Gary Abrahams For T-Mobile USA, Inc. PO Box 2006 Bellevue, WA 98009 206-349-4279 <u>Gary@GMAnetworkservices.com</u>

VIA EMAIL

April 1, 2021

Mr. Ryan Osada Director, Public Works City of Medina 501 Evergreen Pt. Road Medina, WA 98039

RE:

Planning for T-Mobile wireless communication facility in City of Medina ROW Adjacent to 247-84th Ave. NE, Medina Utilize PSE pole for antennas and locate equipment in an underground vault T-Mobile Site ID: SE02025C, Eastland – PSE – Utility Submittal of Pre-application Materials

Dear Mr. Osada,

T-Mobile is planning for a wireless communication facility in Medina to be located approximately at 84th Ave. NE and Overland Drive West. The plan includes installing an underground vault in the ROW on 84th Avenue NE, just north of Overland Drive West. Additionally, T-Mobile plans to utilize a Puget Sound Energy utility pole in the ROW at 84th Avenue NE and Midland Road.

T-Mobile continues to have a significant coverage gap in the City of Medina that its existing sites are not able to cover. To reach the residential areas at 84th Avenue NE and Overland Drive West, the proposed site is essential to closing a portion of this gap extending coverage to its customers.

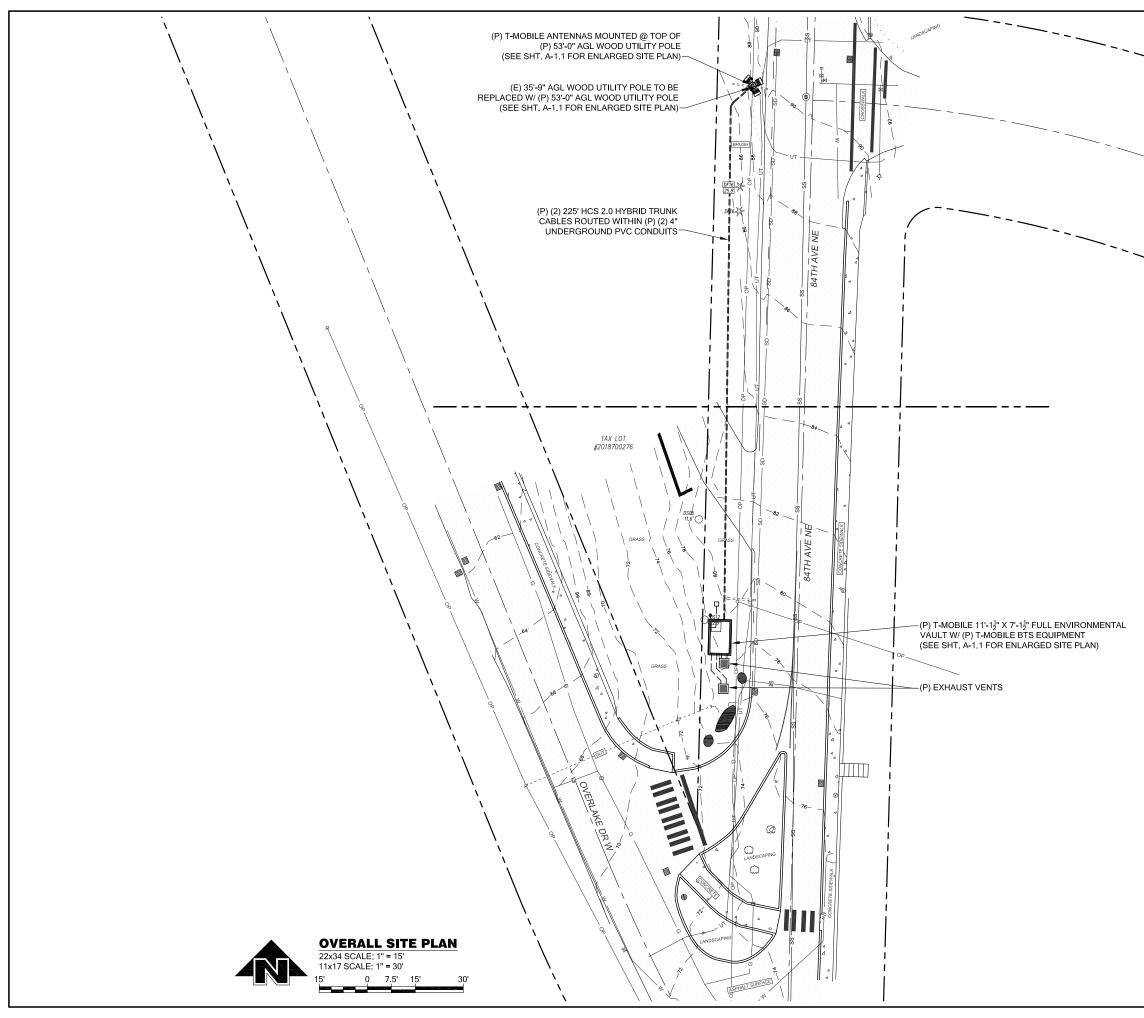
I have attached the following documentation for your review and for discussion during the preapplication meeting:

- Preliminary project plans reflecting the proposed vault location and PSE pole location to be utilized for the antennas;
- Preliminary concept photo simulations of the before and after of the PSE pole;
- Propagation maps evidencing the need for the coverage in this area

