Wireless Master Plan

History, Current Status, and Plan Forward

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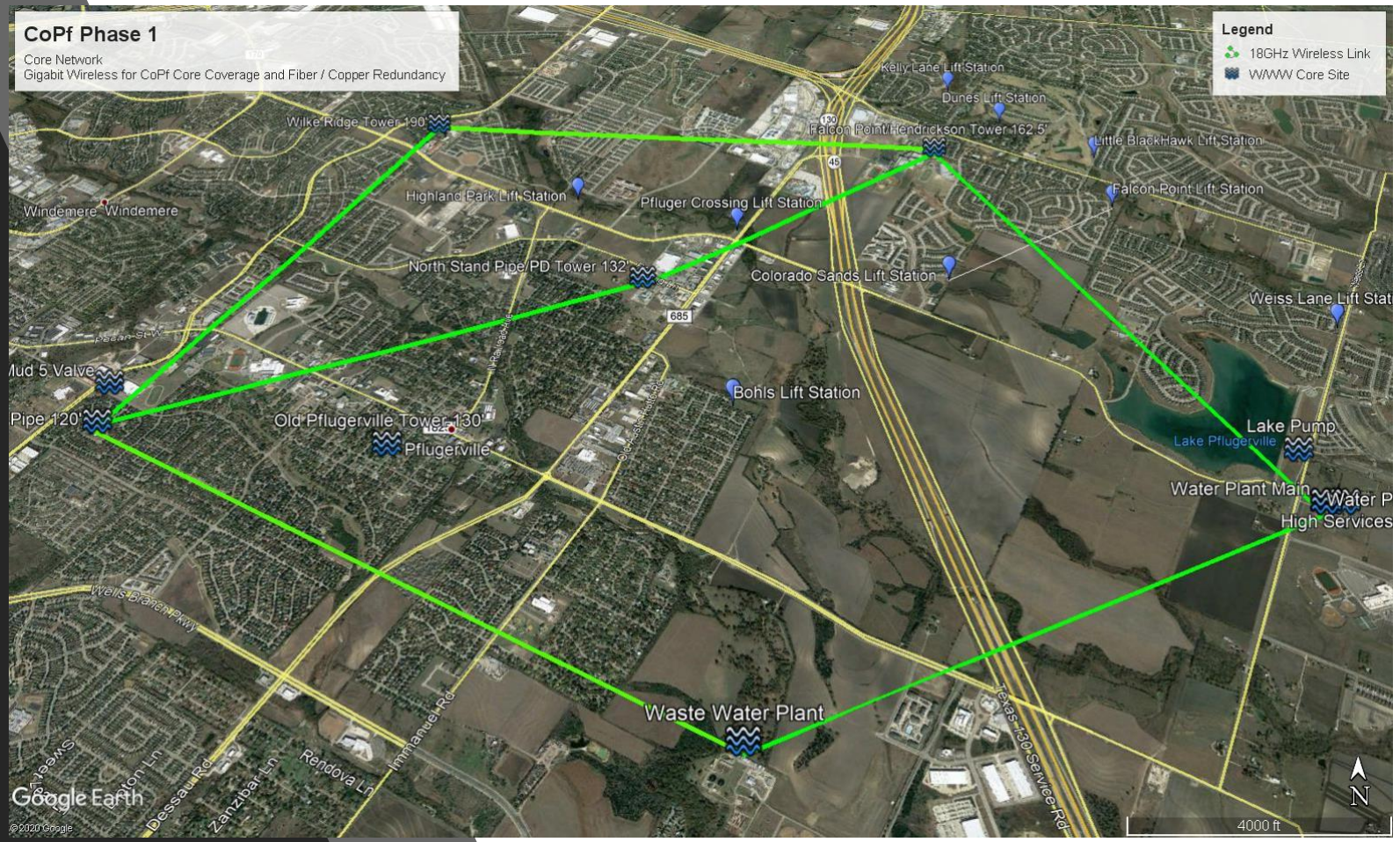
Parker's Choice Consulting

Phase 1 Core Network Complete 2019-2020 Budget year.

CoPf IT, being aware of the financial and time limitations on connecting fiber throughout the city as well as the tremendous growth rate, began evaluating a Wireless Master Plan in 2016.

Various designs, equipment vendors, City owned assets, and holistic, long term application studies were discussed.

