



NETWORK UNDERGROUND



Powering Business Worldwide



NUG FOOTPRINT: STATEWIDE

Birmingham:

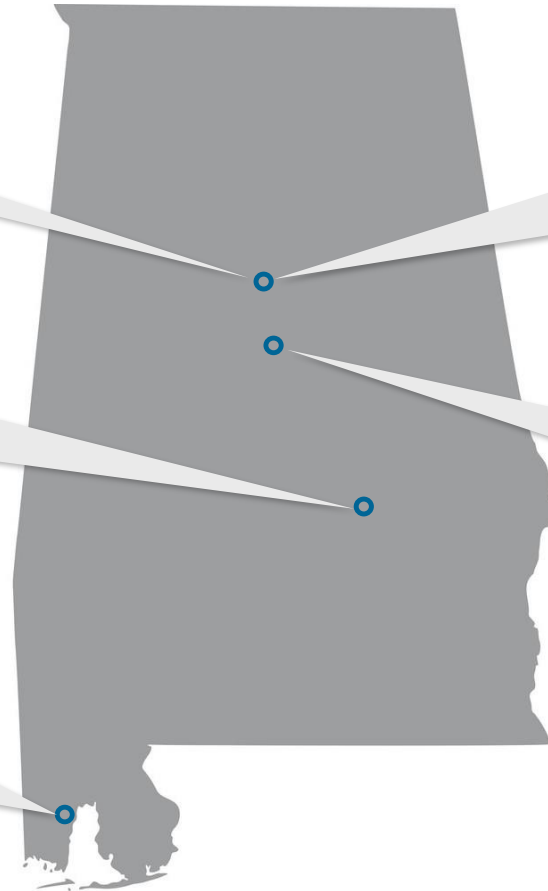
306 Transformers & Protectors
23 Line Crew Personnel
8 Engineering & Support Personnel

Montgomery:

116 Transformers & Protectors
10 Line Crew Personnel
2 Engineering & Support Personnel

Mobile:

84 Transformers & Protectors
11 Line Crew Personnel
2 Engineering & Support Personnel



Corporate:

Subject Matter Experts
System Planning
GIS Support
Budgeting & Strategy

Training:

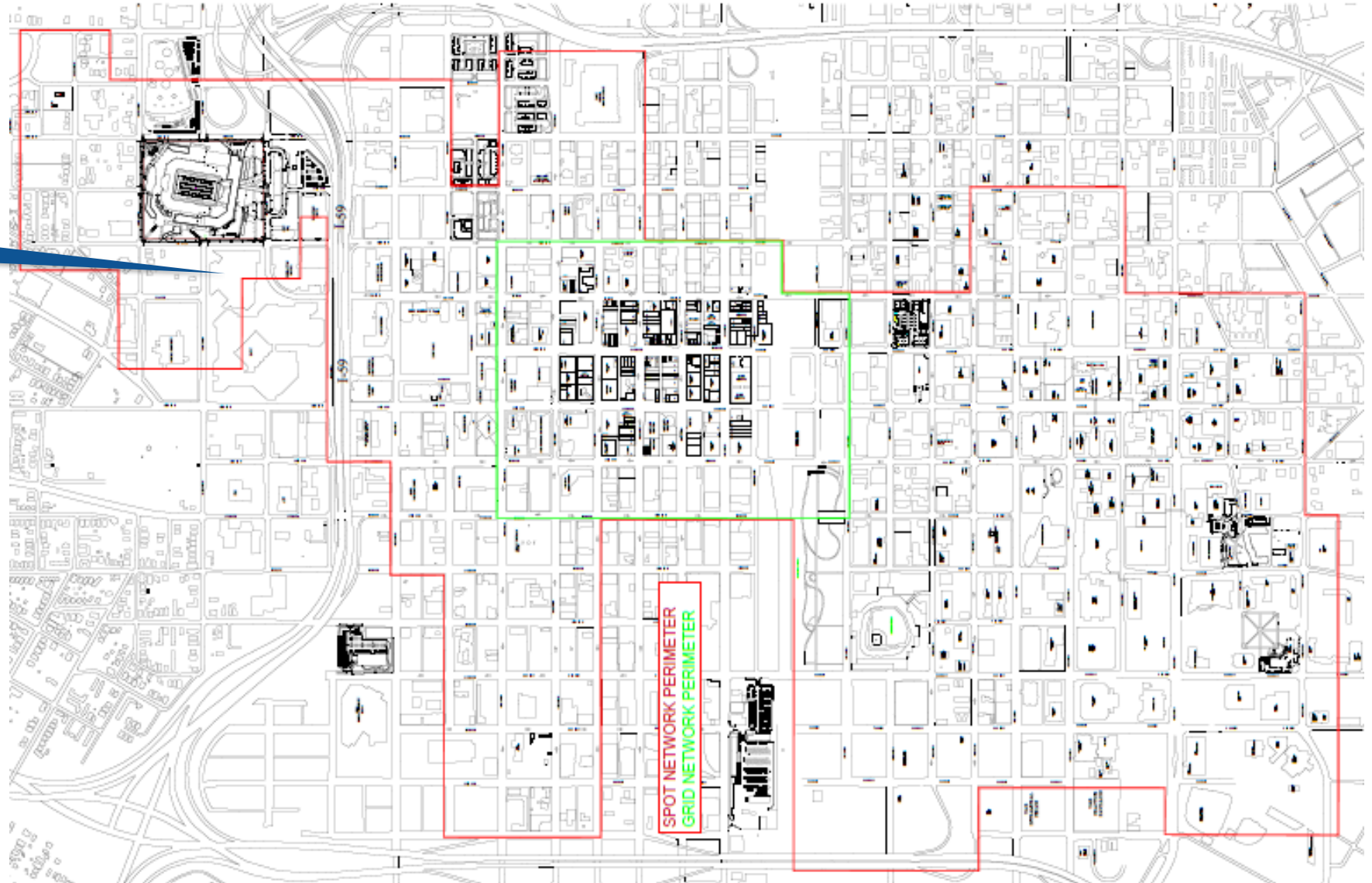
Subject Matter Experts
Simulation Facilities

