

TEAC Committee ComEd Supplemental Projects

May 12, 2020

Needs

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: ComEd-2020-008

Process Stage: Need Meeting May 12, 2020

Project Drivers:

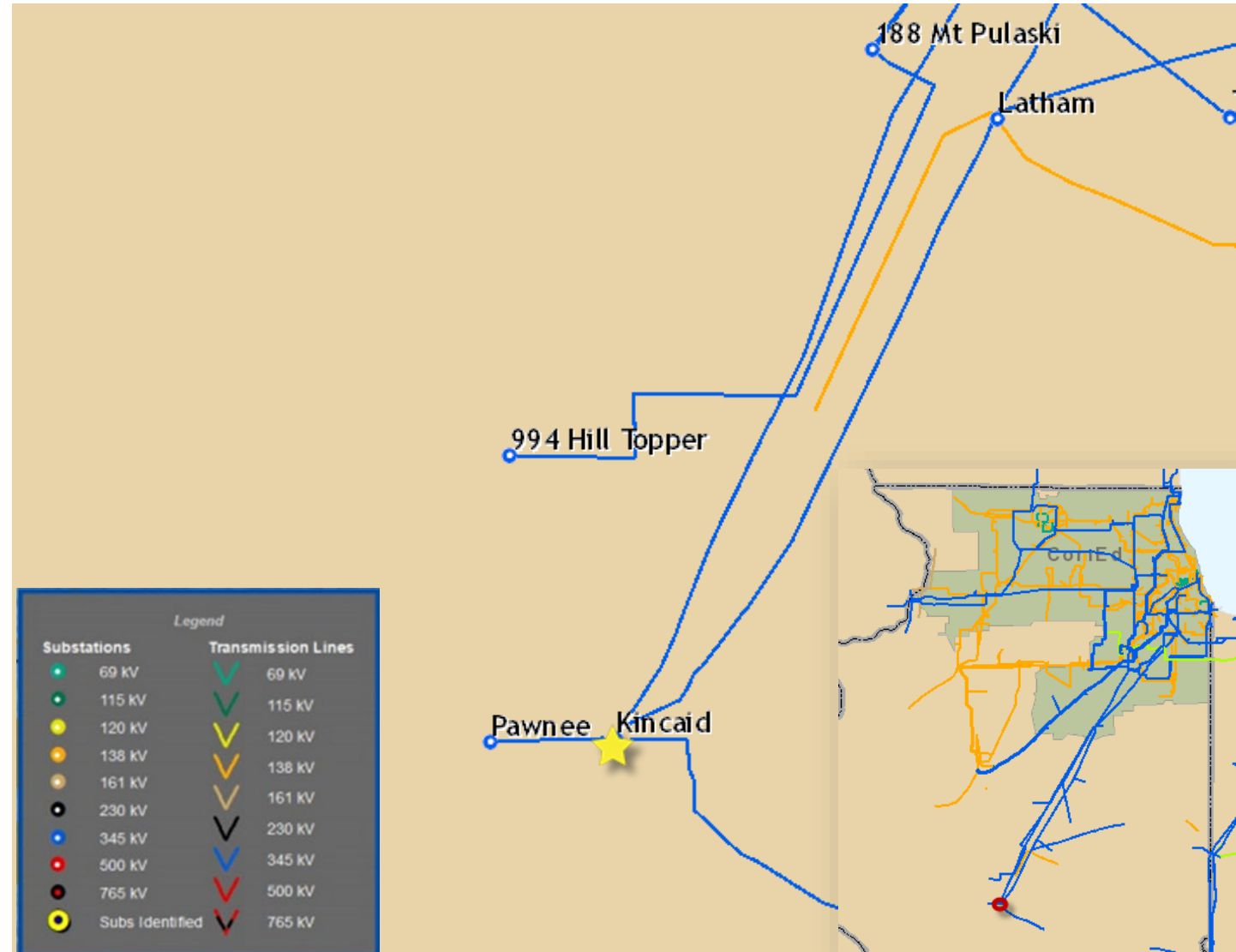
- Operational Flexibility and Efficiency
- Equipment Material Condition, Performance, and Risk

Specific Assumption References:

- Removal of existing SPS/RAS/LPS
- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions

Problem Statement:

To prevent first swing and/or oscillatory instability of either unit, a multi-phase fault high-speed sectionalizing scheme and a multiple line outage scheme are in place at Kincaid. 345 kV circuit breakers are all 1966 vintage and have had increased maintenance required over the past several years.



