WIRELESS NETWORK CONSULTING

ID-5108 / Verizon FISH CREEK

Capacity Cell Split

RF DESIGN ANALYSIS

2024

Coverage vs Capacity

- **Capacity is providing bandwidth or processing capacity to service the customers in the area.**
  - Areas where large numbers of users are in a specific geographic areas
  - Areas where users are demanding higher data rates for services
  - Areas with a large amount of indoor users
- **Coverage is Providing Service where service does not exist, calls drop, or "no service".**
  - Areas where sites are farther apart
  - Areas where terrain or buildings block signals
  - Areas where indoor service is low or nonexistent

Objective of new site

- **Capacity**
  - Low throughput per customer in the area
  - Offload surrounding over capacity sites
- **Coverage**
  - Provide coverage along Hwy 41 and feeder roads
  - Provide coverage in the rural area surrounding the highway
- **Why is this site important?**
  - 96% of Americans own a Cellular Phone
  - 57% of American Homes rely exclusively on cellular phones
  - 84% or more of 9-1-1 emergency calls are made from wireless devices

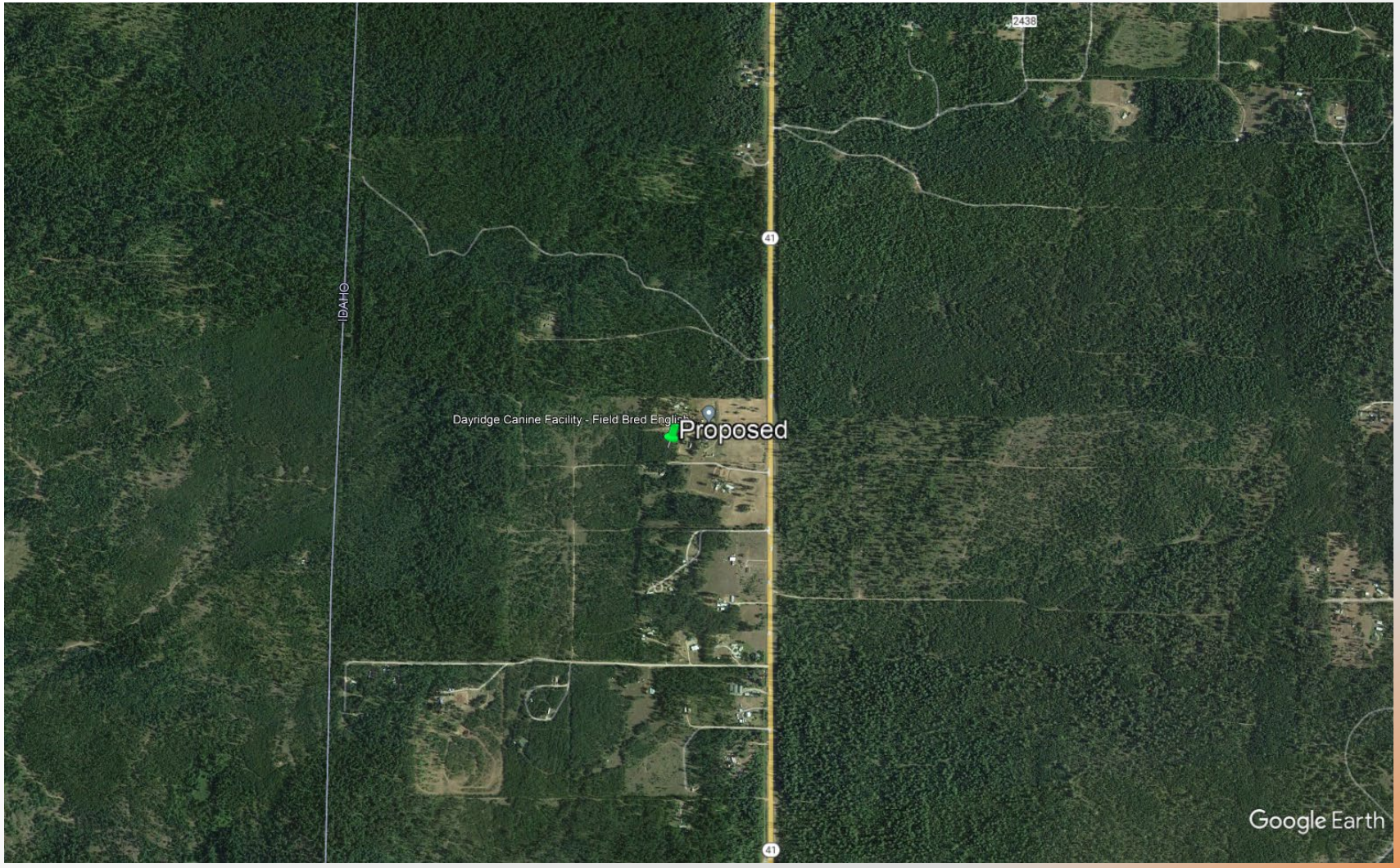
Proposed Site

- 125’ Monopole Tower
  - With 10’ lightning rod
  - 34754 Hwy 41 Oldtown, ID 83822
    - Latitude: 48.128822 N (NAD83)
    - Longitude: -117.027356 W (NAD83)
    - Ground Elevation: 2354.6' (NAVD88)
    - Anchor tenant is Verizon
  - Antenna Centerline at 116’ AGL

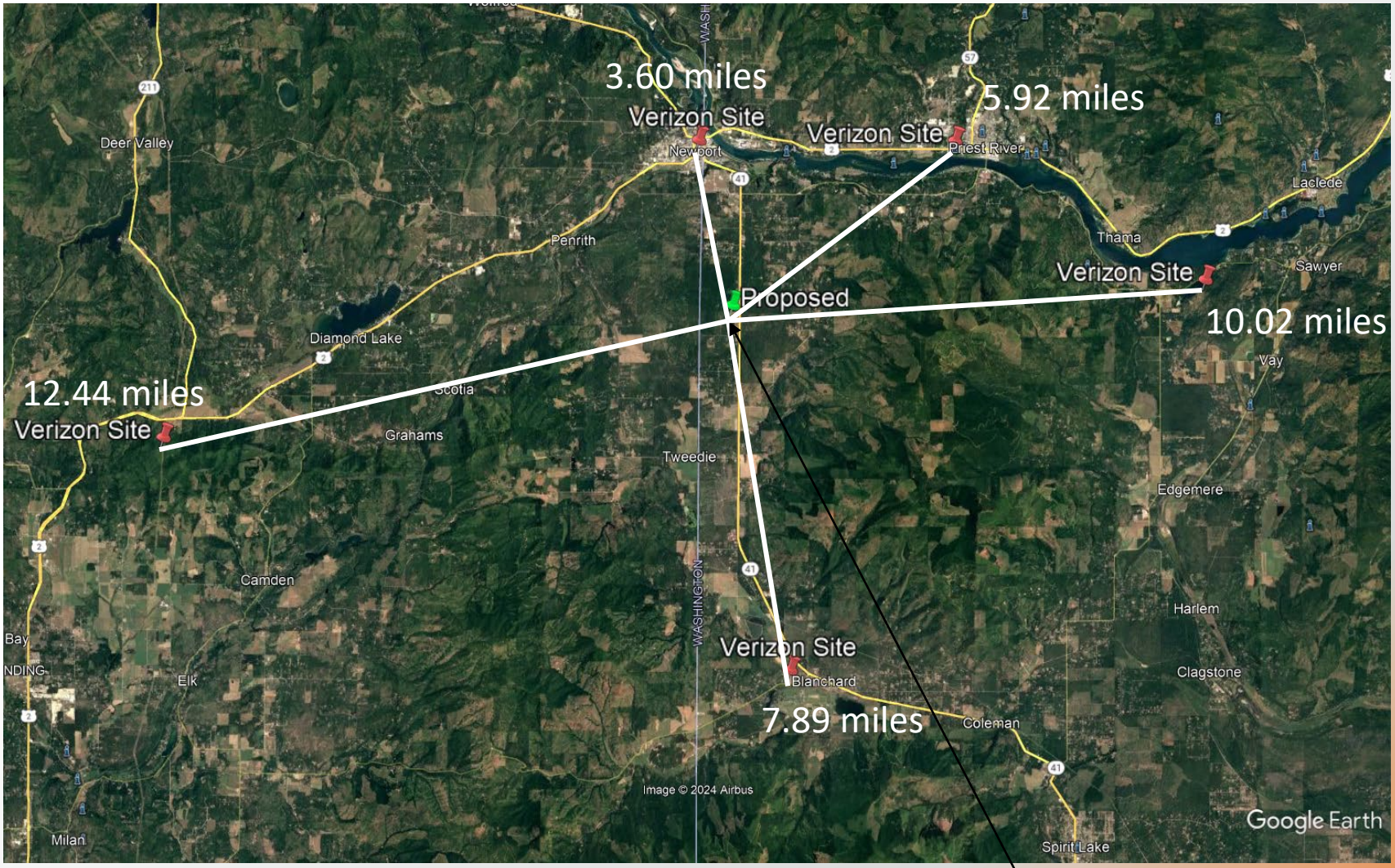
Why here?

