1/28/20

New York Energy Solution

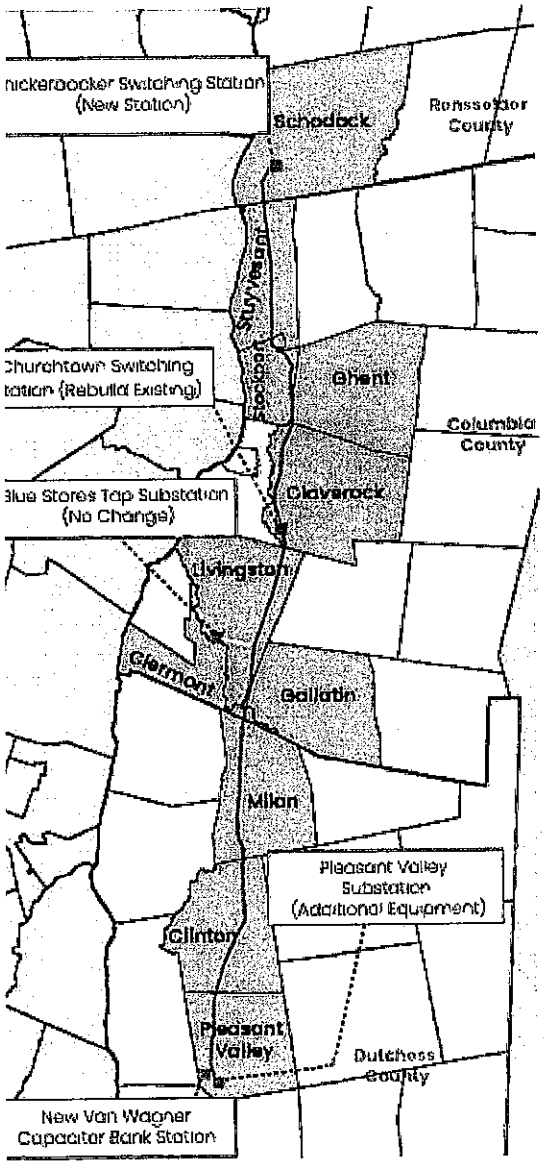
NY Energy Solution

A New York Transco Project

January 2019

Project Update

Town of Clinton



What is the New York Energy Solution?

NY Energy Solution

- Electric transmission upgrade
  - Retire and replace aging electric infrastructure
  - Relieve congestion
  - Facilitate clean energy
  - Enhance reliability
- Reuses existing utility rights-of-way & property
- Approx. 55 miles transmission line and station work through 11 towns, Schodack to Pleasant Valley
- Removes 80-year old assets; 230 less structures in ROW

Estimated Timeline:

April 8, 2019: NYISO Decision → 2019-2021: Permitting → 2021-2023: Construction → End 2023: NYES In-Service

Schodack to Claverack (22 miles)

