

TOWN OF LITCHFIELD

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May 23, 2016

Pennichuck Water Works
Larry D. Goodhue, CEO
25 Manchester Street
Merrimack, NH 03053



Dear Mr. Goodhue,

**RE: Response of the Town of Litchfield to Pennichuck Corporation on
Construction of Water Line Extension Estimates for PFOA Affected Areas**

This letter is in response your questions raised during meeting with you and your staff on May 16, 2016 and May 20, 2016 concerning the proposed project for the extension of Pennichuck's water service lines to cover the PFOA affected areas in the town of Litchfield. These answers are provided based upon our best understanding of the project as of this date and may be changed or expanded as new information becomes available.

- 1. Pennichuck is requesting permission/authorization from the Town to place water main and appurtenances within pavement limits as discussed in the meeting.**

The town of Litchfield agrees with the placement of the water mains into the street within the pavement limits with the following conditions:

Town Roadway Reconstruction Requirements

1. It is understood that the Pennichuck Corporation, in constructing water mains and residential service connections in Litchfield town roads, will use the "open trench" method to install the water mains and residential service lines. Furthermore, it is understood that the Pennichuck Corporation proposes to restore Litchfield town roads utilizing a Reclaimed Stabilized Base (NHDOT Item 306 with equal parts existing pavement and select materials) process followed by the placement of 2" (compacted thickness) Hot Bituminous Pavement Binder

- Course topped with a 1" (compacted thickness) HBP Wearing Course over the entire width of the roadway.
2. Construction sequencing shall be submitted to and approved by the Town of Litchfield.
 3. The limit of the roadway disturbance associated with the construction of the water main shall not exceed one-half of the travel way measured from the edge of pavement to the roadway centerline.
 4. Trench backfill material from 12" above the water main pipe to the underside of the pavement select materials (crushed gravel 6" and gravel-12") shall be backfilled with common backfill, preferably with material excavated from the trench itself. The Gravel (12") and crushed gravel (6") or approved equal material (18") shall be placed in the trench above the backfill material. Also, see paragraph 9, below.
 5. Backfill shall be placed and compacted in layers of 12" or less. Compaction shall be by hand operated compactors, a vibratory compactor, or other methods approved by the Town or their representative. Jetting and bucket compaction are not acceptable means of compaction.
 6. The roadway typical section shall conform to that presented in the Town of Litchfield's Subdivision Regulation, Appendix A, for Non-arterial roadways with respect to Hot Bituminous Pavement (HBP) and Base Course Material Thickness. Excepting, the width of pavement shall equal the original width of pavement prior to the water main construction.
 7. When reconstructing the roadway, the Contractor shall comply with the Town of Litchfield's Subdivision Regulation, Appendix B, Construction Requirements, specifically Section 6.0-Subgrade, Section 7.0-Roadway Base Course, and Section 8.0- Roadway Pavement. NOTE: All material specifications shall comply with the NHDOT "*Standard Specifications for Road and Bridge Construction*," current edition.
 8. All Town streets where water main and water services are installed within the pavement limits shall be restored in the following manner:
 - a. The contractor shall perform a full width reclaim of the of the existing roadway surface to a depth of equal parts existing pavement and select materials under the pavement.
 - b. The Contractor shall fine grade and compact the reclaimed materials to allow for the placement binder pavement to match existing pavement elevation.
 - c. The contractor shall place a full width HBP Binder Course compacted to a minimum of 2 inches thick matching the existing pavement elevation.
 - d. The Contractor shall provide for driveway matches along both sides of the roadway.
 9. The Contractor must restore the roadway surface for the water main and service connection trenches on a daily basis as the water main construction moves forward with a suitable temporary roadway surface constructed for maintenance of traffic. Once the water main is constructed and prior to reclaiming the entire

roadway width, the Contractor shall excavate the temporary roadway surface and construct the Roadway Base Materials (Gravel - 12" and Crushed Gravel - 6") plus 2" compacted thickness of HBP Binder Course followed by a 1" HBP Wearing Course. In the event that the 1" HBP Wearing Course is scheduled for placement the following spring, the 2" Binder Course shall be a "Winter" binder mix.

10. It is the Town's preference that the 1" HBP Wearing Course be placed after a the HBP Binder has performed through a winter season. Following a single winter season, any settlements or other deficiencies in the HBP Binder Course shall be repaired prior to placing a 1" HBP Wearing Course over the entire roadway width.
11. Off-road disturbed areas shall be restored to their original cross section. A minimum thickness of 4" of loam shall be constructed with seed, limestone fertilizer and mulch applied in conformance to the NHDOT "*Standard Specifications for Road and Bridge Construction*," for Items 641-Loam, 642-Limestone, 643-Fertilizer, 644-Park Seed Type 15, and 645-Mulch. The growth of the vegetation shall be monitored and water applied when necessary. Acceptance is not complete until grass is growing and healthy.
12. Any existing drain pipes damaged or removed in the process of constructing the water main shall be replaced/repared in kind.
13. Best Management Practices (BMP) for erosion control shall be installed where required with a special regard to drainage structures and adjacent wetlands (if any).
14. Following completion of the water main and services construction the Pennichuck Corporation shall furnish as-built plans of the project including the location of the water main, all fittings, gate valves, hydrants, hydrant stubs, water service lines and associated shut offs. Coordinate with the Town as to the format of this information (hard copy or electronic files).

