



June 9, 2023

Ms. Alana Kenney, Land Use Clerk
Town of Nottingham, 1389 Stage Road
PO Box 114 Nottingham, NH 03290

**Re: Fort Hill Residences - Plan Review
Final Drainage and Plan Set Review
Owl Ridge Builders
Map 23, Lot 11
CMA # 887 Task 150**

Dear Members of the Nottingham Planning Board:

At the request of the Town of Nottingham's Land Use Department, CMA Engineers has conducted an independent review of the documents submitted for the proposed 25-lot subdivision located between Smoke Street and Fort Hill Road. Our scope of review included primary examination of the design plans, traffic impact analysis, waiver/conditional use requests, initial Town review comments, drainage analysis, and erosion & sediment control plan. This letter presents our review comments.

Background

The proposed 102-acre, 25-lot Subdivision and Open Space Development project has been presented to the Nottingham Planning Board by Berry Surveying & Engineering Consultants on behalf of the landowner, Fredrick Fernald, and the applicant, Owl Ridge Builders of Nottingham. The project site is accessed from the existing Smoke Street and Fort Hill Road. The land parcels, currently wooded and sloping towards the center of the parcel, contain a primary wetland system. The project is within the Residential-Agricultural Zone and the Aquifer Protection Overlay District. The adjacent Little River is designated as a protected area and includes a flood zone, although no documented elevations are available from FEMA flood maps. The proposed roadways consist of two separate cul-de-sacs and one shared driveway, with the two cul-de-sacs accessed from Smoke Street (proposed as Peekaboo Drive and Frederick Lane) and the shared driveway accessed from Fort Hill Road. Individual water supply wells and septic systems are proposed for each lot. There is a proposed cistern for fire suppression.

A stormwater management system is proposed for the project, incorporating various features such as drainage collection, stormwater piping, rain gardens, gravel wetlands, a detention basin, and an infiltration basin. We anticipate the submission of an NHDES Alteration of Terrain (AoT) permit at a later stage, which will entail a more detailed review of the drainage components and their performance.

For this evaluation, we reviewed the following materials:

1. *Project Narrative, Environmental Design, and Conditional Use Permit Impact dated April 20, 2023*
2. *Drainage Analysis & Erosion & Sediment Control Plan dated February 15, 2023*
3. *Subdivision Application – Planning Board dated March 20, 2023*
4. *Plan set dated February 15, 2023 (80 sheets)*
5. *Traffic Impact Analysis & Distribution dated February 15, 2023*
6. *Open Space Subdivision Conditional Use Permit Application dated April 19, 2023*
7. *Town Review Comments dated between April 4th, 2023, and May 2nd, 2023*

We conducted a review of the Site Plan Drawing Set, Drainage Analysis, and Traffic Impact Analysis to assess their compliance with the Town of Nottingham, NH Subdivision Regulations, Zoning Ordinances, Master Plan, and state requirements. The proposed stormwater treatment practices were evaluated for consistency NHDES's New Hampshire Stormwater Manual and the Best Management Practices (BMP Manual) to ensure conformity with current design guidelines recognized by the State.

As a threshold issue, does the Applicant intend for the development's roadway, stormwater infrastructure, and Open Space to be owned/maintained by a Homeowner's Association or the Town of Nottingham?

SUBDIVISION REGULATIONS

Article 9 – Procedures for Review and Action on Applications

9.7.1 Road Layout

9.7.1.1(b) The applicant proposes two cul-de-sacs to be constructed within the subdivision, and the regulation requires cul-de-sacs to receive a waiver. Has a waiver been granted by the Board?

Article 13 – Open Space Development

13.5 Protection and Management of Open Space

How is the Open Space being managed, protected, and maintained?

13.6 Development Restrictions

What development restrictions are being placed on the proposed Open Space?

Article 14 – General Design Standards

14.10 Names of Subdivisions and Streets

Have the subdivision's proposed road names been approved by the Selectboard?

Article 15 – Road & Driveway Design & Construction Standards

15.2.1 Road Design Standards

The regulation requires the pavement width to be increased by two feet in curbed areas, and the Applicant has submitted a waiver request from this requirement. As additional information to the Applicant's justification, the roadway width is also increased for plowing operations, so the wing plow does not hit the curbing. The Road Agent should be consulted on this request.

15.2.1 Table 1: Road and Driveway Design and Construction Standards

The table requires a 100-ft minimum tangent length between reverse curves; however, Frederick Lane has a tangent length of 24.2 ft and Peekaboo Drive has a tangent length of 54.81 ft, both do not meet this requirement. The Applicant submitted a waiver request for the Peekaboo Drive tangent but did not include the Frederick Lane tangent.