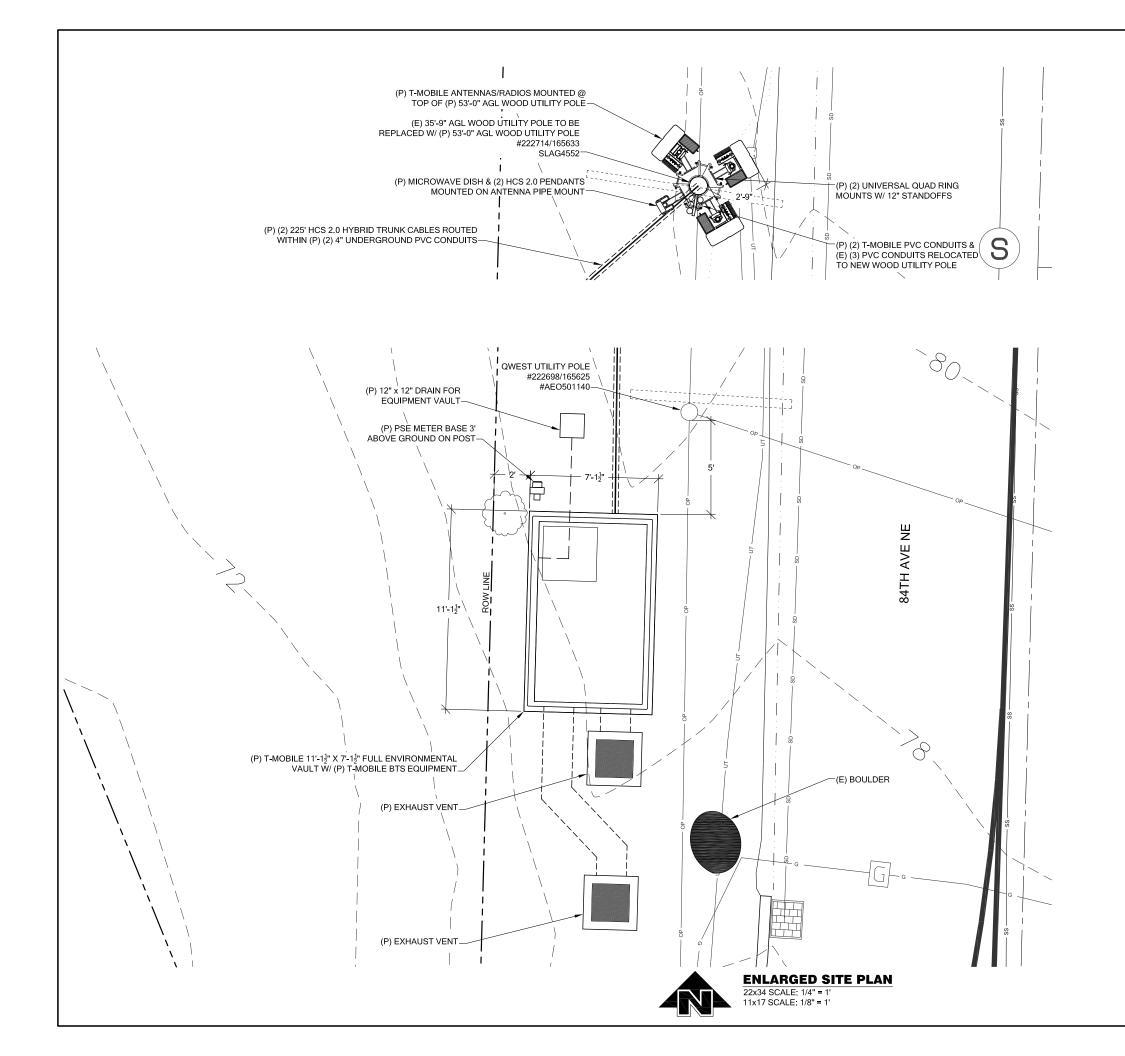
Please let me know if you have any questions. We will look forward to further discussions on April 7th.

