

Engineering has reviewed the plans for the Upper Downtown Food and Beverage Complex TR4 Parking Lot project submitted April 22, 2016 and have the following comments:

Stormwater Management Permit Application Form

1. Please add the applicant's printed name to the Applicant's Certification on page 7. When delivering next submittal to our Engineering office, the application can be completed at that time.

Sand Filter Supplement

2. Storage Volume; Volume contained in the sedimentation basin and on top of the sand filter: Verify 12,449.50cf.
3. Storage Volume; Top of sand filter/grate elevation: Verify 4ft. Should be 8ft per the plans?
4. Storage Volume; Weir elevation (between chambers): Verify 5ft. Should be 7.5ft per the plans?
5. Please provide soils report verifying seasonal high water elevation determination.
6. Type of Sand Filter: Please complete SHWT elevation and Clearance once SHWT elevation is determined.

Sand Filter TR-4

7. Please change Adj. 1.5" volume header under Maximum Head on the Sand Filter and Sedimentation Basin to Adj. 1-yr Pre/Post volume.
8. Verify bottom of lid elev (bl).
9. Verify Maximum Head and Average Head per section 11.3.5 Length, Width and Geometry in the BMP manual.
10. Change surface area equation (Af) variable from 1.5" volume to 1-yr pre/post volume under Minimum Sand Filter Basin Surface Area (Af)

Construction Plans

11. Please revise the system such that the BMP is designed to be off-line as required per the BMP manual, meaning only the design volume of the stormwater flow is sent into the sand filter and the excess is diverted. The current location of the emergency spillway means this BMP is on-line as the sand filter will receive all stormwater flows regardless of the intensity. The flows beyond the design volume will still enter the sand filter in order to pass over the spillway. See Sections 11.3.4 and 5.3 of the BMP manual for more information. Can the emergency spillway be constructed in the forebay and the
12. Please make sure the underdrain system meets all requirements per Section 5.7 of the BMP manual. Submit any calculations for the underdrain system.
13. Please lower the invert elevations of the 6" PVC conveyance pipes to an elevation of 4.0' to eliminate the erosion of the sand media that will occur as the runoff enters the sand filter from 1 foot above the sand media. An energy dissipater of some type may still need to be incorporated to reduce erosion at the invert of the PVC pipes to eliminate the creation of a scour hole.
14. The ABC thickness in the pavement section (6") on sheet 2 is different than the ABC thickness in the parking area section (8") on sheet 4. Are these meant to be different?

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