

Dominion Supplemental Projects

Transmission Expansion Advisory
Committee
July 7, 2026

Needs

Dominion Transmission Zone: Supplemental Operational Flexibility and Efficiency

Need Number: DOM-2026-0026

Process Stage: TEAC Meeting 07/07/2026

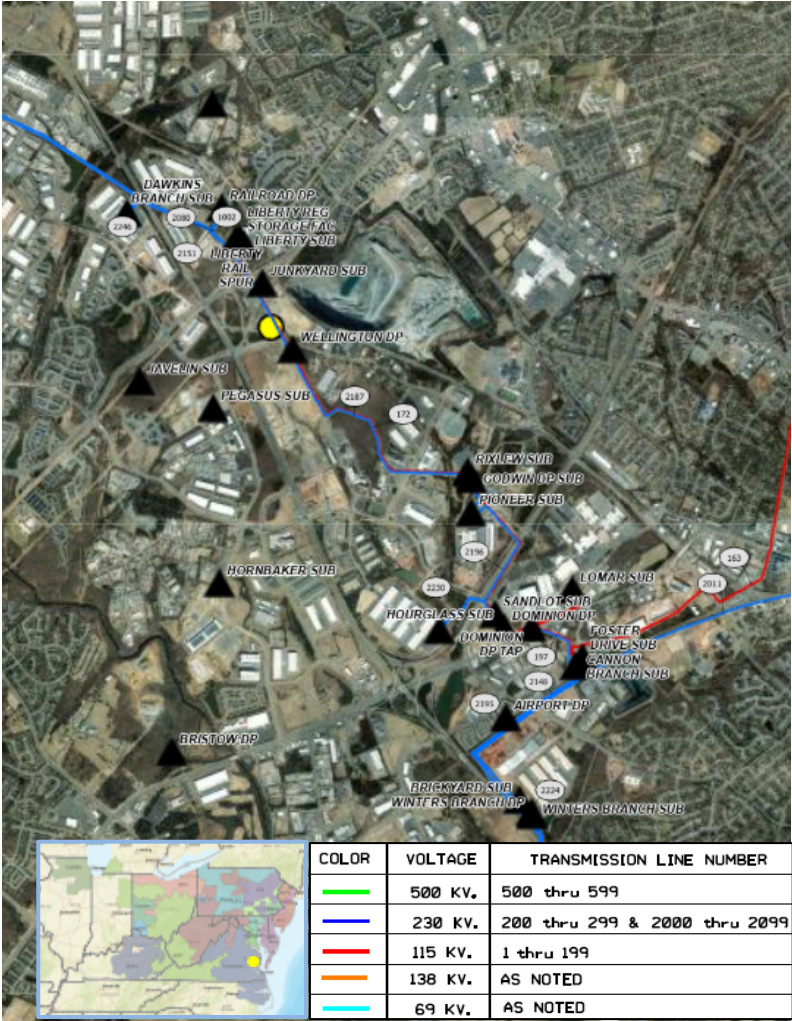
Project Driver: Operational Flexibility and Efficiency

Specific Assumption References:

See details on Operational Flexibility and Efficiency in Dominion’s Planning Assumptions presented in December 2025.

Problem Statement:

Dominion Energy SOC is experiencing real time contingency low voltage conditions within the Prince William County (PWC) load pocket during planned and unplanned outages on any one of the five transmission lines serving the area. The temporary mobile capacitor bank at Cannon Branch has been critical for maintaining voltage stability and remains in continuous operation during the 2011-line reconductor project (s2321.4). The region currently lacks sufficient reactive power reserves, and operational flexibility is severely constrained during outage windows, particularly in shoulder months and peak load periods. Furthermore, the PWC load pocket is projected to experience continued load growth, driven largely by datacenter expansion, without the addition of permanent reactive components, exacerbating reliability concerns.



