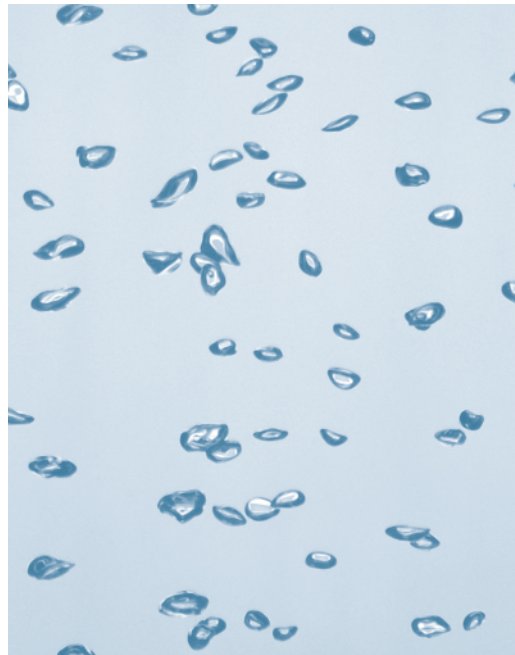
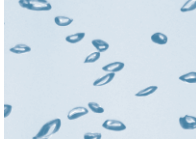


Appendix E
Maintenance Inspection Checklist





Stormwater Ponds and Wetlands

Project/Location: _____

“As Built” Plans Available? _____

Date/Time: _____

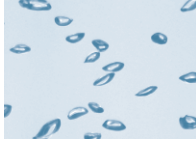
Days Since Previous Rainfall and Rainfall Amount: _____

Inspector: _____

| Maintenance Item | Satisfactory | Unsatisfactory | Comments |
|--|--------------|----------------|----------|
| 1. Embankment and Emergency Spillway | | | |
| ○ Vegetation and ground cover adequate | | | |
| ○ Embankment erosion | | | |
| ○ Animal burrows | | | |
| ○ Unauthorized planting | | | |
| ○ Cracking, bulging, or sliding of embankment/dam | | | |
| a. Upstream face | | | |
| b. Downstream face | | | |
| c. At or beyond toe | | | |
| d. Emergency spillway | | | |
| ○ Pond, toe & chimney drains clear and functioning | | | |
| ○ Seeps/leaks on downstream face | | | |
| ○ Slope protection or riprap failure | | | |
| ○ Vertical/horizontal alignment of top of dam “As-Built” | | | |
| ○ Emergency spillway clear of obstructions and debris | | | |
| ○ Other (specify) | | | |
| 2. Riser and Principal Spillway | | | |
| ○ Low flow orifice obstructed | | | |
| ○ Low flow trash rack obstructed with debris | | | |
| ○ Weir trash rack obstructed with debris | | | |
| ○ Excessive sediment accumulation insider riser | | | |
| ○ Concrete/masonry condition riser and barrels | | | |
| a. Cracks or displacement | | | |
| b. Minor spalling (<1”) | | | |
| c. Major spalling (rebars exposed) | | | |
| d. Joint failures | | | |
| e. Water tightness | | | |
| ○ Metal pipe condition | | | |



| Maintenance Item | Satisfactory | Unsatisfactory | Comments |
|---|--------------|----------------|----------|
| ○ Control valve | | | |
| a. Operational/exercised | | | |
| b. Chained and locked | | | |
| ○ Pond drain valve | | | |
| a. Operational/exercised | | | |
| b. Chained and locked | | | |
| ○ Outfall channels functioning | | | |
| ○ Other (specify) | | | |
| 3. Permanent Pool (Wet Ponds) | | | |
| ○ Undesirable vegetative growth | | | |
| ○ Floating or floatable debris removal required | | | |
| ○ Visible pollution | | | |
| ○ Shoreline problem | | | |
| ○ Other (specify) | | | |
| 4. Sediment Forebay | | | |
| ○ Sedimentation noted | | | |
| ○ Greater than 50% of storage volume remaining | | | |
| 5. Dry Pond Areas | | | |
| ○ Vegetation coverage adequate | | | |
| ○ Undesirable vegetative growth | | | |
| ○ Undesirable woody vegetation | | | |
| ○ Low flow channels clear of obstructions | | | |
| ○ Standing water or wet spots | | | |
| ○ Sediment and/or trash accumulation | | | |
| ○ Other (specify) | | | |
| 6. Condition of Outfalls | | | |
| ○ Riprap failures | | | |
| ○ Slope erosion | | | |
| ○ Storm drain pipes | | | |
| ○ Endwalls/Headwalls | | | |
| ○ Other (specify) | | | |
| 7. Other | | | |
| ○ Complaints from residents (odors, insects, other) | | | |
| ○ Aesthetics (graffiti, algae, other) | | | |
| ○ Conditions of maintenance access routes | | | |
| ○ Signs of hydrocarbon build-up | | | |
| ○ Any public hazards (specify) | | | |