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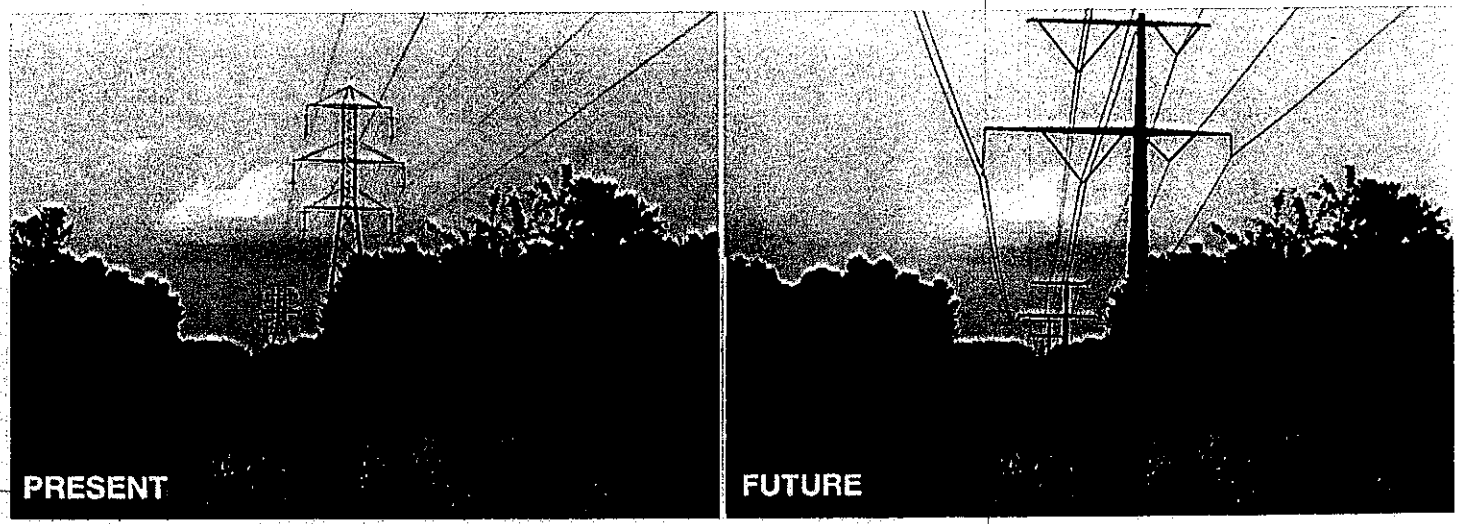
- Build new 345kV switching station on utility-owned property in Schodack
- Remove 80-year-old lattice structures
- Retire & remove one existing 115kV line
- Build new double-circuit monopole with new 345kV & existing 115kV lines– average 10' height increase

Town	Mileage	Change in Structures Amounts
Schodack	2.6	+4
Stuyvesant	8	-4
Stockport	4.5	+3
Ghent	0.7	None
Claverack	6.3	+12
TOTAL	22.1	+15

*Mileage and structure numbers are preliminary



Claverack to Pleasant Valley (32 miles)

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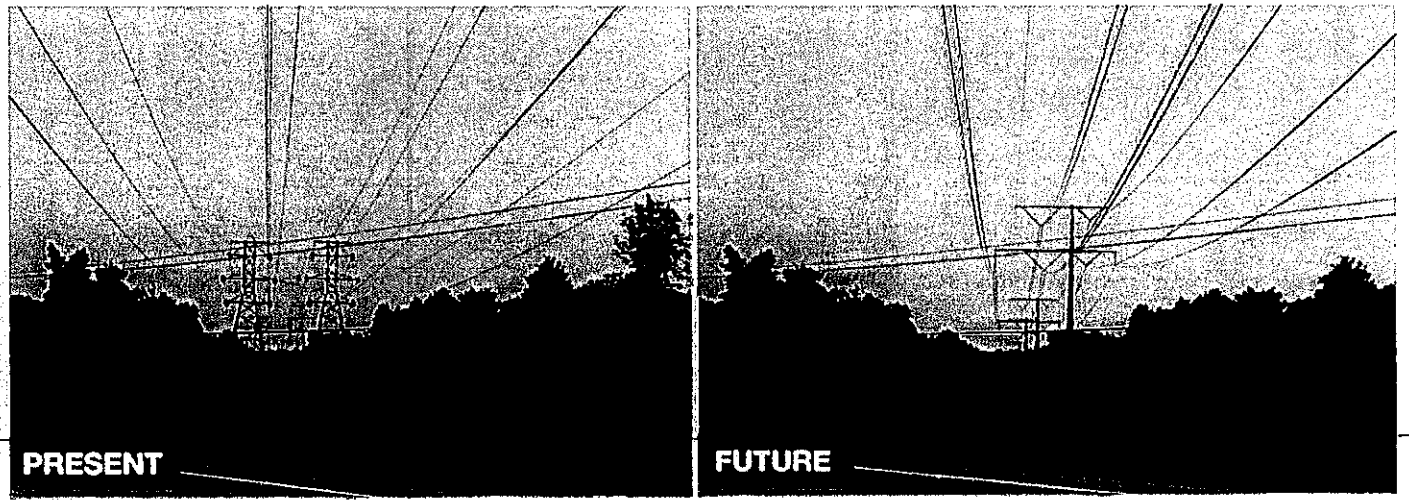
Town	Mileage	Change in Structures Amounts
Claverack	1	-7
Livingston	8.3	-60
Gallatin	1.2	-9
Clermont	0.7	-4
Milan	8.0	-76
Clinton	8.0	-59
Pleasant Valley	5.1	-38
TOTAL	32.3	-253

