TECHNICAL MEMORANDUM #9

TO: Applicants and Designers for State and Federal Projects

FROM: Sediment and Stormwater Plan Review Division
Water and Science Administration

DATE: June 1, 2018

SUBJECT: Maintenance Schedules

The *Maryland Stormwater Management and Erosion & Sediment Control Guidelines for State and Federal Projects* state that the owner of a best management practice (BMP), or agent in control of the BMP, must maintain in good condition and promptly repair and restore all stormwater management BMPs and appurtenances. Such repairs, restoration, and maintenance must be in accordance with the MDE approved plans. Maintenance schedules are to be developed for all BMPs and printed on the stormwater management plans submitted for site development and final plan approval. The schedules must state the maintenance to be completed and the time period for completion. Attached are the Division's minimum requirements for maintenance schedules for the following standard BMPs:

- Submerged Gravel Wetland
- Landscape Infiltration
- Infiltration Berm
- Dry Well
- Micro-Bioretention
- Rain Garden
- Bio-Swale
- Wet Swale
- Grass Swale
- Porous Bituminous - Pervious Concrete
- Reinforced Turf
- Pavers
- Bioretention
- Dry Swale
- Surface Sand Filter
- Underground Sand Filter
- Infiltration Trench
- Infiltration Basin
- Pond

STORMWATER MAINTENANCE SCHEDULE
SUBMERGED GRAVEL WETLAND

MONTHLY INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Debris and Trash	Check for trash and debris in facility including inlets, outlets, conveyance systems, and area around facility.	Remove all trash and debris and dispose in an acceptable manner. Unclog all openings.
Plant Composition and Health	Compare plant composition with approved plans. Check for invasive species or weeds. Check for dead or dying vegetation.	Remove invasive species and weeds. Replace dead plants in accordance with approved landscaping plan.
Vegetative Cover	Check for channelizing, erosion, and bare spots. Check for vegetation blocking inlets and outlet.	Remove or cut back vegetation around inlet and outlet structures. Mow side slopes when grass exceeds 12 inches in height. Remove grass clippings. Re-seed or re-plant in accordance with approved landscaping plans.
Pea Gravel Chimney	Check pea gravel for sediment accumulation and evidence of erosion.	Stabilize or replace pea gravel according to plan specifications.
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Dewatering	Check ponding level. Surface storage must dewater within 48 hours of rainfall. Noticeable odors, stained water on the filter surface or at the outlet, or the presence of algae or aquatic vegetation are indicators of anaerobic conditions and inadequate dewatering of the facility.	Remove and replace top six inches of pea gravel in pea gravel chimney. Confirm adequate dewatering with follow up inspections. If the facility does not function as intended after the above action, the entire system including underdrain may need refurbishing.
Erosion	Check inlets, wetland, outlets, and side slopes for erosion, rills, gullies, and runoff channelization.	Re-grading may be required when concentrated flow causes rills or gullying through the facility. Grade, vegetate, and/or armor to provide stable conveyance in accordance with approved plans.
Sediment Accumulation	Check for accumulated sediment in forebay. Check for accumulated sediment in gravel chimneys and wetland area. Check for clogged openings	When sediment in forebay accumulates to 6 inches in depth, clean out sediment. When sediment in gravel chimney or wetland area accumulates to 1 inch in depth, remove sediment. Remove sediment from clogged openings. Discharge any sediment-laden water through a filter bag or other dewatering device. Dispose of all sediment in an acceptable location.
Blockages	Check overflow inlet (riser), piping, and underdrain for blockages. Check observation wells for water level.	Clear out any blockages.
ANNUAL INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Maintenance Access	Check for accessibility to facility.	Prevent excessive vegetative growth, erosion, and obstructions on access way.
Flow Conveyance System	Check overflow inlet, piping, and bypass for misalignments, breakage, and blockage.	Repair any broken or faulty piping. Clear out any blockages.
Structural Components	Check for evidence of structural deterioration, spalling, or cracking. Inlet and outlet structures as well as riprap outfalls must be in good condition.	Repair to good condition according to specifications on the approved plans.
Overall Function of Facility	Check that practice is functioning as designed.	Repair to good condition according to specifications on the approved plans.