Solutions

Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2022-0062-DNH

Process Stage: Do No Harm Solution Meeting 07/07/2026

Previously Presented: Solution Meeting 10/08/2025

Project Driver: Do No Harm Analysis - Tropical

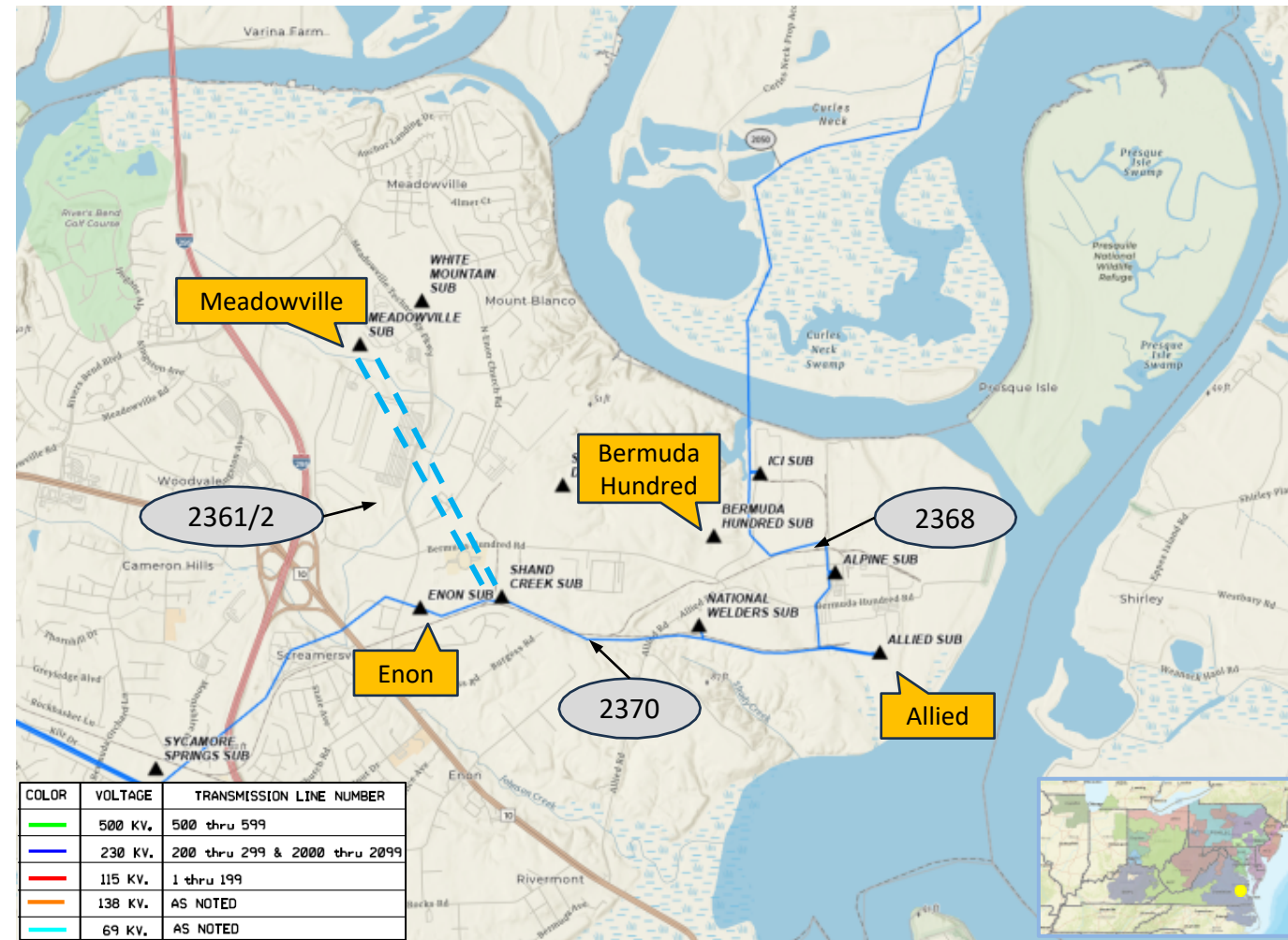
Specific Assumption References:

Customer load request will be evaluated per Dominion's Facility Interconnection Requirements Document and Dominion's Transmission Planning Criteria.

Problem Statement:

PJM has identified several violations with the addition of Tropical substation (DOM-2022-0062). Violations identified:

- Thermal violations on Line #2368: Bermuda Hundred-Allied and #2370: Allied-Shand Creek. Both violations occur under N-1 study for Tower Contingency



Need Number: DOM-2022-0062-DNH

Process Stage: Solution Meeting 07/07/2026

Project Driver: Do No Harm Analysis - Tropical

Dominion Transmission Zone: Supplemental Do No Harm Analysis

Proposed Solution:

- Rebuild 230 kV Line #2368 (Bermuda Hundred - Allied) to current 230 kV standards to achieve a minimum normal summer rating of 1573 MVA. Upgrade substation equipment to 4000 A.
- Rebuild 230 kV Line #2370 (Allied – Shand Creek) to current 230 kV standards to achieve a minimum normal summer rating of 1573 MVA. Upgrade substation equipment to 4000 A.

Estimated Project Cost:

Line #2368 (Allied – Bermuda Hundred) Rebuild: \$5.4M

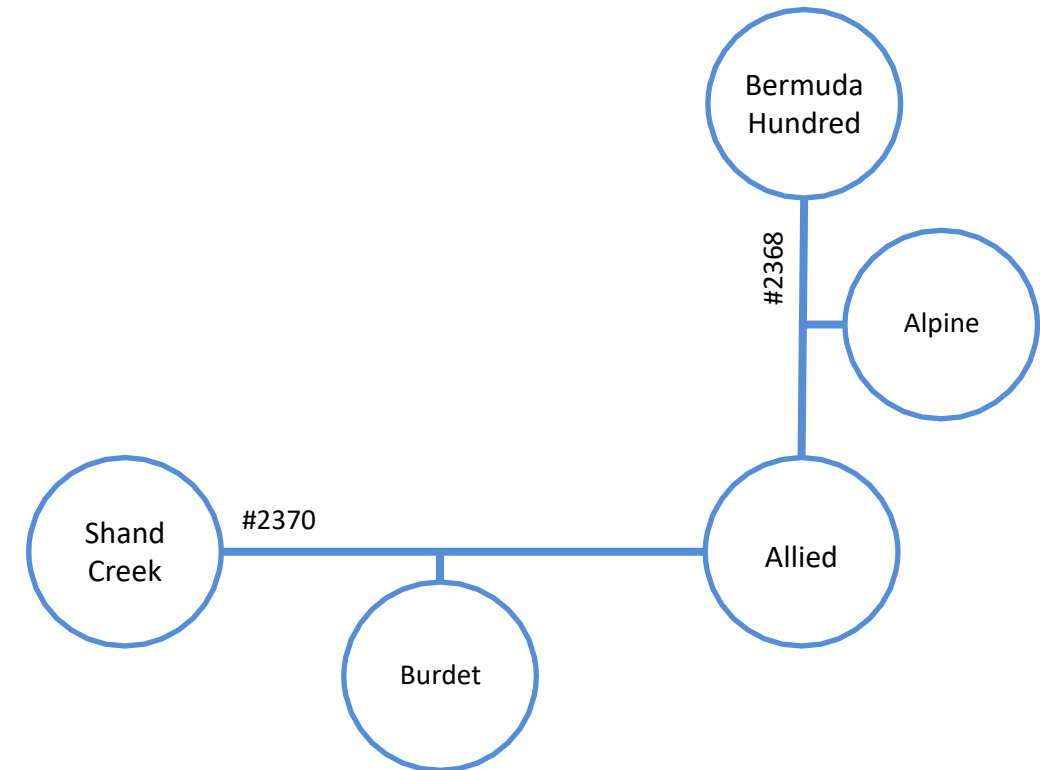
Line #2370 (Allied – Shand Creek) Rebuild: \$7M