- Lack of coverage along Highway 41
- Lack of indoor services in the surrounding rural area
- Significant amount of increased network use in the suburban and rural areas of Idaho

Zoom – proposed site



Verizon Sites

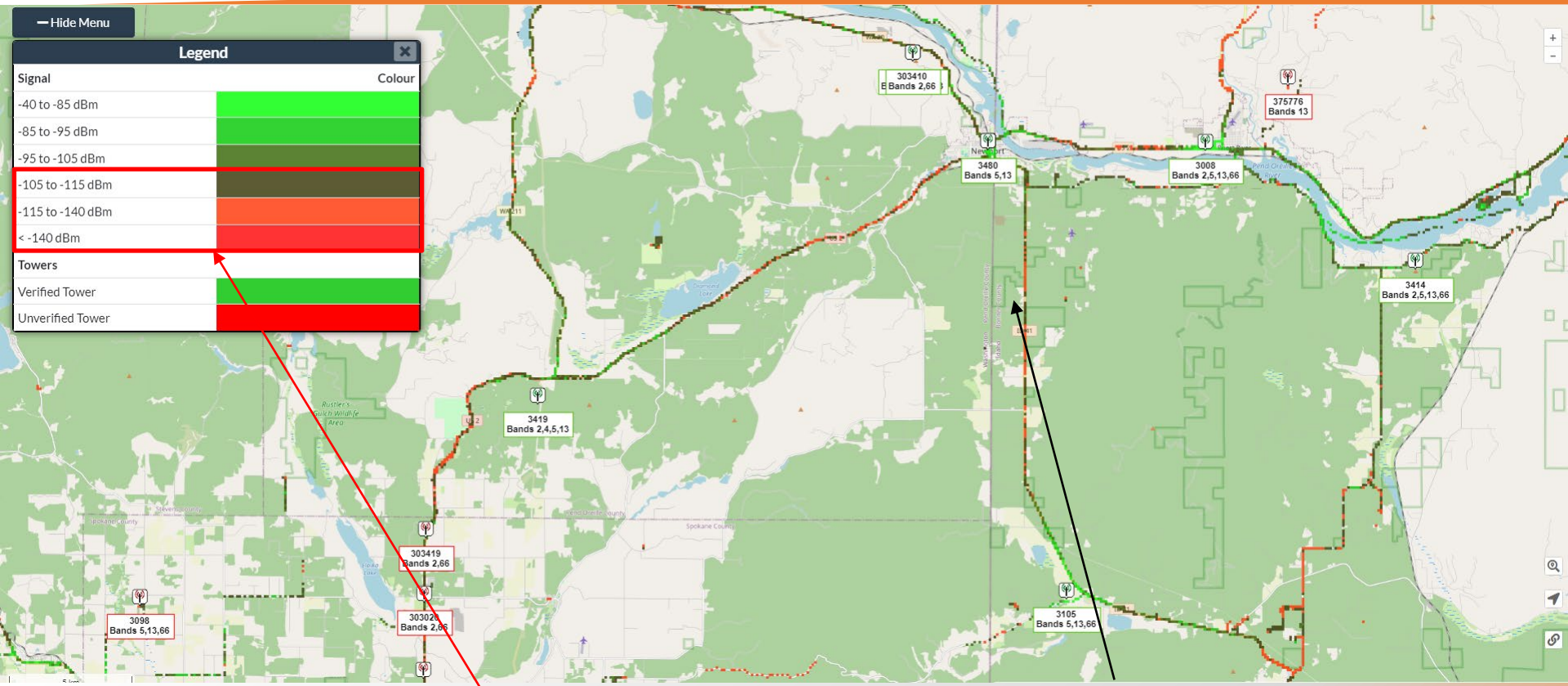


Average distance to neighbor sites: 7.97 miles

Proposed Site

2024

Verizon CellMapper



Poor Service Quality

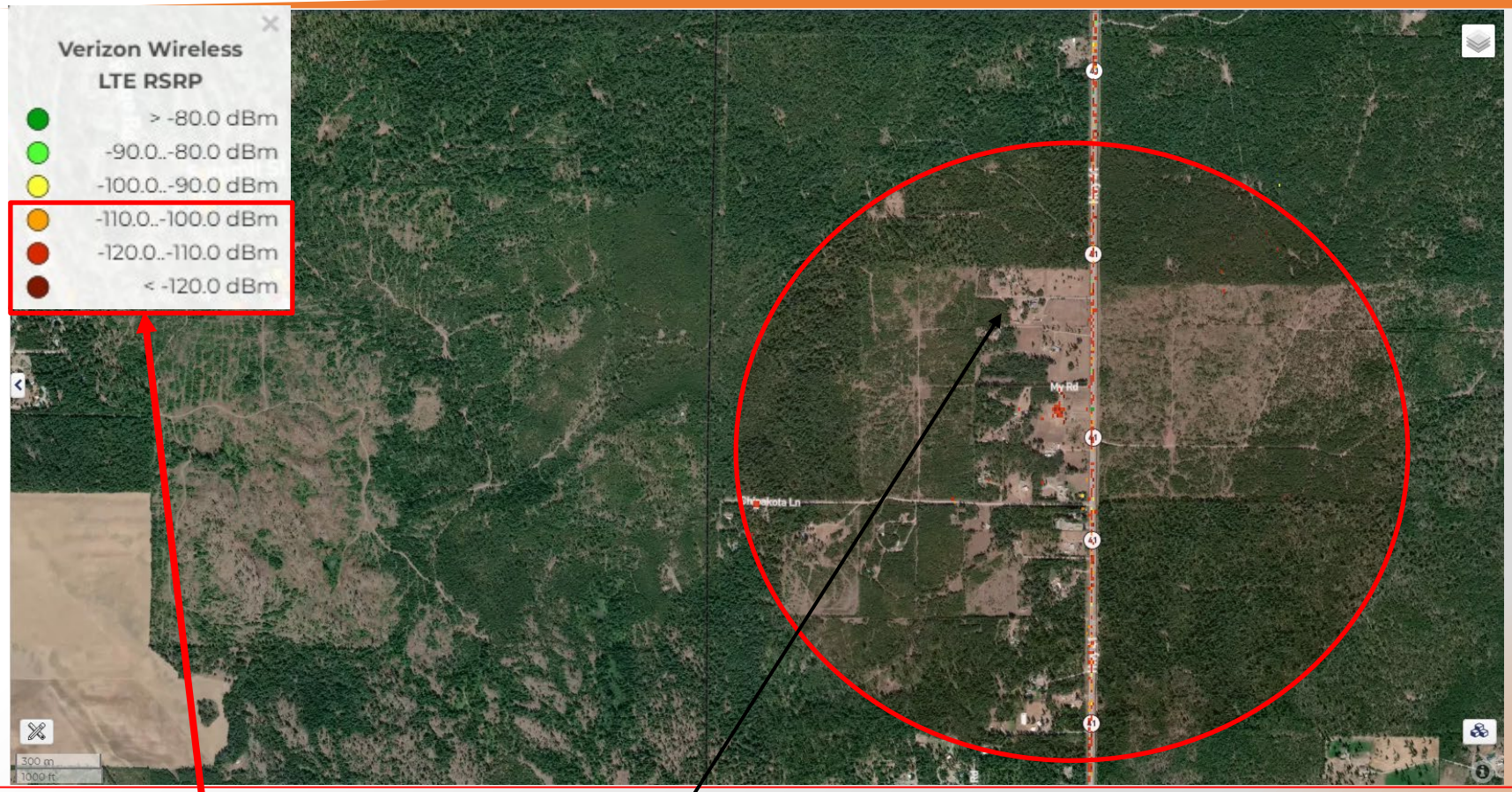
Proposed Site

The area in the red circle is what the proposed site would impact

The area is showing less than outdoor coverage around the proposed

2024

Ookla Verizon 4G



Less than on Street Coverage

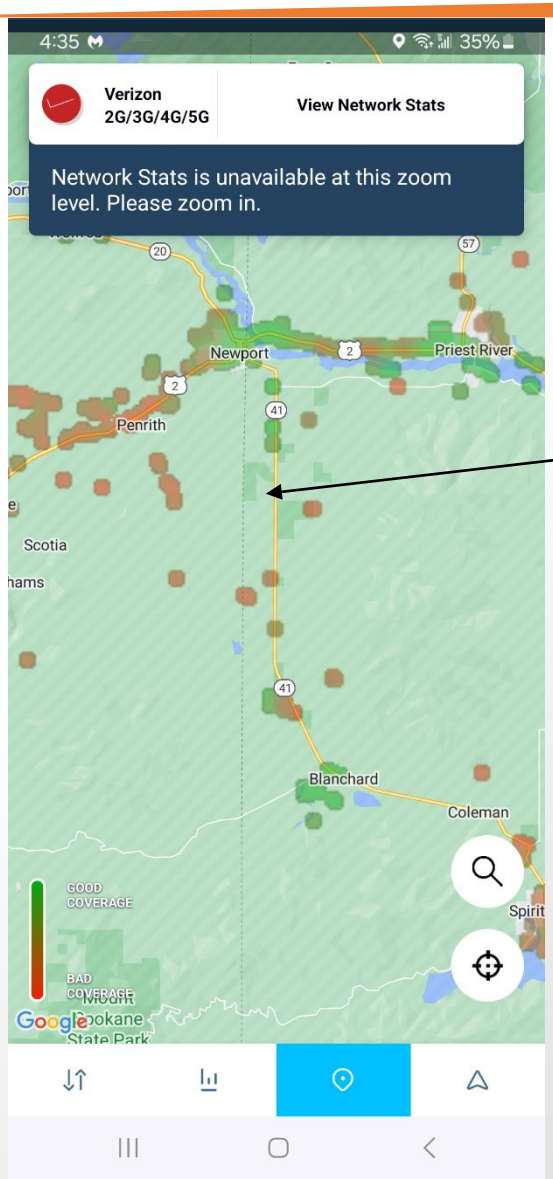
Proposed Site

The area in the red circle is what the proposed site would impact

The area is showing a significant number of mobiles reporting less than outdoor service where there are in vehicle and indoor users