STORMWATER MAINTENANCE SCHEDULE
LANDSCAPE INFILTRATION

MONTHLY INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Debris and Trash	Check for trash and debris in facility including inlets, outlets, conveyance systems, and area around facility.	Remove all trash and debris and dispose in an acceptable manner. Unclog all openings.
Plant Composition and Health	Compare plant composition with approved plans. Check for invasive species or weeds. Check for dead or dying vegetation.	Remove invasive species and weeds. Replace dead plants in accordance with approved landscaping plan.
Vegetative Cover	Check for channelizing, erosion, and bare spots. Check for vegetation blocking inlet and outlet.	Remove or cut back vegetation around inlet and outlet structures. Mow side slopes when grass exceeds 12 inches in height, but do not mow filter bed. Remove grass clippings. Re-seed or re-plant in accordance with approved landscaping plans.
Mulch Layer	Check mulch for adequate cover, sediment accumulation, or discoloration.	Replace and remove old mulch and excess sediments. Provide adequate mulch cover according to approved design.
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Dewatering	Check ponding level. Surface storage must dewater within 48 hours of rainfall. Noticeable odors, stained water on the filter surface or at the outlet, or the presence of algae or aquatic vegetation are indicators of anaerobic conditions and inadequate dewatering of the facility.	Remove and replace top few inches of media. Follow up inspections must confirm adequate dewatering. If the facility does not function as intended after the above action, the entire system may need refurbishing.
Erosion	Check inlets, filter bed, outlets, and side slopes for erosion, rills, gullies, and channelization.	Re-grade if concentrated flow is causing rills or gullying through the facility. Grade, vegetate, and/or armor to provide stable conveyance in accordance with approved plans.
Sediment Accumulation	Check for accumulated sediment in conveyance systems and on filter bed. Check for clogged openings.	When sediment accumulates to 1 inch in depth, remove sediment. Remove sediment from clogged openings. Dispose of all sediment in an acceptable location.
Overflow Structures	Check for misalignments, broken pipes, and blockages.	Repair any broken or faulty piping. Clear out any blockages.
ANNUAL INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Maintenance Access	Check for accessibility to facility.	Prevent excessive vegetative growth, erosion, and obstructions on access way.
Structural Components	Check for evidence of structural deterioration, spalling, or cracking. Inlet and outlet structures as well as riprap outfalls must be in good condition.	Repair to good condition according to specifications on the approved plans.
Overall Function of Facility	Check that flow conveyance and bypasses are functioning as designed.	Repair to good condition according to specifications on the approved plans.

STORMWATER MAINTENANCE SCHEDULE
INFILTRATION BERM

MONTHLY INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Debris and Trash	Check for trash and/or debris.	Remove all trash and debris and dispose in an acceptable manner.
Plant Composition and Health	Compare plant composition with approved plans. Check for invasive species or weeds. Check for dead or dying vegetation.	Remove invasive species and weeds. Replace dead plants in accordance with approved landscaping plan.
Vegetative Cover	Check for channelizing, erosion, and bare spots.	Re-seed or re-plant in accordance with approved landscaping plans. Mow berms if vegetated with grass, but do not mow landscaped areas.
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Dewatering	Check for ponded water. Ponded water should not create nuisance conditions. Runoff should drain through berm within 48 hours of rainfall.	Remove and replace top few inches of soil along upgrade face of berm. Confirm adequate dewatering with follow up inspections. If the facility does not drain as intended, the entire berm may need refurbishing.
Erosion	Check that sheet flow is being maintained into and out of practice. Check for erosion, rills, gullies, and channelization.	Re-grade if concentrated flow is causing rills or gullying through the facility. Grade, vegetate, and/or armor to provide stable conveyance in accordance with approved plans.
Sediment Accumulation	Check for accumulated sediment.	When sediment accumulates to 2 inches in depth, remove sediment and dispose of in an acceptable location.
ANNUAL INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Maintenance Access	Check for accessibility to facility.	Prevent excessive vegetative growth, erosion, and obstructions on access way.
Overall Function of Facility	Check that flow conveyance and bypasses are functioning as designed.	Repair to good condition according to specifications on the approved plans.