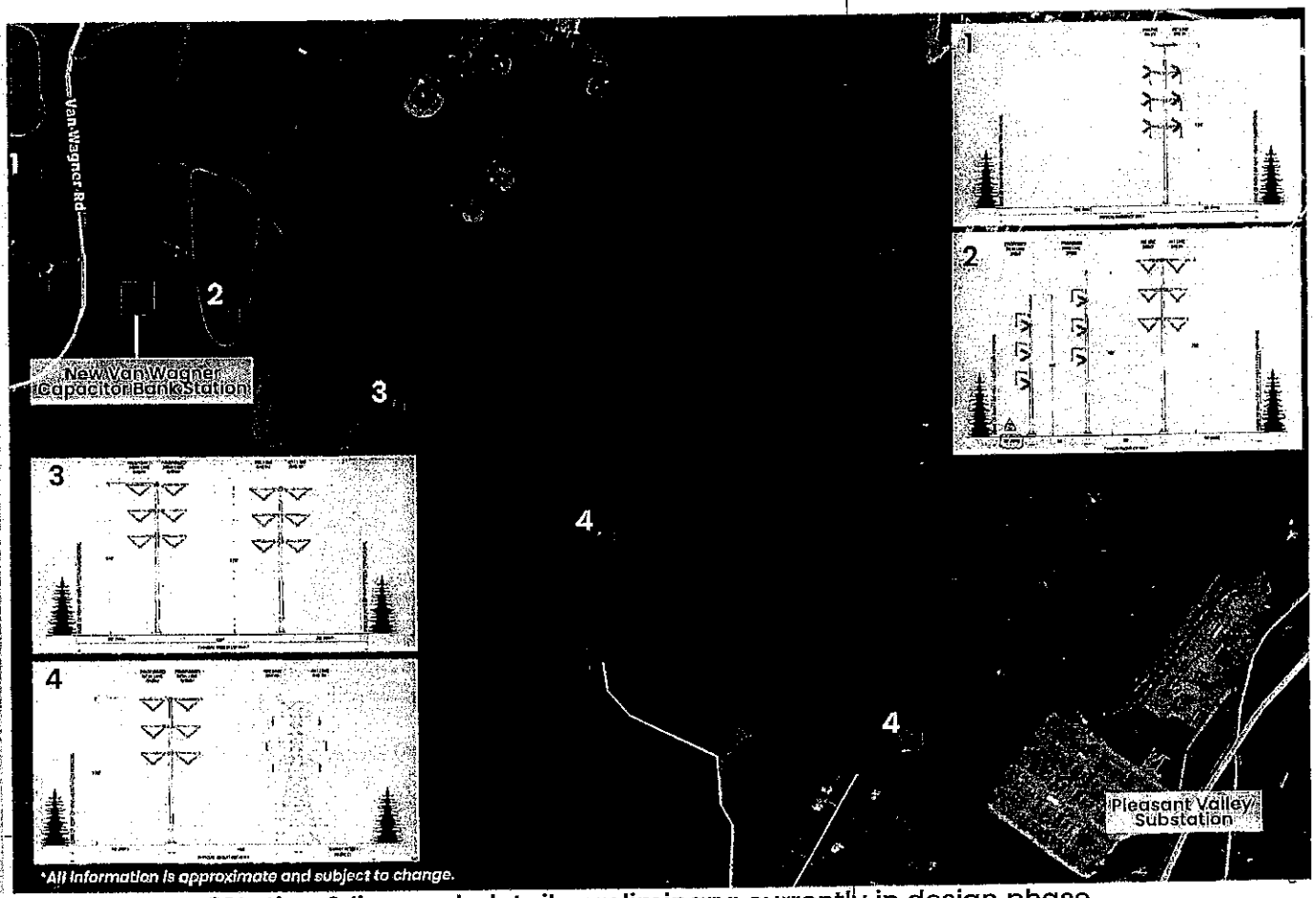
*Mileage and structure numbers are preliminary

