



WANRackTM

PRIVATE FIBER NETWORKS

February 15, 2024

**WANRack Proposal for a Fiber
Optic Network to the City of Petersburg, VA**

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INTRODUCTORY LETTER

INTRODUCTORY LETTER

City of Petersburg VA
Attn: March Altman
135 North Union Street
Petersburg, VA 23803

2-15-2024

Dear March,

Following PPEA guidelines WANRack, LLC would like to make an unsolicited proposal to the City of Petersburg to build a fiber optic network ring (the network) around and throughout the City of Petersburg. It is anticipated that the network will be a dark fiber network connecting City locations - as outlined by the City at a later date - and running to at least one HUB in the City which will be used as a network gathering point for all the aforementioned city locations. This will carry a one time direct cost to the city for the construction of the network, and a monthly lease cost for maintenance.

In this preliminary unsolicited bid proposal you will find: a general design concept; WANRack, LLC company information; organizational information about our leadership team; and, an explanation of how we build and maintain the networks we construct.

In this proposal, WANRack has supplied a bid for a leased dark fiber network ring. We have provided pricing options for 10-year lease and 10-year IRU (Indefeasible Right of Use) Agreements

WANRack is the premier private fiber WAN provider in the US, with extensive experience constructing federally funded and state funded compliant private fiber WANs. WANRack's team has built both leased lit and dark fiber solutions for customers in 23 states. Our team of experts assists our customers with federal and state funding applications and reviews.

This proposed solution will position the City with a virtually unlimited supply of bandwidth for the foreseeable future. WANRack's network will be the last one the City ever needs, period. We look forward to the opportunity to make an oral presentation detailing the many benefits and options of the WANRack Proposal.

Best Regards,



Steve Bergeron
Director of Business Development
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wanrack.com

EXECUTIVE SUMMARY

WANRack intends to build a private fiber network for the City of Petersburg. We will build this network from the ground up using a pure fiber construct.

The new private network will provide the City with unlimited bandwidth solely for the City's use. There will be no sharing of fibers or bandwidth as there might in a public facing network. The only customer on this private network will be the City of Petersburg.

The network will also provide the City with extra fibers throughout the fiber ring. Extra fibers will provide the City with unlimited network growth capabilities. It is WANRack's intent that this network will be the last network the City of Petersburg ever needs period.

WANRack's goal is to build the last Wide Area Network (WAN) the City will ever need. WANRack's turnkey fiber networks are:

- **Safe, Secure & Reliable:** A WANRack private fiber network is 100% dedicated to the City. It carries only YOUR data for YOUR applications. With no other customers on the network, it is both more secure and more reliable than traditional carriers.
- **Offer Unlimited Bandwidth at a Fixed Cost:** As your bandwidth needs increase, so will the speed of your WAN. No matter if you have a leased lit solution or dark fiber, all WANRack networks offer UNLIMITED BANDWIDTH for the same cost. Increasing your leased lit bandwidth is a simple phone call to our Customer Support Center and within 72 hours your speed requirements will be fulfilled.
- **Provide the Sum of the Parts:** Fiber would be dedicated through a 100% symmetrical connection from each edge site directly to the City's hub site. If the networking equipment owned by the City with 10 edge sites has 10 Gb for each link, WANRack's network would support 100 Gb back to the Hub. WANRack's network is never oversubscribed. *Speeds are dependent on the technical capabilities of the City's networking equipment.
- **Supported by WANRack's Governmental Services Organization:** As state and federal funding experts, we will work with the City through all aspects of the funding process. From initial state or federal review to the audit process, WANRack can meet your needs.
- **Constructed by Outside Plant Experts:** WANRack's team has built over 1700 route miles of fiber across 23 different states. We have connected over 800 city, county, and education facilities since the company was founded in 2013. From small hub & spoke builds to large, multi-hub ring topologies, WANRack offers our customers exactly the design they are looking for.
- **Delivered with a Seamless Transition:** Your private fiber network is constructed in the background while the City remains under contract with your current provider(s). Once completed, WANRack makes the transition from the current WAN provider to the new private fiber network in minutes.
- **Furnished with Spare Fibers:** Extra unlit fibers for future expansion, testing, or data segregation can be delivered to every site. This is a matter of discussion during contract negotiations.