NUG FOOTPRINT: BIRMINGHAM

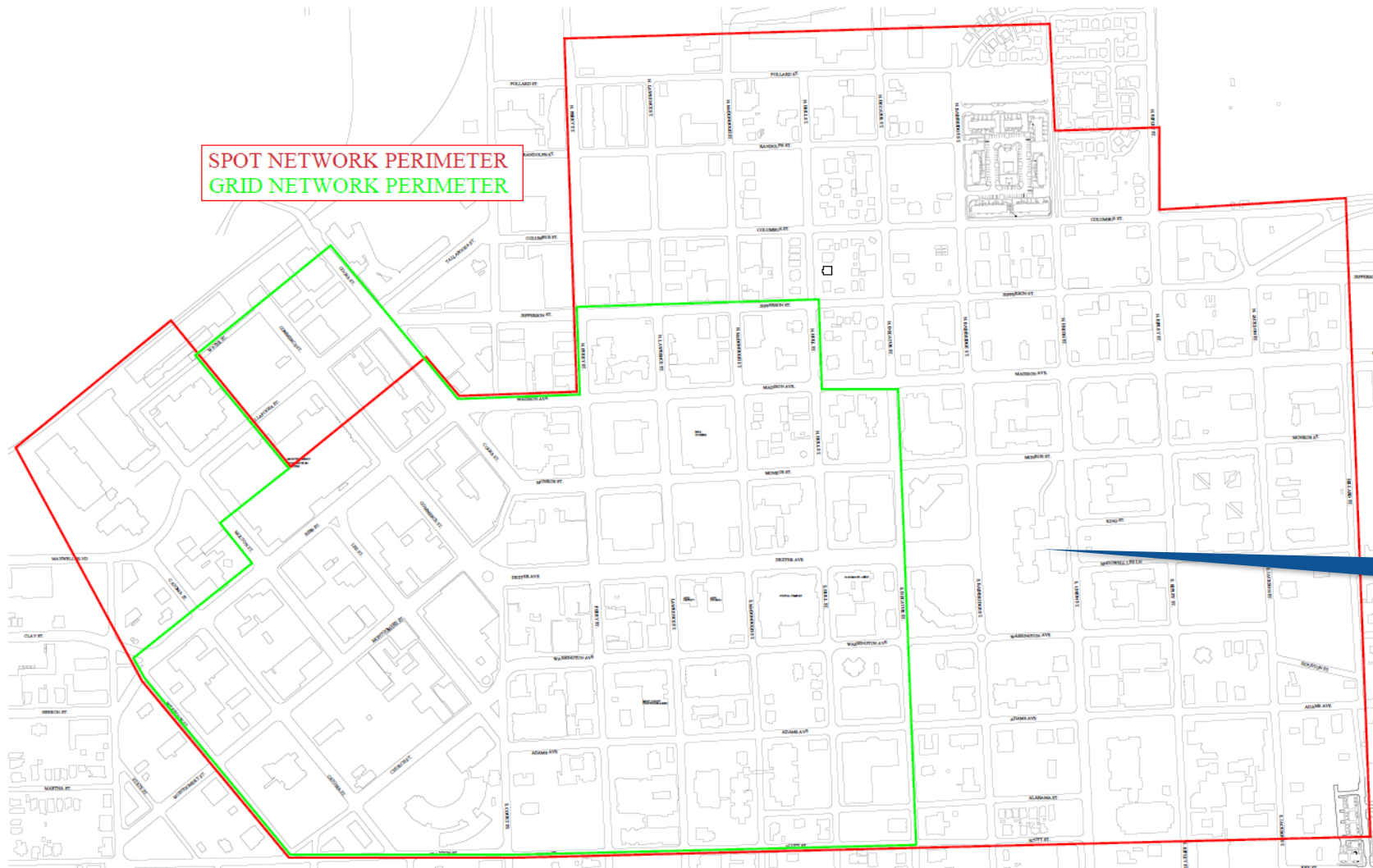
You Are Here

26 x 15 Blocks

78 Circuit-Miles



NUG FOOTPRINT: MONTGOMERY

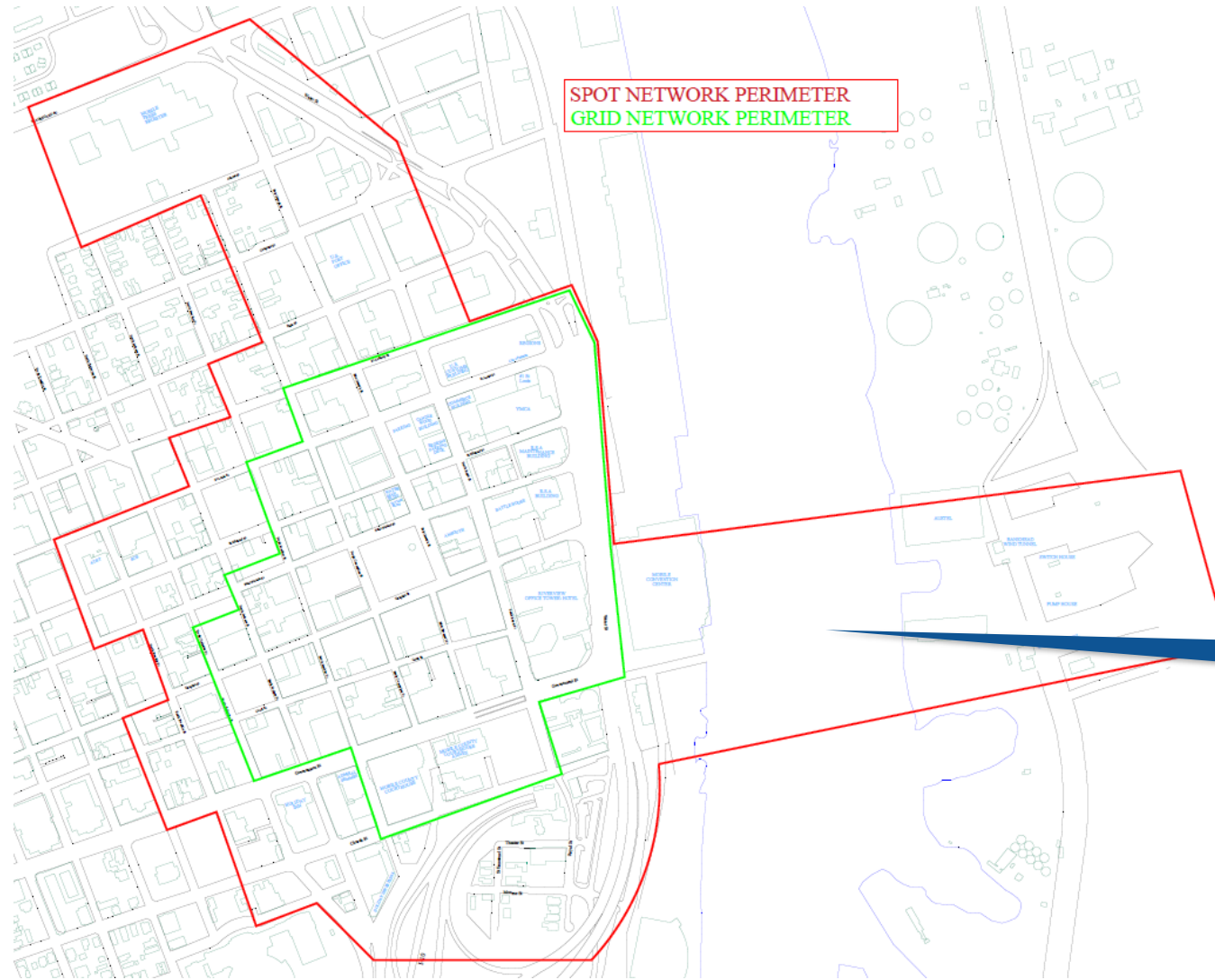


SPOT NETWORK PERIMETER
