



THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION



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Commissioner

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February 10, 2017

Ms. Stephanie Labbe
Project Manager
PAR Electrical Contractors, Inc.
60 Fuller Rd
Chicopee, MA 01020

Dear Ms. Labbe:

The Department has reviewed the NHDOT District 1, ROT3 and NRTH Submissions and Request for Exception to the NHDOT Utility Accommodation Manual (UAM) and provides the following comments:

General Plan Comments:

1. Temporary Traffic Control (TTC) Notes are not consistent across all plan sets.
2. TTC notes need to be amended to ensure access to adjacent properties for all applicable vehicles.
3. TTC notes need to be amended to ensure coordination of all lane closures with the NHDOT Highway Maintenance District Office.
4. Survey Note 4 regarding utilities is acceptable. However, there appear to be locations that Eversource will need further coordination with utilities to obtain locations of existing underground facilities not shown on the plans to ensure that conflicts do not arise during construction.
5. General Note 3 specifies a "30" minimum unless otherwise shown". The note should include the minimum depth of 48 inches under the ditch line and 18 inches below the roadbed structural box if under pavement. It must be noted that if the proposed facility is under two surface conditions, the greater of the two depth requirements will take precedence.
6. General Note 4 should be changed to read "Under" not "Over or Under" as the proposed facility has been requested to be below existing facilities to reduce the risks when another utility or State is performing maintenance or improvements to their existing facilities.
7. General Notes shall include that any modifications to the approved plans shall require notification and approval by NHDOT.
8. General Note 9 needs to reflect the minimum depths as defined in the UAM measured to the top of the proposed facility. In no situation is a 2 foot minimum cover allowed within the State ROW.
9. General Note 10 is incorrect as trenches will not be permitted to be plated overnight. The Note should read, "All open trenches shall be backfilled at the end of each working day."

10. General Note 11 does not appear to be needed as Survey Note 7 and General Note 1 make similar statements.
11. General Note 12 should reflect contacting the responsible utility if relocations of services are necessary.
12. General Notes 13 and 15 appear to be a duplication of the same intent.
13. The Department has concerns with General Note 14 as it is the owner/consultant's responsibility to coordinate with NHDES to determine potential contaminated sites and have prepared resolutions so the contractor can coordinate with NHDES when implementing said resolutions. Recommend showing known contaminated soils areas (NHDES OneStop, LeakyUST Sites, etc).
14. A general note should be included to identify that if any highway sign is removed; it shall be replaced within 48 hours of removal.
15. All right-of-way (ROW) types need to be labelled on each sheet. State ROW types include regular ROW, Controlled Access ROW (CAROW) and Limited Access ROW (LAROW). The plans should also differentiate between State and Municipal ROW.
16. All plan sheets, including the horizontally directional drill (HDD) sheets, need to reflect the State routes either by, NH __, US __, or I ____. Examples: NH 112, US 3, I-393 with the road name secondary.
17. Can the directional boring routes be separated vertically rather than horizontally? This will assist in reducing the potential for conflicts with other existing or future utilities.
18. Fiber optic splice boxes and link boxes are to meet H20 loading and shall be located outside the pavement. Grounding rods shall also be located outside of the pavement.
19. Splice vaults should be located on the alignment such that vaults are outside of the paved surfaces.
20. It appears there are numerous locations the Transmission Duct line can be moved further from the pavement than shown on the plans.
21. Temporary wetland impacts are not adequate justification to be under the pavement limits or establish a need for a road crossing.
22. On Sheet NRTHC502, and similar sheets for other segments, Details 1, 1A, 1B, 2 and 4, the "Pavement, Match Existing" statement on all trench details should read "Pavement and Structural Box, Match Existing." Note 3 should read "Paving and structural box to meet NHDOT standards."
23. On Sheet NRTHC502, and similar sheets for other segments, Details 1A and 1B – it is not clear how the trench is anticipated to be constructed with varying widths and depths.
24. A detail where no Fluidized Thermal Backfill (FTB) is being used should be included.
25. The "Traceable Safety Ribbon" shown in Details 1, 1B, 2, 4 and 6 on NRTHC503, and similar sheets for other segments is shown at 18" below pavement grade. This depth would put the "ribbon" within the structural box and needs to be a minimum of 6" below the structural box so it is not impacted by NHDOT maintenance operations or projects.
26. Splice pit detail on sheet NRTHC503, and similar sheets for other segments notes a 2' minimum depth to the top of the vault. Depth to vault needs to meet the UAM standard for the appropriate surface condition. For example, if underneath the ditch line, the minimum depth would be 48 inches.

