

**STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL**

IN RE:

APPLICATION OF OPTASITE TOWERS LLC  
AND OMNIPOINT COMMUNICATIONS, INC.  
FOR A CERTIFICATE OF ENVIRONMENTAL  
COMPATIBILITY AND PUBLIC NEED FOR  
THE CONSTRUCTION, MAINTENANCE AND  
OPERATION OF A TELECOMMUNICATIONS  
FACILITY AT 39 MAENNERCHOR AVENUE,  
TAFTVILLE, CONNECTICUT

DOCKET NO. 365

DATE: AUGUST 6, 2008

**INTERROGATORY RESPONSES TO CONNECTICUT SITING COUNCIL  
FROM CO-APPLICANT OMNIPOINT COMMUNICATIONS, INC.**

Co-applicant Omnipoint Communications, Inc., a subsidiary of T-Mobile USA, Inc. ("T-Mobile") submits the following responses to the interrogatories from the Connecticut Siting Council in connection with the above captioned Docket.

**Questions for Optasite**

**Q13. When did this site search begin? Where was the site search centered? What was the extent of the search ring? Provide a map with scale and compass, of the search ring.**

A13. T-Mobile deployed this search ring on April 22, 2005. The site search centered on the area at the intersection of Routes 12, 97 and 169 in Norwich, CT. The extent of the search ring was intended to address the existing coverage gap in T-Mobile's coverage along Route 12 (extending north from existing coverage in the downtown Norwich area), to existing coverage along the Interstate 395 corridor north of the Route 12 and Route 97 intersection in the Taftville section of Norwich.

A map of the search ring, including scale and compass direction is attached hereto as Attachment A.

**Questions for T-Mobile:**

**Q16. What would T-Mobile use for back up power?**

A16. T-Mobile will deploy battery back up power at this facility

**Q17. What are T-Mobile's licensed operating frequencies in this part of the state?**

A17. T-Mobile's operating frequencies in the New London BTA are:

**GSM**

TX: 1935.000 MHz to 1945.000 MHz (A Band)

RX: 1855.000 MHz to 1865.000 MHz (A Band)

and

TX: 1983.000 MHz to 1984.000 MHz (C Band)

RX: 1903.000 MHz to 1904.000 MHz (C Band)

**UMTS**

TX: 2140 to 2145 MHz

RX: 1740 to 1745 MHz

**Q18. What is the design signal strength for T-Mobile's system for in-vehicle coverage? For in-building coverage?**

A18. T-Mobile's minimum design receive signal level threshold is -84 dBm. This level is the lower limit to where T-Mobile can provide in-vehicle coverage to its network users. A more robust signal level is required to provide reliable coverage to subscribers inside building structures. The lower limit for in building design is -76 dBm for average residential and business dwelling environments.

**Q19. What is the existing signal strength in the area T-Mobile would serve from this proposed site?**

A19. The existing signal strength in the area T-Mobile would serve from this proposed site ranges from -85 dBm to -110 dBm.

**Q20. What would be the total area T-Mobile could cover from the proposed site?**

A20. The total area T-Mobile would cover from this proposed facility at 117' AGL is 3.555 sq. miles.

**Q21. Is Route 97 also a target for coverage from the proposed facility?**

A21. Yes. Route 97 is a target for coverage from the proposed facility.

**Q22. What is the length of T-Mobile's coverage gap on Route 12 in the vicinity of the proposed facility? On Route 97? On Route 169?**

A22. T-Mobile's coverage gap in the vicinity of the proposed facility is approximately:

- 2.2 miles along Route 12
- 1.1 miles along Route 97, and
- 2.3 miles along Route 169.

**Q23. What is the distance T-Mobile could cover on State Routes 12, 97, and 169 respectively?**

A23. If located at the height of 117' AGL at the proposed facility T-Mobile could cover approximately:

- 2.5 miles along Route
- 1.4 miles along Route 97, and
- 2.5 miles along Route 169.

