	3.12 Storage Practices	Sheet #	Yes/No	Comments
General				
1	What type of storage practice is utilized? ☐ Dry detention pond ☐ Underground detention vault/tank ☐ Rooftop storage [3.12 Storage Practices, page 223]			
Siting				
2	Is the contributing drainage area to the storage practice equal to or less than 25 acres? [3.12.1 Storage Feasibility Criteria- Contributing Drainage Area, page 225]			
3	Is there a minimum setback of 10 feet from a structure and adequate waterproofing protection for foundation and basement? [3.12.1 Storage Feasibility Criteria- Setbacks, page 226]			
4	For a dry pond, is the seasonal high groundwater table and bedrock at least 2 feet from the bottom of the storage practice? [3.12.1 Storage Feasibility Criteria- Depth to Water Table and Bedrock, page 226]			
5	For an underground detention vault/tank, is an anti-flotation analysis provided and designed to counter pipe and structure buoyancy by at least a 1.2 factor of safety? [3.12.4 Storage Design Criteria- Anti-flotation Analysis, page 230]			
6	For underground detention vault/tank, has a licensed professional certified that the vault/tank meets the structural requirements for overburden support and traffic loading? [3.12.1 Storage Feasibility Criteria- Depth to Water Table and Bedrock, page 226]			
7	Confirm the following utility clearances: ☐ No utility lines crossing any part of the embankment of a dry pond where the water table is greater than 2 feet ☐ Minimum 5-foot clearance from storage facilities [3.12.1 Storage Feasibility Criteria- Proximity to Utilities, page 226]			
8	Is a geotechnical investigation provided with at least one soil boring, taken at the low point within the footprint of the proposed storage practice, to establish water table and bedrock elevations and evaluate soil suitability? [3.12.1 Storage Feasibility Criteria- Soils, page 226]			
9	Does the underground detention vault or tank meet the structural requirements for overburden support			

	and traffic loading? [3.12.1 Storage Feasibility Criteria- Structural Stability, page 226]			
10	If the pond is located on a perennial stream, are Section 401 and Section 404 permits included with the plan? [3.12.1 Storage Feasibility Criteria- Perennial Streams, page 227]			
Design				
11	For the 2-year storm management, does the storage practice contain a control structure with trash rack designed to release at the predevelopment flow rate? [3.12.2 Storage Conveyance Criteria, page 227]			
12	Does the design specify an outfall that will be stable for the 15-year storm event? If no, is the channel immediately below the storage practice outfall modified to prevent erosion? Is the storage practice outfall stable for the 15-year storm event and, if necessary, the channel below the outfall modified to prevent erosion? [3.12.2 Storage Conveyance Criteria, page 227]			
13	Does the plan include an outfall analysis showing discharge velocities down to the nearest downstream water course? If required, has the developer/contractor secured any off-site drainage easements for improvements to the downstream channel? [3.12.2 Storage Conveyance Criteria, page 227]			
14	If the facility discharges to a manmade pipe or channel system, is the system adequate to convey the required design storm peak discharge? [3.12.2 Storage Conveyance Criteria, page 227]			
15	If necessary, is the final release rate modified to ensure there is no increase in flooding or stream channel erosion at a downstream structure? [3.12.2 Storage Conveyance Criteria, page 227]			
Detention Pond				
16	Are the inflow points stabilized to ensure non-erosive conditions during storm events up to the overbank flood event? [3.12.2 Storage Conveyance Criteria, page 228]			
17	Is a forebay located at each major inlet to a dry pond? [3.12.3 Storage Pretreatment Criteria, page 228]			
18	Does the forebay meet the following criteria? ☐ Sized to contain 0.1 inches of runoff from the contributing drainage area ☐ Non-erosive exit velocities (4 feet/second at a 2-year event and 6 feet/second at a 15 year event) or the design includes an armored overflow			