- Rebuild existing switching station in Claverack on utility-owned property
- Remove 80-year-old lattice structures (2 in each span)
- Retire & remove three existing 115kV transmission lines
- Build new double-circuit monopole with new 345kV line and one existing 115kV line – average 10' height increase
- New equipment at existing Pleasant Valley Substation – terminus



Van Wagner Capacitor Banks & Line Work*

- Approx. 0.8 miles – utility owned property/ROW
- 6 existing 345kV lattice structures rebuilt to 3 monopoles (NGrid 91/92 lines)
  - 1 – 95′ & 90′ → 150′
  - 2 – 90′ & 85′ → 150′
  - 3 – 140′ & 135′ → 170′
- Build 5 new monopoles for new Van Wagner 345kv line adjacent to 91/92 lines
  - 2 – 120′ & 140′
  - 3 – 175′
  - 4 – 140′



*Station & line work details preliminary; currently in design phase.

Blue Stores Tap

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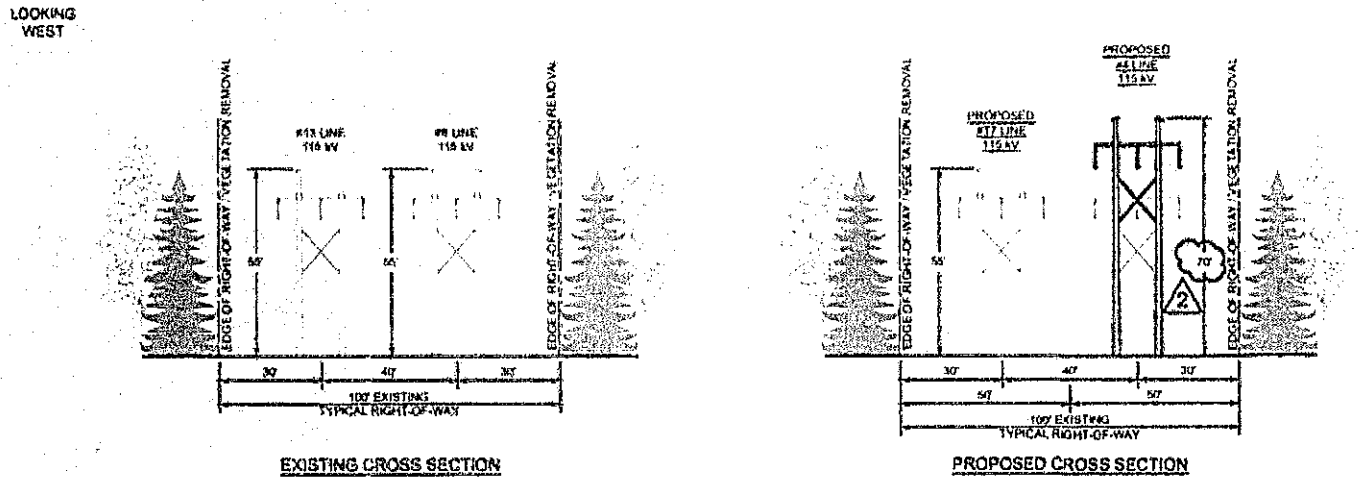
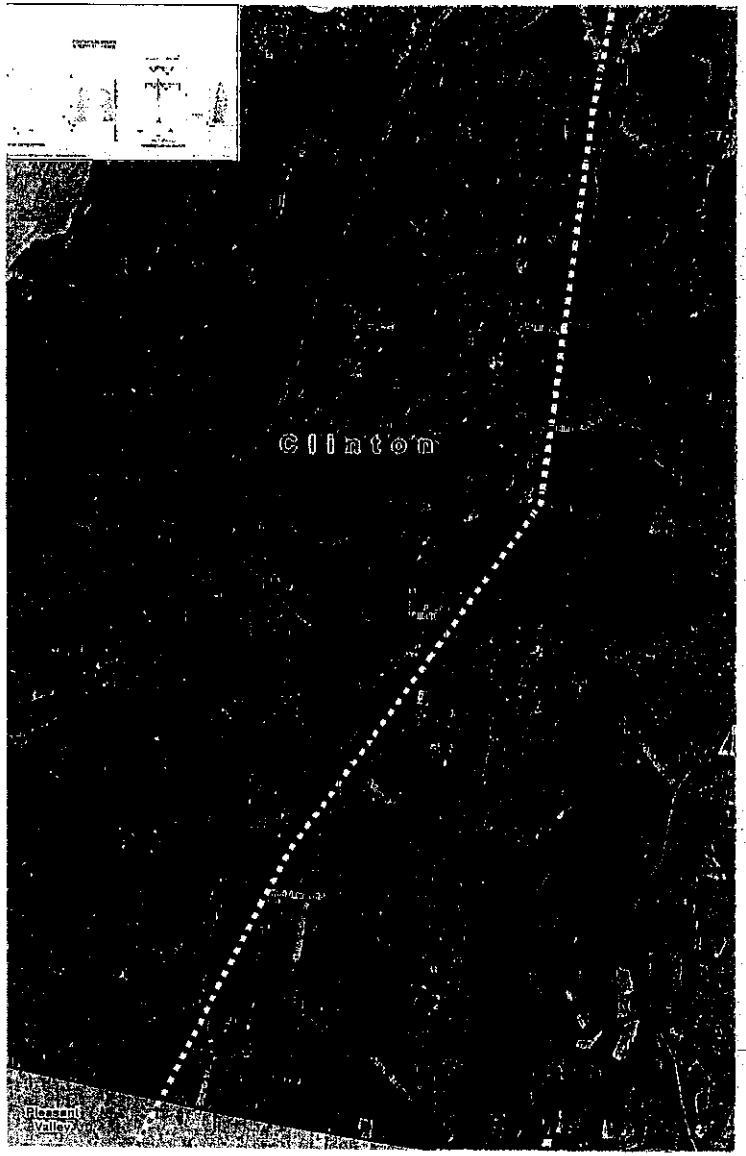
Town	Mileage	Change in Structures Amounts
Livingston	2.1	None