COMPANY PROFILE

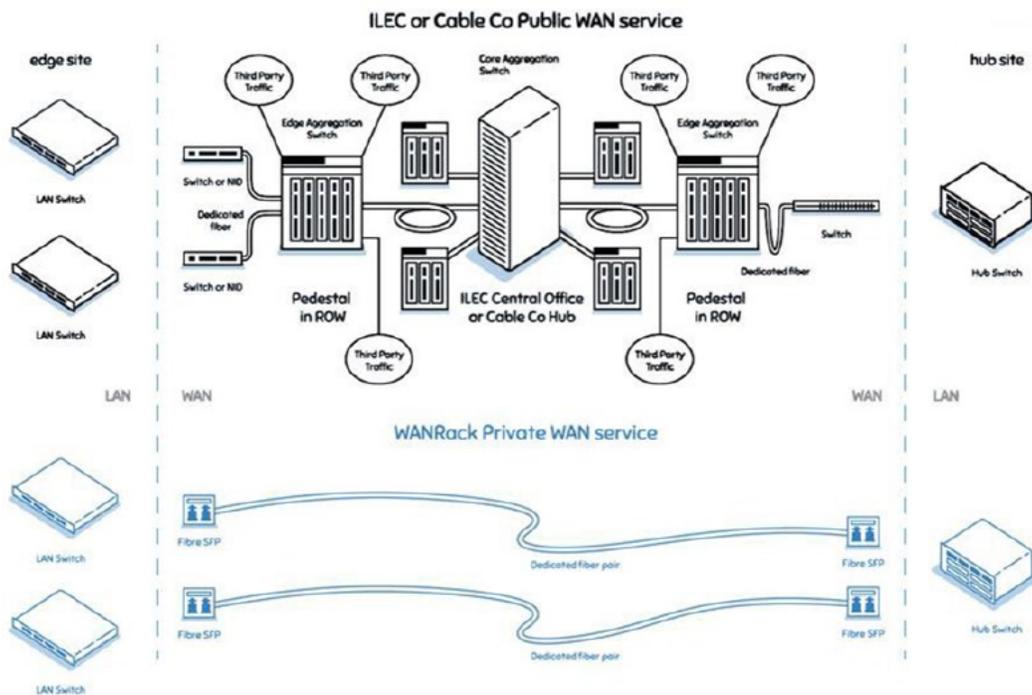
WANRack provides high-bandwidth, fiber-based communications networks and related services to customers throughout the continental United States. Headquartered in the Kansas City metropolitan area, with satellite offices in Phoenix, AZ; Richmond, VA; and Tampa, FL; the company provides superiorly designed fiber networks, which eliminate countless points of failure found in traditional legacy networks.

WANRack's team has been engineering, constructing, and maintaining fiber networks across the nation since 2013. Our executive management team has extensive experience in the telecommunications industry with a history of successful completion of large and complex fiber-optic construction projects for schools, cities, counties, municipalities, wireless carriers, and private enterprises. WANRack is a certified E-Rate service provider (SPIN # 143037316) and holds a CLEC in every state in which we currently operate.

WANRack is privately held and backed by CBRE Caledon Capital Management Inc., a leading infrastructure and private equity solutions provider. Their dedicated team of 52 professionals represents \$8.5 billion on behalf of institutional investors globally. CBRE Caledon is a separate business unit within CBRE's independently operated investment management subsidiary, CBRE Global Investors. For more information about CBRE Caledon, please visit www.cbrecaledon.com.

WANRACK VS COMPETITORS

The following diagram demonstrates the simplicity of WANRack's solution with minimal points of failure when compared to an ILEC or cable company network.