Alternatives Considered: None – Existing Equipment

Projected In-service Date: Q4 2031

Project Status: Conceptual

Model: 2024 Series RTEP 2029



Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2023-0023 - DNH

Process Stage: Do No Harm Solution Meeting 07/07/2026

Previously Presented: Solution Meeting 09/09/2025

Project Driver: Do No Harm Analysis – Orrock (fka Matta)

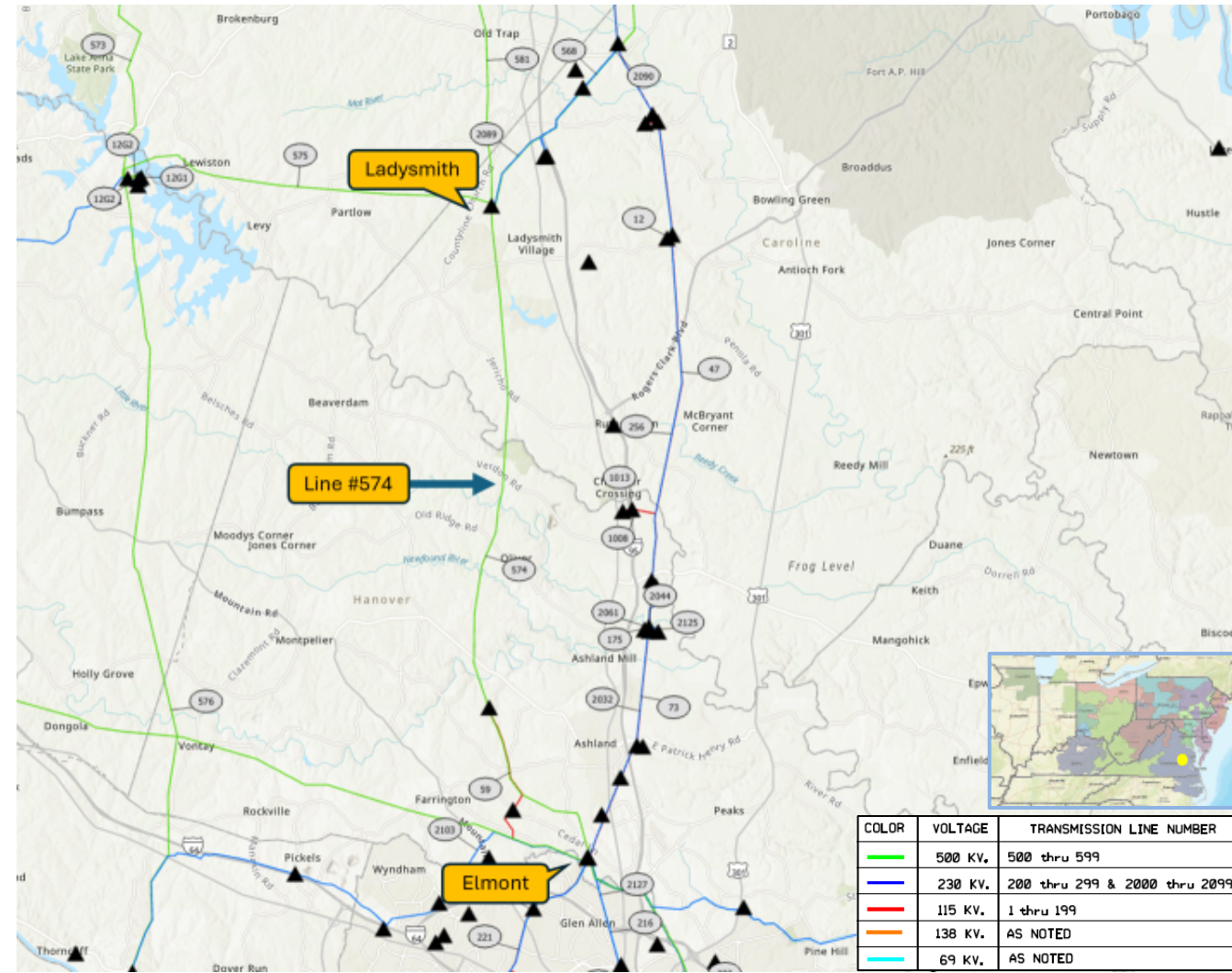
Specific Assumption References:

Customer load request will be evaluated per Dominion's Facility Interconnection Requirements Document and Dominion's Transmission Planning Criteria.

Problem Statement:

PJM has identified a thermal violation on Elmont 500/230 kV TX #2 under N-1 and Generation Deliverability study. The contingency overloading the transformer is for a breaker failure of a 500 kV breaker.

The violations are caused by previously presented supplemental project DOM-2023-0023 in the Dominion Zone.



Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2023-0023 - DNH

Process Stage: Solution Meeting 07/07/2026

Project Driver: Do No Harm – Orrock (fka Matta)

Proposed Solution: Replace Elmont 500/230 kV TX #2 with new 1440 MVA TX and replace low-side equipment limiting TX rating.

