


STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: June 16, 2010
AT (OFFICE): NHPUC

FROM: Kate Bailey, Director, Telecom 
SUBJECT: Staff Recommendation in DT 10-010
TO: Commission
Executive Director

On January 12, 2010, Freedom Ring, d/b/a BayRing Communications (BayRing) filed a petition with the Commission Under RSA 371:17 for a license to construct and maintain fiber optic cable across the Merrimack River, in Concord, New Hampshire, between Unitil Poles CECO 50 and CECO 51. According to the petition, construction of the fiber optic cable is necessary to meet reasonable requirements of service to the public, to accommodate growth in demand from Concord Hospital and to improve reliability in the greater Concord area. On April 1, 2010, BayRing filed a revised petition with additional information.

The petition was reviewed and analyzed by the Commission's Safety Division. The Safety Division's review, dated June 14, 2010, is attached. The Safety Division determined that BayRing's proposed attachment was consistent with the 2002 and 2007 editions of the National Electrical Safety Code (NESC).

In its review, the Safety Division discovered an existing Comcast pole attachment that was not consistent with the NESC nor was it licensed pursuant to RSA 371:17. The Safety Division recommended the BayRing attachment be approved with the following conditions:

- a. Comcast must come into compliance with the NESC code for the existing crossing.
- b. The Commission should issue a license to Comcast for its crossing if Comcast can show that its facilities maintain all required clearances at loadings specified in the NESC.
- c. The Commission should require that all future alterations to the crossings conform to the requirements of both the 2002 and 2007 editions of the NESC.
- d. BayRing should be required to maintain and operate the crossings in conformance with the NESC.
- e. BayRing should be required to file within 120 days of installation copies of the final configurations of its crossing with clearances from all other attaching entities under applicable NESC loading conditions.

Consistent with NH Admin Code Puc 1303.07 (c), the Comcast attachment must be brought into compliance with the NESC before the BayRing attachment is added. Puc 1303.07 (c) insures the cost of bringing an existing attachment into compliance not be shifted to BayRing:

Where a pole or existing attachment is not in compliance with applicable standards and codes and must be brought into compliance before a new attachment can be added, the cost of bringing that pole or existing attachment into compliance shall not be shifted to the entity seeking to add a new attachment.

In this case, the Comcast attachment could be brought into compliance on the existing poles but may not leave enough room for the BayRing attachment to comply. BayRing, Comcast and Unitil must work together to insure all three attachments comply with the NESC and that the cost of Comcast's non-compliance is not shifted to BayRing. Accordingly, Staff recommends a license be issued to BayRing for the proposed crossing, with the condition that the Comcast attachment be brought into compliance with the NESC before or concurrently with BayRing's installation of its attachment, and that BayRing not be harmed as a result.

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: June 14, 2010

AT (OFFICE): NHPUC

FROM: Randy Knepper
Director of Safety

SUBJECT: Review of BayRing Communications' Petition
to Cross the Merrimack River, Concord, NH
Docket No. DT 10-010

TO: Kate Bailey, Director of Telecommunications
Lynn Fabrizio, Staff Attorney

The Safety Division review of the above petition consisted of the following ten elements:

- Summary of Petition and Petition History
- Applicable Statute for Petition
- Review of existing crossing(s) already licensed by the PUC
- Review of other applicable state agency license requirements
- Does the petition contain sufficient and accurate information to determine if administrative rules are being met, *i.e.* Puc 300, Puc 400, Puc 1300 rules?
- Review of pole owner permissions and conditions
- Review of petition elements
- Are all pole attachments shown to allow for a proper determination of NESC codes?
- Is there a public need for the right to cross state waters and will the public be harmed by the petition?
- Conclusions and Recommendations

1. Petition History:

- On January 12, 2010, BayRing Communications filed a petition to cross the Merrimack River in Concord, New Hampshire with a fiber optic cable and support cable on existing poles owned by Unitil Energy Services.
- On April 1, 2010, based on concerns of Staff of representations made within the petition, BayRing Communications filed a revision to the petition to cross the Merrimack River in Concord, New Hampshire.
- On June 2, 2010, a conference call was held with representatives of Unitil Energy Services, BayRing Communications, CEG Inc (consultants to BayRing), and the Safety Division to discuss options available and potential resolutions to any outstanding issues.

