

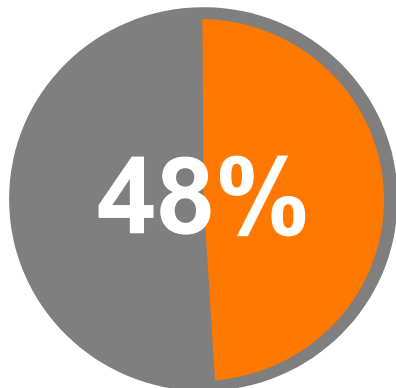
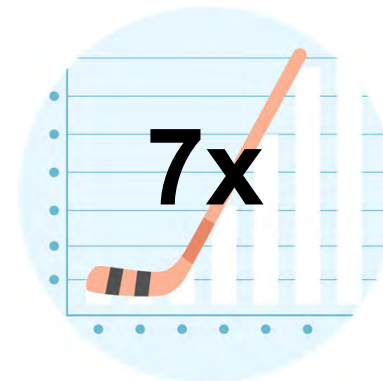
Verizon Small Cell Program

Olympia, WA



Why the Need?

**2019 Projected U.S. Mobile
Data Usage Growth: 7X**



**48%+ American Households
Wireless-only**

**Average American Household:
13 Connected Devices**



What is The Impact of Insufficient Capacity?