**Q24. Identify, by address, sites with which T-Mobile's antennas at the proposed site would hand off signals – include type and height of structure and height of T-Mobile's antennas on structure.**

A24. Below is a table showing sites that the proposed facility would hand off to:

Site ID	Address	Town	Facility Type	Antenna Height	Structure Height
CT11254B	Hinkley Hill Road	Norwich	Self Support Tower	150 feet AGL	150 Feet AGL
CT11151B	114 River Road	Lisbon	Shell Gas Sign	65 feet AGL	80 feet AGL
CT11150D	26 Mell Road	Lisbon	Monopole	195 feet AGL	198 feet AGL
CT11149A	77 Reservoir Road	Norwich	Water Tank	160 feet AGL	162 feet AGL
CT11331A	50 Clinton Avenue	Norwich	Monopole	150 feet AGL	150 feet AGL
CT11263A	1 Chestnut Street	Norwich	Self Support Tower	84 feet AGL	80 feet AGL

**Q25. What is the minimum height at which T-Mobile could achieve its coverage objectives from the proposed site?**

A25. The minimum height at which T-Mobile could achieve its coverage objective from the proposed site is 117' AGL.

**Q26. Provide a propagation map, at the same scale as the maps provided in the application, showing what T-Mobile's coverage would be at 10 feet below its antennas' proposed heights at the proposed site.**

A26. Plots depicting T-Mobile's coverage at 107' AGL (in isolation and with adjacent sites) are attached hereto as Attachment B.

**Q27. Provide a propagation map showing the full extent of the possible coverage from the proposed site (without showing the coverage from any other sites).**

A27. A plot depicting T-Mobile's coverage from the proposed site (in isolation from adjacent sites) is attached hereto as Attachment C.

- Q28. Provide a propagation map showing the full extent of the possible coverage from the proposed site combined with the existing coverages from the adjacent sites.**
- A28. A plot depicting T-Mobile's coverage from the proposed site in conjunction with adjacent sites is attached hereto as Attachment D.
- Q29. What is the approximate cost of the antennas and related equipment that T-Mobile would install at the proposed facility?**
- A29. Equipment installed by T-Mobile at the proposed facility will range from \$125,000 to \$150,000.
- Q30. What height would be required for T-Mobile's antennas to cover its target area from one of the towers at 1 Cuprak Road? If T-Mobile's antennas were located at this height would they create problems in T-Mobile's system in the Norwich area? If so, please explain.**
- A30. Due to the terrain between the coverage objective and the AM towers located at 1 Cuprak Road, the height required to provide coverage to its target area would exceed 250 feet AGL. At this height, there would be a negative impact on T-Mobile's network due to interference concerns as well as redundant coverage created toward the I-395 corridor before the target area would receive coverage. Additionally, altering the AM tower heights would affect the tuning and pattern of the existing AM station.

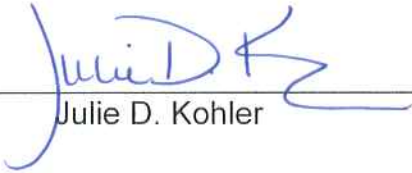
Respectfully Submitted,

By:   
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1115 Broad Street  
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CERTIFICATE OF SERVICE