*Mileage and structure numbers are preliminary

- Approximately 2-mile upgrade to one existing 115kV line with new H-frame transmission structures
- Typical height increase of 15 feet
- Town: Livingston





NYES in Clinton

Line Work	Structures Removed	Structures Added	Notes
8 miles	118	59	59 less structures in corridor

- All work within existing utility-owned rights-of-way & property
- Remove 80-plus year old lattice structures (118 total, in sets of two)
- Retire three 115kV transmission lines
- Install new double circuit monopole structure with one existing 115kV line and a new 345kV line (59 total)
- Line crosses: Dear Hill Rd, Serenity Hill Rd, Bulls Head Rd, Maple Lane, Nine Partners Rd, Schultzville Rd, Breezy Hill Rd, Hollow Rd, Clinton Hollow Rd, W Halstead Rd, Clinton Ave.

Mileage and structure numbers preliminary estimates

Town-by-Town Overview

All work is within existing rights-of-way or on utility-owned property

NY Energy Solution

Town	1 with 1 Replacement	2 with 1 Replacement	Other work	Structures Removed	Structures Added	Structure Difference
Upgrade from Schodack to Pleasant Valley			NOTE: All mileage is approximate & structure totals are preliminary			
Schodack	2.6 miles	—	New Switching Station	19	23	+4
Stuyvesant	8 miles	—		64	60	-4
Stockport	4.5 miles	—		33	36	+3
Ghent	0.8 miles	—		8	8	No change
Claverack	6.3 miles	1 miles	Rebuilt Switching Station	67	72	+5
Livingston	—	8.3 miles	Approx. 2-mile like-structure replacement on Blue Stores Tap	144	84	-60
Gallatin	—	1.2 miles		18	9	-9
Clermont	—	0.7 miles		8	4	-4
Milan	—	8 miles		132	56	-76
Clinton	—	8 miles		118	59	-59
Pleasant Valley	—	5.1 miles	Upgrades to existing Pleasant Valley Substation	82	44	-38
Capacitor Bank Station Work in Pleasant Valley			NOTE: All mileage is approximate & structure totals are preliminary			
Existing National Grid 91/92 lines	0.8 miles		Existing sets of lattice structures replaced with monopoles	6	3	-3
New Van Wagner Connector	0.8 miles		New capacitor bank station; new line in 91/92 corridor	N/A	5	+5