Slow Data Speeds



Increased Video Buffering Times

Disruption to Video Calls



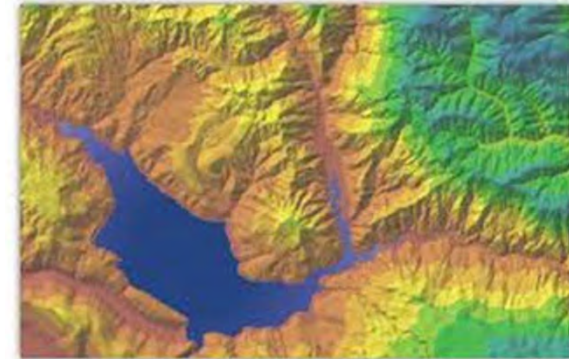
Dropped or Incomplete Calls

Connection Problems



Why Deploy Small Cell? Gaps in Coverage

Terrain Challenges

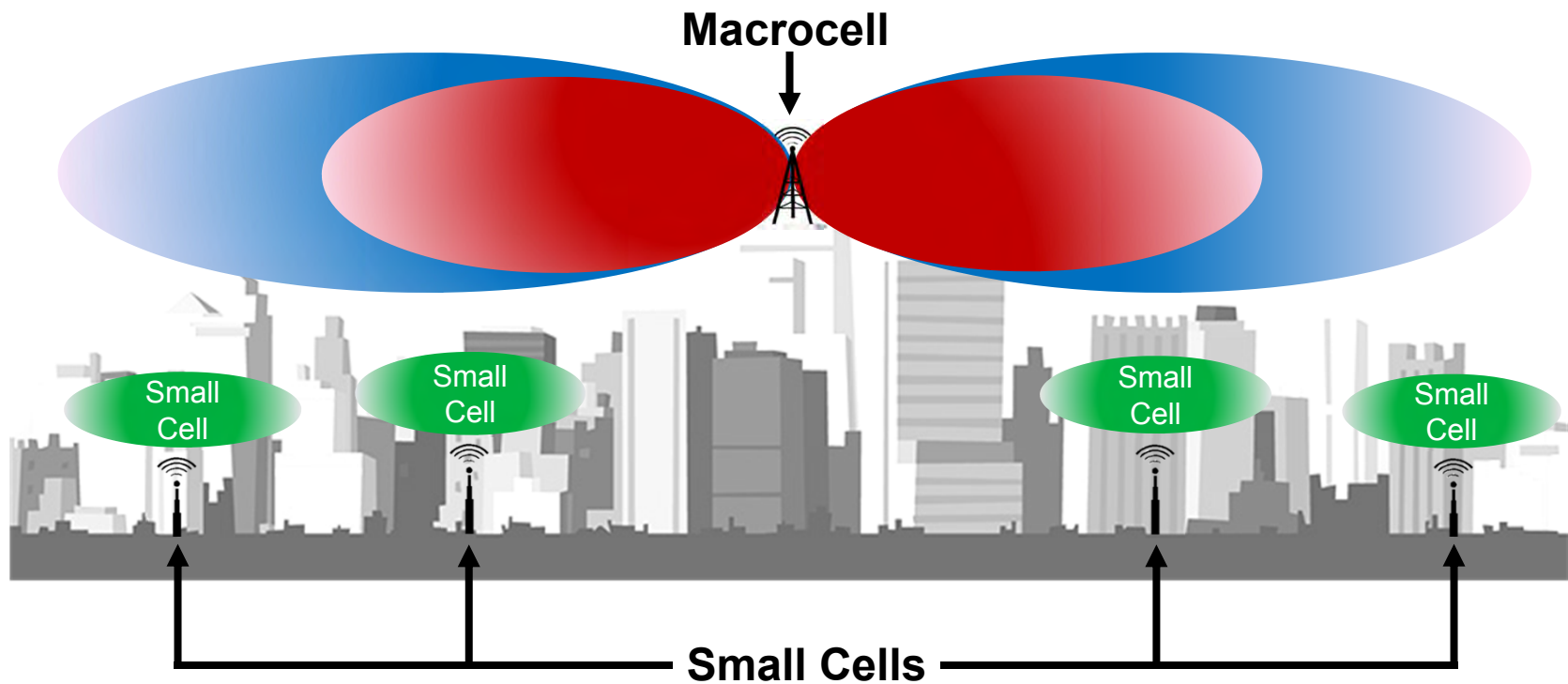


Tall Buildings

Large Residential Areas



What is a Small Cell?



Small Cell Components

Fiber & Coax
Conduit

Power
Conduit

Power
Disconnect

Antennas

Dark Fiber
(leased from 3rd party)

Radios & Fiber
Termination Box



Radios

Small
Form
Factor

AC
Power
≈ 100W bulb



Direct Fiber
Connections

2 Radio
Installation
(typically)

Specs

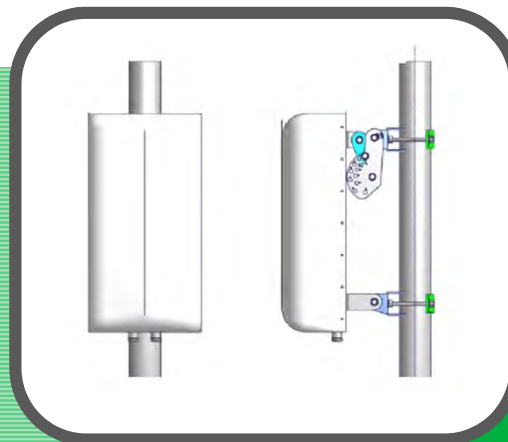
27" x 12" x 8"
~55 lbs.

Antenna Options

Cylindrical

Height
~2 ft.

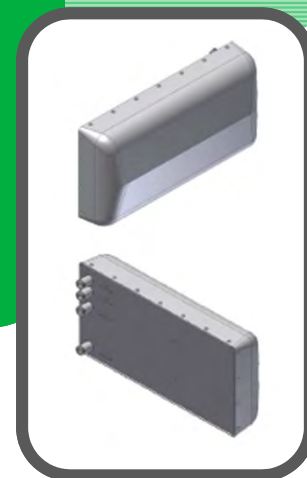
Diameter
~16 in.



Panel

Height
~2 ft.

Width
1 to 3 ft.



