T-Mobile Project Summary – GSA OPM Building (7WDC154B)

1900 E Street NW, Washington, DC 20024

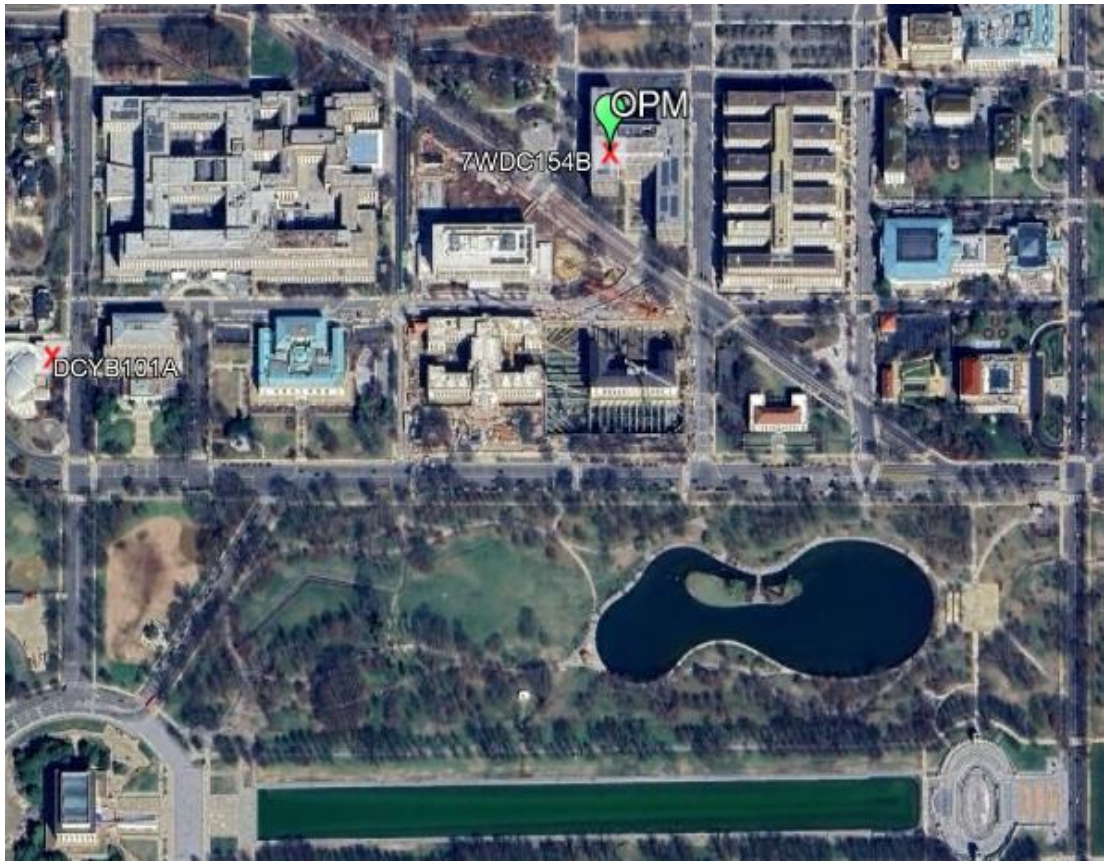
May 7, 2025

Project Summary

- The OPM Building is located on E Street NW between 19th Street and 20th Street NW, with an address of 1900 E Street NW Washington, DC 20024. This site services the National Mall area.

- T-Mobile is requesting approval to install one (1) new mmWave antenna on the roof of the OPM Building. The purpose of the antenna installation is to increase user capacity and maintain acceptable wireless calling and data signals. The mmWave is a line-of-sight antenna that targets pedestrian cellular users.

- The increased capacity in this area located near the National Mall is critical for the 25+ million visitors to the nation's capital, as well as for special events like July 4th, Presidential Inaugurations, parades and large gatherings. The Department of Homeland Security has tasked the carriers with supporting the emergency communication ecosystem along the National Mall and T-Mobile's proposal serves to meet that need by providing additional capacity for its customers and emergency services.



