



THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION



Victoria F. Sheehan
Commissioner

William Cass, P.E.
Assistant Commissioner

Bureau of Highway Design
Room 200
Tel. (603) 271-2171
Fax (603) 271-7025

March 27, 2017

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

Dear Ms. Labbe:

The Department has reviewed the Highway Maintenance District 1, ROCK, SHEB, and WMNF, as well as the Highway Maintenance District 3 WBR3 Submissions and Requests for Exceptions to the NHDOT Utility Accommodation Manual (UAM) and provides the following comments:

General Plan Comments:

1. Comments provided in the December 2, 2016 and February 10, 2017 letters apply to these plan sets as well. Of particular importance are the following:
 - There are numerous locations where it appears that the facility can be located further from the pavement than as shown on the plans.
 - The facility shall be located below all existing facilities to the maximum extent feasible.
 - The splice vaults should be located outside of the paved surface.
 - The right-of-way needs to be accurately shown on the plans and properly labeled as to type.
 - There is insufficient utility information shown on the plans to adequately evaluate potential conflicts with existing facilities.
 - Existing bridge information must be shown on the plans to adequately review potential impacts.

- The minimum depth of the facility is 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.
 - Minimum depth of cover requirements are measured to the nearest part of the proposed facility; i.e. protective layer, top of splice vault, etc.
2. General note #18 was added for ROCK, SHEB and WMNF regarding protection and replacement of monumentation, signage and structures. The note should include that a New Hampshire licensed land surveyor shall replace any property monumentation damaged or removed as a result of the Contractor's work.
 3. General note #19 was added for ROCK, SHEB and WMNF regarding replacement of highway signage. The notation of replacing signage within 48 hours of placement of temporary pavement patch in that area is not acceptable.
 4. There are areas where the project may impact concrete roadways. These locations should be shown on the plans. In general the reinforced concrete slabs are ten (10) feet wide and fifty (50) feet long. For longitudinal impacts, the entire concrete slab are generally removed and replaced with appropriate sub-base and base materials. For transverse crossings of the concrete slabs, generally the reinforced concrete slab is replaced in-kind. However, the actual treatment of the slabs will be evaluated and determined by the Department on a case by case basis.
 5. As discussed at the meeting on February 28, 2017, a certified survey report delineating means and methods of determining the right of way shown on the plans. The report shall include notations on all records and plans used and the monumentation held to control the right-of-way lines shall be provided to the Department. The report will be certified by the Licensed Land Surveyor in charge that the right-of-way lines shown on the submitted plans are accurate locations defined by ground survey and all pertinent research

Location specific comments are attached, separated by plan submission.

Exception Requests:

The Department is continuing to evaluate the exception requests. It appears that in addressing some of the comments above, some exceptions could be mitigated or avoided entirely. In evaluating the exception requests, any impacts to the paved roadway shall require documentation and justification for why the impacts cannot be avoided and how the applicant will mitigate both initial construction and then maintenance (both planned and unplanned) impacts to the roadway and traffic. Differential settlement and frost heaving of the roadway can adversely impact winter maintenance activities and well as the drivability of the roadway. It could also lead to increased damage claims from motorist that encounter pavement distress. The Department will be looking for the Applicant to implement pavement distress mitigation / preventative measures to address differential settlement and heaving where structures and equipment are placed under paved surfaces. Mitigation or preventative measures could include, but are not limited to, placement of the equipment and structures below

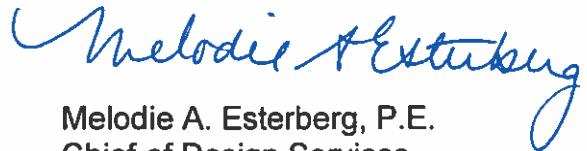
frost levels, stabilizing the roadway structure above and around the structures to create a more homogeneous roadway base and subbase to resist the differential frost impacts, or rehabilitation of the roadway pavement structure to reduce moisture in the subbase moisture and to improve its resistance to differential settlement.