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: ComEd-2020-002

Process Stage: Solutions Meeting May 12, 2020

Previously Presented:

Needs Meeting April 14, 2020

Project Drivers:

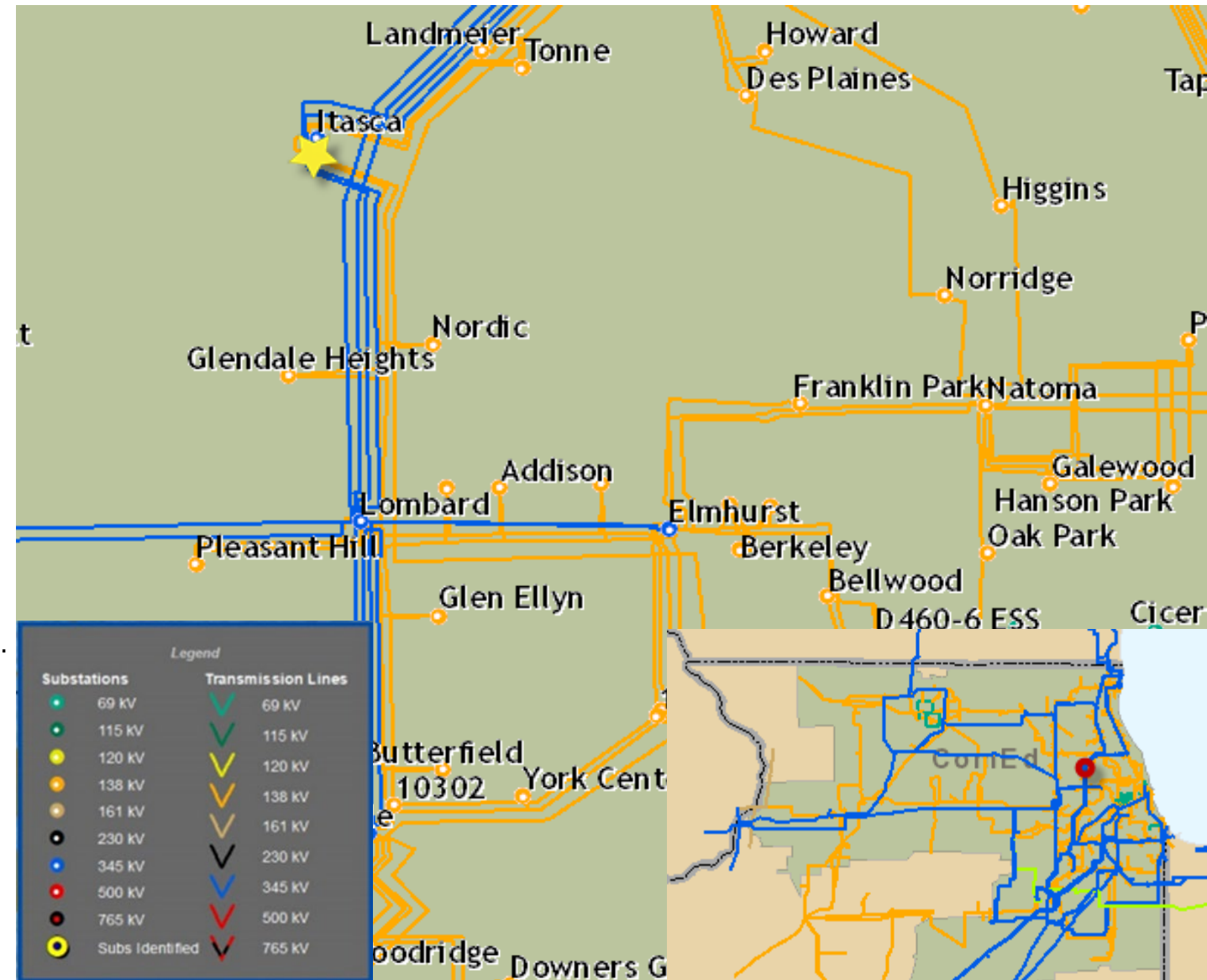
- Equipment Material Condition, Performance, and Risk
- Operational Flexibility and Efficiency

Specific Assumption Reference:

- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions
- Internal and/or regulatory design guidelines or PJM minimum design standards
- Enhancing system functionality, flexibility, or operability

Problem Statement:

Itasca 345 kV configuration does not comply with current standards. It is a straight bus design with four lines and two transformers with only two 345 kV circuit breakers, one of which is obsolete and has poor test scores. Two lines are connected directly to the bus with disconnect switches. Transformers do not have high side circuit breakers. 345 kV/138 kV Transformer 82 has partial discharge gassing due to a design deficiency and questionable acoustic test results. 2 out of 5 similar transformers have failed in service.