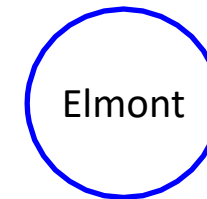
Estimated Project Cost: \$17.5M Substation

Alternatives Considered: None

Projected In-service Date: 12/31/2031

Project Status: Conceptual

Model: 2024 Series RTEP 2029

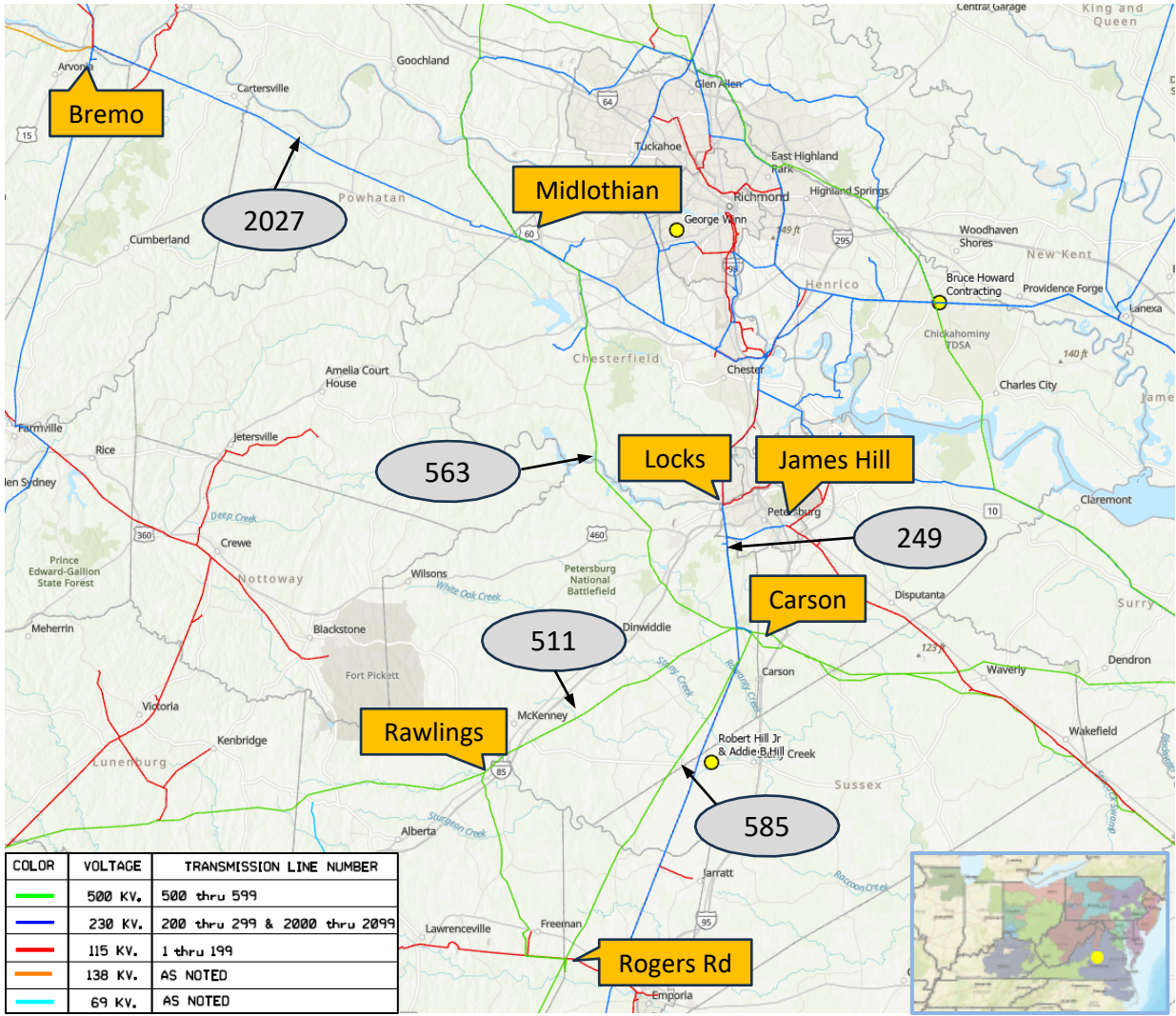


Need Number: DOM-2024-0036-DNH
Process Stage: Do No Harm Solution Meeting 07/07/2026
Previously Presented: Solution Meeting 02/03/2026
Project Driver: Do No Harm Analysis – James Hill

Specific Assumption References:
Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria.

- Problem Statement:**
PJM has identified several violations with the addition of James Hill substation (DOM-2024-0036). Violations identified:
- Thermal violation on Carson TX #2 under N-1-1 SCRD.
 - Thermal violation on Line #2027 (Midlothian – Bremono) under N-1-1 SCRD.
 - Thermal violations on Line #249 (Carson – Locks) under GD and N-1-1 SCRD with multiple contingencies
 - Thermal violation of Carson TX#1 in GD under failed breaker contingency

Dominion Transmission Zone: Supplemental Do No Harm Analysis



Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2024-0036-DNH

Process Stage: Solution Meeting 07/07/2026

Project Driver: Do No Harm Analysis – James Hill

Proposed Solution:

- Replace Carson 500/230 kV TX #2 with new 1440 MVA TX bank (3-480MVA, and a spare) and replace any low-side equipment that limits the TX rating.
- Rebuild 230 kV Line #2027: Midlothian-Bremo to current 230 kV standards to achieve a minimum normal summer rating of 1573 MVA. Upgrade substation equipment to 4000 A. Double-circuit 230 kV structures will be used.
- Network Upgrade n9681.0 will rebuild 1-mile limiting portion of Line #249: Carson-Locks to current 230 kV standards to achieve a normal summer rating of 1573 MVA.
- Network Upgrade n9378.0 will replace Carson TX#1 with new 1440 MVA TX bank.

