

2220.00

July 25, 2018

David Sharples, Town Planner
Town Planning Office, Town of Exeter
10 Front Street
Exeter, NH 03833

Re: *Exeter Rose Farm Subdivision*
Design Review Engineering Services
Exeter, New Hampshire

Site Information:

Review No. 3

Tax Map/Lot#	Map #54, Lots 5-7 and Map# 63, Lot 205
Lot Area:	49.95 Acres
Proposed Use:	Residential Subdivision
Water:	Town
Sewer:	Town
Zoning District:	R-1, R-2, and R-4
Applicant:	Exeter Rose Farm, LLC, 953 Islington Street #23D Portsmouth, NH 03801

Application Materials Received:

- Subdivision Plan for the proposed open space development Exeter Rose Farm Subdivision last revised July 10, 2018, prepared by MSC a Division of TFMoran, Inc.
- Drainage Analysis last revised June 27, 2018, prepared by MSC a Division of TFMoran, Inc.

Dear Mr. Sharples:

Based on our review of the above information, we offer the following comments in accordance with the Town of Exeter Regulations and standard engineering practice:

Previous Comments dated 3/27/18

Underwood Engineers notes that the comments from our technical review #2 dated 3/27/18 were not addressed and a response letter from the Applicant was not provided. We have attached the 3/27/18 letter to this review. These comments should still be addressed by the Applicant.

New Comments dated 7/24/2018

72. Overall Open Space Subdivision Plan (Sheet C-04):

- **Demolition Plans:** Existing structures proposed for demolition should be identified on the Open Space Plan.

73. Offsite Utility Connections Plan (Sheet C-11A):

- **Proposed Water Alignment:** The proposed water located at the intersection of Wadleigh and Forest is shown to be installed between an existing catch basin and utility pole. The proposed water should be realigned so it is not between the two utilities in order to facilitate future maintenance work by the Town.
- **Connection to Existing System:** The Applicant should specify the proposed method for connection the new water mains into the existing system (i.e. solid sleeve coupling, etc.) at each location.
- **Water Main Insulation:** The proposed water main located by the existing CB at STA 701+50 should be insulated to protect from freezing. All proposed insulated areas should be identified on these plans.

74. Grading and Erosion Control Plan (Sheet C-19):

- **Stabilized Construction Entrance:** The stabilized construction entrance located on the Oak Street Extensions should be extended down the private driveway for the multifamily unit in order to provide the minimum 50 ft length stated in the Stabilized Construction Detail.

75. Grading and Erosion Control Plan (Sheet C-20):

- **Existing Man Made Retention Basin:** The proposed silt socks are shown being installed within the water of the Retention Basin. Turbidity Curtains are recommended for erosion control in water installation applications.
- **Stockpile Location:** The extents of the proposed silt sock located around the stockpile should be extended through the entirety of Lot 39.

76. Grading and Erosion Control Plan (Sheet C-21):

- **Lot 27:** The plan sheet shows VGC curbing at the entrance of Lot 27's driveway. This should be corrected to show a transition from the cul-de-sac to the driveway.
- **Stormwater Runoff:** The stormwater runoff from the swale located at the end of the cul-de-sac appears to discharge into the proposed trail system between Lots 27 and 28. This may damage the trail. UE recommends appropriate measures to manage the runoff in order to protect the proposed trail from stormwater erosion damage.

77. Drainage Plan (Sheet C-24):

- **Missing Drain Pipes:** Riprap is shown throughout the plan set without any drainage pipes attached. These drain pipes should be shown on the Drainage Plans with their corresponding inverts, materials, and slopes.
- **Labels:** See Comment No. 61 (Review #2, 3/27/18).

78. Drainage Plan (Sheet C-25):

- **Arch Culvert:** The plan provided information for an Arch Culvert located on Lot 27. This appears to be left over information from a previous design and should be removed.
- **Gravel Wetland-1:** Provide information for the discharge pipe and emergency overflow measures for Gravel Wetland-1.
- **Remediation Area:** UE understands that the area located to the northwest of Gravel Wetland-1 is to be used for remediation of the regulated soils located on the site. The extents of the remediation area should be shown on the drainage plan.