The table requires vertical curves to have a minimum length of 80 ft; however, the first vertical curve on Peekaboo Lane has a length of 75 ft and the first vertical curve on Frederick Lane has a length of 65 ft, so both curves do not meet this requirement. The Applicant submitted a waiver request for the Peekaboo Drive vertical curve length, and since the curve is near an intersection, vehicle speeds are lower, so granting the waiver request is reasonable. The Applicant should submit a waiver request for the Frederick Lane vertical curve. Alternatively, the Applicant could design the roadway geometry, so this requirement is met on both roads. For Frederick Lane, it appears the current proposed roadway design could accommodate some level of changes to the vertical geometry; however, on Peakaboo Drive, this would be harder to accomplish.

The table requires horizontal curves to be navigable by a WB-40 design vehicle. With the number of short tangents and short length horizontal curves, the Applicant should provide WB-40 vehicle turning motions through the development showing the design vehicle requirement is met.

15.3.1 Number of Access Points to Roads

15.3.1(5) Have the subdivision's proposed road names been approved by the Selectboard?

15.3.2 Driveway Design

15.3.2(1) Residential driveways shall be 12 ft to 18 ft wide, but the proposed driveways scale as much as 36 ft wide. This should be corrected.

15.3.2(3) Driveways shall have 15-ft curb radii, but the plans do not show this information. The plans and/or Driveway Detail should be updated.

15.3.2(4) Driveways are limited to an eight percent max longitudinal grade, but the Typical Rural Driveway Cross-Section does not show this requirement. Also, in reviewing the grading plans, it does not appear that all driveways can meet this requirement. i.e. Lots 4 through 7 and Lot 25. The driveway detail should be updated and driveway grading confirmed for all proposed driveways.

15.3.2(7) A 12-in minimum diameter driveway culvert shall be installed under driveways at the right-of-way. The plans should be updated to show the culverts and the culverts should be appropriately sized.

15.6.7 Roadside Drainage

15.6.7(2) Culverts shall be at least 12 inches in diameter, but the culvert on Frederick Lane at approximately STA 0+40 is 6 inches because it is an outlet pipe for Gravel Wetland #108. What will prevent this culvert pipe from clogging?

15.6.7(4) Ditches are not permitted at grades greater than eight percent. These sections shall be curbed and include closed drainage to collect and transmit stormwater to the treatment devices.

15.6.7(6) Headwalls are required at the inlet end of all culverts; however, the Applicant is proposing to use flared end sections. The Applicant submitted a waiver request from this requirement on the basis that flared end sections are standard practice and have lower maintenance costs. The Road Agent should review the waiver request.

15.6.7(7) Underdrain is required in cut sections and where the seasonal high-water table is within three feet of the sub-base elevation. Underdrain is shown in these sections; however, the underdrain should extend until it daylight from the cut section.

15.6.8 Curbing

15.6.8(1) Curbing is required on roadway grades that exceed eight percent, is required on both sides of the roadway, and requires basins and culverts for drainage. The Applicant has submitted a waiver from this requirement on the basis that stone lined swales provide comparable benefit at a lower maintenance cost. Approximately 500 feet (<20%) of the development's roadway grade exceeds eight percent, so it would not be a hardship for the Applicant to meet the curbing requirement.; however, the Road Agent should review it. We do not recommend granting the waiver because the standard is justified and reasonable, and future maintenance would be an issue with shoulders and swales washing out. If the Town does consider this waiver, we recommend the proposed curbing limits be extended. See Plan Comments for more information. Additionally, the Applicant could consider designing the roadway to eight percent, so curbing would not be required.

Article 17 – Utility Design Standards

17.1 Utility Structures

Has the location of the proposed underground utilities been coordinated with the utility companies and are necessary infrastructure easements shown?

Article 18 – Subsurface Sewage System Design Standards

18.2 Test Pits

This regulation requires that each site or lot proposed for development shall have at least two test pits, separated by at least fifty (50) feet. The test pits shall establish the existence of a contiguous area of 4,000 square feet, or larger per Env-Wq 1014.01, as amended, suitable as a receiving layer for a leaching system. Both test pits and the percolation test area must be located within this area.