Need Number: ComEd-2020-002

Process Stage: Solutions Meeting May 12, 2020

Proposed Solution:

- Rebuild Itasca 345 kV bus as an indoor GIS double ring bus expandable to breaker-and-a-half connecting 4 lines and two transformers.
- Replace TR 82
- Retire tertiary cap bank

Estimated cost: \$65M

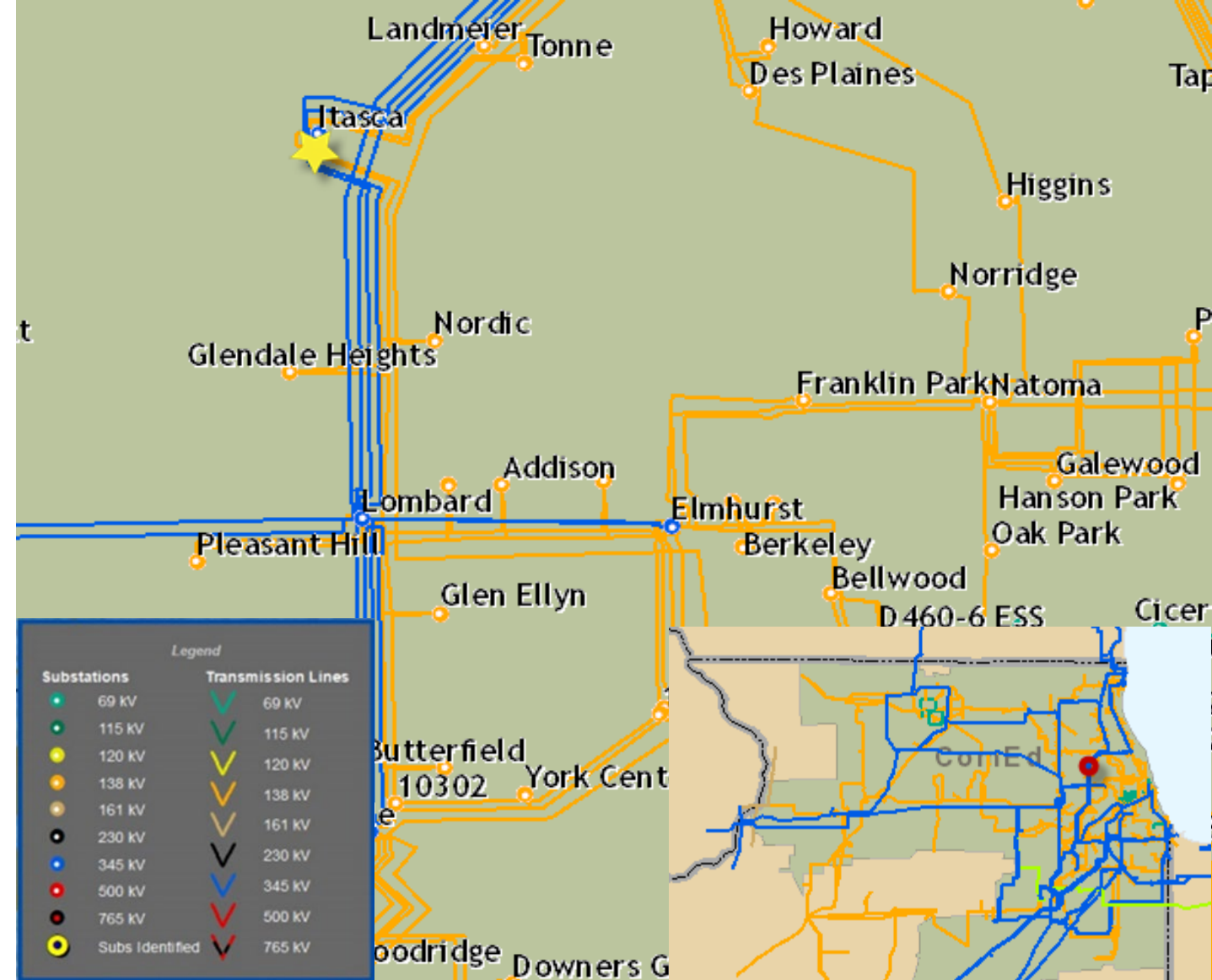
Alternatives Considered:

1. Do Nothing – Doesn't fix the design issue, equipment would start to fail
2. Replace breaker and transformer in current configuration – doesn't fix the design issue
3. Replace with open air BAAH – not enough real estate available
4. Replace tertiary cap bank with 138 kV bus cap – internal studies show that it is not needed

Projected In-Service: 6/1/2024

Project Status: Scoping

Model: 2025 RTEP



Need Number: ComEd-2020-003

Process Stage: Solutions Meeting May 12, 2020

Previously Presented:

Needs Meeting April 14, 2020

Project Drivers:

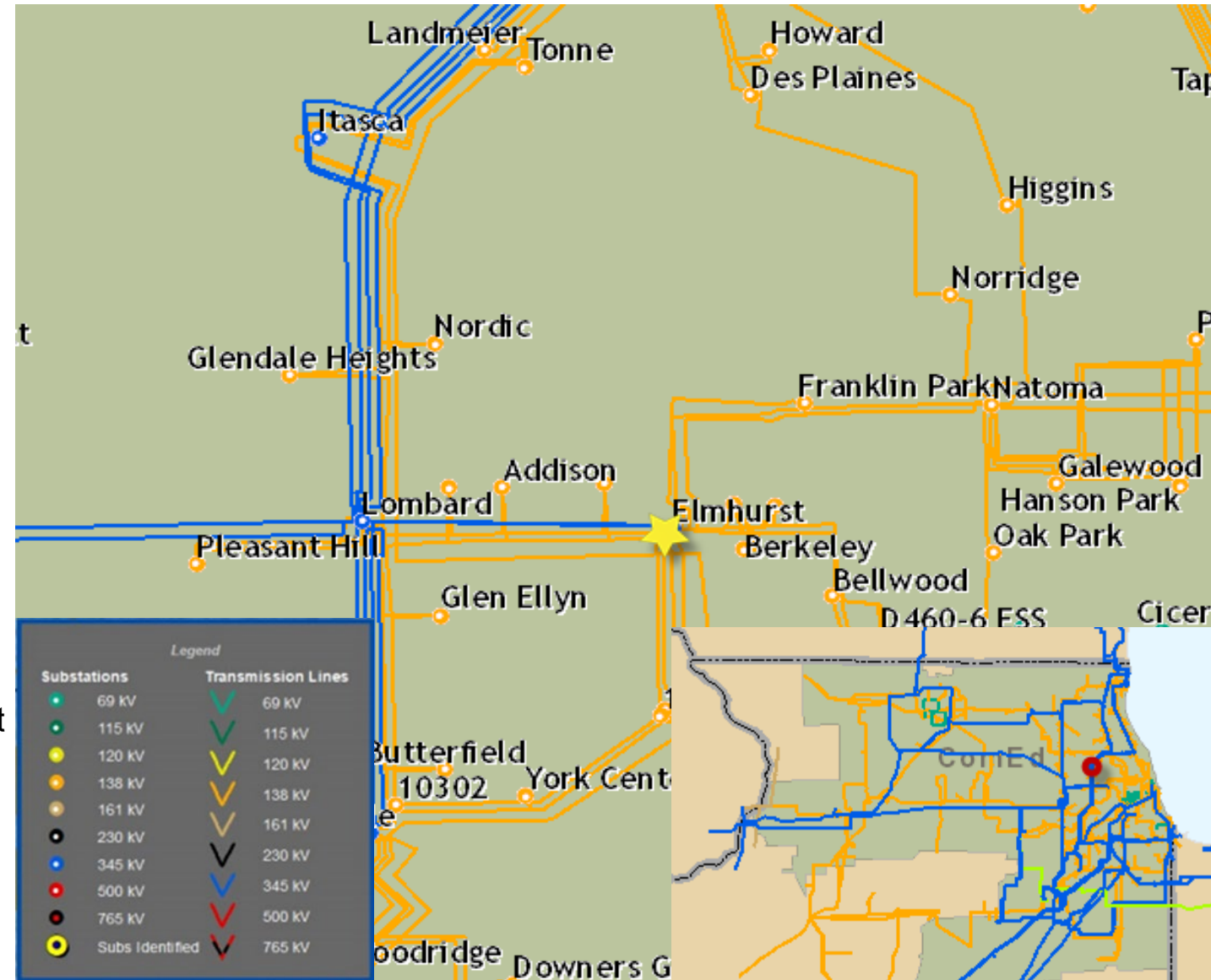
- Equipment Material Condition, Performance, and Risk
- Operational Flexibility and Efficiency

Specific Assumption References:

- Transmission infrastructure replacements (EOL/condition/obsolescence) that are consistent with efficient asset management decisions
- Internal and/or regulatory design guidelines or PJM minimum design standards
- Enhancing system functionality, flexibility, or operability

Problem Statement:

Elmhurst 345 kV configuration does not comply with current standards. It is a straight bus design with two 345 kV bus tie circuit breakers protecting two lines and three transformers. Lines and transformers are directly connected to the bus via switches. Lines and transformers trip together. Both 345 kV circuit breakers are obsolete and are in need of bushing replacements due to leaking oil.



