K42 Asset Condition Project

Franklin County Line Upgrade

vermont electric power company

VELCO

Georgia Selectboard

May 22, 2023

Mission, Vision & Values

Our mission

VELCO's mission is to serve as a trusted partner.

Our vision

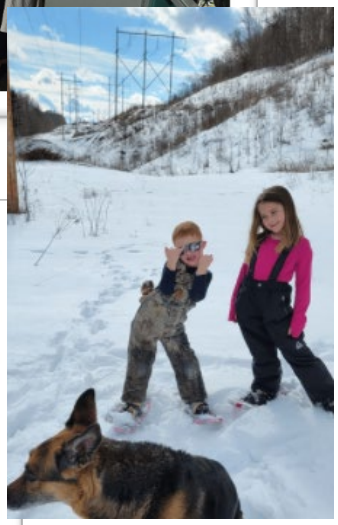
VELCO's vision is to create a sustainable Vermont through our people, assets, relationships and operating model.

Our values

VELCO values people, safety, sustainability, creativity and great work.

To live our values we...

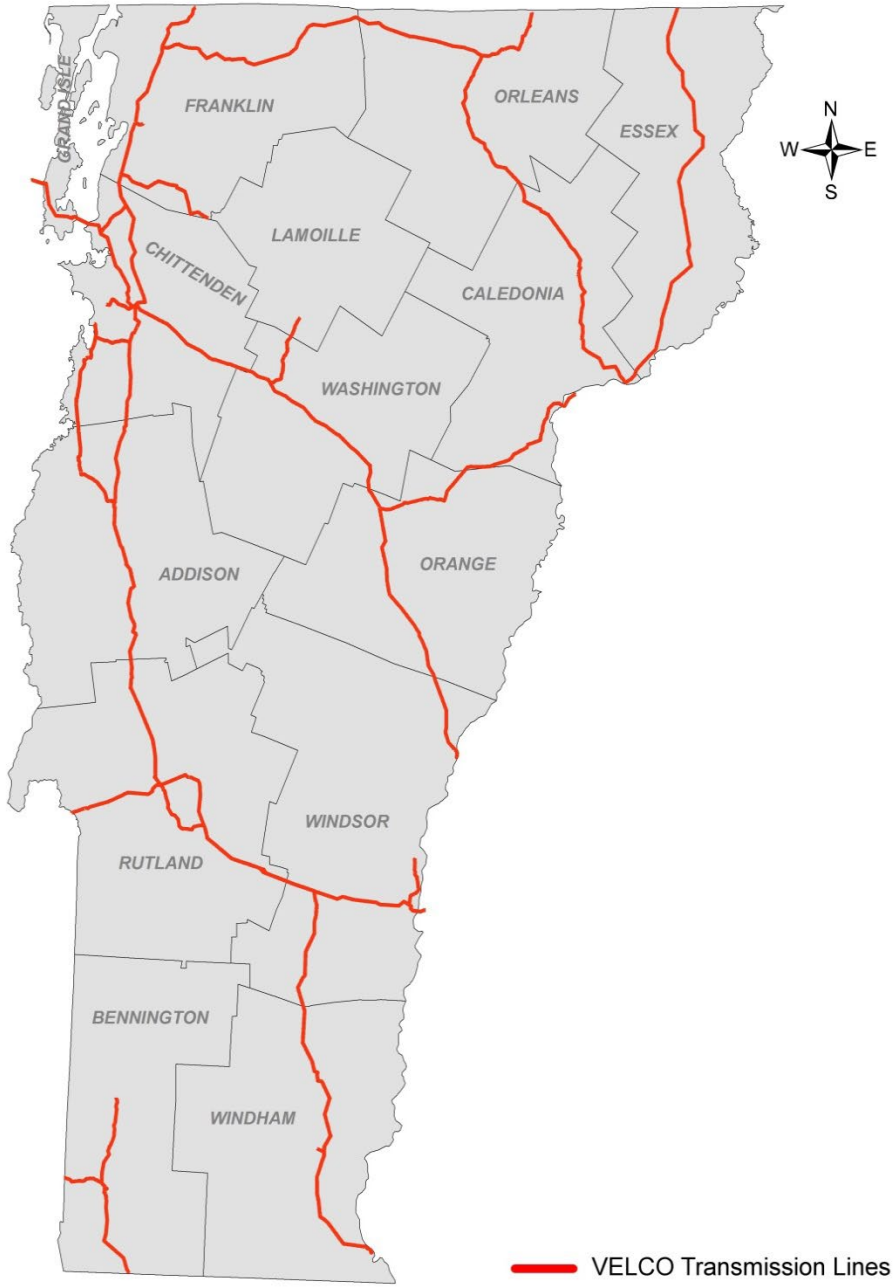
- **T**reat everyone with respect.
- **R**espond with urgency and care.
- **U**nconditionally support and empower one another.
- **S**hare information.
- **T**hink outside the box.