Thank you,

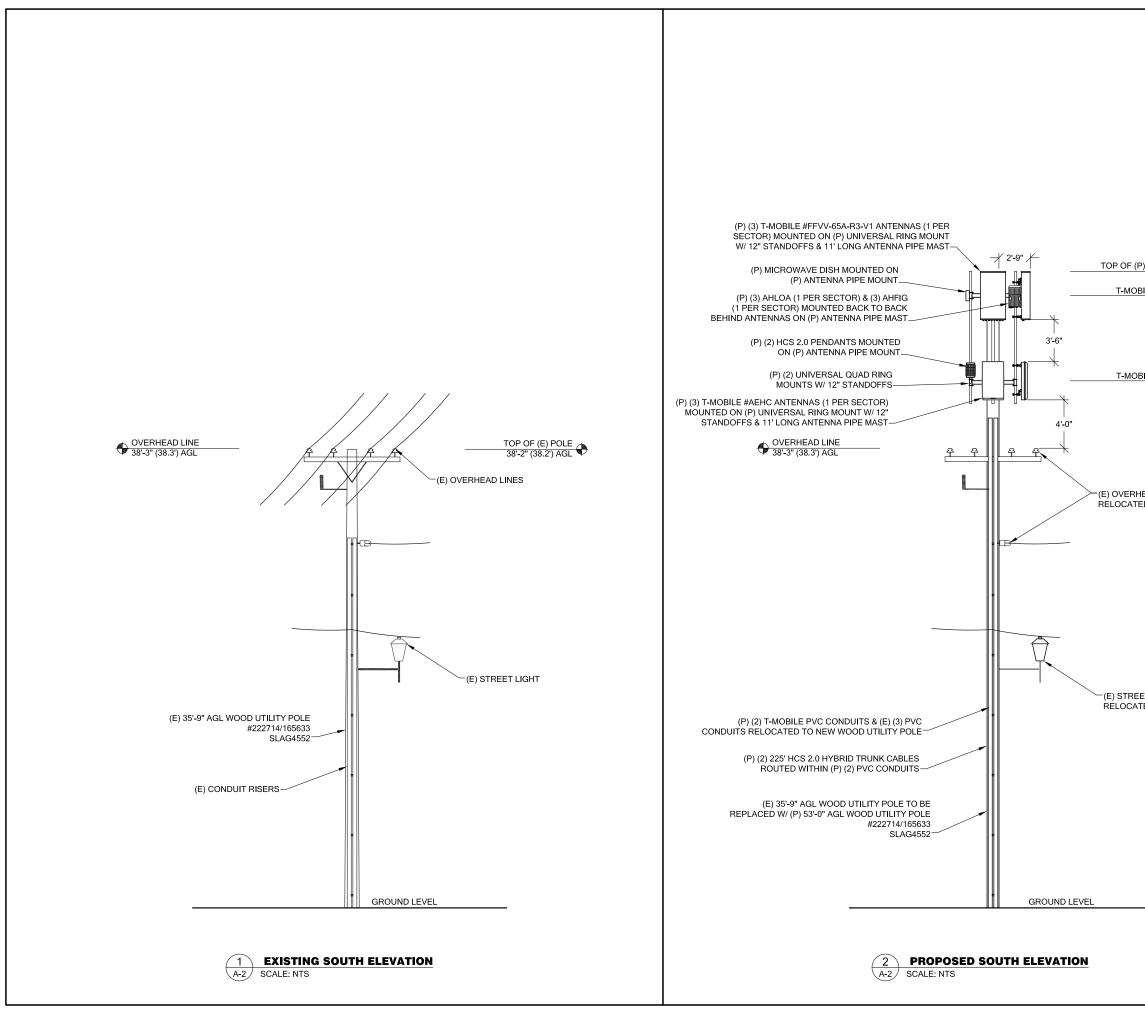
Gary Abrahams For T-Mobile USA 206-349-4279 Contracted through TAEC Preliminary project plans



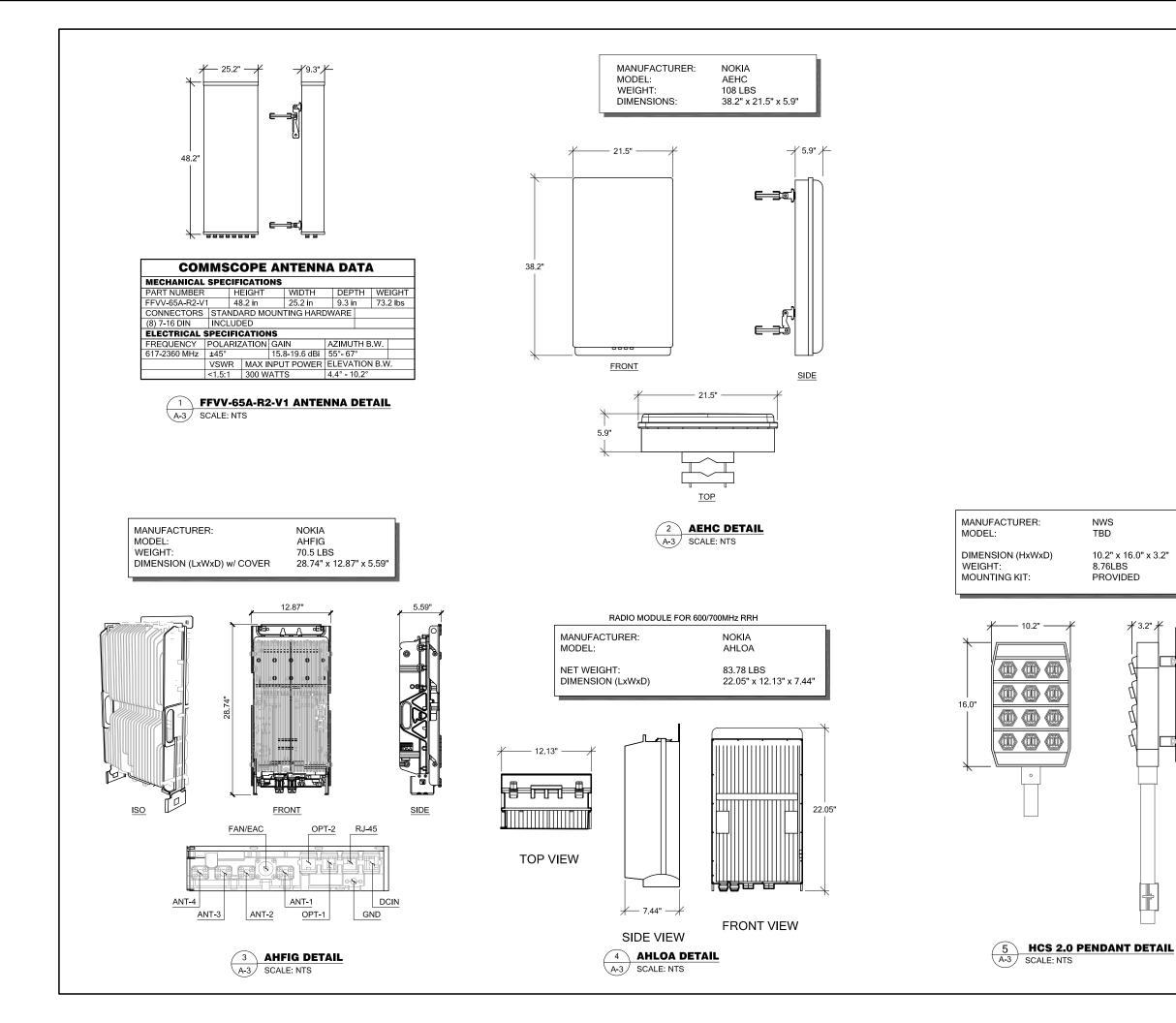
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OVERALL SITE PLAN
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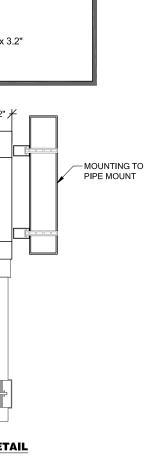
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BR Intelligent Backhaul Radio