2. Reference New Hampshire Statute contained in petition

TITLE XXXIV
PUBLIC UTILITIES

CHAPTER 371
PROCEEDINGS TO ACQUIRE PROPERTY OR RIGHTS

Rights in Public Waters and Lands

371:17 Petition. – Whenever it is necessary, in order to meet the reasonable requirements of service to the public, that any public utility should construct a pipeline, cable, or conduit, or a line of poles or towers and wires and fixtures thereon, over, under or across any of the public waters of this state, or over, under or across any of the land owned by this state, it shall petition the commission for a license to construct and maintain the same. For the purposes of this section, "public waters" are defined to be all ponds of more than 10 acres, tidewater bodies, and such streams or portions thereof as the commission may prescribe. Every corporation and individual desiring to cross any public water or land for any purpose herein defined shall petition the commission for a license in the same manner prescribed for a public utility.

Source. 1921, 82:1. PL 244:8. RL 294:16. 1951, 203:48 par. 17. 1953, 52:1, eff. March 30, 1953.

3. Review of existing license(s) and permissions previously granted by Puc for Merrimack River Crossing in Concord, NH and ownership of lands.

a. Historical Review of Existing License for Merrimack River Crossing of Concord Electric:

On October 18, 1962, the PUC issued Order No. 7907 granting a license to Concord Electric Company to construct and maintain lines of wires or submarine cables across public water at sites specified for eighteen crossings identified as crossings 1-8; 23 through 27; and 31 through 35. Crossing No. 23 is described as

"From C.E. Pole #50 northerly across the Merrimack River, being the nearest crossing to the Federal bridge and on the westerly side thereof to C. E. Pole

#51; both poles being located in what is now or formerly Eastman Street in Concord. This is a sole C.E. crossing. The span distance is 520 feet and the height above the water is approximately 25 feet.”

This order was the result of a petition filed under Docket No. D-E4054 by Concord Electric Co.

On December 31, 1984, the PUC in Docket No. DE 84-263, issued Supplemental Order No. 17,373, which made Concord Electric Co. a subsidiary of Unitil Corporation.

b. Review of previous attachment agreements for Merrimack River Crossing of Comcast (formerly MediaOne):

According to Unitil records, Telecable Corporation was granted an attachment agreement by Concord Electric in 1968 to attach CATV lines to said pole span crossing the Merrimack River. TeleCable Corporation was sold to Tele-Communications Inc. in 1995. TCI and MediaOne merged and became AT&T, which subsequently was sold to Comcast. In Docket No. DE 98-208, MediaOne Telecommunications of New Hampshire, Inc. petitioned the PUC for Authority to Provide Local Telecommunications Services, and Order *Nisi* No. 23,088 Granting Authorization was issued on December 15, 1998. At this time, the former MediaOne became a CLEC subject to applicable administrative rules (Puc 400).

To date, the Safety Division has not found any written documentation confirming that Comcast or its predecessors was ever granted a license by the PUC pursuant to RSA 371:17 to cross public waters.

4. Review of land ownership of existing pole structures.

According to the City of Concord's GIS database of parcels owned within the town, the southern pole CE Pole 51 is within the right of way for Commercial Street. (See Appendix A for photo documentation of existing conditions. Reference Appendix B Figures 10, 11, 12 and 13 for parcel owners that are adjacent to the ROW.)

Similarly, the northern pole CE Pole 50 is within the ROW for West Portsmouth Street. Appendix B, Figures 14 and 15 list the State of New Hampshire as the adjacent parcel owner which contains a state owned railroad.

5. Review of NESC code requirements as described in Puc 300, Puc 400 and Puc 1300 rules

N.H. Code of Administrative Rules PART Puc 433 requires a CLEC to *construct, install and maintain its plant, structures, equipment, and lines to*

prevent interference with service furnished by other carriers and by other public service facilities, such as cable, fire alarm, electric, water, sewer, gas, or steam facilities. Puc 433.01(b). This requires compliance with the 2002 edition of the NESC. Puc 433.01(a).

N.H. Code of Administrative Rules PART Puc 1303 requires a CLEC or any other pole attaching entity to *install in accordance with the 2007 edition of the NESC.* Puc 1303.07(a). Thus, compliance with both the 2002 and the 2007 editions of the NESC was reviewed.

BayRing's revised petition shows the orientation and location relationship of the proposed fiber optic lines in relationship to existing pole owners and attaching entities at both the pole locations and at midspan above the Merrimack River. The existing pole attaching entities are identified as Fairpoint Communications¹ and Comcast (MediaOne), while the pole owner and associated facilities are identified as Unitil Energy Services (UES). The revised petition also shows the relationship of proposed fiber optic cables to vertical clearances from the ground level of poles and vertical clearances from the 100-year and 10-year water levels measured in a water surface survey taken on November 18, 2009.