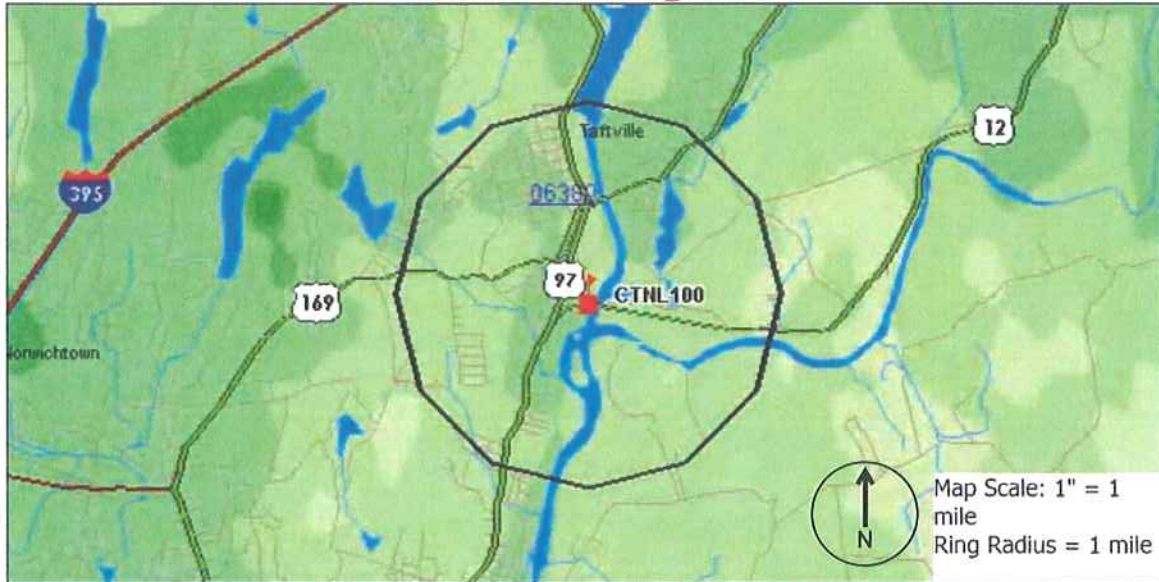
I hereby certify that on this day a copy of the foregoing was delivered by regular mail, postage prepaid, to all parties and intervenors of record.

Carrie L. Larson, Esq.  
Pullman and Comley, LLC  
90 State House Square  
Hartford, CT 06103-3702

  
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Julie D. Kohler

# **ATTACHMENT A**

CTNL100 Norwich\_RT 12



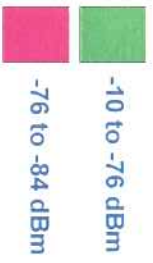
Click on the map to:    Map width:  miles

Soft Cost Approved Date: 5/17/2005	BTA: 319	Region: CT01	AOR: Patrick
RANK: 246		Created Date: 4/22/2005 2:11:39 PM    Created By: joverbey	
Capital Type: InFill	Budget Year: 2008	State: CT	
County: New London	City: Norwich	Desired Cov Radius: 1	
Lat Decimal: 41.55888888		RF Required OnAir Date: 1/1/2006	
Lon Decimal: -72.04597222		AMSL: 210	
Ring Rad Center: 125			
<b>Priority Comments:</b>		<b>Potential Candidate:</b>	
<p style="text-align: center;"><b>Justification</b></p> RM14 score of 79 due to points in these categories: Drop=26,BAN=14,Churn=12,Pop=13		<p style="text-align: center;"><b>Coverage Objective</b></p> Enhance coverage along Rt 12 in Norwich near the intersection of Routes 169	