2024

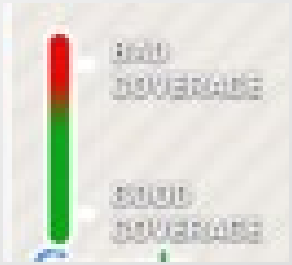
Open Signal
Verizon Quality Map



This map show mobiles reporting quality of their connections to the network. This is crowdsource data from Verizon users made available by the OpenSignal App: https://www.opensignal.com/apps#section-os-app

Green data points show good coverage and red data points show bad coverage and lack of data points show no coverage

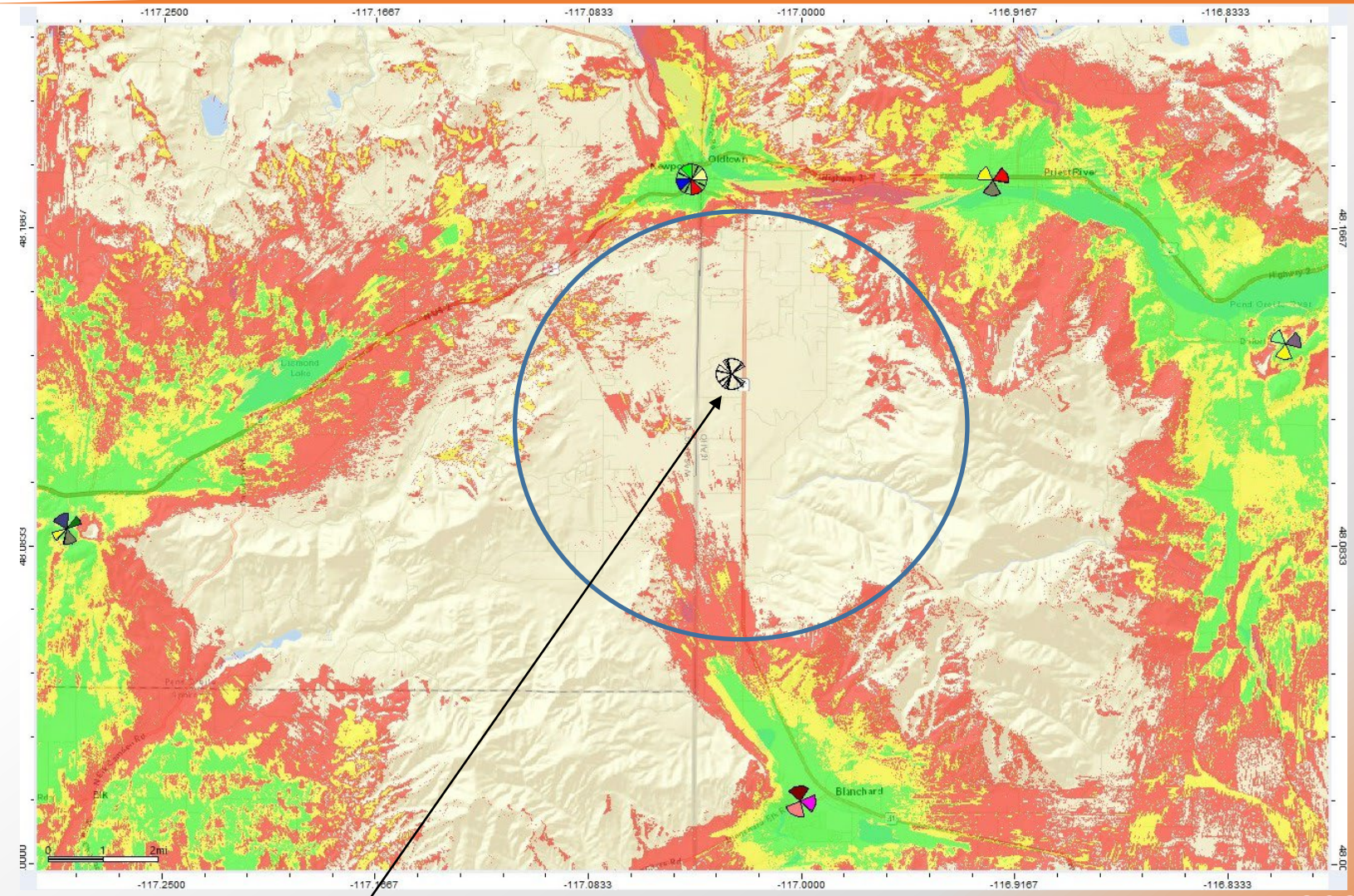
Notice the amount of bad coverage points for Verizon users in the area around the proposed as well as a lack of points which is indicative of poor coverage



2024

RSRP - Current Coverage low band

LEGEND	
	Indoor >= -85 dbm
	In-Vehicle >= -95 dbm
	On-Street >= -106 dbm



Proposed Site

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RSRP – Proposed Coverage low band

