

Sub Regional RTEP Committee: Western Dayton Supplemental Projects

November 18, 2022

Changes to the Existing Projects

S2585 (.1-10) is posted in 2022 Dayton local plan to address Dayton supplemental Needs: Dayton-2020-011, Dayton-2021-001, Dayton-2021-008

Current scope :

Part #1: Project Description:

➤ **New Westville Substation Replacement:**

- Establish a new 138kV three breaker ring bus substation that will tie into AEP's Hodgin, connect back to AES Ohio's West Manchester Substation, and serve AES Ohio distribution in the New Westville area. Once the new substation is online, the existing New Westville 33kV Substation will be retired. This will help improve reliability to customers served via New Westville and eliminate vintage 33kV system. The new substation will upgrade the obsolete and non-standard equipment at New Westville
- **Estimated Cost: \$6.0M, In-service Date: 12/31/2025 (s2585.1)**

➤ **New Westville – AEP Hodgin 138kV Line:**

- Construct a 138kV 1.86-mile single circuit transmission line. This transmission line will help loop the radial load served at New Westville as part of the overall effort to improve reliability in this area. Also, it provides a source to feed New Westville load while a 138kV tie built back into the AES Ohio system.
- **Estimated Cost: \$3.7M , In-service Date: 12/31/2025 (s2585.2)**

➤ **New Westville – West Manchester 138kV Line:**

- Construct a new approximate 11-mile single circuit 138kV line from New Westville to the Lewisburg tap off 6656. Convert a portion of 6656 West Manchester – Garage Rd 69kV line between West Manchester - Lewisburg to 138kV operation (circuit is built to 138kV). This will utilize part of the line already built to 138kV and will take place of the 3302 that currently feeds New Westville. The 3302 line will be retired as part of this project.
- **Estimated Cost: \$16.0M, In-service Date: 12/31/2026 (s2585.3)**

