Clean Path
NY

Development Team

Clean Path NY

NYPA is the largest state public power organization in the nation, operating 16 generating facilities and more than 1,400 circuit-miles of transmission lines. More than 80 percent of the electricity NYPA produces is clean renewable hydropower.

Invenergy Global developer and operator of sustainable energy solutions with 1,100 megawatts of renewable energy projects delivered for New York.

energyRe is an independent New York company focused on solving complex challenges and providing clean energy solutions. The team at energyRe has expertise in infrastructure, engineering, and development and its founding investors include principals of Related Companies.

Energy and Public Health Challenges

...and the Tale of Two Grids

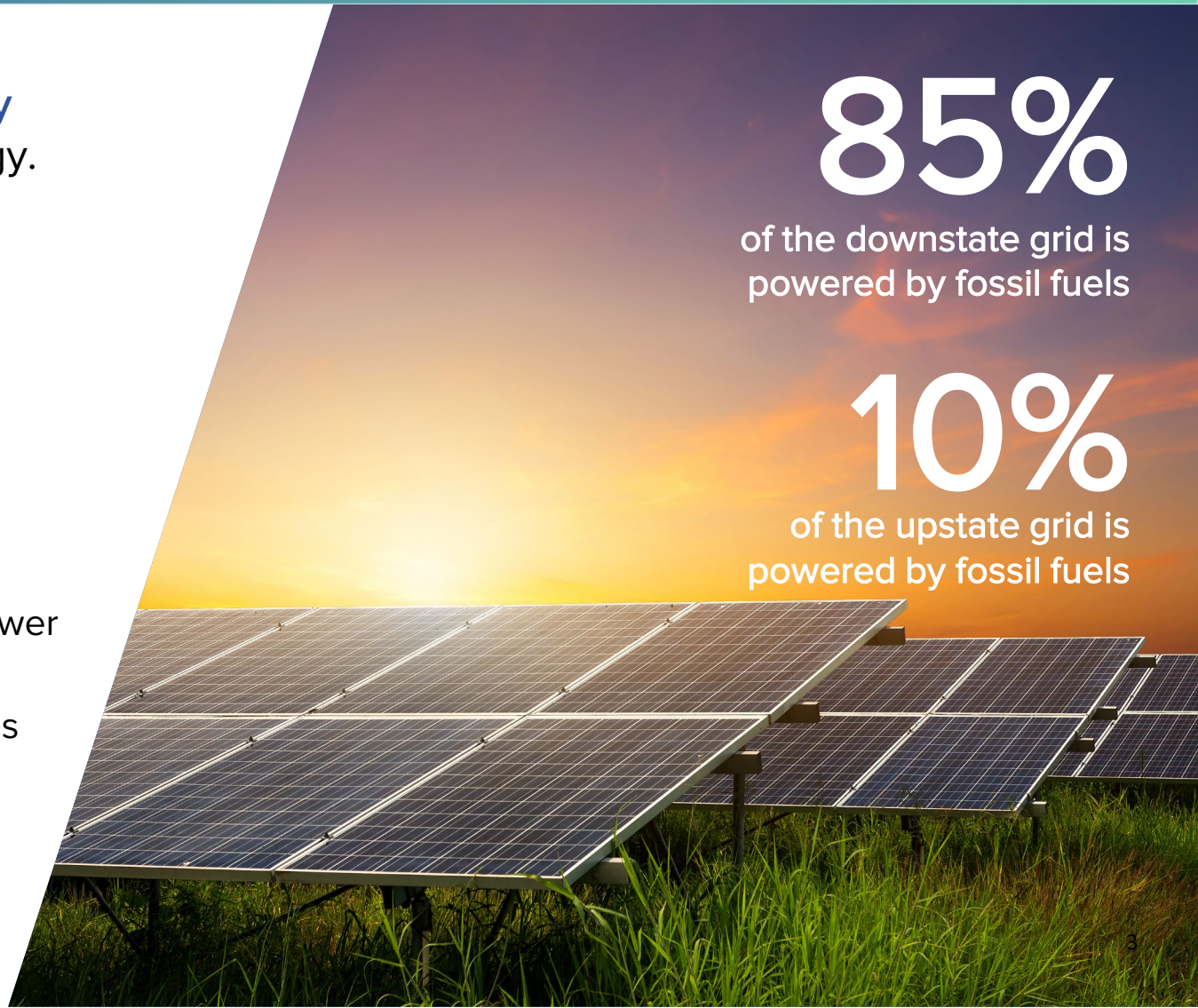
New York State's **Climate Leadership and Community Protection Act** calls for a just transition to clean energy.