T-Mobile Project Description – GSA OPM Building (7WDC154B)

- The T-Mobile cellular equipment was installed on the OPM building in 2006. T-Mobile has performed multiple upgrades over the last 19 years as required with the implementation of new technology.

- This project will require installation of one (1) new mmWave antenna. The new mmWave antenna will be installed on an existing T-Mobile pipe mount (NO new roof penetrations required). One baseband to be installed inside an existing cabinet.

- The installation will not adversely affect the aesthetics of the building, since it will be installed on an existing pipe and is only 8”x11”.

T-Mobile Scope of Work – GSA OPM Building

- Sectors 1, 3 & 4: Remain the same
- Sector 2: Install one (1) new mmWave antenna (8”x11”) on existing pipe mount. Use existing fiber and power lines
- Install (1) new baseband in existing equipment cabinet
- Construction timeframe: 2-3 days

T-Mobile Existing Equipment vs. Proposed Equipment

Existing Antenna Equipment

Total Equipment across all sectors = 9 panel antennas, 1 multibeam antenna, 21 RRUs and 8 hybrid cables. 200sf equipment platform.

Sector 1: 3 panel antennas, 2 RRUs and 2 shared hybrid cables

Sector 2: 1 multibeam antenna 15 RRUs and 2 hybrid cables

Sector 3: 3 panel antennas, 2 RRUs and 2 shared hybrid cables

Sector 4: 3 panel antennas, 2 RRUs and 2 shared hybrid cables

Proposed Antenna Equipment

Total Equipment across all sectors = 10 panel antennas, 1 multibeam antenna, 21 RRUs and 8 hybrid cables. 200sf equipment platform.

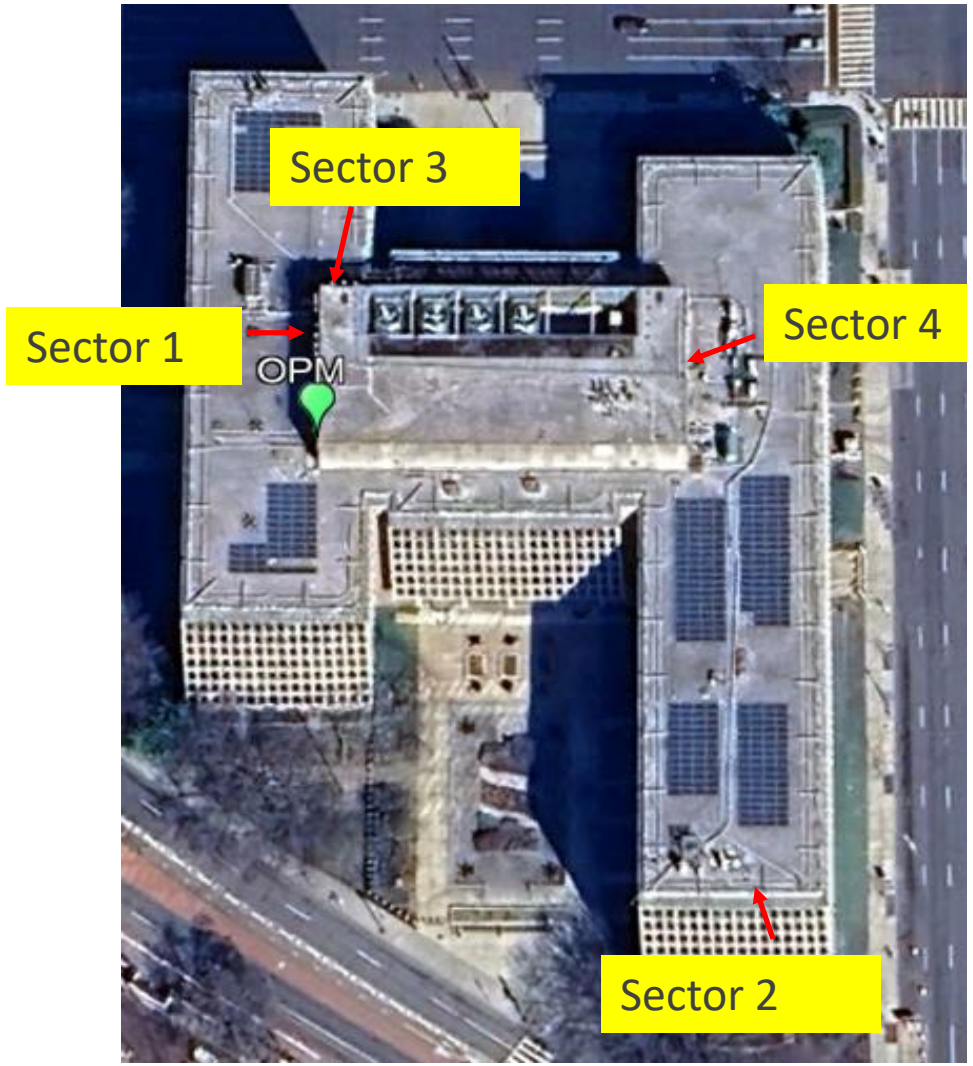
Sector 1: 3 panel antennas, 2 RRUs and 2 shared hybrid cables

