

March 16, 2021

via email

Martha L. Taylor, Town Planner
Town of Newbury
12 Kent Way
Byfield, MA 01922

**Re: Proposed Open Space Residential Development
15 Coleman Road, Newbury, MA
Peer Review Response to Comments**

Dear Ms. Taylor:

On behalf of the applicant, Zendko, LLC., Civil Design Group, LLC (CDG) is in receipt of the peer review comments dated 02/28/2021. CDG's responses are provided in **bold** below the comments and supporting plans and documentation are enclosed herein:

Sheet 4, Yield Plan

1. The yield pan is drawn at a scale of 1" =80', rather than the required 1" =40" for a definitive subdivision. At 80 scale, the test pit data is impossible to read. The board may want the yield plan presented at 40 scale, without the dark gray background, as would be typical.

CDG Response: The requirements of the Yield Plan as outlined in Section 112-5 do not appear to require a minimum scale. Our intention was to prepare the Yield Plan at a scale suitable for review from an overall site perspective. The NRCS soils map was specifically requested to be underlaid on the plan by the Planner as required in Section 112-5.

2. Test pit data does not appear on the plan to prove lots 3 and 4. Note 2 states that this information is on record with the board of health department. The board may want the engineer to provide that adequate soil/perc test data on lots 3 and 4.

CDG Response: The Applicant has requested the Health Department historical data records of witnessed soils tests on Lots 3 and 4 from 2016, but has not yet received a response from Health. The Applicant would prefer not to mobilize a machine through the wetlands to dig test pits. Per Section 112-5 'the location and results of any test pit investigations for soil profiles, percolation rates and determination of seasonal high ground water levels should be shown, if available'. Therefore, test pits and percolation tests are seemingly not required, which is consistent with yield plans as these plans are not intended to be constructed. The lack of requirement for soil data is further supported by the requirement of the NRCS soils map, which is included.

3. Assuming the plans are redrawn at 40 scale, the board may want septic area rectangles to be drawn over the test data to depict adequate area based on the percs. Lot 1, for instance, had a 30 minute perc which would require a larger septic area.

CDG Response: Septic area rectangles do not appear to be required as part of the Yield Plan submission requirements. The areas and geometry of the lots are clearly sufficient for sizing and location of systems plus homes.

4. The table on the plan appears to show that all dimensional roadway requirements would be met for a conventional subdivision.

CDG Response: No response required.

5. The board may want the engineer to address whether a common driveway would be required to access lot 3 and 4.

CDG Response: The 5 lots have sufficient frontage and area. Common driveways would not be required; parallel driveways would be utilized if needed.

Sheet 2, Legend & Notes

1. Note 10 in Grading & Drainage Notes specifies class V reinforced concrete pipe, but the plans and waiver request specify HDPE plastic pipe.

CDG Response: The notes have been revised to specify HDPE plastic pipe.

2. A waiver is requested from depicting trees over 6" in diameter. The board may want existing large trees around the existing house/barn and along Coleman Road to be depicted, at a minimum. Based on the current grading concept, it does not appear that any large trees are to remain.

CDG Response: The remaining trees along Coleman are visibly compromised (with one exception), and should be removed for safety and replaced with an equal count of new, healthy plantings. The large butternut tree located behind the barn should be an on-site decision based on ground and root disturbance during installation of the septic system; at a minimum the large portions of this tree that currently hang over the barn should be removed. The large maple to the west of the existing home appears sufficiently healthy to remain.

3. A waiver is requested to allow for a 40' right-of-way with 22' of pavement, but granite curbing is proposed along both sides of the roadway. The regulations state that curb and gutter is allowed only when country drainage is not feasible. The OSRD also encourages the use of low-impact design relative to drainage. The board may want the engineer to show whether low-impact drainage design has been considered for the site.

