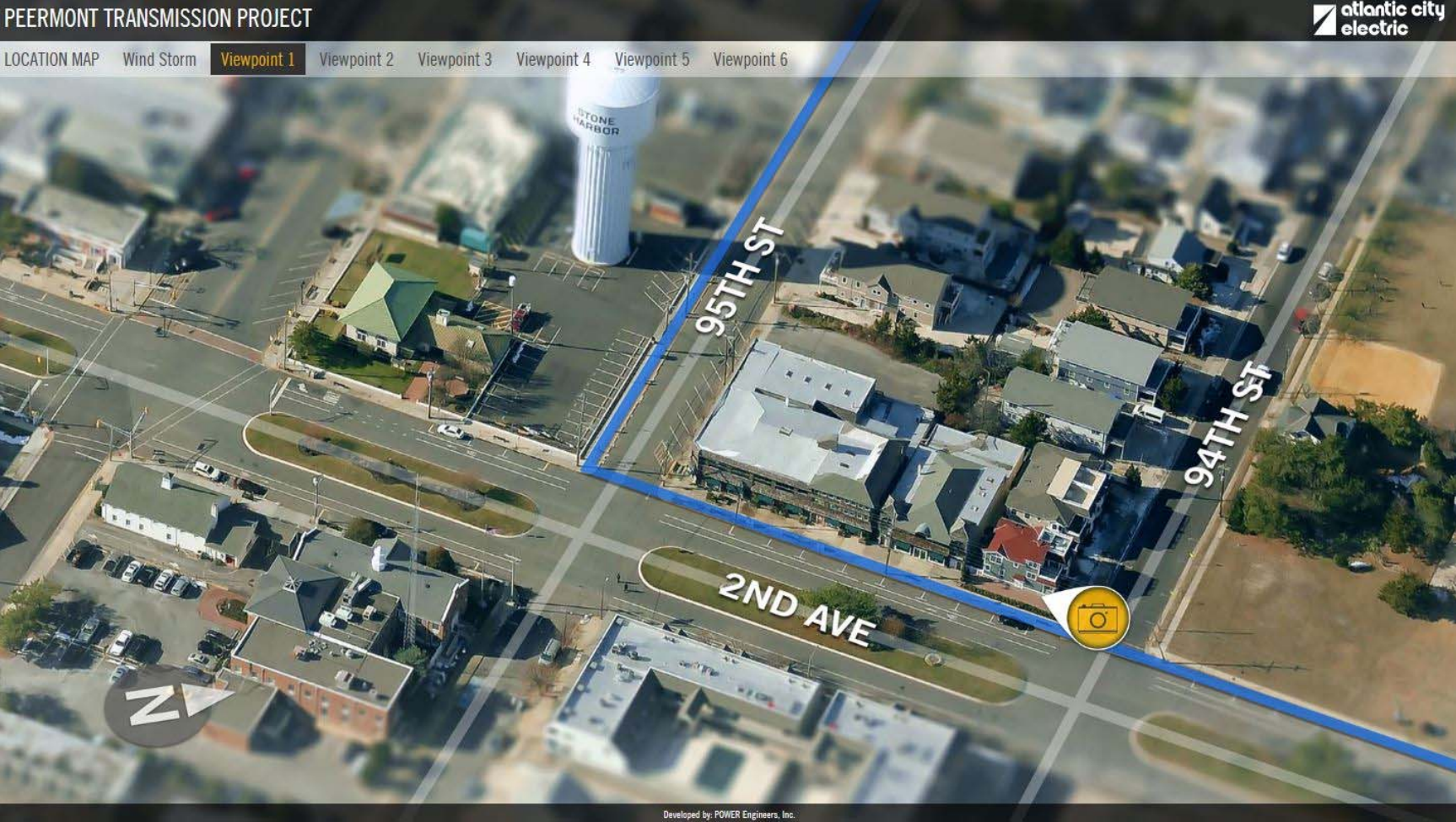
Underground vs Overhead

- Cost
 - Underground installation of transmission lines is eight to ten times more expensive than overhead
 - Additional cost of undergrounding would be passed on to ACE rate payers
- Maintenance Challenges
 - Underground transmission materials are not readily available resulting in longer outage durations
 - Locating underground faults can be time consuming and lead to longer repair times compared to overhead lines
- Installation Challenges
 - Significant dewatering would be needed in order to install trenches for underground duct bank
- Underground transmission installations are typically used in ACE service territory where there is not adequate clearances to buildings due to a higher voltage or lack of setbacks