GRID NETWORK PERIMETER

14 x 9 Blocks
17 Circuit-Miles

State Capitol

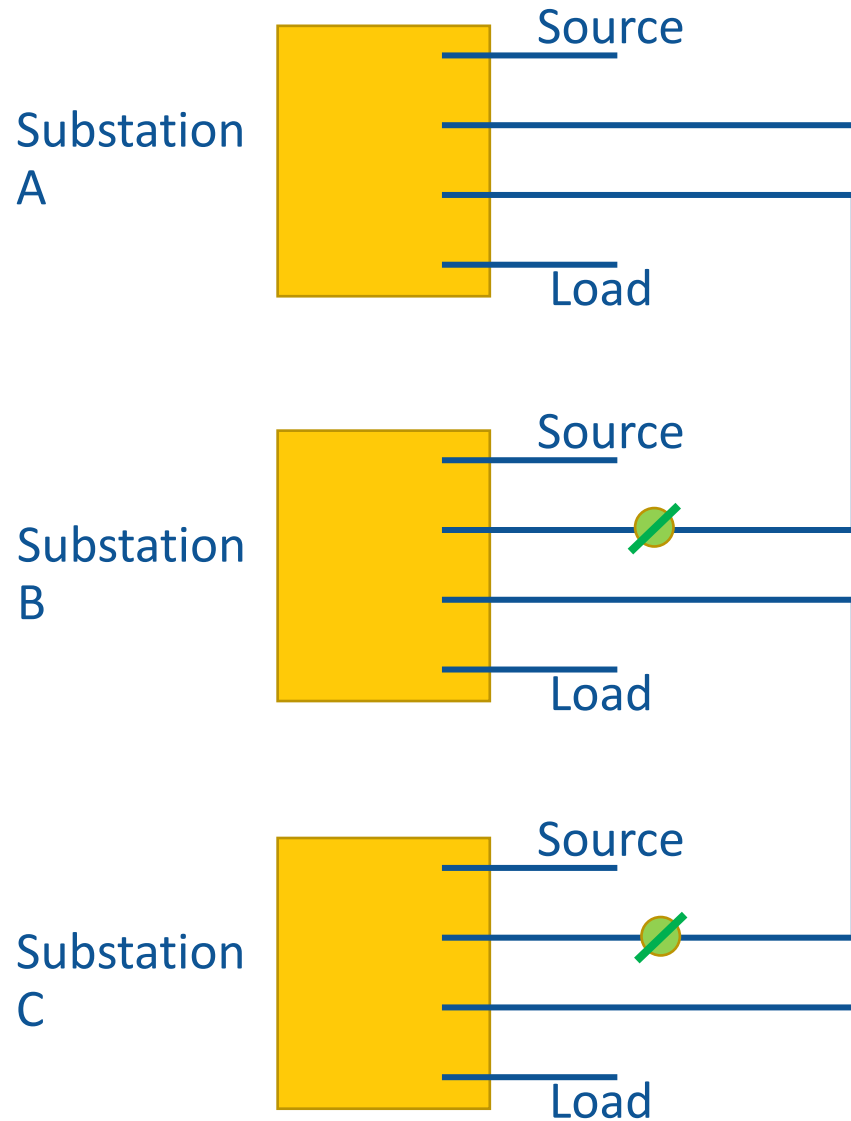
NUG FOOTPRINT: MOBILE



12 x 9 Blocks
14 Circuit-Miles

Mobile River

NUG UNIQUE FEATURES: FEEDER TIES



