



Engineering Department Stormwater Management Land Disturbance Plan Review Checklist For Design Professionals

This Checklist must be completed and submitted along with all land disturbance permit applications (unless submitting for Expedited Review). Other requirements may apply - contact the Development Center for details. The City reserves the right to require submission of additional information in accordance with applicable laws and regulations. The City also reserves the right to modify this Checklist at any time.

Checklist Preparer (Printed Name): _____

Preparer Signature: _____ Date: _____

NOTE: THIS CHECKLIST IS NOT REQUIRED FOR PROJECTS SUBMITTED FOR EXPEDITED REVIEW. TO DETERMINE IF A PROJECT QUALIFIES FOR EXPEDITED REVIEW, SEE THE EXPEDITED REVIEW FORM AND/OR CONTACT CITY OF COLUMBIA STORMWATER PERSONNEL.

Please indicate the location of each item within the submitted land disturbance plans, C-SWPPP, calculations, or other supporting documentation. If an item is not applicable, please write "N/A."

1. CURRENT COMPLETED NOTICE OF INTENT (NOI) FORM

- Signature of individual with signatory authority according to [SC Reg. 61-9.122.22](#)
- All items completed and answered
- City of Columbia Review Fee (see City Code of Ordinances Sec. 21-61)

Notes:

- \$125 NPDES Coverage fee is required by DHEC for all projects with land disturbance equal to or greater than 1 acre. The City no longer accepts checks for submission to DHEC, and the payment should be made directly to DHEC following City approval.
- Governmental agencies are not exempt from permitting fees.

2. COPIES OF PLANS AND CALCULATIONS

Note: A land disturbance permit is required for all projects with a land disturbance of equal to or greater than 5,000 sq ft, or less than or equal to 5,000 sq ft but part of a larger common plan of development or sale. See note above regarding Expedited Review.

- One hard copy set of plans
- One hard copy of all supporting documentation (please organize for quick reference, i.e. table of contents, page numbers, etc.)
- One disk (CD or DVD) containing a pdf electronic copy of all plans and supporting documentation (must match hard copies, including stamps, signatures, etc.)

3. LOCATION MAP Location in C-SWPPP: _____

- North arrow and scale
- Outlined project location
- Labeled road names

4. PROJECT NARRATIVE Location in C-SWPPP: _____

- Scope of project outlined, including a brief description of pre- and post-development conditions
- Summary table of pre- and post-development flows (at least 2- and 10-year, 24-hour storm events)
- Summary of approach to meet Permanent Water Quality requirements.
- Summary of all Waivers that are being requested, or previously obtained.
- Description of existing flooding problems in the surrounding area, or statement that no existing flooding problems are known
- Disturbed area calculations
- For subdivisions, if the site is not to be mass-graded:
 - Amt. of Disturbance = 2[Max Restricted Building Size][Number of Lots] + ROW areas

- ROW areas include clearing for roads, utilities, easements, etc.
- Note on the plans: "The site is not to be mass-graded. Only 2 times the footprint is to be cleared as the lots are developed. The assumed disturbance on each lot is ____ sq. ft."

5. USGS TOPOGRAPHIC MAP Location in C-SWPPP: _____

- Project boundary outlined
- Route of runoff from site to nearest waterbody shown
- Road names adjacent to site labeled

6. SOILS INFORMATION Location of C-SWPPP: _____

- Project boundary outlined on soils map
- Predominant soil types found at the site identified on the plans or on a separate map

Note: Soils information is available from the Natural Resource Conservation Service through their website, <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

7. FLOODWAY MAPS/FEMA FLOOD INSURANCE MAP Location in C-SWPPP: _____

- Project boundary outlined, if in close proximity to floodplain/floodway
- If project is not in close proximity to floodplain/floodway, specify distance to nearest floodplain/floodway

Note: The City regulates the placement of fill and/or map changes in floodplains. Please contact the City Floodplain Coordinator for more information.

