

YCCD Standard Erosion & Sediment (E&S) Control Plan Format

Background & Introduction

The York County Conservation District (YCCD) E&S staff met with our E&S Stakeholder Taskforce on July 11, 2006. The taskforce is comprised of several site contractors, builders, developers, and engineers who meet periodically with the District with the goal of improving the implementation of the E&S program for the benefit of all stakeholders involved. During our July meeting, several members of the taskforce expressed the desire to standardize the format of E&S plans submitted to the District. District staff agreed that this would be a very worthwhile project so long as the engineering community would be receptive to it. Joel Snyder of RGS Associates, Inc. and a member of the taskforce volunteered his firm's time and technical expertise to assist District E&S staff in preparing a model standard plan format. Robert Holweck – an associate District director, taskforce member, and developer offered his Delta Ridge – Phases 2 & 3 residential subdivision E&S plan to be used as a model plan. At the time RGS Associates, Inc. was already in the process of preparing Delta Ridge E&S plans for Mr. Holweck.

The YCCD has found that the majority of plan review comments listed in our technical deficiency letters are related to missing standard notes, construction details, and design information as well as incorrect and out-of-date notes. The District has also found that many notes provided by plan preparers are inconsistent with the District's standard notes, have been duplicated on the plans, and in many cases are simply not applicable to the project at hand. It appears that unnecessary information is placed on plans due to out-of-date plan templates and to err on the "safe" side to avoid missing required information. Placing such information on the plans effectively slows down the plan review process and confuses contractors in the field. In addition to the issues above, it is often difficult to locate standard information on the plans as each individual plan preparer has a different idea of where the information should be placed on the plans.

The intent of the standard plan format is to encourage the use of standard information (ex. standard notes, construction details, and worksheets) provided in the April 15, 2000 E&S Program Manual and to organize and locate the required information in a more predictable, consistent, and easier-to-read manner. While DEP does not require or allow the YCCD to require a specific plan format, it is widely agreed that voluntarily utilizing such a format would be in the interest of permit applicants as it would significantly reduce the time required for District staff to review and approve E&S plans and process NPDES permits. In addition to improving plan review and permit processing times, the benefits of standardizing the format include:

- the time required to *prepare* E&S plans will be reduced saving applicants time and money as plans will be simplified by eliminating unnecessary, incomplete, and redundant notes, calculations, and construction details,
- the time saved providing correct details and notes will allow plan preparers

additional time to focus on providing more effective and practical conceptual designs while at the same time ensuring that critical details and information required to construct BMPs in the field are not overlooked,

- contractors will become more familiar with regulatory requirements as construction details, standard notes, etc. become more consistent and predictable
- will conserve paper and limited District file space,
- and most importantly will allow contractors and District staff to locate information on plans more efficiently in the field so that they can focus their limited time and resources on making sure the Best Management Practices (BMPs) outlined in the E&S plans are implemented on the ground.

Disclaimer: The standard plan format recommendations and the accompanying Delta Ridge E&S plan are in no way intended to address the Best Management Practice (BMP) design of the project. Using the standard plan format recommendations is not intended to encourage or necessitate a “cookie cutter” or a “one size fits all” plan. Every site is unique (as can be observed on the Delta Ridge E&S plan) and will require a site-specific plan dependent on a variety of factors including but not limited to the nature and complexity of the project, soil types, topography, cut/fill, proximity to streams and wetlands, and the duration and extent of the earth disturbance.

The following section (**pages 3-9**) details **specific recommendations** for improving the submittal and timely review of E&S plan drawings and narratives submitted to the YCCD. The attached Delta Ridge – Phases II & III E&S plan incorporates many of these recommendations and serves as a standard plan format model for a large residential subdivision. In the future, the District would like to work with other plan preparer firms to create model plans for other types of projects (such as a linear underground utility plan).

Ultimately, the goal of the standard plan format is to have plan preparers and their clients see the advantages of utilizing the recommended format and voluntarily revise their plan templates accordingly. It is also hoped that other county conservation districts will endorse and encourage this format further increasing Region-wide consistency of approved E&S plans. The YCCD has presented the standard plan format and solicited input from all conservation districts within the 15-county Southcentral DEP Region, from 100+ plan preparers attending our September 19, 2006 workshop, and from a few large site contractors. The concept has also received the verbal support of DEP Central Office staff.

Plan Drawings

The YCCD offers the following recommendations to improve the submittal and timely review of E&S plan drawings and details:

1) First sheet in set to include (with original plan date or most recent revision date consistent with narrative title sheet):

- **Location map** – Locate on first sheet in upper right hand corner. Fold plans to expose location map.
- **Drawing index – i.e. a Table of Contents**
- **Mapping legends – right side of sheet**
 - site features legend
 - erosion and sediment control legend
- **Maintenance program – [Standard notes # 20-22](#)**
- **Standard erosion and sediment control note section**
 - List [Standard notes # 1, 2, 7, 23-27](#)
 - All notes not applicable to the project at hand should be removed from the plan drawings.
 - Refer to the District's [standard note list and technical plan review checklist](#) for recommended locations of all other standard notes.
- **Site-specific construction sequence. Left side of sheet.**
 - [Standard notes # 5 & 6](#) should be listed prior to the construction sequence.
 - [Standard notes # 3 & 4](#) should be listed as stages 1 & 2 of the construction sequence respectively.
 - Standard BMP installation & maintenance notes should not be placed within the construction sequence.
 - The construction sequence should be a straight forward logical and practical staging of site-specific BMP installation prior to each stage of earth disturbance activity. The simpler (less “wordy”) the

better. Contractor-input is always recommended.

