AEPSC – Port Lavaca Area Improvement Project – ERCOT Independent Review (EIR) Status Update

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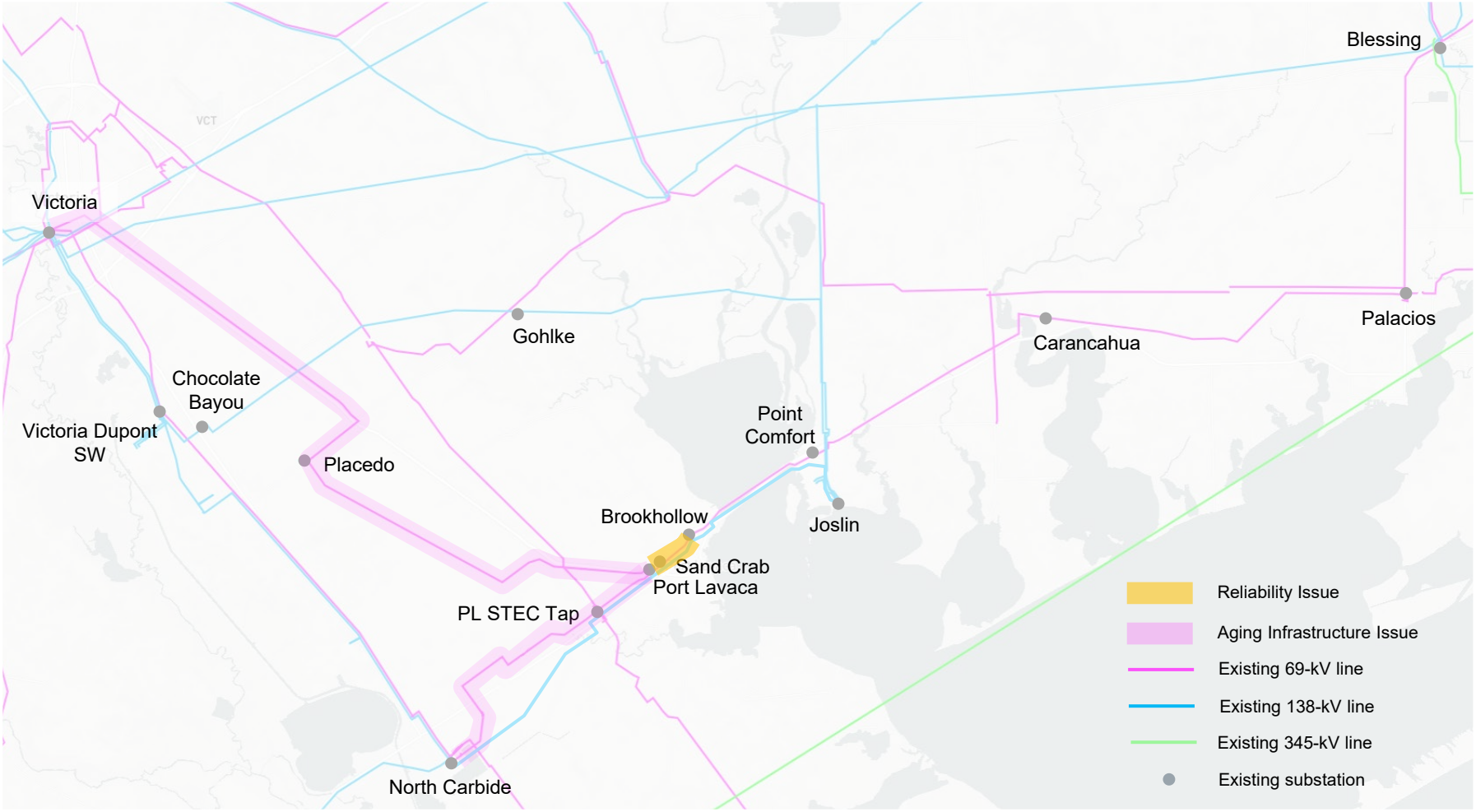
Regional Planning Group (RPG) Meeting
August 17, 2021