Peermont Photo Simulations – Route



Peermont Photo Simulations: Viewpoint 1



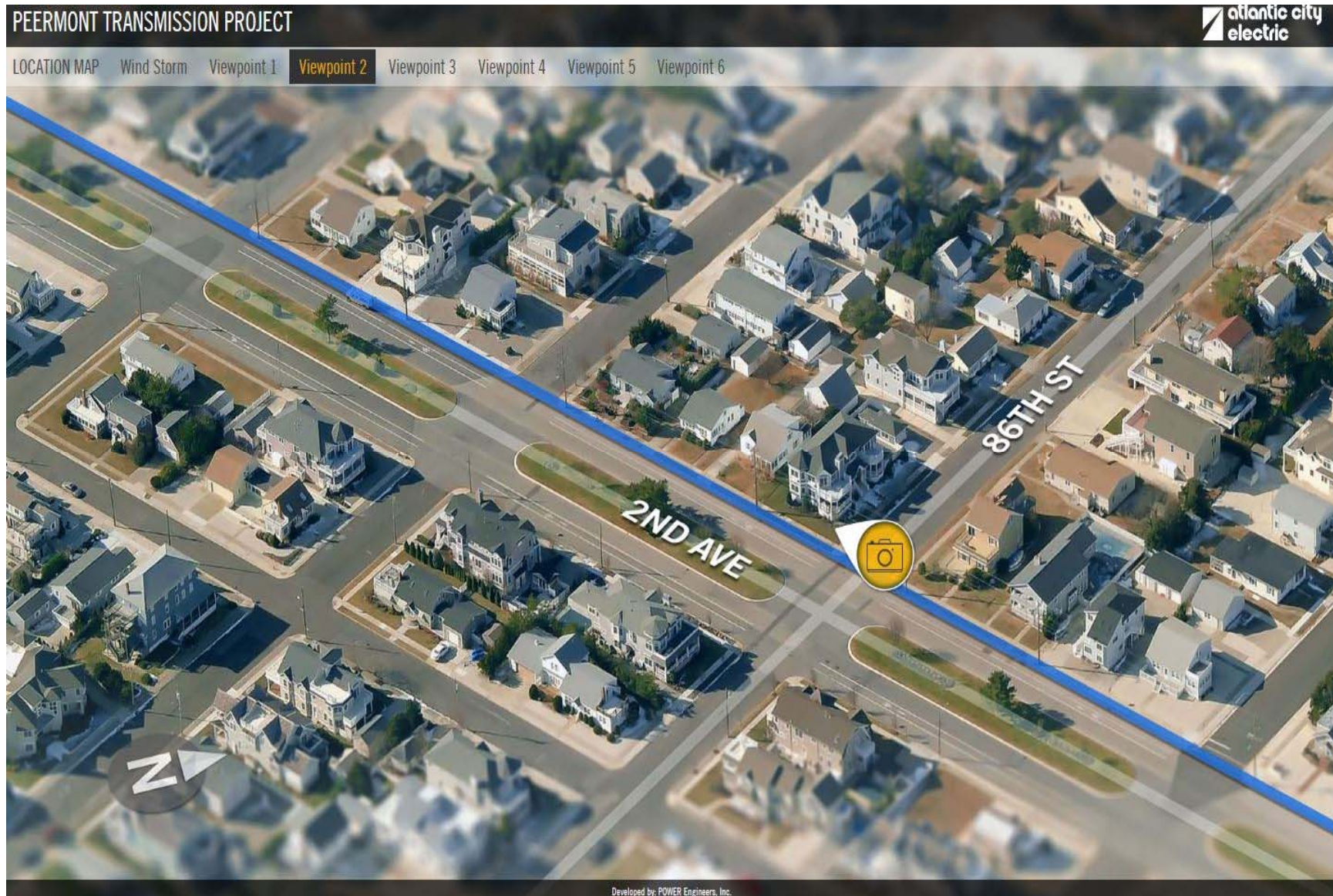
Peermont Photo Simulations – Viewpoint 1 Existing



