

# **EXHIBIT F**



Stormwater Division  
 Department of Public Works  
 800 Rabbitt Road  
 Gaithersburg, Maryland 20878

## STORMWATER MANAGEMENT AS-BUILT CHECKLIST

<b>Project Name:</b>		<b>SEC Plan Number:</b>	
<b>Project Address:</b>		<b>COG Permit Number:</b>	
<b>Engineer Contact:</b>		<b>Reviewer Contact:</b>	
<b>Engineer Company:</b>		<b>SWM Plan Number:</b>	

<u><b>Reviewer Markup Legend:</b></u>	Submittal Date:	Review Date:	Reviewer Initials:
√ Completed Satisfactorily.	_____	_____	_____
INC. Incomplete or Incorrect	_____	_____	_____
N/A Not Applicable	_____	_____	_____
? Not enough info provided.	_____	_____	_____

**General Information:**  
 This checklist has been developed to provide specific instruction to engineers and to serve only as a supplement to the City's Chapter 8 Code. The initial checklist shall be completed by the City's plan reviewer. **All submissions must fully address the City's Chapter 8 Code addressing Sediment Erosion Control and Stormwater Management for approval and compliance.**

This checklist shall be utilized in the review of the Concept, Preliminary and Final Erosion and Sediment Control Plans. Applicable items shall be provided in the level of detail needed in the first submittal. All comments are expected to be addressed in the immediately following subsequent submission. Failure to do so may result in less than a full review.

**Plan Submission Process:**  
 The Initial Submission and subsequent submittals shall be made electronically for processing and fee acceptance. For all information related to permits please see: <https://www.gaithersburgmd.gov/services/permitting-inspections>

**Note to the Applicant / Engineer:**  
 Your submission for Stormwater Management As-Built Plan has been reviewed. The review was made per the following checklist. If you do not address a checklist item and/or comments on the plan sheets, explain your reasoning in your transmittal letter.

The Review Checklist begins on the next page.

**Note:** Per Chapter 8, Section 8-25(1)(4): If a stormwater management plan involves direction of some or all runoff off from the site to an adjacent property, it is the responsibility of the developer to obtain from adjacent property owners any easements or necessary property interests concerning flowage of water. Approval of a stormwater management plan does not create or affect any right to direct runoff onto adjacent property without that property owner's permission.

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## PART 1 - PRE-REVIEW: REQUIRED PLAN PACKAGE AND SUPPORTING DOCUMENTATION

___	___	___	<b>Transmittal:</b> Specifically explains the purpose of submission (i.e. what plan type and associated plan and permit tracking numbers).
___	___	___	<b>As-Built Stormwater Plans:</b> Full-Scale, Red-Lines of Approved SWM Plans. Plans shall be presented as a clear marked up comparison of approved versus constructed SWM design elements, elevations, and volumes. Utilize the plans as approved as the base and include any approved revisions.
___	___	___	<b>As-Built Stormwater Report:</b> Redline of Original design computations with corrections/asbuilt conditions as inserts to the report. The report must include a stormwater summary sheet where the comparison of between the approved critical design parameters and as-built design parameters are shown by values in addition to percent change ( <b>final less initial, divided by initial</b> ).
___	___	___	<b>Legible Documents:</b> All documents shall be of good quality and clearly legible.
___	___	___	<b>Inspector Check off Lists:</b> Completed Checklists may be superimposed on approved plans or included as separate part of the supporting documentation.
___	___	___	<b>Stormwater Maintenance Covenants and SWM Easements.</b>
___	___	___	<b>Ponds Only – Pond Summary Sheet (NRCS MD ENG-14):</b> Must be signed copy from NRCS.
___	___	___	<b>Material Tickets:</b> Material tickets, otherwise known as delivery tickets, for those materials used in the construction of the stormwater management facilities.
___	___	___	<b>Geotechnical Report:</b> Inspection and test reports verifying that the materials used (soils, concrete, reinforcing steel, etc.) met the project specifications of the approved plan. <u>Note:</u> This is not the design report with borings and infiltration testing.
___	___	___	<b>Structural Computations and approved shop drawings:</b> Plan reviewer to confirm the City has electronic copies; if not found, they will be requested from Engineer / Applicant.

## PART 2 – COVER SHEET AND CERTIFICATIONS

___	___	___	<b>Title Sheet:</b> “As-Built” added to title sheet.
___	___	___	<b>SWM Summary Table:</b> Provide Design storage and As-built storage for each facility and total ESD volume provided for the project.
___	___	___	<b>City of Gaithersburg As-Built SWM Approval block:</b> The bottom right of each plan sheet, approximately 3” by 5” of blank space must be included to accommodate the City’s Approval block.
___	___	___	<b>As-Built Legend:</b> Legend to demonstrate how red-lines supersede approved plans with indication of what red-line indicators mean (example “X.XX” means as-built elevation).
___	___	___	<b>As-Built Legend:</b> Legend to demonstrate
___	___	___	Certifications from suppliers which are not included as material ticket, i.e. filter cartridge information or secondary asbuilt of plumbing system from contractor.
___	___	___	<b>As-Built Record Drawing Certification Statement:</b> “ <i>This record drawing is accurate and complete, the stormwater management facilities are constructed per the approved stormwater management plan or subsequent revisions, and stormwater management is provided per the approved design computations.</i> ” Must be signed and sealed by a Qualified Professional (PE, PLS, RLA).

