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May 2, 2022

Reading Conservation Commission
16 Lowell Street
Reading, MA 01867

Re: Small Lane Roadway Extension and Drainage
18 & 22 Small Lane & off Charles Street
Reading, MA 01867
DEP File No. 270-0748

Commissioners

On behalf of my client, Del Rey R.T. this memo addresses LEC initial review dated 12-7-21. LEC's comments are bulleted, and Norse response is italicized below:

- As noted in the DEP Technical Comments, Bank to the stream should be delineated in the field and depicted on the plans. Please confirm that the linear feet of Bank impact described in the NOI is calculated based on both sides of the stream, not just one.

  The downgradient Bank is flagged in the field as 1D-6D and shown on the revised plans. The bank impact includes removing the clogged 12" v.c. drain and installing H-20 cultec open bottom chamber system. The chamber shall be 52" wide and span most of the intermittent stream bank except for the downgradient bank flags. The applicant is proposing approximately 50 ft. of Bank alteration. Please see the detail on page 6 of 6.

- The Applicant considered three alternatives to the proposed layout, including a common driveway, but **did not** consider simply constructing a driveway for one single-family dwelling. The scope of the alternatives analysis associated with Limited Projects is not restricted to the desired number of houses lots included in the proposed project. A driveway for one single-family dwelling seems to satisfy the intent of granting access to an otherwise land-locked, inaccessible property, which is the purpose of the Limited Project provisions. The single-family dwelling alternative is likely to result in significantly less adverse impacts to the wetlands when compared to extending Small Lane as a subdivision roadway, as proposed. The Applicant should evaluate the single-family dwelling alternative, including a plan with impact calculations, for presentation to the Commission.

The Single-Family Dwelling Alternative: Zoning Setbacks

Zoning District: S-20	
Lot Area	20,000 s.f.
Lot Frontage	120 ft.
Lot width	80 ft.
Front Yard Setback	20 ft
Side Yard Setback	15 ft.
Rear Yard Setback	20 ft.
Maximum lot coverage	25%

The creation of a single-family house lot is required to meet the above Reading Zoning Bylaw setbacks. The lot has 34 ft. of frontage on Small Lane and does not meet the required 120 ft. of lot frontage. CPDC is requiring the construction of a roadway to maintain this frontage regardless of the size of the project or number of dwellings. The applicant requested CPDC to consider a driveway alternative and this request was denied.

In addition, the applicant requested CPDC to consider a reduction in the roadway width from 24 ft. to 22 ft. to reduce impact to the resource areas and buffer zones. Unfortunately, CPDC did not approve this waiver and cited safety and emergency vehicle concerns.

The applicant has gone to considerable lengths, working and meeting with the Town of Reading to design a project consistent with the Town's planning and wetland protection objectives. The desired alternative is the one proposed in the Notice of Intent filing. The applicant is proposing the minimum acceptable roadway width of 24 ft. and incorporating retaining walls to reduce impact to the resource areas. The project proposes to alter 932 s.f. of wetland and provide 2.3:1 wetland replication or 2225 s.f.

- The Applicant also should evaluate further design modifications that would reduce or eliminate wetland impacts, including the 404 SF of wetland impacts that could be avoided by shifting the cul-de-sac farther to the north. It also appears that the roadway could be shifted farther south to reduce the Area #1 wetland impacts. If the Applicant eliminated one or both of the grass strips and relied on more traditional stormwater management in compliance with the DEP Stormwater Handbook (the Handbook), the two proposed crushed stone infiltration trenches north and south of the roadway could be removed to further reduce wetland impacts.

  As suggested, the roadway design has been modified to reduce and eliminate wetland impacts. The roadway redesign eliminates the infiltration trenches on both sides of the roadway and incorporates porous pavement. In addition, the redesign eliminates wetland filling #2 (404 s.f.) and #3 (160 s.f.) and saves more trees. The original proposed tree removal was (55) trees and the redesign propose (43) trees.

  The roadway redesign proposes 932 s.f. of wetland alteration and 2225 s.f. of wetland replication. This is a substantial reduction in wetland impacts and replication. The original designed proposed 1787 s.f. of wetland alteration and 3580 s.f. of wetland replication. The redesign preserves 855 s.f. of wetland and 1355 s.f. of buffer zone.

- In speaking with DEP this morning (12-7-21) about my conclusions relative to the applicability of the Handbook based on the addition of 2 dwellings that would increase the number of dwellings on Small Lane to 5, DEP clarified for me that the proposed project, extension of Small Lane, is a new roadway project that must fully comply with the Handbook and 10 Stormwater Standards. If work is proposed on the existing portion of Small Lane, that would be redevelopment that would require compliance to the greatest extent practicable.

