

PUBLIC



Denton Municipal Electric (DME) - Denton Area Transmission Improvements (26RPG005) – ERCOT Independent Review (EIR) Status Update

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Regional Planning Group (RPG) Meeting
September 22, 2026

Introduction (Recap)

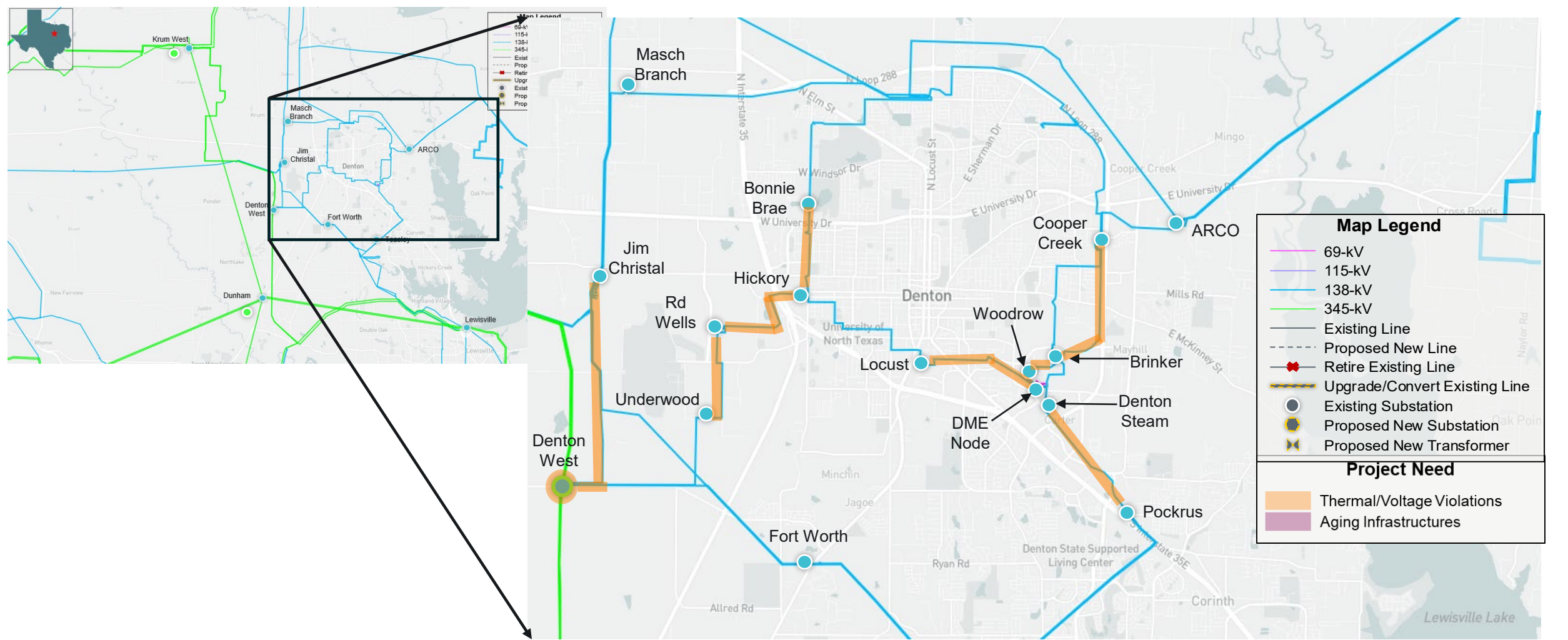
Denton Municipal Electric (DME) submitted the Denton Area Transmission Improvements Project (26RPG005) for Electric Reliability Council of Texas (ERCOT) for Regional Planning Group (RPG) review in February 2026

- This is a Tier 1 project with an estimated cost of \$222.4 million and will require a Certificate of Convenience and Necessity (CCN)
- Estimated in-service date (ISD) is Summer 2030
- Addresses post-contingency thermal overloads in the Denton area

This project is currently under ERCOT independent Review (EIR)

- Denton presented the project overview at the [April 2026 RPG Meeting](#)
- ERCOT presented the EIR study scope at the [April 2026 RPG Meeting](#)
- ERCOT presented the EIR status updates at the [July 2026 RPG Meeting](#)
- ERCOT presented the EIR status updates at the [August RPG Meeting](#)

Study Area Map with Project Needs Seen by DME (Recap)



Study Assumptions (Updated)

Study Area

- Denton County considered for this study
- North Central Weather Zone electrically close to project location

Steady-State Base Case

- Final [2025 Regional Transmission Planning \(RTP\)](#) 2031 summer peak load case, published on Market Information System (MIS) in December 2025, was updated to construct the study base case

Loads in study area

- Full Officer Letter Loads modeled in the following counties:
 - Collin +120 MW
 - Dallas +5,401 MW
 - Denton +362 MW
 - Grayson +362 MW
 - Tarrant +1,644 MW
 - Total +7,889 MW

Reserve

- Load outside of study Weather one(s) was adjusted to make up the reserve to be consistent with the 2025 RTP

Preliminary Results of Reliability Assessment – Base Case

ERCOT conducted steady-state load flow analysis for the study base case according to the NERC Reliability Standard TPL-001-5.1 and ERCOT Planning Criteria to identify the project need