- a. For each lot, a building envelope should be shown to show the proposed house in relation to the leaching area and well.
- b. For Lot 11-20, there is only one test pit within the leaching area and the proposed leaching area is well within the property's protective well radius.
- c. For Lot 11-21, there are no test pits within the leaching area, although one is just outside of the leaching area. Also, a portion of the leaching area is within the property line setback.

Article 19 – Water System Design Standards

19.3 Well Radius Placement

19.3.2 Well radius easements covering neighboring parcels is not permitted in new subdivisions; however, for Lots 11-1 through 11-17, the well radii are shown to extend beyond their respective property lines. The Applicant has submitted a waiver request from meeting this requirement on the basis that this is an Open Space Development, and due to allowable Open Space lot dimensions, having the entire well radius within its respective lot is challenging and cannot always be met. This is a reasonable waiver request.

Article 20 – Landscaping, Recreation, and Open Space Standards

20.2 Recreation and Open Space Requirements

20.2.2 Ownership of Recreation Facilities and Open Space

20.2.2(1) If owned and maintained privately, said recreation or open space areas may have access restricted to residents of the proposed subdivision. Provisions shall be made to ensure sufficient funding for ongoing maintenance of said facilities, payment of property taxes, and

other such expenses, if deemed appropriate by the Board. If this is the intent of the open space, is this requirement met?

- 20.2.2(2) If such areas are offered to and are accepted by the Town, they shall be open to the general public, and there shall be sufficient nearby on-street parking. If this is the intent of the open space, is this requirement met?

20.2.4 Conservation Natural Features

The development of all subdivisions shall, to the greatest extent possible, preserve in their natural condition important natural features of the site. Examples of such areas include, but are not limited to, watercourses, wetland areas, steep slopes, large or unique trees and woodlands, or other unique habitat areas. To construct a portion of Peekaboo Drive roadway and building lots, the applicant is proposing a 35-ft deep cut to remove a hilltop. Has the Town's Conservation Commission been consulted?

Appendix 4 – Fire Cistern Specifications

- 3) Confirm the required suction capacity of 1,000 gpm for three-quarters of the cistern capacity is met. If so, include a note on the plan to this effect.
- 6) The cistern design and siting shall be stamped by a registered engineer and approved by the Fire Chief. Has this requirement been met?
- 8) The regulation requires all fill and suction piping to be Schedule 40 steel pipe and fittings. What materials are proposed?
- 9) The final suction connection shall be a six-inch female swivel suction port with a cap. The filler pipe shall be properly braced and 24 inches above the vehicle pad. Please update the details accordingly.
- 10) The filler pipe shall be six-inch Schedule 40 pipe and fittings with a 4-inch male steel storz fitting. The filler pipe shall be properly braced and 24 inches above the vehicle pad. Please update the details accordingly.
- 13) Have tank buoyancy calculations been completed, and if so, are there provisions in place to prevent the tank from floating?
- 14) Bedding for the cistern shall consist of a minimum of fifteen inches of three-eighths pea stone, compacted. Current detail shows 12 inches of 1 1/2-inch crushed stone. An alternative to the Town requirement would be to install 15 inches minimum of 3/4-inch crushed stone, top dressed with 3/8-inch pea stone for ease of levelling the bedding pad. Please update the details accordingly.
- 16) The top and highest two feet of sides of cistern shall be insulated with vermin resistant foam insulation and two feet of backfill. with a minimum of 120 pet, compacted. Foam used for this installation shall be closed cell polyurethane foam an insulation factor of R=5 per inch. No insulation is shown on the details. Please update the details accordingly.
- 19) The pitch of the shoulder and vehicle pad from the edge of the pavement to the pumper suction connection shall be three percent downgrade away from the road. Please update the details accordingly.
- 20) The shoulder and vehicle pad shall be of sufficient length to allow convenient access to the suction connection when the pumper is set at 45 degrees to the road. Provide vehicle turning motions showing this requirement is met.

- 21) The suction fitting shall be located between 22 and 24 feet from the nearest running edge of road pavement. The current layout shows approximately 17 ft. Please update the details accordingly.

Appendix 5 – Road Design Cross-Section:

- a. Drainage swales shall be a minimum of 2-ft deep. Please update the details accordingly.
- b. Drainage swale fore slopes shall be 4:1. Please update the details accordingly.