| Maintenance Item | Satisfactory | Unsatisfactory | Comments |
|--|--------------|----------------|----------|
| 8. Wetland Vegetation | | | |
| o Vegetation healthy and growing | | | |
| o Wetland maintaining 50% surface area coverage of wetland plants after the second growing season. (If unsatisfactory, reinforcement plantings needed) | | | |
| o Survival of desired wetland plant species distribution according to landscaping plan? | | | |
| o Evidence of invasive species | | | |
| o Maintenance of adequate water depths for desired wetland plant species. | | | |
| o Harvesting of emergent plantings needed | | | |
| o Have sediment accumulations reduced pool volume significantly or are plants choked with sediment? | | | |
| o Other (specify) | | | |
| Actions to Be Taken: | | | |
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| To Be Completed By (Date): | | | |
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Source: Adapted from Watershed Management Institute, Inc. 1997. *Operation, Maintenance, and Management of Stormwater Management Systems*, in cooperation with U.S. Environmental Protection Agency, Office of Water. Washington, D.C.



Infiltration Basins and Trenches

Project/Location: _____

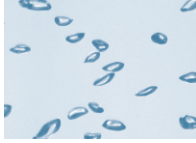
“As Built” Plans Available? _____

Date/Time: _____

Days Since Previous Rainfall and Rainfall Amount: _____

Inspector: _____

| Maintenance Item | Satisfactory | Unsatisfactory | Comments |
|--|--------------|----------------|----------|
| 1. Debris Cleanout | | | |
| ○ Basin bottom or trench surface clear of debris | | | |
| ○ Inlet/Inflow pipes clear of debris | | | |
| ○ Overflow spillway clear of debris | | | |
| ○ Outlet clear of debris | | | |
| 2. Sediment Traps or Forebays | | | |
| ○ Sedimentation noted | | | |
| ○ Greater than 50% of storage volume remaining | | | |
| 3. Vegetation (Basins) | | | |
| ○ Mowing performed as necessary | | | |
| ○ No evidence of erosion | | | |
| 4. Dewatering | | | |
| ○ Basin/Trench dewaterers between storms | | | |
| ○ Drawdown time does not exceed 36 to 48 hours | | | |
| 5. Sediment Accumulation | | | |
| ○ Approximate depth of accumulated sediment | | | |
| 6. Inlets | | | |
| ○ Good condition | | | |
| ○ No evidence of erosion | | | |
| 7. Outlet/Overflow Spillway | | | |
| ○ Good condition, no need for repair | | | |
| ○ No evidence of erosion | | | |
| 8. Aggregate Repairs (Trench) | | | |
| ○ Surface of aggregate clean | | | |
| ○ Top layer of stone does not need replacement | | | |
| ○ Trench does not need rehabilitation | | | |



| Maintenance Item | Satisfactory | Unsatisfactory | Comments |
|---|--------------|----------------|----------|
| 9. Structural Repairs | | | |
| ○ Embankment in good repair | | | |
| ○ Site slopes are stable | | | |
| ○ No evidence of erosion | | | |
| 10. Fences/Access Repairs | | | |
| ○ Fences in good condition | | | |
| ○ No damage which would allow undesired entry | | | |
| ○ Access point in good condition | | | |
| ○ Locks and gate function property | | | |
| Actions to Be Taken: | | | |
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| To Be Completed By (Date): | | | |
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Source: Adapted from Watershed Management Institute, Inc. 1997. Operation, Maintenance, and Management of Stormwater Management System, in cooperation with U.S. Environmental Protection Agency, Office of Water. Washington, D.C.



Filtering Practices – Sand and Organic Filters

Project/Location: _____

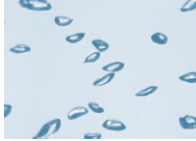
“As Built” Plans Available? _____

Date/Time: _____

Days Since Previous Rainfall and Rainfall Amount: _____

Inspector: _____

| Maintenance Item | Satisfactory | Unsatisfactory | Comments |
|---|--------------|----------------|----------|
| 1. Debris Cleanout | | | |
| ○ Filtration facility clean of debris | | | |
| ○ Inlet and outlets clear of debris | | | |
| 2. Oil and Grease | | | |
| ○ No evidence of filter surface clogging | | | |
| ○ Activities in drainage area minimize oil and grease entry | | | |
| 3. Vegetation | | | |
| ○ Contributing drainage area stabilized | | | |
| ○ No evidence of erosion | | | |
| ○ Area mowed and clipping removed | | | |
| 4. Water Retention | | | |
| ○ Water holding chambers at normal pool | | | |
| ○ Filter chamber dewaterers between storms | | | |
| ○ No evidence of leakage | | | |
| 5. Sediment Accumulation | | | |
| ○ Approximate depth of accumulated sediment | | | |
| ○ Depth of sediment in forebay or sump should not be more than 12 inches or 10 percent of the pretreatment volume | | | |
| ○ Sediment accumulation on filter bed does not exceed 1" or drawdown time does not exceed 36 to 48 hours | | | |
| 6. Structural Components | | | |
| ○ No evidence of structural deterioration | | | |
| ○ Grates are in good condition | | | |
| ○ No evidence of spalling or cracking of structural parts | | | |
| 7. Outlet/Overflow Spillway | | | |
| ○ Good condition, no need for repairs | | | |
| ○ No evidence of erosion (if draining into a natural channel) | | | |