VELCO background

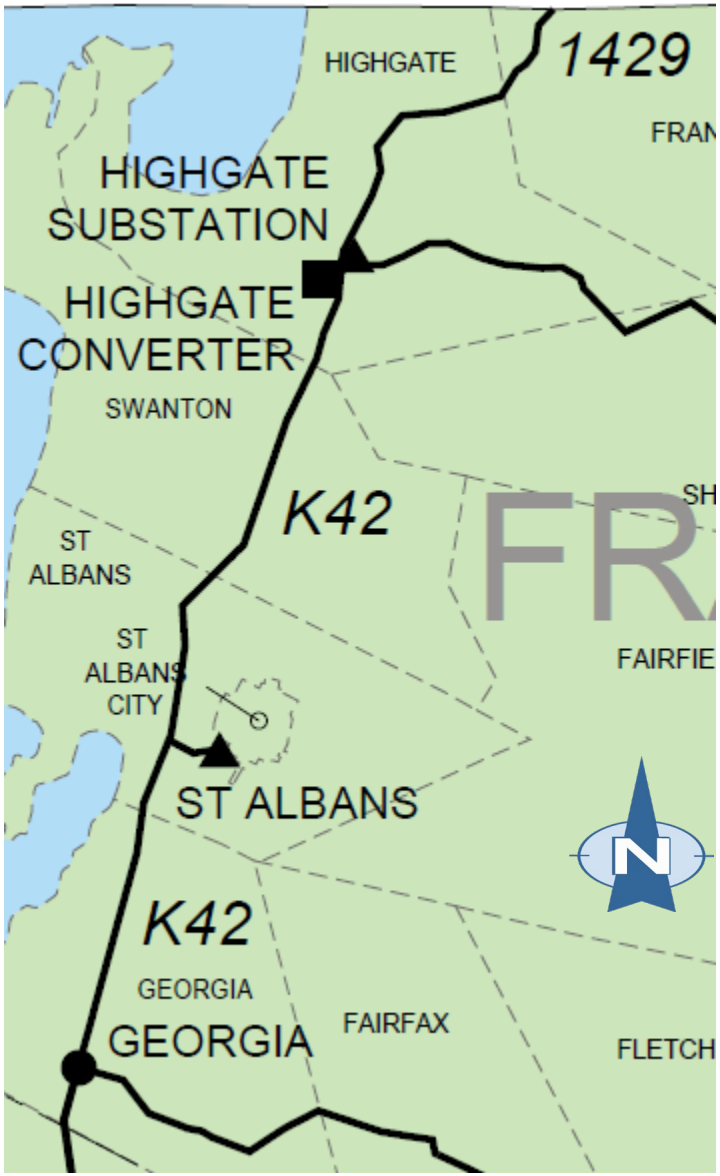
- Formed in 1956 as nation's first statewide, "transmission-only" company
- Owned by 17 local electric utilities and a public benefits corporation (VLITE)
- For–profit company with cooperative revenue structure
- Operates in NE's only vertically integrated state