Permitting Update

Submitted Article VII on 10/18/19 – Case Number 19-T-0684

Environmental Impact – Exhibit 4

- Results of technical studies & survey work
- Vegetation Removal
- Temporary & minimal impacts to land use
- Aesthetic character & visual quality not significantly altered
- Low impact to cultural resources; no impact to historic architectural resources
- No permanent disruption to terrestrial or wildlife resources
- No adverse or permanent change to topography, geography or soils
- 33 new structures within wetlands: 16 NYSDEC-regulated & 13 NYSDEC-mapped buffers
- Operational noise is below existing state guidelines

EMF – Exhibit 4

- Study done of 16 portions of the ROW
- Meets state guidelines
- EMF Fact Sheet available

	Electric-Field Levels (kV/m)	Mangetic-Field Levels (mG)
NYSPSC Standard	1.6	200
Existing Lines	≤2.5	≤204
Proposed NYES + Existing Lines	≤1.1	≤184

**All calculations at maximum line capacity measured at the edge of rights-of- way. Field levels at typical operational loading are expected to be far lower*

Permitting Update cont.

NY Energy Solution

Case Number 19-T-0684

Effect on Communications – Exhibit E-5

- No adverse effects– television, radio, cell phone, fiber, microwaves, airport navigation, etc.

Effect on Transportation – Exhibit E-6

- No permanent impact
- Crosses 68 roads – Maintenance & Protection of Traffic (MPT) plans will be developed for each crossing and access point
- Coordination with individual towns and counties on roads

Alternatives – Exhibit 3 & Exhibit E-3

- Project selected in competitive NYISO process as most cost-effective & efficient project
- Alternatives were considered, including alternative routes and underground
- Underground found to be cost prohibitive

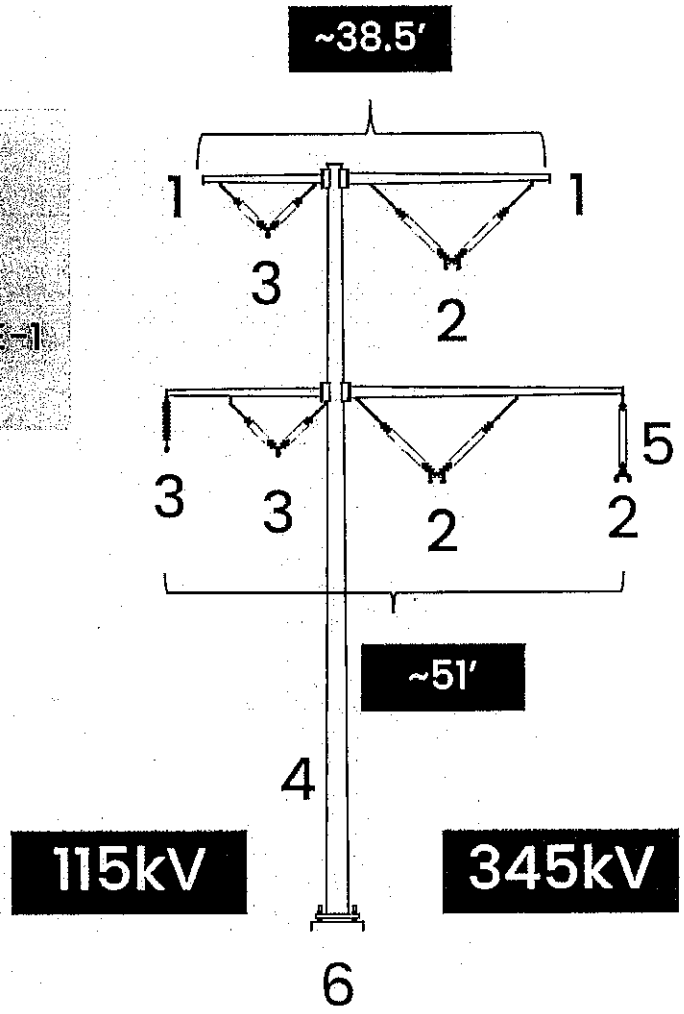
Application is available:

- www.NY-ES.com
- Local Libraries

Transmission Line Design*

Design Drawings – Exhibit 5

Description of Proposed Transmission Line – Exhibit E-1



1. Shieldwire (OPGW)
2. 345 kV Conductor (wires)
3. 115 kV Conductor (wires)
4. Galvanized tubular steel structures
5. Ceramic insulators
6. Foundations: (1) Direct embed, or (2) Concrete drilled shaft

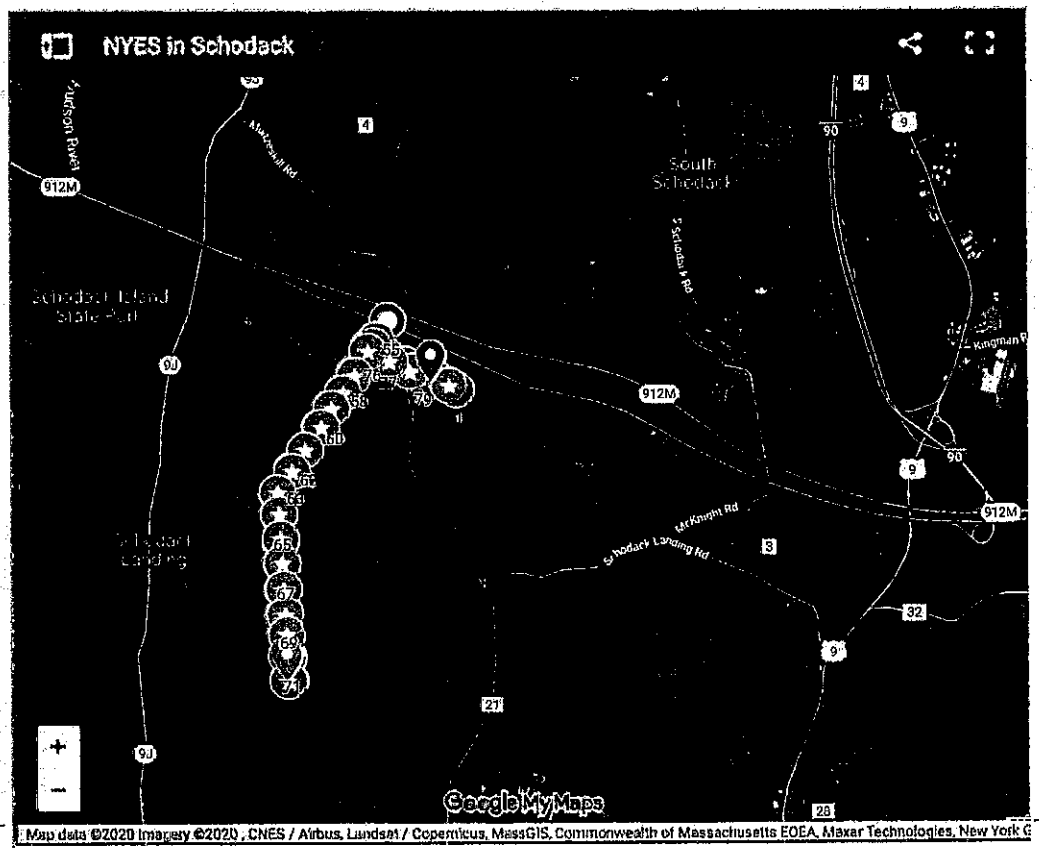
*Looking South

New Mapping Available

- NY-ES.com – Your Community – Select Town
- Instructions on site for inputting addresses
- Article VII, Exhibit 2 – Location of Facilities

Legend

- Existing Structures to Remain
- Existing Structures to be Removed
- Proposed New Structures
- Other Proposed Work
- Town & Project Borders
- Areas of Possible Vegetation Removal