IBR 1300 Series **Compact Carrier Class Radio & Switch** Fast and Economical Urban Connectivity Anywhere

At 1.6 Gbps and 8x10x4 inches, the highly compact IBR 1300 is the fastest, smallest and most versatile 5GHz radio available. The IBR 1300 delivers higher performance by enabling the full radio spectrum to be available at all times to both the transmit and receive channels, while at the same retaining very low latency. This innovative use of FDD (Frequency Division Duplex) transmission dramatically cuts installation time through immediate alignment of the radio link, and further advances Fastback's Extreme Interference Protection (XIP) for more



connections in more locations. In addition, beamforming technology on both transmit and receive channels improves reliability for high density, large scale deployments. And the IBR 1300 is the only radio in its class that can operate using integrated AC power when no other source is available, ideal for small cell deployments in city centers and urban locations using street furniture.

Ease of Deployment Redefined The discrete form factor and other advances enable the ultimate freedom of location for mounting on any tower, building or street asset anywhere backhaul is required to support carrier grade backhaul service

or enterprise connectivity. During installation, an immediate IBR 1300 link can always be achieved without "swapping ends" and incurring the related cost. This simplifies installation, troubleshooting, configuration and cuts the cost of deployment spares in half. The wide azimuthal and vertical apertures of the IBR make installation and operation simple, with quick and uncomplicated alignment. Wireless Extension of Existing Network Architecture

Fiber performance in any line of sight (AnvLOST) Scalable in capacity: 1.6 Gbps at 500m

- range (NLOS) and Zkm range (LOS), 900 Mbps at 3km range (LOS), 300 Mbps at 13km range (LOS)¹
- <400 µsec latency</p>
- Compact design: 200mm width, 260mm height, 90mm depth
- UNI, NTE-Demarc, SLA on a light pole: monitor, manage and deliver an SLA to any location
- Mounts anywhere: light poles,
- buildings, strand Ruggedized, outdoor device: IP66
- Power over Ethemet, or integrated AC power
- Interference Mitigation: Extreme Interference Protection (XIP*) technology
- Auto Alignment: Auto discovery & synchronization via innovative antenna system
- Carrier Ethernet services; - Transport: full layer 2 - SLA ossurance: via full-featured OAM capability
- Timing & Synchronization over NLOS link Packet-based timing over wireless, distributed 1588v2 transparent dock
- Network synchronization support in any location
- Service uptime: carrier-grade physical link and network layer redundancy - Security: service protection and
- reliability

Intelligent Backhaul Radio[,] 1300 Series

Specifications	IBR
RADIO	
Speed and Range	Typical: Scalable up to 1.6 Gbps at 500m range (NLOS) and 2km range (LOS), 900 Mbps at 3km range (LOS), 300Mbp at 13km range (LOS)
Latency	Typical: <400 µsec
Frequency bands	FDD+ (no A or B side) operation across all 5 GHz UNII bands
Antenna Beamwidth	20 degrees, steerable over 40 degrees
ERP	FCC: Up to +42 dBm
Adaptive Rate Modulation	Supported via proprietary adaptive algorithms
Interference Mitigation	Supported via proprietary avoidance and cancellation algorithms
Diversity	Supported via proprietary antenna array signal processing
Security	AES-256 OTA Encryption
SWITCH	
Carrier Ethernet Features	Y.1731 and 802.1ag OAM, Q in Q, RFC 2544 reflection, QoS, Broadcast / Unknown / Multicast (BUN) filter, Configurable latency per queue
Interfaces	1 x GbE (Cu), 1 x GbE (SFP or Cu), 1 ALOS radio interface (see above)
QoS	802.1p and DSCP classification, strict priority scheduling, WDRR scheduling
Timing	1588v2 Transparent Clock
Management	HTTPS, ssh, Teinet, SNMP v2c & v3, IPv6, Dying Gasp
Dimensions (W x H x D)	200mm width, 260mm height, 90mm depth
Weight	4 kg
Power Input	15R-1300: PoE 18R-1301: 90-240 VAC
Temperature	-60C to +60C operating -55C to +85C storage