| Maintenance Item | Satisfactory | Unsatisfactory | Comments |
|--|--------------|----------------|----------|
| 8. Overall Function of Facility | | | |
| ○ No evidence of flow bypassing facility | | | |
| ○ No noticeable odors outside facility | | | |
| Actions to Be Taken: | | | |
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| To Be Completed By (Date): | | | |
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Source: Adapted from Watershed Management Institute, Inc. 1997. Operation, Maintenance, and Management of Stormwater Management Systems, in cooperation with U.S. Environmental Protection Agency, Office of Water. Washington, D.C.



Filtering Practices - Bioretention

Project/Location: _____

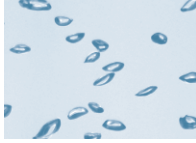
“As Built” Plans Available? _____

Date/Time: _____

Days Since Previous Rainfall and Rainfall Amount: _____

Inspector: _____

| Maintenance Item | Satisfactory | Unsatisfactory | Comments |
|---|--------------|----------------|----------|
| 1. Debris Cleanout | | | |
| ○ Bioretention and contributing areas clean of debris | | | |
| ○ No dumping of yard wastes into practice | | | |
| ○ Litter (branches, etc.) has been removed | | | |
| 2. Vegetation | | | |
| ○ Plant height not less than design water depth | | | |
| ○ Fertilized per specifications | | | |
| ○ Plant composition according to approved plans | | | |
| ○ No placement of inappropriate plants | | | |
| ○ Grass height not greater than 6 inches | | | |
| ○ No evidence of erosion | | | |
| 3. Check Dams/Energy Dissipaters/Sumps | | | |
| ○ No evidence of sediment buildup | | | |
| ○ No evidence of erosion at downstream toe of drop structure | | | |
| 4. Dewatering | | | |
| ○ Dewaterers between storms | | | |
| ○ No evidence of standing water | | | |
| 5. Sediment Accumulation | | | |
| ○ Approximate depth of accumulated sediment | | | |
| ○ Depth of sediment in forebay or sump should not be more than 12 inches or 10 percent of the pretreatment volume | | | |
| ○ Sediment accumulation on filter bed does not exceed 1" or drawdown time does not exceed 36 to 48 hours | | | |



| Maintenance Item | Satisfactory | Unsatisfactory | Comments |
|---|--------------|----------------|----------|
| 6. Outlet/Overflow Spillway | | | |
| ○ Good condition, no need for repair | | | |
| ○ No evidence of erosion | | | |
| ○ No evidence of any blockages | | | |
| 7. Integrity of Filter Bed | | | |
| ○ Filter bed has not been blocked or filled inappropriately | | | |
| Actions to Be Taken: | | | |
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| To Be Completed By (Date): | | | |
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Source: Adapted from Watershed Management Institute, Inc. 1997. *Operation, Maintenance, and Management of Stormwater Management Systems*, in cooperation with U.S. Environmental Protection Agency, Office of Water. Washington, D.C.



Water Quality Swales

Project/Location: _____

“As Built” Plans Available? _____

Date/Time: _____

Days Since Previous Rainfall and Rainfall Amount: _____

Inspector: _____

| Maintenance Item | Satisfactory | Unsatisfactory | Comments |
|---|--------------|----------------|----------|
| 1. Debris Cleanout | | | |
| <ul style="list-style-type: none"> No excessive trash and debris in contributing areas, forebay, or channel | | | |
| 2. Check Dams or Energy Dissipators | | | |
| <ul style="list-style-type: none"> No evidence of flow going around structures No evidence of erosion at downstream toe | | | |
| 3. Vegetation | | | |
| <ul style="list-style-type: none"> Mowing performed as necessary (to maintain grass height of 4 to 6 inches during growing season) No evidence of erosion (channel bottom or side slopes) Fertilized per specification | | | |
| 4. Dewatering | | | |
| <ul style="list-style-type: none"> Dewaters between storms (dry swales) | | | |
| 5. Sediment Accumulation | | | |
| <ul style="list-style-type: none"> Approximate depth of accumulated sediment Sediment accumulation is less than 25% of forebay or channel capacity (cleaning recommended otherwise) | | | |
| 6. Outlet/Overflow Spillway | | | |
| <ul style="list-style-type: none"> Good condition, no need for repairs No evidence of erosion | | | |
| Actions to Be Taken: | | | |
| | | | |
| | | | |
| To Be Completed By (Date): | | | |
| | | | |
| | | | |

Source: Adapted from Watershed Management Institute, Inc. 1997. Operation, Maintenance, and Management of Stormwater Management Systems, in cooperation with U.S. Environmental Protection Agency, Office of Water. Washington, D.C.