79. Plan and Profile (Sheet C-26):

- **Extent of Paving:** The extents of proposed pavement for Exeter Rose Lane should be extended to encompass the entirety of the intersection of Wadleigh Street, Forest Street, and Rose Farm Lane in order to avoid a “lattice” of utility trench patches within the intersection.

80. Sewer Profiles (Sheet C-33):

- **Force Main:** The proposed force main (including material and size) should be labeled on the plan.

81. Utility Plan (Sheet C-34):

- **Utility Conflict:** The proposed water is in close proximity to the CB at STA 101+40 and may conflict. The conflict should be resolved in advance of construction and insulation is needed between the two utilities is required to protect the water main from freezing.
- **Sewer Services and Cleanouts:** The sewer services and cleanouts should be provided on the Utility Plans.

82. Utility Plan (Sheet C-35):

- **Shared Drive “A” Proposed Water:** Shared Drive “A” shows two parallel water lines (1 for Shared Drive “A” and 1 for Shared Drive “B”). These lines should be combined so only one tee is installed on Rose Farm Lane at the intersection of Drive “A”. Coordination with the Town is needed for the Town standards on pipe sizing and materials.
- **Drive A Force Main:** The sewer on Drive A appears to transition from Gravity Sewer to a force main at STA 204+00. Clarification is needed on this transition. The proposed E-One pump stations should be identified on the plans.
- **SMH 8:** The force main inverts should be provided at SMH 8.
- **SMH at STA 109+70:**
 - The SMH located a STA 109+70 should be named and have its corresponding inverts stated.
 - The SMH should be moved to STA 109+43 in order to improve the hydraulics through the manhole from SMH 26 to Sewer Wet Well 1.
- **Electrical Service:** Show the electrical service for the Proposed Pump Station.

- **Water and Sewer Separation:** The proposed water and sewer is less than 10' apart at STA 111+00. The water or sewer line should be adjusted to meet the state standard of 10'.
 - **CB and Proposed Water:** The CB and proposed water at STA 113+70 are in close proximity to each other. Insulation is needed between the two utilities to prevent freezing within the water main.
- 83. Rose Farm Lane Cross Sections (Sheet C-37):**
- **Sewer Line:** Coordination is needed between the Utility Sheets and the Cross Section Sheets. The sewer is identified as HDPE in the Cross Section Sheets and PVC in the Utility Sheets.
- 84. Rose Farm Lane Cross Sections (Sheet C-38):**
- **STA 105+00:** Insulation is needed to separate the proposed water main from the proposed drain line. Insulation areas should also be identified on the Utility Sheets and other Cross Section Sheets.
- 85. Rose Farm Lane Cross Sections (Sheet C-39):**
- **STA 108+00:** It appears that the proposed 12" HDPE drain pipe is not drawn to scale. The drain pipe size should be corrected.
- 86. Rose Farm Lane Cross Sections (Sheet C-45):**
- **STA 201+50:** The HDPE drain pipes are not drawn to scale and should be corrected.
- 87. Details (Sheet C-51):**
- **Slab Top DMH:** DMH-4 on Sheet C-25 is labeled as a Slab Top DMH. A detail should be provided for this structure.
- 88. Details (Sheet C-54):**
- **Elevated Roadway Section with Utilities:** The Applicant shall identify the manufacturer/wall designer's recommendations for pipe/utility installation within the wall backfill zone, including water main insulation requirements.
- 89. Details (Sheet C-55):**
- **Generator Pad:** The dimensions of the generator pad do not match the dimensions of the proposed generator on Sheet C-57. Coordination between the two sheets is needed.
- 90. PTAPP Database:** The Applicant should enter the stormwater treatment data into the Regional Great Bay PTAPP Database and provide the Town with a printout of the submittal.

Please contact us if you have any questions.

Very truly yours,

UNDERWOOD ENGINEERS, INC.

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David Sharples
July 25, 2018

Benjamin T. Dreyer, P.E.
Project Manager

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Project Engineer

BTD/EBN

Encl.

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