- Managed assets include $1.2 billion electric transmission grid consisting of:
  - 738 miles of transmission lines
  - 1600 miles of fiber optic communication network
  - Statewide Radio System
  - 13,000 acres of rights-of-way
  - 55 substations, switching stations, and terminal facilities



Existing K42 line overview

- 1958 transmission line from Georgia to Highgate (16.6 miles)
- Majority of 212 structures are original and need to be rebuilt for maintenance
- 115 kV wooden H-frame line from Highgate to Highgate Converter Tap to St Albans Tap to Georgia
- Main transmission path for energy from Quebec and instate wind generation toward load center (Burlington)

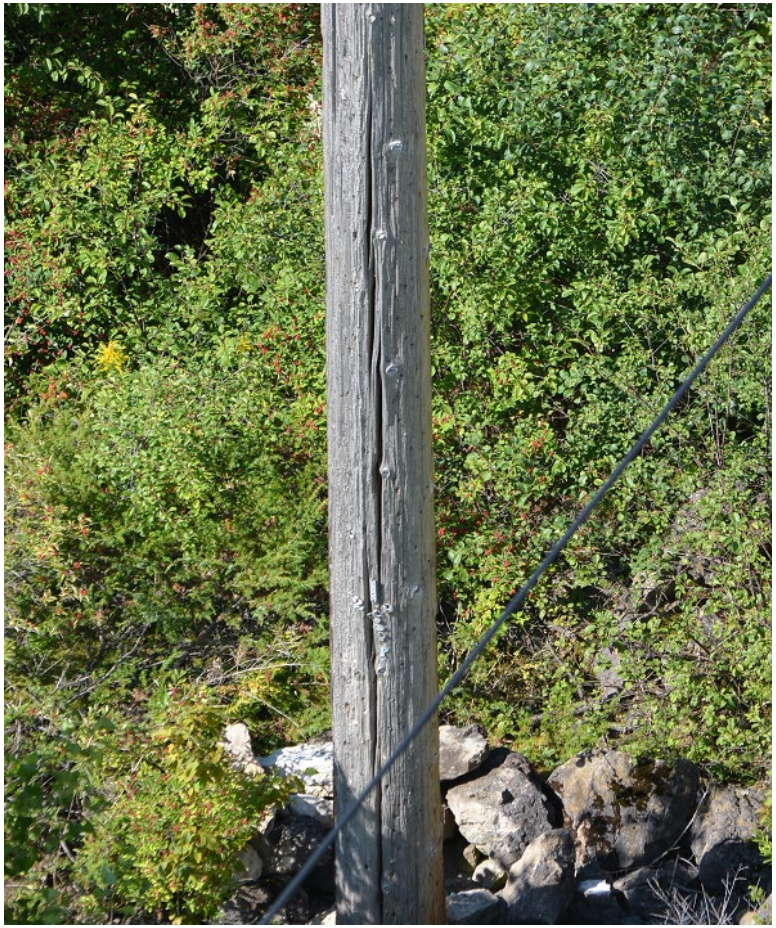


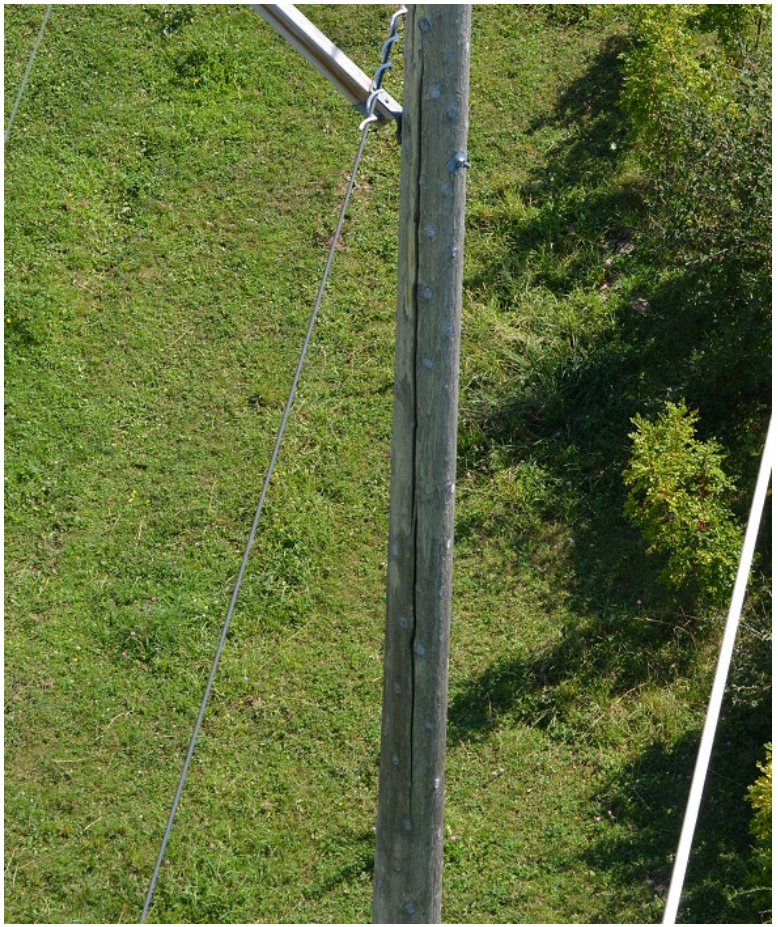
Project ensures system reliability

- Majority (146) of the 212 structures require replacement based on damaged condition/age
- Not safe to assume they will last until next 8 year inspection