1. Fluidized Thermal Backfill (FTB) – the Department will continue to monitor the performance of test sites over the winter. The Department's construction standard is to reuse the existing excavated material in a trench below the pavement structure in order to limit differential settlement and heaving between adjacent materials. In order to evaluate this request, test sections of FTB were placed within state ROW. If the material performs in a manner acceptable to the Department, FTB may be allowed in the trench excavations for the electrical conduit in lieu of existing excavated material. A decision regarding the use of FTB will be rendered following evaluation of the performance of the test sections through the 2017 winter season. Frost heaving and differential settlement within the paved areas of roadways are major concerns of the Department for all construction projects. If allowed, it is likely that FTB will not be permitted within the frost susceptible area beneath the roadway and should not extend above the bottom of the roadway structure base soils (see paragraph 14). Additionally, if used, the Applicant shall enter into an agreement with the NHDOT, to mitigate any detrimental impacts or roadway degradation related to the FTB and to replace any and all sections of pavement and base material distress related to the utility installation. Pavement heaving, cracking, and other deformations in the vicinity of the excavation areas compared to the adjacent non disturbed sections of roadway shall be considered indications of roadway degradation.
2. UAM Section VIII General Highway Standards item A.2 and Section X Underground Power Lines, items A.5 – these standards require that longitudinal installations shall be located on a uniform alignment as near as practicable to the right-of-way line so as to provide a safe environment for traffic operation and preserve space for future highway improvements or other utility installations. There may be some discrete locations within the proposal that an exception to this provision may be permitted. Those locations will be determined as part of the final constructions plans submitted to and approved by NHDOT. Location specific documentation, as outlined in the UAM, shall be required for each discrete location the exception is requested.
3. UAM Section X Underground Power Lines, items A.3 – requires that all underground power lines within the highway right-of-way shall be in conduit. Conduit placed below pavement structure limits shall equal or exceed Schedule 80 PVC-EPC (Electrical Plastic Conduit). Conduit placed beyond horizontal pavement structure limits shall equal or exceed Schedule 40 PVC-EPC. It has been requested to use Schedule 40 PVC-EPC in all locations including under the pavement structure. Rationale given for the use of Schedule 40 PVC is that the 1000 psi concrete layer will give protection to the facility. This layer is not a reinforced concrete slab similar to what is permitted for protection to high pressure gas mains. The proposed facility is a similar hazard to personnel performing work within the ROW as high pressure gas mains. Given the nature of the facility and the desire to minimize if not eliminate

the potential for harm to personnel performing routine or emergency work within the ROW, this exception is not approved.

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
Attachments

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

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Northern Pass Rocks Estate Bypass (ROCK)

Comments

1. Refer to comments to previous submissions regarding to the Traffic, Survey and General Notes, and the Detail Sheets.
2. Vault needs to move outside of the roadway and/or be lowered to meet UAM cover requirements at the following approximate locations:
 - 24+50
 - 47+50
 - 69+00
 - 92+00
 - 115+00
 - 136+00
 - 156+50
3. The water main needs to be shown on the plans. It appears that the proposed location may be in conflict with the water main.
4. It appears there is adequate space to shift the underground alignment closer to the ROW line between the following stations:
 - 6+25 – 8+25
 - 16+00 – 34+00
 - 76+50 – 79+00
 - 86+00 – 87+50
 - 88+00 – 92+00
 - 95+50 – 96+75
 - 98+00 – 99+50,
 - 101+50 – 102+50
5. For the alignment under the roadway/subgrade at the I-93 overpass (approximately 141+00 – 148+00) the UAM requirements call for 18" minimum cover below the structure subgrade.
6. The culvert at 154+00 is labeled as 12" RCP in the plan and 12" CMP in the profile.

Northern Pass Sugar Hill Eastern Bypass (SHEB)

Comments

1. Refer to comments to previous submissions regarding the Traffic, Survey and General Notes, and the Detail Sheets.
2. It appears that the alignment could be shifted to the ROW line, outside of the pavement or at a minimum to the edge of the pavement at numerous locations. These locations are:

Locations

198+50 to 205+80	213+66 to 223+00	284+70 to 291+50
311+50 to 330+00	352+00 to 356+00	397+69 to 424+00
443+00 to 449+50	505+00 to 514+00	579+50 to 588+00
638+65 to 642+80		

3. Vault should move outside of the roadway and/or be lowered to meet UAM cover requirements at the following approximate locations:

Vault Locations

156+50	261+50	368+00	509+50	609+00
177+50	282+50	386+50	530+50	656+50
198+50	303+50	431+00	551+00	677+55
219+50	325+00	452+00	564+50	702+10
240+50	346+00	488+80	586+50	712+50

4. The start and ending station locations for the horizontal directional drills are not labeled as done in other submissions at the following locations:

Locations

164+30	297+29	523+20	578+00
205+80	434+95	542+00	622+05
213+66	441+44	550+00	631+10
272+25	489+00	557+00	677+95
277+74	505+00	563+50	684+90
293+80	515+00	565+75	685+05

5. The 72 inch culvert located between station 208+00 and 209+00 is scheduled for replacement with a bridge structure that complies with stream crossing rules.
6. Confirm a pole in the island at approximate station 227+00 as Google Earth shows a pole.
7. If the facility is installed at the edge of pavement, it would need to be below any underdrain and the underdrain replaced along longitudinal sections.