The Goal

- 70% renewable energy generation by 2030
- Zero-emission electricity sector by 2040
- Economy-wide carbon neutrality
- Clean air and green jobs

The Challenge

- Congestion in outdated energy grid blocking clean power produced upstate from reaching New York City
- Poor air quality in frontline communities where power is supplied by fossil-fuel fired plants



Clean Path NY

All Renewable, All New York

1,300 MW, 175-mile underground and underwater HVDC transmission line from Delaware County to New York City and **3,800 MW** of new wind and solar capacity in upstate New York.

- **$7.5 billion** in new clean energy generation
- **$3.5 billion** in new transmission investment
- **8,300+** new in-state jobs
- **22% reduction in fossil fuel generation** statewide per year on average
- **49 million tons of avoided CO2 emissions** by 2040
- **Billions in avoided social and public health costs** due to emissions reductions

Project History

- **January 2021:** New York State, through the New York State Energy Research and Development Authority (NYSERDA), issues request for proposals for renewable energy projects to deliver energy to downstate New York.
- **September 2021:** Clean Path NY was selected for award through competitive selection process.
- **November 2021:** Agreement signed with NYSERDA and contract is submitted to the New York State Public Service Commission for approval
- **April 2022:** Public Service Commission approves project contract

A Clean Air, Clean Energy Future

For all New Yorkers

22%

reduction per year statewide
in fossil fuel generation

49 million

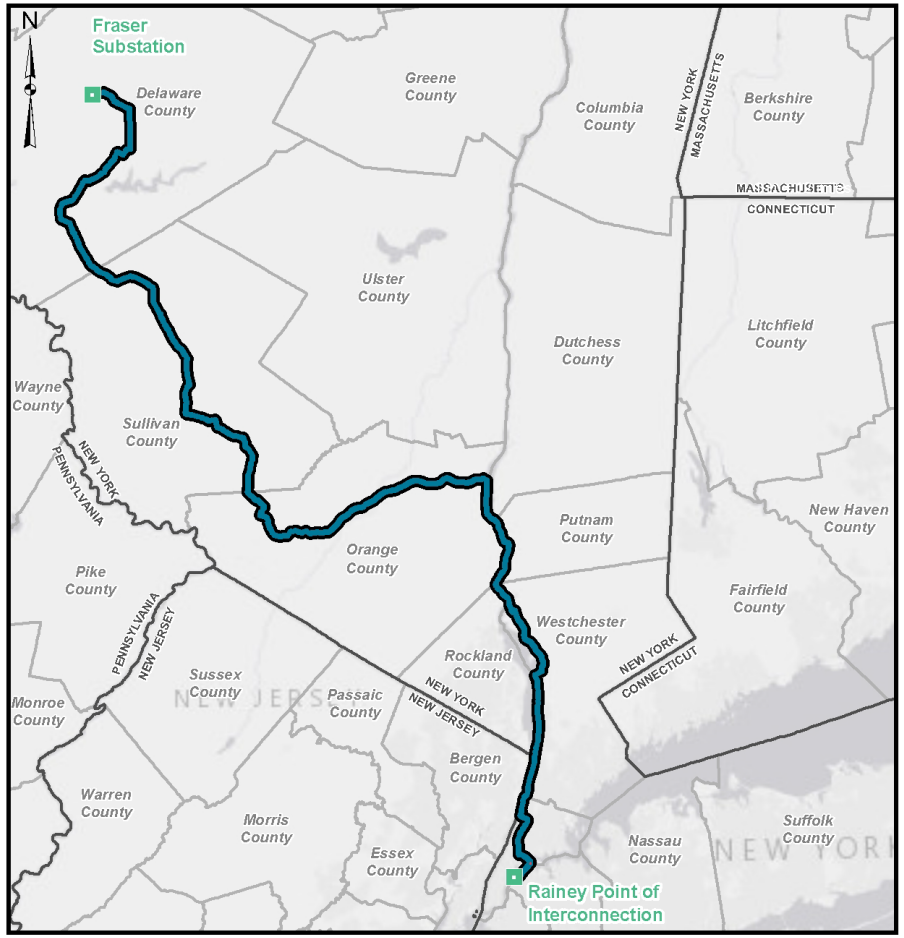
tons of avoided CO2 emissions
over 25 years statewide