- Especially important as this line is one of 5 vital transmission feeds into NW Vermont

Examples of rotted pole tops

Examples of poles splitting



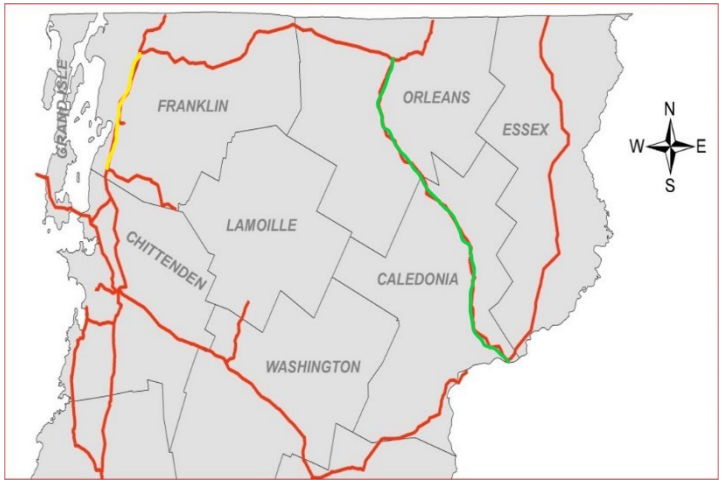


Examples of woodpecker damage

K42 line very difficult to take out of service to replace these structures

- System and load/generation balance are problematic
  - Outages result in radial supply almost 100 miles long
    - Loss of Northern Loop load post-fault (15% of VT peak, nearly all of Vermont Electric Coop's service territory)
  - Portions of structure work disconnect St. Albans Tap
    - Exposure to low voltage post-fault
  - Several resources switched off during outages
    - Highgate converter – Feed from Quebec that's almost always on
    - Wind plants – High generation except in the summer
  - Outages can potentially restrict planned transmission maintenance in Vermont, Southern NH, and Central MA