# **ATTACHMENT B**

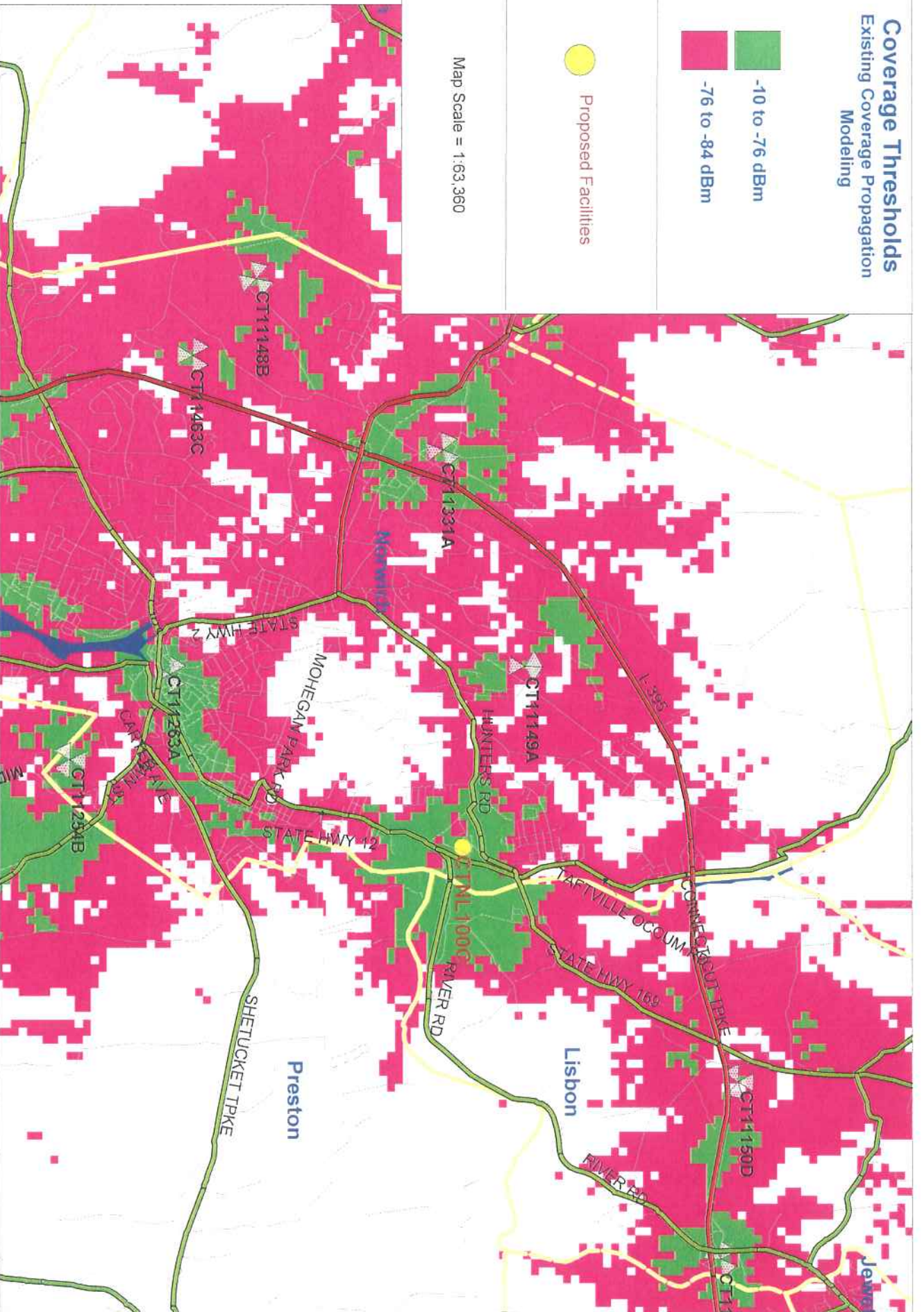
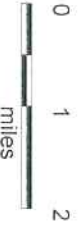


# Coverage Thresholds Existing Coverage Propagation Modeling



Proposed Facilities

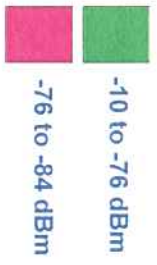
Map Scale = 1:63,360



Existing T-Mobile Coverage with CTNL100G @ 107'