The focus points of this plan is to offer immediate and near-term communications to Water/Waste Water Sites and AMI Collecting and Reporting, while providing opportunity for expansion to new city sites, automatic flood gate control, traffic signals, and pop-up emergency services deployments (festivals, disasters, etc)



This Wireless Master Plan Network will allow use, expansion, and redundancy for current and future smart city initiatives, networks and services.

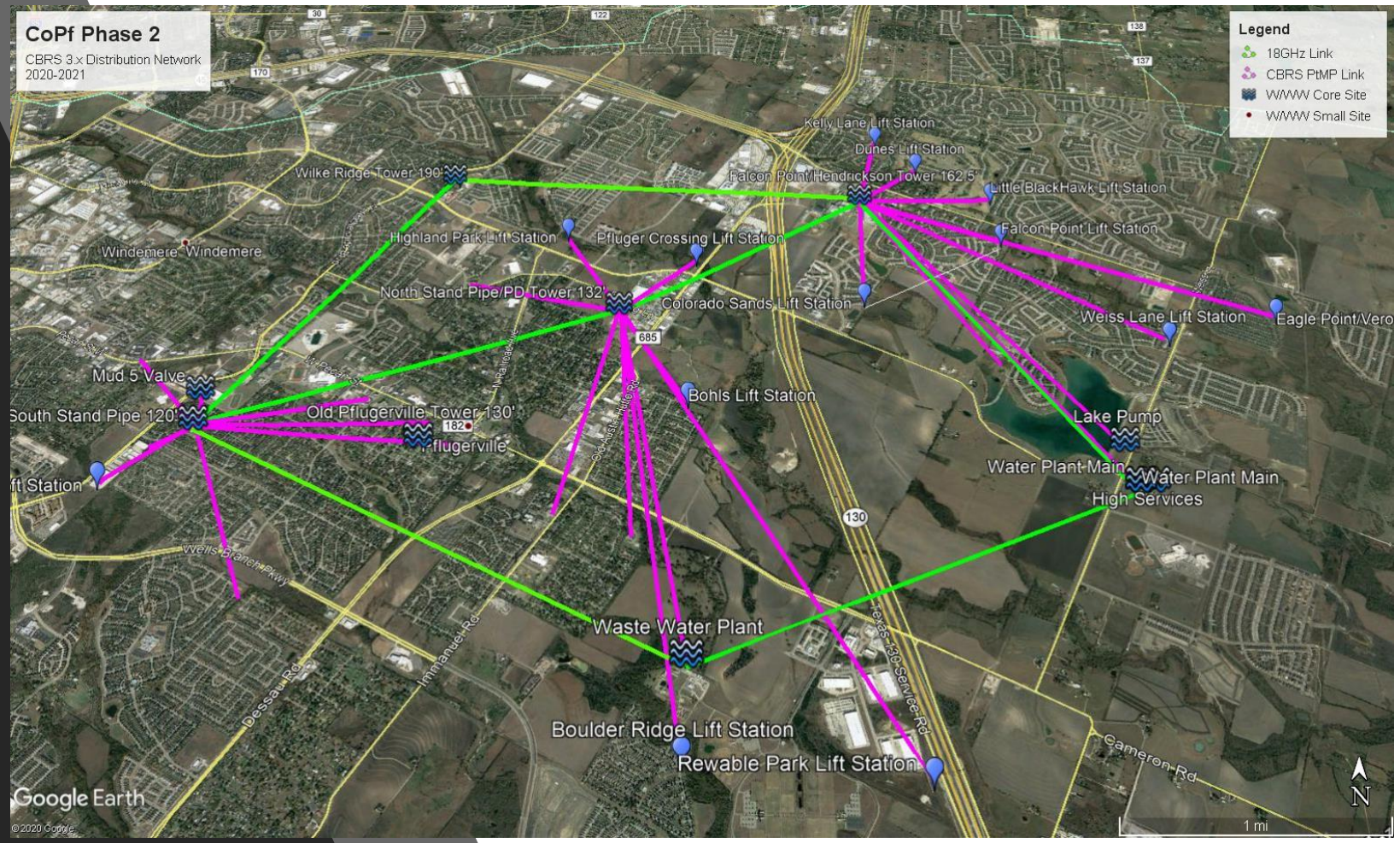
Phase 2 is scheduled for the 2020-2021 Budget year.

Phase 2 provides for connection to the 28 identified W/WW sites for monitoring, video, access control, and establishment of a collector network for the upcoming AMI (Advanced Meter Infrastructure).

Design, FCC Coordination, Project Management, Towers/Antenna Structures, Radios, Antennas, and Installation are all included in this project.