Sector 2: 1 panel antenna (mmWave), 1 multibeam antenna 15 RRUs and 2 shared hybrid cables

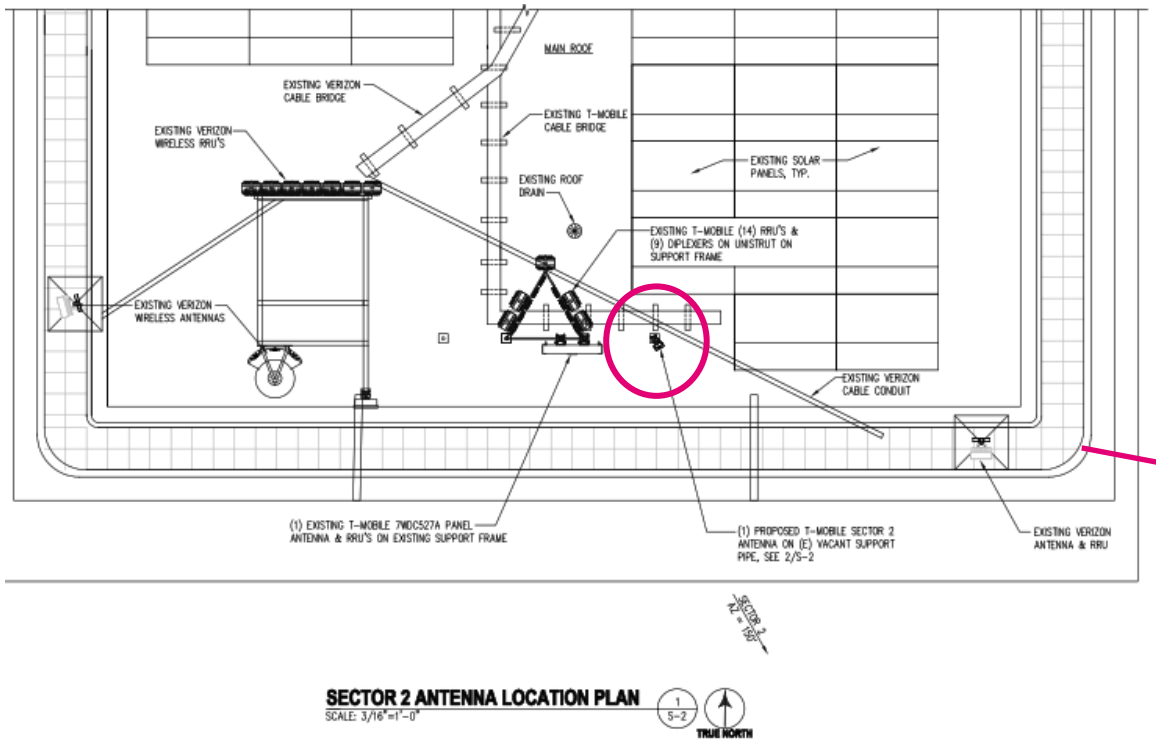
Sector 3: 3 panel antennas, 2 RRUs and 2 shared hybrid cables