CDG Response: Country drainage was considered but we don't feel that country drainage is a low impact design technique with respect to the purpose and intent of the OSRD bylaw. Country drainage typically requires swales along roadway edges which requires homes to be set farther from the roadway than typical in order to maintain a usable and flat front yard. As such, driveways are longer than typical which creates more impervious and the limits of work are also pushed farther back as compared to their conventional drainage system design counterpart. Culverts and headwalls would also be required under driveways; so drainage infrastructure would still be required. On this site, the drainage infrastructure cannot be avoided because the roadway is traversing in a perpendicular direction (N/S) as compared to the existing topography (E/W) thereby bisecting the existing runoff travel paths. Therefore, catch basins and piping are required to get the easterly portion of the site (i.e. rooftops, driveways and right side of road assuming a crowned road) beneath the roadway in order to treat and infiltrate runoff as required by local and state stormwater regulations. The OSRD project before the Planning Board is consistent with the purpose and intent of the OSRD bylaw including:

- i. To allow for greater flexibility and creativity in the design of residential developments – Based on feedback from multiple site visits and feedback opportunities from the town representatives, the OSRD layout conforms to and has adapted to the land by means of avoiding the northerly portion of site behind the bisecting wetlands. The zoning flexibility for the OSRD has enabled the development before the Planning Board.**
- ii. To encourage permanent preservation of open space – The applicant has committed to preserving 27.2 acres (86%) of the site.**
- iii. To encourage a less sprawling and more efficient form of development that consumes less open land better than a conventional or grid subdivision – the project is only utilizing 14% of the land and provides for a more efficient form of development.**
- iv. To minimize the total amount of disturbance on the site – see iii.**
- v. To further the goals and policies of the open space plans. - see ii.**
- vi. To facilitate the construction and maintenance of housing, streets, utilities, and the provision of public services in a more economical and efficient manner - The proposed layout is representative of a development designed in an economical and efficient manner.**

As described above, the proposed OSRD project meets all criteria of the primary purposes and intent of the OSRD bylaw.

Sheets 3.1-3.5, Key Map, Existing Conditions Survey

1. The key map depicts 2 proposed lots, A and B. The assessors map depicts 2 large lots for the entire parcel.

CDG Response: The site was recently subdivided into the two parcels shown on the existing conditions. The original submission didn't include these lots on the plans but they were added at the request of the Planner. The final plans will remove the word 'proposed' from the lots, if the Planner agrees with the same.

2. The existing conditions survey shows proposed lots. Typically, just existing conditions are depicted on the plan.

CDG Response: See previous response to previous comment.

3. The plan should state whether the wetland delineations have been reviewed and approved by the conservation commission, as would be typical.

CDG Response: The project is currently seeking approval from the Conservation Commission via the Notice of Intent process. The wetland delineation will be reviewed and approved as part of the NOI process, as would be typical. A site visit with the Conservation Commission was recently held pursuant to an earlier RDA filing, which is now superseded by an NOI filing. There did not appear to be concerns regarding the delineation but the official review is in process.

4. Sheet 3.3, note 10 refers to benchmarks shown on sheet 3.1, but they do not appear on the plan.

CDG Response: There are two iron pipes with elevations along the easterly property line. As indicated on the plan, all benchmarks are to be verified prior construction activities. The elevations on the survey refer to the NAVD 88.

5. Previous soil/perc testing locations, being used to prove lots 3 and 4, should be depicted on the plans, as would be typical.

CDG Response: See response to Sheet 4 Yield Plan, #2.

6. The board/fire department may want existing hydrants to be depicted in the vicinity of the project.

CDG Response: An existing fire hydrant at the intersection of Longbrook Road and Coleman Road is depicted on the plans.

7. The 5 series test pits need to be reviewed. The plan shows two TH5-1 test pits. It appears that six 5 series test pits and 3 perc tests were conducted. Test pit 5-1 had refusal at 44", so that would not be used.

CDG Response: The two (2) test pit numbers will be corrected in the final plan set.

Sheet 7, Demolition & Erosion Control Plan

1. The plan calls for the contractor to “remove all trees within limit of work”. It appears this will result in the site being clear cut. The board may want some existing trees, perhaps the larger ones, and along Coleman Road, to be depicted and saved.