8. Drainage information is missing at approximate station 251+25 Lt.
9. The vault proposed at 261+50 could be adjusted approximately 50' along the stationing so it can be installed outside the pavement.
10. The horizontal drilling pit at 272+25 could move approximately 10' to the right and be outside of the pavement.
11. The bore detailed in SHEB012, could be extended, to 278+00 so it is away from the edge of pavement.
12. Alignment 284+70 to 291+50 could be moved, to a minimum of, the edge of pavement.
13. There is a potential waterline crossing at approximately 288+00. Hydrant and water shutoff shown on the plans at 288+10 Rt. 24'. Aerial ends at 287+85 so potential underground in the vicinity to supply services to feed the properties on the right all the way to the NH 18/NH 116 intersection.
14. Wallace Hill Road/NH 18/NH 116 needs to be verified for underground utilities. Old NHDOT project plans show telephone and power facilities, as well as old drainage structures, which may affect the proposed alignment.
15. The microtunnel or bore could be extended to 298+50 to avoid an open cut road crossing.
16. Waterlines exist within NH 116 from Academy Road and heading south. Hydrants shown at 300+12 Rt. 18', 304+75 Rt. 18' and 311+83 Rt. 18'. Alignment also appears may be proposed in the same location as the existing 8" ductile iron water main.
17. The drainage shown on the plans between stations 298+00 to 302+00 do not match past NHDOT project plans.
18. It appears that the alignment from 311+50 to 330+00 could be constructed outside of the roadway.
19. The alignment 352+00 to 356+00 could be moved out of the pavement as temporary wetland impacts is not a justification for an installation within the roadway.
20. A relocation of the poles at approximate stations 390+70 Rt. 393+75 Rt. and 402+70 Rt. to the opposite side of the road would allow the alignment to be installed outside the roadway from 356+00 to 396+00.
21. The overlapping text on the alignment is difficult to read. Example: 396+00, 353+00, 354+00, etc.
22. The alignment from 397+69 to 400+50 could be moved, at a minimum, to the edge of pavement.
23. It appears that the alignment from 400+00 to 424+00 could be moved to the ROW line.
24. It appears that the directional drilling pit at 434+95 could move further away from the edge of pavement.

25. The receiving pit at 441+44 could be moved to the opposite side of the road to eliminate an open trench road crossing.
26. It appears that the alignment from 443+00 to 449+50 could be installed further away from the edge of pavement.
27. It appears that the vault at 473+00 could move south approximately 100' to install it outside of the pavement.
28. It appears that the horizontal drilling pit at 489+00 could move outside the roadway.
29. The receiving pit at 505+00 could move away from the edge of pavement.
30. It appears that the alignment 505+00 to 514+00 could be constructed further away from the edge of pavement.
31. It appears that the horizontal drilling pit at 515+00 back to 513+50 could move to be outside of the roadway.
32. It appears that the horizontal drilling pit at 542+00 could move out of the pavement.
33. It appears that the horizontal drilling pit at 557+00 could move out of the pavement.
34. It appears that the receiving pit at 578+00 could move to the opposite side of the road and outside of the pavement. This would eliminate the need for an open trench road crossing.
35. There is a drainage discrepancy between the plan and profile at stations 579+00 and 640+60.
36. It appears that the alignment from 579+50 to 588+00 could be constructed on outside the edge of pavement.
37. The horizontal drilling pit at 622+00 could move to the opposite side of the road to be out of the roadway and eliminate an open trench road crossing.
38. The receiving pit at 631+10 to 632+50 could move so it is out of the roadway and eliminates an open trench road crossing. Requires the nearest vault to shift to 633+00.
39. A drainage culvert under a driveway is not shown on the profile at 637+80. When the alignment is installed longitudinally beside a culvert, the facility will be constructed below the invert elevation of the culvert and adhere to the 2' minimum separation as noted in the plans.
40. The alignment at 638+65 to 642+80 could be constructed outside the edge of pavement.
41. It appears the vault and drilling pit at approximately station 677+50 could move to the opposite side of the road around 676+00 to 677+00 or 677+50 to 678+50 to eliminate an open trench road crossing and be outside the roadway.

42. The stationing is upside-down on the following sheets:

10-1	14-1	16-2	19-2	21-2 (**)
10-2	14-2	17-1	19-3	22-1
11-1	15-1	17-2	20-1	22-2
11-2	15-2	18-1	20-2	
13-1	15-3	18-2	21-1	
13-2	16-1	19-1	21-2	

** Two pages numbered the same.

43. Pages 18-1 and 18-2 are out of order and placed between 17-1 and 17-2.

44. Pages 21-1 and 21-2 are out of order and there are 2 pages numbered 21-2 with different information. Should one be numbered 21-3?