REVIEW OF ZONING ORDINANCE

Article III – Overlay Districts

A. Aquifer Protection District

A.4 Use Regulations

A.4.a The minimum lot size within the Aquifer Protection District for each dwelling unit if a residential use, shall be three acres. Proposed Lot 11-18 (2.934 acre) does not meet the three 3-acre minimum requirement. Potentially, proposed Lots 11-16, 11-17, 11-23, and 11-24 are partially within the APD and are all around 1 acre in size; however, in Article IV, Section S.8 Table 1, the minimum lot size in an Open Space development is 30,000 square feet. Which ordinance takes precedence? Adding the APD limits to the proposed development plans would be helpful in determining which lots are within the APD and which aren't.

A.4.b Within the Aquifer Protection District, no more than ten percent (10%) of a single lot, including the portion of any new street abutting the lot, may be rendered impervious for any uses. Provide calculations for the individual lots showing this requirement is met.

A.4.d This ordinance requires four feet of vertical separation between the bottom of the stormwater treatment practice and the seasonal high water table. It appears that Treatment Swale #1, Gravel Wetland #102, and Infiltration Pond #106 are within the APD, and they do not meet the separation requirement. Which ordinance takes precedence? Adding the APD limits to the proposed development plans would be helpful in determining which lots are within the APD and which aren't.

A.5 Hydrogeological Study

Within the Aquifer Protection District (APD), a hydrogeologic study shall be required for a subdivision of three lots or greater, and a portion of Lot 11 is within the ADP. The Applicant proposes a 25-lot subdivision, so a hydrogeologic study is required.

A.6 Design Performance Standards

A.6.d Where the premises are partially outside of the Aquifer Protection Overlay Zone, potential pollution sources such as on-site waste disposal systems should be located outside and down gradient of the Zone to the extent feasible. Potentially, proposed Lots 11-16, 11-17, 11-23, and 11-24 are partially within the APD, so the proposed leaching area shall be relocated outside of the APD.

A.6.f All new or reconstructed on-lot wastewater disposal systems constructed in the Aquifer Protection District shall be designed by a Sanitary Engineer licensed in New Hampshire; however, A.7.A exempts private residences from meeting all Performance Standards. It is unclear which ordinance applies.

Article IV – General Provisions

S. Open Space development (amended March 9, 2010)

S.5 Permitted Uses

S.5.c The total number of dwelling units allowed in an Open Space Subdivision shall not exceed the number of dwelling units that would be allowed under a conventional subdivision for the zoning district in which the site is located. The Applicant submitted a yield plan for a conventional subdivision to form the basis for the Open Space Subdivision; however, it is unclear what portions are developable under the Zoning Ordinance. Yield plan calculations should be submitted.

S.8 Standards and Conditions

S.8.a Single-family residential lots within an Open Space Development are required to have 100 ft of frontage; however proposed Lots 11-18, 11-19, and 11-24 do not meet this requirement. Lots 11-18 and 11-19 are proposed with 37.51 ft of frontage when 100 ft is required. For, the Applicant submitted a Conditional Use Request from meeting the 100-ft frontage requirement. If these two lots were to be considered as a stand-alone subdivision, it would be considered a back lot subdivision and Article IV, Section T – Back lot Subdivisions of Single-Family Homes would apply. However, these two lots are proposed under an Open Space subdivision, so is the Town willing to accept a significant reduction in the road frontage requirement. Alternatively, would a single lot having 75.02 ft of frontage be more appropriate? Additionally, the proposed frontage of Lot 11-24 is 99.98 ft, so technically, this lot should also be included in the request.

Additionally, maximum lot size is limited to 150% of the 30,000 s.f. minimum lot size (45,000 s.f.). Proposed Lots 11-3, 11-9, 11-10, 11-17, 11-24, and 11-25 exceed this amount; however, the Applicant submitted a Conditional Use Request for proposed Lots 11-18, 11-19, 11-24, and 11-25. Due to the proposed layout of Lots 24 and 25, it is reasonable for this request to be considered, and what is the Town's position of this request on Lots 18 and 19. Additionally, the Applicant should include Lots 11-3, 11-9, and 11-10 in their request.

S.8.g This ordinance requires a 100-ft buffer minimum between abutting land uses and the development. The Applicant submitted a Conditional Use Request from meeting the 100-ft buffer requirement because the locations of Frederick Lane, Gravel Wetland #108, and Infiltration Rain Garden #103 are dictated by site constraints. For the reasons stated in the request, it is reasonable for it to be considered.

S.9 Permissible Uses of Open Space

S.9.a The total area of Designated Open Space shall equal at least 50 percent of the Open Space development's gross tract area. Not more than 50 percent of the Designated Open Space may consist of otherwise non-buildable areas. A minimum of sixty (60) percent of such Designated Open Space shall be contiguous and should, when practical, connect with existing trails, conservation easements, parks and other types of open space. Furthermore, any such contiguous area shall not have a horizontal dimension of less than seventy-five (75) feet. Please provide calculations to show this requirement is met.