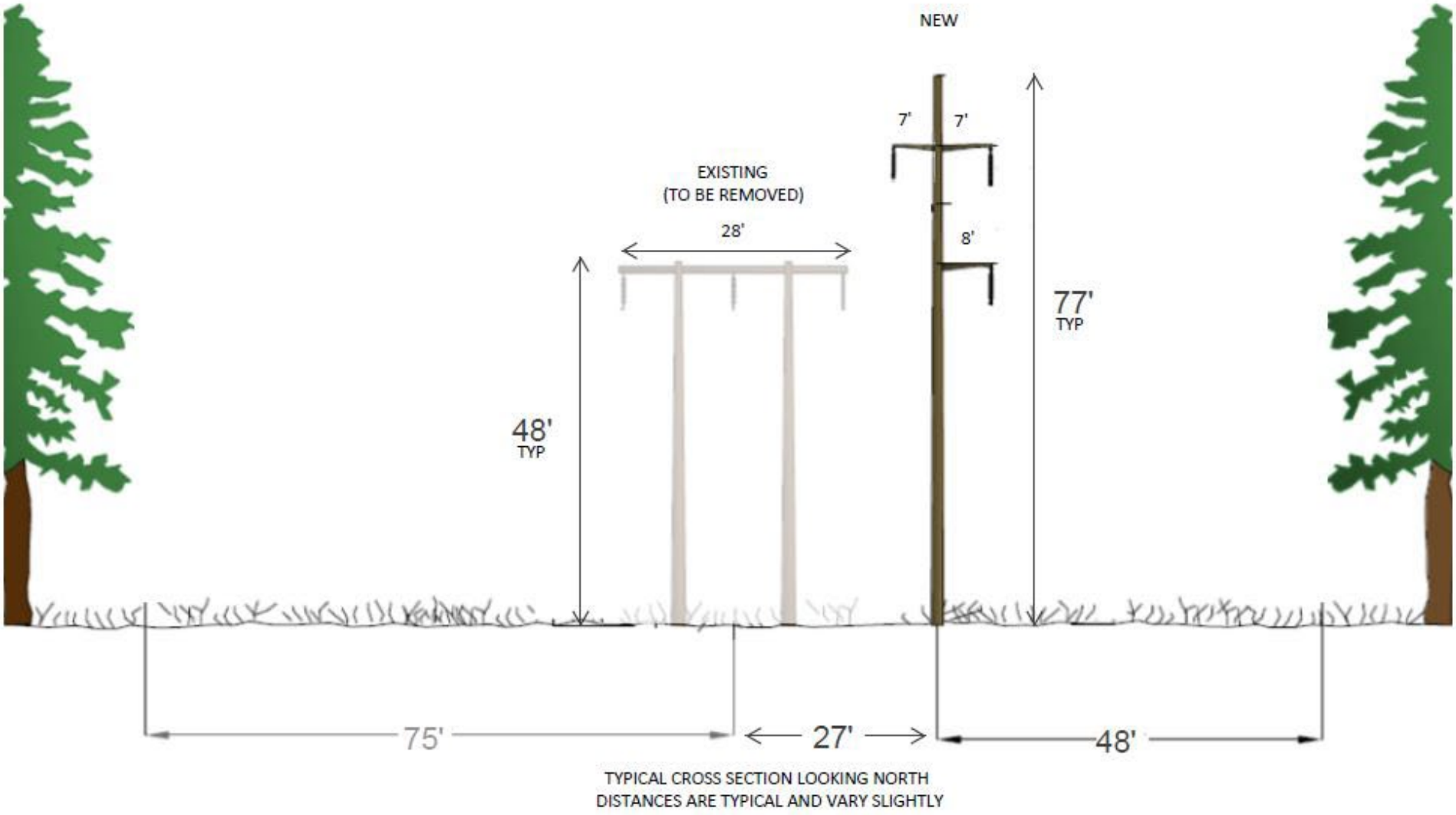
- Need to rebuild structures while minimizing outages



Proposed solution:
Rebuild K42 as single-pole line

- Maintains the existing line in service during construction
  - Avoids approximately 30 daily outages and their consequences
- Steel structures lower ongoing maintenance costs and future replacements
- Meets current VELCO line design standard; improved reliability
- Creates space in key ROW for a future line if needed by region
- Double conductor provides savings & added value