NUG UNIQUE FEATURES: LEAD CABLE REMOVAL

Why

PILC Production

Training

Capital Investment to Reduce Future O&M

How

Five-Year Project

Installed 350 & 500 Copper EPR

Additional Upgrades

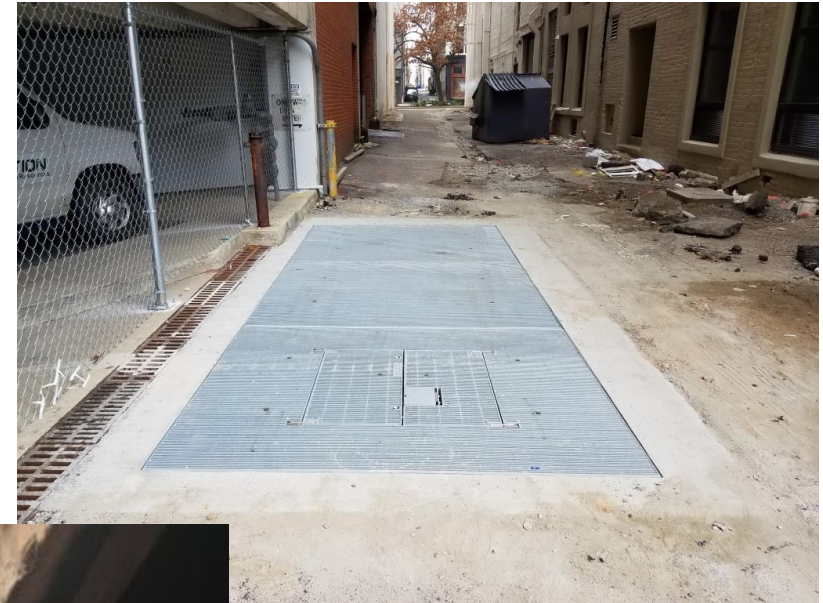
Duct Banks

Transformers & Protectors

Vault Tops & Grating

Fiber Optic Preparation

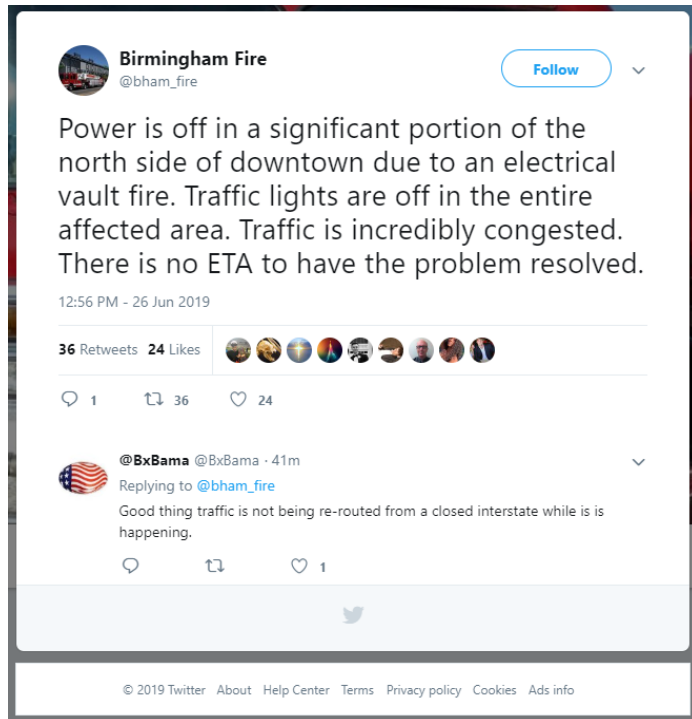
Insulated Bus



NUG UNIQUE FEATURES: "THE FIRE"