How We Get There

Responsibly-Routed Transmission Line

Clean Path NY is designed to untangle our grid and free it from the congestion that is blocking clean energy from reaching New York City:

- **Uses existing Right of Ways:** approximately 100 of 175 miles located in NYPA right-of-ways in Marcy South Corridor; already used for roads and other infrastructure
- **Responsible Routing:** sited entirely underground or underwater to minimize environmental and community impact
- **Reliability:** resilient against extreme weather to limit disruptions in service
- **Transparency and accountability:** commitment to work with communities and stakeholders at every stage of development.



How We Get There

Responsibly-Routed Transmission Line

Underground and Underwater:

The underground portion of the transmission line begins in Delaware County. It follows existing ROWs owned or controlled by NYPA and New York State Department of Transportation (NYSDOT) for approximately 120 miles, before entering the Hudson River in Orange County. The line then travels underwater (submarine) in the Hudson, Harlem and East Rivers and underground (onshore), terminating in Queens. The total underground length is approximately 130 miles and the total underwater length is approximately 45 miles.

Converter Stations:

A northern converter station is located in Delaware County and a southern converter station is located in the Astoria Energy Complex in Queens.

Construction:

The Clean Path NY transmission line is expected to begin construction in 2024 and to begin operation in 2027.

Storage Resource

Unlocking Energy When it's Needed Most

The Blenheim-Gilboa Pumped Storage Power Project strengthens the reliability and resiliency of the project.

- Use of long-duration storage to maximize utilization
- Owned and operated by New York Power Authority (NYPA) since 1973
- Interconnects at Gilboa Substation with direct 345 kV feed to Fraser
- Uses hydroelectric technology and two large reservoirs at different altitudes to generate electricity
- 1,160 MW of existing, long-duration storage capacity

Economic Investment and Job Creation

All Renewable, All New York

$11 billion investment for projects in New York State

- **8,300** engineering, construction and operation, and maintenance jobs through the first three years of operation
- Major investment in **publicly-owned transmission resource** that will reduce congestion and lower energy costs well beyond the initial 25-year contract period
- Pursuing **project-labor agreement** in partnership with union labor and opportunities for **local suppliers**

Environmental Justice

A just transition to a green economy

40% of the benefits of the project accrue to communities on the frontlines of climate change

- Direct investments via development of transmission and generation
- Directly induced supply chain impacts
- Community investment fund
- Avoided social and public health costs
- Cleaner air and better air quality
- More resilient energy grid to withstand extreme weather
- Reducing reliance on oil and gas