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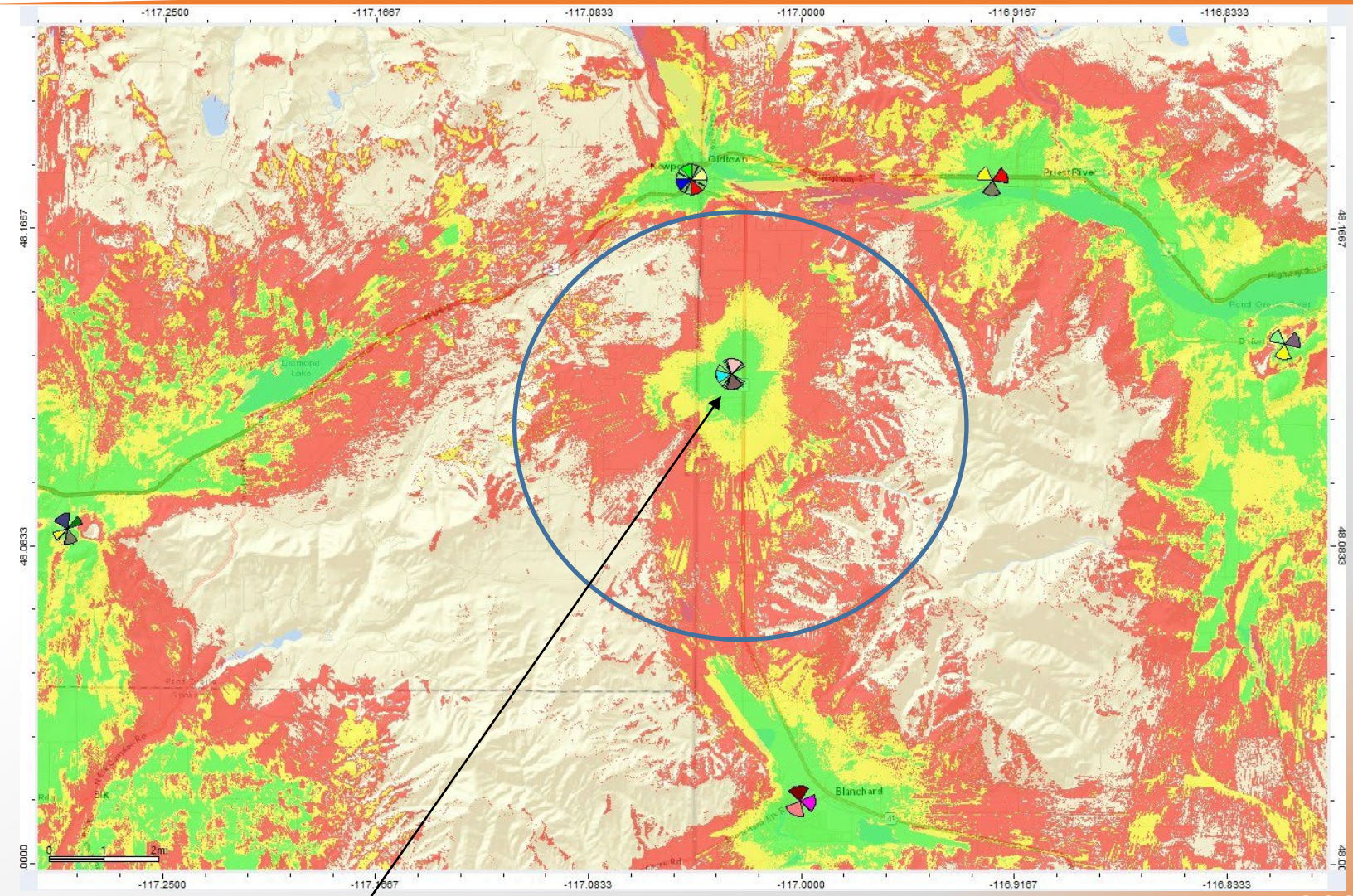
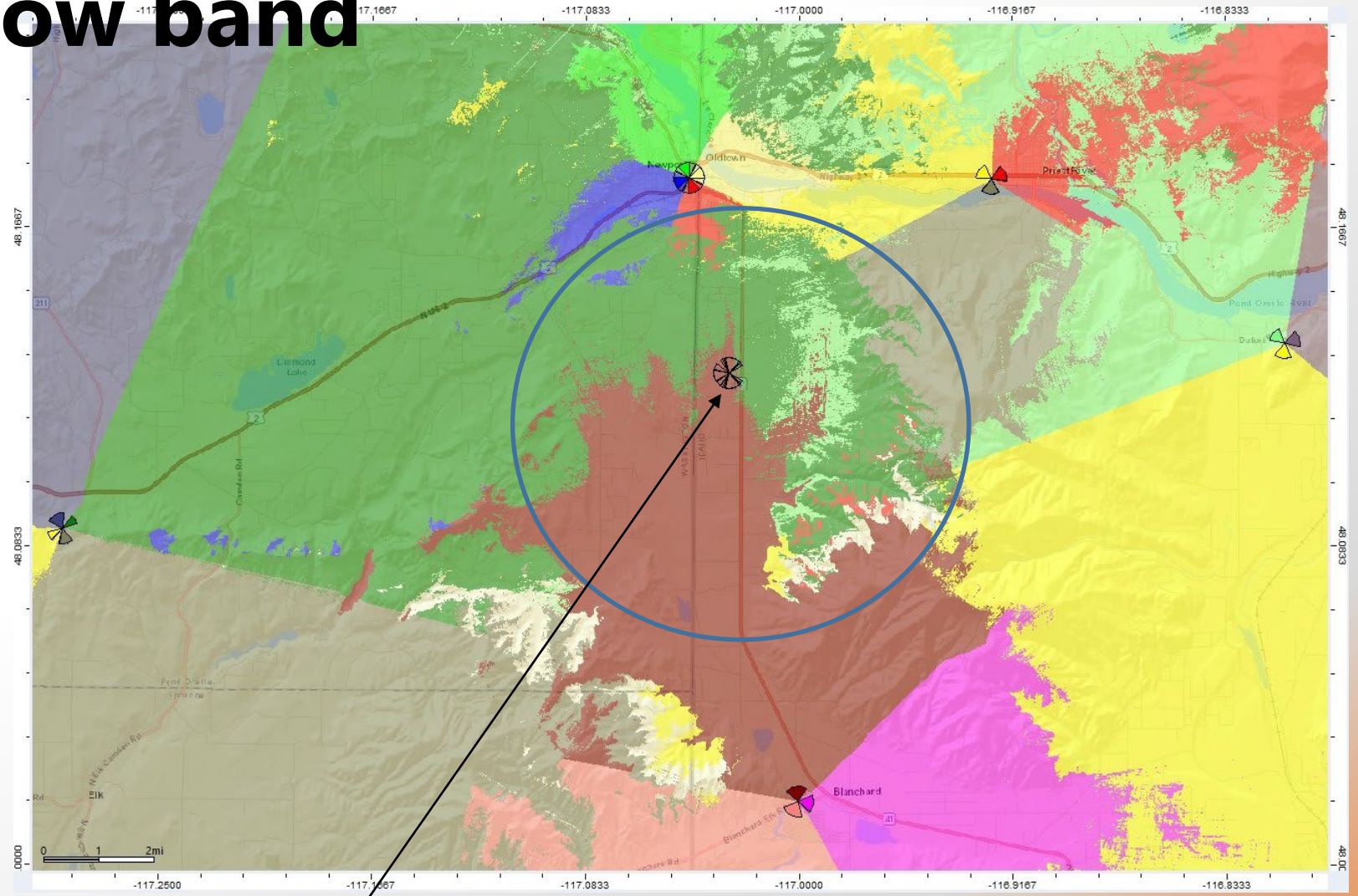