STORMWATER MAINTENANCE SCHEDULE
DRYWELL

MONTHLY INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Vegetative Cover and Erosion	Check overflow area for channelizing and bare spots.	Re-seed or re-plant in accordance with approved landscaping plans. Re-grade if concentrated flow is causing rills or gullying over the facility.
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Leaves and Debris	Check that gutters and downspouts are clear of leaves and debris.	Clean out gutters and downspouts and dispose of leaves and debris in an acceptable manner. Provide gutter drain filters in high foliage areas.
Inflow and Overflow	Check for misalignments, broken pipes, and blockages. Inlet pipe and surcharge overflow pipe must be in good condition.	Repair any broken or faulty piping. Clear out any blockages.
Dewatering	Check observation wells for water level. Water stored in media must dewater within 48 hours of rainfall. Noticeable odors or the presence of algae or stained water are indicators of anaerobic conditions and inadequate dewatering of the facility.	Excavate, remove, clean, and replace media in accordance with approved plans.
ANNUAL INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Maintenance Access	Check for accessibility to facility.	Prevent excessive vegetative growth, erosion, and obstructions on access way.
Overall Function of Facility	Check that flow conveyance is operating as designed	Repair to good condition according to specifications on the approved plans.

STORMWATER MAINTENANCE SCHEDULE
MICRO-BIORETENTION

MONTHLY INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Debris and Trash	Check for trash and debris in facility including inlets, outlets, conveyance systems, and area around facility.	Remove all trash and debris and dispose in an acceptable manner. Unclog all openings.
Plant Composition and Health	Compare plant composition with approved plans. Check for invasive species or weeds. Check for dead or dying vegetation.	Remove invasive species and weeds. Replace dead plants in accordance with approved landscaping plan.
Vegetative Cover	Check for channelizing, erosion, and bare spots. Check for vegetation blocking inlet and outlet.	Remove or cut back vegetation around inlet and outlet structures. Mow side slopes when grass exceeds 12 inches in height, but do not mow filter bed. Remove grass clippings. Re-seed or re-plant in accordance with approved landscaping plans.
Mulch Layer	Check mulch for adequate cover, sediment accumulation, or discoloration.	Replace and remove old mulch and excess sediment. Provide adequate mulch cover according to approved design.
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Dewatering	Check ponding level. Surface storage must dewater within 48 hours of rainfall. Noticeable odors, stained water on the filter surface or at the outlet, or the presence of algae or aquatic vegetation are indicators of anaerobic conditions and inadequate dewatering of the facility.	Remove and replace top few inches of media. Confirm adequate dewatering with follow up inspections. If the facility does not function as intended after the above action, the entire system including the underdrain may need refurbishing.
Erosion	Check inlets, filter bed, outlets, and side slopes for erosion, rills, gullies, and runoff channelization.	Re-grading may be required when concentrated flow causes rills or gullying through the facility. Grade, vegetate, and/or armor to provide stable conveyance in accordance with approved plans.
Sediment Accumulation	Check for accumulated sediment in conveyance systems and on filter bed. Check for clogged openings.	When sediment accumulates to 1 inch depth, remove sediment. Remove sediment from clogged openings. Dispose of all sediment in an acceptable location.
Blockages	Check overflow inlet (riser), piping, and underdrain for blockages. Check observation wells for water level.	Clear out any blockages.
ANNUAL INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Maintenance Access	Check for accessibility to facility.	Prevent excessive vegetative growth, erosion, and obstructions on access way.
Flow Conveyance System	Check overflow inlet, piping, and bypass for misalignments, breakage, and blockage.	Repair any broken or faulty piping. Clear out any blockages.
Structural Components	Check for evidence of structural deterioration, spalling, or cracking. Inlet and outlet structures as well as riprap outfalls must be in good condition.	Repair to good condition according to specifications on the approved plans.
Overall Function of Facility	Check that practice is functioning as designed.	Repair to good condition according to specifications on the approved plans.