45. There are two pages numbered 22-2.

Northern Pass White Mountain National Forest (WMNF)

Comments

1. Refer to comments to previous submission regarding to the Traffic, Survey, and General Notes, and the Detail Sheets.
2. Vault needs to move outside of the roadway and/or be lowered to meet UAM cover requirements at the following approximate locations:

Location:	Location:	Location:	Location:	Location:	Location:	Location:
711+50	815+00	895+00	991+50	1124+50	1262+00	1361+50
732+50	836+00	917+00	1013+00	1144+75	1282+50	1383+00
754+15	853+00	938+00	1034+00	1179+00	1301+00	1424+00
773+00	853+15	959+00	1041+75	1221+50	1319+00	1466+50
793+00	873+30	980+50	1082+50	1241+00	1339+90	1485+00

3. Alignment needs to be moved outside of the roadway or further from the edge of pavement between the following station locations:

From:	To:	From:	To:	From:	To:	From:	To:
727+00	734+00	828+00	837+00	900+00	955+00	1359+00	1363+50
735+00	743+00	850+00	851+50	1189+78	1198+00	1368+50	1386+00
758+50	763+50	854+00	865+00	1224+00	1231+00	1389+00	1390+50
791+00	794+00	880+00	887+00	1236+00	1241+00		
811+75	812+25	889+00	899+00	1286+50	1291+00		

4. Temporary wetland impacts are not a justification for an installation in the pavement.
5. Directional bore starting at 968+11 should begin at 966+75 so that there is not a road crossing. The receiving pit should also be moved to approximately 976+33 as to not be in the middle of the roadway.
6. It appears that the two bore paths from at 992+51 to 999+87 could be installed on the east side of the road without crossing under the bridge structure.
7. The facility in the area of 999+75 needs to be lowered to meet UAM cover requirements.
8. Both the receiving pit at 999+87 and drilling pit at 1000+19 could be relocated to the west side of the road.
9. The 15" CMP drainage pipe at approximately 1006+25 is not shown on the profile.
10. The receiving pit at 1022+74 could move to 1025+00 as to pass under both the 18" RCP and the 12" HDPE drainage pipes and get the receiving pit out of the roadway.

11. At 1051+50 the profile indicates that there is a transition from HDPE to PVC which typically indicates the transition from a trenchless installation to a trenching installation, but the plan does not show the same transition. The pit for the two bores could move outside of the pavement and not at the edge of pavement as the alignments show on the plan.
12. The receiving pit at 1058+56 could move to 1060+00 so it is out of the roadway and so there is not a need to open trench a road crossing.
13. Drilling pit at 1069+00 could move out of the roadway.
14. The receiving pit at 1077+62 could move to approximately 1079+00 and outside of the roadway. This will eliminate an open trench across NH 112.
15. The drilling pit at 1089+25 could move out of the pavement. Possible relocation to 1089+50.
16. The alignment from the receiving pit at 1098+50 to the receiving pit at 1122+23 could be moved to the east side of NH 112 as the topography appears favorable for an open trench installation outside the pavement, especially at 1101+09 where the alignment goes through a CB
17. The topography shows a steep slope perpendicular that starts in the pavement from 1098+00 to 1114+50. The roadway alignment should be confirmed to ensure that the plans show the actual location of the road.
18. The receiving pit at 1122+23 could move away from edge of pavement.
19. The drainage pipe at 1133+50 is shown as an 18" RCP in the alignment plan but as a 36" RCP in the profile.
20. It appears that the drilling pit at 1145+71 could move back to approximately 1145+00 so as to eliminate an open trench across NH 112.
21. The plan is showing a 15" CMP outlet within the roadway at approximately 1164+15 Lt. Confirm roadway alignment.
22. The drilling pit at 1179+48 could move down station so that the bore can pass under the 24" CMP or move upstation so that the bore pit is not directly over the 24" CMP.
23. There is missing drainage connecting to the catch basin at 1184+30.
24. The bore pit at 1189+78 could shift westerly to move further away from the edge of pavement.
25. The drainage pipes need to be shown entering and/or exiting the catch basins at the following approximate locations:

Location:	Travel way:	Location:	Travel way:	Location:	Travel way:	Location:	Travel way:
1198+52	Rt.	1203+05	Rt.	1221+30	Rt. & Lt.	1235+45	Rt.
1199+50	Rt.	1204+52	Rt.	1223+75	Rt.	1238+40	Rt.
1201+40	Rt.	1209+95	Rt.	1226+50	Lt.	1241+15	Rt.
1201+55	Lt.	1214+00	Rt. & Lt.	1235+25	Rt.	1263+20	Lt.