Conceptual Line Design



TYPICAL CROSS SECTION LOOKING NORTH
DISTANCES ARE TYPICAL AND VARY SLIGHTLY

Project cost/value summary

- Current estimate is $64.6M (30%-70% definition)
- Addresses asset condition need with minimal system outages/risks
- New single-pole line
  - Reduces outages and associated generation lost revenue and reliability/maintenance impacts
  - More efficient construction (linear instead of piecemeal replacement)
  - Increased property tax contributions to towns
- Bundled/extra conductor
  - Reduces energy line losses by 50%
  - Improves transmission system strength and resiliency
  - Reduces generation lost revenue that increases retail costs
  - Facilitates renewable energy growth by about 20 MW

Project activities/timeline

- Drafted preliminary line design (May - July 2022)
  - Increased fiber optic capacity
  - Field review of design and access routes (August 2022)
- Environmental and aesthetic assessments (May – October 2022)
  - Natural resources (streams, wetlands, RTE, crops)
  - Archeological surveys
- Public outreach/ stakeholder engagement (April 2022 – 2023)
  - To explain project and collect feedback
  - Individual neighboring landowner meetings; easement clarifications for some trees outside of ROW
  - Public, Select Boards, Planning Commissions meetings
- Soil borings & underground surveys (April & May 2023)
- Permitting process (2023)
- Construction and removal of old line (2024-2025)
- Right of way/aesthetic restoration (2026)

FCLU project environmental overview:

2022 Field Season:

- Initial regulatory agency outreach (VTDEC, VAAFM, USACE)
- Conducted Natural and Cultural Resource Surveys to identify sensitive resource areas, which informed preliminary Project planning & design
- Field reconnaissance “walkdown” to review access limitations and crane pad siting considerations

Currently working with neighboring landowners, consultants, and engineering and construction staff, on impact avoidance and minimization measures.

Next steps:

- Follow-up consultations with regulatory agency staff on findings and anticipated State and Federal Project permits (2022-2023):
  - Construction Stormwater (INDC), VT State Wetlands, Stream Alt., FHARC, CWA Section 404, Section 10, and protection plans.
- Permit application preparation, public comment period and issuance (2023-2024)

Vegetation management

- Regular maintenance every four years as per plan
  - 2023 selective vegetation removal/cutting and herbicide spraying, allowing compatible species to remains

- Project mowing/clearing:
  - Remove nearly all vegetation from within existing 150’ easement to allow for construction equipment access
  - Compatible, low-growing vegetation will be allowed to regenerate post-construction

- Danger tree identification:
  - VELCO foresters performed a danger tree assessment utilizing LiDAR data, the draft line design, and a criteria based assessment in the field
  - Trees have been identified/marked for potential removal

Danger trees

- A tree that has the potential to cause a fault or damage to the transmission line in the event of a tree failure. Not all danger trees that have the potential to hit the line are removed. Danger trees are reviewed prior to project construction and after identified as part of routine surveys.

ROW access/site preparation & line construction

~130 landowners and direct abutters along the Right Of Way (ROW)

Project sequence:

1. Access and site preparation
   - Vegetation removal
   - Equipment access to the ROW and within the ROW by improving existing routes or creating routes (overland travel vs. stone road vs. matting)
   - Creating level working areas around the existing poles and new pole locations
   - Dig or drill holes for new poles

2. Line Construction
   - Install new poles
   - Pull in new conductor and fiber optic cables

3. Removal of retired conductor and H-frame poles

4. Restoration

Public outreach & staying connected

- Ongoing stakeholder communication
  - Second round of Community meetings planned for Summer 2023
  - 45 Day Advanced Notice of Filing
  - Selectboard & Planning Commission, Regional Planning Commission meetings
  - Landowner mailings
  - Scheduled landowner site visits
  - Project website (updates, comment form)
  - Sign up for project newsletter updates

- Updates and copies of presentation materials will be posted to www.velco.com/fclu

- Project contacts
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