Recap

- AEPSC submitted the Port Lavaca Area Improvement Project for RPG review in February 2021 to address reliability need and aging infrastructure issues in the Port Lavaca area
- This is a Tier 2 project with an estimated cost of $97.8 million that requires a Certificate of Convenience and Necessity (CCN)
- In-service date of the proposed project: May 2023 (reliability upgrades) and December 2024 (aging infrastructure upgrades)
- ERCOT provided study scope and status updates at previous RPG meetings
  - http://www.ercot.com/content/wcm/key_documents_lists/213851/AEPSC_-_Port_Lavaca_Area_Improvement_Project_Scope_-_April_6_RPG_Final.pdf
  - http://www.ercot.com/content/wcm/key_documents_lists/213855/AEPSC_-_Port_Lavaca_Area_Improvement_Project_Status_Update_-_May_11_RPG_Final.pdf
  - http://www.ercot.com/content/wcm/key_documents_lists/213859/AEPSC_-_Port_Lavaca_Area_Improvement_Project_Status_Update_-_June_15_RPG.pdf

Study Area Map



Comparison of Short-listed Options 1, 2EA & 4EA

- The three short-listed options address the reliability need and aging infrastructure issues

	Option 1*	Option 2EA*	Option 4EA*
kV level	Fully rebuild – maintain 69-kV operation	Partially rebuild – convert to 138-kV operation	Partially rebuild – convert to 138-kV operation, with additional line retirement
Cost Estimates** ($Million)	97.3	101.5	76.4

* Maps and detail of short-listed options are available in Appendix
** Cost estimates were provided by TSP

- Although Option 4EA is less costly, the results of the planned maintenance outage scenario analysis showed that Option 1 and 2EA would provide better operational flexibility and less impact to customers under outage conditions than Option 4EA
- Although Option 2EA is slightly more costly than Option 1, Option 2EA is expected to provide better future prospects (e.g., capacity for future load growth, cost savings related to future line conversion) for the area than Option 1 since Option 2EA converts and rebuilds the existing 69 kV lines
- Map and detail for all short-listed options are in Appendix

Preferred Option

- Option 2EA is selected as the preferred option because
  - Addresses reliability violation
  - Addresses aging infrastructure
  - Partially rebuilds and converts to 138-kV operation
  - Provides better operational flexibility and less impact to customers under normal and outage conditions
  - Provides better prospects for future load growth and voltage conversion

Congestion Analysis

- Congestion analysis was performed for the preferred Option 2EA using the 2021 RTP 2026 Economic Starting case
- Option 2EA did not result in any new congestion within the study area

ERCOT Recommendation

- ERCOT recommends Option 2EA
  - Estimated Cost: $101.5 Million
  - Based on the cost estimate provided by the TSP, the recommended project is categorized as Tier 1 project (ERCOT Protocol 3.11.4.3)
  - CCN is required to rebuild the existing Brookhollow - Port Lavaca 69-kV line (~2.02 miles)
  - Estimated in-service date of the project
    - May 2023 for reliability upgrades
    - December 2024 for upgrades of aging infrastructure
  - Project map and detail are in Appendix

Deliverables

- Tentative Timeline
  - EIR Report to be posted in MIS – 3rd Quarter 2021
  - ERCOT Independent Review recommendation to TAC
  - Seek ERCOT Board of Directors endorsement

Thank You!