BENEFITS OF A WANRACK WAN

WANRack's network goes above and beyond what your City will receive with an oversubscribed public network.

CAPABILITY	WANRack	COMPETITORS
Sum of capacity at edge sites = capacity at hub - If 10 Gb is delivered to 15 edge sites, then 150 Gb will be delivered to the Hub	✓	✗
Unlimited bandwidth at a fixed cost - Cost predictability	✓	✗
Dedicated bandwidth with no oversubscription	✓	✗
Upgrade circuits without involving provider - Easily swap SFPs at no charge within 72 hours	✓	✗
Simple to troubleshoot with minimal points of failure - No MPLS	✓	✗
Customer has control of the network - Reconfigure on the fly	✓	✗

SCOPE OF WORK

WANRACK WILL BUILD A RINGED FIBER NETWORK FOR THE CITY OF PETERSBURG. THE FIBER RING WILL CONNECT ALL CITY OFFICES AS DESCRIBED CONTRACTUALLY BY THE CITY BEFORE CONSTRUCTION BEGINS. ALL OF THE LOCATIONS WILL BE OFFERED WANRACK'S PROMISE OF UNLIMITED BANDWIDTH FROM EACH LOCATION BACK TO THE HUB(S). WANRACK ALSO OFFERS THE CITY EXTRA FIBERS WITHIN THE RING, ALTHOUGH THIS WILL BE A MATTER OF DISCUSSION IF WANRACK AND THE CITY GET TO THE CONTRACTUAL STAGE.

THE FIBER RING WILL GIVE THE CITY THE CAPABILITY TO DELIVER FIBER TO ANY OF THE CITY'S MANY OFFICES AND CAN BE CONNECTED TO AS MANY HUB OFFICES AS THE CITY FEELS ARE NECESSARY. THE NETWORK WILL SPREAD THROUGHOUT THE CITY, GIVING THE CITY THE OPPORTUNITY TO EXPAND THE NETWORK SHOULD YOU DESIRE, FOR OTHER FTTP (FIBER TO THE PREMISE) SERVICES SUCH AS FIRST RESPONDERS FIRE AND SAFETY CONNECTIVITY, HOSPITAL TO ANCILLARY HEALTH SERVICES CONNECTIVITY, UBIQUITOUS STREET SIGNAL MANAGEMENT CAPABILITY....

ELECTRONICS

DARK FIBER LEASE

- Optical Interfaces are provided as an optional purchase for dark fiber. These interfaces are selected based on compatibility with the City's existing or planned equipment.
- WANRack will invoice the City for any equipment requested or the City may purchase their own. This would enable the City to operate the dark fiber network as desired.

PROJECT BUILD PLAN

WANRack has proposed a turnkey private fiber network. Our team oversees all aspects of the project build. The following is an overview of each phase of the construction process and the projected timeline for completion based on our historical data.