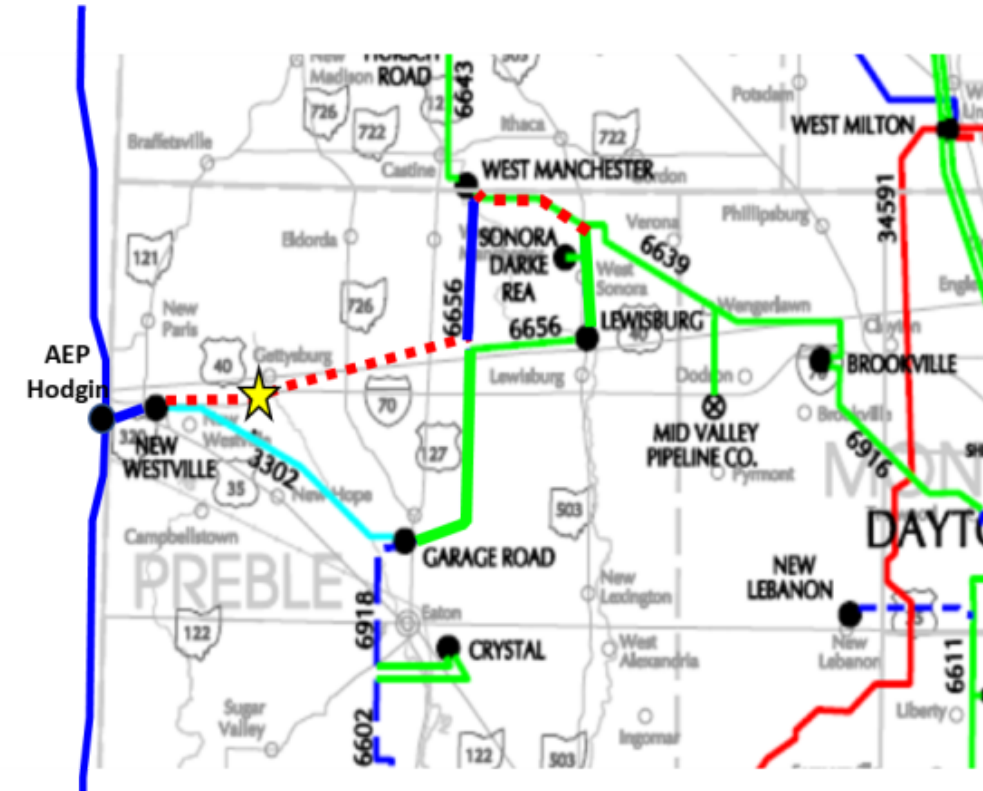
➤ **West Manchester Substation:**

- The West Manchester Substation will be expanded to a double bus double breaker design where AES Ohio will install one 138kV circuit breaker, a 138/69kV transformer, and eight new 69kV circuit breakers. These improvements will help improve a non-standard bus arrangement where there is only one bus tie today and will improve the switching arrangement for the West Sonora Delivery Point.
- **Estimated Cost: \$9.9M , In-service Date: 12/31/2026 (s2585.4)**

➤ **New Orphan Rd POI (Darke REA):**

- Install a new three-way phase over phase MOAB to serve a new 138kV delivery point for the Darke REA Electric Co-operative.
- **Estimated Cost: \$0.5M , In-service Date: 12/31/2026 (s2585.5)**

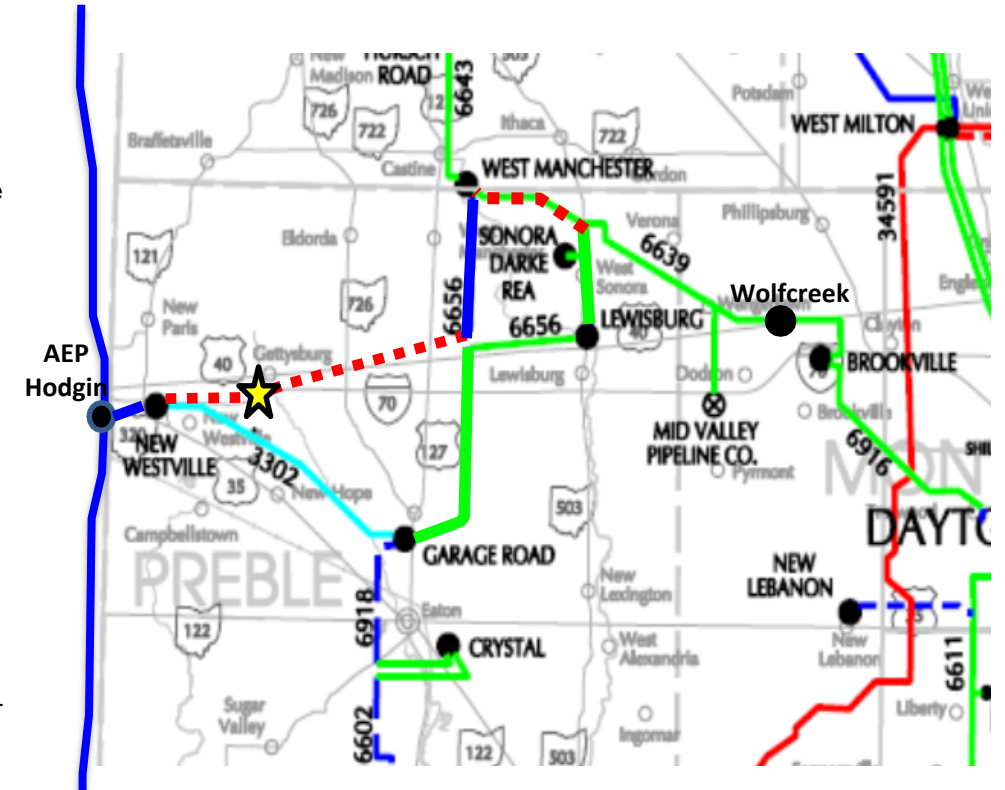
Total Part 1 Cost: \$36.1M



Part #2: Project Description:

- **West Manchester – West Sonora Tap Double Circuit Rebuild**
 - Retire the existing single circuit section of the 6639 line tap to Sonora up to West Manchester and rebuild as a 4-mile double circuit 69kV line. One circuit will connect West Manchester to Lewisburg and the other circuit will connect back to West Manchester to Wolfcreek.
 - **Estimated Cost: \$8.0M, In-service Date: 12/1/2026 (s2585.6)**
- **Lewisburg Substation**
 - The Lewisburg 69kV Substation will be converted to a new four breaker 69kV ring station and will serve the 7MVA additional customer load that is being added in Lewisburg. Also, this conversion will allow AES Ohio to close in the normally open feed at Lewisburg when complete.
 - **Estimated Cost: \$4.5M, In-service Date: 12/1/2025 (s2585.7)**
- **West Sonora (Darke REA)**
 - Install a new three-way phase over phase MOAB to serve the Sonora Darke REA delivery point that is currently served via a one-way switch. Retire the existing switch.
 - **Estimated Cost: \$0.5M, In-service Date: 12/1/2025 (s2585.8)**
- **Mid-Valley Pipeline Tap**
 - Replace the existing two-way switch with a new three-way phase over phase MOAB switch. This will provide greater flexibility to switch during outages on the portion of the tap down to the customer.
 - **Estimated Cost: \$0.5M, In-service Date: 12/1/2026 (s2585.9)**
- **Brookville Substation:**
 - Modify the bus arrangement at Brookville Substation to install two new 69kV line circuit breakers. This will improve reliability at Brookville Substation by removing tapped transformers from the transmission lines.
 - **Estimated Cost: \$2.9M, In-service Date: 12/1/2026 (s2585.10)**

Total Part 2 Cost: \$16.4M



Additional Scope to Previous Solution:

➤ **AEP Hayes Substation & AEP Hayes- New Westville Interconnection**

- Hayes – New Westville 138 kV line: Build ~0.19 miles of 138 kV line to the Indiana/ Ohio State line to connect to AES’s line portion of the Hayes – New Westville 138 kV line with the conductor size 795 ACSR26/7 Drake. The following cost includes the line construction and ROW. **(s2585.11)**
- **Cost: \$0.38 M (AEP)**
- Hayes – Hodgin 138 kV line: Build ~0.05 miles of 138 kV line with the conductor size 795 ACSR26/7 Drake. The following cost includes the line construction, ROW, and fiber. **(s2585.12)**
- **Cost: \$ 1.22 M (AEP)**
- Hayes 138 kV: Build a new 4-138 kV circuit breaker ring bus. The following cost includes the new station construction, property purchase, metering, station fiber and the College Corner –Randolph 138 kV line connection. **(s2585.13)**
- **Cost: \$ 7.44 M (AEP)**

