

Appendix E – Stormwater Management Plan Checklist

Stormwater Management Plan Checklist

Title of Plan Reviewed: _____

Reviewer Name: _____

Review Date: _____

Completeness Summary

Section	Completed?	Notes
Report		
Summary of Compliance		
Design Calculations		
Design Drawings		
Soil Erosion & Sediment Control Plan		
Operations & Maintenance Plan		
Other Supporting Documents		

Detailed Checklist by Section

Report: General & Summary Information

	Section	Completed?	Notes
General	Applicant Name		
	Applicant Address		
	Applicant Contact Information		
	Site Location Address/Information		
	Site Location Map		
	Current Use and Zoning of Property		
	Proposed Use of Project		
Summary	Project Description and Purpose		
	Project Schedule (Include phasing if applicable)		
	Applicable Permits and Approvals		
	Applicable Regulation Requirements		

Report: Existing Conditions

	Section	Completed?	Notes
Existing Conditions	Site area, ground cover, vegetation, existing development features (roads, buildings, utilities, septic systems, etc.)		
	Site topography (2-foot contours based on aerial or field survey), slopes, drainage patterns, drainage systems, drainage areas, and stormwater discharge locations		
	Existing impervious area and DCIA		
	On-site and adjacent waterbody information <ul style="list-style-type: none"> ➤ Water quality classifications Water quality impairments and Total Maximum Daily Loads		
	Site soils as identified by USDA NRCS mapping or soil scientist <ul style="list-style-type: none"> ➤ Soil types Hydrologic Soil Groups		
	Soil evaluation results <ul style="list-style-type: none"> ➤ Initial screening information <ul style="list-style-type: none"> ○ Test pits and soil borings results (i.e., USDA soil textural class, depth to bedrock, depth to seasonal high groundwater, and Significant subsurface or geologic features) Field infiltration (if applicable)		
	Other site constraints (i.e., site contamination)		
	On-site and off-site critical resources ⁹⁷ <ul style="list-style-type: none"> ➤ Inland wetlands and watercourses, tidal wetlands, and associated regulatory setbacks ➤ Streams ➤ Lakes/ponds ➤ Vernal pools ➤ Coastal waters (Connecticut Coastal Jurisdiction Line) ➤ Coldwater streams ➤ Drinking water supply areas ➤ Tree canopy ➤ Steep slopes (≥25%) Conservation easement areas		
	Locations of 100-year floodplain, floodway, and flood elevations from current FEMA mapping		
	Land uses and development adjacent to the site		

⁹⁷ Watershed scale map with the site boundaries identified and these attributes identified is preferable.

Report: Proposed Conditions

	Section	Completed?	Notes
Proposed Conditions	Type of project or activity (new development, redevelopment, linear project, retrofit)		
	Proposed ground cover, vegetation, development features (roads, buildings, utilities, septic systems, etc.)		
	Proposed drainage area boundaries and design points		
	Proposed activities classified as Land Uses with Higher Potential Pollutant Loads (LUHPPLs)		
	Proposed impervious area and DCIA		
	Proposed area of land disturbance		
	Coastal Jurisdiction Line (CJL) for properties fronting coastal, tidal, or navigable waters		

Report: Applicable Stormwater Management Standards

	Section	Completed?	Notes
Stormwater Management Standard	Standard 1 – Runoff Volume and Pollutant Reduction <ul style="list-style-type: none"> ➤ LID Site Planning and Design ➤ Stormwater Retention and Treatment 		
	Standard 2 – Stormwater Runoff Quantity Control <ul style="list-style-type: none"> ➤ Design Storm Rainfall Depth and Distribution ➤ Peak Runoff Attenuation ➤ Conveyance Protection ➤ Emergency Outlet Sizing 		

Report: Proposed LID Site Planning

	Section	Completed?	Notes
Proposed LID Strategies	Avoided Impacts <ul style="list-style-type: none"> ➤ Minimizing Soil Compaction ➤ Minimizing Site Disturbance ➤ Protecting Sensitive Natural Areas ➤ Preserving Vegetated Buffers ➤ Avoiding Disturbance of Steep Slopes ➤ Siting on Permeable and Erodible Soils ➤ Protecting Natural Flow Pathways ➤ Conservation and Compact Development 		
	Reduced Impacts <ul style="list-style-type: none"> ➤ Reducing Impervious Surfaces (Roads, Cul-de-sacs, Sidewalks, Driveways, Buildings, Parking Lots) ➤ Preserving Pre-development Time of Concentration ➤ Use of Low Maintenance Landscaping 		
	Managed Impacts at the Source <ul style="list-style-type: none"> ➤ Disconnecting Impervious Surfaces - Impervious Area (Simple) Disconnection ➤ Conversion of Impervious Areas to Pervious Areas ➤ Source Controls 		