  I disagree with Ms. Martin that the project shall be considered a new roadway and fully comply with Massachusetts Stormwater Standards. Please see the Massachusetts Stormwater Handbook requirements below:

  The Stormwater Management Standards shall apply to the maximum extent practicable to the following:

  (1) Housing development and redevelopment projects comprised of detached single-family dwellings on five to nine lots, provided there is no stormwater discharge that may potentially affect a critical area;

  The site is not located within a critical area.

  For purposes of the Stormwater Management Standards, redevelopment projects are defined to include the following:

  1. Maintenance and improvement of existing roadways including widening less than a single lane, adding shoulders, correcting substandard intersections, improving existing drainage systems, and repaving;

  The project meets the above criteria because the applicant is improving and correcting a substandard roadway. The existing roadway abruptly ends in a "T" design therefore preventing emergency vehicles (i.e., fire trucks and ambulances) adequate turning radius. CPDC recognizes the substandard roadway and requires the roadway extension and cul-de-sac design to allow emergency and town vehicle access. Therefore, the project shall meet the Stormwater Management Standards to the maximum extent practicable.

- According to Volume 2, Chapter 2 pgs. 94-99 of the Handbook, infiltration trenches always require a pretreatment BMP and the seasonal high groundwater level must be at least two feet below the bottom of the trench. Based on the grades on the plans, it does not appear that there is a minimum 2 feet of separation between the elevations in the adjacent BVW and the bottom of the crushed stone infiltration trenches. Please provide additional detail and data.

  The project has been redesigned to eliminate the infiltration trenches and incorporate pervious pavement for the roadway extension.

- The Handbook requires slope (e.g., retaining wall) setbacks and wetland setbacks for stormwater infiltration. The proposed plan does not appear to comply with these setbacks.

The project has been redesigned to eliminate the infiltration trenches and incorporate pervious pavement for the roadway extension.

- If the bottom of the infiltration is within 4 feet of the seasonal high ground water, a mounding analysis is required (Handbook, Chapter 3, page 29).

  The project has been redesigned to eliminate the infiltration trenches and incorporate pervious pavement for the roadway extension.

Additional Comments

- What is the minimum lot size allowed in this zone in Reading? How will construction of the roadway extension affect the owner of 22 Small Lane who will be giving up a portion of their land for the roadway and ROW?

  The property is zoned as S-20 and the minimum lot size is 20,000 s.f. The applicant has an agreement with the property owner at 22 Small Lane. The Notice of Intent (NOI) filing includes the property at 22 Small Lane, the owner signed the NOI application and received a copy of the NOI.

  In addition, an access easement has been created across #22 Small Lane. The access easement plan recorded at the Middlesex South Registry of Deeds as Plan 2022/141 (Yr/Pl).

- The narrative describes the use of retaining walls and the plan uses a graphic image typically associated with stone walls, but the plans provide no details or information for design/construction of the retaining wall. Please provide more details including Top of Wall, Bottom of Wall, and a detail for the retaining wall depicting the type of wall and any footing requirements.

  The project incorporates a Shea concrete retaining wall and a detail has been added to the Definitive Subdivision Plan, sheet 6 of 6. The wall shall be offset 3 ft. from the curb line to allow tree plantings, grass and the installation of utilities.

- The Applicant discusses installation of a 46 LF Open Bottom Box Culvert but does not provide any detail for the culvert or documentation that the box culvert meets the openness ratio requirements in the Stream Crossing Standards. Please add a detail to the plans documenting this compliance. The only information on the plan is a leader noting "Prop. Cultec Contactor 100HD Units Open Bottom Culvert (6 units)". My experience with this system has been for stormwater management, not culverts beneath roadways. Please confirm that this type of system is appropriate for placement beneath a roadway (or driveway) to maintain stream flows.

  The project proposes to improve the existing conditions by replacing the block culvert with a H-20 cultec chamber system. The cultec system provides an arch over the stream and H-20

load rating for large trucks to drive over the roadway without damaging the cultec system or roadway.

- The grading plan depicts spot elevations for the roadway, but I do not see any proposed contours on the plans. Please advise.

  The revied plan shows proposed contours.

- I have briefly reviewed the wetland replication narrative that appears to be thorough, but I realize after addressing many of our comments, the wetland replication area is likely to change. One item of note is that the materials do not include a definitive number of trees or shrubs to be planted in the wetland replication. Additionally, all specifications for the wetland replication should be added to the proposed plans.

  Please see the table and information added to plan page 4 of 6. The applicant is proposing trees 25 ft. and shrubs 15 ft. on center. In addition, a New England Wetmix, prepared by New England Wetland Plants, shall be added to the area. If the Commission finds the plants and seed mix acceptable the plans shall be revised to show a definitive number of trees and shrubs.

Enclosed are (2) copies of the Small Lane Extension, Definitive Subdivision Plan, prepared by Sullivan Engineering Group, LLC, revision date 4-19-22. If you have any questions or concerns regarding the above the information, please do not hesitate to call.

Sincerely,

Maureen Herald

Maureen Herald, PWS, CWS

Cc: Del Rey R.T.
DEP-NERO
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