Proposed Projects



Cherberg Project

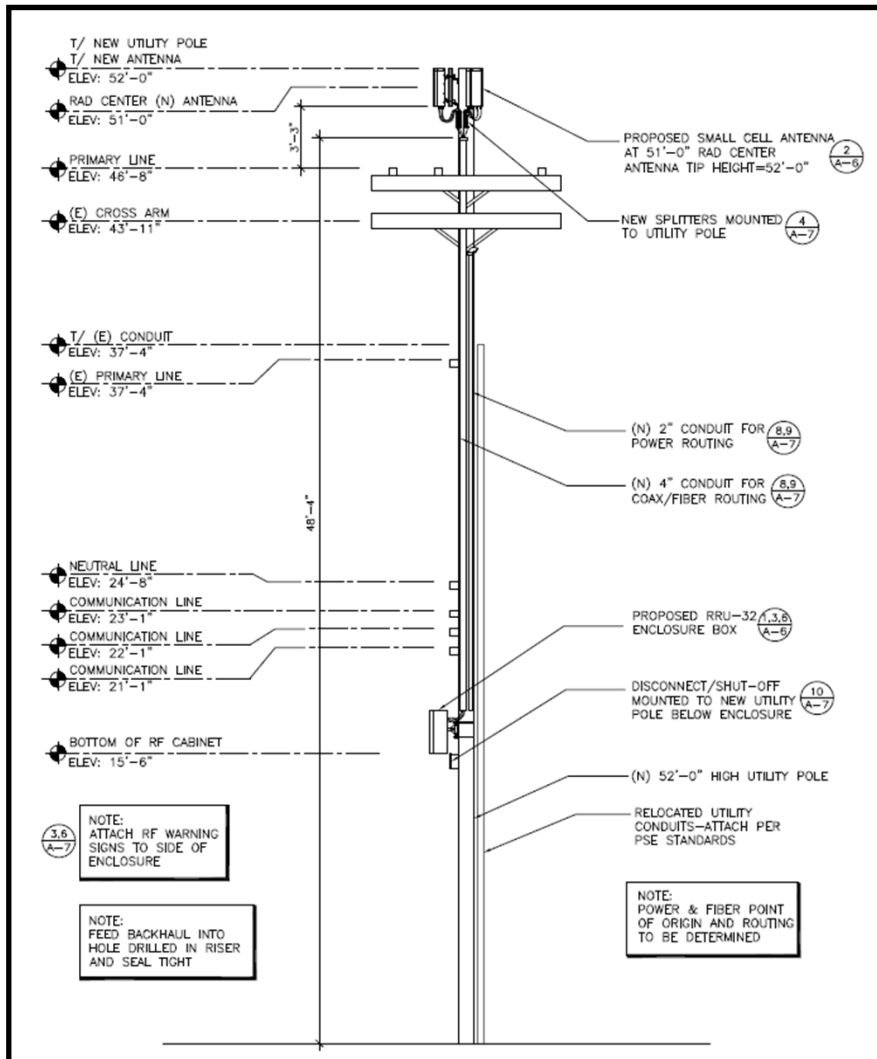
Two Nodes

PSE Poles

Ready for Submittal