8. NAVIGABLE WATERS Location in C-SWPPP: _____

- Extra plan sheet showing impacts to [SC Navigable Waters \(SCNW\)](#), description of activity, and SCNW permit information, if applicable

Note: If project has SCNW crossing and if separate SCNW permit has not been obtained for this crossing, then this item will be reviewed by SCDHEC before NPDES coverage will be granted.

Construction

9. CONSTRUCTION SEQUENCE..... Location in C-SWPPP: _____

- Must be on the project plans (either erosion control plan or detail sheets)
- Accurately reflects the nature and timing of construction activities
- Begins with the installation of perimeter controls
- Ends with removal of temporary sediment and erosion controls upon final stabilization
- Addresses conversion of any temporary sediment controls to permanent controls
- Reflects implementation and transition between each phased plan (also see Item 10 below)

10. PHASED SEDIMENT AND EROSION CONTROL PLANS Location in C-SWPPP: _____

- Land disturbance less than 5 acres - phased plan not required
- Land disturbance between 5 and 10 acres – two-phased plan:
 - Phase I: Initial Land Disturbance
 - Phase II: Stabilization
- Land Disturbance greater than 10 acres – three-phased plan:
 - Phase I: Initial Land Disturbance
 - Phase II: Construction
 - Phase III: Stabilization
- Each phase shown on a separate plan sheet
- Plan addresses transitions between phases

Note: See [SCDHEC Construction General Permit](#) for additional details on phased plan requirements

11. WATERS OF THE STATE, INCLUDING WETLANDS Location in C-SWPPP: _____

- Delineation of all waters of the State (WoS), including wetlands, and/or areas jurisdictional to the USACE, shown and labeled on plans

- If no WoS and/or USACE jurisdictional areas are illustrated on the plans, either the plans or the C-SWPPP must contain a statement that the project area was evaluated for such areas and none are present based on available information
- If impacts to WoS, separate plan sheet showing all WoS on the site and the impacted areas with a description of the activities (whether permanent or temporary), and any other relevant information.
- If impacts to WoS, areas of impacts outlined and language stating the work may not begin in this area until all necessary permits (such as [USACE permits](#) and [SCDHEC 401 certifications](#)) have been obtained and are effective
- Double row of silt fence provided in all areas where a 50' undisturbed buffer cannot be maintained between the disturbed area and the WoS
- Minimum 10' maintenance buffer provided between last row of silt fence and WoS; if buffer not provided, statement from P.E. on plans indicating how silt fence will be installed and maintained without impacts to WoS

Notes:

- *Minimum 20-foot buffer recommended between a sediment trap/basin and WoS.*
- *If there are proposed impacts to WoS, it is advised that you contact USACE (866-329-8187) and/or [S.C. DHEC Water Quality Certification, Standards & Wetlands Programs Section](#) (803-898-4300) to determine additional requirements before submitting the Notice of Intent (NOI).*
- *If a USACE permit is required for construction of or access to a temporary or permanent stormwater management structure, NPDES permit coverage cannot be granted until the USACE permits and [S.C. DHEC 401 Section](#) certifications are obtained.*

12. BUFFERS **Location in C-SWPPP:** _____

- 50' average buffer, as measured at a 90° angles to the delineated waters/wetlands, is required both during construction (no disturbance in the buffer) and permanently after project completion (to be maintained in perpetuity). This requirement applies on all new development and redevelopment projects.
- If any portion of the required buffer is not at least 50' in width, a separate buffer averaging sheet and calculation must be provided to demonstrate an average buffer width of 50'
- If averaging is used, no portion of the buffer is less than 30' in width, unless a variance or waiver is granted
- Discharges into a buffer zone are non-channelized to prevent erosion, and first treated by site sediment and erosion controls
- Ensure any velocity dissipation measures implemented within a buffer zone comply with State or City requirements, whichever is more stringent
- Buffer variance or waiver application provided if standard buffer requirements cannot be met.