Proposed Site

2024

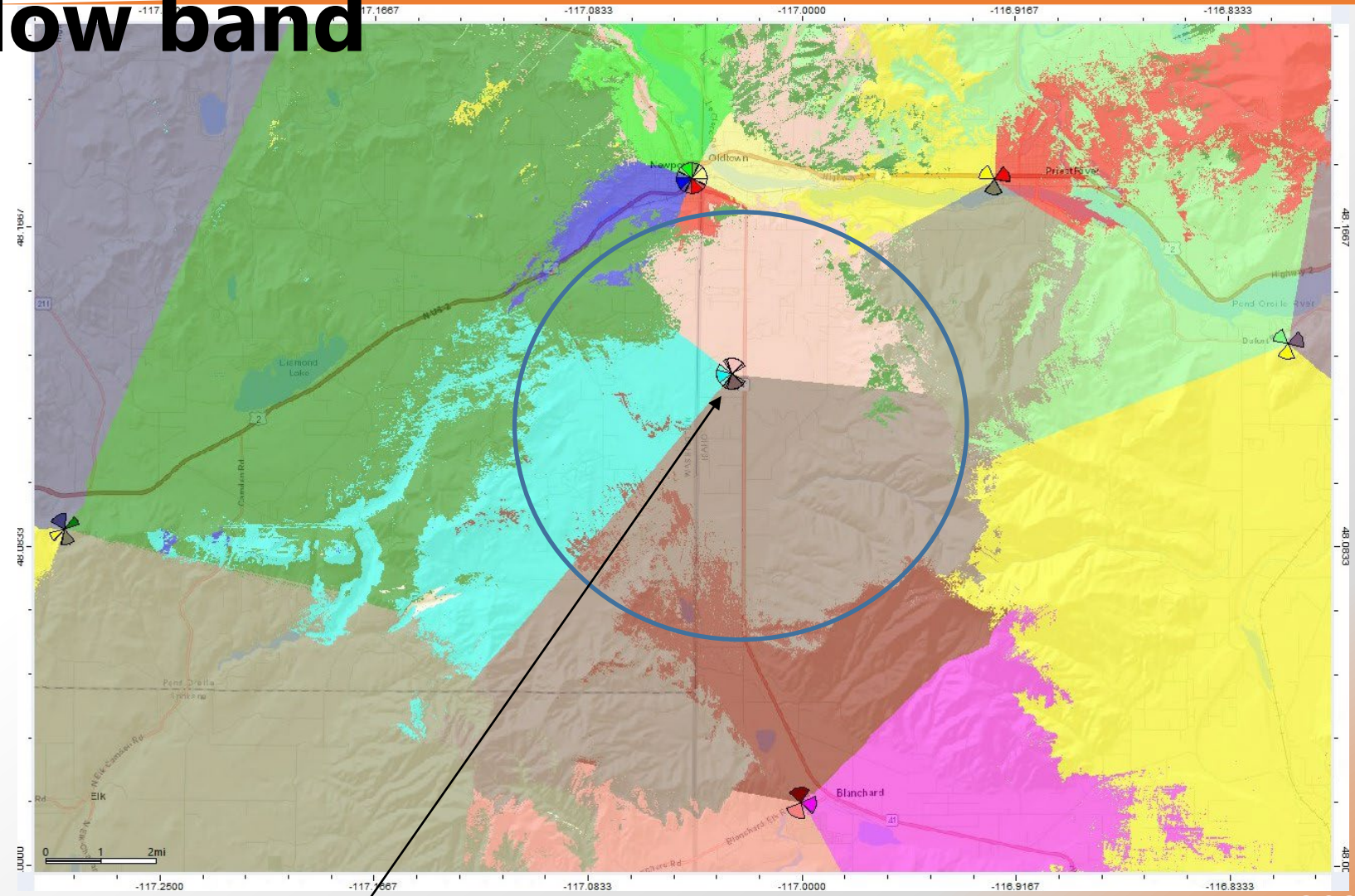
Best Server
Current Coverage
low band



Proposed Site

2024

Best Server Proposed Coverage low band

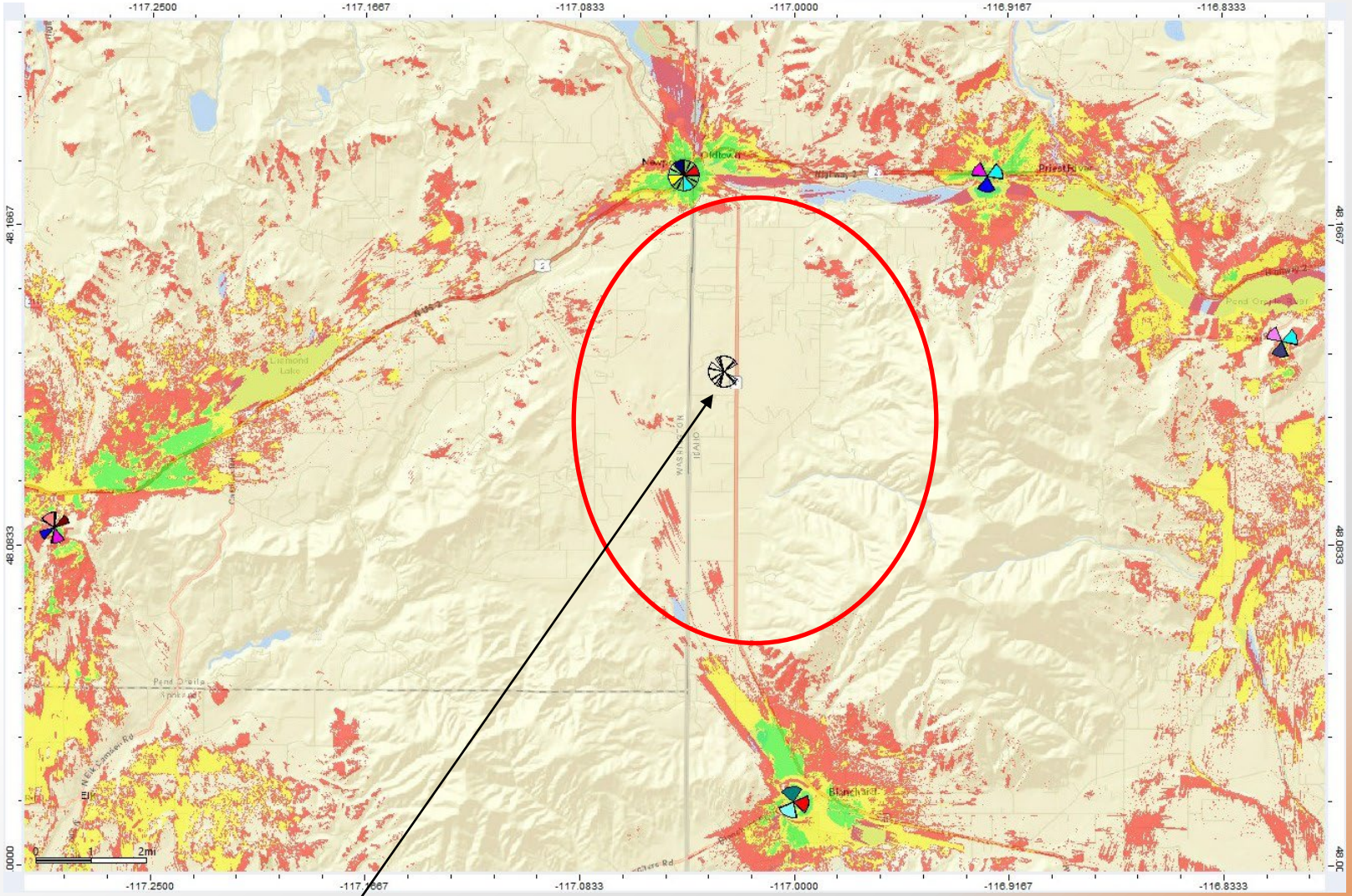


Proposed Site

2024

RSRP - Current Coverage mid band

LEGEND	
	Indoor >= -85 dbm
	In-Vehicle >= -95 dbm
	On-Street >= -106 dbm



Proposed Site

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RSRP – Proposed Coverage mid band

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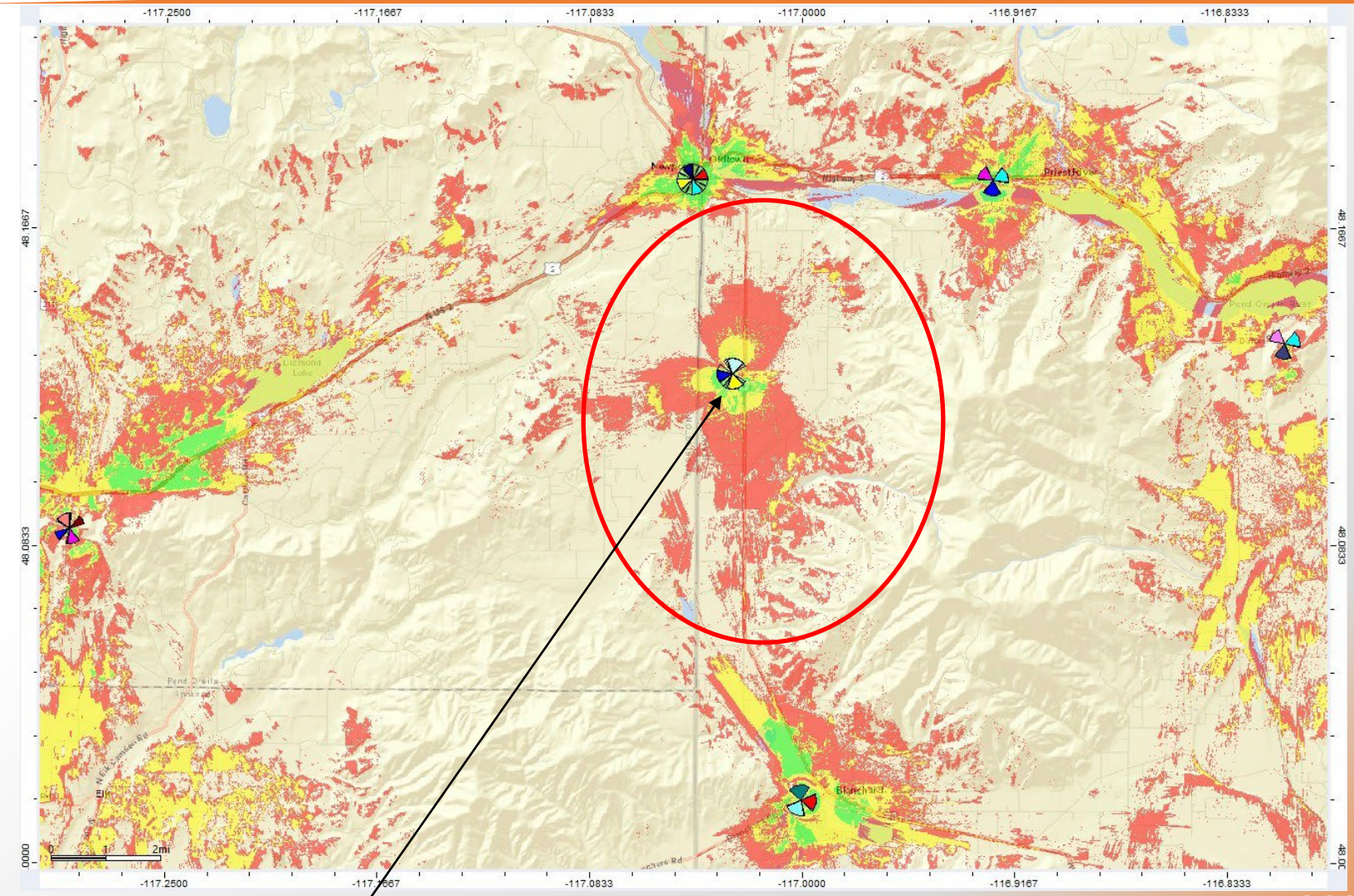