Stakeholder comments also welcomed through:

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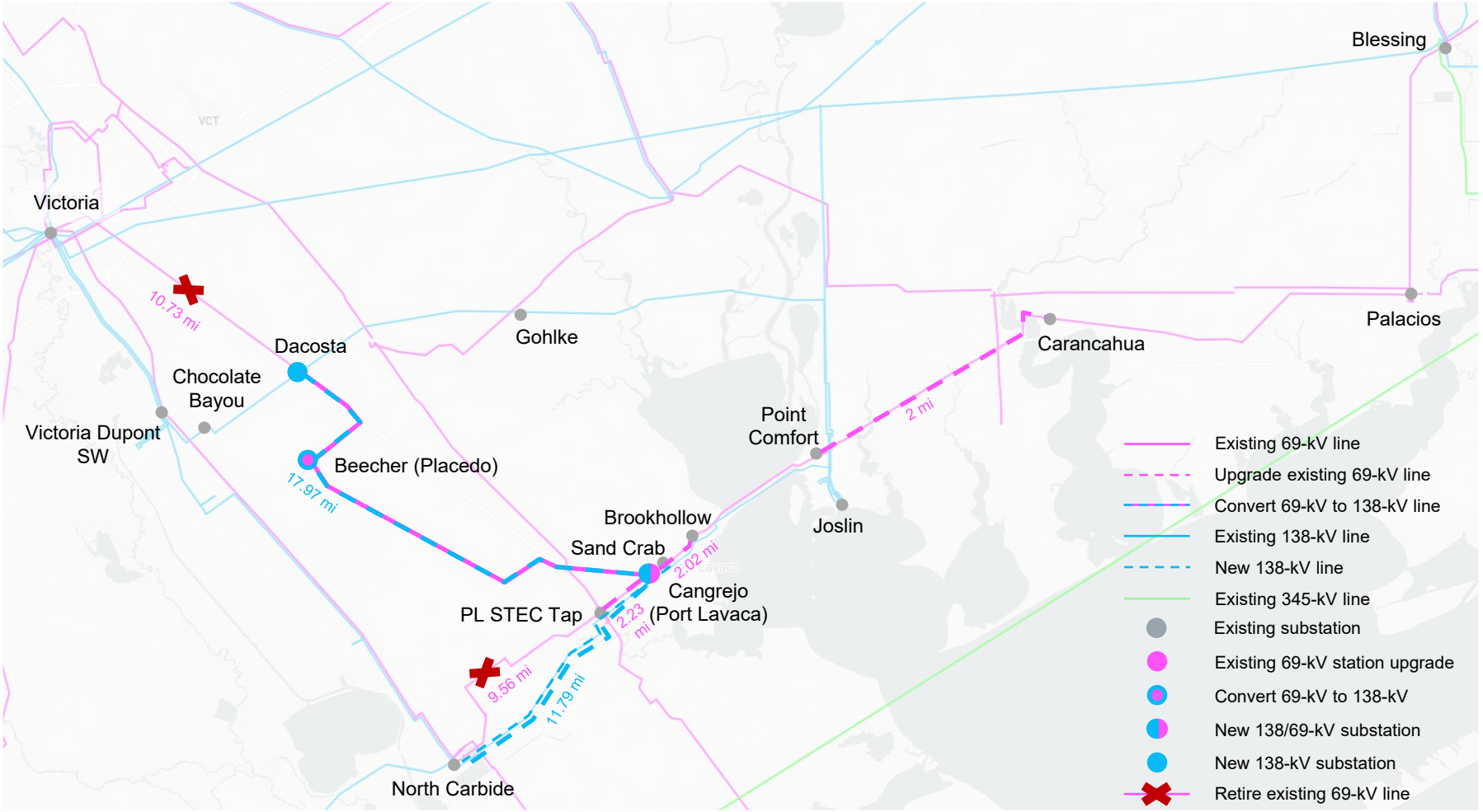
Appendix