Investing in Our Communities

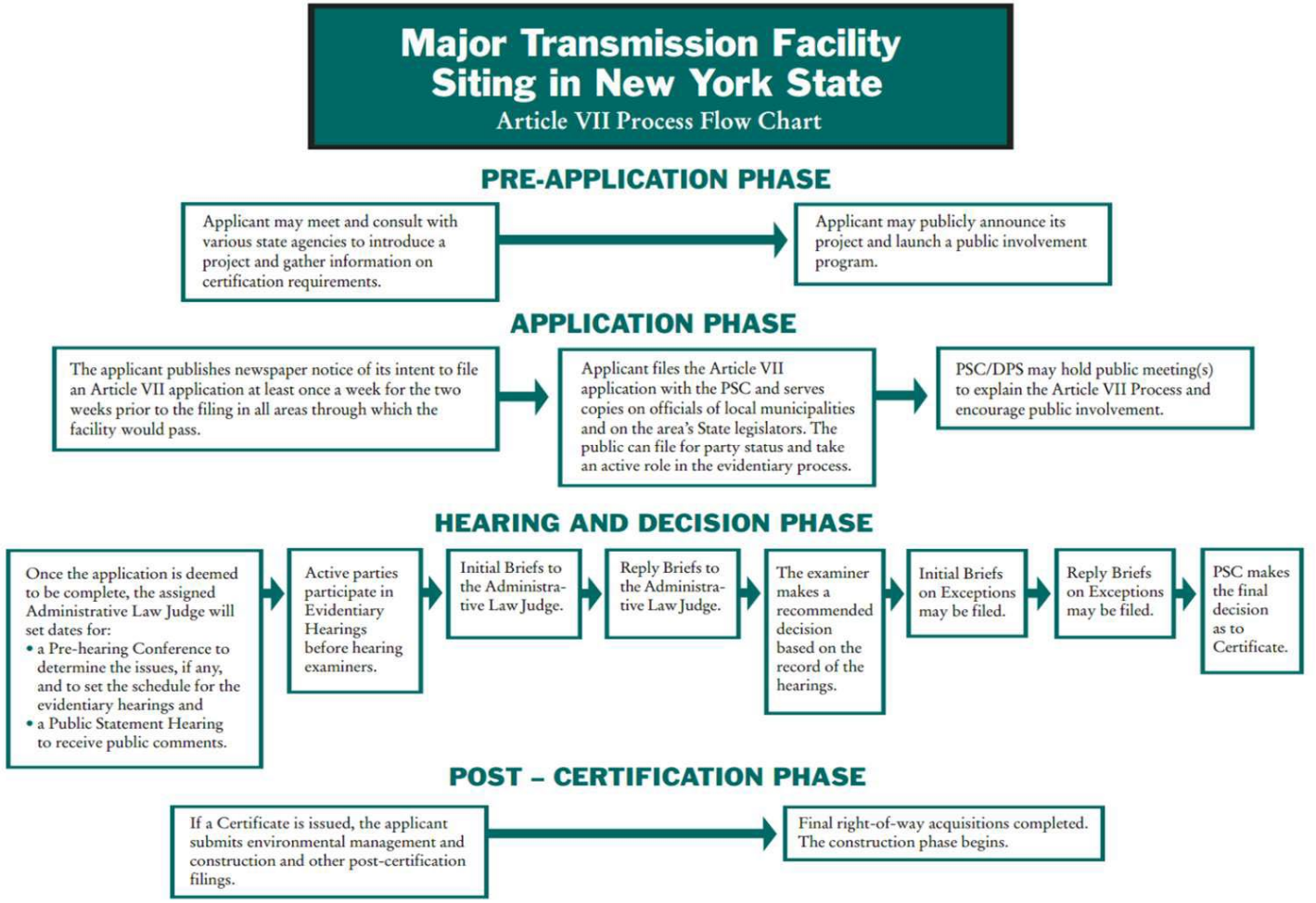
Education, Workforce Development, Community Health

$270 million in community-led investments for job training, education, public health and the environment

- Funding for new and existing workforce development, local apprenticeship, and education programs to increase access and opportunities in the green economy
- Investments to expand access to medical care and health services in frontline communities
- Environmental conservation and clean energy initiatives (electrification retrofits in frontline communities to spur local investment, create good jobs, and reduce the environmental burden existing buildings place on neighborhoods)

Article VII Process

Article VII
Regulatory Process



Source: New York State Department of Public Service

Article VII
Environmental Assessments

Article VII of the New York State Public Service Law requires a full review of the need for and environmental impact of the siting, design, construction, and operation of major transmission facilities in New York State.

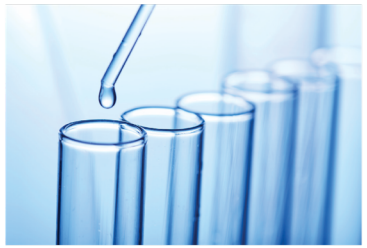
- **Underground and underwater transmission**: minimizes environmental impacts during operation
- **Limited scope and duration**: following completion of construction, the presence of the line will not be perceptible to local communities
- **Robust environmental analysis**: field investigations, environmental impact studies, literature review, and agency consultations underway to identify and assess environmental conditions.

Target Article VII application: Fall 2022

Environmental and Socioeconomic Analysis Categories

Biological

- Wetlands
- Terrestrial Vegetation and Wildlife
- Fisheries and Essential Fish Habitat
- Water Bottom Resources
- Threatened and Endangered Species
- Marine Mammals



Physical

- Water Quality
- Sediment Quality
- Air Quality

Cultural

- Terrestrial Archaeology
- Marine Archaeology
- Historic Resources

Socioeconomic

- Environmental Justice
- Commercial and Recreational Fishing
- Land Use
- Visual Resources

Article VII
Public Review and Participation

The Clean Path NY team is committed to working with communities and stakeholders at every stage of the process to ensure local voices are sought and heard.