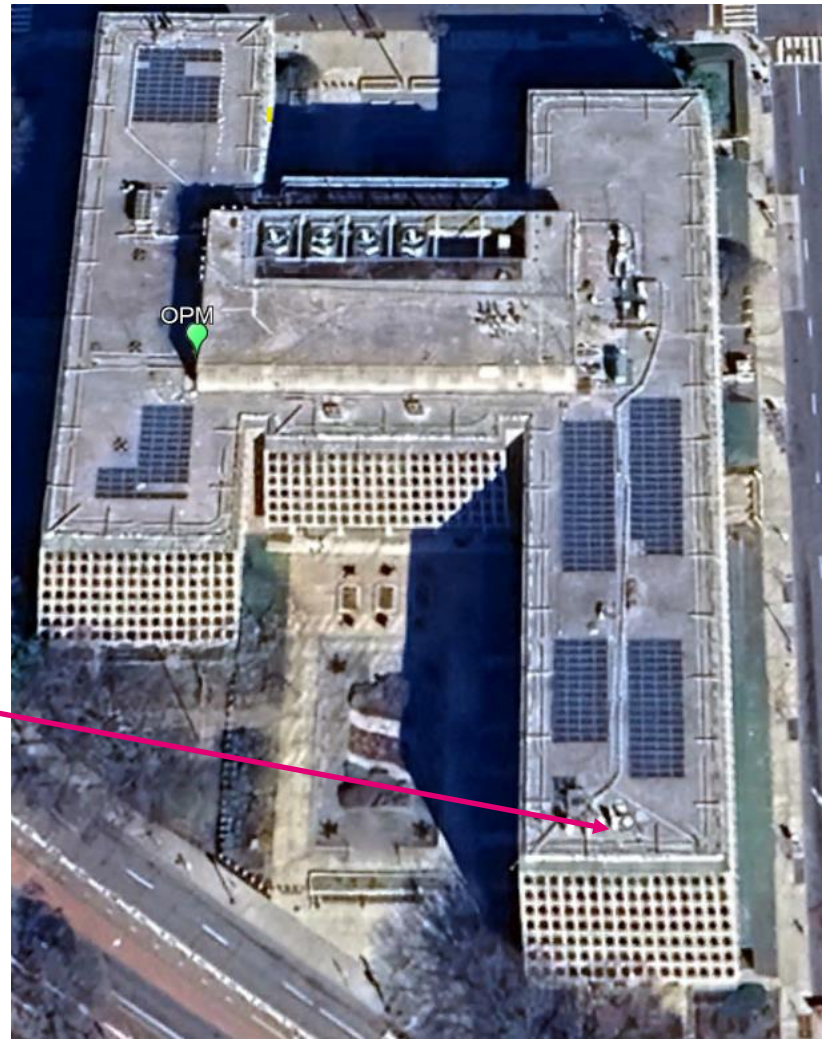
Sector 4: 3 panel antennas, 2 RRUs and 2 shared hybrid cables