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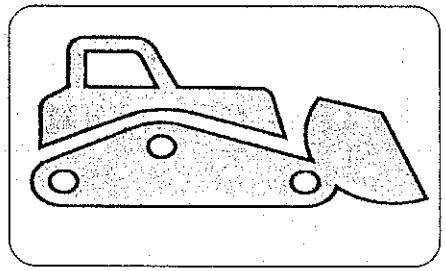
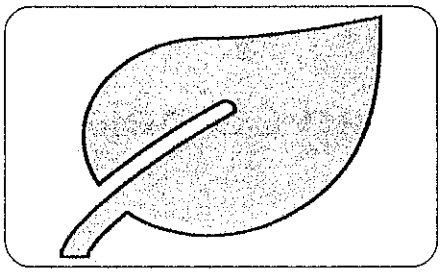
Basic Construction Process



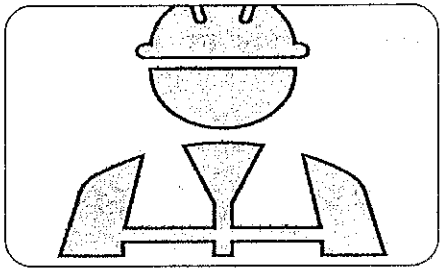
Site Preparation

- Mowing and tree removal
- Gravel or matted roads
- Work pads installed
- Marshalling yards developed



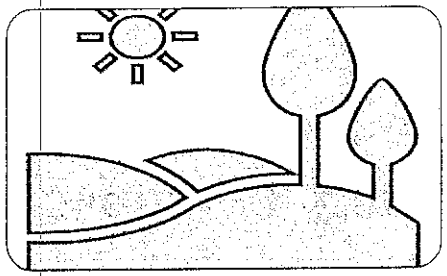
Environmental Controls

- Measures installed to help prevent runoff, travel of invasive species, etc.
- Examples: hay bales, silt fence, concrete washouts, etc.



Transmission Line Rebuilding

- Drill foundations
- Structures positioned, assembled, and installed
- Wire strung and energized
- Old structures removed



Restoration

- Native shrubs and ground cover regrow
- Landscaping plan developed and executed
- Road restoration in consultation with municipalities

2021-2023: Construction

NY Energy Solution

Basic Article VII Process

Step 1 – Submit Application – DONE 10/18/19
Step 2 – Application Reviewed & Deemed Complete
Step 3 – Public Statement Hearing
Step 4 – Procedural Conference
Step 5 – Certificate Issued by PSC Order
Step 6 – EM&CP Filed with PSC
Step 7 – Approval of EM&CP
Step 8 – Notice to Proceed for Construction

Public comments accepted as long as docket is open

Case Number 19-T-0684

Application is available:

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NY Energy Solution

Article VII Public Involvement

What	How
Review project documents	NY-ES.com; DMM website; local libraries
Submit comments on docket	DMM Website
Subscribe to Service List	Forms available for submission
File to become a "party"	Forms available for submission
Application for Intervenor Funding	Application to PSC
Public Statement Hearing	Oral or Written Statement
Comments to EM&CP	DMM Website

NY Energy solution

Next Steps

- Continue with post-filing meetings
- Continue stakeholder outreach
- Geotechnical survey work
- Continue other permitting work
- Article VII Public Statement Hearing

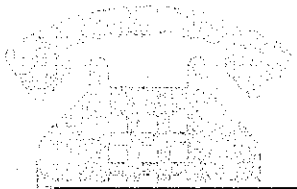
Upcoming Agriculture Event

Join the New York Energy Solution Project Team to discuss your agricultural activities as it relates to the proposed electric transmission upgrade.

Tuesday, February 4
7-8:30 p.m.
Cornell Cooperative Extension Education Center
479 Route 66
Hudson, NY

Join us for the latest project details:

- Review mapping with proposed structure locations and vegetation removal;
- Ask questions and share information regarding your agricultural activities;
- Schedule an on-site visit.



855-433-3611
toll-free

Questions?

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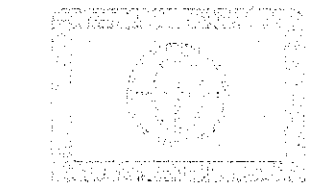
A New York Transco Project



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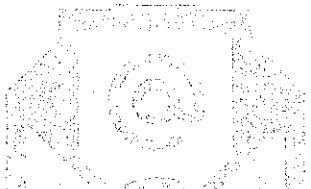
Thank you!



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