Cherberg Project – Node 1

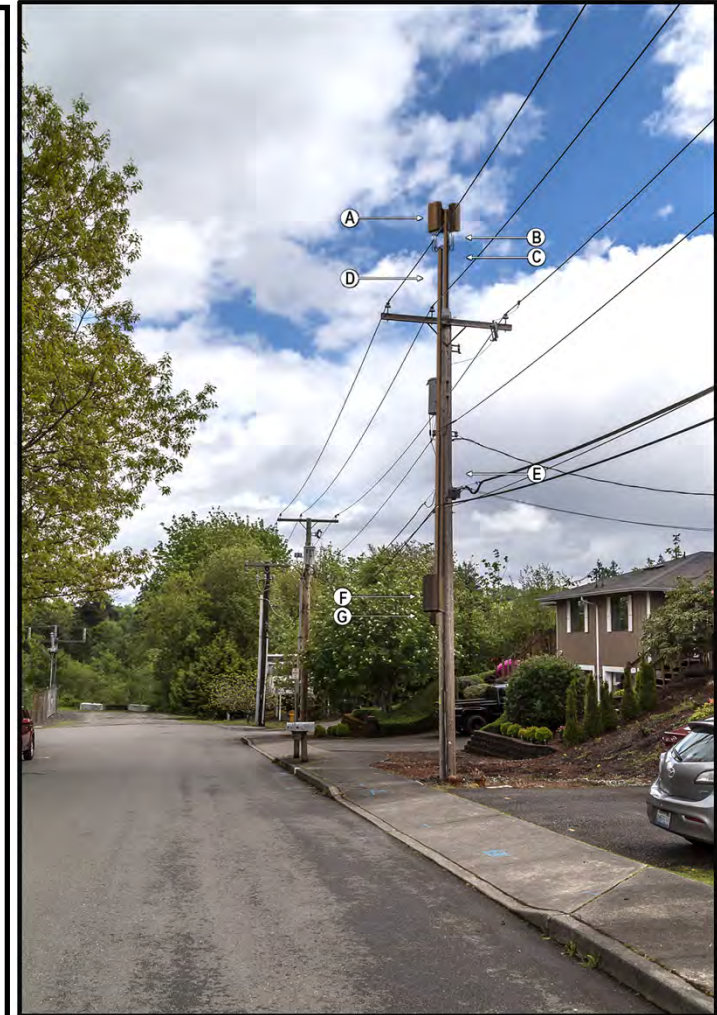
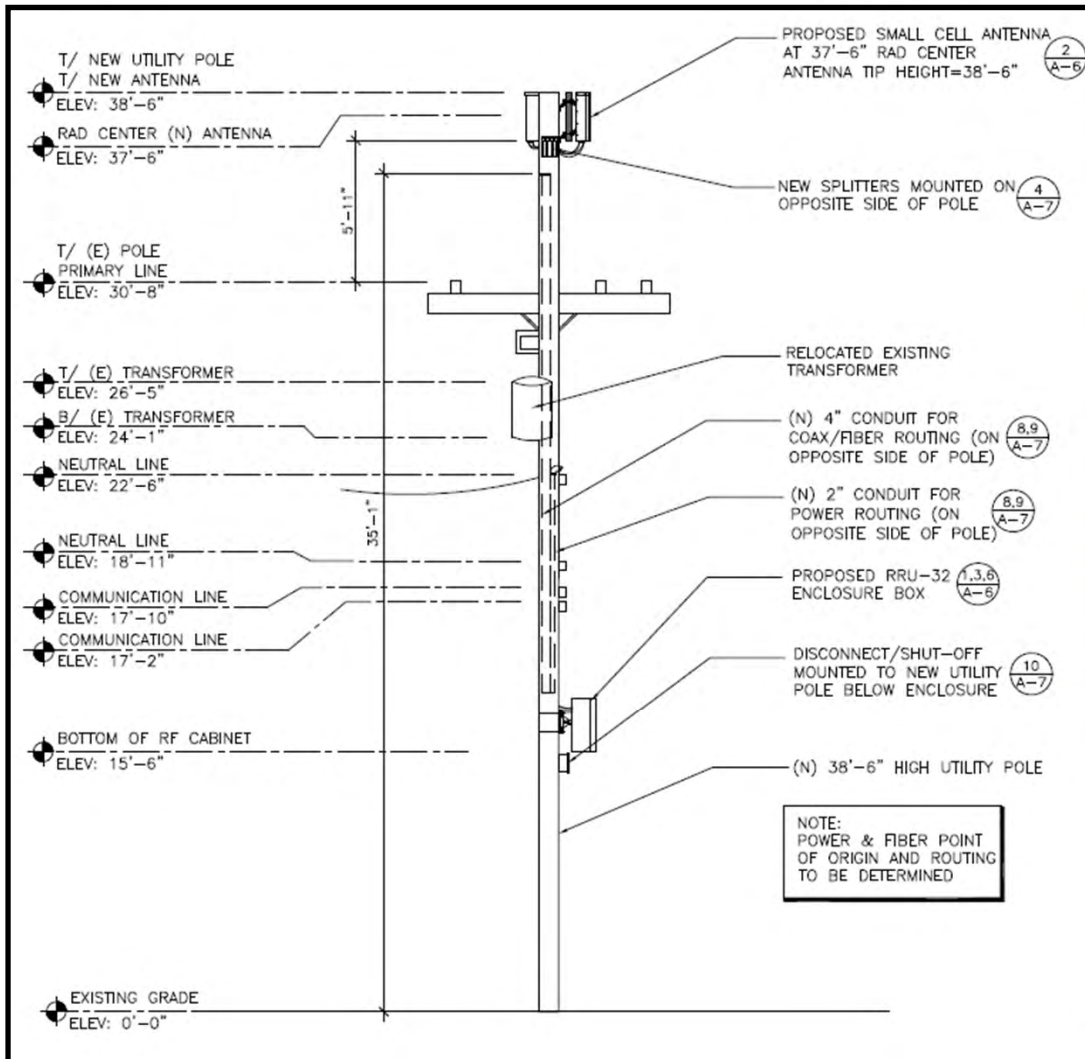