- **Attend public meetings and open houses:** meet the project team at open houses to learn more and ask questions about the project
- **Connect with Clean Path online**: visit the CPNY website, follow the project's progress on social media @CleanPathNY, and email questions to info@cleanpathny.com

Any New Yorker along the project may become an intervenor (formal party) to the Article VII public review process by contributing testimony, comments, and other material. Clean Path NY will provide funding to offset costs of consultants, administrative fees and other expenses for this purpose.

For detailed information regarding the preparation of an intervenor fund application, visit the Public Service Commission Website at Article VII Major Electric and Gas Transmission Facilities [dps.ny.gov]

Article VII
Public Review and Participation

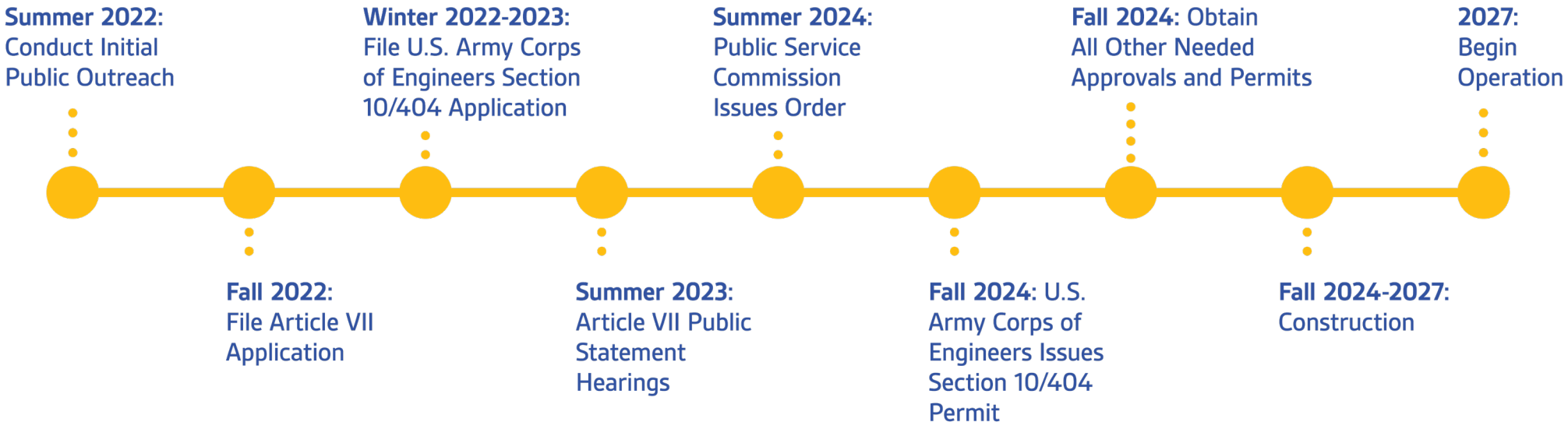
Article VII of the New York State Public Service Law requires a full review of the need for and environmental impact of the siting, design, construction, and operation of major transmission facilities in New York State.

How can you participate?

- Provide a comment here today or email info@cleanpathny.com
- When the Application for Article VII is filed with the Public Service Commission later this year, you can then reference the project docket number to:
  - Subscribe to the service list: http://www.dps.ny.gov/articlevii.htm
  - Provide your written comment: secretary@dps.ny.gov or Secretary at the New York State Public Service Commission, Three Empire State Plaza, Albany, New York 12223-1350.
  - Provide a comment by telephone to NYS Public Service Commission's Opinion Line: 1-800-335-2120