Estimated Project Cost:

Carson TX#2: \$17.5M Substation

Line #2027 Midlothian-Bremo Rebuild: \$212M (\$210M Transmission, \$2M Substation)

Line #249 Carson-Locks : \$0 (TC1 Network Upgrade n9681.0)

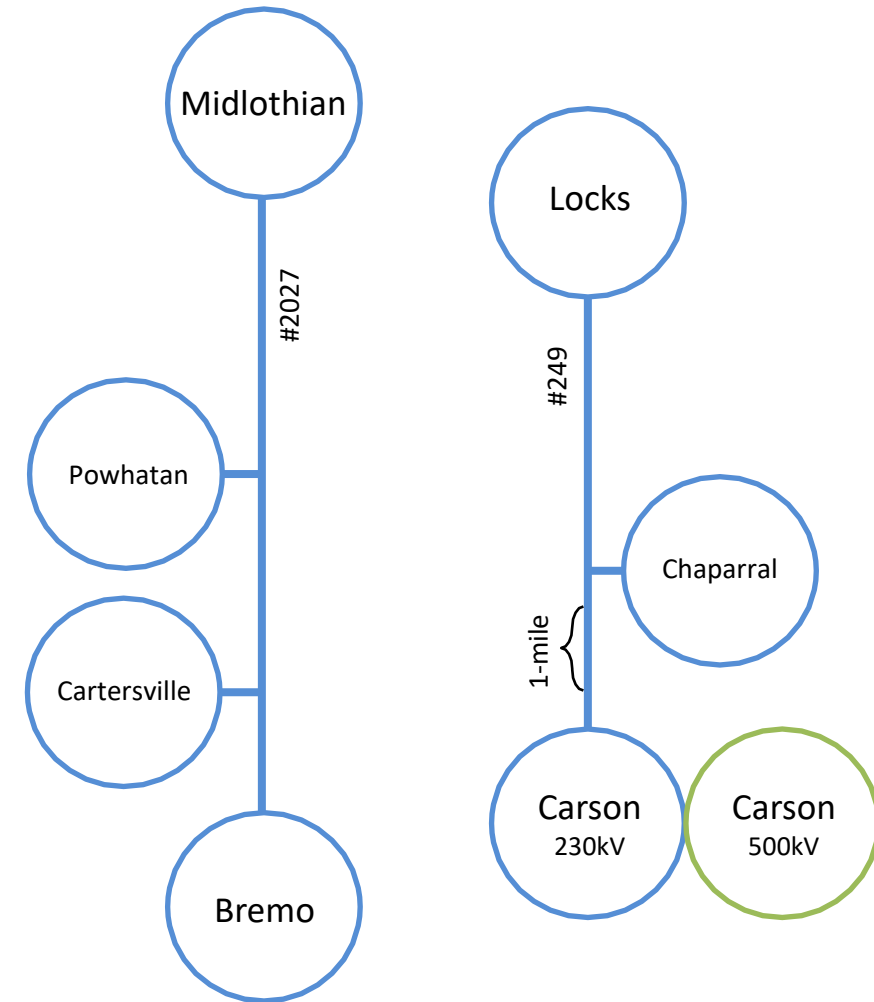
Carson TX#1: \$0 (TC1 Network Upgrade n9378.0)

Alternatives Considered: None – Existing Equipment

Projected In-service Date: Q4 2031

Project Status: Conceptual

Model: 2024 Series RTEP 2029



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2025-0030

Process Stage: Solution Meeting 07/07/2026

Previously Presented: Need Meeting 01/06/2026

Project Driver: Customer Service

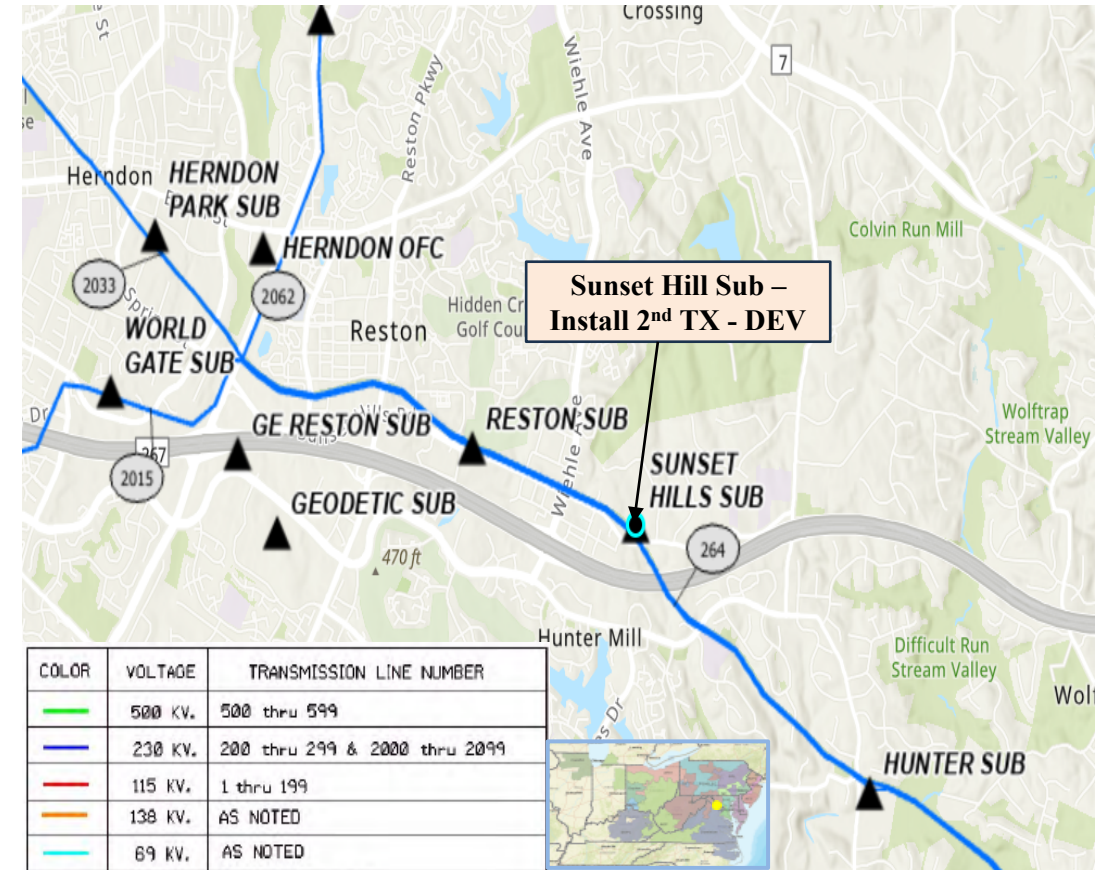
Specific Assumption References:

Customer load request will be evaluated per Dominion's Facility Interconnection Requirements Document and Dominion's Transmission Planning Criteria.