S.10 Protection and Management of Open Space

How is the Open Space being managed, protected, and maintained?

REVIEW OF DRAINAGE ANALYSIS

Based on our review, we offer the following comments for consideration:

1. What is the impervious area per lot?
2. How is the proposed development likely to impact downstream surface waters and properties?
3. How is groundwater recharge met in accordance with Env-Wq 1507.04?
4. What is the percent effective impervious cover (%EIC)?
5. What is the percent undisturbed cover (%UDC)?
6. Treatment Swales
 - a. On Sheets 66/67, there are callouts that specify 2-ft Tall Rip-Rap check dams spaced every 20 ft.
 - i. The maximum spacing between the dams should be such that the toe of the upstream dam is at the same elevation as the overflow elevation of the downstream dam.
 - b. Treatment Swale #1 lies within the 50-ft poorly drained wetland setback along Peekaboo Drive. Is this permitted?
7. General Comments:
 - a. Stormwater treatment practices shall be constructed with 3:1 side slopes.
 - b. Stormwater treatment practices shall be able to store the 50-year storm event without overtopping and have at least one foot of freeboard. This information should be shown on the plans.
 - c. The constructability of a narrow vertical core of low permeable materials that are compacted with a sheepsfoot roller is questionable. Suggest finding an alternative compaction method.
8. Sediment forebays shall be constructed with 3:1 side slopes. Please update the applicable details.
9. Gravel Wetlands
 - a. Both gravel wetlands are proposed to be constructed well within the SHWT, so the wetlands will at least be seasonally submerged as a pond. The lowest discharge orifice is set to the same elevation as the dividing berm, so when the wetland is a pond, the stormwater will not be down through the treatment layers, but it will be across the pond.
 - b. For both gravel wetlands, it is unclear what the groundwater elevation is, and since they are both below the SHWT, it is unclear for how much of the year the wetlands will be a pond.
 - c. UNHSC Subsurface Gravel Wetland Design specifies using 24 inches of 3/4-in crushed stone as the active treatment layer. The proposed design uses 1 1/2-in washed stone. Please explain.
 - d. Show inverts of the primary outlet for gravel wetlands, which shall be located 4 to 8-in below the elevation of the wetland soil surface.
 - e. Gravel Wetlands constructed in hydrologic group A and B soils needs to be lined. Confirm this requirement is met.
10. Detention Pond #105
 - a. On Sheet 61, Detention Pond #105 is called out as both a detention pond and a rain garden. Please clarify.

11. Rain Garden #107
 - a. The bottom of pond is at El. = 239.25 ft, and the Outlet Structure's 4-in orifice is also at El. 239.25 ft. Confirm the elevations are correct.
 - b. 1-ft of separation is required from the bottom of the filter media to the SHWT. This requirement is not met.
12. For Level Spreader #109, a detail(s) should be included in the plan set..
13. What is the hydraulic conductivity for TP's #100 - 103. Confirm it is less than 0.03 ft/day.
14. Env-Wq 1508.19 Stormwater Control and Conveyance Practices: Conveyance Swales (c): "The swale shall be sized to convey the 50-year, 24-hour storm"
 - a. The drainage analysis submitted states, "A conveyance swale will be designed so that there is the capacity to convey the 25-year 24-hour storm event." Please provide calculations and design for a 50-year 24-hour storm event.
15. Env-Wq 1504.14 Calculation of the Design Infiltration Rate
 - a. From the submitted Infiltration Feasibility Report, "Amoozemeter testing was not conducted on site and the alternate method of using the USDA / NRCS published values was employed." The Amoozemeter testing method is a direct method of calculating infiltration rates, and the USDA / NRCS values are approximations at best. Does AoT accept this alternative method?
 - b. Env-Wq 1504.14 (b) states if water infiltrates into soil classified as.....Deerfield....the applicant shall use the results from the field measurement method" Ksat values shall be measured by a CPESC using one of the methods shown in Env-Wq 1504.14 (e) not using published values.

REVIEW OF TRAFFIC ANALYSIS

The Traffic Impact Analysis was reviewed and the following comments are noted:

1. The Applicant shows stopping sight distance at the Peekaboo Drive and Frederick Lane intersections; however, intersection sight distance for a 35mph road should be confirmed.
2. What is the sight distance for the shared driveway entering Fort Hill Rd?
3. To achieve the required sight distances at the intersections, clearing is required. Are easements needed to maintain sight distances in the future?
4. The proposed roadway width does not support on-street parking, so this should be removed from the Traffic Analysis.