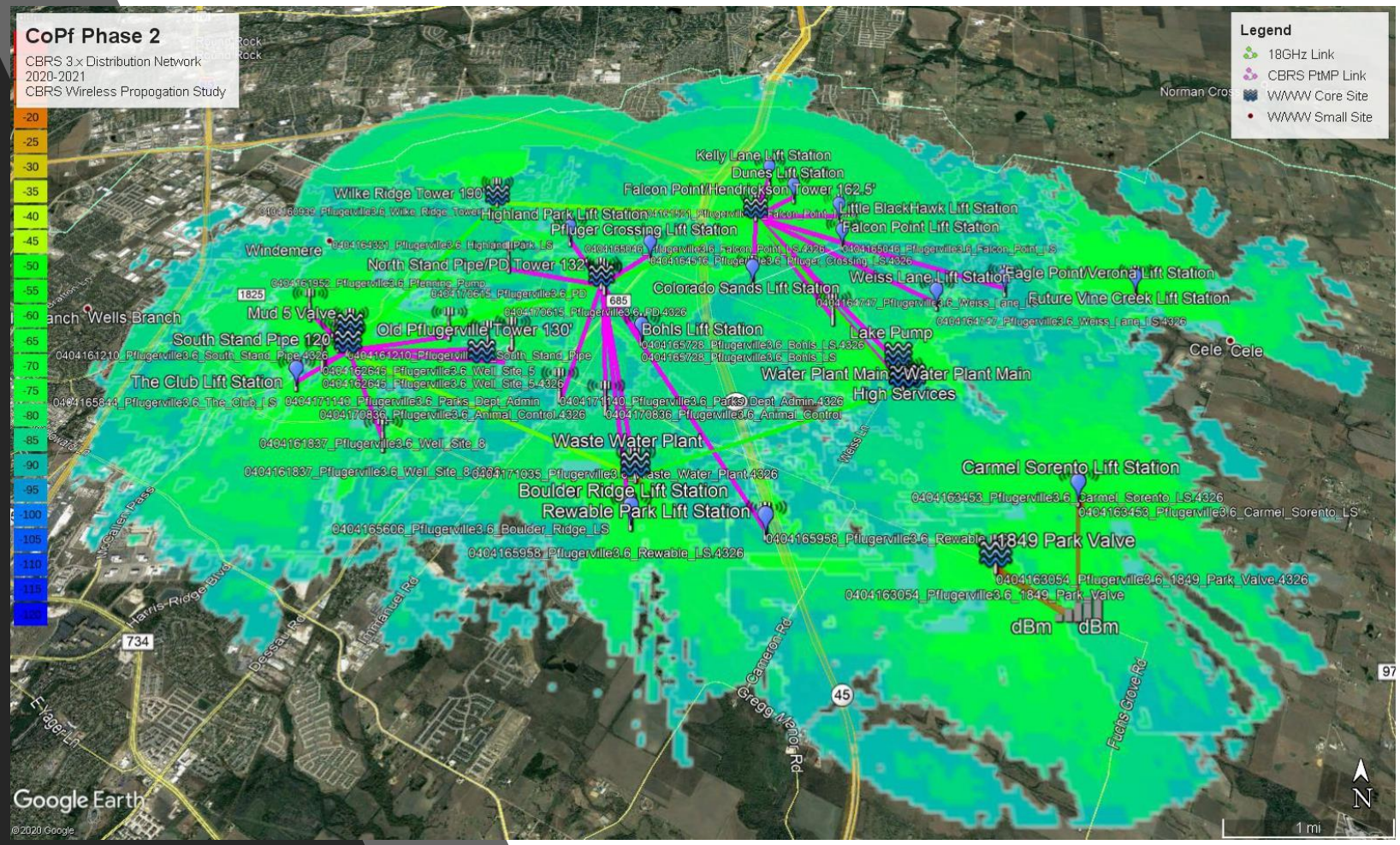
All items in the project were sourced via competitive purchasing contract pricing.

The Team from PCC who provided initial design and Phase 1 installation were selected to continue for Phase 2.



Phase 2 Propagation Study

Example of CBRS radio network coverage for Phase 2 Network.