Peermont Photo Simulations – Viewpoint 1 Proposed



Peermont Photo Simulations – Viewpoint 2



Peermont Photo Simulations – Viewpoint 2 Existing



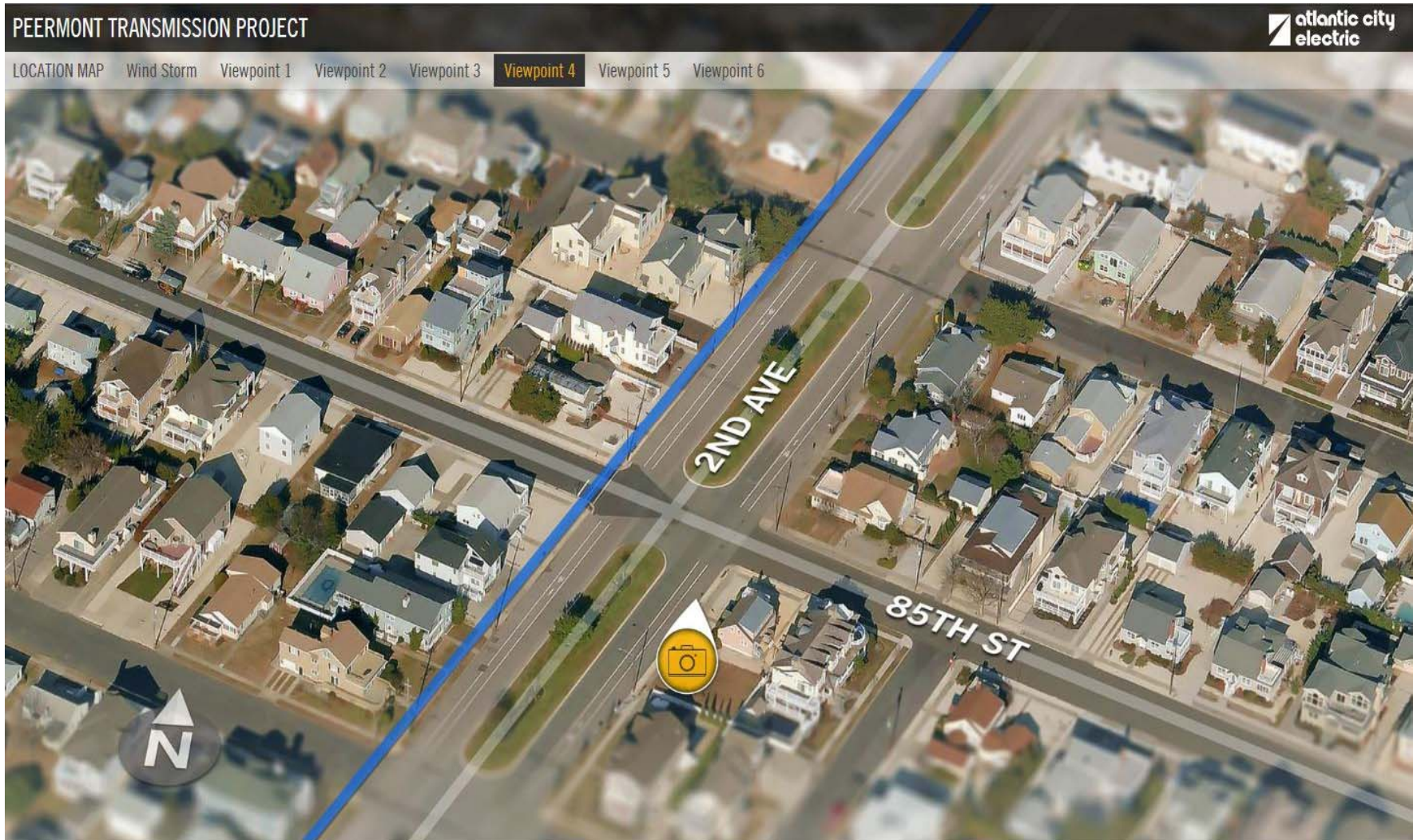
Viewpoint 2 • Date: 8/21/2014 • Time: 9:36 AM • View Direction: South