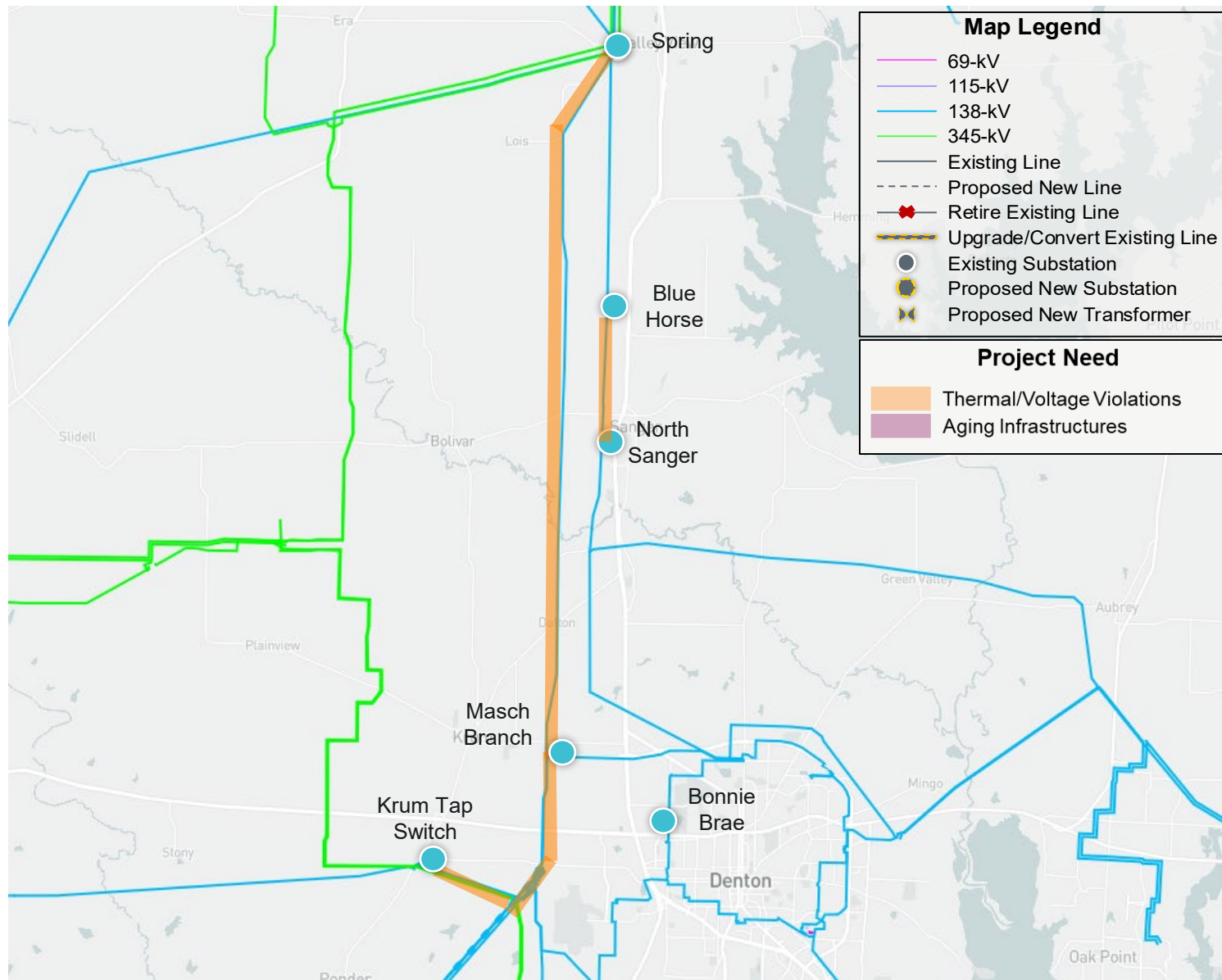
Contingency Category	Unsolved Power Flow	Voltage Violations	Thermal Overloads
P1	0	0	5
P2, P4, P5	0	0	0
P3: (G-1+N-1)*	0	0	0
P6-2: (X-1+N-1)*	0	0	0
P7	0	0	0
Total	0	0	5

* See [Appendix B](#) for the list of generators and transformers being tested for G-1+N-1 and X-1+N-1 analyses, respectively

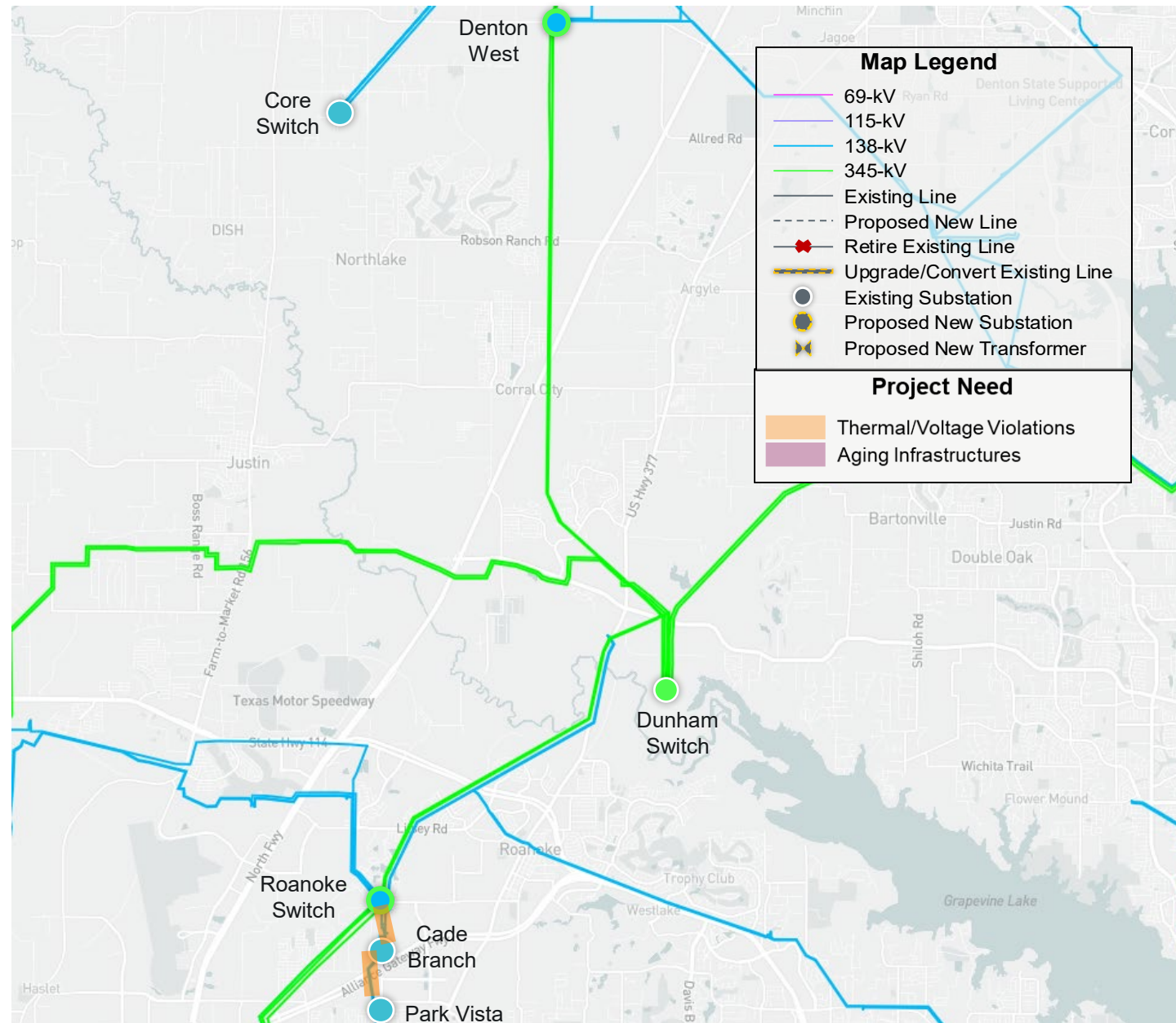
Key Takeaway:

- Total five thermal overloads were observed

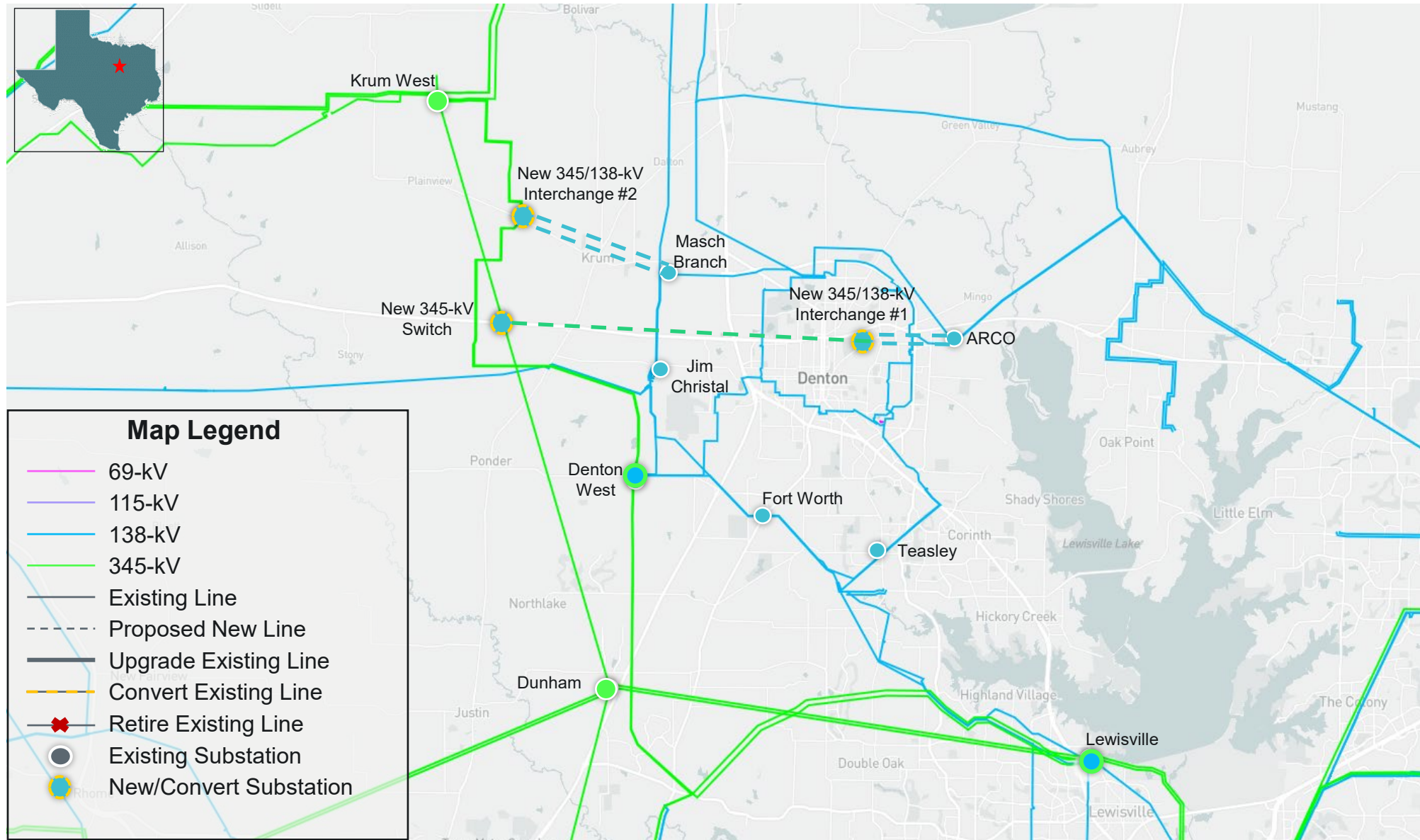
Study Area Map with Project Needs Seen by ERCOT