Report: Proposed Structural Stormwater BMPs

	Section	Completed?	Notes
Proposed Stormwater BMPs	Description of proposed structural stormwater BMPs and why they were selected <ul style="list-style-type: none"> ➤ Location, size, types by drainage area/design point ➤ Design criteria 		

Summary of Compliance: Standard 1

	Section	Completed ?	Notes
Standard 1 - Runoff Volume and Pollutant Reductions	<p>LID Site Planning and Design</p> <ul style="list-style-type: none"> ➤ LID Site Planning and Design Opportunities and Constraints Plan ➤ Completed LID Site Planning and Design Checklist ➤ Total LID Site Planning and Design credits and DCIA reduction 		
	<p>Stormwater Retention and Treatment</p> <ul style="list-style-type: none"> ➤ Impervious area and Directly Connected Impervious Area (DCIA) ➤ Retention and Treatment Required <ul style="list-style-type: none"> ○ Water Quality Volume and Water Quality Flow ○ Required Retention Volume ➤ Retention and Treatment Provided including Maximum Extent Achievable Documentation <ul style="list-style-type: none"> ○ Explanation of site limitations ○ Description of the stormwater retention practices implemented ○ Explanation of why this constitutes the Maximum Extent Achievable ○ Alternate retention volume ○ Description of measures used to provide additional stormwater treatment without retention ○ Use of EPA stormwater BMP performance curves to demonstrate compliance with required average annual pollutant load reductions 		

Summary of Compliance: Standard 2

	Section	Completed?	Notes
Standard 2 - Stormwater Runoff Quantity Control	Design Storm Rainfall Depth and Distribution		
	Comparison of pre- and post-development <ul style="list-style-type: none"> ➤ Runoff volume and peak flow rate <ul style="list-style-type: none"> ○ 2-year, 10-year, and 100-year, 24-hour storms 		
	Downstream Analysis: Comparison of pre- and post-development peak flows, velocities, and hydraulic effects at critical downstream locations (stream confluences, culverts, other channel constrictions, and flood-prone areas) to the confluence point where the 10 percent rule applies		
	Conveyance Protection		
	Emergency Outlet Sizing		

Design Calculations: Standard 1

	Section	Completed?	Notes
Standard 1 - Runoff Volume and Pollutant Reduction	LID Site Planning and Design Credit Calculations		
	Impervious Area and Directly Connected Impervious Area (DCIA)		
	Water Quality Volume, Water Quality Flow, and Required Retention Volume		
	Structural Stormwater BMP Sizing Calculations <ul style="list-style-type: none"> ➤ Static and dynamic sizing methods (infiltration systems) ➤ Drain time and groundwater mounding analysis (infiltration systems) ➤ Required versus provided design volumes Pollutant specific load reductions (BMP performance curves) where Standard 1 cannot be met by retention alone		

Design Calculations: Standard 2

	Section	Completed?	Notes
Standard 2 - Stormwater Runoff Quantity Control	Stormwater Runoff Calculations for Pre-Development and Post-Development (with and without stormwater BMPs) Conditions <ul style="list-style-type: none"> ➤ Design storm depth and duration, recurrence interval, and rainfall distribution ➤ Runoff volume and peak flow rate (2-year, 10-year, and 100-year, 24-hour storms) ➤ Runoff Curve Number ➤ Time of Concentration (and associated flow paths) 		
	Routing analysis for proposed stormwater BMPs including drainage routing diagram		
	Conveyance protection (including flow velocity calculations and outlet protection sizing) and emergency outlet sizing calculations		
	Downstream analysis hydrograph routing calculations		
	Storm drain system conveyance calculations		