- (A) Antenna
Amphenol HTXCWW44513FxyO
24.0" H x 16.2" W
15.7 lbs
- (B) Microlab Low PIM Splitters
10" L (x4)
- (C) Proposed 52 ft. New Pole
- (D) Proposed 4" Coax Conduit
- (E) Proposed 2" Coax Conduit
- (F) MTC3788PRE2 RRU
28" H x 22" W x 12" D
Weight TBD
- (G) Disconnect Box

PROPOSED

TIM BRADLEY IMAGING

Cherberg Project – Node 2



PROPOSED

TIM BRADLEY IMAGING

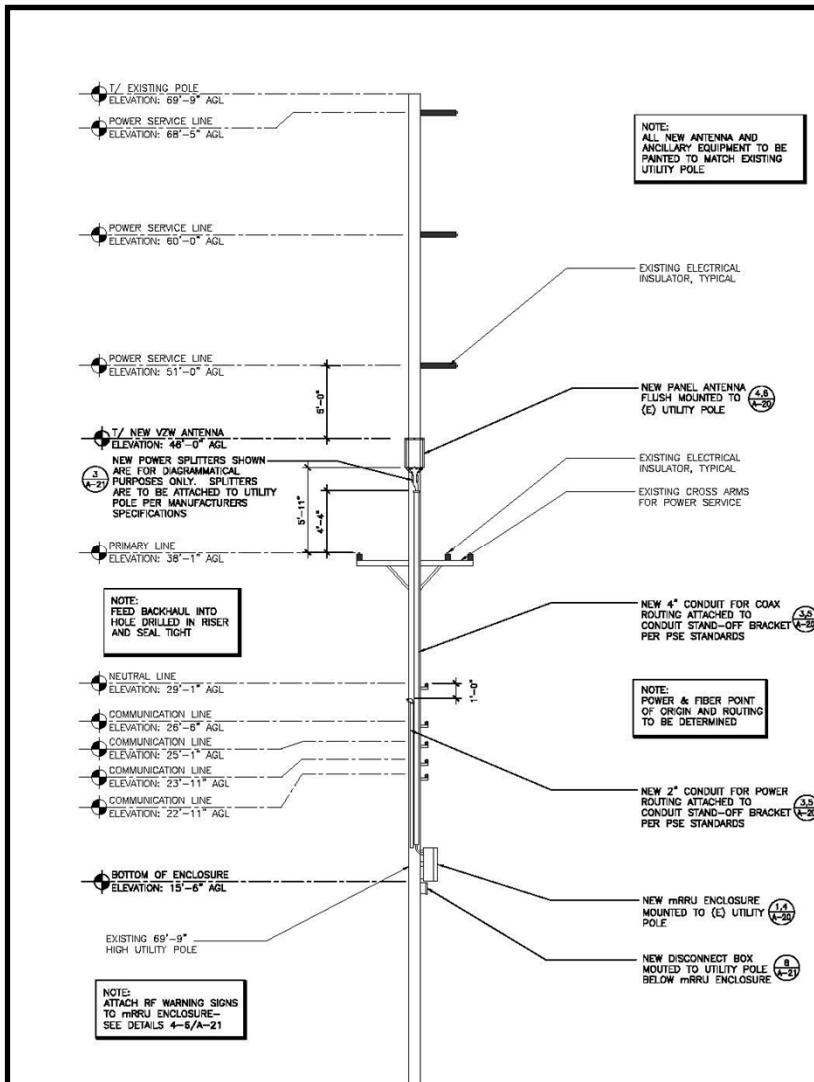
Designs (similar to Cherberg)



Panel
Canister



Designs (Transmission Poles)



- (A) Antenna
Amphenol HTXCWW44513FxyO
24.0" H x 16.2" W
15.7 lbs
- (B) Microlab Low PIM Splitters
10" L (x4)
- (C) Existing Pole
- (D) Proposed 4" Coax Conduit
- (E) Proposed 2" Coax Conduit
- (F) MTC3788PRE2 RRU
28" H x 22" W x 12" D
Weight TBD
- (G) Disconnect Box



PROPOSED

TIM BRADLEY IMAGING

Thank you.