Note: See City of Columbia BMP Manual Stream Buffer Addendum for details on Buffer Requirements

13. FLOW CONTROL **Location in C-SWPPP:** _____

- Control stormwater volume and velocity within the site to minimize erosion during construction
- Control stormwater rates and volume at outlets during construction to minimize erosion to downstream channels and stream banks

14. SEDIMENTOLOGY & SEDIMENT BASIN/TRAP DESIGN **Location in C-SWPPP:** _____

- Projects that meet both of the following generally do not require submission of trapping efficiency calculations:
 - Land disturbance is less than 5 acres; and
 - The nearest downstream WQMS (see Item 20 below) is not impaired for BIO or TURBIDITY

Notes:

- *If trapping efficiency calculations are not submitted, all controls must be designed to meet established criteria (such as those found in the [SCDHEC Stormwater BMP Handbook](#)), which can be reasonably expected to achieve at least 80% trapping efficiency.*
- *At the sole discretion of the City, trapping efficiency calculations may be required for any and all projects subject to land disturbance permitting.*

- Provide a drainage area map outlining the area contributing to sediment basins, traps and rock sediment dikes

- Trapping efficiency calculations showing that all sediment basins/traps are capable of achieving a sediment trapping efficiency of at least 80% for the 10-year, 24-hour storm event, if more than 10 disturbed acres drain to a common point (stream, lake, etc.)
- Sediment basins provide storage for the 10-year, 24-hour storm event for disturbed conditions or 3,600 ft³/acre draining to the basin, if more than 10 disturbed acres drain to a common point (stream, lake, property line, etc.)
- Sediment traps only used for drainage areas of less than 5 acres
- Sediment trap storage calculations showing that 1,800 ft³/total acre draining to each trap is provided below the spillway
- If trapping efficiency calculations are required for sediment traps, then provide peak outflow (q_{po}) calculations; the 10-year, 24-hour storm event for construction conditions may not overtop the trap's spillway
- Sediment basins and traps designed for total area draining to them
- Curve Number (CN) for construction analysis reflects construction/disturbed conditions.

Note: For newly-graded areas, the following Hydrologic Soil Groups (HSG) must use the following CN:

HSG "A" – CN 77 HSG "B" – CN 86 HSG "C" – CN 91 HSG "D" – CN 94

- Copies of figures used to determine V₁₅ (SV-1) and trapping efficiency (ST-1, SB-1, SB-2), if Design Aids from SCDHEC BMP Handbook are used to determine trapping efficiencies

Notes:

- Design aids from the [SCDHEC BMP Handbook](#) are not appropriate, and modeling is required, for BMP designed in series.
- If the flow for the 10-year, 24-hour storm (for construction conditions) overtops the structure or the structure's spillway, then the [SCDHEC BMP Handbook](#) design aids may not be used.
- When multiple D₁₅ values exist for an area, use the soil type with the smallest D₁₅ for the appropriate depth to determine the settling velocity, V₁₅. An average D₁₅ should not be used.
- SedCAD users, please refer to the memo regarding the input of outlet structures on the SCDHEC website

- Surface dewatering method (e.g. skimmer, flashboard risers) provided for sediment basins

Note: Surface dewatering is not required for sediment traps.

- Porous baffles provided in sediment basins
- Forebays provided, unless infeasible
- Public safety considered as a factor in design of sediment basins

Note: Alternative BMP must be utilized where construction site limitations would preclude a safe design

- Silt fence treating less than ¼ acre per 100 LF of fence, and treating only non-concentrated flow
- Clean-out stake, marked at ½ the designed sediment storage depth, provided in all sediment basins/traps

15. CONVEYANCE MEASURES AND STABLE CHANNELS Location in C-SWPPP: _____

- Channels and diversion ditches able to convey the 10-year storm event with non-erosive velocities of less than 5 ft/s during construction (use appropriate CN for disturbed areas) and post-construction

Note: If velocity exceeds 5 ft/s, permanent measures to reduce the velocity to a non-erosive rate must be provided

- Stabilization of conveyance channels to be completed within 7 days of channel construction
- Rock check dams provided in temporary diversions
- Installation details for erosion control blanket (ECB) or turf reinforcement matting (TRM), if applicable
- Temporary conveyance channels utilized to divert concentrated flows from entering disturbed areas