26. The receiving pit at 1217+40 could move outside of the pavement.
27. There is missing drainage at approximate station 1226+27.
28. There is a 24" RCP that daylight at 1235+40 and appears to go to one of the catch basins at 1235+35 Rt. or 1235+45 Rt. that needs to be shown so that the alignment profile takes it into consideration.
29. It appears that the proposed vault at 1241+00 is in conflict with existing drainage. However, not all the drainage is shown on the plans. The vault could move to 1241+60 Rt. so that it can be constructed outside the pavement and not be in conflict with the drainage.
30. The drilling pit at 1245+12 could move to 1245+12 Rt. 30' to be out of the roadway to prevent an open cut across the roadway.
31. The receiving pit at 1253+95 could move to approximately 1253+25 Lt. so that it is outside the pavement.
32. The road crossing at 1272+00 could be relocated to 1265+00 so that the alignment can be constructed outside the pavement.
33. The alignment plan shows a 15" RCP at approximately 1270+85 but the profile shows 15" CMP. Also the pipe needs to be extended to the invert elevation point.
34. The alignment from 1319+00 to 1320+00 could be adjusted so that the manhole and drilling pit are in the middle of the land section between NH 112 and NH 118.
35. It appears that the label for NH 118/Sawyer Highway is on the gravel road near the intersection of NH 112 rather than on NH 118.
36. It should be looked into to verify if there is a pipe crossing NH 112 at 1331+00 so the alignment can incorporate it into the profile drawing.
37. The alignment should be installed below any water and sewer services.
38. There are missing water crossings on the plans at the following locations: 1403+30, 1405+40, 1426+85, 1444+10, 1450+10, 1477+05, 1481+91, and 1483+20.
39. Roadway crossing at 1417+00 could move back to begin at 1415+00 and cross before the sewer manhole at 1415+75 Rt. to reduce longitudinal installation in the pavement from 1415+00 to 1417+15.
40. The vault at 1445+50 is not shown on the profile.
41. Drainage information is missing on the plans in the area of the catch basins at approximately 1465+22 Lt. and Rt.
42. There is solid black square symbol at 1478+79 Rt. 7' that is not labeled and not in the legend.
43. Facility shall cross under the existing water main at 1483+60.

44. The facility shall pass under the water main at 1487+25 and to be shown in the profile.
45. Confirm Parker Ledge Road alignment on C192 as it does not match Google Earth imaging.
46. The stationing on the trenchless plans is upside down on the following sheets:
23-1, 23-2, 25-2, 26-1, 27-1, 28-1, 28-2, 29-1, 29-2, 30-1, 30-2, 31-1, 31-2, 32-2, 32-3, 39-1, 39-2, and 39-3.

Northern Pass Woodstock to Bridgewater (WBR3)

Comments

1. Refer to comments to previous submissions regarding the Traffic, Survey and General Notes, and the Detail Sheets.
2. Alignment needs to be moved outside of the roadway or further from the edge of pavement between the following station locations:

From:	To:	From:	To:	From:	To:	From:	To:
1493+50	1504+70	1784+00	1793+00	2031+00	2067+00	2387+00	2389+35
1582+75	1599+00	1793+50	1797+00	2073+50	2098+00	2406+00	2414+20
1685+00	1618+00	1797+00	1800+00	2101+25	2110+50	2458+00	2467+00
1687+00	1691+75	1801+00	1811+50	2113+00	2121+00	2478+00	2483+25
1694+00	1698+60	1811+50	1829+00	2122+50	2137+00	2524+50	2532+00
1699+00	1704+50	1851+30	1855+75	2140+50	2146+60	2611+50	2619+00
1704+50	1718+50	1855+75	1857+00	2147+00	2149+50	2683+00	2688+00
1719+00	1736+00	1858+00	1860+00	2175+00	2177+75	2690+25	2698+00
1723+00	1736+00	1871+50	1883+50	2187+00	2197+00	2701+00	2716+00
1759+00	1764+50	1927+45	1936+00	2199+00	2201+50	2719+00	2732+50
1764+50	1778+00	1998+00	2005+50	2203+00	2207+00	2746+00	2761+00
1778+50	1783+90	2007+50	2011+50	2329+46	2358+59		

3. Vault should be moved outside of the roadway and/or be lowered to meet UAM cover requirements at the following approximate locations:

Location:	Location:	Location:	Location:	Location:	Location:	Location:	Location:
1664+50	1829+00	1957+75	2125+00	2282+00	2431+00	2619+00	2762+50
1684+00	1840+00	1979+00	2146+60	2300+00	2451+85	2641+00	
1704+50	1862+00	2020+50	2160+25	2340+80	2467+00	2661+00	
1726+50	1883+00	2042+80	2177+75	2358+75	2483+25	2681+00	
1748+50	1903+50	2063+00	2199+50	2373+25	2523+00	2703+50	
1792+50	1918+50	2084+00	2239+00	2389+35	2543+50	2724+50	
1811+50	1939+00	2105+00	2259+00	2409+00	2603+15	2746+00	

4. Alignment could be moved outside of the roadway and NHEC poles relocated closer to the ROW line between the following locations:

From:	To:	From:	To:	From:	To:
1520+50	1521+50	1550+50	1563+00	1592+50	1599+00
1536+50	1547+00	1570+75	1580+00	1980+00	1998+00

5. Match line shown depicting 1490+00 should make reference to plan set to find the match.
6. "DWH" needs to be spelled out "D.W. Highway" as State does not refer to the road as "DWH", and is "US 3" not "Rte 3".

7. The alignment at 1490+00 – 1493+50 is in the roadside ditch and should be 48" below grade.
8. It appears that the alignment at 1493+50 – 1504+70 could stay on same side of US 3.
9. The drainage pipe at 1503+00 is missing from the profile.
10. Possible pipe extension of culvert at 1523+75 and install under pipe and out of roadway.
11. It appears that the facility at 1564+00 – 1570+50 could be placed at toe of slope.
12. The plans show the facility going over a 4' box culvert at 1565+33. The facility shall go under all existing drainage.
13. It appears that the vault at 1584+00 can it be moved approximately 100' south to not impact both access points during construction.
14. It appears that the proposed vault at 1604+00 could move approximately 100 feet south it could be installed outside the pavement.
15. Vault at 1621+50 in potential conflict with a future guardrail extension.
16. With the possibilities of crossing utility services like at 1628+25, plans and profile should reflect the facility going under the services.
17. Possible conflict with future guardrail extension at 1632+00.
18. It appears that the vault proposed at 1643+00 could move 300' north so as to not impact the trees in front of the cemetery.
19. There appears to be water services at approximately 1649+25. The plans should reflect installed under the services on the profile, services for a hydrant.
20. The existing water main is not shown on the plans or profile in the vicinity of the fire hydrant at 1653+40Rt. and shut off at 1654+05 RT.
21. The profile for 1653+00 – 1653+50 shows a water pipe with a depth of approximately 10 feet. There is no water main shown in the plans. Existing utilities should be shown on the plans so conflicts can be resolved during design and not during construction.
22. Existing water main information is missing between 1657+50 and 1681+00 on both plan and profile. Plans show hydrants and water shut off valves but no water mains.
23. The 18" RCP at 1659+47 is missing on the plan profile.
24. I-93 needs to be labeled to reflect NB & SB.
25. The plan is missing the drainage pipe at 1755+15.
26. The electric needs to go under the 15" culvert at approximately 1818+50. The plans at this location are inconsistent with the labels. It is labeled "2' min cover from utility" but only shows a foot with only 2' of cover from the guardrail which is not allowed.
27. Profile between 1820+00-1823+00 is showing 2' between top of concrete and ground elevation is on construction to the plans "30" min cover" label.
28. Plans show a bore pit at approximately 1731+23. This is at the ramps to I-93 and will not be permitted as shown.

29. A drilling pit with layout as shown at 1842+00 will not be allowed. The bore pit could be north of Depot Road to start bore outside of the pavement.
30. The receiving pit at 1850+38 could be moved to 1851+30 as to minimize impact to traffic by having a bore pit take up a whole lane of traffic.
31. 1856+00-1860+00 should be adjusted to follow the road curvature so 1855+75-1858+00 is closer to edge of pavement.
32. The facility needs to follow the edge of pavement in the area of 1885+63 to make a smooth transition into the facility as shown at approximately 1888+50.
33. Transition to be outside the pavement should begin at 1896+50 and not 1896+92. Also the facility can be built close to the ROW line from transition point to 1906+00.
34. 1906+50-1919+50 should maintain a 7' offset from ROW as shown at 1906+10.
35. It appears the drilling pit beginning at 1919+50 could be moved outside the pavement and possibly moved to 1921+40 for more room. .
36. It appears the receiving pit at 1927+95 could be moved outside the pavement.
37. Facility needs to be installed below the 15" RCP at 1952+70 to meet UAM cover requirements under pavement and the 2' separation between utility.
38. Maintain the same offset from guardrail when under pavement; 10' to center of facility has been typical in plans.
39. A catch basin at 2029+30, the outlet pipe is not shown on the plans or the profile.
40. Google Earth shows a communication pedestal at approximately 2031+65 near the RR, but the plan does not show the facility. Also in the area of 2037+00, 2042+50 Lt., 2046+00 Lt., 2058+00 Lt. 2067+80 Lt.
41. Missing a utility pole and a light pole at approximately station 2092+70 Lt. as well as the underground power feeds to the ramp lighting.
42. The ramps for Exit 29 and all interstate ramps need to read "I-93" along with whether it is NB or SB on/off.
43. The ROW on US 3 through the Exit 29 area does not match the ROW shown in Department plans from Campton-Thornton 13801I dated 1968. These plans also show the underground telephone that follows the pole line.
44. The proposed facility shall not be permitted in the travel lanes as shown in the plans.
45. All underground power feeding the Department's light shall be shown.
46. Missing highway light pole and associated power feeds at approximately 2107+00 Lt.
47. Alignment plan and profile drainage at approximately 2132+25 and 2136+65 are inconsistent.
48. It appears that the facility from 2157+20 to 2160+56 could be realigned so that the vault and drilling pit are outside the pavement.
49. The structure at station 2163+50 should be shown on the plan and profile; bridge, culvert, etc.