Study Area Map with Project Needs Seen by ERCOT



Option 1 – Proposed Project



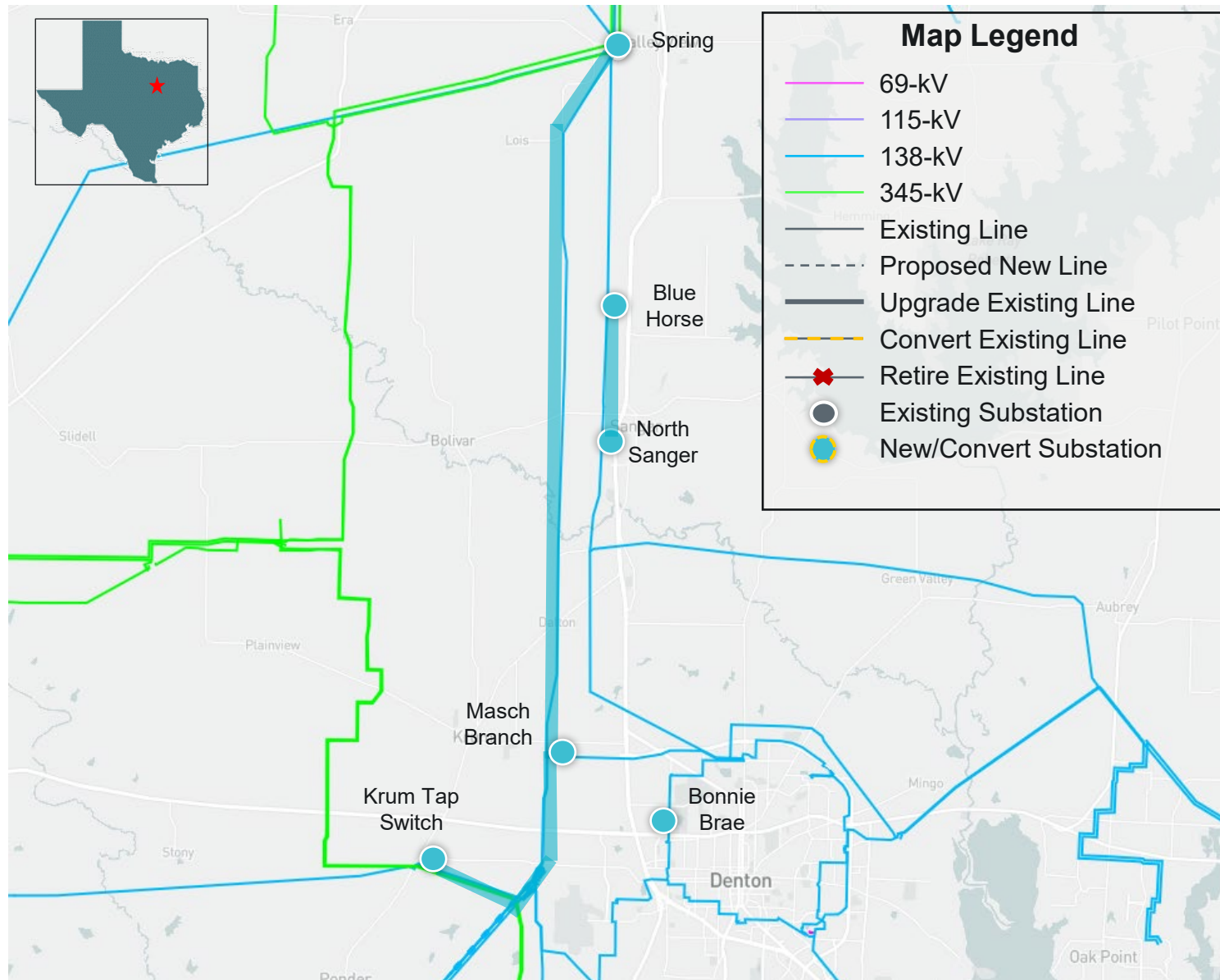
Option 1 – DME Proposed Project – (Cont.)

- Construct a new “New Switch” 345-kV Switch, using a breaker-and-half configuration with (5) 345-kV breakers rated 5000A each, tapped into the existing Krum West Switch to Dunham Substation 345-kV transmission line
- Construct a new Interchange #1 345kV/138kV Switch, located approximately 2.3 miles west of the existing Arco Substation, with two new 700 MVA (nameplate) 345kV/138kV transformers, in a breaker-and-half configuration at 345-kV and at 138-kV, with (6) 345-kV breakers rated 5000A each and (6) 138-kV breakers rated 4000A each
- Construct a new Interchange #2 345kV/138kV Switch, with two new 700 MVA (nameplate) 345kV/138kV transformers, using a breaker-and-half configuration at 345-kV and at 138-kV, with (6) 345-kV breakers rated 5000A each and (6) 138-kV breakers rated 4000A each, tapped into the existing Krum West Switch to Denton West 345-kV transmission line
- Upgrade existing Arco 138-kV substation by adding a breaker-and-half configuration to accommodate new double-circuit transmission lines
- Upgrade existing Masch Branch 138-kV substation by adding a breaker and a bay to accommodate new double-circuit transmission lines