16. INLET PROTECTION Location in C-SWPPP: _____

- Provided at all existing and proposed inlets
- Use only SCDHEC approved inlet protection BMP (e.g. no hay bales)

Note: 1 acre is the maximum recommended area draining to any individual inlet

17. ENERGY DISSIPATORS/ OUTLET PROTECTION Location in C-SWPPP: _____

- All outlets stabilized with appropriately sized riprap apron or other structure
- Riprap detail shows apron dimensions and stone sizes for each pad or each pipe diameter

- Filter fabric installed beneath all riprap

18. SLOPES AND/OR EMBANKMENTS Location in C-SWPPP: _____

- Minimize disturbance to steep slopes using slope drains or temporary diversions
- Controls utilized to prevent slope erosion (erosion control blankets, surface roughening, terracing, etc.)
- Slope drains designed in accordance with the [SCDHEC BMP Handbook](#)
- Slope drains provided where concentrated flows discharge onto a fill slope

Notes:

- *If retaining walls or fill slopes are to be constructed at the downstream property line, the State recommends a 10' buffer to allow for construction and maintenance. If a 10' buffer will not be provided, the City may require documentation of permission from adjacent property owner for possible disturbance on the adjacent property.*
- *Measures, in addition to grassing or hydroseeding, include synthetic or vegetative matting, diversion berms, temporary slope drains, etc.*

19. UTILITY LINES Location in C-SWPPP: _____

- Limits of disturbance includes areas necessary for removal/installation of all utilities
- If any utility location is unknown at the time of SWPPP preparation, provide a note stating any land disturbance outside the approved limits of disturbance will require a permit modification
- For utility lines crossing WoS or USACE jurisdiction, provide a narrative and details showing controls to be utilized
- Construction entrances to be provided at all construction traffic ingress and egress locations

20. TMDL/ 303d IMPAIRED WATERBODIES Location in C-SWPPP: _____

- Name/ID and location of nearest downstream [SCDHEC Water Quality Monitoring Station \(WQMS\)](#)
- Qualitative and quantitative assessment, as well as evaluation of selected BMP

Notes:

- *The assessment and evaluation above are required if: 1. the nearest downstream WQMS is listed on the current 303(d) List of Impaired Waters; 2. site stormwater construction discharges may reasonable be expected to contain the pollutant of impairment; and 3. site land disturbance is 25 acres or greater.*
- *Pollutants of concern include FECAL COLIFORM/E. COLI, TURBIDITY, BIO (macroinvertebrates), TP (Total Phosphorus), TN (Total Nitrogen) and Chlorophyll A*
- *A link to the Water Quality Information Tool and Instructions can be found at:*
 - <http://qisweb00.dhec.sc.gov/water/Stormwater.html?mode=1>
- If an approved TMDL has been developed for the nearest downstream WQMS, and site stormwater construction discharges may reasonably be expected to contain the pollutant of impairment, show that measures and controls on SWPPP meet the assumptions and requirements of the TMDL (may need to contact SCDHEC Watershed Manager for assistance)
- For TURBIDITY, BIO (macroinvertebrate) consider inclusion of BMP to reduce sediment load, such as: sediment traps and basin designed to meet 80% sediment removal efficiency (regardless of disturbed area), additional measures to stabilize site, limited clearing and grading
- For TP (Total Phosphorus), TN (Total Nitrogen) and Chlorophyll-A, consider inclusion of BMP to reduce nutrient load, such as: limited clearing and grading, and soil samples to determine nutrient requirements during grassing
- For Fecal Coliform (FC), consider inclusion of BMP to limit FC runoff from the site, such as: proper location/containment of portable toilets and waste receptacles

Note: To ensure sufficient [Water Quality Monitoring Stations](#) are selected to assess all of the identified parameters for construction stormwater, include monitoring stations that contain assessments for the first twelve parameters. Some stations only assess one parameter and should not be relied upon for the entire 303(d)/TMDL assessment for construction stormwater discharges.

