

Engineering has reviewed the plans for the Valvoline Instant oil Change project submitted December 12, 2017 and have the following comments:

Stormwater and Erosion Impact Analysis

1. Small Stormwater Wetland Water Quality Calculations:
 - a. The percent impervious does not match the application. Design Storm Storage Volume may need revising.
 - b. It would appear that the minimum and maximum depths of the Forebay/Deep Pool Bottom Elevations should be reversed. The maximum should be 14.00' and the minimum is 15.50'?
 - c. Based on the Section A-A: Wetland on sheet C5.1, the Shallow Land Elevation should be 17.00'?
 - d. Were the square footages of the wetland areas derived from the wetland surface area (surface area of the wetland at its temporary ponding depth)? See MDC 3: Surface Area and MDC 6 thru 9.
2. Proposed Water Quality Volumes:
 - a. Deep Pool 1 shows a 14.00' contour elevation and square footage. Sheet C5.1 only shows a 14.50'.
 - b. Why does Forebay 1 and Deep Pool 1 depths stop at 15.50'? Figures 2 and 3 in the Stormwater Wetland Chapter of the Stormwater Design Manual illustrate them to be from the sediment storage to the permanent pool?
 - c. The volumes do not address sediment storage. Sheet C5.1 does not address sediment storage either.
 - d. The permanent pool in the Main Wetland Area has a contour area of 2,008sf, yet the Small Stormwater Wetland Water Quality Calculations show a surface area of 1,800sf. Please verify.
 - e. The Total Wetland does not appear to match the cumulative areas of the Forebay 1, Deep Pool 1 and the Main Wetland Area (No Deep Pools or Forebays).
 - f. Again, were the surface areas of the wetlands components determined from the wetland surface area as defined in the Design Manual?

Stormwater Wetland Supplement

3. The BUA breakdown needs to match application.
4. Minimum volume required may need revising.
5. General MDC #6: The drawdown orifice will not completely drain the wetland for maintenance. A pump provided by the owner is an acceptable method of dewatering the SCM.
6. General MDC #7: Since the wetland will receive runoff predominantly from sheet flow during and after construction, it is recommended that the wetland be cleaned out after construction to ensure that it is at its design elevations for best post-construction operation.
7. SW Wetland MDC #6 thru #9: Recheck for accuracy based on earlier comments.

Plans

8. C2.0: The Oleander driveway appears to be less than 12 feet in width at the right-of-way. It looks as if there is a pinch point between the median and the end of the curb and gutter where the width may be less than 12 feet. Revise if less than 12 feet. Provide Autoturn diagram showing that appropriate vehicles can exit through the Oleander right out.
9. C3.0: Can the proposed junction box be relocated outside of the Willow Woods driveway flare? Technical Standards state that no driveway shall be permitted to conflict with catch basins, etc. (Table 5, Note #5, page 7-11).
10. City Standard detail SD 15-16 needs to be added to the plan set. Landscaping around the wetland shall comply with this detail.

11. Show compliance with technical standards 'g' (Landscaping) and 'h' (Access) found on page 5-8 of the Technical Standards and Specifications Manual.
12. Remove the CFPUA sheets from the plan set. They are not needed.
13. Provide NCDOT standard detail(s) for the construction of the monolithic curb.

Please submit the revised calculations, supplement, plans and any other supporting documentation to Engineering for additional review. Please call or email if there are any questions. Thank you.