Certifications	IBR
Radiated	FCC Part 15, IC RSS-247, EN 301 893
Safety	UL/cUL (UL60950-1, UL60950-22), CE Mark EN 60950-1, EN 60950-22, EN 55022, EN 55024, EN 62311
EMC/EMI	FCC Part 15 Class B, EN 301489
Environmental	IP66

1. Range and throughput performance based on FCC operation

About Fastback Networks

About Fastback Networks Fastback Networks was founded with a vision to deliver innovative technology for the mobile infrastructure of the future. Fastback solutions enable network operations to expand and enhance services, and private networks to secure, monitor and manage operations via high capacity data connectivity. With insights derived from the collective team's experience building loading edge radia and data networking solutions, Fastback Networks loads at the challenges of AG/SGLTE deporyment with fresh reyes and better deas, and develops transformational mobile backausi solutions that enable the acceleration of the mobile future. Fastback Networks is an aniately held company funded by Bosiness Growth Fund, Foundation Capatal, Grante Ventures, Harmony Partners, Juniper Networks Junos Innovation Fund, and Matrix Partners. More information is available at www.fastbachnetworks.com.

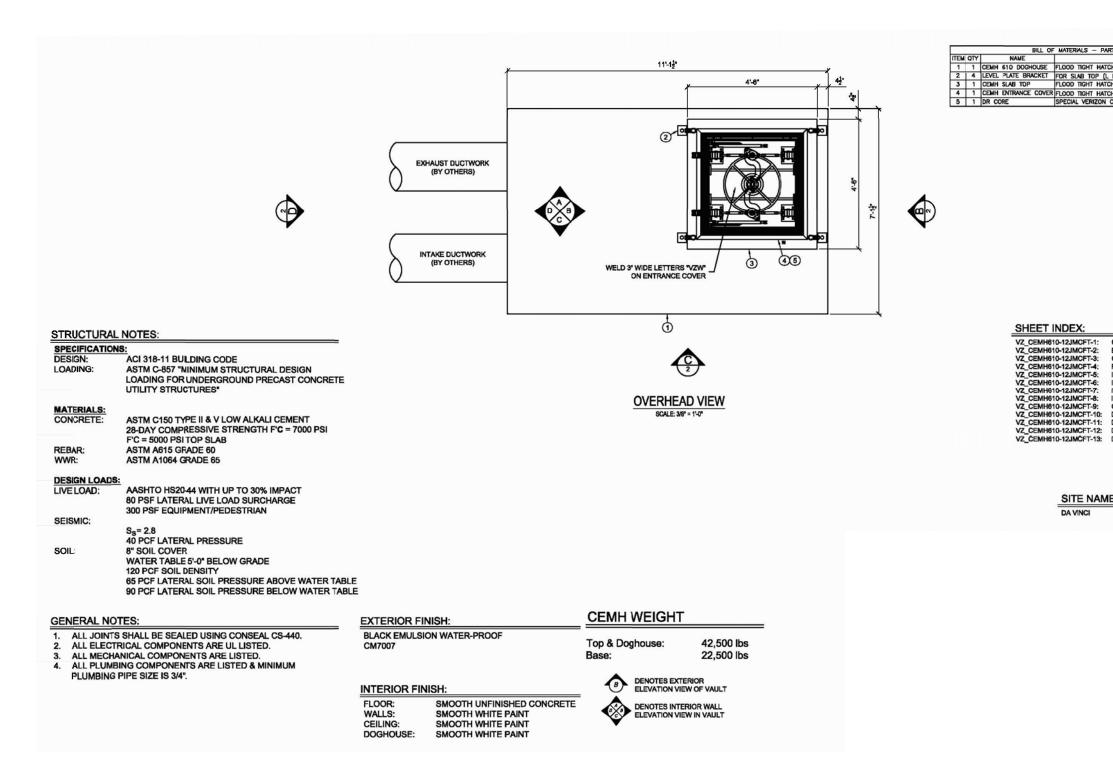


Fastback Networks 469 El Camino Real, Suite 201 Santa Clara, CA 95050 408-430-5440 www.fastbacknetworks.com

Fastback, intelligent Wireless Transport, intelligent Backhaul Radio, Any Line of Sight (AnyLOS), and XOP are registered trademarks or trademarks of Fastback Networks, Copyright 09/2016