NESC Section 230.F.1.e and Section 230.F.2 are considered by the Safety Division to be applicable to fiber optic cables.

The BayRing petition did not show the actual weightings and sag conditions of the Comcast (MediaOne) facilities nor tensioning conditions. BayRing did attempt to assume the impact on pole loadings using the assumed guying of Comcast.

The Safety Division confirmed through field investigation that the poles in question are 45 feet in length, wooden Class 2 poles made of Southern Pine with creosote treatment applied in 1997, according to markings on the pole

There are no applicable New Hampshire DES permit requirements for this crossing. Neither does this crossing meet the applicable activities that trigger either an individual permit review or a general programmatic permitting review by the Army Corps of Engineers. *See* U.S. Department of the Army Programmatic General Permit No: NAE-2007-461.

Field visits confirmed that sailboating is limited if not impractical for this section of the river, based on the existing construction and clearances of the adjacent Federal Bridge to the water levels. Therefore, NESC vertical clearance requirements are met, as outlined below.

¹ The petition incorrectly identifies FairPoint as an attaching entity, when in actuality the attachment is a City of Concord attachment which uses an unlicensed submarine crossing.

A review of the vertical clearance between UES facilities and proposed Bay Ring facilities reveals that the proposed 42-inch clearance is in conformance with the minimum required vertical clearance of 40 inch per NESC Table 235-5 (1a). The petition shows that this minimum separation is maintained under all loading conditions throughout the span.

A review of the vertical clearance between proposed BayRing facilities and existing City of Concord and Comcast facilities reveals that the minimum vertical clearance requirement of 12 inches is maintained per Section 235.C.2.b(1)(a) of the NESC at the pole, but does not show the vertical clearance at midspan between Comcast and proposed BayRing facilities at similar loading conditions.

During the review of the petition it was discovered that Comcast's existing facilities do not meet the 14-foot vertical clearance requirements per NESC Table 231-1 (6) above the 10-year flood water levels when the facilities have a sag resulting from conditions at 0 degree F, and 0.5 inch ice loading. The applicable water levels chosen as appropriate are the 10-year flood level per NESC Table 231-1, note 18. It is noted that the 100-year flood level was also shown as a reference but that neither the proposed BayRing facilities nor the existing Comcast have enough vertical clearance with a sag resulting from conditions at 0 degree F, and 0.5 inch ice loading.

Line Item 7 in the petition lists conditions of sag that are inconsistent with NESC loading conditions as defined in Section 232 A. However, Line Item 4 references elevations and loadings that are in conformance with NESC loading conditions. These conditions were the Heavy Loading Conditions applicable to New Hampshire [Table 250-1 (0 deg F, 4 psf wind, 0.5 inch radial equivalent ice)]. For purposes of this review, the Safety Division used those drawings, profile details and notes referenced by Line Item 4.

A review of the calculated sags was checked with SpanCheck at tensions provided in the petition and loading conditions at 0 deg F with no ice and wind and 32 deg F with 0.5 inch ice and 0 deg F with 0.5 inch ice and 4 psf wind load and sag results were consistent with those shown in the petition.

On June 1, 2010, a conference call was held with representatives from the Safety Division, UES, BayRing and BayRing's consultant, CEG, regarding the options available for all parties to be in compliance. Participants concluded that Comcast could use an attachment arm so that 12 inches in distance was maintained from a potential attachment relocation by Comcast to the location which is shown on the drawings referenced in the petition. Appropriate guying must be provided to resist the torsional effects of the guying. This would resolve any clearance issues.

6. Review of public need and public impact

BayRing states the crossing is needed to accommodate increased growth and to maintain service reliability for the Concord Area. No environmental permits are required of the crossing. BayRing states “the proposed communication lines will not substantially affect the rights of the public in the public water of the Merrimack River. Minimum safe line clearances above the water surface and affected shorelines will be maintained at all times. The use and enjoyment by the public of the Merrimack River will not be diminished in any material respect as a result of the overhead line crossing.”

