Suggestions to Engineers for Improving Design of Conservation Plans To Allow for Improved Construction of Projects in Fairfax County and Other Municipalities Employing Phase 1 and 2 Erosion & Sediment Control Procedures.

1. Does Phase 1 E&S account for enough area required for clearing and grading of topsoil stockpile areas, cuts, and fills required to build sediment basins, traps, & berms on slopes, accommodate wood chip operations, etc. Half of the ultimate cleared area may need to be cleared in Phase 1 if these items must be done as part of the Phase 1 plan. A cleared area as much as 80 feet wide may be needed to install a berm in a heavily wooded area. Save areas require special consideration.

2. Does the construction entrance conflict with existing or proposed utility installation? Does wash rack have proper drainage?

3. Does construction entrance require cut/fill for installation? If so, is there enough area cleared to allow for said grading (including enough area to obtain borrow fill or dispose of soil generated from cutting the entrance area to grade.)?

4. Do the designed berms have sufficient positive drainage? Provide spot elevations.

5. Does Phase 1 E&S conflict with placement of proposed fills for buildings, roads, etc (taking into account 1:1 cut of fill slope requirements from 10 feet minimum outside building or road)? Check also for conflicts with sanitary sewer installation. Avoid placing sediment basins in building pads if at all possible.

6. Please remember on commercial sites that building pad construction almost always follows after Phase 1 E&S completion. Allow sufficient room to build the pad. Do not put sediment basins in building pads.

7. Is Phase 1 E&S designed at same scale as proposed improvements to allow for overlay by engineer to check for conflicts (and for contractors to accurately stage design earthwork take-off)?

8. Does the E&S plan address which utilities cross under or over each other? For example, if storm sewer is required as a part of Phase 1 E&S, does it cause a conflict with other proposed utility installations? Avoid these conflicts if possible. As a general rule, if blasting is required for utility installation, do not require storm sewer installation as part of the Phase 1 E&S controls or allow for blasting and installation of any proposed utilities that are under or in conflict with the proposed storm sewer.

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9. Has the engineer considered the transition period between Phase 1 and Phase 2 erosion controls? For example:

   a) Pond volume/capacity should be analyzed so that impoundment is excavated only once. Storage and outflow can be adjusted by changes to the riser structure. If a permanent Riser structure is installed as part of Phase 1, wet and dry storage is to be provided for E&S.

   b) Berms vs. silt fence: specify silt fence if you cannot avoid slope-berm location problems, etc.

   c) Berm removal: Is access available to remove berms from finished lots?

   d) Separate staging plans may be used in each phase and /or provide additional guidance in E&S narrative.

10. Do berms and silt fence overlap enough to prevent washout?

11. Do SWMP/sediment basin areas have sufficient access completely around them to allow for maintenance during construction and prior to bond release?

12. Are drain elevations for basins/traps low enough to account for stripping of topsoil?

13. At what stage of construction can Phase 1 be removed? The engineer should provide guidance in narrative on what changes during the transition from Phase 1 to Phase 2. The contractor is a good source of information in regard to the transition from Phase 1 to Phase 2 E&S control.

14. Does Phase 1 E&S require long lead-item material? Identify non-standard items that may require approved shop drawings. The approval procedure and the manufacturing of specialized items may require unusually long assembly processes which result in delayed delivery of products to job-sites.

15. Has design engineer obtained input from developer on phases of construction (ie. If they want Lots 1-5 first, try not to design silt basins in this area)?

16. Suggestion: Require the design engineer to be present at county pre-construction conferences.

For additional information, contact the HCCA Office at 392-7410.