Construction

Project Timeline:
Anticipated Schedule



Transmission Line Construction

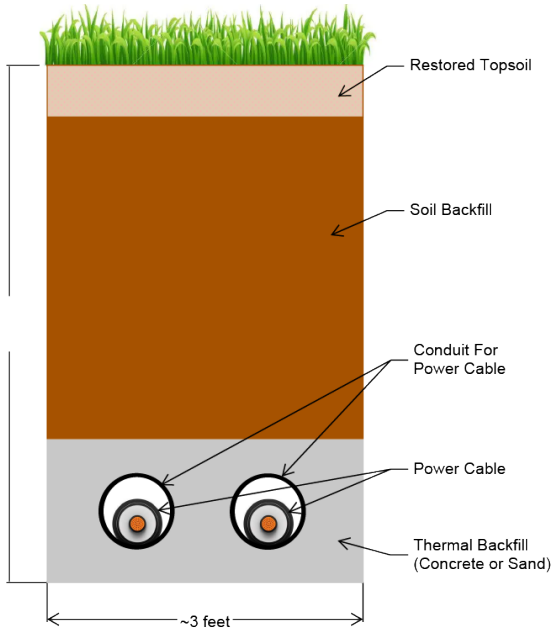
Underground Segments

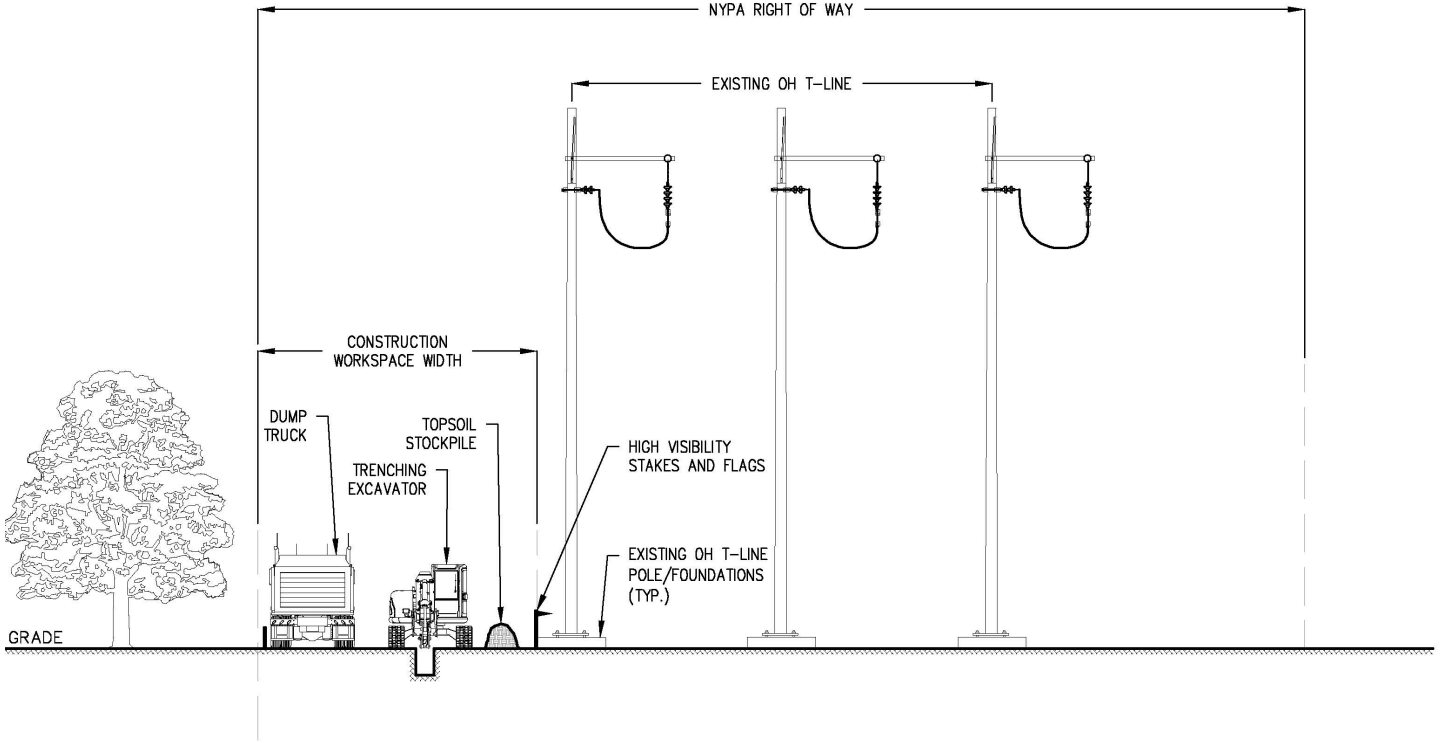
Construction Sequencing

1. Preparation of construction laydown and workspace including limited tree clearing and vegetation removal
2. Installation of erosion and stormwater controls (e.g., silt fences and/or filter strips)
3. Upgrading and extension of existing access roads where needed
4. Excavation of trench, with topsoil retention and stockpiling
5. Installation of conduits within the trench, followed by backfill
6. Pulling of power cables through the conduits, followed by cable splicing
7. Restoration, revegetation, and stabilization of the site