50. It appears that the receiving pit at 2171+50 could move to outside the pavement at around 2170+50.
51. It appears that the receiving pit at 2170+37 could move outside the pavement to 2173+50 to eliminate the bend in the alignment under the pavement.
52. Plan and profile for drainage are inconsistent at the following locations:

Location:	Location:	Location:	Location:	Location:	Location:	Location:
1742+45	2093+60	2207+90	2472+30	2600+55	2682+60	2745+10
1762+10	2096+73	2256+17	2476+00	2610+25	2689+20	2754+55
1793+40	2122+37	2260+50	2494+00	2628+30	2699+00	
1952+70	2140+10	2262+75	2557+40	2636+80	2700+00	
1958+47	2151+10	2292+20	2585+52	2640+25	2708+90	
1961+60	2154+10	2300+50	2587+40	2642+75	2710+10	
2006+45	2178+50	2371+40	2591+20	2644+50	2733+55	
2069+50	2200+60	2410+45	2597+25	2668+90	2736+55	
2090+70	2205+40	2445+25	2598+75	2674+00	2739+60	

53. Drilling pit at 2178+00 can move further away from the edge of pavement and the bore paths should stay on the east side of the road while maintaining the necessary 10' separation.
54. What is the blacked out label to the vault at 2199+50.
55. Eliminate the "bulge" in the alignment at guardrail 2207+22 and place along edge of pavement (EOP) from 2207+22 to 2218+00 where the alignment will move outside the pavement; including vault at 2219+50. Alignment will be as close as practical to ROW line until 2229+00 and then back to ROW line as much as possible until 2244+00 where it will transition to EOP to travel in front of guardrail to 2250+00 where it will move out of pavement till 2261+00 where it transitions back to EOP in front of guardrail.
56. Fiber splice box at 2282+00 should be behind guardrail.
57. Vault at 2300+00 should be moved outside the bridge area and guardrail Possible location to be 2296+00 Rt; which would require moving alignment from 2244+00 to 2296+00 to opposite side of road. This allows for more of the facility to be outside the pavement.
58. 2332+50 Rt. is missing telephone cabinets which may have underground facilities crossing the street to properties 1482+1486 US 3.
59. The alignment passes through a utility pole at approximately 2351+10.
60. The receiving pit at 2365+54 could move to approximately 2365+00 Lt. so as to be outside of the pavement.
61. The alignment could be moved outside the pavement from 2367+50-2373+25.
62. Vault at 2373+25 needs to be made parallel to US 3.
63. Vault at 2409+00 should shift south to be outside the pavement between the 2 existing poles.