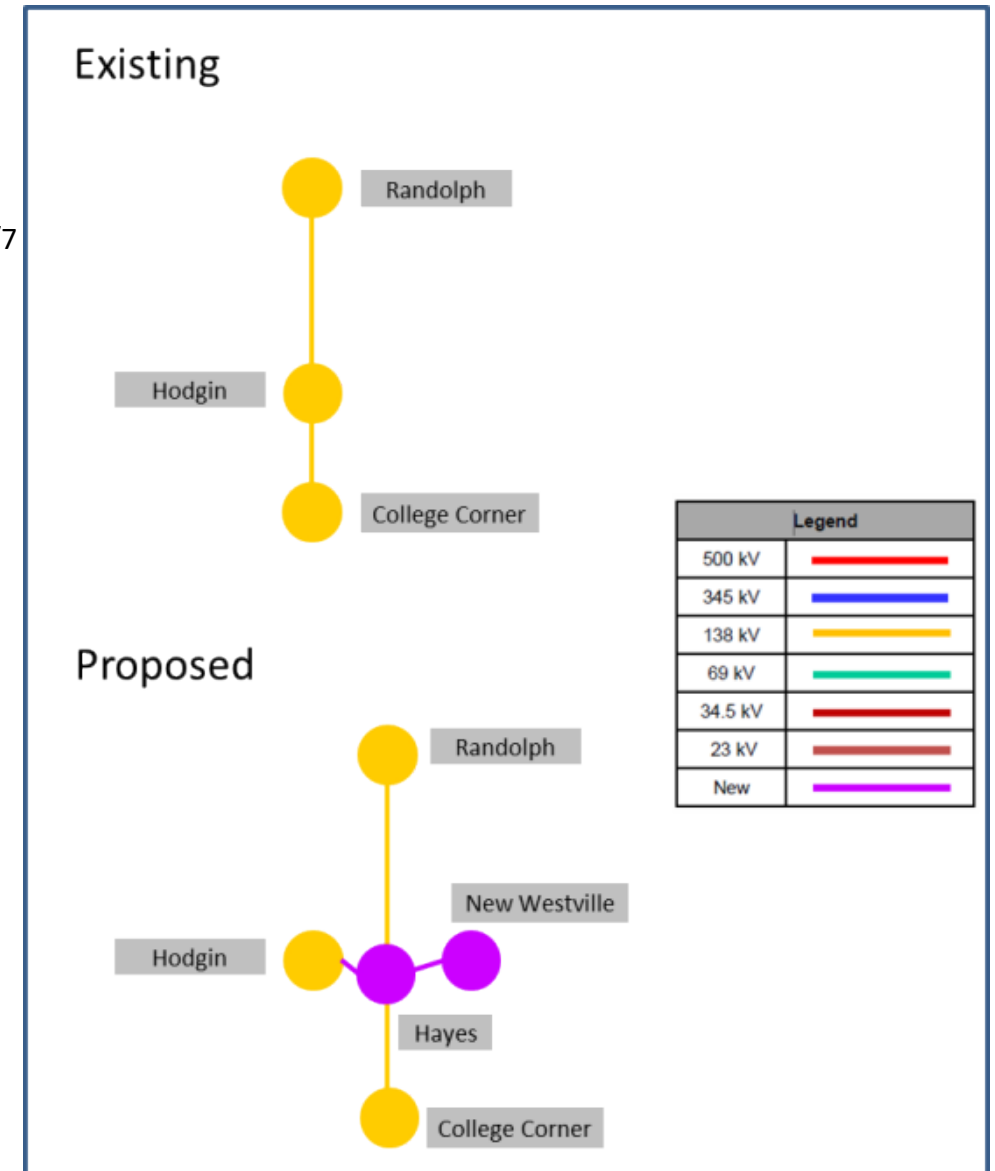
Total Cost: \$9 M (AEP)

Alternative considered:

Connecting to Hodgin station is not an option as it is not owned by AEP.

