



FUSS & O'NEILL

August 5, 2015

Richard Harris, AICP
Town Planner
Town of South Hadley
116 Main Street
South Hadley, MA 01705

RE: Peer Review of Stormwater Management
Redevelopment - 548 New Ludlow Road
Fuss & O'Neill Reference No. 20150214.P10

Dear Mr. Harris,

Fuss & O'Neill has conducted a review of the documents submitted by Quality Fleet Services, Inc. related to a redevelopment project located at 548 New Ludlow Road. The redevelopment includes the construction of a 14580 square foot building, paved parking area, a driveway entrance, a stormwater management system, and other associated site improvements. We have conducted of the following materials as they relate to stormwater water management.

Materials Reviewed

1. Document titled, "Stormwater Management Plan – Narrative."
2. Letter addressed to Board Members, regarding Site Plan Approval for Site Re-Development, dated June 16, 2015, prepared by Sherman & Frydryk, LLC.
3. Document titled, "Operation & Maintenance Plan," dated June 10, 2015.
4. Report titled, "Project Manual & Drainage Report," dated June 2015, prepared by Sherman & Frydryk, LLC.
5. Site Plans titled, "Quality Fleet Services, Inc., Site Re-Development, 548 New Ludlow Road, South Hadley, MA" sheet 1 through 4, dated 6/10/15, prepared by Sherman & Frydryk, LLC.

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Project Manual & Drainage Report

1. The stormwater calculations utilize a soil type of A, however it appears the majority of the site is located with D soils. Per the most recent NRCS Soil Survey and the provided soil information, the proposed project appears to be located within Swansea Muck, gravel pits, and Windsor Loamy Sand. The Swansea Muck has a soil classification of B/D. Gravel pits do not have a soil classification; in good engineering practice a conservative soil classification similar to the surrounding soils would be used. The Windsor Loamy Sand has a soil classification of A. In review of the mapping it appears a majority of the site, including the infiltration basin, is located within Swansea Muck and gravel pits, not Windsor as indicated in the Project Manual & Drainage Report. Please review, clarify and revise calculations, for example curve numbers and infiltration rates, as required.
2. Both the existing and proposed HydroCAD Models use what the applicant is calling theoretical ponds. The ponds are proposed with an excessive cumulative storage volume of 1,089,000 cubic feet for each pond. It is very difficult to determine the location of these ponds and how the volumes were determined; the site plans do not show any existing ponds. Please clarify.
3. There appears to be a discrepancy between the existing and the proposed HydroCAD Models. The existing Area 101 and the proposed Area 201 are located in similar areas. Existing Area 101 does not model any brush ground cover; however the proposed Area 201 models an area of brush. The existing site plan does not appear to show any brush located within this area and the proposed site plans do not show any proposed brush areas. Please clarify the addition of brush to this area. Review and revise as required.
4. There appears to be a discrepancy between the existing and the proposed HydroCAD Models. The existing Area 102 and the proposed Area 202 are located in similar areas. There appears to be an increase in brush ground cover between the existing and proposed models. In review of the proposed site plans, it appears the project would maintain or reduce the amount of brush in the areas of Area 102 and Area 202. Please clarify, review and revise as required.
5. It is difficult to determine the limits of the existing gravel and the limits of the existing gravel to remain. To better understand the reduction in gravel as the applicant has stated in the drainage report, please provide limits of the existing gravel and the limit of this existing gravel to remain.
6. The proposed HydroCAD model of the infiltration basin does not match the grading as depicted on the Site Plan. The applicant should consider revising the grading in the areas of the 249 contour to better depict how the infiltration basin was modeled.

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7. The top weir elevation of the proposed infiltration pond does not match between the proposed HydroCAD model and the Site Plans. The basin outlet control detail provided on Sheet 3 of the site plans shows the top of the embankment at 249.75; however the proposed HydroCAD model has the top weir elevation modeled at 249.35. The two elevations should match as the top of the berm is the top of the weir. Please review and revise.
8. The Operation and Maintenance Plan (O&M) does not provide a schedule for the sediment basin. The sediment basin should be included within the O&M. Please provide the required operation and maintenance for the sediment basin.
9. The Operation and Maintenance Plan (O&M) does not provide a schedule for the sediment forebay. The forebay should be included within the O&M. Please provide the required operation and maintenance for the forebay.
10. The Operation and Maintenance Plan (O&M) does not provide a schedule for the grass swale. The grass swale should be included within the O&M. Please provide the required operation and maintenance for the grass swale.
11. According to the Calculations for Stormwater Policy Standards located in Appendix F, under Standard #3 the applicant appears to have provided the Water Quality Volume required by Standard #4 in lieu of the Required Recharge Volume (Rv) required by Standard #3 of the Mass Stormwater Handbook.
 - a. Per the Mass Stormwater Handbook, the Rv is calculated by multiplying the impervious area by the target depth factor (F) for the soil type(s) within the project. As required by Standard #3, please provide proper Rv calculations and demonstrate the infiltration basin has been designed to provide the Rv.
 - b. Revise the Water Quality Calculations to demonstrate, under Standard 4, the infiltration basin has been designed to provide the Required Water Quality Volume.
12. According to the Calculations for Stormwater Policy Standards located in Appendix F, under Standard #3 the draw down time was calculated incorrectly. Per the Mass Stormwater Handbook, the drawdown time should be calculated using the calculated Rv.
13. The project is considered a land use which as a higher potential pollutant loads. Per the Mass Stormwater Handbook, 44% TSS pretreatment must be provided prior to discharge to the infiltration basin. Adequate pretreatment has not been provided. Please provide adequate pretreatment.