T-Mobile Existing Antenna Locations - GSA OPM Building

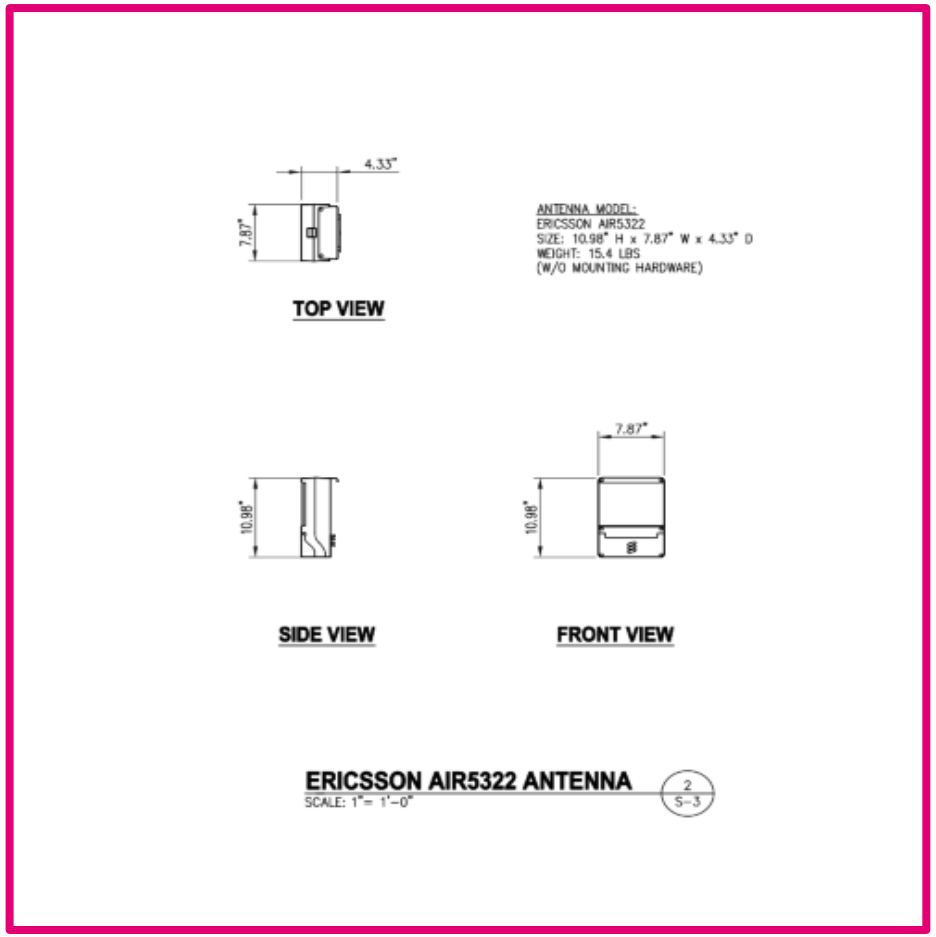


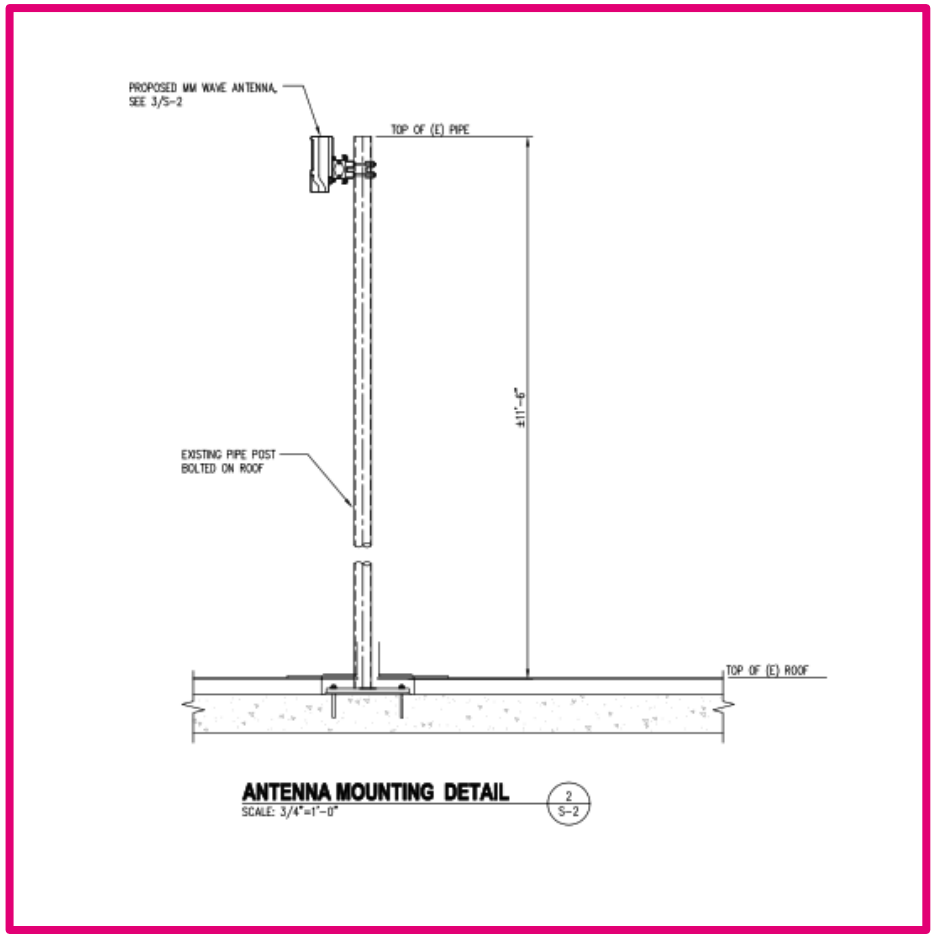