Appendix: ERCOT Recommended Option 2EA Map



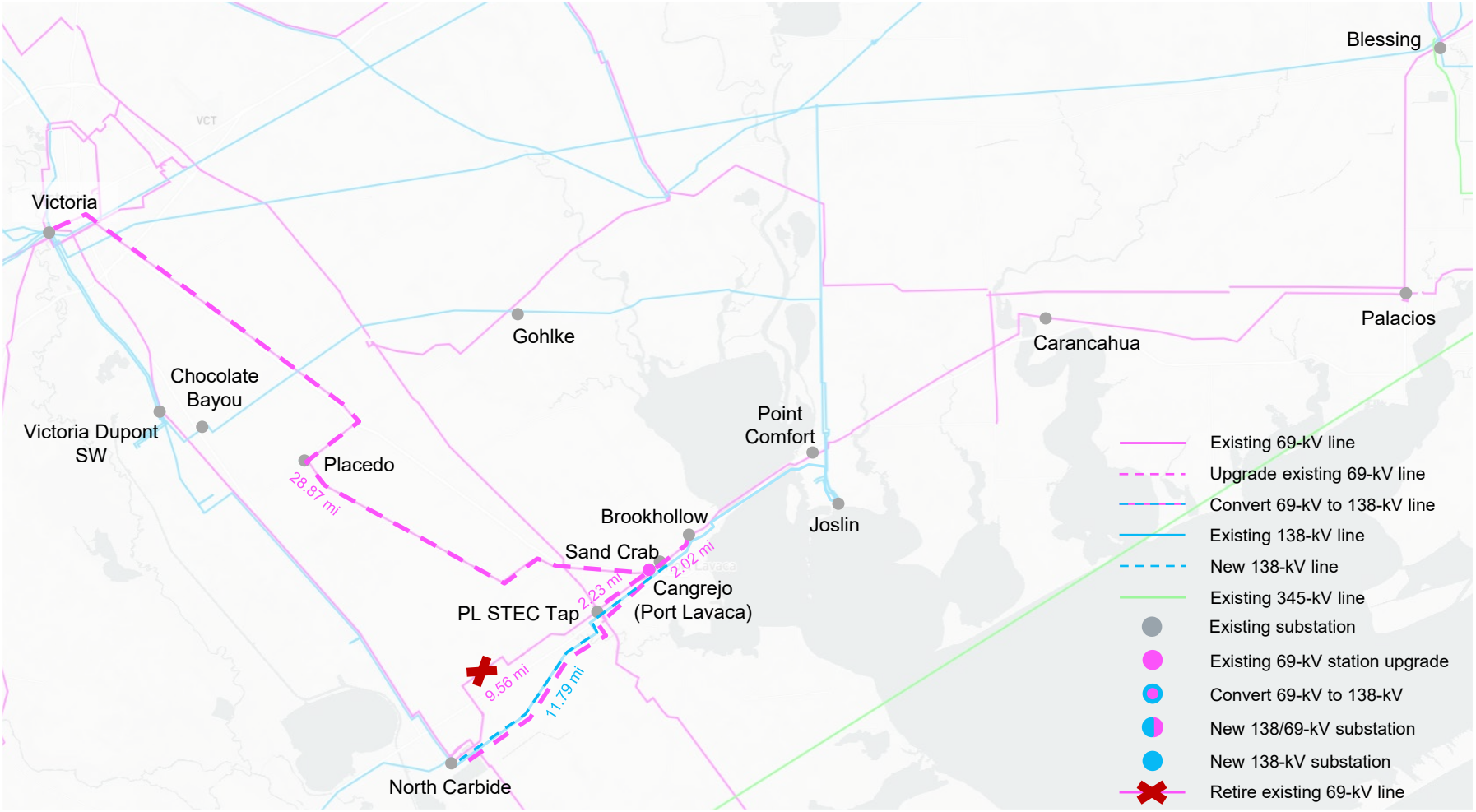
Recommended Option 2EA detail

Appendix: ERCOT Recommended Option 2EA Detail

Transmission Upgrades	Length (mi)
Rebuild Port Lavaca 69-kV substation (new station at Cangrejo) as 138/69-kV substation	--
Install an 138/69-kV transformer at the new Cangrejo 138/69-kV substation	--
Rebuild Placedo 69-kV substation (new station Beecher) as 138-kV substation	--
Rebuild the existing Brookhollow to Port Lavaca (Cangrejo) 69-kV using 2000 A conductor, operate at 69-kV	2.02
Rebuild a portion (STEC tap. - Cangrejo) of the existing North Carbide - Port Lavaca (Cangrejo) using 2000 A conductor, operate at 69-kV	2.23
Retire the existing Port Lavaca STEC tap. – North Carbide 69-kV line	9.56
Rebuild a portion of the existing North Carbide to Joslin using 2000 A conductor utilizing double circuit structures: #1. North Carbide – Cangrejo - Sand Crab 138-kV line (i.e., loop the existing the North Carbine to Sand Carb 138-kV line into Cangrejo), operate at 138-kV #2. North Carbine - Cangrejo 138-kV line, operate at 138-kV	11.79
Construct a new Dacosta 138-kV substation at the intersection of the existing Chocolate Bayou – Gohlke 138-kV line and the existing Port Lavaca (Cangrejo) – Victoria 69-kV line	--
Rebuild a portion of the existing Port Lavaca (Cangrejo) to Victoria using 2000 A conductor, operate at 138-kV and terminate at the new Dacosta 138-kV substation	17.97
Retire remaining portion of the existing Placedo (Beecher) – Victoria 69-kV line	10.73
Rebuild portion of the existing Point Comfort – Carancahua 69-kV line, operate at 69-kV	2