	☐ Direct maintenance access to the forebay [3.12.3 Storage Pretreatment Criteria, pages 228-229]			
19	Does the pond have a maximum longitudinal slope of 0.5-1%? Confirm the dry pond does not have a low-flow pilot channel. [3.12.4 Storage Design Criteria- Internal Slope, page 229]			
20	Is a pond with side slopes steeper than 5V:1H fenced with a lockable gate? [3.12.4 Storage Design Criteria- Side Slopes, page 229]			
21	Does the flow path address the following requirements? ☐ Minimum length to width ratio of 2:1 ☐ Ratio of shortest flow path to overall length of at least 0.4 ☐ If the ratio is not attained, drainage area of the inlet must not constitute more than 20% of total contributing drainage area [3.12.4 Storage Design Criteria- Flow Path, page 229]			
22	Does the spillway design include the following? ☐ Acceptable anti-flotation, anti-vortex and trash rack devices ☐ Access from dry land ☐ "O-ring" gaskets used to create watertight joints when a the design contains a reinforced concrete pipe [3.12.2 Storage Conveyance Criteria- Preliminary Spillway, page 228]			
23	Does the dry pond design safely pass the 100-year storm event through either primary spillway or an emergency spillway? [3.12.2 Storage Conveyance Criteria, page 228]			
24	Does the pond contain the safety features below? ☐ Principal spillway prevents access by small children ☐ Pipe end walls greater than 48 inches in diameter are fenced at the top of the wall ☐ 1-foot freeboard above emergency spillway (2 feet if there is no emergency spillway) ☐ Emergency spillway located so that downstream structures will not be impacted by spillway discharges [3.12.4 Storage Design Criteria- Safety Features, page 230]			
25	Does the pond include an access road meeting the following requirements? ☐ Minimum 15-foot width ☐ Profile grade not exceeding 5H:1V			

	[3.12.4 Storage Design Criteria- Maintenance Access, page 230]			
26	Are trash racks included on all low-flow pipes and riser openings not having anti-vortex devices? [3.12.4 Storage Design Criteria- Maintenance Access, page 230]			
27	Does the landscaping plan include the following? ☐ Delineation of pondscaping zones within both pond and buffer ☐ Selection of corresponding plant species ☐ Planting plan ☐ Sequence of preparing the wetland benches ☐ Sources of native plant material [3.12.5 Storage Landscaping Criteria, page 231]			
Underground Tank or Vault				
28	Does the detention vault/tank include a pretreatment structure to capture sediment, coarse trash, and debris upstream of every inflow point? [3.12.3 Storage Pretreatment Criteria, page 229]			
29	Do the underground detention vault and tank materials adhere to the following criteria? ☐ Watertight construction joints and pipe joints ☐ Cast-in-place wall sections designed as retaining walls ☐ Maximum depth from finished grade to vault invert of 20 feet ☐ Minimum pipe diameter of 24 inches [3.12.4 Storage Design Criteria- Detention Vault and Tank Materials, page 230]			
30	Is access provided over the inlet pipe and outflow structure with access steps? [3.12.4 Storage Design Criteria- Maintenance Access, page 230]			
31	Is the underground detention facility designed with an internal or external high flow bypass or overflow to safely pass the 100-year storm? [3.12.2 Storage Conveyance Criteria, page 228]			
Rooftop Storage				
32	Is rooftop storage used to provide detention for the 2-year and/or 15-year storms?			
33	Based on a snow load of 30 pounds per square foot or 5.8 inches of water, has a District-licensed structural professional engineer certified that the roof is structurally capable of holding the required detention volume with a reasonable factor of safety? [Appendix I Rooftop Storage Design Guidance and			