- Lettered sub-stages are recommended for construction activities that may occur independently (ex. separate drainage areas) and simultaneously.
- Provide a separate detailed construction sequence for all stream and wetland crossings. The District recommends locating the sequence with the stream/wetland crossing details or blow-ups.
- **Standard notes #8 & 9** should be listed at the end of the construction sequence.

▪ **Resolutions to the identified site-specific soil limitations.**

- List only site-specific soil resolutions

▪ **Stabilization specifications**

- **standard stabilization notes # 17-19**
- topsoil replacement instructions
- surface roughening instructions
- straw mulch anchoring instructions
- permanent seed, lime, fertilizer, and mulching (include seeding dates and seed mixes for varying site conditions – ex. wet areas, steep slopes, etc.)
- temporary seed, lime, fertilizer, and mulching

▪ **PA One Call Decal and phone number**

- **DEP Approval Stamp** – leave at least 3” by 4” space in lower right corner for placement of approval stamp. Fold plans to expose stamp.

2) Second sheet to serve as an overview sheet of the existing conditions of the entire project shown with 1” = 100’ mapping scale to include: (overview sheets are not necessary for smaller projects which can be shown on one 1”= 50’ or larger scale sheet and in which all the below information can be shown on the same sheet without producing too much clutter)

- Soils legend
- Existing contours and land use (ex. woods, fields, etc.)
- All existing improvements
- NPDES permit boundary – includes entire parcel and any offsite right-of-ways
- All Waters of the Commonwealth including 100 yr. floodway boundary.
- North arrow (upper left corner)

3) Third sheet to serve as an overview sheet with proposed improvements and maximum during construction BMP drainage areas to include 1"=100' scale or larger with:

- Soils legend
- All proposed improvements, proposed contours, and BMPs.
- Phase boundaries
- BMP maximum during construction drainage areas for all BMPs (ex. basins, traps, channels/berms, inlets requiring inlet protection).
- Color-coded (preferred) drainage area boundaries with the respective BMP clearly labeled.
- Drainage area *acreage* is identified with the BMP labeling or in a BMP drainage area table.
- Pre-development and post-development BMP drainage areas are unnecessary unless they represent the maximum during construction BMP drainage areas.
- Drainage areas may be located on the larger 1"=50' scale drawings if drawings do not become too busy.

4) Fourth sheet + to include 1"=50' scale or larger scale drawings with:

- Sheet matchlines with adjoining sheet numbers
- Existing and proposed contours with maximum 2' contour interval
- All proposed improvements and BMP locations
- All waters of the Commonwealth
- North arrow (upper left corner)
- Limits of disturbance,

5) Clearly label the plan drawings as "Erosion and Sediment Control."

6) Construction details should be placed after the 1"= 50' scale or larger plan drawings.

7) Use the standard E&S construction details provided in the E&S Program Manual (with site-specific modification(s) as necessary). The basin, trap, and channel standard construction details utilize tables for the elevations, dimensions and type of materials necessary to construct each BMP thereby eliminating the need for multiple redundant construction details.

8) Do not place PCSM construction details on the E&S plans. The E&S plan and the PCSM plan must be separate stand-alone plans.

9) Place all standard BMP installation and maintenance notes with the relevant BMP standard construction detail. [See standard notes #10-16.](#) Avoid placing notes in long lists separate from the standard construction details.

10) Keep all BMP construction details grouped together and on the same sheet when possible. For example, a sediment basin requires an outlet structure detail #4, berm construction detail #3, emergency spillway detail #8, baffle detail #9, clean out stake detail , dewatering facility detail #10, trash rack detail and anti-seep collar detail which should all be grouped together so the contractor can more easily locate the information.

11) Place all construction details necessary for the builder on one sheet or grouped together on one sheet. These details include:

- Typical on-lot details showing the required BMPs for each lot layout (ex. sloping to front, sloping to back, sloping to corner, etc.)
- Rock construction entrance (RCE)
- Broad-based dip
- Pumped water filter bag
- Silt fence detail with the rock filter outlet repair detail
- Compost filter sock
- Inlet protection and inlet berm
- Erosion control blanket slope installation detail

12) Avoid using all capital letters on the plan drawings which are difficult to read and give the appearance of “shouting” at the contractor.

13) Utilize arial font for easier to read text. Make sure the font is large enough to easily read in the field.

14) Avoid use of excessive “flags” that clutter the plan drawings.

