



September 3, 2020

Truro Zoning Board of Appeals
c/o Ms. Barbara Carboni, Esq., KP Law, P.C.
101 Arch Street, 12th Floor
Boston, MA 02110

Re: Third Peer Review
Cloverleaf Parcel
Highland Road
Truro, Massachusetts

Dear Ms. Carboni and Board Members:

The Horsley Witten Group, Inc. (HW) has reviewed the supplemental information supplied by J.M. O'Reilly & Associates (Applicant's Engineer) on August 14, 2020 regarding the Comprehensive Permit submitted by Community Housing Resource, Incorporated (Applicant) for the residential redevelopment of the Cloverleaf Parcel located on Highland Road in Truro, Massachusetts.

The materials provided by Mr. O'Reilly answer most of the questions raised in our previous letters. There is one larger remaining issue that has arisen during the evaluation of the project. It involves the coordination between the Town's installation of the potable water line across the property and the construction of the overall housing project. It is HW's understanding that the Town will be clearing and grading a significant portion of the property as the water line is installed. This work needs to be closely coordinated with the housing construction in terms of timing and in terms of the erosion and sedimentation control measures that will be used for both projects.

It would be best if the two projects used the same erosion and sedimentation control plans for the site to make sure that the water line construction doesn't impact areas where the proposed stormwater management facilities for the property are located. There should also be close coordination on the timing of the two projects. If there are more than two weeks between the completion of the town's waterline work and the initiation of the housing construction, all the disturbed areas on the site will need to be stabilized, likely planted with grass, to prevent erosion of the many steeply sloped areas of the site. There will also need to be some regular inspections of the property to ensure that any concerns are identified and addressed.

Further comments on this issue and on the recent information submitted by Mr. O'Reilly are provided below. The comments are organized to follow the information presented in Mr. O'Reilly's memorandum dated August 14, 2020 that provides his responses to our previous letter.

Wastewater System Design and Operation

Page #1 – Contingency Plan - The contingency plan should specify when the Board of Health will be notified of an effluent sample that exceeds a total nitrogen concentration of 10 mg/L. HW recommends that the Board be notified within 2 business days of receipt of the laboratory report. HW also recommends that the Applicant provide information on the regular operation and maintenance (O&M) requirements for the septic system components so that the Town is aware of them.

Page 1 – Groundwater Monitoring – Samples from the monitoring wells should be analyzed for the nitrogen series compounds and laboratory reports should be provided to the Board of Health within a specified timeframe. HW recommends that they be provided within two weeks of receipt by the owner/operator.

Page 4, Item #4 – Pipe Sizes; Plans submitted to the Board of Health will need more detail, including pipe slopes and lengths. The locations of cleanouts will also need to be shown on the final plans.

Page 4, Item #5 – Setbacks: Additional notes/calculations have been added to the plans that address the separation distance for drywells. The Applicant may wish to consider relocating the drywell for building 22-24 away from the 2:1 slope for ease of construction.

Page 4, Item #6 – Groundwater: Comment addressed.

Page 5, Item #8 – Operation and Maintenance: See contingency plan discussion above.

Specific Comments on Stormwater Management Facilities

Page 5, Item #1 - A Stormwater Management Form has been provided. The Applicant will also provide a stamped version of this form when filing for the SWPPP.

The Applicant indicated that the swales will remove 70% of the Total Suspended Solids (TSS) in the stormwater runoff. However, details have not been provided for the cross section of these swales and it does not appear that all runoff from impervious surfaces near building 22-24 along with that from the gravel access drive has adequate pretreatment. Additionally, no sizing calculations for the rip rap apron have been provided to confirm that the proposed dimensions are adequate.

A detailed HydroCAD report was provided for review. It would be helpful if a summary table and/or a narrative was provided to assist in the review of this lengthy document. This would be helpful to confirm that the runoff is managed to ensure that post development runoff volumes leaving the site are less than the current pre-development volumes. This is needed for areas where stormwater is collected and treated as well as for areas such as those behind many of the homes, where no stormwater treatment is proposed. Additionally, there appear to be outlet pipes from the leaching facilities (30-foot long, 2-foot diameter pipes) that do not appear to be indicated on the plan.