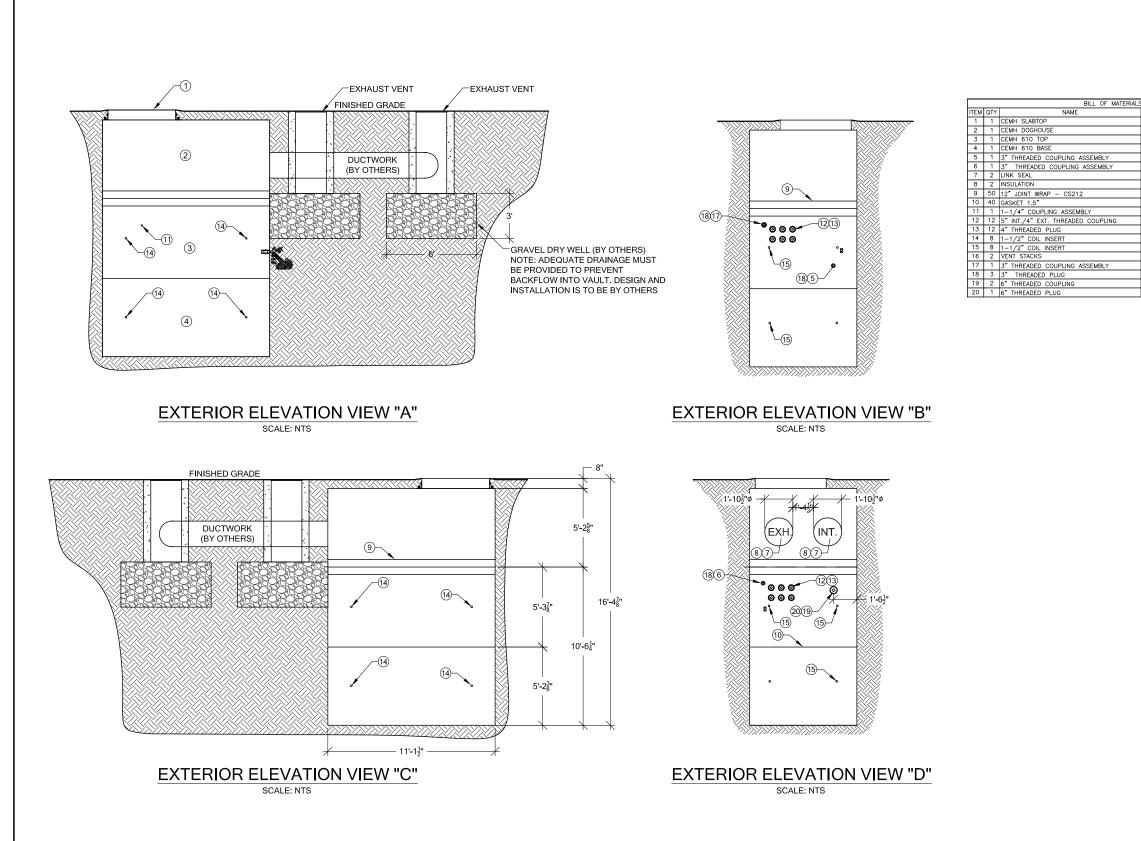


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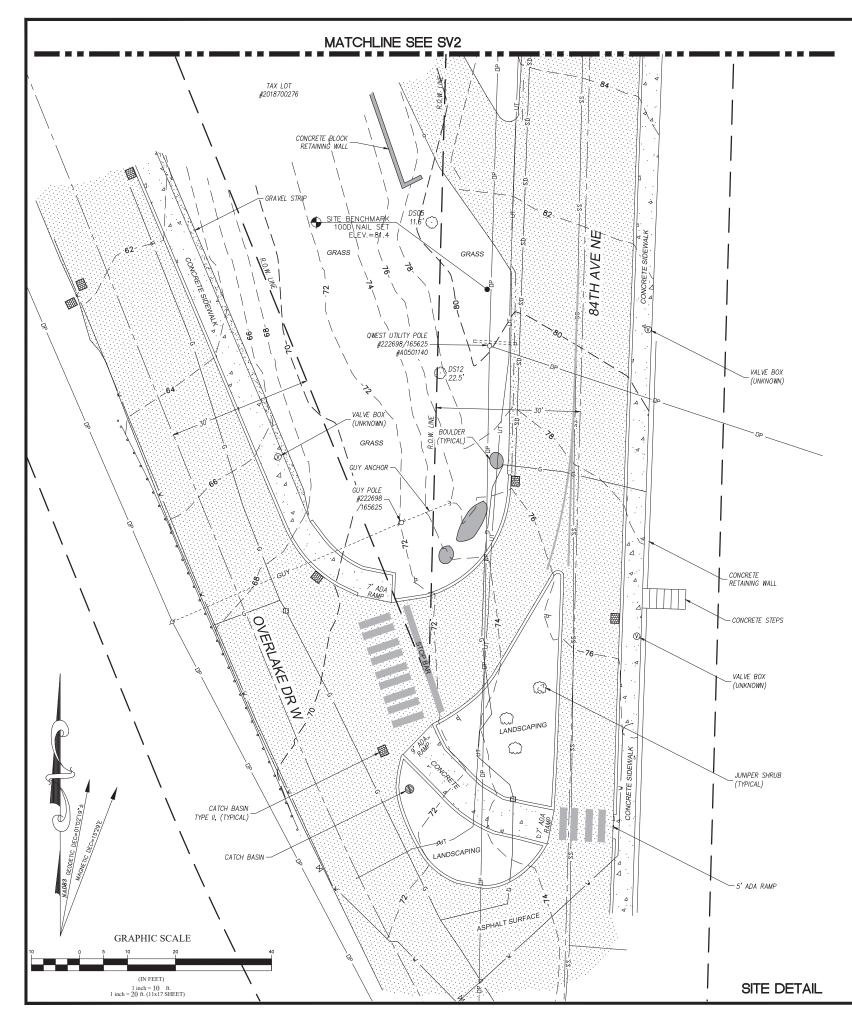
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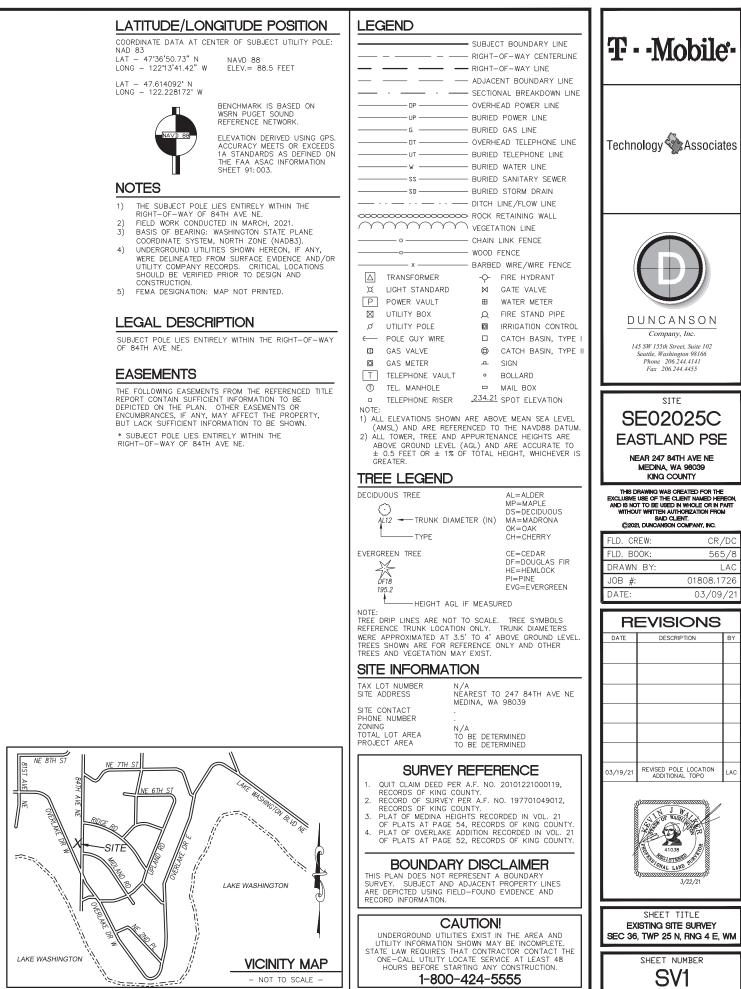
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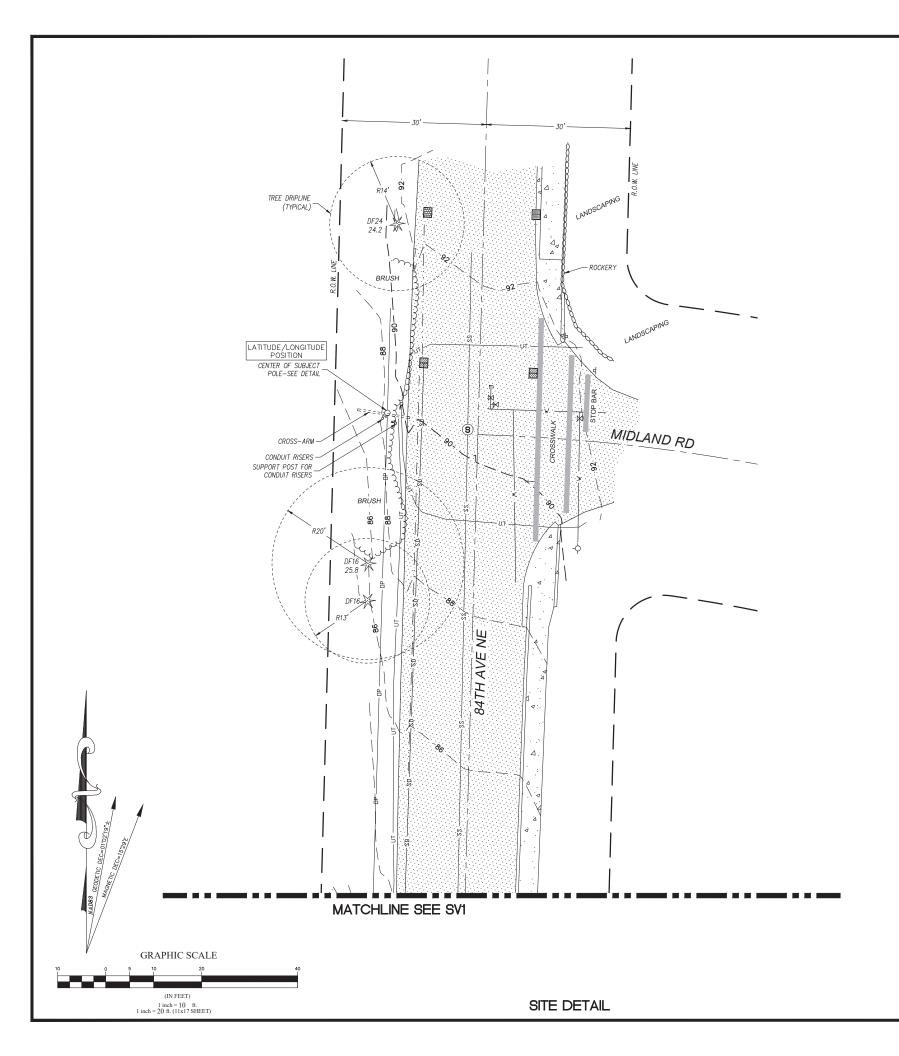
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LATITUDE/LONGITUDE POSITION

COORDINATE DATA AT CENTER OF SUBJECT UTILITY POLE: NAD 83 LAT - 47'36'50.73" N LONG - 122"13'41.42" W

NAVD 88 ELEV.= 88.5 FEET

LAT – 47.614092' N LONG – 122.228172' W



BENCHMARK IS BASED ON WSRN PUGET SOUND REFERENCE NETWORK. ELEVATION DERIVED USING GPS. ACCURACY MEETS OR EXCEEDS 1A STANDARDS AS DEFINED ON THE FAA ASAC INFORMATION