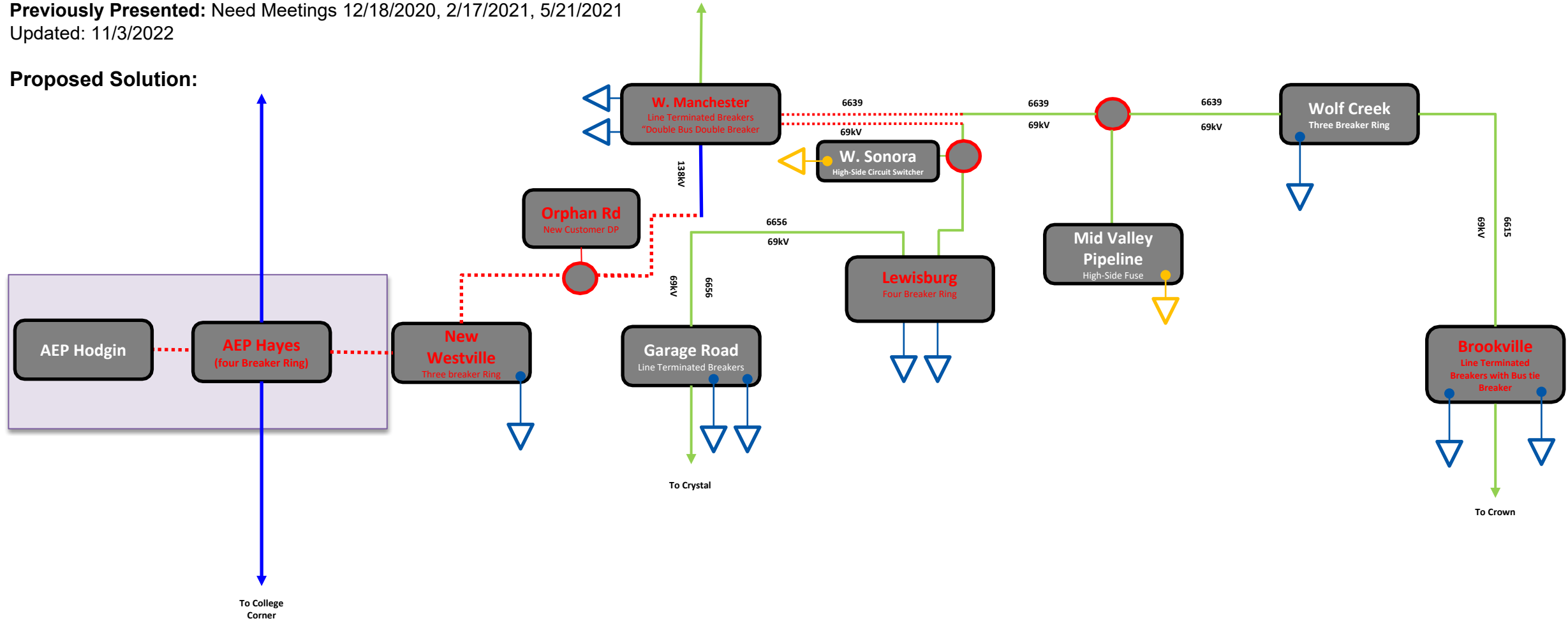
Projected In-Service: 12/31/2025


Project Status: Scoping



Need Number: Dayton-2020-011, Dayton-2021-001, Dayton-2021-008
Process Stage: Solutions Meeting 8/16/2021
Previously Presented: Need Meetings 12/18/2020, 2/17/2021, 5/21/2021
 Updated: 11/3/2022

Proposed Solution:

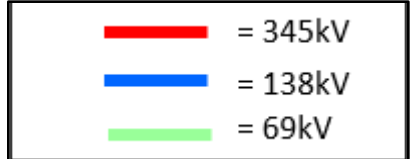
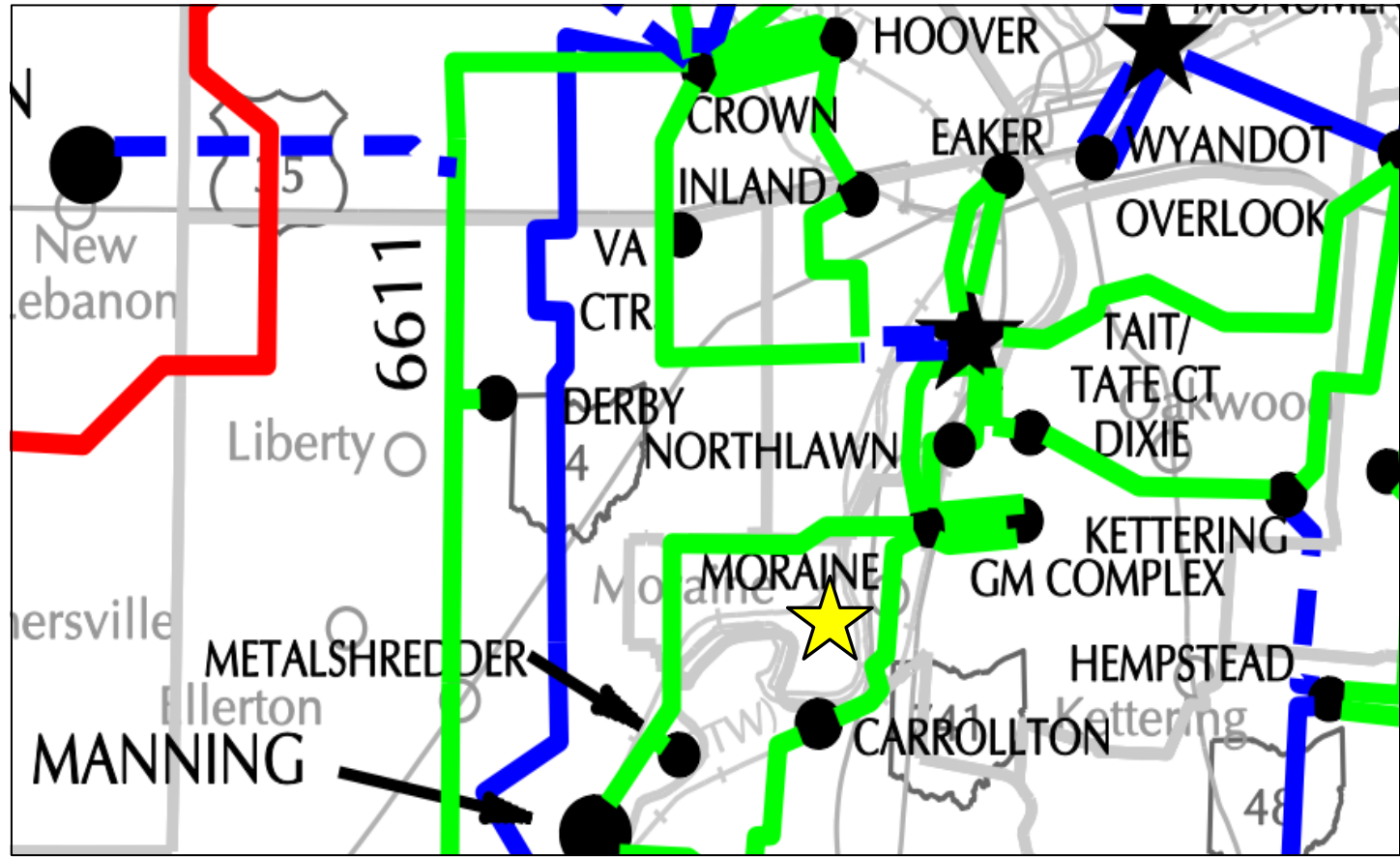


 -Updated 11/18/2022

Solutions

Stakeholders must submit any comments within 10 days of this meeting in order to provide time necessary to consider these comments prior to the next phase of the M-3 process

Need Number: Dayton-2022-007
Process Stage: Need Meeting 10/14/2022
Project Driver: Customer Service
Specific Assumption Reference:
 Dayton Local Plan Assumptions (Slide 5)
Problem Statement:
 An industrial customer served from the Moraine Substation intends to add 40 MW of load in 2024.