Proposed Site

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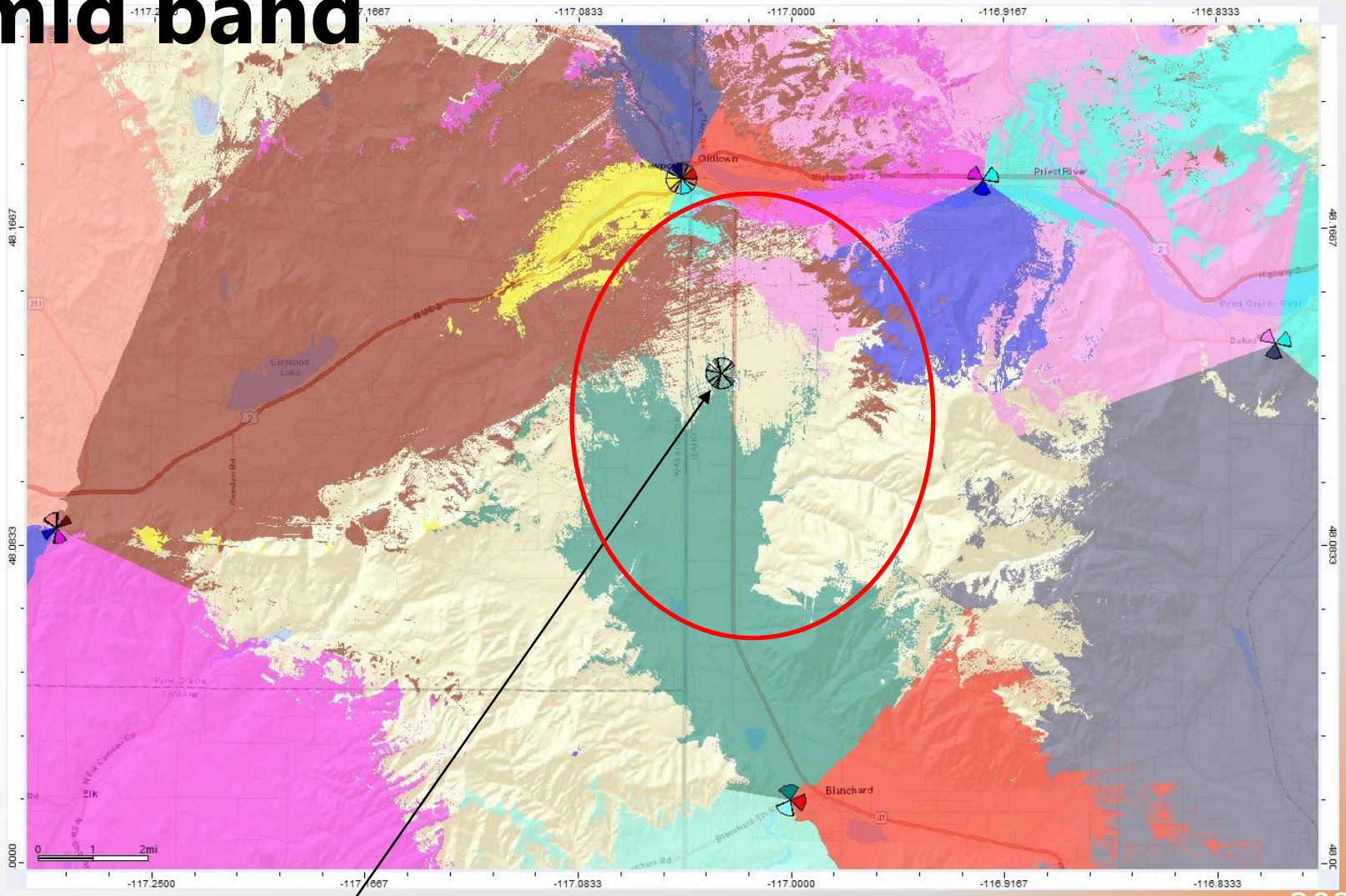
Best Server Current Coverage mid band



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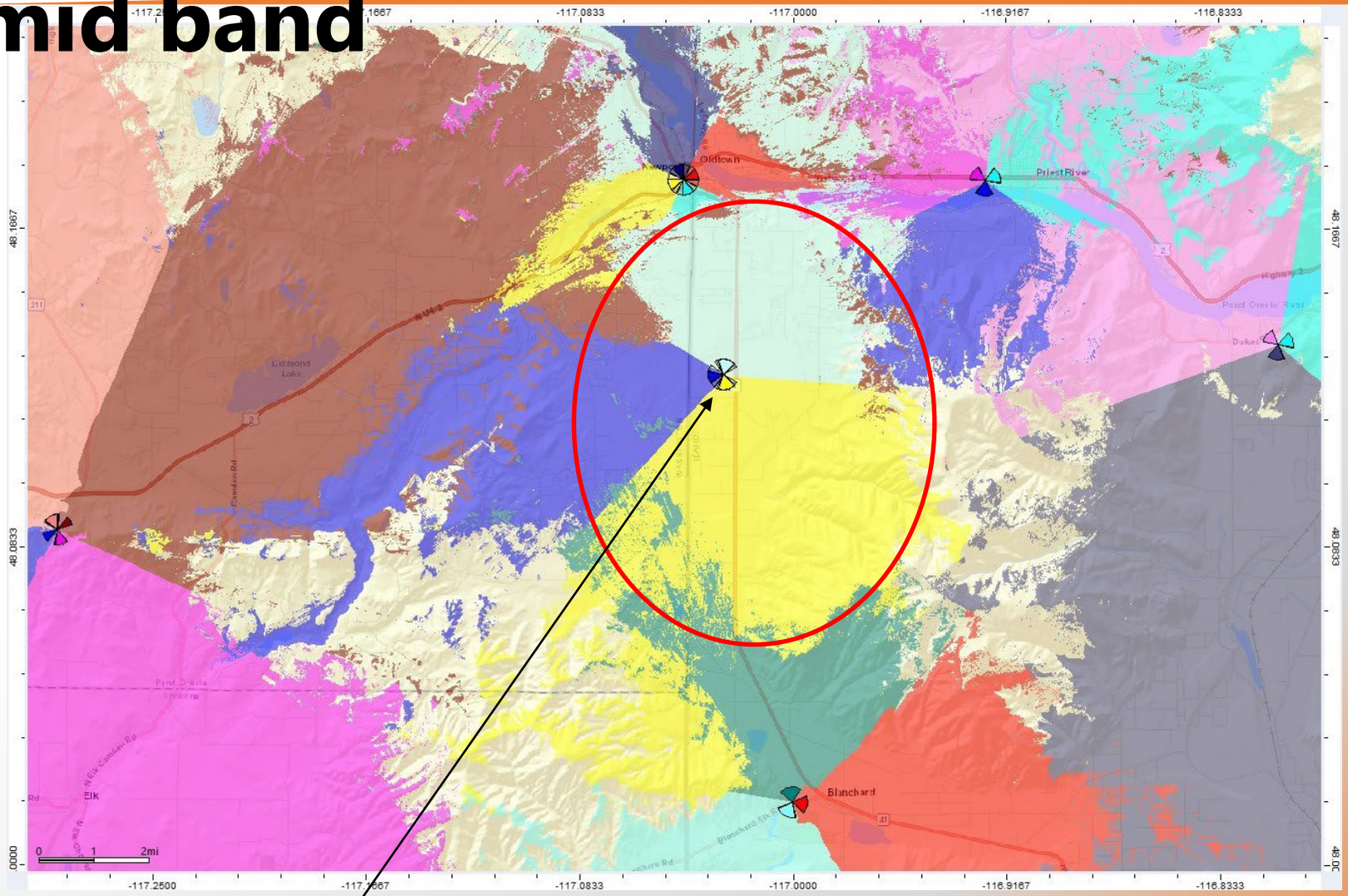
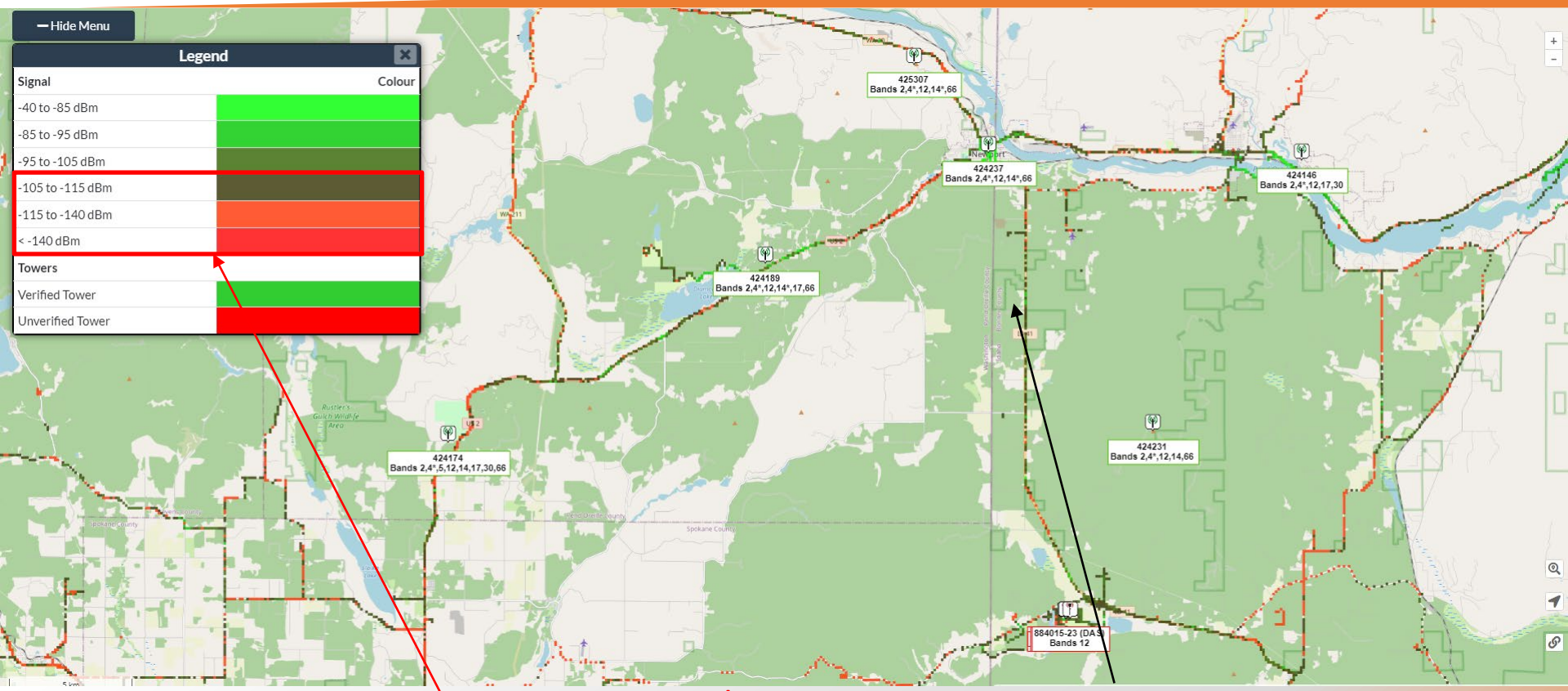