7. Recommendations and Conclusions

The Safety Division recommends approval of BayRing’s petition to the Commission with the following conditions:

- a. Comcast must come into compliance with the NESC code for the existing crossing.
- b. The Commission should issue a license to Comcast for its crossing if it can show that its facilities maintain all required clearances at loadings specified in the NESC.
- c. The Commission should require that all future alterations to the crossings conform to the requirements of both the 2002 and 2007 editions of the NESC.
- d. BayRing should be required to maintain and operate the crossings in conformance with the NESC.
- e. BayRing should be required to file within 120 days of installation copies of the final configurations of its crossing with clearances from all other attaching entities under applicable NESC loading conditions.

WENDY WILUSZ
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359 CORPORATE DR
PORTSMOUTH NH 03801

Docket #: 10-010 Printed: June 17, 2010

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Appendix A

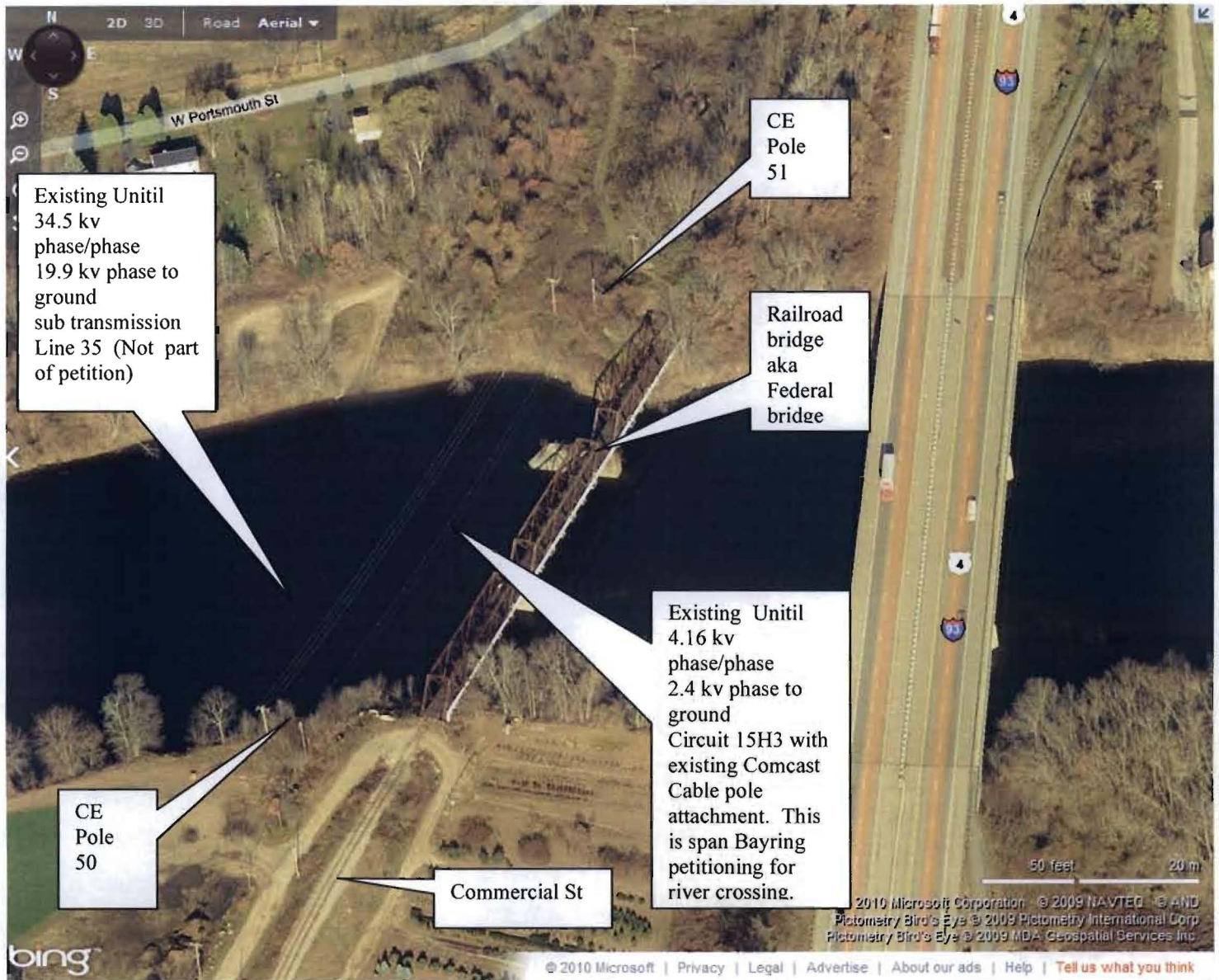


Figure 1: Overview of Merrimack River Crossing, showing interstate I93, Federal Bridge used for rail crossings, 2 electrical circuits owned and operated by Unitil Energy Services formerly Concord Electric Co and relation of crossing to West Portsmouth St and Commercial St. in Concord, NH.