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___	___	___	<b>Ponds Only:</b> Record Drawing Certification Statement: <i>“This record drawing is accurate and complete, and the pond is constructed as per the approved stormwater management plan or subsequent revisions and substantially meets and / or exceeds the requirements of the Soil Conservation Service, MD-378 Standards and Specifications for Ponds.”</i> Must be signed and sealed by a Maryland Registered Professional Engineer
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## PART 3 – AS-BUILT INFORMATION ON PLANS

___	___	___	<b>Facility Locations and Dimensions:</b> As-Built Topography (1-ft or 2-ft contours with spot shots to note specific design criteria as appropriate for each facility)
___	___	___	<b>Facility Profiles and/or Cross-Sections:</b> per the approved design and verified as constructed per plan or provide as-built information. This includes but is not limited to inverts, dimensions, depths, slopes, elevations, ponding depth, ESD and 10-year WSEL, materials, flowsplitter structures, appurtenances such as overflow structures, cleanouts, overdrains, underdrains, and erosion protection.
___	___	___	<b>Facility Details:</b> Includes in-flow details, underdrains, geotextile, trash racks, etc.
___	___	___	<b>As-Built Design Data and As-built Conditions</b> (elevations, items which were not constructed are “x”d out, etc.).
___	___	___	<b>Non-ESD Facilities:</b> Profile along centerline of the embankment (if applicable)
___	___	___	<b>Non-ESD Facilities:</b> Profile along the centerline of the principal spillway / outfall pipe extending below the protected outfall or to the downstream manhole structure.
___	___	___	<b>Non-ESD Facilities:</b> Profile along the centerline of the emergency spillway.
___	___	___	<b>Non-ESD Facilities:</b> Design and As-Built Stage versus Storage Table on the plan view sheet.
___	___	___	<b>Ponds Only:</b> Establishment of a benchmark on the riser / control structure or inlet headwall to the nearest 0.1’ of elevation.

## PART 4 – AS-BUILT REPORT REQUIREMENTS

___	___	___	<b>Stormwater Report:</b> Use approved design report with Redline work showing “AS-BUILT” in red linework.
___	___	___	<b>As-Built Summary Table:</b> Include critical design parameters and percent change.
___	___	___	<b>Approved Design Computations.</b> Include design and as-built TR-20 when applicable.
___	___	___	<b>As-Built Computations:</b> Results differing from design should be displayed in red text. Highlight comparison of approved design versus as-built for all design storms.

## PART 5 – MATERIALS USED

___	___	___	<b>Material Tickets (Delivery Tickets):</b> All materials used in construction of the SWM facilities (principal spillway, control structure, PVC pipe, aggregate, planting media, plantings, etc.).
___	___	___	<b>Dimensions and Type of Material</b> for the riser / control structure.
___	___	___	Diameter, length, and type of material for principal spillway, underdrains, and observation wells / cleanouts.
___	___	___	<b>Trash Rack Device(s):</b> Size, Location, and type.
___	___	___	<b>Anti-Seep Collars, Pre-Cast Collars, and Concrete Cradles:</b> Number, Size, and Locations.
___	___	___	<b>Low Stage Orifice:</b> Invert, Size, and Length per approved plan.
___	___	___	<b>High Stage Weir / Riser Crests:</b> Invert, Size, and length per approved plan.

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___	___	___	<b>Manhole Covers / Facility Access:</b> Vented / Non-Vented delineation, with steps/ladders provide for maintenance access.
___	___	___	<b>Flow Splitter:</b> Diversion pipe / weir invert, size, and location per approved plan.
___	___	___	<b>Storm Drain Pipes / Appurtenances:</b> Incoming and Outgoing sizes, inverts, and outfall dimensions.
___	___	___	<b>Aggregates:</b> Fine / Course type and thickness.
___	___	___	<b>Filter Fabric (Geotextile Fabric):</b> Type and Location (vertical and horizontal) per approved plan.
___	___	___	<b>Landscaping / Wetland Plantings:</b> Number and location, as-built planting schedule and details verified by Registered Landscape Architect.

## PART 6 – FINAL ON-SITE CONDITIONS

___	___	___	<b>Outfalls are stabilized and adequate:</b> Documented with color photographs.
___	___	___	<b>Maintenance Access:</b> Adequate access for inspection and maintenance purposes to the public right-of-way (ROW).
___	___	___	<b>Low Stage Orifice:</b> Clear and Unobstructed.
___	___	___	<b>Fencing:</b> Type and Location per approved plan. Gates are located to allow maintenance access.
___	___	___	<b>Ponds Only</b> Stabilized and Adequate Slope & Pond Area Protection.

## PART 7 – SUPPORTING INFORMATION

___	___	___	<b>Geotechnical Inspection and Testing Reports:</b> Documented with color photographs. verifying materials used (e.g. concrete, reinforcing steel, planting media, sand, etc.) are per the approved plan. SWM Observations reports from geotechnical or others as applicable.
___	___	___	<b>Color photographs:</b> Construction progress photos of each SWM facility and photos of completed facilities with vegetation establishment.
___	___	___	<b>Other Pertinent Documents:</b> As needed for review of the as-built condition and to demonstrate the project’s SWM requirements have been met.

## PART 8 – ADDITIONAL COMMENTS

Blank area for additional comments.