Transmission Line Construction

Underground Segments





Transmission Line Construction

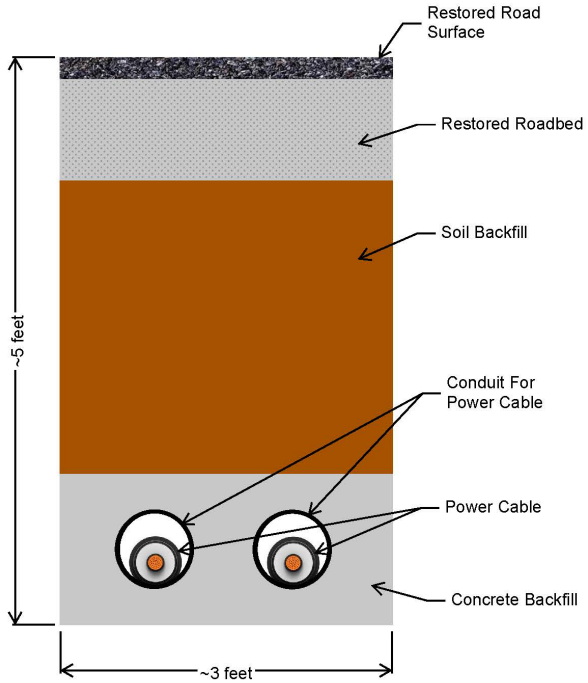
Underground Segments – In-Road

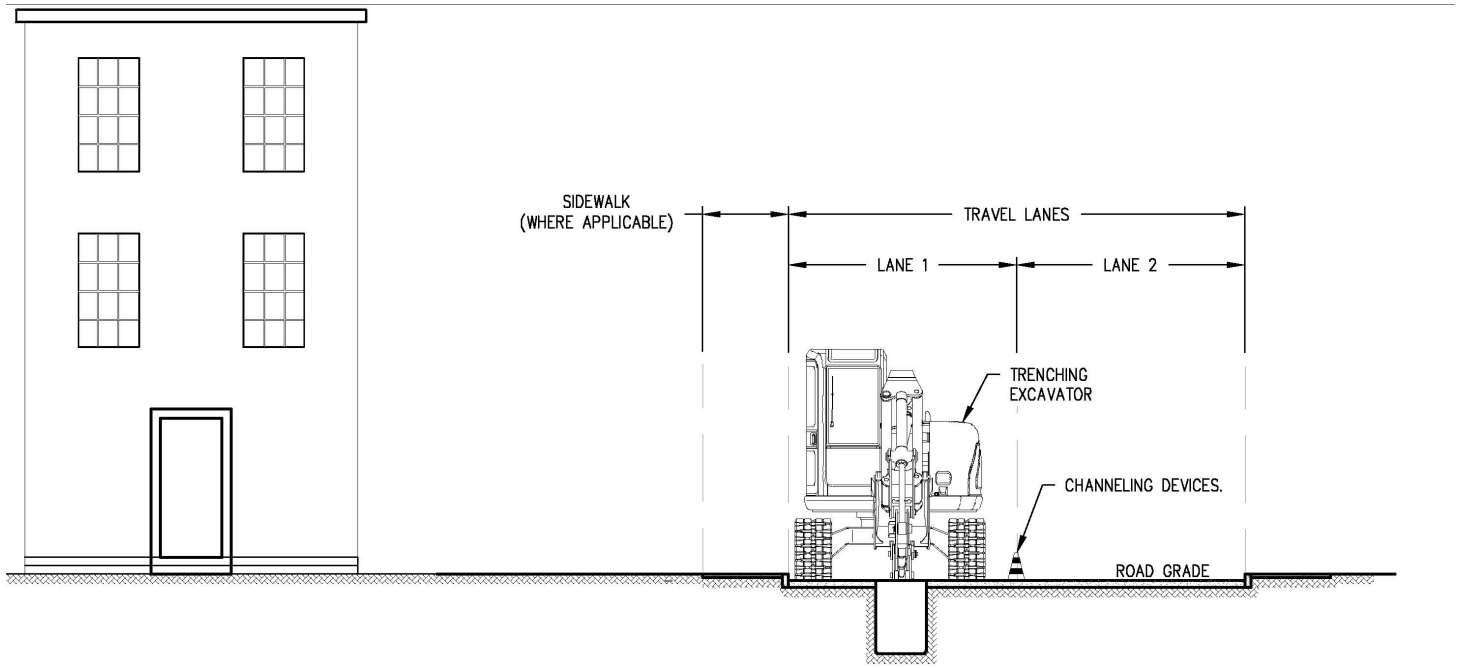
Construction Sequencing

1. Installation of traffic control devices: signage, municipal and local notifications, flaggers
2. Installation of erosion and stormwater controls where applicable
3. Excavation of trench
4. Installation of conduits within the trench
5. Installation of splice vaults
6. Backfilling trench and splice vaults
7. Pulling of power cables through the conduits, followed by cable splicing
8. Restoring road pavement
9. Site restoration and clean-up

Transmission Line Construction

Underground Segments – In-Road





Transmission Line Construction

Underwater Segments

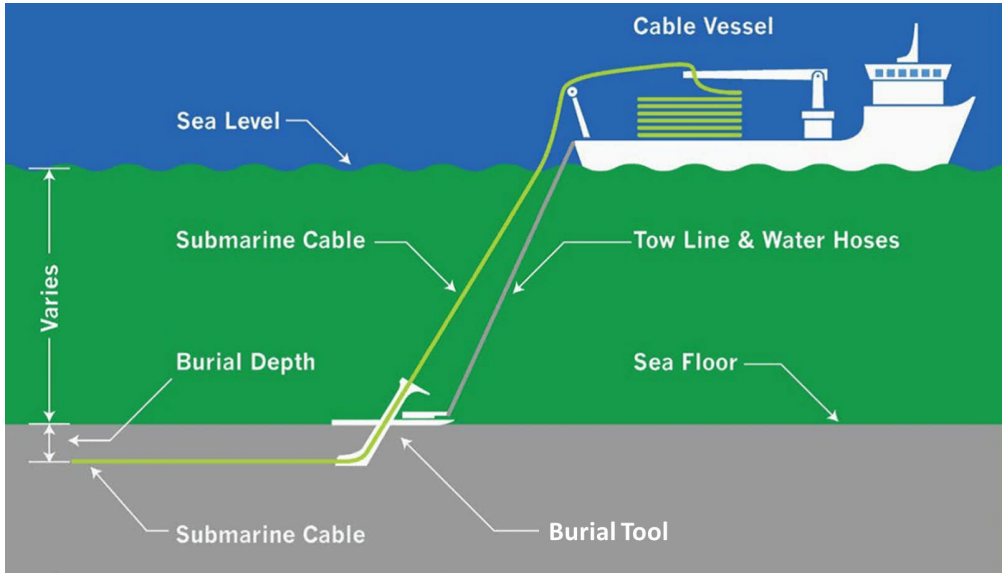
Submarine Cable Installation Summary:

- The submarine cable is installed along the riverbed using a cable burial tool.
- The burial tool is towed/connected to a cable vessel.
- The vessel feeds the cable into the burial tool as the installation system navigates forward along the designed route.
- The cable route and burial depth are both designed to protect against impact/exposure of the cable from man-made and natural risks that exist in the riverway.

Transmission Line Construction

Underwater Segments

Schematic of a Cable Installation Process



Source: Royal IHC https://www.royalihc.com/offshore-energy/offshore-equipment/subsea-vehicles/power-cable-plough

**This image has been modified for simplicity.*

Example Cable Burial Tool

Source: Royal IHC https://www.royalihc.com/offshore-energy/offshore-equipment/subsea-vehicles/power-cable-plough

Clean Path NY