Figure 2 Closer View of Merrimack River Crossing, Concord, NH. Note CE Pole Line 50/51 (Circuit 15H3 is approximately 60 feet from westerly metallic portion of Railroad Bridge (aka Federal Bridge))



Figure 3: Looking North on westerly side of Merrimack River Crossing, Concord, NH. Note concrete bridge piers that protrude from the western end of the Railroad Bridge



Figure 4: Looking North showing both electrical circuits and sag in relation to bridge.



Figure 5: Looking southerly across Merrimack River, note covered aerial cable (aka Hendrix wire) used for Circuit 15H3 and lower hanging Comcast cable that is attached to Concord Electric Poles 50 and 51.



Figure 6: Concord Electric Pole #50 (southern side of Merrimack River). Note the pole to the right is the former pole that was replaced in 1998. Existing Pole height is 45 feet in length, embedded 6.5 ft into ground and is at an elevation of 235.0 ft at the bottom and elevation of 273.5 ft at the Top.

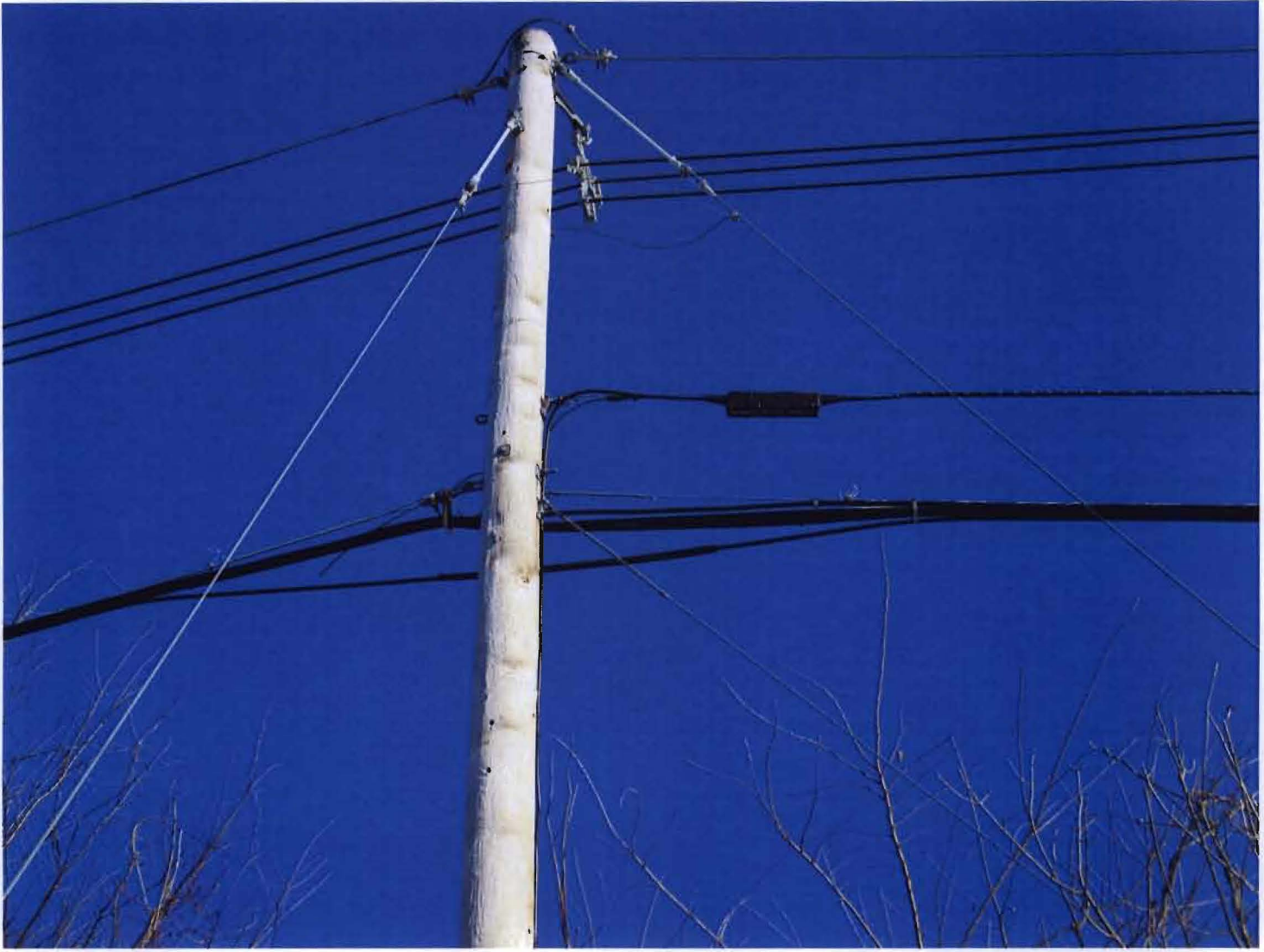


Figure 7: Concord Electric Pole 50 on the southern side of the Merrimack River crossing, Concord, NH. Note messenger or support wire at the very top of the pole is used by Concord Electric to support the covered aerial cables. .Next lowest wire is covered aerial cables (aka Hendrix wires) which serves as 3 phase circuit 15H3. Next lowest cable is City of Concord attachment which dead ends at this pole. It does not span the river. The lowest cable is Comcast Cable formerly Media one which does span the Merrimack River.