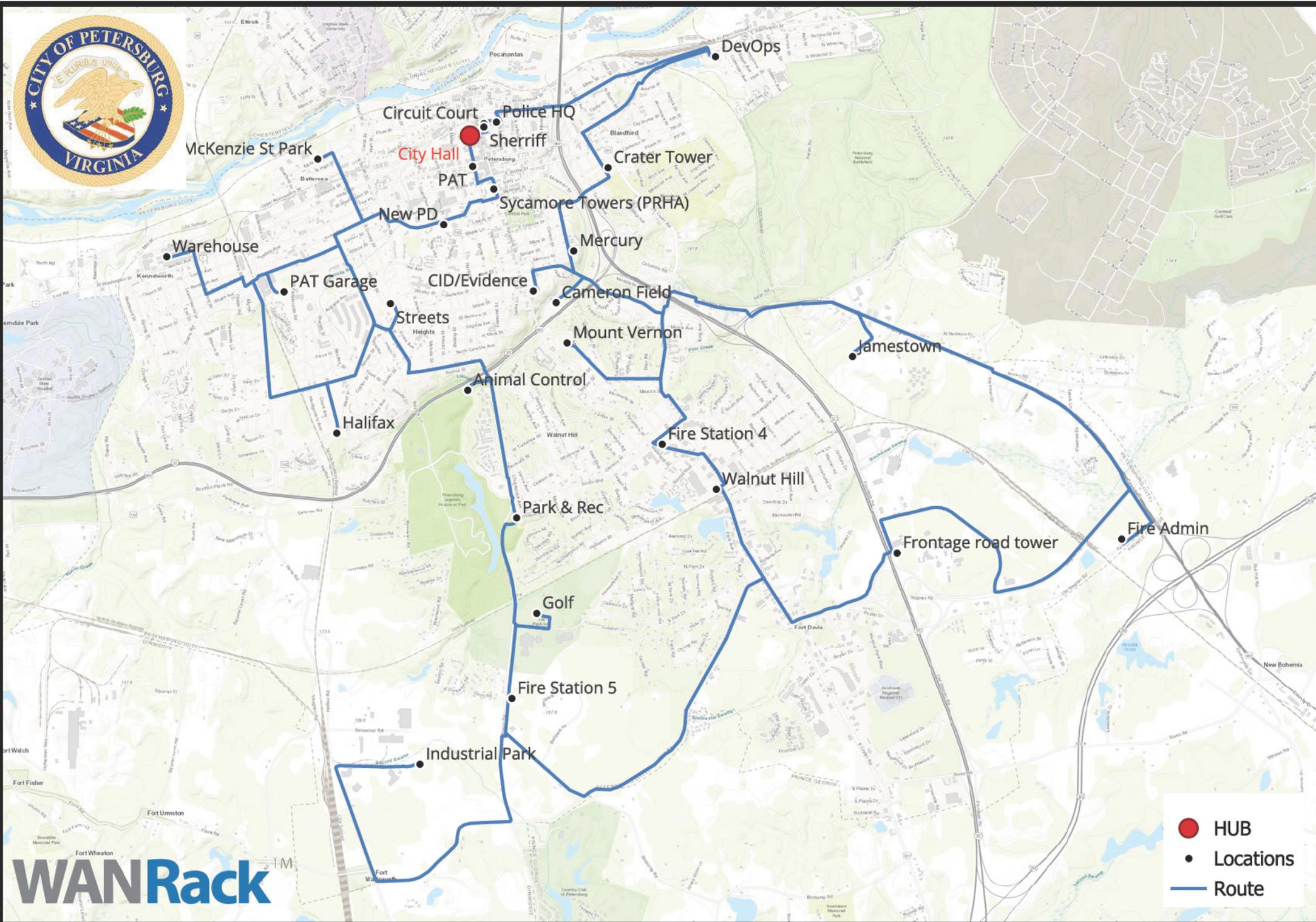
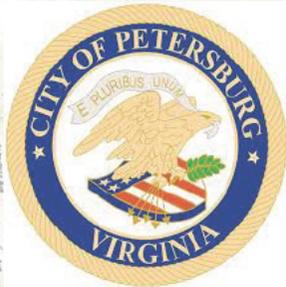
1. Route Design: This part of the process involves driving the actual routes and confirming the best layout for the proposed topology. It takes 2-3 weeks, dependent on the project size.
2. Permitting: Once a final route is planned, our permitting team works with each entity to procure agreements and all permits. These include, but are not limited to, utility pole agreements, franchise agreements, railroad crossing permits, city/county/state permit agreements, etc. These processes vary greatly in time, taking 15 - 180 days to acquire and are dependent on local rules. If there are any areas of the design that might become a delay due to permitting issues, WANRack may select to redesign if feasible.
3. Material: With a final design in place, WANRack will order all materials. This typically takes 3-4 weeks.
4. Outside Plant Construction: With material now in hand, aerial and underground construction commences where permits have been attained. This work might be performed concurrently or independently, dependent on the complexity of the project and the site conditions. Once the network infrastructure has been completed, the fiber would be installed, spliced, and tested.