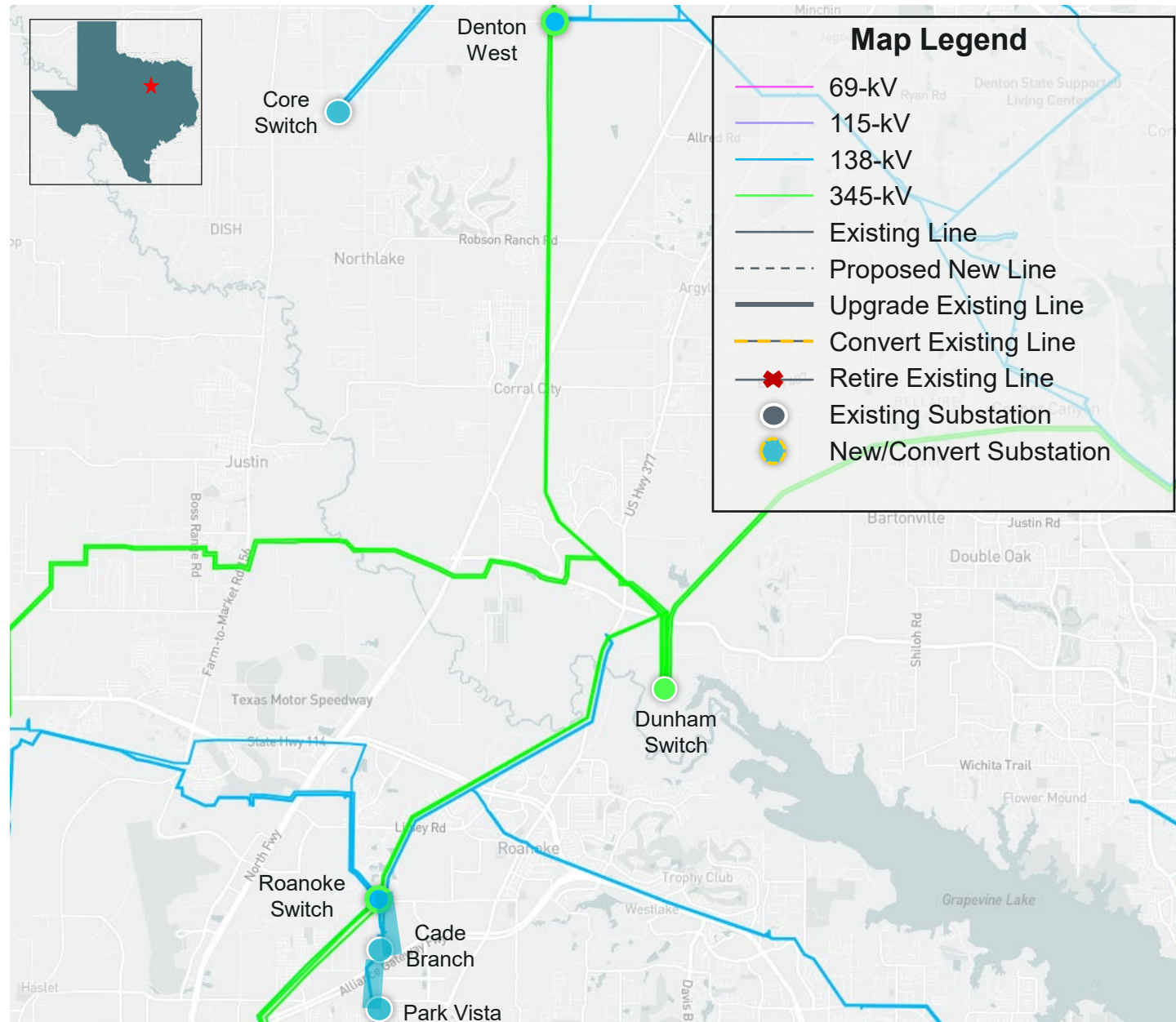
Option 1 – DME Proposed Project – (Cont.)

- Construct a new “New Switch” to Interchange #1 Switch 345-kV transmission line, with conductor rated to at least 1480 MVA, in a new right-of-way, installed on new double-circuit capable 345-kV transmission towers with one vacant position, approximately 12.25 miles
- Construct a new Interchange #1 Switch to existing Arco Substation 138-kV double-circuit transmission line, with conductors rated to at least 700 MVA, in a new right-of-way, approximately 2.3 miles
- Construct a new Interchange #2 Switch to existing Masch Branch Substation 138-kV double-circuit transmission line, with conductors rated to at least 700 MVA, in a new right-of-way, approximately 5.25 miles

Option 2 (Cont.)



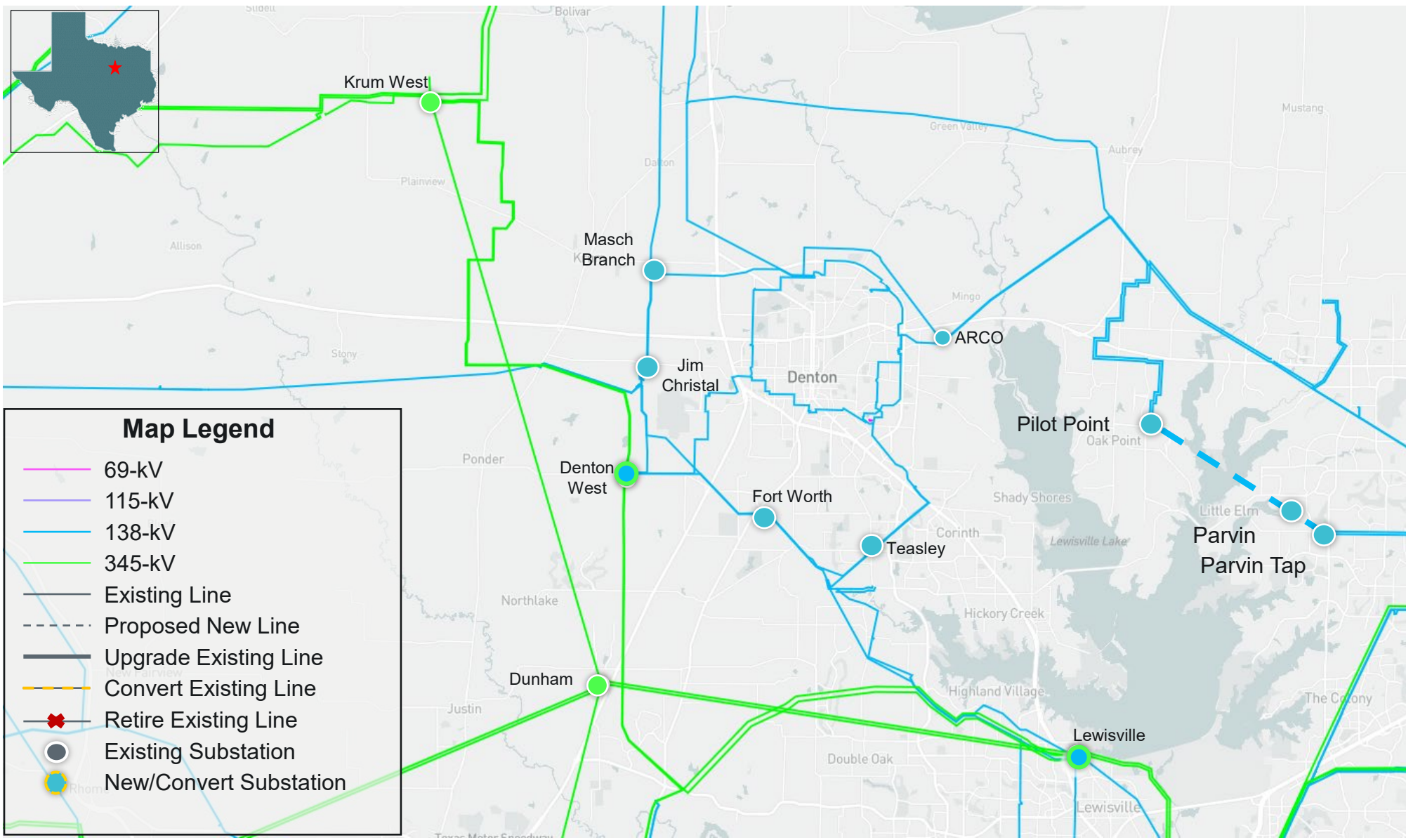
Option 2



Option 2 – (Cont.)