Problem Statement:

DEV Distribution has submitted a DP Request to install a second transformer (TX#2) at Sunset Hill Substation in Herndon, VA. This upgrade is required to address non-data center load growth that is expected to exceed the capacity of the existing transformer. The substation has a total expected load of 100 MW.

Expected in-service date is December 31, 2028.



Dominion Transmission Zone: Supplemental Sunset Hill 230 kV Delivery – Install 2nd TX - DEV

Need Number: DOM-2025-0030

Process Stage: Solution Meeting 07/07/2026

Project Driver: Customer Service

Proposed Solution:

Install one (1) 1200 Amp, 63kAIC circuit switcher and associated equipment to facilitate installation of a second 84 MVA, 230/34.5 kV transformer.

Estimated Project Cost: \$1.6M

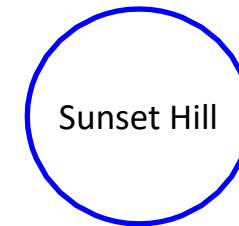
Alternatives Considered:

No feasible alternatives.

Projected In-Service Date: 12/31/2028

Project Status: Engineering

Model: 2024 Series RTEP 2029



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2025-0031

Process Stage: Solution Meeting 07/07/2026

Previously Process Stage: Need Meeting 01/06/2026

Project Driver: Customer Service

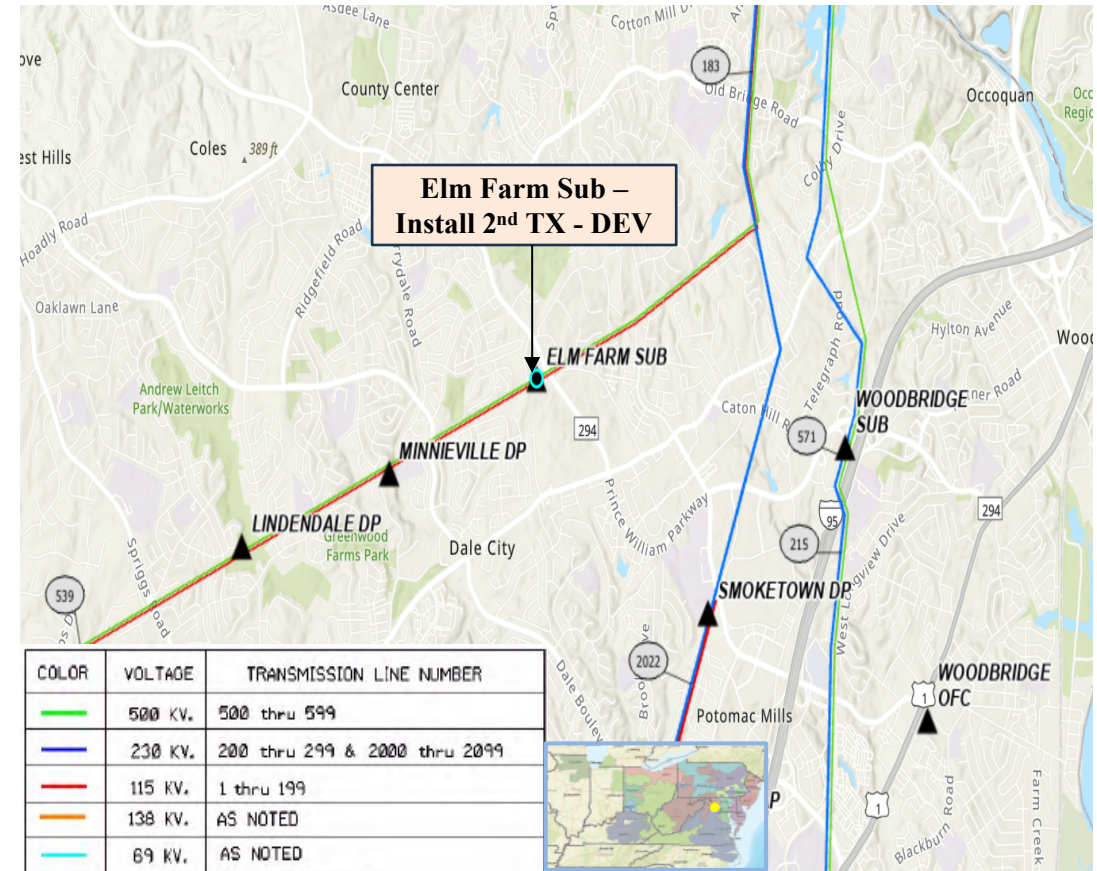
Specific Assumption References:

Customer load request will be evaluated per Dominion's Facility Interconnection Requirements Document and Dominion's Transmission Planning Criteria.

Problem Statement:

DEV Distribution has submitted a DP Request to install a second transformer (TX#2) at Elm Farm Substation in Prince William County, VA. This upgrade is required to address non-data center load growth that is expected to exceed the capacity of the existing transformer. The substation has a total expected load of 69 MW.

Expected in-service date is December 31, 2027.



Dominion Transmission Zone: Supplemental Elm Farm 230 kV Delivery – Install 2nd TX - DEV

Need Number: DOM-2025-0031

Process Stage: Solution Meeting 07/07/2026

Project Driver: Customer Service

Proposed Solution:

Install one (1) 1200 Amp, 25kAIC circuit switcher and associated equipment to facilitate installation of a second 56 MVA, 115/34.5 kV transformer.

