

Engineering has reviewed the plans for the Coastal Finance Retail Center project submitted January 3, 2018 and have the following comments:

Stormwater Management Permit Application Form

1. III. Contact Information; Line items #1 and #3: John Renfrow is listed twice, as the Applicant in #1 and again as another contact in #3. Please revise.
2. IV. Project Information:
 - a. Line Item #14: The pond drainage area does not list any square footage for off-site drainage area, but the impervious area breakdown includes 600 square feet of off-site impervious surface area. The drainage area of the SCM does not appear to include anything that could be considered as off-site. Please remove the off-site impervious area (600sf) from the BMP #1 breakdown under line item #14.
 - b. Update the Percent Impervious Area (%).
 - c. Line Item #15 can be left blank once the 600sf of impervious is removed from Offsite (sf) in line item #14.
3. VII. Property Owner Authorization: Section III (2) was not completed as the applicant is the property owner, therefore, this section is not to be completed.

Stormwater-Erosion Control Narrative

4. Project Narrative: HSG for existing soils appears to be incorrect. Seagate soils are 'B' soils, not 'A'.
5. Wet Pond Routing:
 - a. Summary for Subcatchment 1S: Pre-Development:
 - i. Section 18-761 (1): the city considers pre-development state to be woods in good condition for the purposes of determining runoff coefficients. See Table H-2 in the Technical Standards Manual for curve numbers. Use woods in good condition for the pre-development state. A CN of 39 is acceptable for the A soils, not for the B soils.
 - ii. The soils report shows both 'A' and 'B' type soils within the parcel. The pre-development curve number should reflect this. A CN of 39 is acceptable for the A soils, not for the B soils.
 - a. Summary for Subcatchment 2S: Post Development:
 - i. Make sure that the correct curve number is used for land uses in the 'B' soils group.
6. 25-year Hydraulic Grade Line Calculations:
 - a. Technical Standards require that pipe systems be designed for the 10-year design storm event and analyzed for the 50-year design storm event to check the system for flooding.
 - b. An appropriate tailwater condition does not appear to have been used for HGL determination. The permanent pool elevation is not considered an appropriate tailwater condition.

Supplement

7. General MDC #6: A drawdown orifice is not an acceptable method to dewater the SCM for maintenance. The orifice will only draw the water down to the permanent pool. Typically, a pump is provided by the owner to pump the SCM down to the pond bottom for maintenance to occur.
8. Wet Pond MDC:
 - a. #2: Elevation of the top of the temporary pool is incorrect. Plans show the temporary pool to be at elevation 35.00'.
 - b. #3: depth provided for sediment storage is 12 inches instead of 6 inches.
 - c. #5: Depth of forebay at entrance should exclude sediment storage. Enter 42" instead of 54".

- d. #5: Enter '0' for depth of forebay at exit. If the form won't accept zero, write it in.
- e. #6: The elevation of the bottom of shelf is incorrect.
- f. #6: Slope of the vegetated shelf is incorrect.
- g. #7: Drawdown of the temporary pool (weir at elevation 35') is incorrect.

Design Plans

- 10. All plan sheets must have the Stormwater Management Approval Block.
- 11. C-2.0:
 - a. Impervious Information needs to be updated. This sheet was not submitted as part of the resubmittal package.
 - b. The existing curb inlet needs to be shown on the Site Plan and incorporated into the new curb and gutter being constructed along S. Kerr Avenue.
 - c. If the NCDOT driveway turnout is desired, please submit Autoturn vehicle turning analysis showing the largest vehicle accessing the site. Ingress and egress must demonstrate that the vehicle can maneuver without the tires leaving the turnout and rutting up the pervious area around it.
 - d. The sight triangle hatching is interfering with the linework for the sidewalk connection. Please modify the hatching in order to see the connection.
 - e. Key Notes: Make sure the detail sheet callouts are correct.
 - f. Update this sheet to match the site plan on sheet 3.1 that was resubmitted on 1/3/18.
- 12. C-3.0: This sheet was not part of the resubmittal and will need to be submitted for review to ensure design accuracy.
- 13. C-3.1
 - a. The drainage area map provided in the calculations does not appear to agree with the grading. Please verify.
 - b. OHE power pole is located within the proposed sidewalk. If the sidewalk is bent around the power pole and is outside of the public r/w, a public pedestrian access easement will be required. The water meter must be relocated to stay out of the sidewalk instead of the sidewalk being rerouted to avoid it.
 - c. Provide adequate spot elevations along the proposed S. Kerr Avenue sidewalk to show ADA compliance and constructability.
 - d. Please address how the roof runoff will enter the stormdrain system.
- 14. C-4.0: Update the utility plan and resubmit.
- 15. C-5.2 & 5.3: The NCDOT driveway turnout detail is on both sheets.
- 16. L-1.0:
 - a. There still appears to be new plantings in close proximity to and on top of the pond outlet pipe. Please relocate plantings.
 - b. Provide the 5' landscape zone around the perimeter of the wet pond per the technical standards. The landscape zone cannot overlap the 10' maintenance access easement.

Please submit one complete set of plans, narrative, application, supplement, calculations and any other supporting documentation to Engineering for additional review. Please call or email if there are any questions. Thank you.