Post-Construction

21. HYDROLOGIC ANALYSIS Location in C-SWPPP: _____

- Pre- and post-developed hydrologic analysis calculations for the required storm events at each outfall point
- Drainage area maps that clearly correspond to the calculations (pre- and post-development)
- Analysis points for comparing runoff rates and the total drainage area analyzed do not change from pre- to post-development, although the immediate drainage areas contributing to each analysis point may shift.
- Post-development discharges are less than pre-development discharges for each outfall point (if not, see "Detention Waiver" section below)
- Analysis performed using SCS 24-hour storm (Rational Method is not acceptable)
- Rainfall data used in all calculation is obtained from the most recent version of the [SCDHEC BMP Handbook](#)

Note: The curve number for open water, marshes, etc. should be 98 to 100.

22. DISCHARGE POINTS **Location in C-SWPPP:** _____

- Outfalls connected to an existing drainage outfall (such as a pipe, ditch, etc.) when possible
- No point discharges onto adjacent property, unless the point discharge previously existed, or written permission from the adjacent property owner is provided
- Conversion to sheet flow must be provided when the proposed outlet is near a property line (and not directed to an existing conveyance) or if the outfall discharges into a buffer area.
- Twenty (20)-foot minimum buffer is provided between the property line and the discharge point
- Outlets shall not discharge on fill slopes (also applies during construction)

23. UNIFIED SIZING CRITERIA **Location in C-SWPPP:** _____

23.a **Permanent Water Quality Control**

- At least one of the following must be met to address Water Quality:
 - Option 1: Calculate the Water Quality Volume (WQv), and demonstrate that the required volume will be detained onsite and released over a time period of no less than 24 hours. See Chapter 2 of the [BMP Handbook](#) for calculation details.
 - Option 2: Demonstrate the peak flow resulting from the 1.2" rainfall event will be treated to remove at least 80% of TSS. Also, demonstrate that any other pollutants reasonably expected to be present in runoff due to permanent site land use (e.g. petroleum hydrocarbons at an automotive service shop) will be addressed to the extent practicable.
 - Option 3: Apply for and obtain a Permanent Water Quality Waiver from the City.

Note: A forebay (or equivalent) must be included in controls used to address Permanent Water Quality. A forebay should be sized to provide a volume for 0.1-inches of runoff from impervious surfaces. See BMP Manual Section 1.4 for additional information.

23.b **Channel Protection**

- At least one of the following must be met to address Channel Protection:
 - Option 1: Calculate the Channel Protection Volume (CPv), and demonstrate that the required volume will be detained onsite and released over a time period of no less than 24 hours. See Chapter 2 of the [BMP Handbook](#) for calculation details.
 - Option 2: Apply for and obtain a Channel Protection Waiver from the City.

23.c **Overbank Flood Protection**

- At least one of the following must be met to address Overbank Flood Protection
 - Option 1: Obtain a Detention Waiver from the City (may skip the remainder of this section)
 - Option 2: Provide the information specified in the remainder of this section
- Pond routing using a volume-based hydrograph for the 2- and 10-year, SCS 24-hour storm event

Note: HydroCAD, Drain:Edge, ICPR, HEC-1, SedCAD, HYDRAFLOW, etc. perform full pond routings; TR55 does not perform a full pond routing; Rational Method may not be used

- Hydrologic and hydraulic calculations necessary to determine the impact of hydrograph timing modifications of the proposed land-disturbing activity, with and without the detention structure (results of analysis will determine the need to modify the detention design or eliminate the detention requirement)
- Inputs and outputs from analysis program
- Summary table of the peak inflows, peak outflows, discharge velocities, and maximum water surface elevations (WSE) for the required storm events for each detention structure

- Stage-storage-discharge relationship for the outlet structure of each detention structure
- If a rating curve for the outlet structure must be generated externally from the analysis program (Drain:Edge, HEC-1, etc.), data and equations used to rate the outlet structure
- As-built of existing detention pond if the site drains to an existing detention pond (see below)

Notes:

- *SedCAD users, please refer to the memo regarding the input of outlet structures on the [SCDHEC website](#).*
- *SCDHEC recommends using the 10% rule in performing analysis. The hydrologic analysis should be conducted for the larger drainage area, where the site in question encompasses 10% of the total drainage area. For example, if your site is 10 acres, then the hydrologic analysis should be performed at the point downstream where the contributing drainage area, including your 10-acre site, is approx. 100 acres.*

