

BERRY SURVEYING & ENGINEERING

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October 27, 2021

Barrington Planning Board
PO Box 660
333 Calef Highway
Barrington, NH 03825

Re: Site Plan Review
Berry Surveying & Engineering
The Village at Barrington Square
Dove Development Group, LLC
Tax Map 235, Lots 2 1-1 & 3

Based on comments from the Review by CMA Engineers (CMA #1205 Task 40), we respectfully submit the following comments and revisions based on a telephone call between CMA and BS&E the morning of October 27, 2021. Our comments are in **bold**.

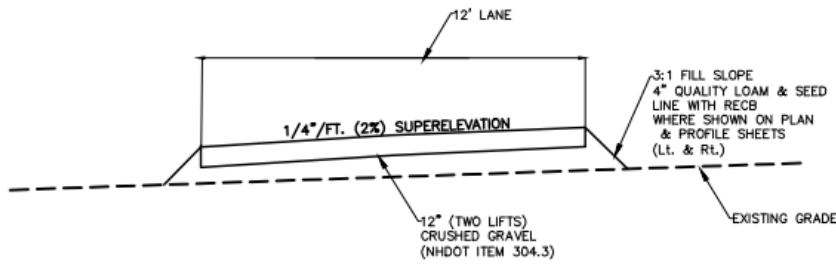
Site Plan Review Comments:

8. *It is standard practice to install catch basins with deep sumps within the roadway to collect stormwater and provide preliminary treatment. CMA Engineers does not understand what purview NHB or NH F&G would have over these catch basins and why they would recommend deviating from this standard practice. Please clarify.*

As noted by telephone due to the proximity of the project to protected turtle species, NH F&G will not permit along with AoT the deeps sumps on this project. This is a standard BMP in areas such as this. Enclosed is a snip of the wild life study that has been submitted to NH F&G with the recommendations.

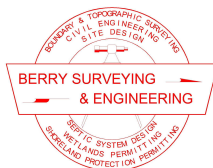
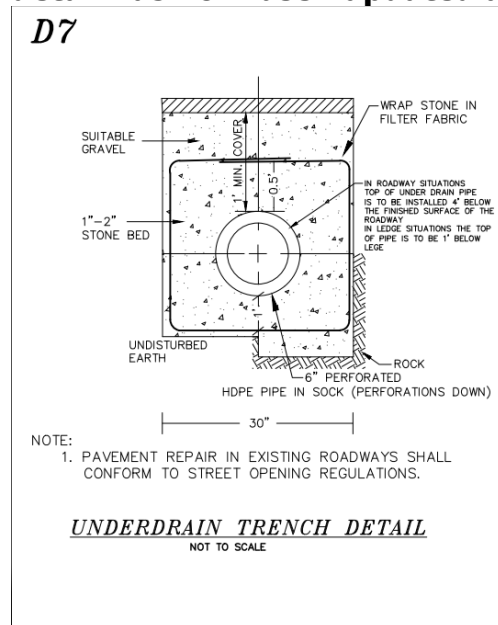
- o There are no sumps in any of the catch basins
- o All outlet structures will have filled bases to allow escape
- o All structures placed in grassed areas will have Bee Hive grates to remove the potential for animals to enter the rims in the grassed areas.
- o Rip rap is reduced the extent practical
- o All matting / erosion control blankets are natural fiber and not plastic products.
- o All sedimentation barriers are either natural fiber silt sock or mulch berms
- o Pond seeding specification are pollinator friendly.
- o Curbing is designed as sloped granite, not vertical.

15. *Typical Roadway Section Driveway Reconstruction was not revised to replace Bank Run Gravel (NHDOT Item 304.2) with Crushed Gravel (NHDOT Item 304.3)*
This has now been corrected on Sheet 97 of 109.