Page 5, Item #2 and Item #3 - It is still unclear how runoff from the lawn areas outside of the pavement will be managed. A portion of the gravel secondary access is now included in the drainage area, but it appears that a large portion of this will flow directly into the swale without any pretreatment. HW recommends that the Applicant also confirm if any off-site areas will be draining onto the site and captured within the drainage system proposed.

Page 6, Item #4 Roof Runoff – HW recommends including an overflow for the downspout near the building.

Page 6, Item #5 50 Year Storm- Addressed.

Page 6, Item #6 Sheet Flow - Addressed.

Page 6, Item #7 Water back up into the catch basin – Addressed.

Page 7, Item#10 – Elevations - The elevations for Drainage Facilities 2 and 3 should be reviewed (the detail does not match the plan). Additionally, the Applicant should confirm that there is adequate space between the pipe invert and rim elevations on all structures to ensure that construction is feasible.

Page 7, Item #11 – Benches – Addressed.

Page 7, Item#12 – Barriers – HW recommends adding a barrier to the edge of pavement/swale for drainage facility #4 to prevent cars from driving into the swale.

Comments on Other Utilities

Page 7, Item #2 – Other Utilities - HW recommended that the Applicant confirm that there is adequate cover over the leach field to allow the light pole installation (pole base depth, footing, wires). The Applicant has responded that there will be 3 feet of cover over the leach field with wires proposed 18" below ground. However, given that the land surface over the leach field has a slope it may not be feasible to keep the wires 18" below ground if they cross the fields. This is a detail that can be worked out in the final design submitted to the Board of Health.

Other Site Design Comments

Page 7, Item#1 – Phasing - HW recommended that a phasing plan be provided for construction. The Applicant states that a formal phasing plan will be submitted once other permits are obtained. As mentioned above, the phasing of this project relative to the installation of the potable water line needs to be carefully coordinated so the site is not cleared and left vacant for more than two weeks without proper stabilization of the disturbed areas.

Page 7, Item #2 – Erosion Control Plan - The proposed plan addresses HW's previous comments. As mentioned above, this plan should be coordinated with the plans for the water line installation. The site disturbance during that project should be subject to the same, or similar plan for erosion and sedimentation control.

Page 7, Item #3 – Addressed.

Page 7, Items #4-10 – Addressed.

Page 7, Item#11 – Snow removal. The Applicant has described several areas for snow removal including the areas to the west of the entrance drive, to the south of units 2-3, at the corners of building #24, in front of the rear units, to the north of the rear drainage swale and around the visitor parking within the central common area. Many of these areas appear to be in the same locations as walkways, steep slopes (2:1) and the emergency access drive. HW recommends that areas for snow removal be shown on the plan. The driveway is fairly narrow and there is not a lot of area outside of the driveway and parking spaces that is not occupied by stormwater or wastewater systems.

Page 9, Item 15 – Landscape Plan - The Landscape Plan indicated that several trees/shrubs will be planted along the 2:1 slopes throughout the property. HW recommends additional planting details be added to the final plan set. Additionally, the proposed planting material in the area designated "VS" for vegetated swale should be specified for quantity and types of plants proposed.

Stormwater Management During Construction

The project involves a significant amount of earthwork with many steep slopes on a relatively small site. While the applicant has provided plans showing where erosion control measures will be installed there are no details on how runoff will be managed during construction.

The applicant should provide a plan showing how stormwater will be managed during construction. This is needed to confirm that stormwater will not create erosion problems on the site and that runoff will not be discharged in areas where the permanent stormwater facilities will be built. A proposed construction entrance is currently shown on the plans as well as inlet protection for catch basins once they are installed. However additional detail on where runoff will be directed and how erosion will be prevented, such as through the use of sediment traps or other measure,s is needed for the construction phase of the project. This will need to be coordinated with the water line construction as well.

Additional Comments

It appears that not all parking spaces have been graded and there are dashed lines that indicate double-stacked overflow spaces. HW recommends that the Applicant verify that all parking spaces are feasible and meet the minimum requirements (handicapped spaces as well).

The Applicant intends to complete soil testing in the proposed stormwater management areas once access is available. If the soil type differs from what has been assumed, the drainage system may need to be redesigned.

Sincerely,

Horsley Witten Group, Inc.

A handwritten signature in blue ink, appearing to read "Mark Nelson".

Mark Nelson, P.G.
Principal