- Detail of outlet structure and cross-section of the dam/berm or pond bank, including elevations and dimensions corresponding to the calculations
- Orifice constructability considered (diameters specified in increments of ¼" or greater)

Note: *Small orifices (those less than 3") are prone to clogging*

- Maximum WSE for 10-year storm event 0.5 ft below emergency spillway
- Maximum WSE for the 100-year storm event 1 ft below the embankment
- Dewatering time calculations for the 10-year storm event provided (dry ponds must drain completely within 72 hours)
- Bottom of all detention and retention ponds graded to have a slope of not less than 0.5%
- If the pond is to be used for sediment control during construction, temporary horseshoe-shaped riprap berm in front of any low level outlets provided during construction and shown on the pond detail
- Permanent maintenance access to all permanent detention structures (easements may be needed for structures surrounded by lots)
- Infiltration systems designed in accordance with [S.C. Reg. 72-307.C.11](#) (specify how items a - j are addressed)
- Low Impact Development measure, bioretention cells, infiltration and other post-construction practices should be installed only after the drainage area(s) to these practices has/have been stabilized
- If detention/retention for Overbank Flood Protection is also used to address Permanent Water Quality, an appropriately-sized forebay (or other equivalent – see BMP Manual) must be included in the design. See notes in Permanent Water Quality section above.

Notes:

- *Emergency spillways should not be constructed on fill slopes.*
- *It is recommended that a trash rack or other debris-screening device be installed on all pond risers.*
- *It is recommended that a maximum slope of 3:1 be provided on pond embankments to allow for ease of maintenance.*
- *It is recommended that post-construction sediment forebays be installed at each outfall into the basin (this is a requirement during construction).*

23.d Extreme Flood Protection

The Extreme Flood Protection criterion specifies that all stormwater management facilities and associated grading plans and site layouts be designed to protect buildings, ponds, roads, and other permanent structures from the 100-year, 24-hour return frequency storm event, denoted Q100. This is accomplished either by:

- Controlling Q100 through on-site or regional structural stormwater controls to maintain the existing 100-year floodplain. This is done where residences or other structures have already been constructed within the 100-year floodplain fringe area; or
- By designing the on-site conveyance system, site grading, and building layout to safely pass Q100 without impacting buildings, ponds, roads, or other permanent structures and allowing it to discharge into a receiving water. *Note: Flows can be conveyed without retention or detention to a receiving floodplain if it can be shown that the floodplain is sufficiently sized to account for extreme flow increases from the site without causing damage; or*
- When the City has designated a watershed to have existing flooding problems that require increased detention and flood control requirements (See Section 3.2.1), the Q100 must be reduced to less than the existing 100-year flows as determined by the City.

Determining the Extreme Flood Protection Criteria (Q100)

- Peak-Discharge and Hydrograph Generation: The SCS TR-55 hydrograph method will be used to compute the peak discharge rate and runoff for the 100-year, 24-hour storm. Apply the methodology for estimating the required storage volume provided below
- Rainfall Depths: The rainfall depth of the 100-year, 24-hour storm will be 8.3 inches.
- Off-site Drainage Areas: Off-site drainage areas must be modeled as “full build-out condition” for the 100-year storm event to ensure safe passage of future flows.
- Downstream Analysis: If Q100 is being detained, downstream areas must be checked to ensure there is no peak flow increase above pre-development conditions to the point where the site area is 10% of the total drainage to that point. See Section 3.1.4 for more details on how to properly perform a Downstream Analysis.