CDG Response: See response to Sheet 2 Legend and Notes, #2.

2. The board may want the “TBR” to be removed from the existing barn footprint to prevent any confusion.

CDG Response: The ‘TBR’ notation within the barn footprint is intended for the asphalt curb leader. However, the final plans will clarify that the barn is proposed to be protected.

3. The plan calls for a construction fence to be installed around the entire perimeter of the site. The board may want the engineer to address why a fence is necessary around the entire site.

CDG Response: A construction fence surrounding construction activities is good practice and benefits the builder and the public so as to clearly delineated the construction zone relative to safety and security for each party.

Sheet 8, Layout Plan

1. A trail is proposed for public access, but no trail/visitor parking is shown. The board may want the engineer to address any parking requirements for the proposed trail.

CDG Response: Access and parking for the trails will be determined pursuant to the determination of public versus private way; the large size of the cul-de-sac island could allow up to 4 parking spaces.

2. A label on unit #2 states “selectively clear trees within this area”, but the demolition plan appears to give the contractor permission to clear cut the project site. The engineer should address this.

CDG Response: The callout provides flexibility to the contractor to keep trees within the limit of work, which is consistent with the spirit of the OSRD bylaw.

4. Ledge removal will likely be required to construct portions of the project. The board may want to consider whether hammering and/or drilling/basting will be allowed.

CDG Response: Blasting is not anticipated to be required to remove ledge. Hammering/drilling will be the means of removing ledge whenever possible.

Sheet 9, Grading & Drainage Plan

1. Pipe length, slope and material should be provided for the drainpipes in the roadway. The drainpipes off the roadway are classified as RCP (concrete), but a waiver request for HDPE pipe is listed on previous sheets.

CDG Response: The pipe lengths, slope and material for the roadway are shown on the profiles to reduce the number of callouts and text on the grading plan. The off the roadway pipe material will be changed to HDPE on the final plans provided that a waiver is granted.

2. The details provided on sheet 18 are inadequate for the subsurface infiltration system. Soil removal (e.g. A & B layer) beneath the system should be depicted, and fill material should be shown along with specifications. A cleanout detail would need to be provided that would allow for the inspection and maintenance described in the report. An RCP to HDPE pipe connection detail should be provided.

CDG Response: The final plans will include notes/depiction to remove the A and B soil layers beneath the system and fill material will be specified. A cleanout detail will also be included.

4. I may be prudent to show a drain manhole at the 12" RCP inlet to the subsurface system. The manhole could also be used to perform the required inspections and maintenance.

CDG Response: A drain manhole cover will be shown on the final plans at the specified location for ease of access and cleaning.

5. The 12" RCP inlet invert of 83.00' does not work with the inside top of pipe elevation of 83.25' on the 48" HDPE pipes. The engineer should revise this.

CDG Response: The final plans will include the correct invert to ensure crowns are matched.

6. The 30 mil membrane top elevation of 78 feet does not match the top of stone elevation of 84 feet in the subsurface system. The engineer should address this.

CDG Response: The note intends to call out the membrane to extend vertically from the top of the system to the bottom of the system, which is elevation 78.00.

7. The engineer should provide a retaining wall detail for the wall around the subsurface system. The wall will need to be designed by a structural engineer if it exceeds 4'.

CDG Response: A retaining wall detail has been provided in the original plans.

8. The board may want a fence at the top of the proposed retaining on lot 3. There may be a 4-6' drop at the wall, which could be a safety issue for the homeowner.

CDG Response: A post and rail fence will be added at this location.

9. The outlet pipe from the subsurface system has an invert of 78.00, which is in the 12" stone layer. The engineer should provide a detail to show how this will be installed.

CDG Response: The final plans will depict the correct invert elevation of 79.25. Please note that this does not change the modeling of the stormwater system or require any plan changes with respect to the infiltration system.

10. It may be prudent to show the outlet from the subsurface system at the northwest corner, where any outflow will be directed to the wetlands. The current outlet may allow runoff onto the abutting lot to the west.