Option 2EA Map
Back to project recommendation

Appendix: Option 1 Map



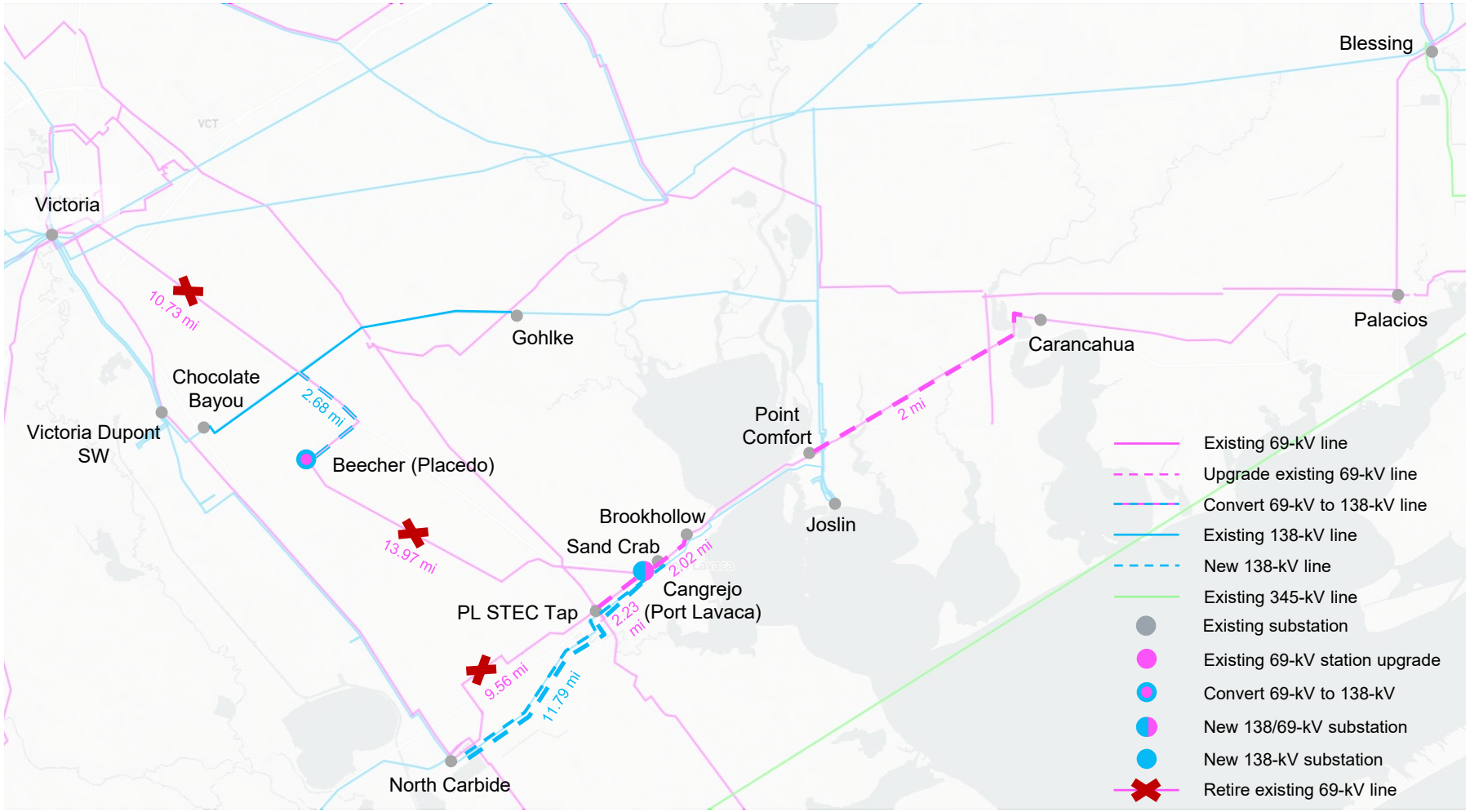
Option 1 detail

Appendix: Option 1 Detail

Transmission Upgrades	Length (mi)
Rebuild Port Lavaca 69-kV substation (new station at Cangrejo)	--
Rebuild the existing Brookhollow to Port Lavaca (Cangrejo) 69-kV using 2000 A conductor, operate at 69-kV	2.02
Rebuild a portion of the existing North Carbide to Port Lavaca (Cangrejo) using 2000 A conductor, operate at 69-kV	2.23
Retire the existing Port Lavaca STEC tap. – North Carbide 69-kV line	9.56
Rebuild a portion of the existing North Carbide to Joslin using 2000 A conductor utilizing double circuit structures: #1. North Carbide - Port Lavaca (Cangrejo) - Sand Crab 138-kV line, operate at 69-kV #2. North Carbide - Port Lavaca (Cangrejo) 69-kV line, operate at 69-kV	11.79
Rebuild the existing Port Lavaca (Cangrejo) to Victoria using 2000 A conductor, operate at 69-kV	28.87

Option 1 Map

Appendix: Option 4EA Map



Option 4EA detail

Appendix: Option 4EA Detail

Transmission Upgrades	Length (mi)
Rebuild Port Lavaca 69-kV substation (new station at Cangrejo) as 138/69-kV substation	--
Install an 138/69-kV transformer at the new Cangrejo 138/69-kV substation	--