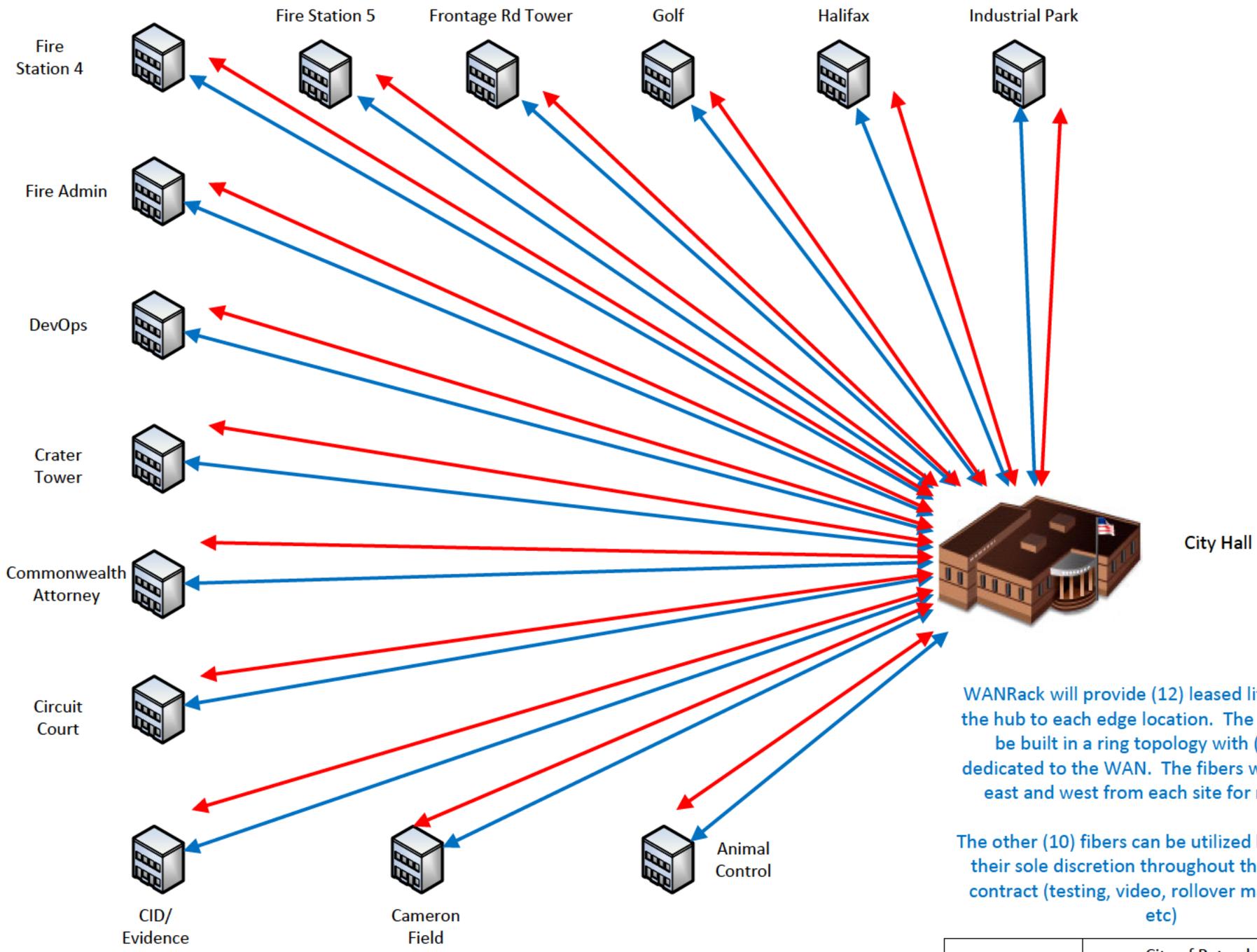
5. Cutover and Acceptance Testing: During cutover and acceptance testing, the new service from WANRack will never impact your existing service. You have two options for cutting service over to WANRack:
 - a. Dual Service with hot cut: the City keeps its current service active while WANRack's new service is built and tested. Once accepted, all locations switch to the new service at one time.
 - b. Dual Service with soft cuts: as each site is built out by WANRack, the old service is cut off. This requires a 'meet me' point where both service providers can exchange data in order for the new and old networks to communicate until all sites are completely migrated.
6. Network Operation Center: Once the network is live, WANRack has a dedicated team, 24/7 that handles all aspects of monitoring, locating and maintaining the integrity of the network.
7. Maintenance: Any scheduled maintenance of the network will be completed at the City's convenience.