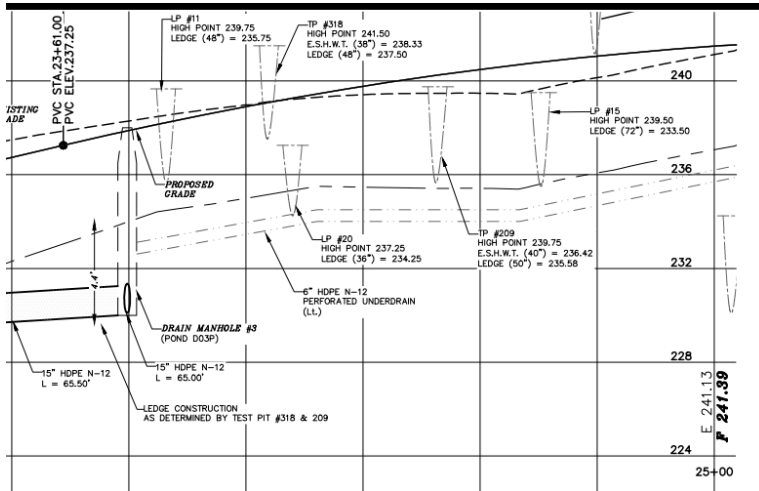


TYPICAL ROADWAY SECTION DRIVEWAY RECONSTRUCTION
70+00-72+25
 NOT TO SCALE

17 (e). *Standard and accepted engineering and construction practice is to install underdrain 4 ft to 6 ft deep to properly drain groundwater and frost conditions. At the depths proposed by BS&E, there's no assurance that the underdrain would function. CMA Engineers recognizes that the proposed roadway is constructed near ledge, and we recommend underdrain be installed so the top of pipe is at least 1 ft below ledge.*
The project Plans have been modified throughout to now have the underdrain 4' below finished grade and keyed into ledge (where applicable) so the invert is 1.5' below ledge surface. The corresponding construction detail has now been updated as well.



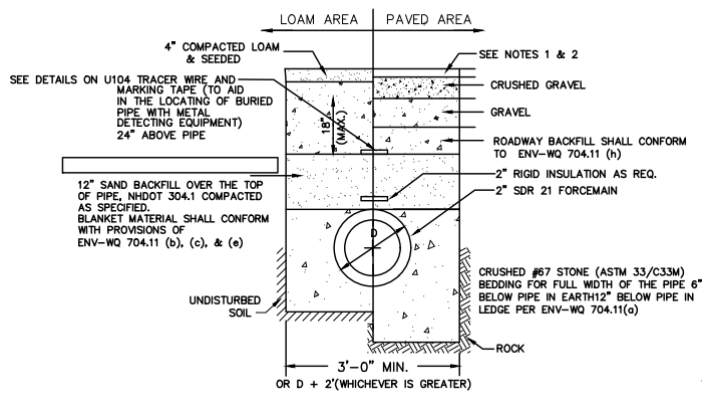
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One example of the modification. Overlook Drive Station 23+75 to 25+00. Changes made throughout the project as needed.

(f). *CMA Engineers agrees with the straighter pipe runs. Sheet 102, Typical Sewer Pipe Trench, the detail does not show tracer wire installed over the sewer force main. We recommend tracer wire be added to the detail.*

Sheet U104 (Sheet 103 of 109) was added for detail and clarity, however Detail U22 on U-103 (Sheet 102 of 109) needed correlation as discussed by telephone. This detail has been updated to include a tracer wire callout and have referenced further details on U-104.



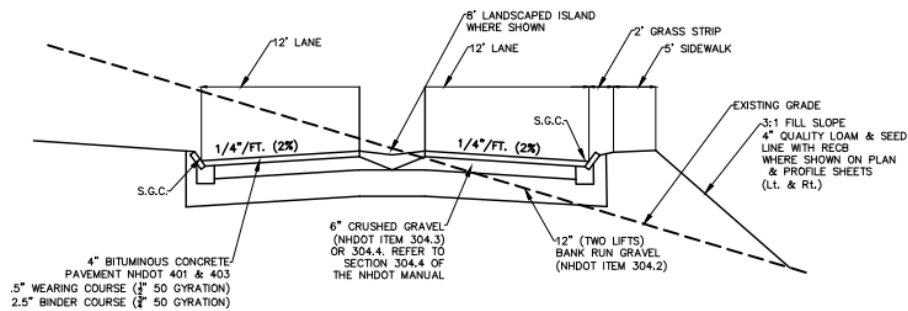
19. *Sheets 106-109, truck turning Motions have been updated across the project; however, truck turning motions remain tight allowing little to no margin for error. This is largely due to the center islands on Community Way. The consequence will be that wheels may drift off the pavement onto the islands. We recommend that BS&E confirm that the islands are designed to withstand such occasional movements/loadings.*



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Sheet 108, Truck turning motions provided are for vehicles turning to/from the access road and the driveway in a southerly direction, but the house is in the northerly direction. Please provide truck turning motions for vehicles turning to/from the access road and the driveway in a northerly direction towards the house.