Rebuild the existing Brookhollow to Port Lavaca (Cangrejo) 69-kV using 2000 A conductor and operate at 69-kV	2.02
Rebuild a portion of the existing North Carbide to Port Lavaca (Cangrejo) using 2000 A conductor and operate at 69-kV	2.23
Retire the existing Port Lavaca STEC tap. – North Carbide 69-kV line	9.56
Rebuild a portion of the existing North Carbide to Joslin using 2000 A conductor utilizing double circuit structures: #1. North Carbide - Cangrejo - Sand Crab 138-kV line (i.e., loop the existing the North Carbine to Sand Carb 138-kV line into Cangrejo), operate at 138-kV #2. North Carbine - Cangrejo 138-kV line, operate at 138-kV	11.79
Rebuild Placedo 69-kV substation (new station at Beecher) as 138-kV substation	--
Rebuild portion of the existing Placedo (Beecher) – Victoria 69-kV line (~4miles) with a double circuit 138-kV structure to cut into the existing Chocolate Bayou – Gohlke 138-kV line to create a loop, operate at 138-kV	2.68
Retire remaining portion of the existing Placedo (Beecher) – Victoria 69-kV line	10.73
Retire the existing Port Lavaca – Placedo (Beecher) 69-kV line	13.97
Rebuild portion of the existing Point Comfort – Carancahua 69-kV line, operate at 69-kV	2

Option 4EA Map