COMPLIANCE

All construction work will be completed in strict accordance with federal, state, local, and other applicable rules and laws as related to safety and environmental issues. The completed network will comply with the current requirements of all governing entities (NEC, FCC, and other national, state, and local codes).

MATERIAL – WANRack only utilizes premium, carrier-grade fiber optic cable and OSP/ISP materials from top-tier manufacturers. All cut sheets are available upon request of the City. The warranty for any material supplied by WANRack will last throughout the life of the contract.



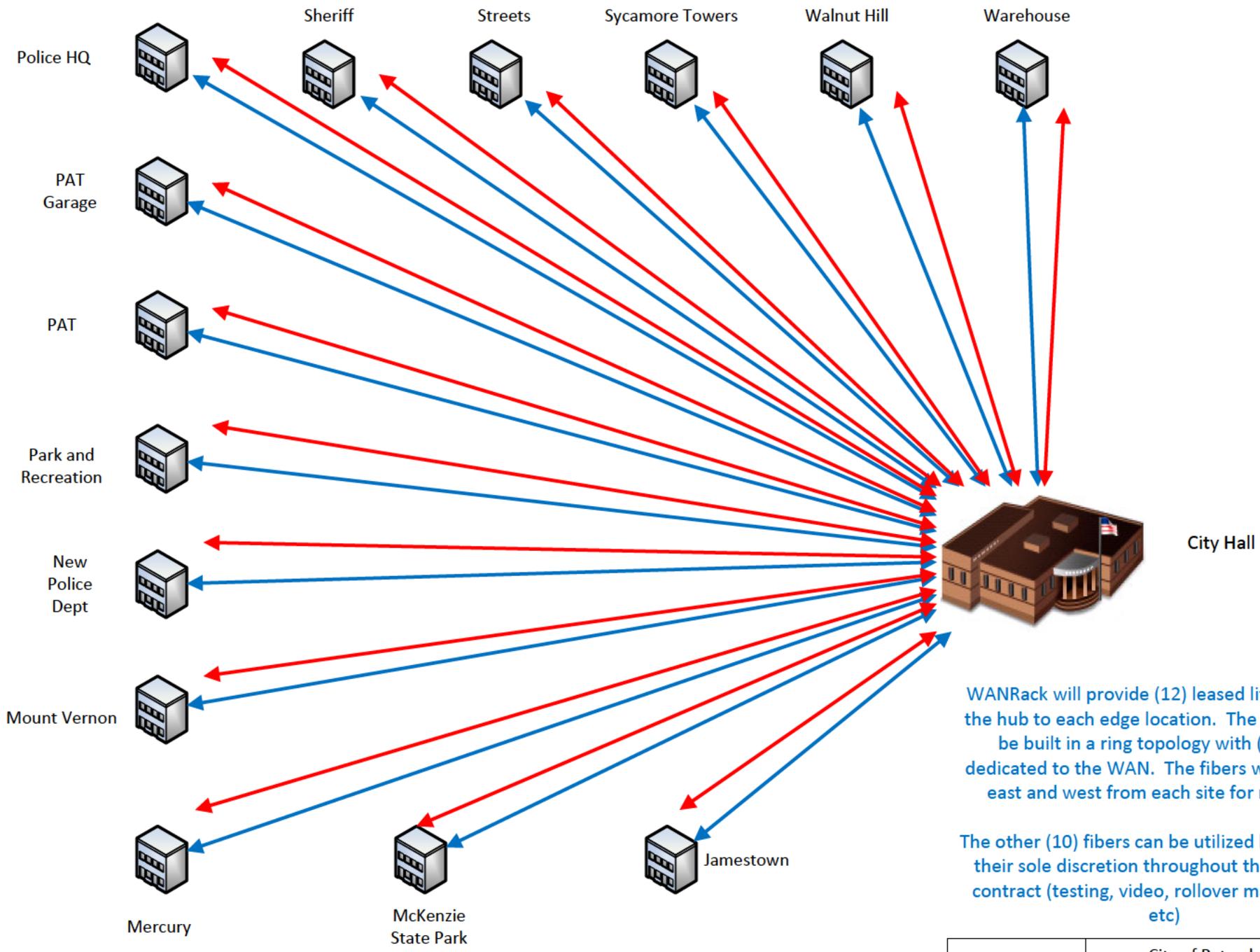


WANRack will provide (12) leased lit fibers from the hub to each edge location. The network will be built in a ring topology with (2) fibers dedicated to the WAN. The fibers will look both east and west from each site for resiliency.

The other (10) fibers can be utilized by the City at their sole discretion throughout the life of the contract (testing, video, rollover maintenance, etc)

12 fibers – East = 
 12 fibers – West = 

		City of Petersburg, VA			
		Network Diagram			
Drawn By:	SIZE	FSCM NO	DWG NO	REV	
Michael Christian	1 : 1	11/1/22	01 03	1	
SCALE	1 : 1	11/1/22	SHEET	1 OF 2	



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SAMPLE PROJECT TIMELINE

City of Petersburg - WAN Timeline

Task Name	Start	Finish	Q4			Q1			Q2			Q3		
			Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
WAN Timeline	12/01/23	09/27/24												
Notice to Proceed	12/01/23	12/01/23												
Pre-Construction	12/01/23	05/17/24												
Pre-Construction Kickoff Meeting	12/01/23	12/01/23												
Entity Agreements (Pole, Franchise, Municipalities, RR, etc)	12/04/23	04/05/24												
Network Design	01/15/24	02/09/24												