Proposed Site

2024

AT&T CellMapper



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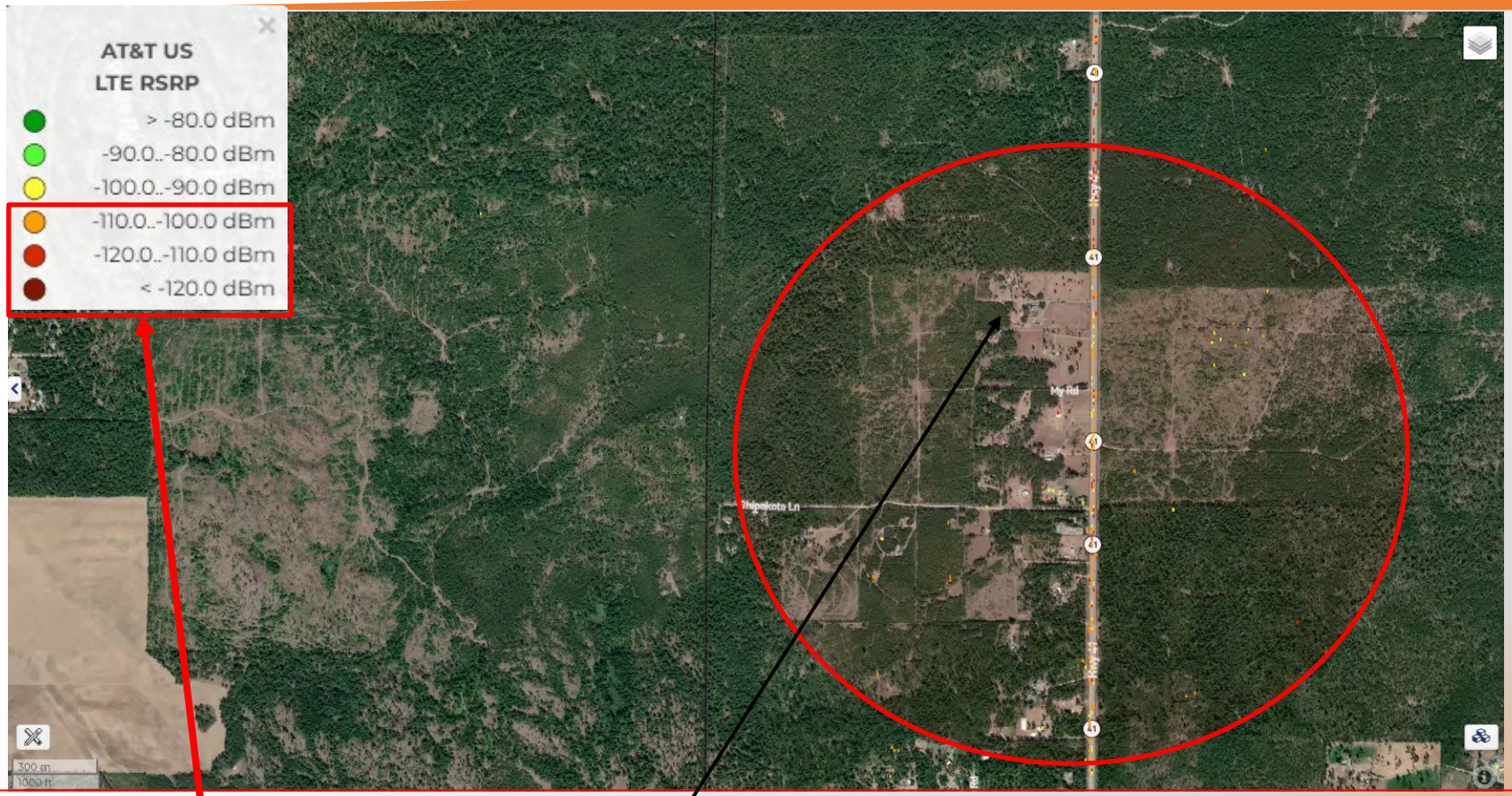
2024

Ookla AT&T 4G



Less than on Street Coverage

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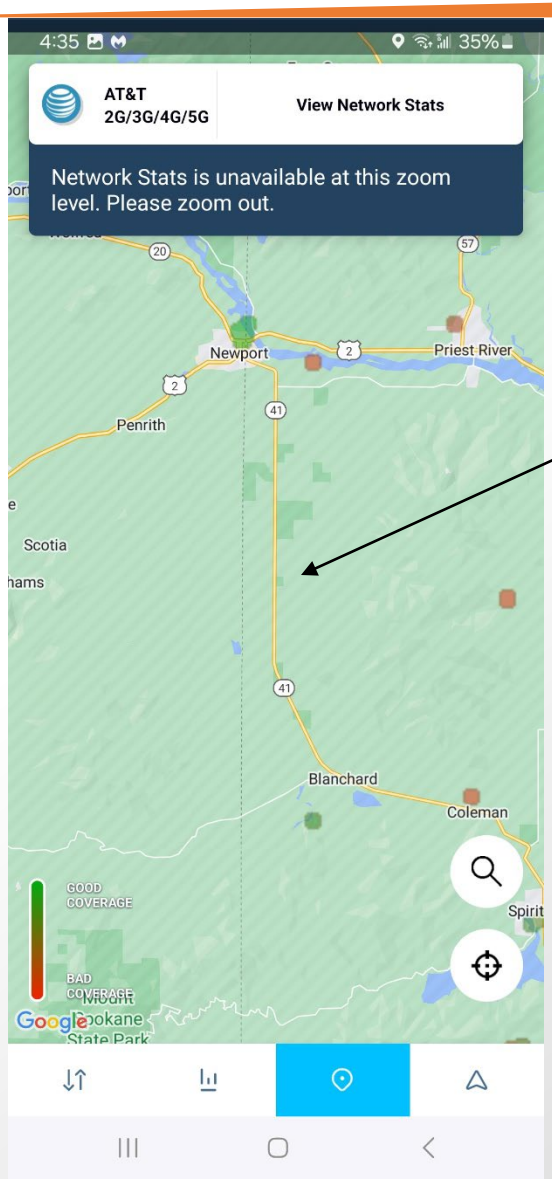
Open Signal
AT&T Quality Map