- Upgrade the existing Spring to Masch Branch 138-kV line with conductor rated to at least 700 MVA, approximately 16.2 miles
- Upgrade the existing Masch Branch to Krum Tap Switch 138-kV line with conductor rated to at least 700 MVA, approximately 3.1 miles
- Upgrade the existing Blue Horse to North Sanger 138-kV line with conductor rated to at least 700 MVA, approximately 2.6 miles
- Upgrade the existing Roanoke Switch to Cade Branch 138-kV line with conductor rated to at least 700 MVA, approximately 0.3miles
- Upgrade the existing Cade Branch to Park Vista 138-kV line (estimated 0.4 mile) with conductor rated to at least 700 MVA, approximately 0.4 miles

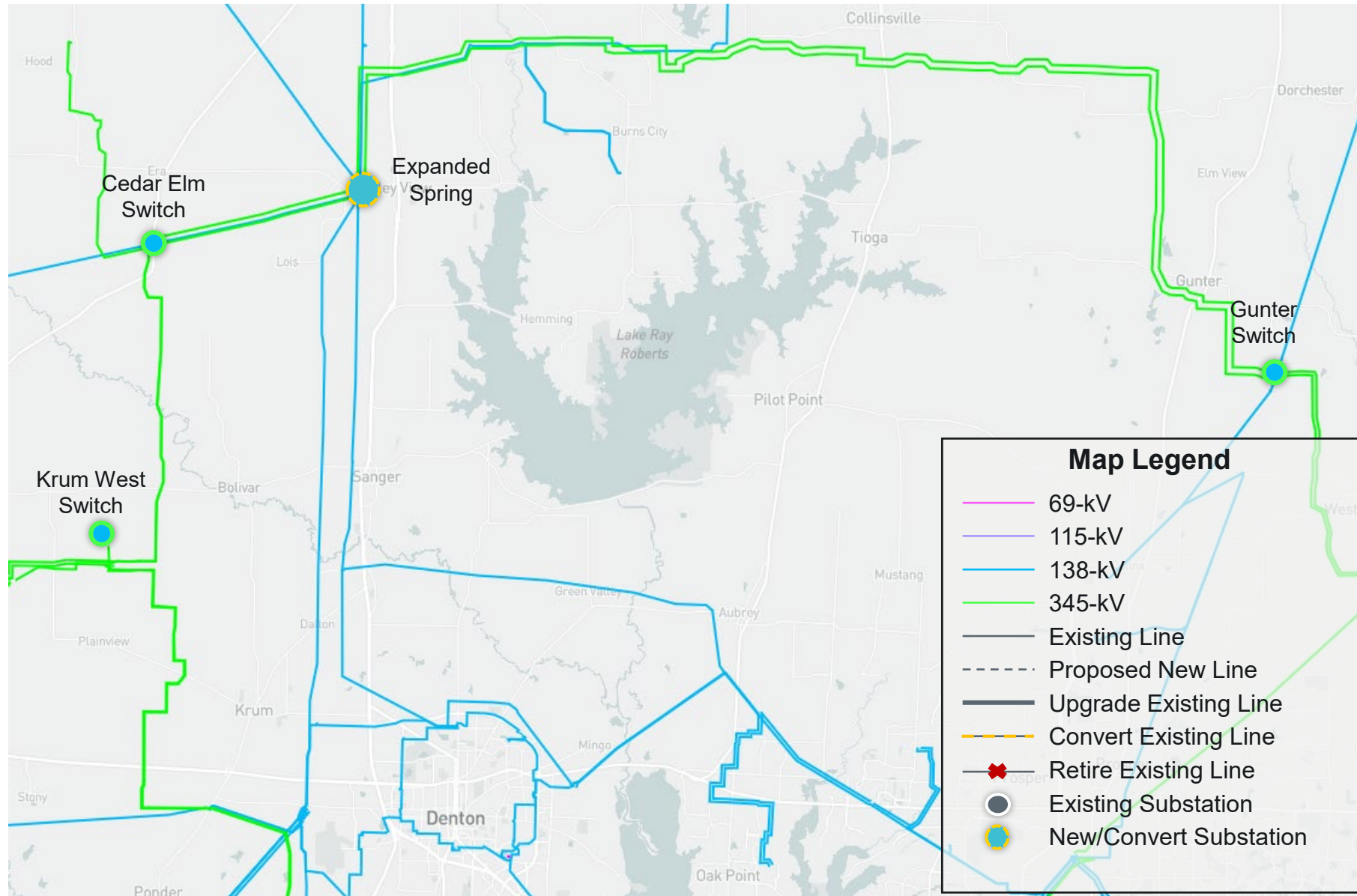
Option 3



Option 3 – (Cont.)

- Construct a new Pilot Point to Parvin 138-kV line with conductor rated to at least 700 MVA in new right-of-way, approximately 9.2 miles
- Upgrade the existing Parvin to Parvin Tap 138-kV line with conductor rated to at least 700 MVA, approximately 3.2 miles

Option 4



Option 4 (Cont.)