Design Drawings: Existing Conditions

	Section	Completed?	Notes
Existing (Pre-Development) Conditions Plan	Location of existing man-made features on or adjacent to the site, such as roads, buildings, driveways, parking areas, other impervious surfaces, drainage systems, utilities, easements, septic systems, etc.		
	Surveyed locations of property boundaries and easements		
	Drainage systems and sanitary sewers should include rim and invert elevations of all structures and sizes and connectivity of all pipes		
	Vegetative communities on the site, including locations of tree canopy		
	Site topography (2-foot contours based on aerial or field survey), slopes, drainage patterns, conveyances systems (swales, storm drains, etc.), drainage area boundaries, flow paths, times of concentration		
	Locations of existing stormwater discharges		
	Areas of steep (25% or greater) slopes		
	Perennial and intermittent streams		
	Inland wetlands and watercourses (and associated regulatory setbacks) as defined by a soil scientist in the field and flags located by a licensed land surveyor		
	Locations of vernal pools		
	Locations of 100-year floodplain, floodway, and flood elevations from current FEMA mapping		
	Locations of soil types as identified by USDA NRCS mapping or soil scientist, test pit and soil boring locations, and field infiltration testing locations		
	Areas of site contamination		
	Location, size, type of existing structural stormwater BMPs and conveyance systems		
	Limits of developable area based on site development constraints		
	Coastal Jurisdiction Line (CJL) for properties fronting coastal, tidal, or navigable waters		

Design Drawings: Proposed Conditions

	Section	Completed?	Notes
Proposed (Post-Development) Conditions Plan	Location of proposed man-made features on or adjacent to the site such as roads, buildings, driveways, parking areas, other impervious surfaces, drainage systems, utilities, easements, septic systems, etc.		
	Surveyed locations of property boundaries and easements		
	Drainage systems and sanitary sewers should include rim and invert elevations of all structures and sizes and connectivity of all pipes		
	Vegetative communities on the site, including proposed limits of clearing and disturbance		
	Site topography (2-foot contours based on aerial or field survey), slopes, drainage patterns, conveyances systems (swales, storm drains, etc.), drainage area boundaries, flow paths, times of concentration		
	Locations of proposed stormwater discharges/design points		
	Perennial and intermittent streams		
	Inland wetlands and watercourses (and associated regulatory setbacks) as defined by a soil scientist in the field and flags located by a licensed land surveyor		
	Locations of vernal pools		
	Locations of 100-year floodplain, floodway, and flood elevations from current FEMA mapping		
	Locations and results of on-site soil evaluation (test pits/soil borings and field infiltration testing)		
	Areas of site contamination		
	Development envelope and areas of site preserved in natural condition		
	Location, size, type of proposed structural stormwater BMPs and conveyance systems. Structural BMPs should have rim, invert, and contour elevations and pipe sizes and construction material.		
	Locations of soil erosion and sedimentation controls		
	Locations of non-structural source controls		
	LID Site Planning and Design Opportunities and Constraints Plan		
	Structural Stormwater BMP Design Details and Notes		
	Coastal Jurisdiction Line (CJL) for properties fronting coastal, tidal, or navigable waters		

Other Plans

	Section	Completed?	Notes
Soil Erosion & Sediment Control Plan	See the Soil Erosion and Sediment Control Guidelines https://portal.ct.gov/DEEP/Water/Soil-Erosion-and-Sediment-Control-Guidelines/Guidelines-for-Soil-Erosion-and-Sediment-Control		
Operation & Maintenance Plan	Detailed inspection and maintenance requirements/tasks		
	Inspection and maintenance schedules		
	Parties legally responsible for maintenance (name, address, and telephone number)		
	Provisions for financing of operation and maintenance activities		
	As-built plans of completed structures		
	Letter of compliance from the designer		
	Post-construction documentation to demonstrate compliance with maintenance activities		
	Other considerations if needed		

Other Supporting Documents

	Section	Completed?	Notes
Other Supporting Documents	Completed Stormwater Management Plan Checklist		
	LID Site Planning and Design Checklist (Chapter 5 – Low Impact Development Site Planning and Design Strategies)		
	NRCS Soils Mapping		
	Soil Evaluation Documentation (Test Pits/Soil Borings and Field Infiltration Testing Results)		
	DCIA Tracking Worksheet required by the reviewing authority to satisfy MS4 Permit requirements		
	Groundwater impacts for proposed infiltration structures		
	Reports on wetlands and other surface waters (including available information such as Maximum Contaminant Levels [MCLs], Total Maximum Daily Loads [TMDLs], 303(d) or 305(b) impaired waters listings, etc.)		
	Water quality impacts to receiving waters		
	Water quality impacts to receiving waters		
	Impacts on biological populations/ecological communities including fish, wildlife (vertebrates and invertebrates), and vegetation		
	Flood study/calculations		
	Other permits and approvals issued for the project		