Figure 8. Concord Electric Pole 51 on the northern side of the Merrimack River Crossing. The elevation of the penetration of the pole is elev 236.9 ft and the top of the pole is at elevation 275.4 ft. Note the poor vegetation management practices of the existing attachments. Note messenger or support wire at the very top of the pole is used by Concord Electric to support the covered aerial cables. Next lowest wire is covered aerial cables (aka Hendrix wires) which serves as 3 phase circuit 15H3. Next lowest cable is Fairpoint Communications attachment which dead ends at this pole. It does not span the river at this time. The lowest cable is Comcast Cable formerly MediaOne which does span the Merrimack River.



Figure 9: Concord Electric Pole 51 Note the poor vegetation management practices of the existing attachments. Note messenger or support wire at the very top of the pole is used by Concord Electric to support the covered aerial cables. Next lowest wire is covered aerial cables (aka Hendrix wires) which serves as 3 phase circuit 15H3. Next lowest cable is Fairpoint Communications attachment which dead ends at this pole. It does not span the river at this time. The lowest cable is Comcast Cable formerly MediaOne which does span the Merrimack River.

Appendix B



Figure 10 . Shaded area south of Merrimack River and east of Commercial St is owned by Brochu Nurseries. CE Pole 50 is located in the public ROW known as Commercial St although the road is now discontinued and gated.

LAYERS

CUSTOM MAP

DATA

[View as Table](#)

ParcelID	4002
MBL	58A-1-5
Owner	Brochu L A Inc
Location	Commercial St
Own Addr	121 Commercial St
Own City	Concord
Own State	NH
Own Zip	03301
Co Owner	
Land Area	5.55
Land Value	2300
Bldg Value	0
Total Value	2300
Year Built	0
Stories	
Style	Vacant Land
Rooms	
Beds	
Baths	
Heat	
Fuel	
AC	
Neighborhood	0106
Site Index	0
Sale Price	0
Sale Date	12/9/2004
Land Use Code	6000
Land Use Description	FARMLAND

Figure 11 shows Brochu nurseries is the owner of Parcel ID 4002
Record is taken from GIS of City of Concord and parcel database.