Need Number: Dayton-2022-007

Previously Presented: Need Presented, 10/14/2022

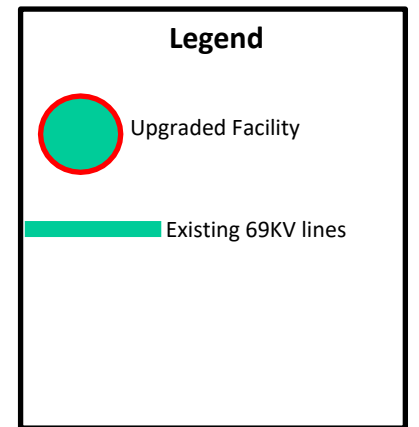
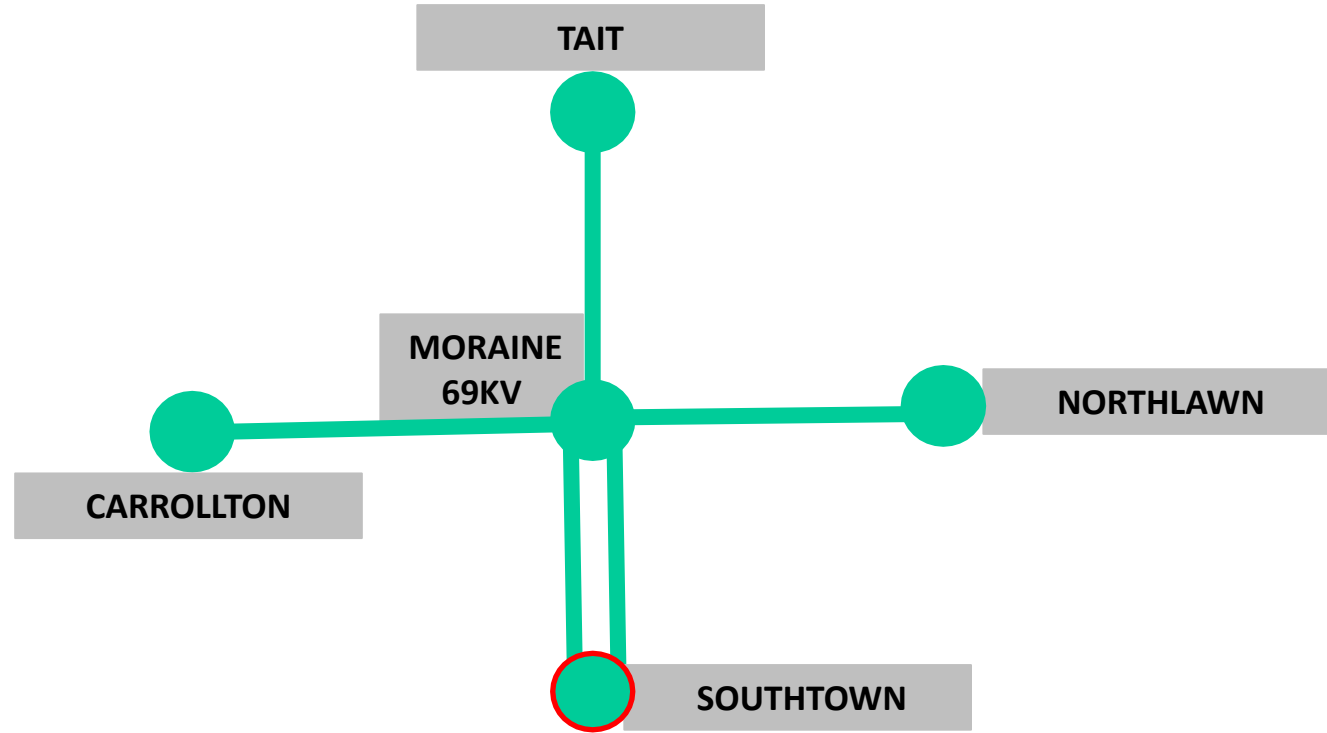
Process Stage: Solution Meeting, 11/18/2022

Project Driver: Customer Service

Specific Assumption Reference: Dayton Local Plan Assumptions (Slide 5)

Selected Solution:

- **Southtown Substation:** Install an additional 69kV breaker at Southtown Sub to facilitate the installation of a third 69/12kV transformer.
- **Estimated cost:** \$0.1M
- **Projected In-Service:** 1/1/2024
- **Project Status:** Conceptual
- **Model:** 2022 RTEP – 2027 Summer Case



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

11/8/2022 – V1 – Original version posted to pjm.com