CDG Response: The outlet pipe location as shown discharges into an existing swale that is intended to be maintained. This swale is at a slightly lower elevation than the abutting westerly property line, which is bounded by a stonewall, and the flow path is traveling in a northerly direction parallel to the abutting property line. Additionally, the outlet pipe as shown is farthest from the wetlands and rip rap and added vegetated travel route will provide for additional energy dissipation.

11. Proposed snow storage area(s) should be depicted on the plan. The cul-de-sac island would not be suitable as it will likely block flow to the catch basin.

CDG Response: As planned there are no common areas, all are fee-owned, therefore snow storage areas are not required.

12. The outlet control structure detail on sheet 16 does not agree with the plan information, which does not agree with the calculation information. The detail should also show the top and grate.

CDG Response: The final plans will include the outlet control structure detail and grading plan call out to match the HydroCad modeling. Please note that this does not change the modeling of the stormwater system or require any plan changes with respect to the infiltration system.

13. As noted previously, country drainage and low-impact drainage design are required/encouraged, but the plan shows curb and closed drainage system. The board may want the engineer to show why the submitted design was chosen.

CDG Response: See previous response to previously noted comment.

14. The maintenance manual states that a water jetter and vactor truck will be needed to maintain the subsurface system. The engineer should address adequate access to the system capable of accommodating the specified equipment/trucks.

CDG Response: The final plans will show a stabilized route to the infiltration system overlaid with loam and seed and said route will be adequately identified in the field by signs or approved equal indication.

Sheet 10, Utility Plan

1. The size and material (i.e. 10" AC) of the existing water main, and type of connection (tapping) should be noted on the plan, as would be typical.

CDG Response: The final plans will callout the size and material of the existing water main and the proposed connection type.

2. One proposed hydrant is shown in the cul-de-sac. As noted previously, the closest existing hydrant should be shown in Coleman Road.

CDG Response: The final plans will call out the existing hydrant in Coleman Road.

3. A 6,000 gallon, two pump chamber is shown for the septic system. The plan should show/note where the meter, controls and alarm will be located for this system.

CDG Response: The final plans will depict the meter, controls and alarm for the septic system proximate to the pump chamber.

4. Street lights do not appear to be proposed. The board may want the engineer to discuss whether any site lighting is proposed.

CDG Response: Street lights are not proposed, the developer provides each residence with a post and lantern controlled by a photocell.

Sheet 11, Plan & Profile

1. Typically, a landing area, with a maximum slope of about 2 percent, is shown at the intersection with the main road. The board may want the engineer to consider revising the current 3 percent slope at the intersection.

CDG Response: The 3 percent slope at the beginning of the intersection is the levelling area proximate to the intersection. A 3 percent slope is adequate and consistent with subdivision regulations in neighboring municipalities and consistent with roadway intersections proximate to the site. The proposed roadway grades conform to the subdivision standards and industry standards.

2. A typical roadway section is provided for the crowned portion on the roadway. A detail should also be provided for the super-elevated cul-de-sac.

CDG Response: Cul-de sac roadway sections are typically not required, however, the final plans will include a typical section.

Sheet 13, Definitive Subdivision & Easement Plan

1. A note in the plans state that the information shown on the plan with respect to lotting, easements and monumentation shall be considered draft.

CDG Responses: Acknowledged. Final plans will include final lotting, easement and monumentation notations prepared by a professional land surveyor.

2. The engineer should address why the septic reserve area should not also be included in the easement.

CDG Response: The final plans will include the reserve area within the utility easement area.

3. The engineer should address whether the drain on lot 7 should be included in an easement.

CDG Response: The final plans will include an easement area for the yard drain and associated piping on Lot 7.

Sheets 14-18, Construction Details

1. It would appear that the typical landscape wall detail on sheet 15 applies to the retaining walls shown on the plans. A fence is depicted on the detail, but not on the plans. The engineer should address the location(s) and material for the fence.

CDG Response: The final plans will depict a post and rail fence on walls 4' and taller in height.