T-Mobile Proposed Antenna Installation





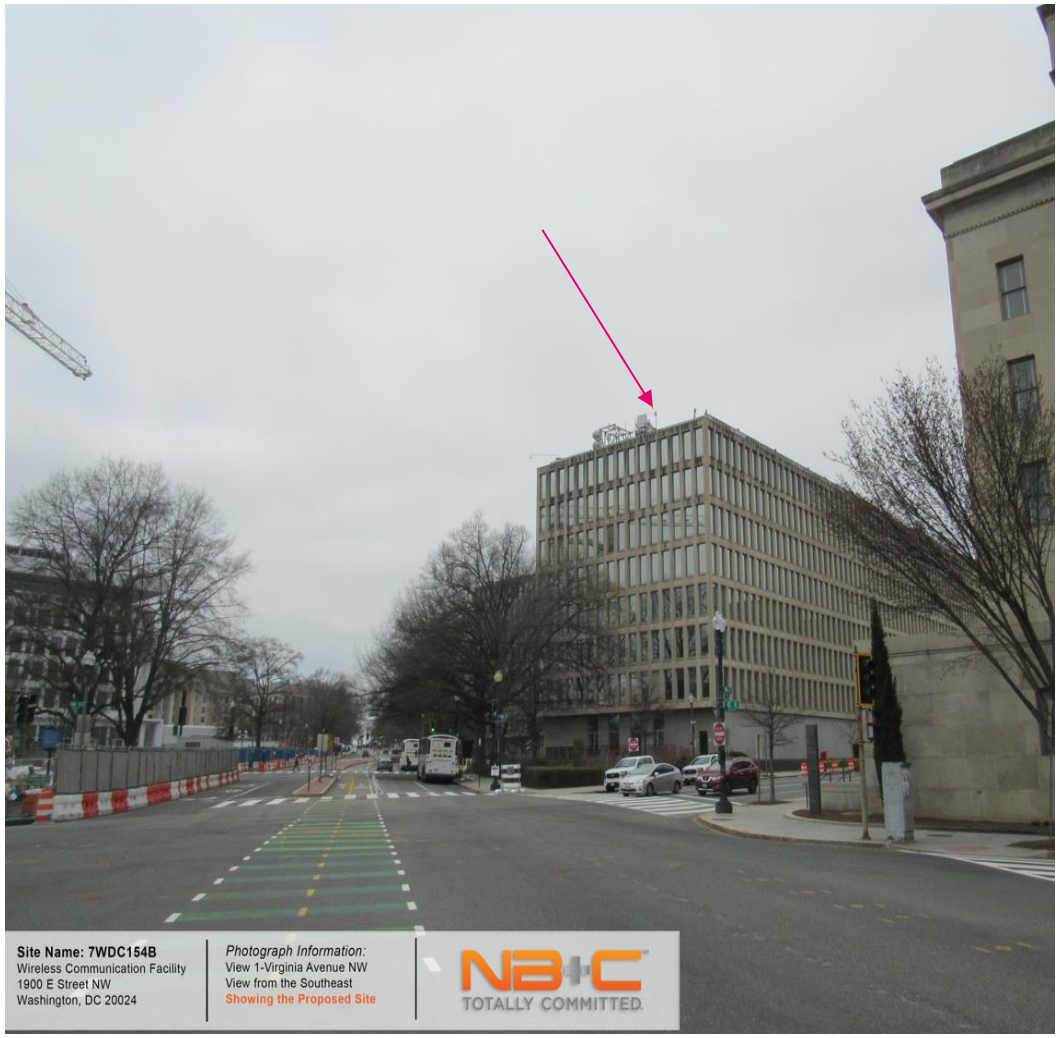
Antenna and Mount Specifications: Proposed mmWave Air 5322