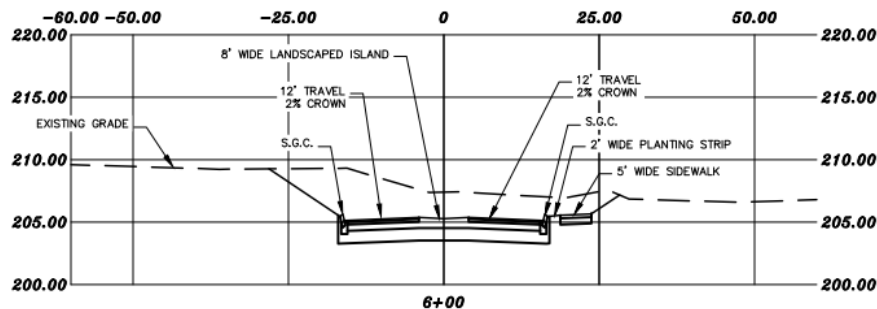
As discussed by telephone, we agree to connect the bank run gravel in the sections for vehicle loading and extend the crushed gravel sections beyond the limits of the pavement. Cross sections have been updated as well as the typical section. In addition the site plans now call for concrete noses to be added to the islands in the event of rollover. With respect to directional flow of the fire truck related to the private drive, as discussed by telephone it is not intended that this be the sole access to the house only a secondary use as needed for potential circular pattern.



TYPICAL ROADWAY SECTION COMMUNITY WAY

5+63-12+30

NOT TO SCALE

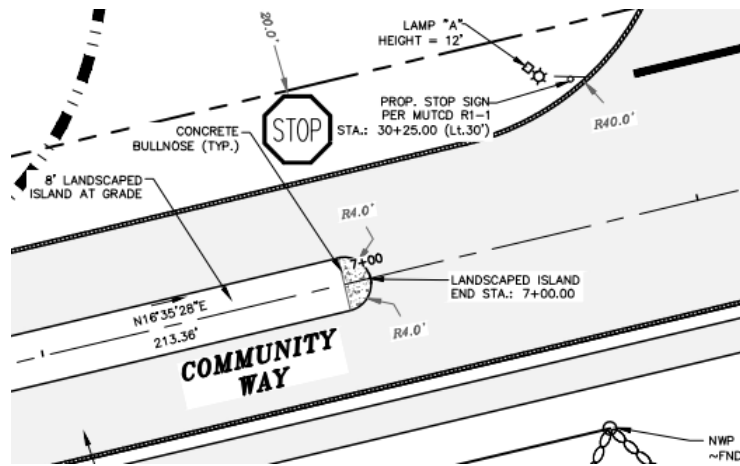


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Review of Drainage Analysis

Rain Garden 102

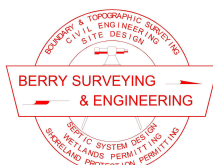
2. CMA Engineers reviewed the information provided for the design of Rain Garden #102. Under the proposed, future condition, the impervious area flowing to Rain Garden #102 is the sum of 31,150 sf from the proposed project, yielding a total impervious area flowing to the rain garden of 67,950 square feet (sf).

Based on the Filtration Practice Design Criteria for Rain Garden #2, the rain garden is designed for 36,800 sf of impervious area, but there is 67,950 sf of total impervious area flowing to it. CMA Engineers understands Rain Garden #102 was designed for the 2019 development project and the impervious area under that project; however, under the proposed condition, the rain garden would be undersized, and it will not function properly in treating stormwater, and we recommend this be addressed.

