	3.10 Ponds	Sheet #	Yes/No	Comments
General				
1	What type of pond is utilized? ☐ Micropool extended detention pond ☐ Wet pond ☐ Wet extended detention pond [3.10 Ponds, page 187]			
Siting				
2	Is there a minimum setback of 10 feet from a structure and waterproofing protection for foundation and basement? [3.10.1 Pond Feasibility Criteria- Setbacks, page 190]			
3	Are there utility lines crossing any part of the embankment of a wet pool? If so, the utility line must be relocated or the pond redesigned. [3.10.1 Pond Feasibility Criteria- Proximity to Utilities, page 190]			
4	If the pond is located within jurisdictional waters, including wetlands, is a Section 404 permit included with the plan? [3.10.1 Pond Feasibility Criteria- Use of or Discharges to Natural Wetlands, page 191]			
5	If the pond is located on a perennial stream, are both Section 401 and Section 404 permits included with the plan? [3.10.1 Pond Feasibility Criteria- Perennial Streams, page 191]			
6	Was a geotechnical investigation performed to determine the infiltration rates and other subsurface properties of the soil beneath the proposed pond? [3.10.1 Pond Feasibility Criteria- Perennial Streams, page 190]			
7	Does the geotechnical investigation report contain soil borings taken in the following locations? ☐ Below the proposed embankment ☐ In the vicinity of the proposed outlet area ☐ Two locations within the proposed pond treatment area [3.10.4 Pond Design Criteria- Required Geotechnical Testing, page 195]			
Design				
8	Does the pond have overflow capacity to bypass the 100 year storm? [3.10.2 Pond Conveyance Criteria- Emergency Spillway, page 192]			

9	Does the design specify that the outfall will be stable at the 15-year storm event? ☐ Is the channel immediately below the pond outfall modified to prevent erosion and conform to natural dimensions in the shortest possible distance? ☐ When the discharge is to a manmade pipe or channel system, is the system adequate to convey the required design storm peak discharge? ☐ If necessary, is the final release rate modified to ensure there is no increase in flooding or stream channel erosion at a downstream structure? [3.10.2 Pond Conveyance Criteria- Adequate Outfall Protection, page 192]			
10	Are the inflow points stabilized to ensure non-erosive conditions during storm events up to the overbank flood event? [3.10.2 Pond Conveyance Criteria- Inlet Protection, page 192]			
11	Is there a forebay at each inflow location (unless the inlet is submerged or the inflow provides less than 10% of the total design volume inflow to the pond)? [3.10.2 Pond Conveyance Criteria- Inlet Protection, page 192]			
12	Does the forebay meet the following criteria? ☐ 4-6 feet deep with a 4-6 feet wide aquatic bench at a depth of 1-2 feet below the water surface ☐ Sized to contain 0.1 inches of runoff from the contributing drainage area ☐ Metered rod in the center of the forebay pool to monitor sediment accumulation ☐ 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 [3.10.3 Pond Pretreatment Criteria, page 193]			
13	Is the pond permanent pool sized to store a volume equivalent to the SWRv or design volume? [3.10.4 Pond Design Criteria- Pond Sizing, page 197]			
14	Is a water balance equation (Equation 3.24) used to show the pond will not draw down by more than 2 feet after a 30-day summer drought? [3.10.4 Pond Design Criteria- Water Balance Testing, page 197]			
15	If designed as an extended detention pond, will the micropool hold 10-25% of the 1.2-inch storm event? [3.10.4 Pond Design Criteria- Micropool, page 194]			
16	Do the perimeters of all pools greater than 4 feet deep contain the following? ☐ Safety bench			