Material Procurement	01/08/24	05/10/24												
Engineering	01/15/24	02/16/24												
Permitting	01/15/24	05/17/24												
Construction	03/18/24	09/18/24												
Duct Placement	03/18/24	07/19/24												
HH Placement / Tie Ins	06/12/24	07/23/24												
Building Entries / ISP Work	06/19/24	07/16/24												
Aerial Strand Placement	04/08/24	09/06/24												
Fiber Placement	08/22/24	09/18/24												
Fiber Splicing	09/10/24	09/18/24												
Documentation / Turnover to District	09/19/24	09/27/24												
Fiber Testing / Reports	09/19/24	09/25/24												
Documentation Turnover	09/26/24	09/27/24												
Customer Handoff	09/27/24	09/27/24												

QUALIFICATION OF FIRM

WANRack has a proven history of working with school districts and municipalities across the country, building both small hub & spoke and large, multi-hub networks. We are E-Rate experts and pride ourselves on delivering a top-of-the-line product to our customers both on time and on budget.

Our team manages all aspects of a District's network from RFP responses, contract negotiations, assistance with PIA review questions, construction management and network handoff. Once a network is up and running, WANRack's customer service is just a phone call away. Many of our networks have never experienced an outage, but should your network have a failure, WANRack offers a comprehensive Service Level Agreement (SLA) for all of our customers.



Our company is financially backed by the second largest infrastructure fund in the world, CBRE Caledon.



The WANRack team has built over 1,000 route miles of fiber across 23 states.



We've been in business for a decade helping communities and school districts and municipalities obtain fiber networks.