2. A roadway subdrain detail is provided on sheet 15. It would be helpful to depict the location(s) for the subdrain on the plans.

CDG Response: A roadway subdrain is not required for this project, therefore, the final plans will not include a subdrain detail.

Sheet L-1, Landscape Plan & Details

1. The plan addresses tree plantings only. No shrubs, perennials, etc. are addressed.

Huntress Response: A liberal mix of evergreen and ornamental trees were depicted on the landscape plan. There does not appear to be a requirement to indicate shrubs, perennials, etc., on individual house lots.

2. Several of the trees may be planted in areas where ledge was removed. The board may want the landscape architect to address whether special planting requirements (e.g. depth of soil media) are needed in these areas.

Huntress Response: The final plans will include a note to field adjust tree planting locations as required to achieve suitable soil depth of 36".

3. The plantings between lots 4/5 are also where a transformer is proposed. The landscape architect may want to relocate the plantings accordingly.

Huntress Response: Transformer locations are shown for convenience and are determined by the utility pursuant to their regulations. The final plans will include a note to indicate plantings shall be relocated as required pursuant to transformer locations as determined by the utility company.

4. The board may want the applicant/engineer to address whether each lot will have sprinkler systems for the landscaping.

Huntress Response: Individual irrigation systems are not typically installed by the developer and therefore not proposed.

5. As noted previously, public access is proposed to the open space, but no provisions for parking are shown on the plan.

Huntress Response: See response to Sheet 8 Layout Plan, #1.

OSRD Regulations

1. As noted above, the engineer needs to provide additional data, and perhaps rescale, the yield plan.

CDG Response: See previous response to previously noted comment.

2. The bylaw requires the landscape to be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal. As noted previously, the plans appear to allow the site contractor to clear cut the site area. The board may want larger trees, and those along Coleman Road, to be shown on the plan.

CDG Response: See previous response to previously noted comment.

3. As noted previously, the bylaw “encourages” the use of low impact design relative to drainage. The proposed street has granite curbing and a closed drainage system. The board may want the engineer to address whether more low impact measures have been considered.

CDG Response: See previous response to previously noted comment.

Stormwater Management Report

1. The operation and maintenance plan appears to indicate that this will be a privately maintained project, likely with a homeowner’s association. The board may want to make that a condition of any approvals.

CDG Response: The roadway is proposed to be a public right of way, therefore, the Operation and Maintenance plan incorrectly referenced the same and will be updated in the final submission.

2. The plan refers to designated snow storage areas but, as mentioned above, they do not appear to be shown on the plans.

CDG Response: See response to Sheet 9 Grading & Drainage Plan, #11.

Town of Newbury Stormwater Management, Illicit Discharge and Erosion Control

1. The engineer should address whether the project plans comply with Part II, (1), (r) relative to location and results of percolation and deep test pits. Additionally, as noted previously, proof data for lots 3 and 4 are not provided on the plans.

CDG Response: The location and test pits as performed by a licensed soil evaluator and witnessed by the peer reviewer were field located by a license surveyor and depicted on the plan. See previous response to previous comment pursuant to Lot 3 and 4 soil data.

2. The engineer should address whether the plans comply with Part II, (1), (u) relative to location, species and diameter of all trees 12” in diameter or greater.

CDG Response: As submitted, the project is seeking a waiver to locate trees over 6” in diameter due to the number of trees (hundreds) within the limit of work. As such, this waiver would obviously include trees 12” in diameter or greater.

CIVIL DESIGN GROUP, LLC

ENGINEERING. LAND USE. PLANNING. PERMITTING.

21 High Street, Suite 207
North Andover, MA 01845
Tel 978.794.5400
www.cdengineering.com

We trust the responses provided above sufficiently address the comments issued by the peer reviewer. Please feel free to contact our office if you have any questions or require further clarification.

Sincerely,

CIVIL DESIGN GROUP, LLC



Philip R. Henry, P.E.
Principal

cc. Mr. Thomas Zahoruiko, Owner
Enclosures