- Expand the existing Spring Substation to add with two new 700 MVA (nameplate) 345kV/138kV transformers
- Tap the expanded Spring 345-kV substation into the existing Gunter Switch to Krum West Switch and Gunter Switch to Cedar Elm Switch 345-kV transmission lines

Preliminary Results of Reliability Assessment – Options

ERCOT conducted steady-state load flow analysis for the all the option cases according to the NERC Reliability Standard TPL-001-5.1 and ERCOT Planning Criteria to evaluate the proposed project and alternatives options

Option	N-1		G-1+N-1*		X-1+N-1*		Unsolved Power Flow
	Thermal Violations	Voltage Violations	Thermal Violations	Voltage Violations	Thermal Violations	Voltage Violations	
1	2	0	2	0	2	0	0
2	0	0	0	0	0	0	0
3	2	0	3	0	5	0	0
4	5	0	6	0	10	0	0

* See [Appendix B](#) for the list of generators and transformers being tested for G-1+N-1 and X-1+N-1 analyses, respectively

Key Takeaway:

- Option 2 is the only option with No reliability violations

Cost Estimate and Feasibility Assessment

Transmission Service Providers (TSPs) performed feasibility assessments and provided cost estimates

Option	Cost Estimates (~\$Million)	CCN Required (~miles)	Feasibility	Meets Reliability Requirements	Expected ISD
1	222.4	19.8	Yes	No	DME: June 2030
2	54.8	0	Yes	Yes	Oncor: May 2030 Brazos: December 2028
3	44.5	18.4	Yes	No	TNMP: November 2030 Brazos: March 2031
4	30.0	0	Yes	No	Brazos: March 2032

Key Takeaway:

- Option 2 is the only option meeting all ERCOT and NERC Requirements
- Option 2 is classified as a Tier 3 project

Long-Term Load-Serving Capability Assessment

Assumptions

- Adjusted load up in the study area, excluding Flexible Loads in the area
- Adjusted conforming load down outside of the North Central Weather Zone to balance power
- Based on N-1 contingency

Findings

- Option 2 provides load service capability

Option	Incremental Load-Serving Capability (~MW)
2	1,058

Preliminary Results of Planned Maintenance Outage Evaluation

ERCOT conducted planned maintenance outage analysis on all short-listed options to compare relative performance of the options

- Load levels in the Study Area were scaled down based on the historical non-summer peak data to 81.1%, in order to approximate the non-summer peak load condition
- Based on the review of system topology in the area, ERCOT tested N-2 contingency combinations, and then tested all applicable contingency violations with system adjustments (N-1-1)

The following thermal or voltage constraints were observed in the N-1-1 analysis

Option	Thermal Violation	Voltage Violation
2	None	None

Key Takeaway:

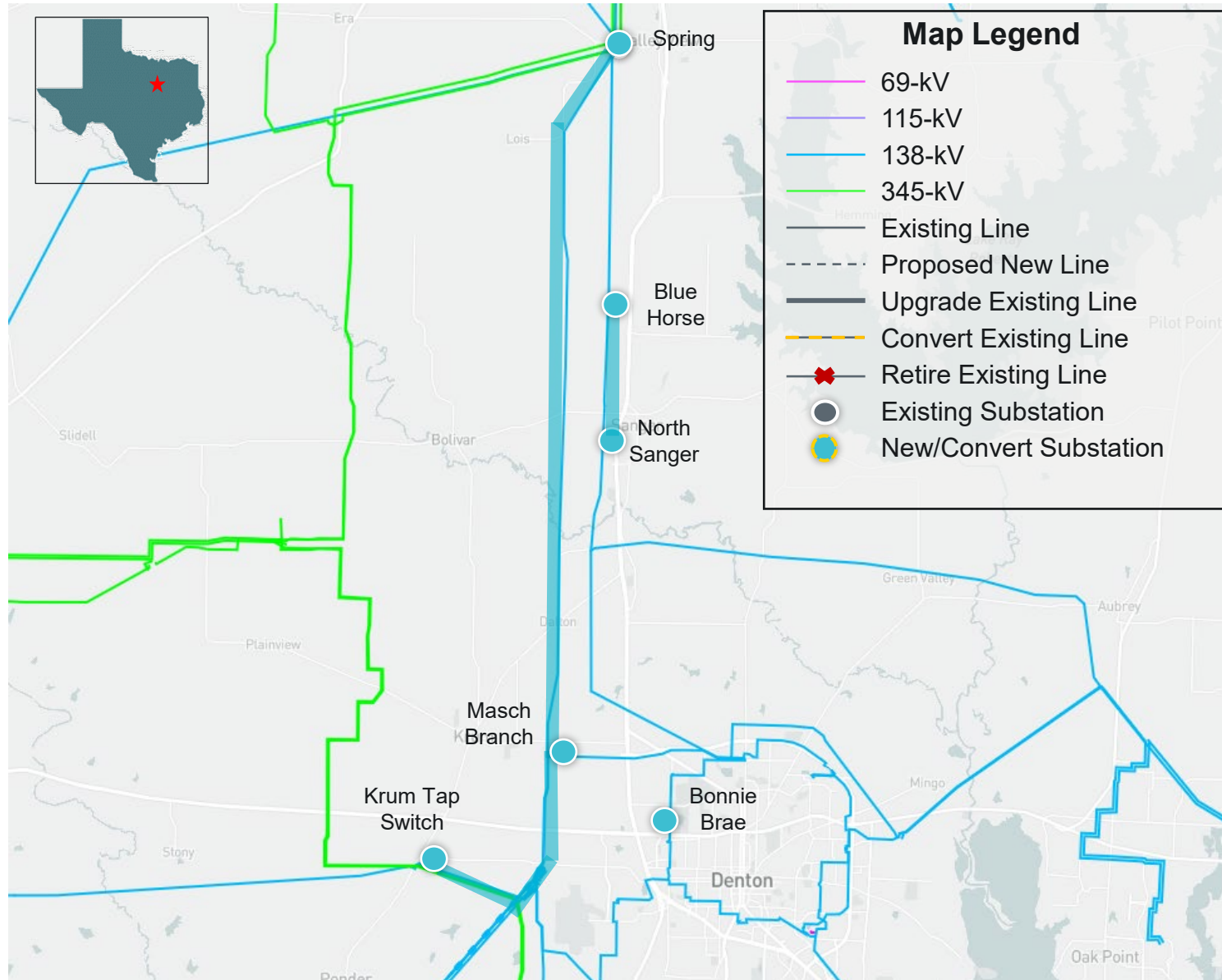
- No reliability violations were observed in the N-1-1 analysis for Option 2