24. AS-BUILTS Location in C-SWPPP: _____

- Prepared by a South Carolina Licensed Land Surveyor
- As-builts must include the following:
 - Post-construction surface contours at 2’ intervals (or more accurate)
 - Survey of all post-construction impervious surfaces on the property, and a total of the impervious area in square feet.
 - The entire onsite stormwater conveyance network, including all stormwater open channels, and stormwater pipes 12” or greater in diameter, catch basins, inlets, junction boxes, pipe inverts, outfalls, etc. If the property is zoned as industrial, show all pipes 4” or greater in diameter.
 - All permanent stormwater control locations and critical components (e.g. elevations and dimensions of all outlet structures, including; pipe and orifice inverts and diameters; weir elevations and dimensions; riser dimensions and elevations; emergency spillway dimensions and elevations; and locations and inverts for all pipes discharging into the pond)
 - If the elevations, dimensions, components, configuration, etc. of the permanent controls do not match those used in the approved land disturbance plans, provide a certification statement signed by the project PE indicating that the control, as built, will function as required by all applicable standards (new analysis of the control/routing may be necessary)

Note: As-built survey and/or analysis must be submitted for all projects which require a land disturbance permit. As-builts must be accepted by the City before [Notice of Termination \(NOT\)](#) will be approved by the City.

25. PERMANENT SW MANAGEMENT CONTROL MAINTENANCE Location in C-SWPPP: _____

- Signed agreement from the responsible party accepting ownership and maintenance of the structure
- If maintenance responsibility is transferred after NPDES coverage is granted, an updated agreement should be submitted with the [NOT](#)
- Detailed maintenance plan, including schedule of maintenance, for all permanent structures. Typical items to be addressed by the maintenance plan include: manufacturer recommended maintenance items for proprietary control devices; mowing; tree removal; trash removal; sediment cleanout; orifice cleaning/unclogging; maintenance/repair of outlet pipes, emergency spillway, energy dissipator, side slopes; and grading of pond bottom for proper drainage
- Language included which specifies the City must be notified in writing of any changes in maintenance responsibility for the controls

Notes:

- *All permanent control maintenance information must be received and approved by the City before [Notice of Termination \(NOT\)](#) will be approved by the City.*
- *If maintenance responsibility changes and an updated maintenance agreement is not provided to the City, the entity listed on most recent maintenance agreement on file with the City will be considered the responsible entity.*

26. SITE PLANS CHECKLIST

- Location map with site outlined on first plan sheet (map should have enough detail to identify Surface Waters of the State within 1 mile of the site)

- North arrow and scale
- Property lines and adjacent landowners' names, as well as tax map numbers
- Legend
- Registered engineer's signed and dated seal
- Engineering Firm's Certificate of Authorization seal
- If the SWPPP has been developed by a Registered Professional Engineer, Registered Landscape Architect or Tier B Land Surveyor, the following statement must be included within the SWPPP: "I have placed my signature and seal on the design documents submitted signifying that I accept responsibility for the design of the system. Further, I certify to the best of my knowledge and belief that the design is consistent with the requirements of [Title 48, Chapter 14 of the Code of Laws of SC, 1976](#) as amended, pursuant to [Regulation 72-300 et seq.](#) (if applicable), and in accordance with the terms and conditions of SCR100000."
- Existing and proposed contours for entire disturbed area (at 2' intervals or more accurate)
- Limits of disturbed area
- Locations of off-site material, waste, borrow, or construction equipment storage areas, excluding roll-off containers

Note: Some off-site disturbed areas may require a separate application for NPDES coverage

- Location and identification of any stormwater discharges associated with industrial activity (non-construction)
- Location of Concrete Washout Area and other Pollution Prevention Measures
- Easements
- Road profiles with existing and proposed ground elevations (if no contours are shown on the plans)
- Grassing and stabilization specifications (temporary and permanent)
- Standard notes (see below)
- Temporary and permanent control measures (provide details of all sediment and erosion control measures used; make sure the label or legend on the plans matches the name on the detail)

Notes:

- *Maintenance requirements for each BMP should be listed on the detail.*
- *If details from the [BMP Handbook](#) are used, then the inspection frequency must be changed to be in accordance with the most current [CGP](#) (see Standard note 3).*

Standard Notes

Note: When possible, the City encourages developers to use wording and ordering as closely as possible to those used in the list below, as this helps with speed and accuracy of review.