# Coverage Thresholds Existing Coverage Propagation Modeling

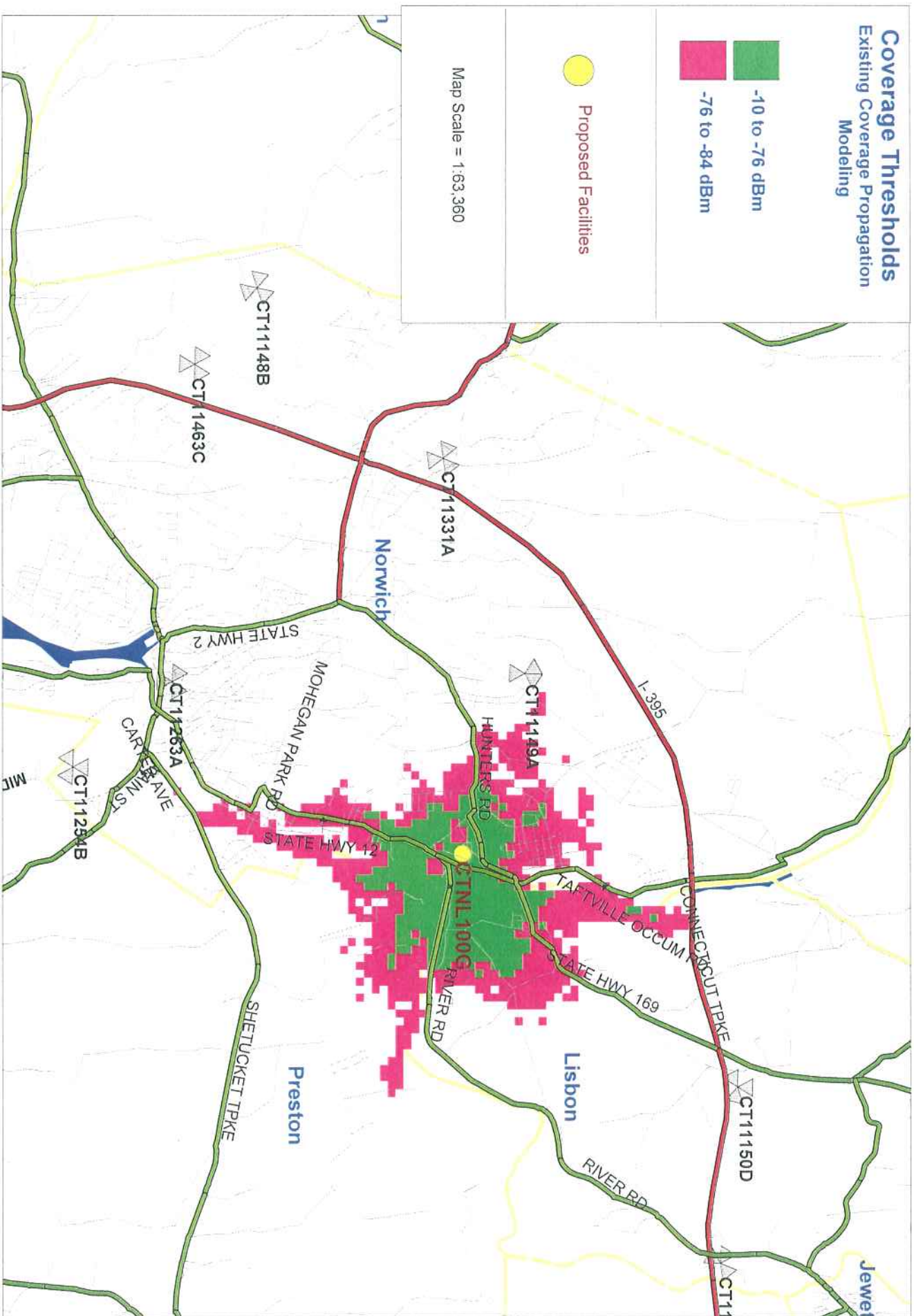


Proposed Facilities

Map Scale = 1:63,360

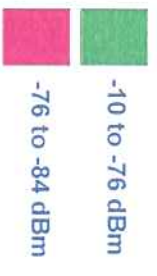


T-Mobile Proposed CTNLL100G @ 107'