T-Mobile Photo Sims – Location Map

T-Mobile Existing vs. Proposed (View 1)



T-Mobile Existing vs. Proposed (View 2)

T-Mobile Existing vs. Proposed (View 3)

T-Mobile Existing vs. Proposed (Close-Up)

Existing Verizon and T-Mobile Antennas

Proposed T-Mobile mmWave Antenna

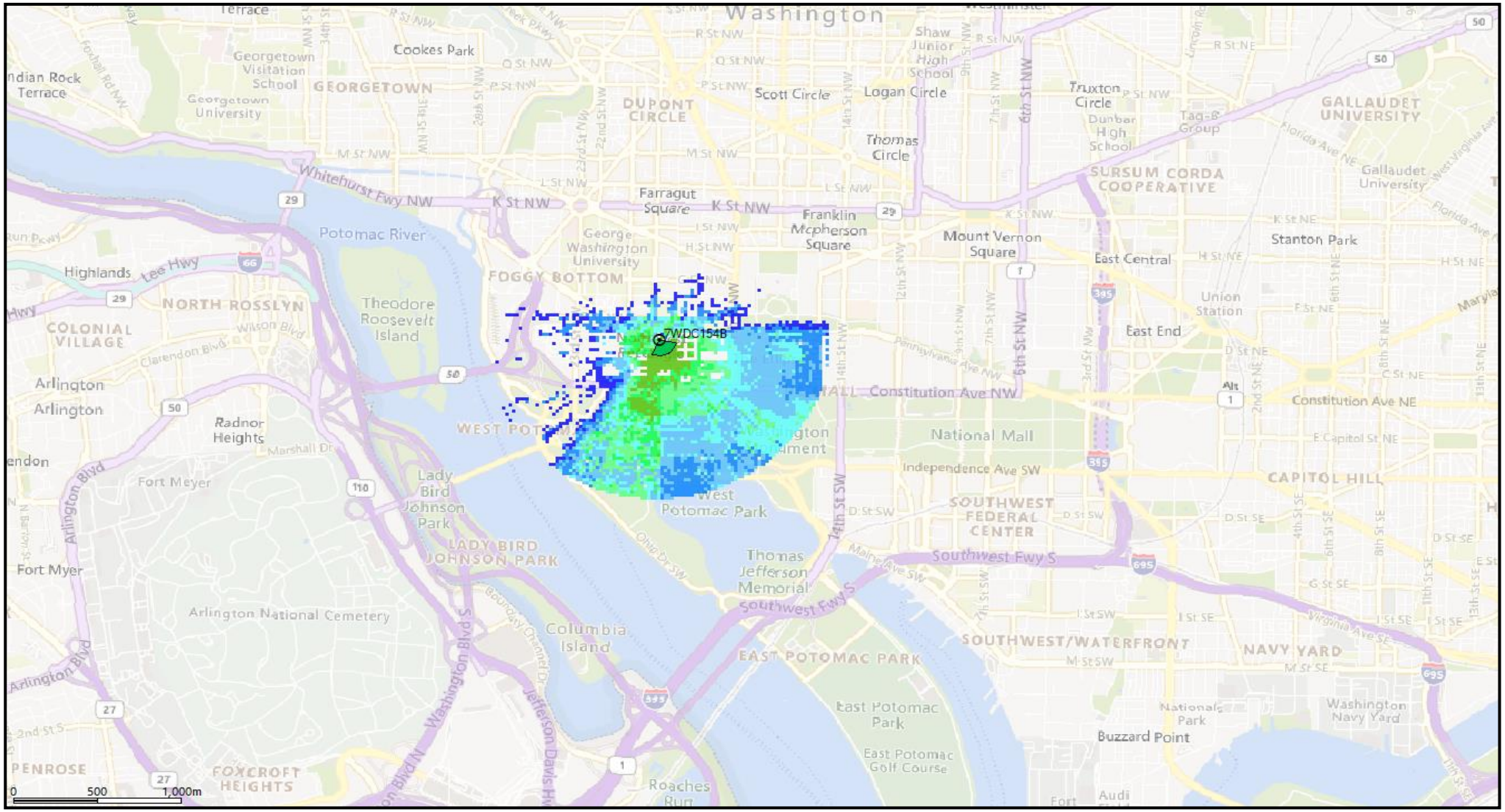
T-Mobile OPM Building Construction Schedule mmWave