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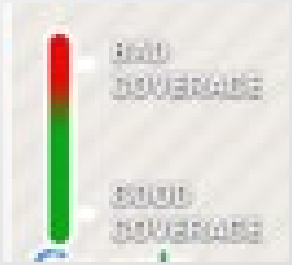
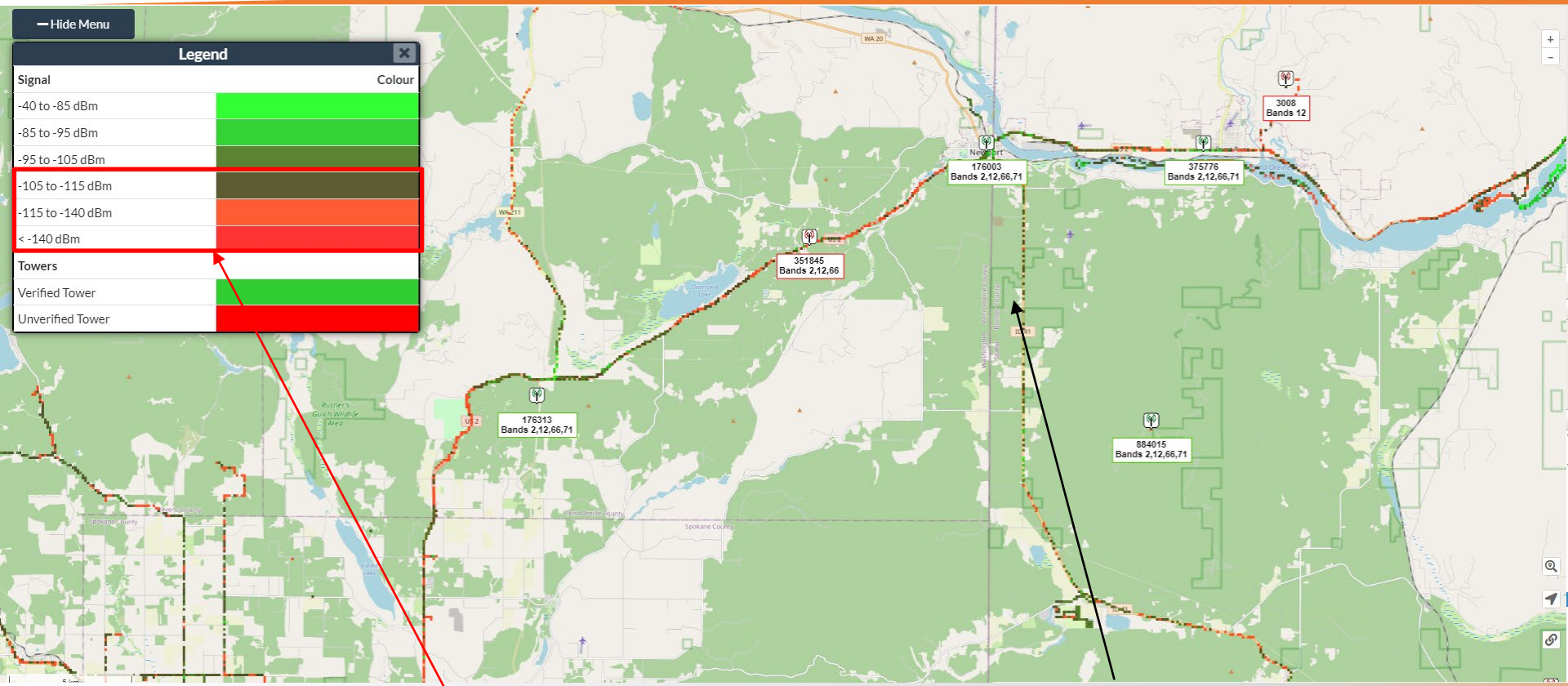
Green data points show good coverage and red data points show bad coverage and lack of data points show no coverage

Notice the lack of data points in the area and what is in the area are showing bad coverage. This is indicative of a poor coverage area for AT&T



2024

T-Mobile CellMapper



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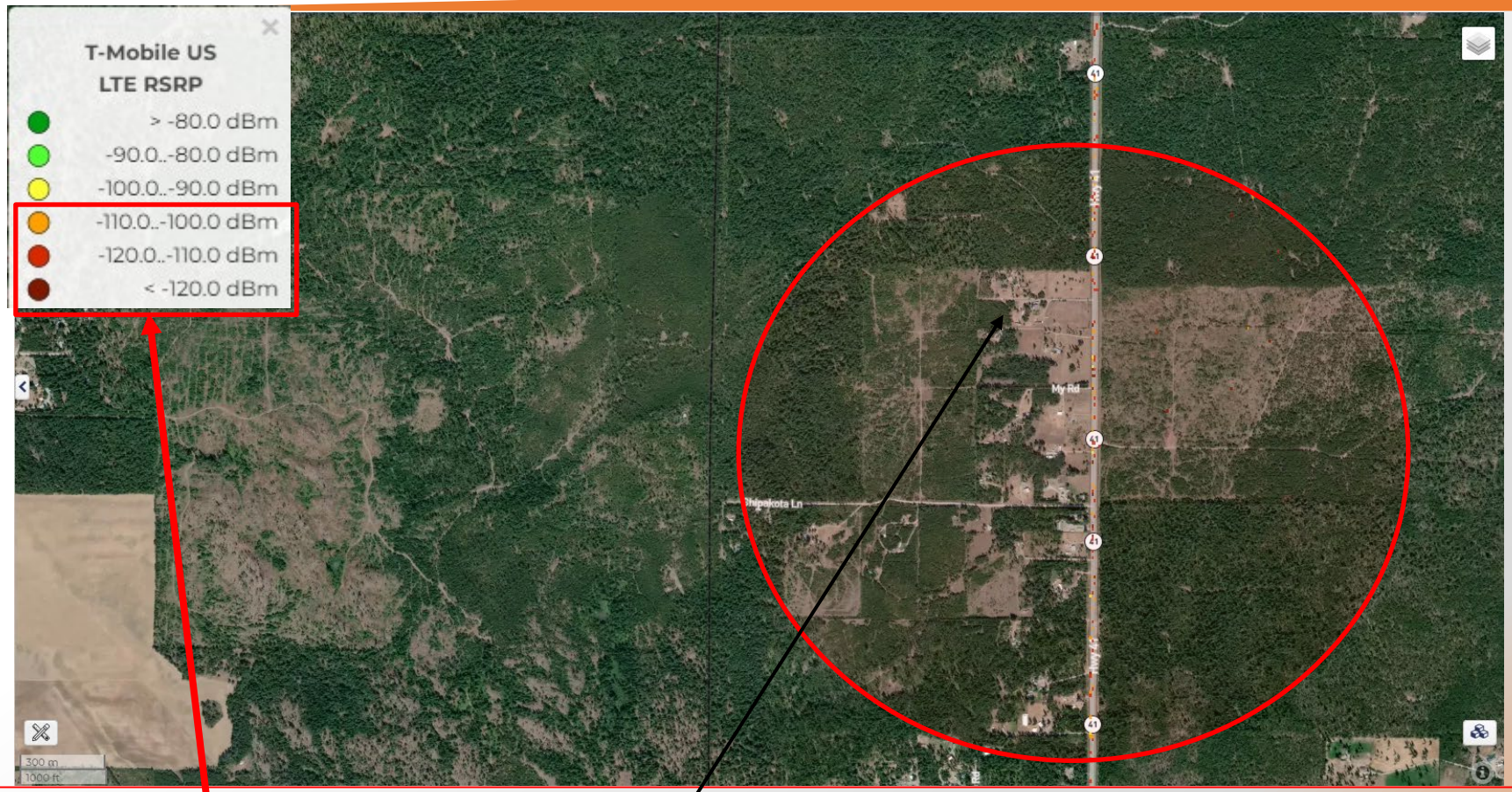

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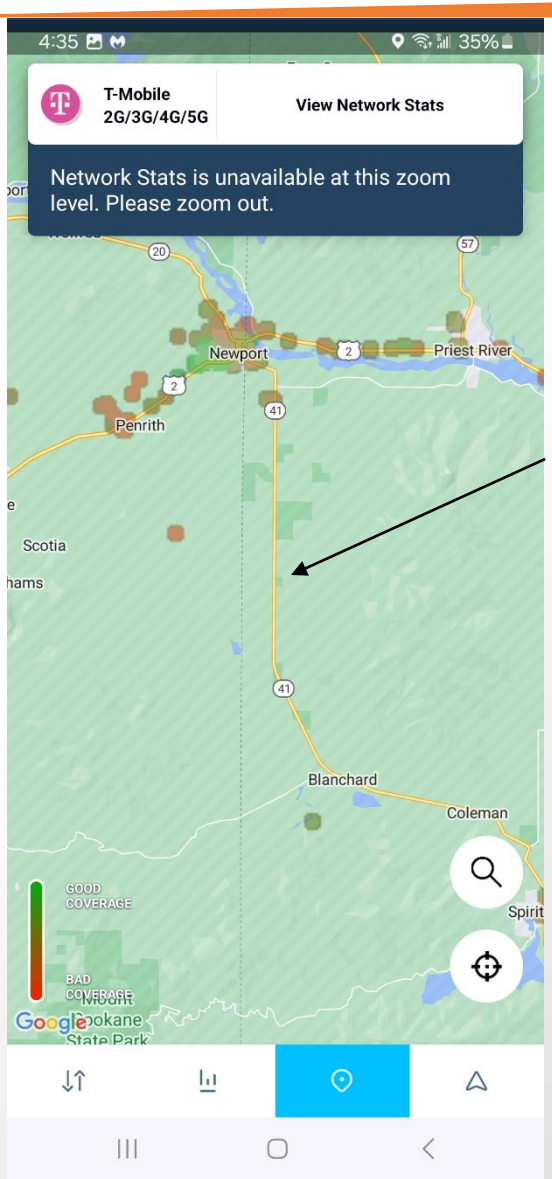
Open Signal
T-Mobile Quality Map



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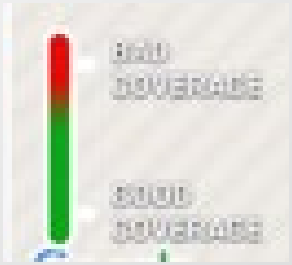

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