1. If necessary, slopes, which exceed eight (8) vertical feet should be stabilized with synthetic or vegetative mats, in addition to hydroseeding. It may be necessary to install temporary slope drains during construction. Temporary berms may be needed until the slope is brought to grade.
2. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than fourteen (14) days after work has ceased, except as stated below.
 - a. Where stabilization by the 14th day is precluded by snow cover or frozen ground conditions stabilization measures must be initiated as soon as practicable.
 - b. Where construction activity on a portion of the Site is temporarily ceased, and earth-disturbing activities will be resumed within 14 days, temporary stabilization measures do not have to be initiated on that portion of the Site.
3. All sediment and erosion control devices shall be inspected once every calendar week. If periodic inspections or other information indicates that a BMP has been inappropriately or incorrectly installed, the Permittee must address the necessary replacement or modification required to correct the BMP within 48 hours of identification.
4. Provide silt fence and/or other control devices, as may be required, to control soil erosion during utility construction. All disturbed areas shall be cleaned, graded, and stabilized with grassing immediately after

the utility installation. Fill, cover, and temporary seeding at the end of each day are recommended. If water is encountered while trenching, the water should be filtered to remove any sediments before being pumped back into any waters of the State.

5. All erosion control devices shall be properly maintained during all phases of construction until the completion of all construction activities and all disturbed areas have been stabilized. Additional control devices may be required during construction in order to control erosion and/or offsite sedimentation. All temporary control devices shall be removed once construction is complete and the site is stabilized.
6. The contractor must take necessary action to minimize the tracking of mud onto paved roadway(s) from construction areas and the generation of dust. The contractor shall daily remove mud/soil from pavement, as may be required.
7. Residential subdivisions require erosion control features for infrastructure as well as for individual lot construction. Individual property owners shall follow these plans during construction or obtain approval of an individual plan in accordance with S.C Reg. 72-300 et seq. and SCR100000.
8. Temporary diversion berms and/or ditches will be provided as needed during construction to protect work areas from upslope runoff and/or to divert sediment-laden water to appropriate traps or stable outlets.
9. All waters of the State (WoS), including wetlands, are to be flagged or otherwise clearly marked in the field. A double row of silt fence is to be installed in all areas where a 50-foot buffer can't be maintained between the disturbed area and all WoS. A 10-foot buffer should be maintained between the last row of silt fence and all WoS.
10. Litter, construction debris, oils, fuels, and building products with significant potential for impact (such as stockpiles of freshly treated lumber) and construction chemicals that could be exposed to storm water must be prevented from becoming a pollutant source in storm water discharges.
11. A copy of the SWPPP, inspections records and rainfall data must be retained at the construction site or a nearby location easily accessible during normal business hours, from the date of commencement of construction activities to the date that final stabilization has been reached.
12. Initiate stabilization measures on any exposed steep slope (3H:1V or greater) where land-disturbing activities have permanently or temporarily ceased, and will not resume from a period of 7 calendar days.
13. Minimize soil compaction and, unless infeasible, preserve topsoil.
14. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.
15. Minimize the discharge of pollutants from dewatering of trenches and excavated areas. These discharges are to be routed through appropriate BMPs (sediment basin, filter bag, etc.).
16. The following discharges from sites are prohibited:
 - a. Wastewater from washout of concrete, unless managed by an appropriate control;
 - b. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
 - c. Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance; and
 - d. Soaps or solvents used in vehicle and equipment washing.
17. After construction activities begin, inspections must be conducted at a minimum of at least once every calendar week and must be conducted until final stabilization is reached on all areas of the construction site.
18. If existing BMPs need to be modified or if additional BMPs are necessary to comply with the requirements of this permit and/or SC's Water Quality Standards, implementation must be completed before the next storm event whenever practicable. If implementation before the next storm event is impracticable, the situation must be documented in the SWPPP and alternative BMPs must be implemented as soon as reasonably possible.

19. A Pre-Construction Conference must be held for each construction site with an approved On-site SWPPP prior to the implementation of construction activities. For non-linear projects that disturb 10 acres or more, this conference must be held on-site unless the Department (State) has approved otherwise.