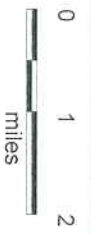
# **ATTACHMENT C**

# Coverage Thresholds Existing Coverage Propagation Modeling

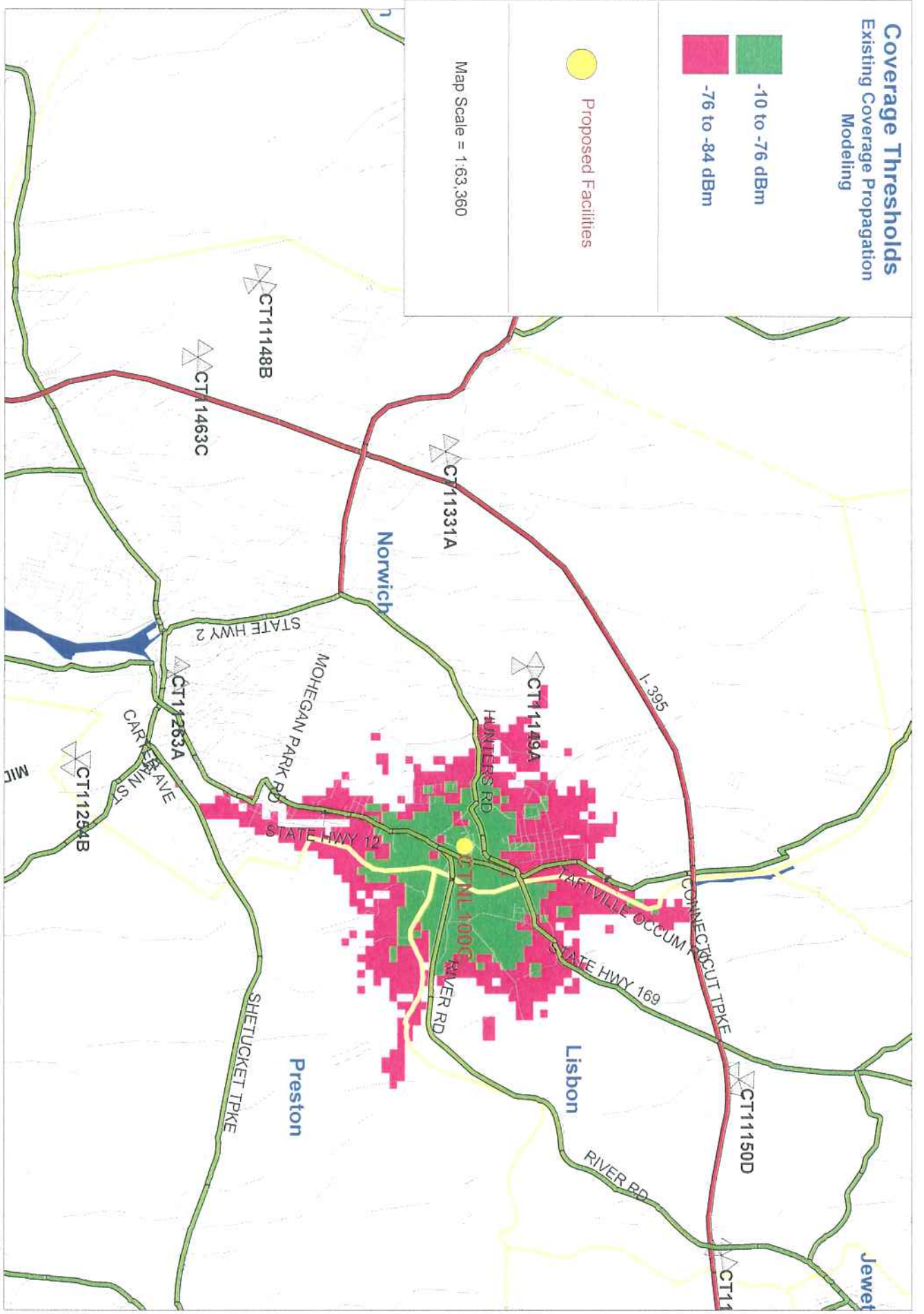


Proposed Facilities

Map Scale = 1:63,360

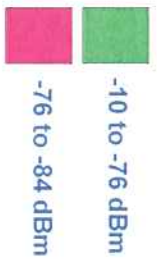


T-Mobile Proposed CTNLL100G @ 117'