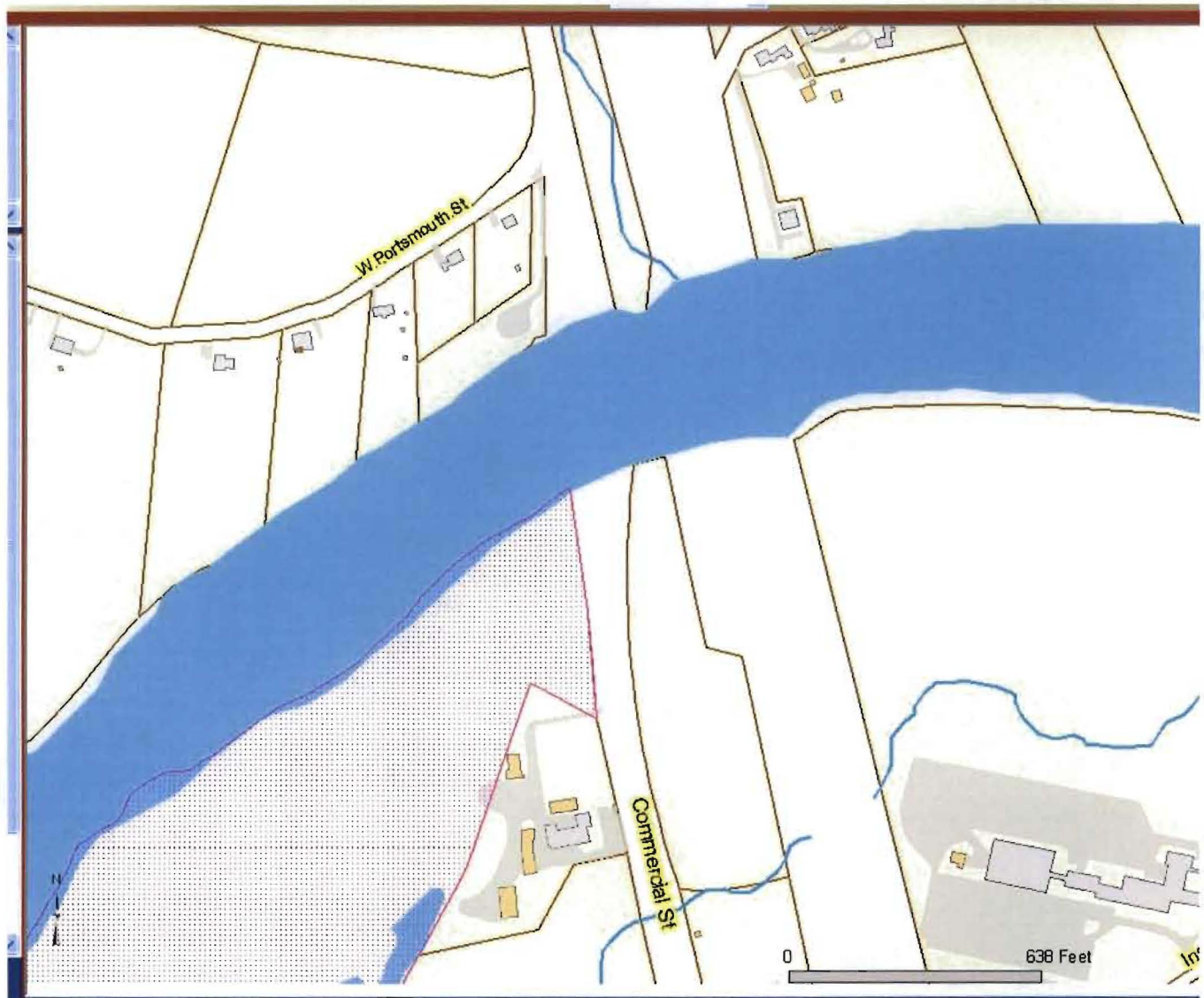


Figure 12 . Shaded area south of Merrimack River and west of Commercial St is owned by Robert Morrill & Sherri Morrill Revocable Trust. CE Pole 50 is located in the public ROW known as Commercial St although the road is now discontinued and gated.

LAYERS

CUSTOM MAP

DATA

[View as Table](#)

ParcelID	5708
MBL	80-1-7
Owner	Morrill Robert & Sherri Trtes
Location	Commercial St
Own Addr	278 N Main St
Own City	Concord
Own State	NH
Own Zip	03301
Co Owner	Robert & Sherri Morrill Rev Tr
Land Area	153.9
Land Value	43700
Bldg Value	0
Total Value	43700
Year Built	0
Stories	
Style	Vacant Land
Rooms	
Beds	
Baths	
Heat	
Fuel	
AC	
Neighborhood	0108
Site Index	0
Sale Price	180000
Sale Date	3/22/2001
Land Use Code	6000

Figure 13 shows Morrill Revocable Trust is the owner of Parcel ID 5708
Record is taken from GIS of City of Concord and parcel database.