PLAN SET:

The Plan Set was reviewed for general engineering practice, and the following comments are noted:


1. General Comments
 - a. On Peekaboo Drive, the Applicant is proposing significant excavations (almost 40 feet) to construct the development. Boring information was not included in the application materials, but it is likely that most of this excavation will be in ledge. The Applicant has not described how this will be determined, and what construction details are necessary to address road and building construction founded on ledge. Approximately 400 feet of Peekaboo Lane and six or seven house lots are within these limits.
 - b. What is the intent of the existing Summer Street right-of-way that runs through the property? Is it being abandoned, and if not, how does it affect the Open Space and proposed development?

- c. On Sheet 54, the roadway profile includes test pit data. For Test Pit #7, the ESHWT and Termination elevations appear to be incorrect. Please address and confirm the information shown in the other test pits is accurate.
 - d. Underdrain
 - i. Underdrain limits should be extended, so it daylight from the existing ground.
 - ii. As required in Regulation 15.6.7.7, underdrain is required anywhere the E.S.H.W.T is within 36 inches of the proposed road subbase elevation. With the proposed roadway section being almost 24 inches thick, the bottom of the underdrain should be set approximate 60 inches below finished grade. On profile views where underdrain is shown, the proposed depth should be updated.
 - iii. Sheet 78, Underdrain Details, shows the underdrain pipe being installed with 1-ft of cover. The detail should be updated to show the appropriate cover as noted above.
 - e. The roadway profiles show multiple sag vertical curves. How is stormwater being collected, and removed from the roadway, to prevent ponding, particularly in the winter when there's snow curb?
2. Sheet 43 – Open Space Development – Topography Page 1
 - a. The start of the proposed gravel access trail for pond maintenance does not start at the edge of the proposed roadway. Please correct.
 3. Sheet 49 – Overview Grading & Drainage Plan
 - a. It does not appear the site grading considers driveway and house lot grading. This could present an issue with proposed driveways meeting the Town's driveway requirements. See comments in Regulation 15.3.2.
 - b. Driveway culverts are not shown and sized, and this could become an issue with larger culverts being necessary as more stormwater is collected in roadside swales further downgradient. Roadside swales may need to be shifted further out to accommodate the larger culverts. Plans should be updated to include driveway culverts.
 - c. The end of the proposed gravel access trail for pond maintenance should include a hammerhead, so equipment/vehicles can turn around.
 4. Sheet 50 – Plan & Profile Peekaboo Drive
 - a. The first curve is superelevated, and typically superelevation's, and their transitions, are shown on the profile view. Please update.
 - b. The roadway profile design shows a ten percent maximum grade. Per Regulation 15.6.8, curbing (both sides) is required on roads with a grade greater than eight percent, and roadside ditches are not permitted.
 - c. To avoid runoff flowing around the downstream end of the curb and eroding the gravel shoulder/slope, we recommend the curbing be extended beyond the roadway's low point (STA 190+00) and install drainage catch basins at the low point to transmit the stormwater into the ditch line.
 5. Sheets 58 through 68 – Stormwater BMP's and Erosion Control
 - a. Stormwater BMP's and Erosion & Sediment Control shall be designed/constructed to meet the requirements of CHAPTER Env-Wq 1500 Alteration of Terrain, with this taking precedence over the NH Stormwater Manual and UNH Stormwater Center.
 6. Sheets 71 through 73 – Cross-Sections
 - a. As applicable, cross-section widths should be expanded to show the entire width of the road construction to the slope limits, so impacts/intent can be fully evaluated.
 7. Sheet 77- Construction Details

- a. Typical Roadway Section Peekaboo Drive & Frederick Lane
 - i. The detail calls out 20-ft lanes when the lane width should be 10-ft.
 - ii. For the Peekaboo Drive typical sections, there are conflicts in the station ranges between the three details.
- b. Fire Cistern Details
 - i. The fire cistern extends beyond the Town's right-of-way on Smoke Street, so a permanent easement should be included on the easement plans.
 - ii. See additional comments above in Subdivision Regulation, Appendix 4 comments.

Should you have any questions, please do not hesitate to contact us.

Very truly yours,
CMA ENGINEERS, INC.



Jake D. Hewitt, P.E.
Project Engineer



Josh Bouchard, P.E.
Project Manager

JWB:rol