NOTES

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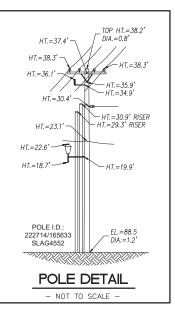
- FIELD WORK CONDUCTED IN MARCH, 2021 BASIS OF BEARING: WASHINGTON STATE PLANE 3)
- COORDINATE SYSTEM, NORTH ZONE (NAD83). 4) UNDERGROUND UTILITIES SHOWN HEREON, IF ANY,
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- 5) FEMA DESIGNATION: MAP NOT PRINTED.

LEGAL DESCRIPTION

SUBJECT POLE LIES ENTIRELY WITHIN THE RIGHT-OF-WAY OF 84TH AVE NE.

EASEMENTS

THE FOLLOWING EASEMENTS FROM THE REFERENCED TITLE REPORT CONTAIN SUFFICIENT INFORMATION TO BE DEPICTED ON THE PLAN. OTHER EASEMENTS OR ENCUMBRANCES IF ANY MAY AFFECT THE PROPERTY BUT LACK SUFFICIENT INFORMATION TO BE SHOWN. * SUBJECT POLE LIES ENTIRELY WITHIN THE RIGHT-OF-WAY OF 84TH AVE NE.





Preliminary concept photo simulations



EXISTING #1

T---Mobile 19807 NORTH CREEK PKWY N BOTHELL, WA 98011 OFFICE (425) 398-7600

FROM 84TH AVE NE LOOKING SOUTH

MIDLAND 10

PROPOSED #1

T---Mobile 19807 NORTH CREEK PKWY N BOTHELL, WA 98011 OFFICE (425) 398-7600

FROM 84TH AVE NE LOOKING SOUTH

MIDLAND 10

EXISTING #2

T---Mobile-19807 NORTH CREEK PKWY N BOTHELL, WA 98011 OFFICE (425) 398-7600

STOP

FROM MIDLAND RD LOOKING WEST

PROPOSED #2



STOP

FROM MIDLAND RD LOOKING WEST

EXISTING #3

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FROM 84TH AVE NE LOOKING NORTH

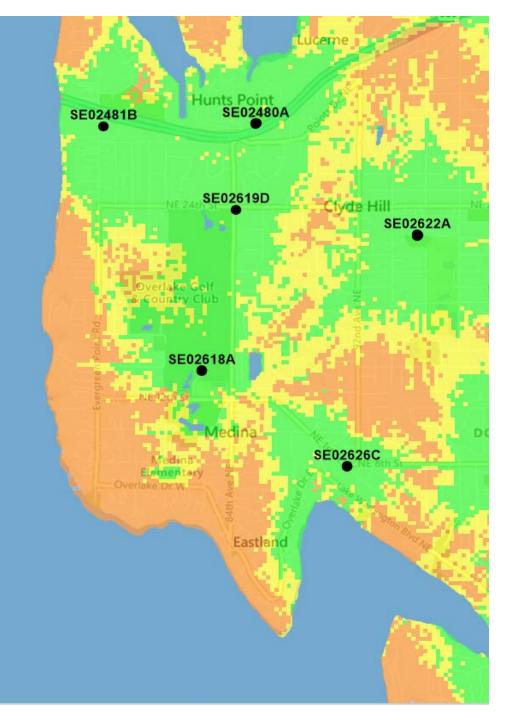
PROPOSED #3

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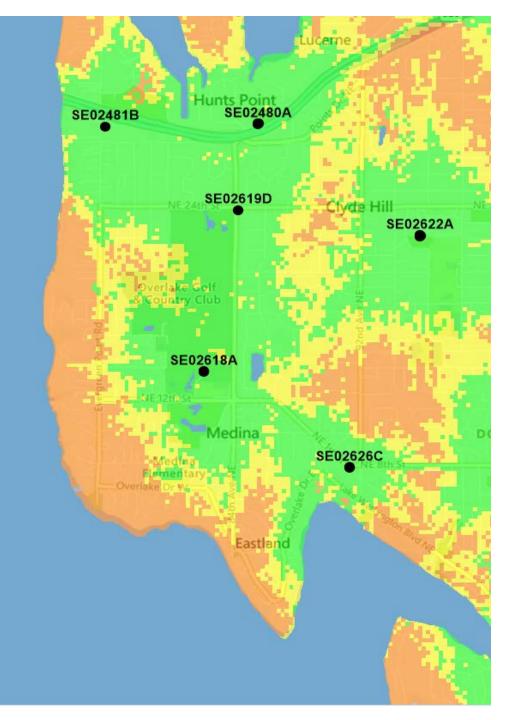
FROM 84TH AVE NE LOOKING NORTH

Propagation maps



- T-Mobile On Air Sites
- Showing LTE AWS Coverage
- SE02618A with current RC = 32 feet





- T-Mobile On Air Sites
- Showing LTE AWS Coverage
- SE02618A with NEW RC = 51 feet





- T-Mobile On Air Sites
- Showing LTE AWS Coverage
- SE02618A with NEW RC = 51 feet
- Includes:
 - □ SE02025C
 - □ SE02027A
 - □ SE02028A