Water Main Construction Requirements

1. Water main pipe for the permanent systems shall be ductile iron complying with ANSI A21.51 and AWWA C 151, Class 52 pipe shall be double cement lined 1/8" thick (3mm) and seal coated inside and out in accordance with ANSI A21.11 and AWWA C 111. Use only lubricant approved by the manufacturer.
2. Ductile iron fittings shall be MJ type. Mechanical Joint Restraining Devices shall be used with all mechanical Joints.
3. Tape for the pipe shall be 6" blue polyethylene, suitable for burial, and labeled "water below." This tape shall be placed 24" above the water main.

Additional Information / Requirements

- That all hydrants be installed with a 6" DI water pipe to feed the hydrants being horizontally routed to place the hydrant into the road right of way and beyond the edge of pavement;
- That the routing of the water main pipe in the road pavement be performed in such a manner as to minimize any cross road cuts;
- That the water main installed shall be ductile iron and that all feeds off the line that would be for items being installed after the roadway replacement have DI stubs run to the side of the road to eliminate the town having to reopen the road in the near future;
- That the town of Litchfield shall hold a bond covering the cost of road repair to as new condition. The town is agreeable to phasing of this bond as construction is performed and to releasing the bonds in stages dependent upon acceptable project completion;
- That the town of Litchfield requires that the water main be installed and soil compaction testing be performed as specified in the town's zoning ordinances and regulations;
- Litchfield may institute a road opening moratorium at the decision of the Board of Selectmen;

2. Where within the pavement surface limits shall the main be located?

See item 43 of the Town Roadway Reconstruction Requirements. The town requests that Pennichuck plan for the installation of piping in such a manner as to minimize the number of cross-road cuts.

3. (From section B, b of your letter). The requirement for safety traffic details were discussed with the LPD. Specific roads (Route 3A and a small number of other locations) were identified for the need to have a combination of police detail and certified flagger detail present during ledge probe work and possibly for the geotechnical borings.

Subsequent to our discussions, Chief O'Brion reviewed the roads requiring details and has provided you in a separate email or letter an updated list of roads. Please ensure that you add to the list discussed these new roads.

4. (From section B, c, 1 of your letter). We will need the town to provide an estimate of the cost of its' inspection of street restoration for this project, or provide specifications regarding the type of testing the Town wants completed for the project (i.e. compaction, soils gradation, etc.)

The town will require plan review and inspection fees for its own engineer to provide support for this project. This engineer will be hired and work directly for the town rather than for Pennichuck or other outside group. We anticipate receiving an estimate of the engineering costs associated with this project shortly and will provide a copy of this estimate to Pennichuck. The town will need Pennichuck to provide a construction timetable for the project in order to allow the engineer to provide a reasonable estimate of costs. Testing that will be required is contained in the town's zoning ordinances and regulations.

- 5. The Town will make property owner contact information available to Pennichuck in order to facilitate outreach and to confirm the proper owner of the properties requiring water service.**

The town will make this information available in either electronic or hard copy format as required by Pennichuck. If Pennichuck provides the town with information on its requirements for the data we will be glad to provide what would best work for Pennichuck's requirements within the limits of our system.

- 6. Pennichuck will arrange to review existing "as-built" information on file with the Town for areas where water main construction is planned.**

The town will make any and all plans available to Pennichuck as you need to complete this project. Please feel free to arrange to visit town hall during any time we are open and we will provide you with access to this information.

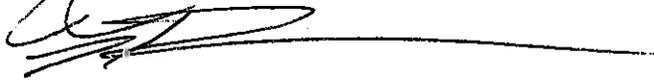
- 7. Area maps will be provided by Pennichuck to the Town Administrator for internal distribution to include the highway department and the Fire Department. The Fire Department will be asked to provide hydrant location for hydrants, to possibly be included in the proposed project.**

The town has discussed hydrant locations with the Fire Chief and believes that it is best for Pennichuck engineering to situate these hydrants based upon Litchfield's zoning ordinances and regulations. This requirement is that no dwelling be further than 500' from fire protection (i.e. hydrants). If Pennichuck is able to provide mapping utilizing this standard we will review these locations.

In closing, Litchfield appreciates Pennichuck's efforts to obtain town-specific information regarding an extension of the water line to PFOA affected areas. The responses provided are based upon Litchfield's current understanding of the project and could change as new information becomes available. Litchfield looks forward to working with Pennichuck on this potential project and anticipates that Pennichuck will keep Litchfield informed of any information impacting this work.

If you should have any questions or concerns then please contact me by phone 603-424-4046 or email Tbrown@Litchfieldnh.gov

Sincerely,



Troy R. Brown
Town Administrator

CC: Board of Selectmen
John Pinciario, Road Agent
Louis Caron, PE, Town Contracted Engineer
Kara N. Sweeney, PretiFlaherty