ERCOT Preferred Option

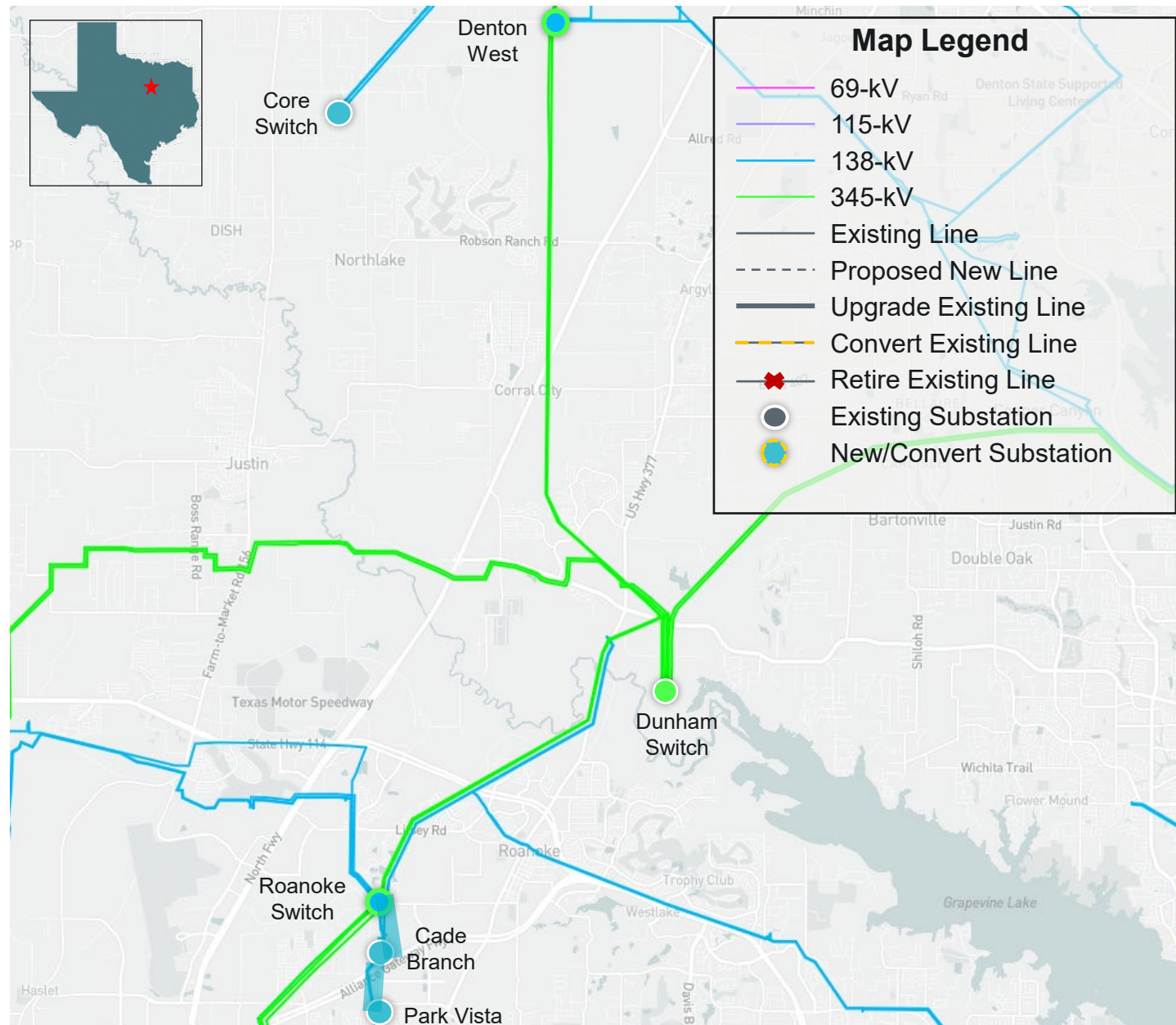
Option 2 was selected as the ERCOT preferred option because it

- Addresses the project need in the study area
- Meets both ERCOT and NERC reliability criteria
- Improves long-term load-serving capability for future load growth in the area
- Will not require CCN
- Re-classified as Tier 3

Option 2 – Preferred Option



Option 2 – Preferred Option (Cont.)



Option 2 – Preferred Option (Cont.)

- Upgrade the existing Spring to Masch Branch 138-kV line with conductor rated to at least 700 MVA, approximately 16.2 miles
- Upgrade the existing Masch Branch to Krum Tap Switch 138-kV line with conductor rated to at least 700 MVA, approximately 3.1 miles
- Upgrade the existing Blue Horse to North Sanger 138-kV line with conductor rated to at least 700 MVA, approximately 2.6 miles
- Upgrade the existing Roanoke Switch to Cade Branch 138-kV line with conductor rated to at least 700 MVA, approximately 0.3miles
- Upgrade the existing Cade Branch to Park Vista 138-kV line (estimated 0.4 mile) with conductor rated to at least 700 MVA, approximately 0.4 miles

Deliverables and Next Step

Tentative Timelines

- Final Recommendation
 - Q4 2026

Key Takeaway: ERCOT recommendation in Q3 2026

Thank you! Questions/Comments?

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Appendix

- Appendix A1 – Transmission Projects Added
- Appendix A2 – Transmission Backed Out
- Appendix B – G-1 Generators and X-1 Transformers List

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Appendix A1 – Transmission Projects Added

TPIT	Project Name	Tier	Project ISD	County
64776	Upgrade 138kV DentonWest-RDWells line to 700MVA (SUM2024)	4	July 2025	Denton
99321	Austin Ranch 138kV Capacitor Bank	4	May 2027	Denton
66118	Reconductor TI-Lakepointe with 959 ACSS/TW	4	Dec 2029	Denton

Appendix A2 – Transmission Backed Out

RTP Project ID	Project Name	County
92778	Dunham 345-138 kV Switch and Dunham - Burger Lake 138 kV Line Section	Denton

Appendix B – List of G-1 Generators and X-1 Transformers Tested

Generator	Transformer
Mountain Creek Unit #8	West Denton #1 345/138-kV
Spencer Unit #5	Lewisville #1 345/138-kV
Denton Energy Center Unit C	Collins #1 345/138-kV