When: June 27, 2019

What: New transformers, protectors, and cable were energized for the first time. A primary splice failed, and after the feeder locked out, a protector failed to trip, causing a back-feed. Two separate fires began, and the grid had to be deenergized for approximately four hours.



NUG UNIQUE FEATURES: GIS SUBSTATIONS

3 GIS Substations



NUG UNIQUE FEATURES: FIBER OPTIC CABLES

30 Miles Installed
288 Strand Cable
263 Handholes



Fiber Hut

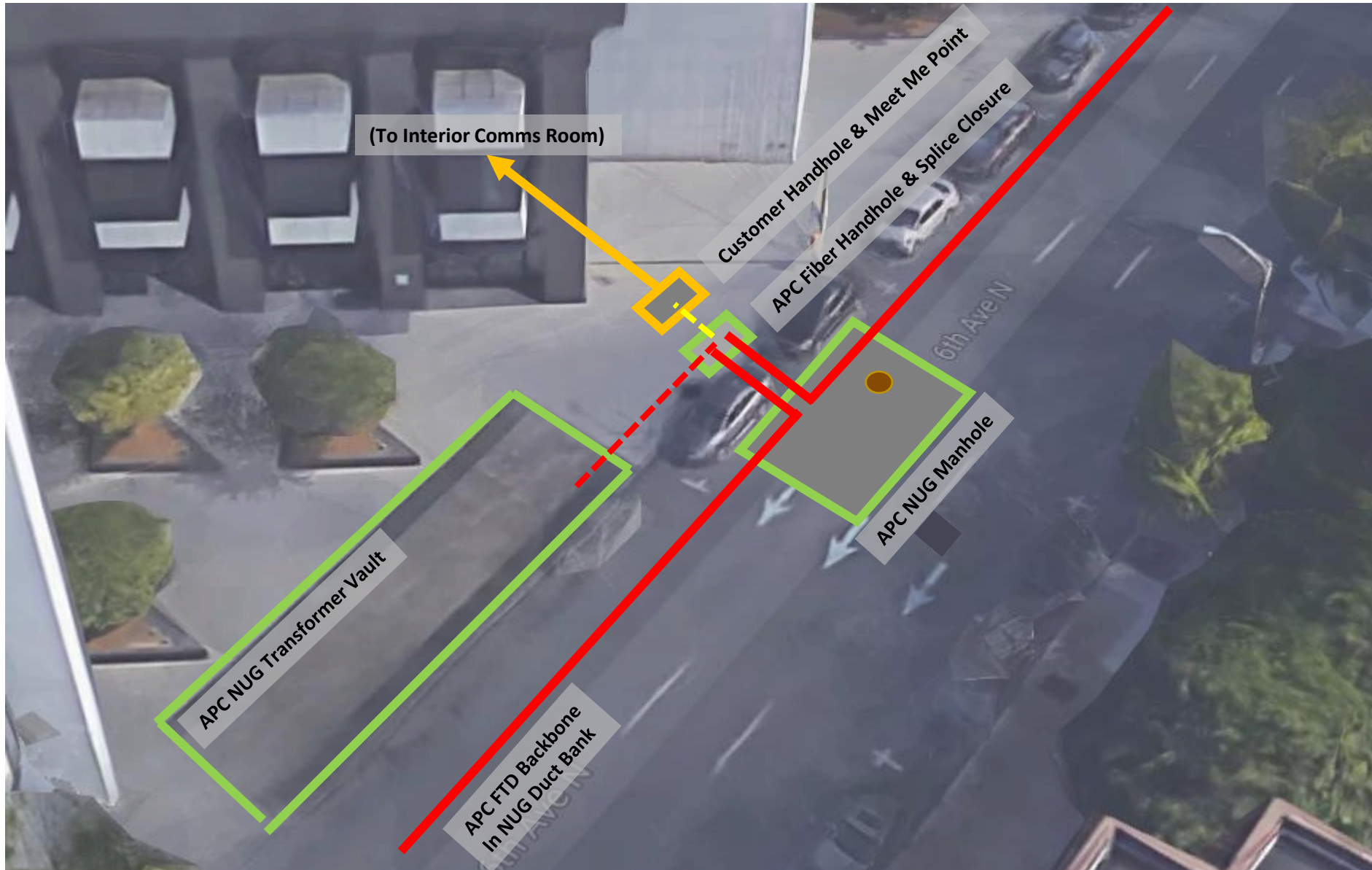


Splice Closure



Slack Loop

NUG UNIQUE FEATURES: FIBER OPTIC CABLES