64. Alignment sections required to be in front of guardrail and in the road should be centered on a 6' offset from the rail where the trench is less than 8' deep and 10' offset when trench is greater than 8' deep. Vault locations should be designed to be outside of guardrail sections as much as possible.
65. A drainage pipe is shown at approximately 2442+25 but is not labeled with size and material as well as missing on the alignment profile.
66. Alignment from 2444+50-2446+00 should be straightened out and maintain the out of pavement alignment. Temporary wetland impacts do not justify installations within the pavement.
67. Sewer crossings on sheet C214 are double labelled.
68. There is a hydrant shown at 2457+55 Lt. with no water shown to the main. Alignment needs to pass under and be shown on the profile.
69. There is a hydrant at 2463+90 Lt. with no connection to the main. Profile needs to show alignment crossing under water pipe.
70. Sewer information should be shown so the vertical alignment can avoid impacting sewer services.
71. The LAROW of I-93 extends through US 3 ROW on sheet C216 and not as shown.
72. The Department believes the sewer and water facilities along US 3 on sheet C216 are inaccurate and that the proposed alignment is in conflict with the existing facilities. The utilities need to be verified with the Town.
73. The water pipe feeding the hydrant at approximately 2474+20 Lt. is missing from the plan and profile.
74. On the west side of US 3 in the area of 2478+50-2479+50 Rt. are the labels 8" sewer line, 12" clay, and 12" water. The 8" and 12" clay seems to designate the same facility; but 12" water main is missing. Also the east side of US 3 at this location shows a 6 inch water main. Plans need to be clarified to ensure utility information is correct.
75. The sewer facility at 2487+00 Lt. is labeled 12" clay and 8" sewer.
76. The eastern edge of pavement is missing on the plans from 2488+90-2490+00.
77. The alignment needs to cross under the sewer at 2497+60 to meet UAM cover requirements.
78. The directional bore starting at 2499+80 is not acceptable as shown. It appears that the facility could be located outside the edge of pavement.
79. Discrepancy with ROW on sheet C220 for the eastern side of US 3. There are 2 ROW lines and the outside ROW appears to match the 11454B State of NH project plans. Plenty of room to place a vault at approximately 2498+50 Lt. behind the guardrail and bore across Tenney Mountain Highway to a receiving pit outside the roadway at approximately 2511+45 Lt. and start another bore outside the roadway at about the same station shown 2512+59.

80. The ROW line shown along the edge of pavement is incorrect from approximately 2497+00 to 2513+00 Lt.
81. Sheet C221 is missing the water main facility.
82. There are numerous underground facilities missing in the downtown Plymouth section from Merrill Street thru the roundabout and from the roundabout to Court Street there is missing water that continues down US 3 (telephone, electric, water, etc.).
83. Drainage at 2539+55 is double labelled on the plan and not labelled on the profile.
84. The profile on sheet C225 has not labeled the sewer and drainage pipes.
85. The facility at 2543+22 needs to cross under the existing drainage.
86. Sheet C226 is missing the water services to the hydrants at 2549+60 Rt. 2552+00 Rt. and 2556+15 Rt. The cable route shall pass under these services.
87. Much of the existing utility information is missing through the Town of Plymouth. Utilities must be verified and shown on the plans and profiles..
88. Cable route shall pass under the existing 24" RCP at approximately 2556+00.
89. Water facility missing on sheet C227 from 2556+50 to 2563+45 Lt.
90. The 8" clay pipe crossing at 2565+25 is not shown on the profile.
91. Water services are not shown in the plan or profile at 2565+45, 2565+55, 2572+20
92. Vault at 2580+75 should be realigned so as to be parallel to the roadway.
93. Directional bore pit at 2587+63 should either move to the east side of US 3 or outside the pavement on the west side.
94. The west side appears to be a better location to install the facility between stations 2587+63 and 2614+00. This avoids the guardrail and could be installed outside the edge of pavement.
95. The box culvert at 2584+00 is not shown on the profile.
96. Alignment through 2598+50-2603+00 should follow the edge of pavement and not go out into the middle of the road or move to west side of road through the guardrail section.
97. Alignment is in conflict with existing and future guardrail from 2619+75-2623+50.
98. It appears that the drilling pit at 2667+73 could move to 2668+25 or 2668+50 so drilling operations and pit can be further off the pavement.
99. It appears that the receiving pit at 2678+59 could be moved to 2680+75 so the pit and the vault are outside the roadway.
100. Alignment could leave ROW at approximately station 2761+45. This will avoid conflicts with the existing guardrail and steep slope.
101. On the HDD sheets the plan and profile have inconsistencies regarding the drainage structures at the following stations: 1732+55, 1736+10.
102. The directional drill for 049a should be realized to avoid impacting the existing drainage.

103. The stationing in the plan view is upside down on sheets: 3040-2, 3041-1, 3041-2, 3042-2, 3043-1, 3043-2, 3044/045-1, 3044/045-3, 3046-1, 3046-3, 3047-1, 3047-2, 3048-1, 3048-2.
104. Should sheet "WBR -44/045-3" read "WBR 3044/045-3"?
105. Should there be a sheet "WBR 3046-2" as there is a "-1" and "-3"?
106. There is no stationing shown in the plan on sheets: 3049-1, 3049-2, 3050-1, 3050-2, 3051-2, 3052-1, 3052-2.
107. There is a gap in the HDD in the plan on sheet WBR 3049-2 and WBR 3049-3 near the intersection.
108. There are 2 sheets numbered "WBR 3051-2".