Need Number: ComEd-2020-003

Process Stage: Solutions Meeting May 12, 2020

Proposed Solution:

Rebuild Elmhurst 345 kV bus as indoor GIS double ring bus expandable to breaker-and-a-half connecting two lines and three transformers

Estimated cost: \$55M

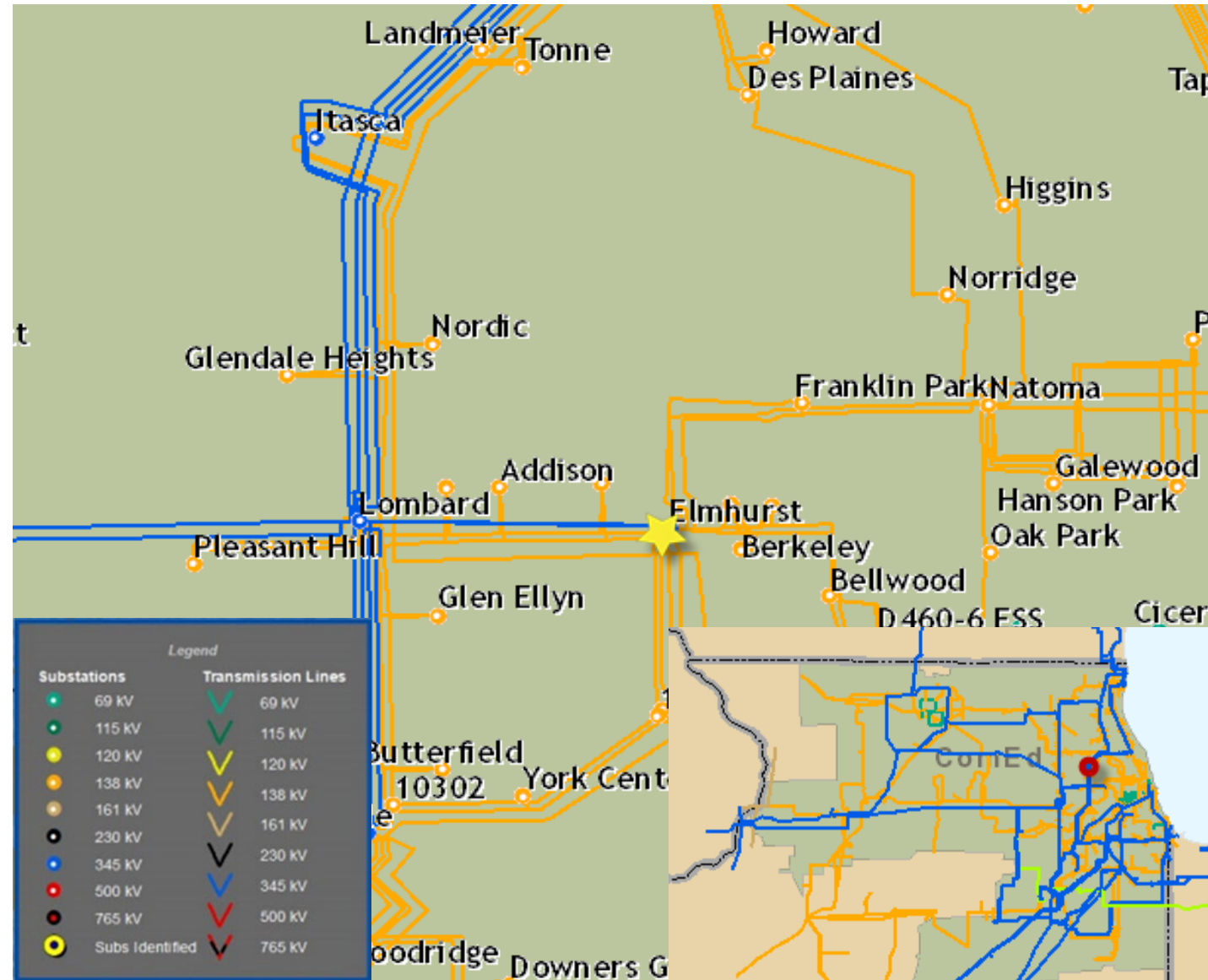
Alternatives Considered:

1. Do Nothing – Doesn't fix the design issue, equipment would start to fail
2. Replace breakers in current configuration – doesn't fix the design issue
3. Replace with open air BAAH – not enough real estate available

Projected In-Service: 6/1/2024

Project Status: Scoping

Model: 2025 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

4/29/2020 – V1 – Original version posted to pjm.com