

# Land Design Solutions

Site Planning Land Planning Landscape Architecture

February 19, 2013

Christopher Baldwin, P.E.  
District Engineer  
CCSWCD  
35 Main Street, Ste. 3  
Windham, ME 04062

**RE: Old Barn Estates  
Stormwater Management – Response to Review Comments.**

Dear Chris,

We have reviewed your comments and offer the following response and plan revisions. Your comments are in italics with responses below in bold print.

## Stormwater Management Plan

1. *AP3: Pond C3.1 is modeled as a 36" culvert but the plans show a 30" culvert.*  
**The pipe is intended to be a 36" cmp culvert. The leader note on sheet C-201 has been corrected to indicate a 36" pipe.**
2. *Appendix C: Please provide the entire table of BMP Treatment Calculations. My copy was missing several columns due to a page cut-off.* **Appendix C has been sent under separate cover.**
3. *Appendix D: Inspection and Maintenance Plan*
  - *Reporting on annual BMP inspections to go to the Town of Falmouth DPW as well as to Portland.* **The I&M Plan has been adjusted to require annual reports be provided to the Town of Falmouth Department of Parks and Public Works (DPPW).**
  - *Extend right of entry to the Town of Falmouth.* **The I&M Plan has been adjusted to allow right of entry to the DPPW.**
  - *UDSF's – Identify what to do if the filters are rapidly releasing flow (e.g. not holding onto to it for at least 24-hours).* **UDSF's – Identify what to do if the filters are rapidly releasing flow (e.g. not holding onto to it for at least 24-hours).** **Based on our experience in designing similar UDSF's, the filter media specified in the Maine DEP BMP manual provides sufficient drainage characteristics to drain the pond within 24 to 72 hours. As the UDSF's have been designed in accordance with the BMP manual and the DEP has never requested that a flow limiting device be installed on an UDSF that we have designed, we do not believe a flow limiting device will be necessary for these filters. If, for an unforeseen reason, the UDSF's drain too quickly, we will revisit the design at that time.**

- *How do you plan to avoid snow storage in UDSF T2? It seems like a natural place for the snow removal folks to dump snow as well as road sand and salt. This may affect the ability of the filter to establish/retain vegetative growth. Approximately 15 feet of 7.5:1 slope is provided between the edge of pavement and the bottom of the UDSF to allow for snow storage. We have also selected a grass mix which is comprised of a mix of grass species which tolerate inundation, drought and road salt. Obviously they do not all tolerate all three of the conditions mentioned above, but between them we are confident we can establish and retain vegetation in the underdrained soil filter basins. The seed mix has been added to the UDSF detail.*

### Construction Drawings

1. *Sheet C-201: 30" or 36" culvert? Please provide documentation/design detail for this culvert and its apparent sizing. It is located within a stream? Is the culvert meant to provide fish/aquatic life passage?*

**The plan has been updated to indicate the installation of a 36" culvert. As discussed with Mr. Baldwin, the pipe is located at the end of a small stream discharging to a wetland. The pipe invert will be buried 6" to provide aquatic life passage. The initial stream investigation by MDEP discovered a couple of insect casings and a leach in the channel.**

2. *Sheet C-201: Specify protection for CB #1 and #2. Are these catch basins meant to provide pretreatment for the UDSF? If so, they should be outfitted with sediment barriers during construction and runoff should not be directed to the UDSF until drainage areas above are stabilized. The plans should also identify the requirement for the Contractor to clean out catch basin and drain lines immediately following construction.*

**Sheet C-201 has been updated to indicate that temporary inlet protection shall be installed immediately following installation of the catch basins and that the catch basins and pipes shall be cleaned immediately following construction. (See notes 15 and 16).**

3. *Sheet C-201: UDSF T2: How does this filter work with half of it not containing media? The first flush will spread itself over the entire filter area not just at the media end. Should you consider a partition in the filter (berm) to keep the smaller/first flush runoff in the media portion of the filter? Also, as we have previously discussed, the District has some concerns over whether this UDSF will be used for snow storage and the ability to establish and maintain grass growth. Please provide a proposed seed mix for the UDSF's. As discussed with Mr. Baldwin on the phone, the liner installed with the UDSF will force all runoff to drain through the filter media. As described above, we have selected a grass mix which is comprised of a mix of grass species which tolerate inundation, drought and road salt. Obviously they do not all tolerate all three of the conditions mentioned above, but between them we are confident we can establish and retain vegetation in the underdrained soil filter basins. The seed mix has been added to the UDSF detail.*

4. *Sheet C-201: What's happening on Lot 9? It appears to be very busy with BMP's. With the T1 filter clearly on this lot's property, will the owner be required to provide maintenance or will their deed allow access for maintenance/repair. The portion of the lot containing the BMP's has an easement for maintenance purposes. The party responsible for the maintenance is the Homeowners Association. The easement boundaries are depicted on the Subdivision Plat recording plan 1 of 2, S-100 Subdivision Plan recording plan 2 of 2 and C-101 Lot Development and Landscape Plan.*

5. Sheet C-202: Show the three foot sumps for the proposed catch basins as detailed on sheet C-303. **Sheet C-202 has been updated to show 3' sumps on all catch basins.**
6. Sheet C-202: *CMP sizing noted as 36" here.*  
**The pipe is intended to be a 36" CMP.**
7. Sheet C-300: *Note D5 – Indicate contractor should run dewatering through a DirtBag or similar sediment barrier before discharge to wooded area.*  
**The note has been updated on sheet C-300.**
8. Sheet C-300: *Note E1 – Reporting to be done by Contractor if they are State certified in Erosion and Sedimentation Control or by an independent third party inspector.*  
**The note has been updated on sheet C-300.**
9. Sheet C-300: *Note E3 – Owner/contractor shall retain design engineer or qualified third party to inspect/document construction of the UDSF's.*  
**The note has been updated on sheet C-300.**
10. Sheet C-300: *Please provide an overall sequence for construction indicating sequence for installing E&SC measures and emphasizing protection of UDSF's until contributing drainage areas are stabilized.*  
**A construction sequence has been added the plan.**
11. Sheet C-300: *I/O Protection detail updated with 36" culvert data if appropriate.*  
**The I/O protection detail has been updated to provide data for the 36" culvert.**
12. Sheet C-302: *Spillway detail – please identify 2H:1V slope as requiring EC blanket.*  
**The information has been added to the detail.**
13. Sheet C-302: *Table 7-2 – Delete Option 2 Note? Table 7-3 – Delete Table?*  
**The "option 2" note has been removed from Table 7-2. Table 7-3 has not been deleted because the material is referenced in table 7-2 (sand).**

The revised plans are attached for your review. Please let me know if you require any additional information or have any additional comments.

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