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Stormwater Management Bylaw

14. Per Section 16-4, 6, D, of the Stormwater Management Bylaw, final inspection shall include a full TV inspection of the stormwater pipes installed. The applicant has requested a waiver due to the few proposed pipes and the fact that the facility will remain privately owned, will be maintained by the applicant, and will not be the responsibility of the Town of South Hadley. Fuss & O'Neill agrees with the applicant that there does not appear to be any proposed stormwater piping within the project and the project will remain privately owned and the responsibility of the owner. It is the discretion of the Planning Board to allow a waiver.
15. Per Section 16-5, 1, of the Stormwater Management Bylaw, a Stormwater Management and Erosion and Sediment Control Plan must be prepared. The applicant has requested a waiver and the erosion sediment control measures, and details are provided within the site plans. Some of the required information within this section has not been included on the site plans. The required information should be provided on either a standalone sheet or with the plans set as long as it is legible.
16. Per Section 16-5, 1.h. of the Stormwater Management Bylaw, the proposed limit of disturbance shall be provided on the plans. The limit of disturbance does not appear to have been provided on the plans. Please provide the limit of disturbance.
17. Per Section 16-5, 1.k, of the Stormwater Management Bylaw, a description of the wetlands located on-site or adjacent to the site shall be provided. This information has not been included within the materials provided to Fuss & O'Neill. A description of the wetlands must be provided.
18. Per Section 16-5, 1.q.i, of the Stormwater Management Bylaw, cross sections of drainage swales and their methods of stabilization shall be provided. A detail of the grass swale has not been provided. Please provide a detail of the grass swale.
19. Per Section 16-5, 1.u, of the Stormwater Management Bylaw, a landscaping plan must be provided. A landscaping plan has not been provided. Please provide a landscaping plan.
20. Per Section 16-5, 1.x.i, of the Stormwater Management Bylaw, material stockpile locations shall be provided on the plans. Material stockpile locations have not been provided on the plans. Please provide the locations.
21. Per Section 16-6, H, of the Stormwater Management Bylaw, runoff from parking lots shall be treated by an oil and water separator or other controls to remove oil and sediment. A

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stormwater treatment device that removes oils has not been provided for the paved parking area. A stormwater device that treats oil shall be provided for the paved parking area.

Site Plans

22. Sheet 2 of 4, Site Plan, lists the bottom of the pond as with a F.G. equal to 247.00. The details and the calculations have the bottom of the pond at 248.00. Please review and revise.

Stormwater Management Standards

23. Standard 1: No new untreated discharges have been created. Addressed.
24. Standard 2: Above comments may require revisions to the peak discharge calculations
25. Standard 3: Above comments may require revisions to the required groundwater recharge and 72 hour draw down calculations.
26. Standard 4: Above comments may require revisions to the required water quality volume and the TSS removal.
27. Standard 5: The project is considered a land use with as a higher potential pollutant loads. Per the Mass Stormwater Handbook, 44% TSS pretreatment must be provided prior to discharge to the infiltration basin.
28. Standard 6: The site does not discharge to critical areas. Not applicable.
29. Standard 7: The project is a redevelopment project. The applicant has stated the project meets new development standards; however comments above will require changes to meeting the standards.
30. Standard 8: Comments above require revision to the erosion and sedimentation.

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31. Standard 9: Comments above require revision to the O&M.

32. Standard 10: An illicit discharge state has been provided. – Addressed.

The above comments are based on plans, documentation and calculations received at the time of review. Any revision to the plans, documentation and calculations will need further review. Please contact our office should you have any questions.

Sincerely,

Reviewed by:



Aimee Bell
Project Engineer



Eric M. Bernardin, P.E., LEED-AP
Vice President

c: Jim Reidy, DPW