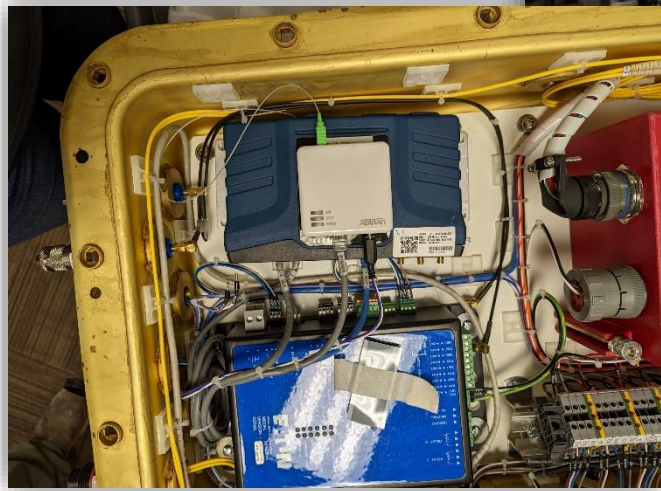


NUG UNIQUE FEATURES: FIBER OPTIC COMMUNICATIONS

- GPON Architecture
- 6 OLT
- 186 ONT
- 304 SCADA Devices



Repurposed Vault



ONT



OLT Cabinet

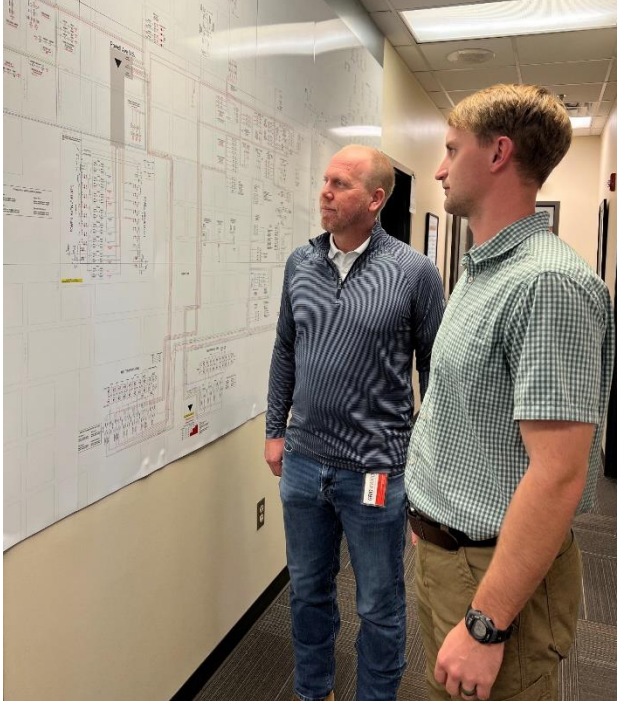
NUG GREATEST ASSET: PEOPLE



SME Stephen Wolbach



SME Steve Daniel



Birmingham Supervisor Mark Usry & Nathan Fincher



Birmingham SME Kendall Junkin



NUG GREATEST ASSET: PEOPLE



Mobile Team & Supervisor Greg White

Montgomery Team & Supervisor Scott Moore



NUG GREATEST ASSET: PEOPLE



Birmingham Crew

Birmingham Crew





Alabama
Power