15) Avoid the use of cross-hatching to represent the application of an erosion control blanket on steep slopes. Recommend that a light shading be used in lieu of cross-hatching on slopes and the use of station numbers or channel breaks to indicate the types of channel lining(s) to be used.

16) Avoid overlaying three layers of contours on the drawings (ex. existing, temporary, and final contours of basins).

17) Utilize “blow-ups” of critical areas such as stream crossings and other heavily detailed areas that are difficult to read.

Plan Narrative

The YCCD offers the following recommendations to improve the submittal and timely review of E&S plan narratives:

1) Organize the plan narrative in order with the YCCD's Technical Plan Review Checklist (11 required items). The narrative should be composed of the below 10 bulleted items and little else.

- **Title Sheet** with original plan date or most recent revision date consistent with drawing sheets
- **Plan preparer's name, contact information, and qualifications (see the old standard worksheet provided on YCCD's website)**
- **Introduction/Summary**
 - Discuss project location and nature of project i.e. proposed land use (improvements)
 - Brief summary of the BMPs to be utilized so an untrained third party could understand concept/intent of plan.
 - Existing land use.
 - Past land use (at least past 50 years, discuss any soil contamination/potential pollution issues as a result of past land use(s)).
 - Discuss receiving watercourse(s) and the Chapter 93 and/or existing use designation.
- **USGS Topographic Map** with project boundaries clearly outlined and offsite drainage areas clearly delineated and identified.
- **List of all soil types** occurring on the project site with site-specific soil limitations and resolutions. Include copy of soil map from the county soil survey. Copies of soil survey descriptions and tables do not need to be included in the plan narrative.
- **Channel design information.**
 - Standard Worksheet #18 information for all channels (or) all standard worksheets required for channel design methodology (ex. TR-55 – Standard Worksheets #2, 3, & 4).
 - Standard worksheet #21 for all channels for both temporary and permanent channel lining condition. Channel design software output/spreadsheets are unnecessary.
 - Channel lining manufacturers' specifications including permissible velocity or shear stress.
- **Sediment basin design information.**
 - Discharge analysis and photographs of discharge area (if applicable).

- Copies of offsite stormwater easements.
 - Standard Worksheets 12, 13, 14, 15, & 16 with complete principal (including skimmers with manufacturer's specs.) and emergency spillway discharge calculations.
- **Sediment trap design information.**
 - Discharge analysis and photographs of discharge area (if applicable).
 - Copies of offsite stormwater easements.
 - Standard Worksheets #8 & 14 with complete principal discharge calculations.
- **Outlet protection design information** (Standard Worksheet 23 and Figures 21 or 22).
 - Include all necessary pipe flow calculations.
 - Include a discharge analysis and photos for any concentrated flows (ex. pipes, level spreaders, and channels/berms)
 - Copies of offsite stormwater easements.
- **Alternative BMP design information.**
 - Manufacturer's specs. / independent testing results

2) Use the standard worksheets for sediment basins, traps, channels, and outlet protection provided in the E&S Program Manual. This ensures all the required information is provided and is familiar to the plan reviewer which speeds up the plan review process.

3) Standard notes, standard construction details, the construction sequence, drainage areas, and stabilization specifications are not needed in the plan narrative given this information is already provided on the plan drawings.

4) PCSM operation and maintenance notes, hydrographs, and design calculations should not be included in the E&S plan narrative. The E&S plan and the PCSM plan must be separate stand-alone plans.

5) Avoid placing and binding the NOI, PNDI, Act 14 notifications, GIF forms, and other NPDES permit information in the E&S plan narrative.

6) Make double-sided pages to conserve paper and file space.

7) Avoid using 3-ring binders which use up valuable file space.

8) Utilize Arial font for easier to read text.

9) Wetland determination letters, delineation reports, DEP permits or completed permit applications, and US Army Corp of Engineers Jurisdictional Determination letters should be submitted as separate documents not bound in the E&S plan narrative.

Other Recommendations

1) Submit only folded plan drawings (due to District's filing system and limited file space). Avoid folding each sheet separately.

2) Avoid submitting the entire land development set of drawings and details (ex. landscaping plans, grading plans, sanitary sewer profiles, lighting plans, etc.). Only the E&S drawings and details are necessary and should be separate stand-alone plans.

3) Submit only one set of E&S and PCSM plan drawings and narratives with each submission rather than three sets which typically must be disposed of due to necessary changes, technical deficiencies, and limited file space. If additional sets are needed for review by the public, the District will contact the plan preparer for additional clean sets.

4) Provide specific page numbers and locations of information on the NOI checklist.

5) Use the most current NOI form and District plan review application forms.

6) Use the YCCD/DEP E&S Control Plan Technical Review Checklist ([see YCCD website](#)) dated 6-18-07 to ensure submitted plans are technically complete.

7) When re-submitting revised plans, highlight the revisions/additions on the District's copy and provide an item-by-item detailed response letter. Also highlight any other revisions made that were not requested by the District.

8) Submit half-size plan drawings (as long as legible) upon plan approval for larger projects. Half-size plans take up less file space, conserve paper, and are easier to handle in the field.