Two potential solutions are to reconstruct existing Rain Garden #102 for the total future impervious area or construct a new stormwater treatment practice to treat only the proposed impervious area, leaving the existing Rain Garden #102 to treat the stormwater it was designed for in the 2019 development project.

Our understanding of Env-Wq 1502.58(b)(2) is that planned work over a 10-year period must be considered in an AoT permit. It does not preclude existing impervious features from being included in calculating requirements for treatment, regardless of age.

Per our telephone conversation both CMA and BS&E agreed that this is an issue that should be resolved during the AoT permitting process.



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Rain Garden 108

1. *Env-Wq 1508.11(d) Pretreatment Practices: Sediment Forebays*, states "Forebays shall be no less than 2 feet and no more than 6 feet in depth." CMA Engineers does not object to the proposed deviation from the regulations and defer judgement to NHDES Land Development Bureau and Planning Board.

No comment required.

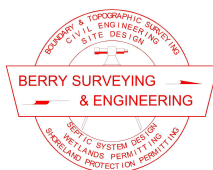
Review of Traffic Analysis

8. For clarification, in Table 8 (previously Table 7), the peak hour trip rates were updated for LUC #221 – Multifamily Housing (Mid-Rise), which we concur with. CMA Engineers did not find a reference to General Urban/Suburban in the Traffic Impact Analysis.

This comment has been discussed and clarified via phone call. No further comment required.

14. The updated Route 9 traffic study has a trip distribution of 53% eastbound and 47% westbound; however, in Figure 11, updated Peak Hour Condition for 2022 and 2032 for site generated traffic turning into Dove Development has a 30% eastbound and 70% westbound trip distribution. If the left turn lane warrant was recalculated for a 53%/47% distribution, a left turn lane would be warranted. Please describe why the distribution of site generated trips would be different than the background traffic.

Based upon 2018 conversation with NHDOT for NHDOT driveway permit #06-027-548, it had been requested that the directional distribution for the proposed project be based upon the ratio of AADT of NH Route 9 and NH Route 125. The derivation of this directional distribution is shown on page # 12 & #13 in the section titled "Intersection of NH Route 9 and NH Route 125". Based upon data from NHDOT MS2 data system, the following table shows the ratio of AADT and how the 70.2%/29.2% distribution was determined. BS&E will work with NHDOT to implement, if any, recommended turning improvements for NH Route 9.



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NH Route 125 AADT (2020):	18,845
NH Route 9 AADT (2020):	7,989
Combined AADT	26,834

Table 3: AADT values for NH Route 9 and NH Route 125

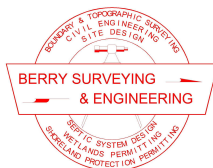
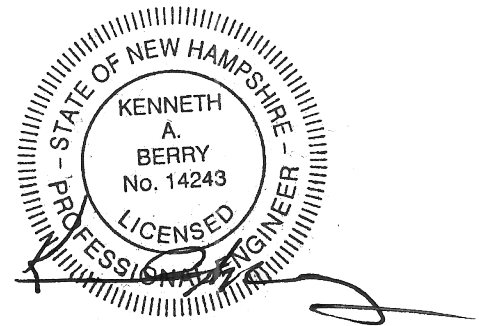
These AADT's were then applied to determine what percentage of vehicles would potentially enter or exit to the east or west of the site. It was determined that 70.2% of vehicles would enter from NH Route 9 westbound, coming from the intersection of NH Route 9 and NH Route 125, and 29.8% would enter from NH Route 9 eastbound. It was then determined that 70.2% of vehicles would exit to NH Route 9 eastbound, going to the intersection of NH Route 9 and NH Route 125, and 29.8% of vehicles would exit to NH Route 9 westbound. This directional break down is used later in the document in the determination of turning movements and turn bay warrant analyses. In addition, Figure 8 shows the configuration of the intersection of NH Route 9 and NH Route 125 with surrounding roadways, including AADT values (NHDOT).

Very truly yours,
BERRY SURVEYING & ENGINEERING

Kevin R. Poulin, EIT
 Project Engineer



Christopher R. Berry
 Principal, President



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