Estimated Project Cost: \$1.3M

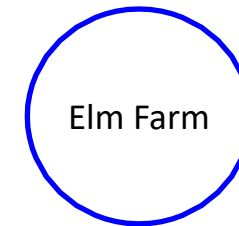
Alternatives Considered:

No feasible alternatives.

Projected In-Service Date: 12/31/2027

Project Status: Engineering

Model: 2024 Series RTEP 2029



Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2019-0021, DOM-2024-0022, DOM-2024-0023, DOM-2024-0024 - DNH

Process Stage: Solution Meeting 12/03/2024; Update 1/6/2026; **Update 7/7/2026**

Previously Presented:

Solution Meeting 6/30/2024: DOM-2019-0021 & DOM-2024-0022

Solution Meeting 12/03/2024: DOM-2024-0023 & DOM-2024-0024

Project Driver: Do No Harm Analysis – Meadowville Load Area

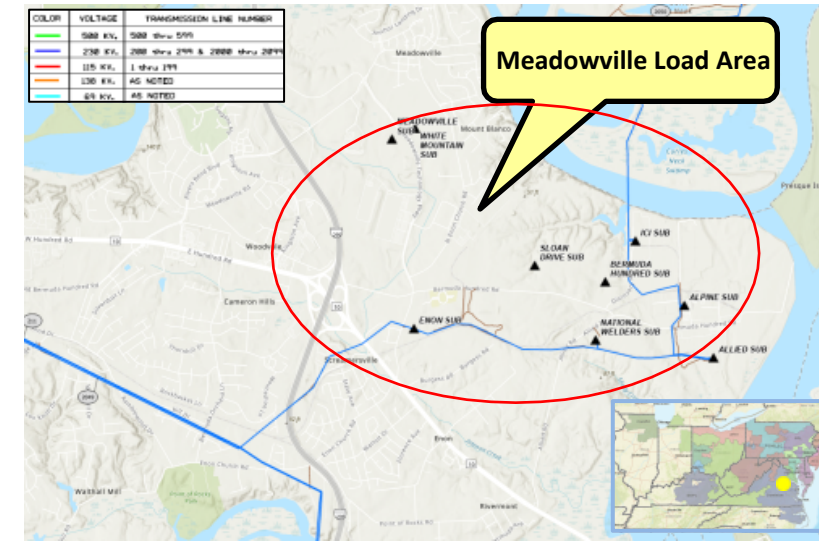
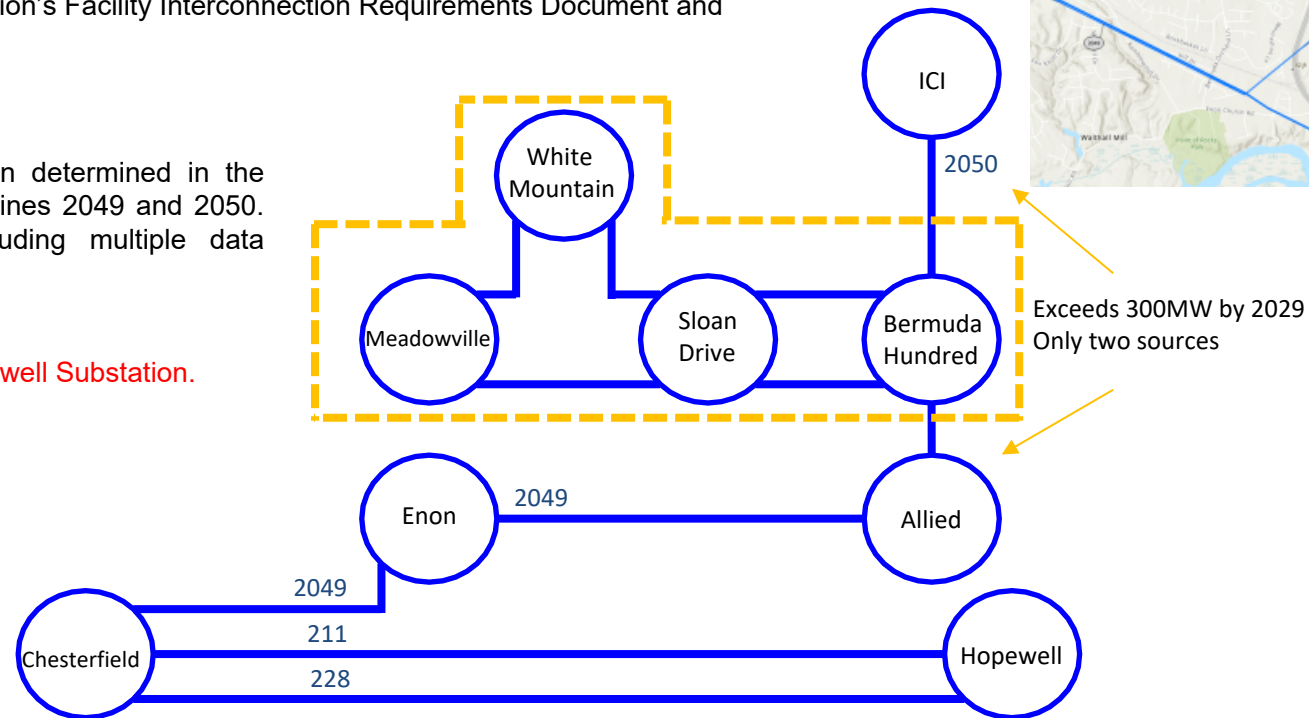
Specific Assumption References:

Customer load request will be evaluated per Dominion's Facility Interconnection Requirements Document and Dominion's Transmission Planning Criteria.

Problem Statement:

A 300MW N-1-1 contingency violation has been determined in the Meadowville general load area with the loss of Lines 2049 and 2050. This violation affects multiple customers including multiple data centers, industrial, and residential load.

PJM identified over duty breakers at existing Hopewell Substation.



Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: (DOM-2019-0021, DOM-2024-0022, DOM-2024-0023,DOM-2024-0024 - DNH)

Process Stage: Solution Meeting 12/03/2024; Update 1/6/2026; **Update 7/7/2026**

Project Driver: Do No Harm – Meadowville

Proposed Solution:

- Connect future Meadowville substation to a new switching station (Shand Creek) by constructing approximately two miles of double circuit 230kV lines.
- Enon substation was not able to be expanded, so Shand Creek substation will be built 0.5 miles down the ROW on county owned EDA land.
- Construct new Sycamore Springs switching station in existing transmission corridor. Loop existing 230kV Lines 211, 228, and 2049 in and out of Sycamore Springs.
- Wreck and rebuild approximately two miles of existing 230kV Line 2049 between Sycamore Springs and Shand Creek substation with double circuit structures. Install second 230kV conductor on new structures to create a third source to the Meadowville area.
- Upgrade 230kV breakers 212432, 219732, 204632, 204132, 26832, and 2046T2197 at Hopewell Substation from 40kA to 63kA.

Estimated Project Cost: \$95.1M ~~101.7M~~

Substation: \$40.0M

Transmission Lines: \$55.1M

Hopewell Substation Breaker Upgrade: \$6.6M

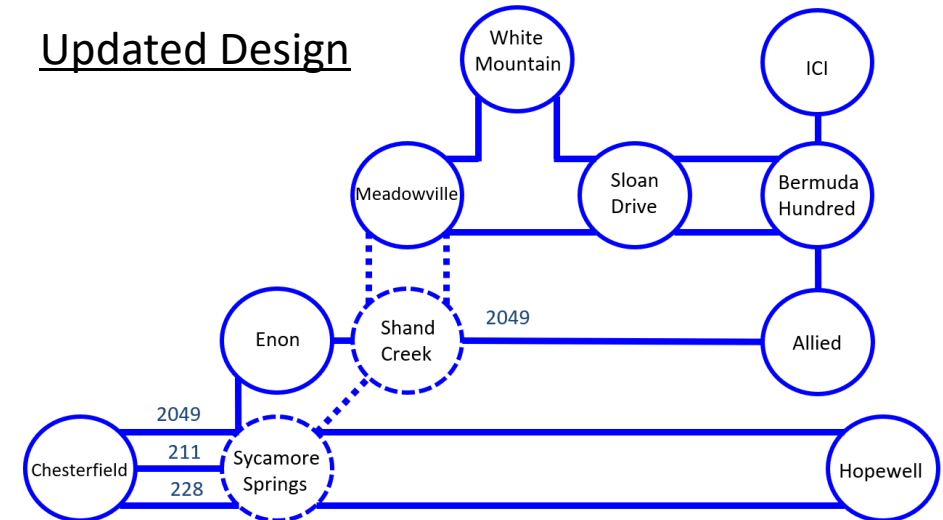
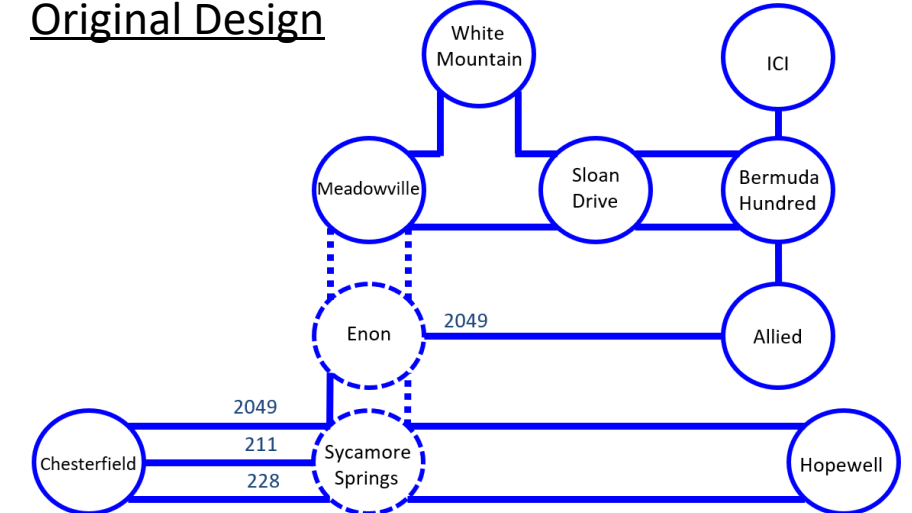
Alternatives Considered:

Wreck and rebuild existing Line 2050 from future Bermuda Hundred substation to existing Chickahominy substation (approximately 14 miles). This option would be more expensive as it is ~12 miles longer. As well, the environmental impact would be greater due to the additional mileage and right-of-way needed to expand from a single circuit to double circuit. This option also crosses the James River.

Projected In-service Date: Q4 2030

Project Status: Conceptual

Model: 2029 RTEP



Appendix

High level M-3 Meeting Schedule

Assumptions

Activity	Timing
Posting of TO Assumptions Meeting information	20 days before Assumptions Meeting
Stakeholder comments	10 days after Assumptions Meeting

Needs

Activity	Timing
TOs and Stakeholders Post Needs Meeting slides	10 days before Needs Meeting
Stakeholder comments	10 days after Needs Meeting

Solutions

Activity	Timing
TOs and Stakeholders Post Solutions Meeting slides	10 days before Solutions Meeting
Stakeholder comments	10 days after Solutions Meeting

Submission of Supplemental Projects & Local Plan

Activity	Timing
Do No Harm (DNH) analysis for selected solution	Prior to posting selected solution
Post selected solution(s)	Following completion of DNH analysis
Stakeholder comments	10 days prior to Local Plan Submission for integration into RTEP
Local Plan submitted to PJM for integration into RTEP	Following review and consideration of comments received after posting of selected solutions

Revision History

06/26/2026 – V1 – Original version posted to pjm.com.

07/13/2026 – V2 – CEII edits posted to pjm.com