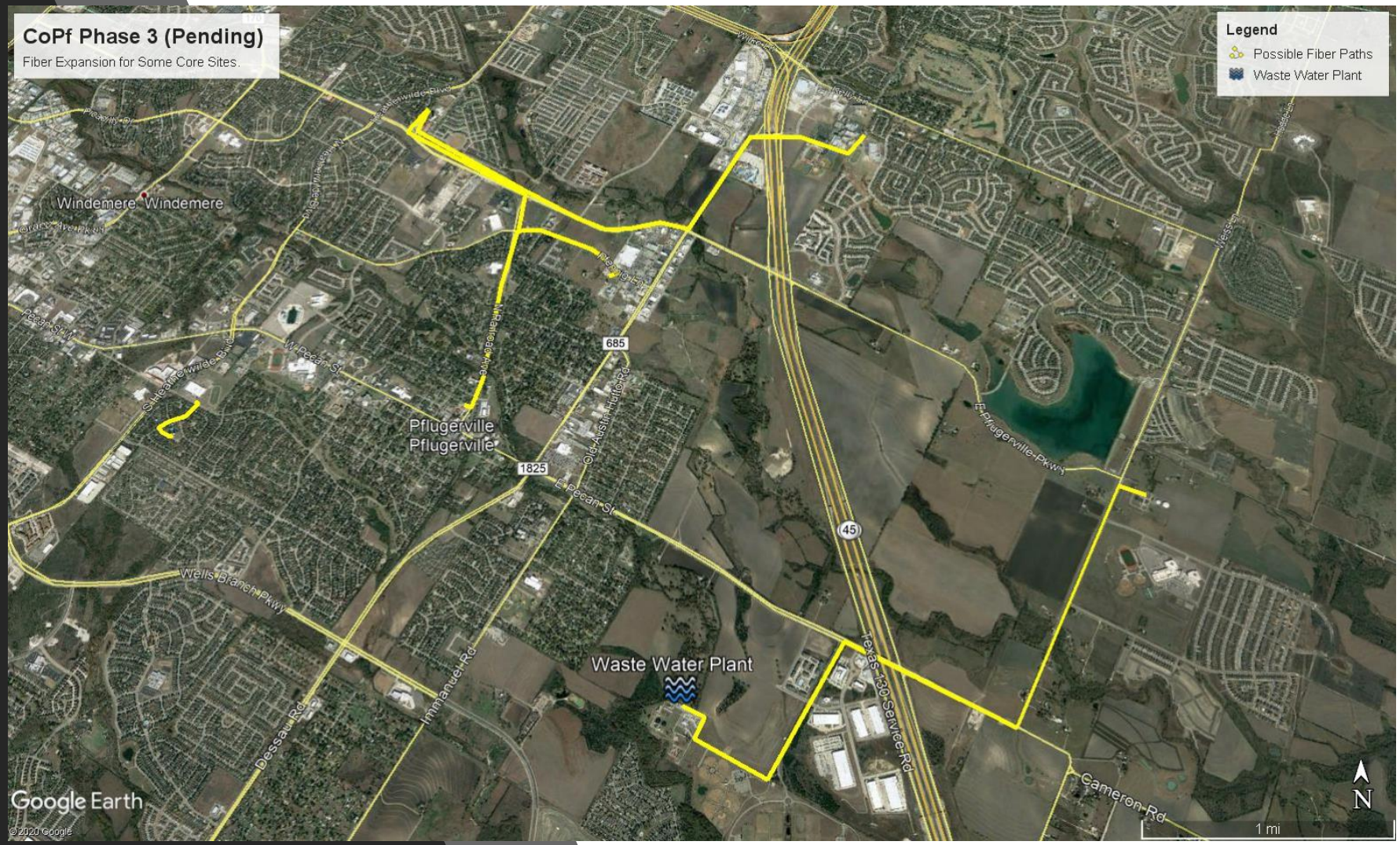


Phase 3 Fiber Additions
2021-2022 Planning Budget Requests

Discussed possible new fiber optic network lines either owned or leased by CoPf.

This representation does not include current fiber connections. These are initial suggested 'hot' sites where increased bandwidth and network stability are paramount.

While some of the key Core sites will have both fiber and Wireless Core nodes, this is planned for maximum levels of redundancy to minimize the chances of catastrophic outages.



Phase 4 and Beyond

Example of CBRS radio network redundancy expected with FCC CBRS-5G-LTE Rules for full MESHing

This is a software configuration change that should require no to minimal hardware to upgrade to the next level of redundancy.

In addition, CoPf has expressed interest in utilizing the CBRS distribution network for wireless access to traffic control systems, emergency services quick deploy access such as festivals or disasters, and pop-up video surveillance both city admin and police-based needs.

Additional fiber growth over time would provide a self-healing, multi-platform network providing several layers of redundancy and load balancing.