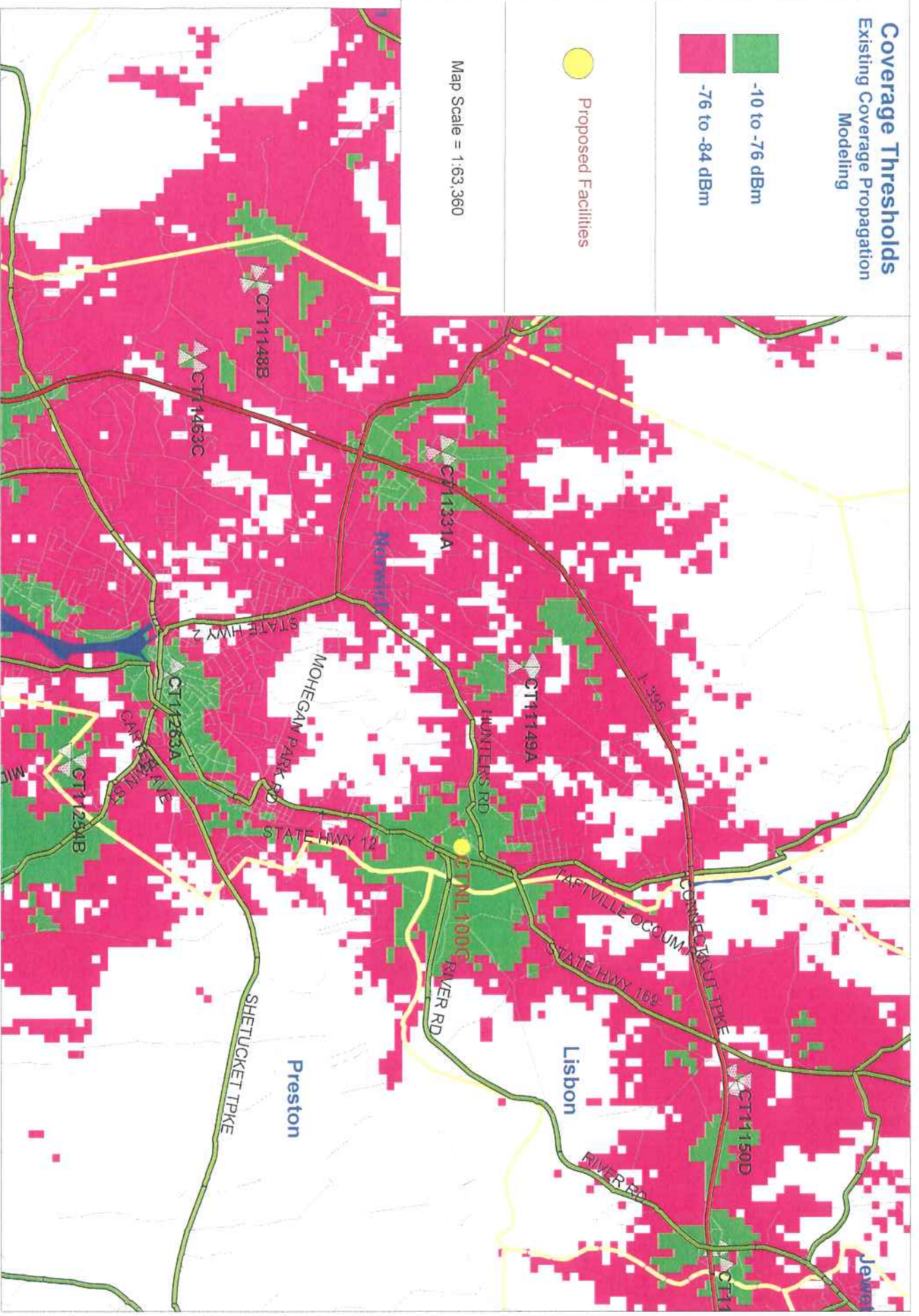
# **ATTACHMENT D**

# Coverage Thresholds Existing Coverage Propagation Modeling



Proposed Facilities

Map Scale = 1:63,360



Existing T-Mobile Coverage with CTNL100G @ 117'