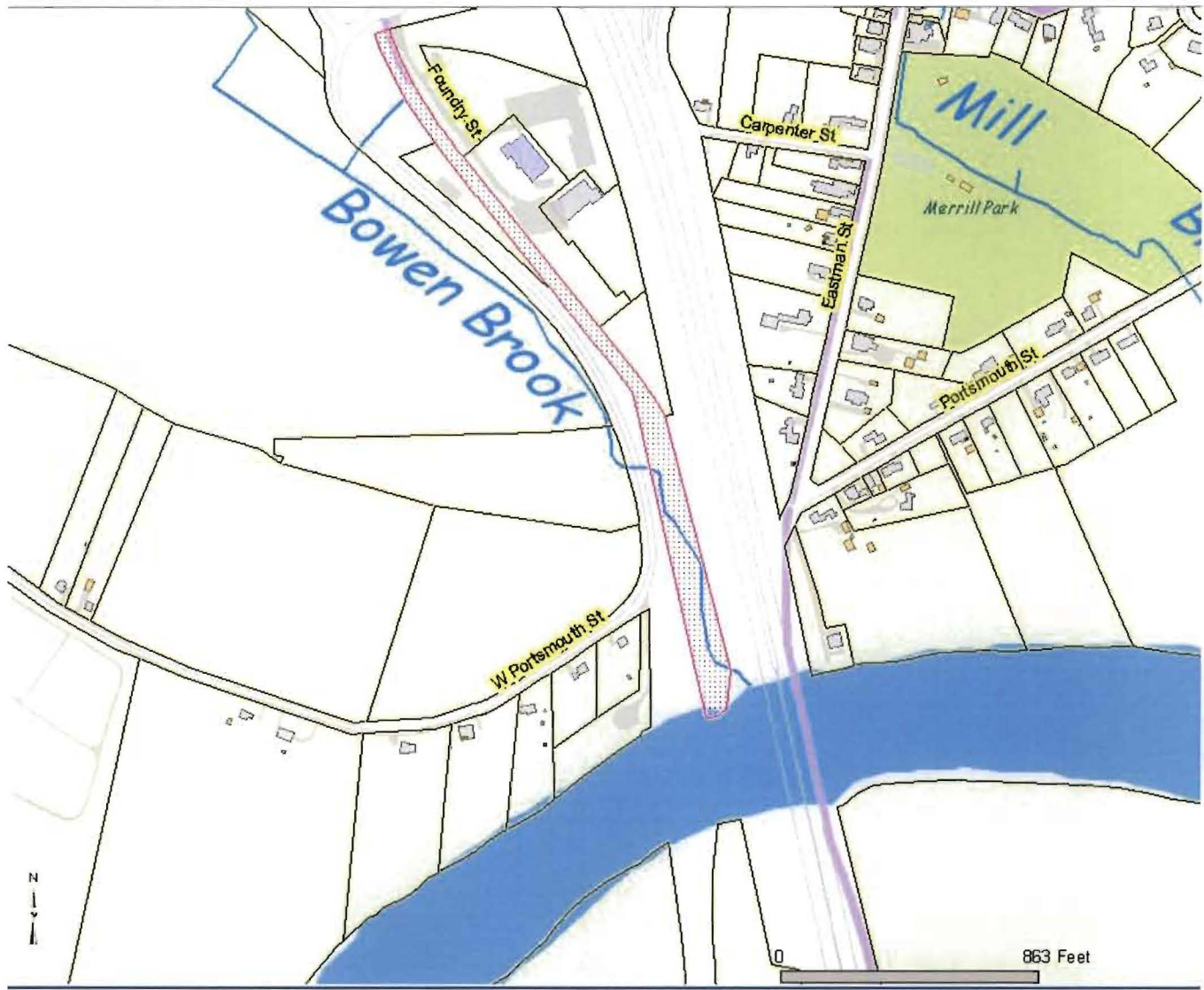


Figure 14 . Shaded area north of Merrimack River and east of West Portsmouth St is owned by State of New Hampshire. CE Pole 51 is located in the public ROW known as West Portsmouth St which parallels the state owned Rail Road ROW.

ParcelID	5791
MBL	81-6-1
Owner	State/nh
Location	W Portsmouth St
Own Addr	107 N Main St
Own City	Concord
Own State	NH
Own Zip	03301
Co Owner	C/o Secretary Of State
Land Area	3.4
Land Value	124200
Bldg Value	0
Total Value	124200
Year Built	0
Stories	
Style	Vacant Land
Rooms	
Beds	
Baths	
Heat	
Fuel	
AC	
Neighborhood	0112
Site Index	H
Sale Price	0
Sale Date	
Land Use Code	901V
Land Use Description	STATE-NH MDL-00

Figure 15 shows State of New Hampshire is the owner of Parcel ID 5791
Record is taken from GIS of City of Concord and parcel database.