	☐ 8-15 feet outward from the normal water edge to the toe of the stormwater pond side slope (except when side slopes are 5H:1V or flatter) ☐ Maximum slope of 5% ☐ Aquatic bench ☐ Extending 10 feet inward from the normal shoreline ☐ An irregular configuration ☐ Maximum depth of 18 inches below the normal pool water surface elevation [3.10.4 Pond Design Criteria- Stormwater Pond Benches, page 194]			
17	If a clay liner is required, does it have a minimum thickness of 12 inches with an additional 12-inch layer of compacted soil above it and meet the specifications in Table 3.44 Clay Liner Specifications? [3.10.4 Pond Design Criteria- Liners, page 194]			
18	Is a low-flow orifice provided that is adequately protected from clogging by either an acceptable external trash rack or by internal orifice protection? If an alternative method is used, does it employ a broad crested rectangular V-notch weir, protected by a half-round CMP that extends at least 12 inches below the normal pool elevation? [3.10.2 Pond Conveyance Criteria- Low Flow Orifice, page 192]			
19	Are trash racks included on all low-flow pipes and riser openings not having anti-vortex devices? [3.10.4 Pond Design Criteria- Trash Racks, page 195]			
20	Is riser access provided by a lockable manhole cover and manhole steps? [3.10.4 Pond Design Criteria- Riser in Embankment, page 195]			
21	Does the pond design include a drain pipe (upturned elbow or protected intake) that completely or partially drains the pond in 24 hours? If a low level drain is not feasible, is a pump well provided? [3.10.4 Pond Design Criteria- Pond Drain, page 195]			
22	Do the pond drain and outlet pipe contain the following? ☐ Adjustable gate valve or pump well sized one pipe size greater than the calculated diameter ☐ Located where it will not be permanently inundated and can be accessed in a safe manner ☐ Hand wheel chained to a fixed object [3.10.4 Pond Design Criteria- Adjustable Gate Valve, page 196]			

23	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 [3.10.2 Pond Conveyance Criteria- Primary Spillway, page 192]			
24	Does the pond have overflow capacity to bypass the 100 year storm? [3.10.2 Pond Conveyance Criteria- Emergency Spillway, page 192]			
25	Does the design specify that the outfall will be stable at the 15-year storm event? ☐ Is the channel immediately below the pond outfall modified to prevent erosion and conform to natural dimensions in the shortest possible distance? ☐ When the discharge is to a manmade pipe or channel system, is the system adequate to convey the required design storm peak discharge? ☐ If necessary, is the final release rate modified to ensure there is no increase in flooding or stream channel erosion at a downstream structure? [3.10.2 Pond Conveyance Criteria- Adequate Outfall Protection, page 192]			
26	Does the pond design contain the safety features below? ☐ Principal spillway prevents access by small children ☐ Pipe end walls greater than 48 inches in diameter are fenced ☐ 1-foot freeboard above emergency spillway (2 feet if there is no emergency spillway) ☐ Warning signs prohibiting swimming ☐ Pond side slopes not steeper than 3H:1V and terminating on 15 feet safety bench (bench requirement waived if 4H:1V or flatter) [3.10.4 Pond Design Criteria- Safety Features, page 196]			
27	Does the pond design include an access road meeting the following requirements? ☐ Constructed of load bearing material ☐ Minimum 15-foot width ☐ Profile grade not exceeding 5H:1V ☐ Maintenance right-of-way or easement extending from public/private road to the pond ☐ Extend to forebay, safety bench, riser, and outlet structure and have sufficient			

	area to allow vehicles to turn around [3.10.4 Pond Design Criteria- Maintenance Reduction Features, page 196]			
28	Is a landscaping plan provided that includes 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 [3.10.5 Pond Landscaping Criteria, pages 198-199]			
Construction				
29	If the pond serves as a sediment basin during construction: ☐ Are procedures in place to prevent discharge of turbid waters when the basin converted to a pond? ☐ Does the plan include a note stating approval must be obtained from DDOE before sediment pond can be used for stormwater management? [3.10.6 Pond Construction Sequence- Use of Ponds for ESC, page 199]			
30	Does the construction sequence include the following notes? ☐ 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 internal berms must be installed in 8- to 12-inch lifts, compacted with appropriate equipment. ☐ The emergency spillway must be constructed in cut or structurally stabilized soils. ☐ All areas above the normal pool elevation must be permanently stabilized by hydroseeding or seeding over straw. [3.10.6 Pond Construction Sequence, page 200]			
31	Does the plan contain the Pond 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				
32	Does the SWMP include a maintenance schedule similar to Table 3.45 Pond Maintenance Tasks and Frequency in the Stormwater Management Guidebook? [3.10.7 Pond Maintenance Criteria, page 202]			
33	Does the maintenance plan clearly outline how vegetation in the pond and its buffer will be managed or harvested in the future? [3.10.7 Pond Maintenance Criteria, page 202]			
34	Is the pond included in the Declaration of Covenant? ☐ Is the location and extent of the pond a part of Exhibit B Site Plan? ☐ Is the maintenance of the pond a part of Exhibit C Maintenance Plan? [3.10.7 Pond Maintenance Criteria, page 202]			