Peermont Photo Simulations – Viewpoint 2 Proposed

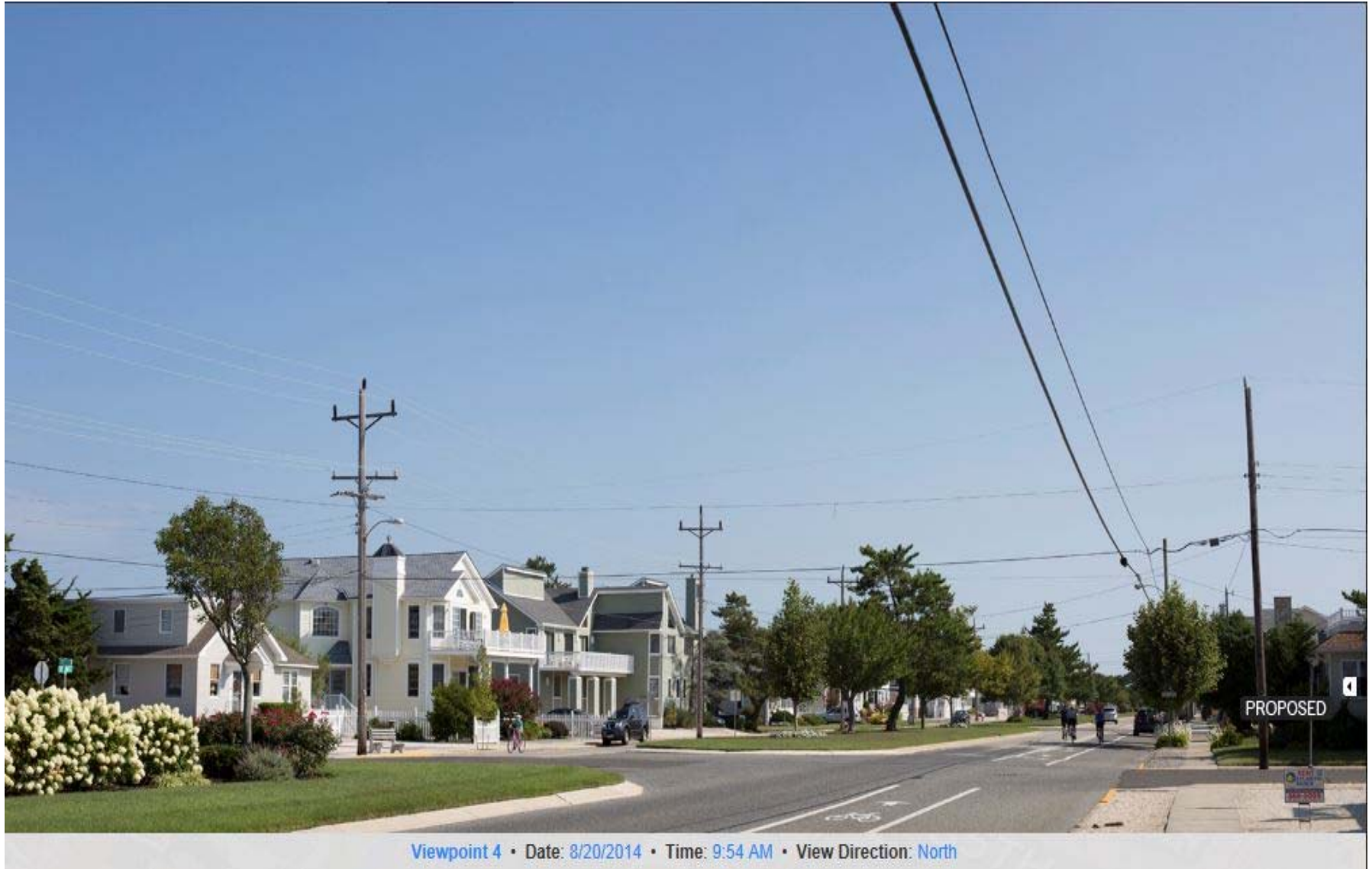


Viewpoint 2 • Date: 8/21/2014 • Time: 9:36 AM • View Direction: South

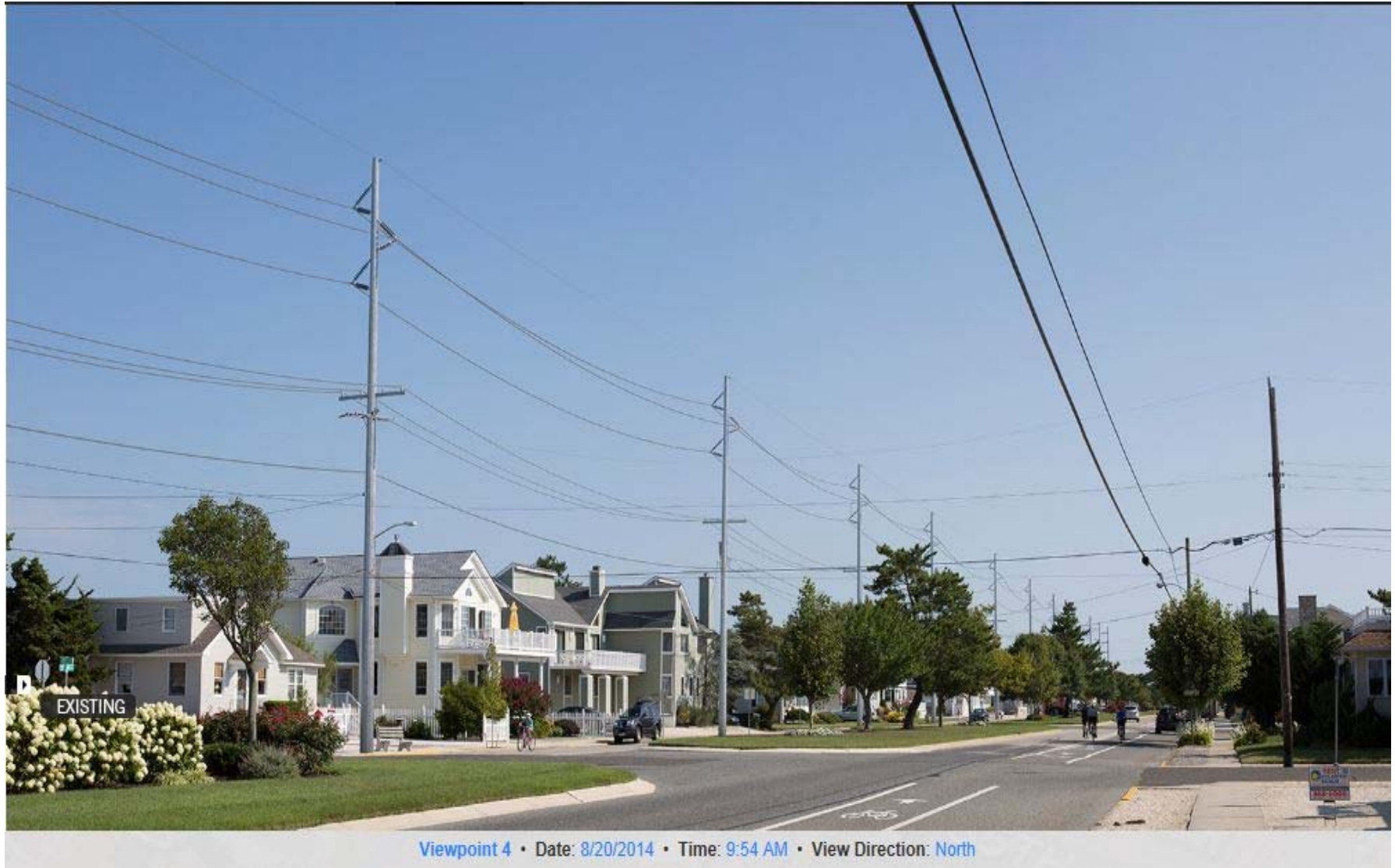
Peermont Photo Simulations –Viewpoint 3



Peermont Photo Simulations –Viewpoint 3 Existing



Peermont Photo Simulations –Viewpoint 3 Proposed



Project Timeline

- Transmission line construction on 7-Mile Island will occur September 2015 – May 2016
- The majority of construction is scheduled to occur during the daytime and the work will be completed in the off season
- Some of our upgrades will require roadwork but we plan to minimize disruptions to customers whenever possible
- Notifications to property owners in the project area will provide updates on pre-construction and construction activities
- Additional 12kV distribution feeder upgrades on the island will continue into 2017