27. On sheet NRTHC503, and similar sheets for other segments, Note 5 of Details 5 and 6 should refer to “NHDOT Standard Specifications” and the approved equal will be as determined by the NHDOT District Engineer. Compaction shall be per NHDOT Standard Specifications.
28. Include details showing temporary and permanent trench repair.
29. On sheet NRTHC504, and similar sheets for other segments, Detail 7 needs to show structural box material replacement under the pavement.
30. On sheet NRTHC504, and similar sheets for other segments, Details 8 and 10 should show dimensions on the drawing and not just in the notes. Also need to specify a splice enclosure that can support an H20 loading.
31. On sheet NRTHFTRG001, and similar sheets for other segments, Note 1, should include notifying a NHDOT District representative.
32. On sheet NRTHFTRG001, and similar sheets for other segments, Note 5, states all utilities within 15 feet of the drill path will be exposed and protected during construction. This appears to be an excessive amount of excavation. The note needs to include a “NHDOT District Engineer” in the approval of the remedial action necessary to resolve “utilities interfering with the proposed constructions.”
33. On sheet NRTHFTRG001, and similar sheets for other segments, Note 6, the “811” number for DigSafe should be replaced with 1888 Dig Safe.
34. Temporary Construction Easements for work outside the ROW limits need to be shown on the plans. This also shows that the State is not approving work outside the ROW and that the Owner of the proposal is properly addressing property impacts.
35. HDD plans need to have North arrows and roadway names shown.
36. HDD plans need to reference the pertinent TCP plans that apply to the particular site.
37. The HDD Crossing Plans should have the Underground Alignment plan referenced. i.e. “See Underground Alignment Drawing # ___ For Installation Detail”
38. The elevations shown in the Profiles on the Underground Alignment sheets should match the elevations on the HDD profiles.
39. Bore pits, HDD layout areas and splice vaults shall be located to allow maintenance of traffic through construction site.
40. With the receipt of the Department’s bridge plans, the bridge structures, piles, etc. are to be shown on the plans and profiles.
41. Show sidewalks and tip-downs.
42. Traffic Control Plans should accommodate WB-67 on all roads.
43. Provide a construction sequence for the conduit placement with FTB, protective concrete layer and FTB cover, considering traffic control.

Location Specific Comments:

1. On Sheet ROT3C102, add the route number (US 3).
2. On Sheet ROT3C103, the correct route number is US 3.

3. On Sheets ROT3C103 and ROT3C104, it appears that the alignment could remain on the east side of US 3 and cross with a larger radius just north of Beecher Falls Road. This would eliminate the skewed crossing of US 3.
4. On Sheet ROT3009-3, the layout area for conduit pull-back into the horizontal directional bore blocks Beecher Falls Road. The alignment noted in 3 above could eliminate this conflict with vehicular traffic.
5. All property owners need to be shown on Sheet ROT3C103. It appears that the property owner on the west side of US 3 is missing.
6. On Sheet ROT3C104, the correct route number is US 3.
7. On Sheet ROT3C104, include Beecher Falls Road name on the plan.
8. Sheet WMNFC502 appears to be mislabeled.
9. Sheets ROT3009-1 and ROT3009-2 details are difficult to read.
10. On Sheet ROT3009-2, the contours do not appear to match the roadway.
11. On Sheet NRTHG001, TTC Note 7 is confusing as written and should be clarified.
12. The typical minimum cover as shown in the profile does not accurately depict the typical ground conditions as the alignment travels under the pavement, ditch line and regular ground surface and each surface condition has a different typical cover requirement.
13. The profile on Bear Rock Road shows trying to maintain 30" depth whenever they are not passing under drainage facilities. When under the roadway the facility needs to maintain a minimum of 18" under the structural box.
14. It appears there is adequate space to shift the underground alignment closer to the ROW line between stations 36+50 to 46+00 on NH 145 (Sheets NRTH104 and NRTH105).
15. Bore pits are shown close to the middle of the road and will not allow for vehicular traffic through the construction zones. The locations are as follows:
 - 241+48 on Bear Rock Road (Sheet NRTHC128)
 - 248+00 on Bear Rock Road (Sheet NRTHC129)
 - 269+00 on Bear Rock Road (Sheet NRTHC131)
 - 275+47 on Bear Rock Road (Sheet NRTHC132)
16. The splice vaults at the following locations do not appear to meet the minimum cover requirements:
 - 249+24 on Bear Rock Road (Sheet NRTHC129)
 - 289+00 on Bear Rock Road (Sheet NRTHC133)
 - 330+50 on Bear Rock Road (Sheet NRTHC138)
 - 351+50 on Bear Rock Road (Sheet NRTHC141)
 - 368+00 on Bear Rock Road (Sheet NRTHC143)
 - 384+00 on Bear Rock Road (Sheet NRTHC145)
 - 402+20 on Bear Rock Road (Sheet NRTHC147)
17. If the facility must be under the pavement, as between 250+00 to 269+00 on Bear Rock Road (Sheets NRTHC129 to NRTH131) and 267+00 to 276+00 on Bear Rock Road (Sheets NRTHC131 to NRTHC132) , the facility should maintain an alignment parallel with and close to a single edge of pavement.

18. Splice pit at 269+00 on Bear Rock Road is shown close to the middle of the road and will not allow for vehicular traffic through the construction zone.
19. The Cover Sheet and all sheets with references to “Trenchless Installation Details” cite sheets numbered NRTHTR00X but the included sheets are numbered NRTH00X.
20. Can the splice vault proposed at 310+00 on Bear Rock Road (Sheet NRTHC136) moved approximately 200 feet east and be installed outside the pavement?
21. Can the facility from 310+00 to 313+00 on Bear Rock Road (Sheet NRTHC136) remain on the southern side to not require trenching across the roadway.
22. Can the exit pit for the horizontal directional drill path at approximately 319+00 Left on Bear Rock Road (Sheet NRTHC137) move to 319+00 to not require trenching across the roadway.
23. The alignment from 320+00 to 330+00 needs to shift to the southern EOP, to not be in the middle of the eastbound lane.
24. On Sheet NRTHC502 Detail 3, the “Protective Layer” of 6" lean concrete is not shown. The 2' dimension should be shown as illustrated in Detail 4.
25. Inside splice pit detail #9 on sheet NRTHC504, there is a reference to the details on sheet WMNFC503. This is an incorrect sheet number and should reflect NRTHC503.
26. The elevations of the HDD bores on sheet NRTH003-1 does not match the profiles on sheet NRTHC117. The difference in elevation is approximately 5 feet.

Exception Requests:

The Department is continuing to evaluate the exception requests for installation of the facility within the paved sections of the highway. It appears that in addressing some of the comments above, exceptions could be mitigated or avoided entirely.

Fluidized Thermal Backfill (FTB) – the Department will continue to monitor the performance of test sites over the winter. That being said – we have reviewed information prepared by ABB. That does address the concern regarding the impact of the cable system to the surface temperature. However, it does not clearly address the need for using FTB for the entire depth of the trench. It appears that FTB placed at a depth equal to the trench width would be sufficient to dissipate the heat generated by the cable system. Is this a correct interpretation?

Use of Schedule 40 PVC rather than Schedule 80 PVC – The Department is continuing to evaluate this request.

If you have any questions regarding these comments, please do not hesitate to contact me.

Sincerely,



Melodie A. Esterberg, P.E.
Chief of Design Services

MAE/LDS/mcp

CC: D. Rodrigue, A. Hanscom, P. Beaulieu, J. Fortier

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