	Criteria, page I-1]			
34	If the rooftop is calculated to store depths greater than 3 inches, has a structural professional engineer provided and certified calculations for structural adequacy? [Appendix I Rooftop Storage Design Guidance and Criteria, page I-1]			
35	Does the roof drain quantity meet the following requirements? ☐ No less than 2 roof drains in roof areas 10,000 square feet or less ☐ At least 4 roof drains installed in roof areas over 10,000 square feet ☐ One roof drain for each 10,000 square foot area for rooftops exceeding 40,000 square feet [Appendix I Rooftop Storage Design Guidance and Criteria, page I-1]			
36	Do the roof drains address the following emergency overflow measures for a 100-year, 45-minute storm? ☐ If the parapet wall exceeds 5 inches in height, openings (scuppers) provided in the parapet walls to discharge design storm flow at a water level not exceeding 5 inches ☐ One scupper provided for every 20,000 square feet of roof area, with the scupper invert not more than 5 inches above the roof level ☐ Roof drains without controlled flow shall have detention rings ☐ Conductors and leaders sized to pass the 100-year design storm [Appendix I Rooftop Storage Design Guidance and Criteria, pages I-1 & I-2]			
37	Are detention rings placed around all roof drains that do not have controlled flow? Do the detention rings address the following criteria? ☐ Number of holes and/or size of ring openings computed based on the area of the roof drained and runoff criteria ☐ Holes have a minimum spacing of 2 inches center-to-center ☐ Height determined by roof slope and detention ring requirements, but no more than 5 inches ☐ Diameter sized to accommodate the required openings and, if scuppers not provided, allow the 100-year design storm to overtop the ring ☐ Conductors and leaders also sized to pass the expected flow from the 100-year design storm ☐ For overflow design, the weir length is equal to the circumference of the detention ring [Appendix I Rooftop Storage Design Guidance and Criteria, pages I-1& I-2]			
38	Is the maximum roof drawdown time less than 17 hours? [Appendix I Rooftop Storage Design Guidance and Criteria, page I-2]			
39	Are the roof drains Josam Manufacturing Company, Zurn Industries, Inc. “controlled flow” roof drains or equivalent?			

	[Appendix I Rooftop Storage Design Guidance and Criteria, page I-2]			
40	Does the roof storage plan contain the following? ☐ Roof area in square feet ☐ Storage provided at design depth ☐ Maximum allowable discharge rate ☐ Inflow/outflow hydrograph analysis or acceptable charts ☐ Number of drains required ☐ Size of openings required in detention rings ☐ Sizing of ring to accept openings and pass the 100-year design storm [Appendix I Rooftop Storage Design Guidance and Criteria, page I-2]			
Construction				
41	Do the underground storage facility construction notes state that the system must be inspected and cleaned of sediment after the site is stabilized? [3.12.6 Storage Construction Sequence, page 231]			
42	If the dry pond is used as a sediment trap or basin during the construction phase, do the construction notes clearly indicate that the facility will be dewatered, dredged, and re-graded to design dimensions after the original site construction is complete? [3.12.6 Storage Construction Sequence, page 232]			
43	Do the pond construction notes indicate the following? ☐ All areas surrounding the pond that are graded or denuded during construction must be planted with turf grass, native plantings, or other approved methods of soil stabilization. ☐ The embankment and any internal berms must be installed in 8- to 12-inch lifts and compacted with appropriate equipment. ☐ The emergency spillway must be constructed in cut or structurally stabilized soils [3.12.6 Storage Construction Sequence, page 232]			
44	Does the plan contain the Storage and Underground Detention Practices Construction and Maintenance Inspection Checklists (Appendix K Construction Inspection Checklists and Appendix L Maintenance Inspection Checklists) or incorporate the checklists by reference? [Appendix K and Appendix L]			

Maintenance				
45	Does the SWMP include a maintenance schedule similar to Table 3.50 Typical Maintenance Activities for Storage Practices in the Stormwater Management Guidebook? [3.12.7 Storage Maintenance Criteria, page 233]			
46	Is the storage practice included in the Declaration of Covenant? ☐ Is the location and extent of the storage practice a part of Exhibit B Site Plan? ☐ Is the maintenance of the storage practice a part of Exhibit C Maintenance Plan? [3.12.7 Storage Maintenance Criteria, page 234]			