- **Day one:**
  Deliver and stage equipment
  Install new mmWave antenna on existing pipe mount
  Install power and fiber jumpers

- **Day two:**
  Install baseband inside cabinet
  Orient antenna

- **Day three:**
  RF Integration
  Trouble Shoot
  Clean-up site

7WDC154B-OPM Building mmWave Coverage (Zoom in View)



The mmWave antennas are line of sight antennas that increase capacity for pedestrian cellular users.

T-Mobile Frequencies/Spectrum

Tech	Band	Bandwidth	DL Center Freq (Mhz)	UL Center Freq (Mhz)	
LTE	L2100	20	2145	1745	
LTE	L1900	15	1937.5	1857.5	
LTE	L700	5	731.5	701.5	
LTE	L600	5	619.5	665.5	
NR	N71	20	632	678	
NR	N41	100	2640	2640	
NR	N41	90	2545.29	2545.29	
NR	N1900	10	1970	1890	
NR	N1900	5	1992.5	1912.5	
NR	N258	100	24300	24300	mmWave
NR	N258	100	24400	24400	mmWave
NR	N258	100	24800	24800	mmWave
NR	N258	100	24900	24900	mmWave
NR	N258	100	25000	25000	mmWave
NR	N258	100	25100	25100	mmWave
NR	N258	100	25200	25200	mmWave

T-Mobile Site Audit – 7WDC154B/OPM Building

A site audit was performed for T-Mobile on 3/4/2025

The audit included inspection of the following:

- Required signage placement
- Antenna condition- Paint, orientation, stability and cable connections
- Mount condition – Inspected for signs of corrosion, lose or missing bolts, paint, and roof attachments
- Cabling – Cable condition, cable trays, sleepers and fasteners
- Grounding – Secured ground cables, missing connectors
- Platform – Ladder, railings, signs of corrosion, sharp edges, holes in platform and cabinet condition
- Obsolete equipment – removed
- Walkways-clear access, pavers, mats, etc.

Conclusion: No deficiencies were identified.

T-Mobile Structural Inspection Letter – 7WDC154B/OPM Building

entrex
communication services, inc.

6100 Executive Blvd, Suite 430 • Rockville, MD 20852 • Tel: 202.408.0960

August 18, 2025

Ms. Emily Nelms
T-Mobile USA
12050 Baltimore Ave, Beltsville, MD 20852

Re: T-Mobile Site No. 7WDC154B, OPM Building
1900 E Street NW, Washington, DC 20006
Entrex Project Number: 1168.050

Dear Emily:

This letter is to confirm that Entrex Communication Services (Entrex) has conducted a visual inspection of the existing T-Mobile antennas and antenna support frames at the above referenced site on August 15, 2025, to assess the structural condition of the existing T-Mobile installation.

The inspection of the T-Mobile installation including the following components:

1. Equipment cabinet support platform on main roof
2. Antenna & radio support frame & pipes on southeast main roof
3. Wall mounted antennas & radios on penthouse walls for three sectors
4. Cable trays on building & penthouse roofs

Our inspection did not find any deficiencies, deterioration, or any other issues with the existing components listed above, and we therefore certify that the existing installation is in good structural condition, and in compliance with the original design intent.

Please let us know if you have any questions or if we can be of further assistance.

Sincerely,

Camille Shabshab, P.E.
President
Entrex Communication Services, Inc.

DISTRICT OF COLUMBIA
CAMILLE F. SHABSHAB
10657
REGISTERED PROFESSIONAL ENGINEER