STORMWATER MAINTENANCE SCHEDULE
RAIN GARDEN

MONTHLY INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Debris and Trash	Check for trash and debris in facility including inlets, outlets, conveyance systems, and area around facility	Remove all trash and debris and dispose in an acceptable manner. Unclog all openings.
Plant Composition and Health	Compare plant composition with approved plans. Check for invasive species or weeds. Check for dead or dying vegetation.	Remove invasive species and weeds. Replace dead plants in accordance with approved landscaping plan.
Vegetative Cover	Check for channelizing, erosion, and bare spots. Check for vegetation blocking overflow device.	Remove or cut back vegetation around inlet and outlet structures. Mow side slopes when grass exceeds 12 inches in height, but do not mow garden bed. Remove grass clippings. Re-seed or re-plant in accordance with approved landscaping plans.
Mulch Layer	Check mulch for adequate cover, sediment accumulation, or discoloration.	Replace and remove old mulch and excess sediment. Provide adequate mulch cover according to approved design.
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Dewatering	Check ponding level. Surface storage must dewater within 48 hours of rainfall. Noticeable odors, stained water on the garden surface or at the outlet, or the presence of algae or aquatic vegetation are indicators of anaerobic conditions and inadequate dewatering of the facility.	Remove and replace top few inches of media. Confirm dewatering with follow up inspections. If the facility does not function as intended after the above action, the entire system may need refurbishing.
Erosion	Check inflow, garden bed, outflow, and side slopes for erosion, rills, gullies, and runoff channelization.	Re-grade if concentrated flow is causing rills or gullying through the facility. Grade, vegetate, and/or armor to provide stable conveyance in accordance with approved plans.
Sediment Accumulation	Check for accumulated sediment in conveyance systems and on garden bed. Check for clogged openings.	When sediment accumulates to 1 inch, remove sediment. Remove sediment from clogged openings. Dispose of all sediment in an acceptable location.
Blockages	Check overflow inlet (riser) and piping for blockages.	Clear out any blockages.
ANNUAL INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Maintenance Access	Check for accessibility to facility.	Prevent excessive vegetative growth, erosion, and obstructions on access way.
Flow Conveyance System	Check overflow inlet, piping, and bypass for misalignments, breakage, and blockage.	Repair any broken or faulty piping. Clear out any blockages.
Structural Components	Check for evidence of structural deterioration, spalling, or cracking. Inlet and outlet structures as well as riprap outfalls must be in good condition.	Repair to good condition according to specifications on the approved plans.
Overall Function of Facility	Check that practice is functioning as designed.	Repair to good condition according to specifications on the approved plans.

STORMWATER MAINTENANCE SCHEDULE
BIO-SWALE

MONTHLY INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Debris and Trash	Check for trash and debris in facility including inlets, outlets, conveyance systems, and area around facility.	Remove all trash and debris and dispose in an acceptable manner. Unclog all openings.
Plant Composition and Health	Compare plant composition with approved plans. Check for invasive species or weeds. Check for dead or dying vegetation.	Remove invasive species and weeds. Replace dead plants in accordance with approved landscaping plan.
Vegetative Cover	Check for channelizing, erosion, and bare spots. Check for vegetation blocking inlets, weirs, and outlet.	Remove or cut back vegetation around inlet, weirs, and outlet structures. Mow side slopes when grass exceeds 12 inches in height, but do not mow filter bed. Remove grass clippings. Re-seed or re-plant in accordance with approved landscaping plans.
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Dewatering	Check ponding levels. Surface storage must dewater within 48 hours of rainfall. Noticeable odors, stained water on the filter surface or at the outlet, or the presence of algae or aquatic vegetation are indicators of anaerobic conditions and inadequate dewatering of the facility.	Remove and replace top few inches of media. Follow up inspections must confirm adequate dewatering. If the facility does not function as intended after the above action, the entire system including the underdrain may need refurbishing.
Erosion	Check inlets, filter bed, outlets, and side slopes for erosion, rills, gullies, and runoff channelization.	Re-grading may be required when concentrated flow causes rills or gullying through the facility. Grade, vegetate, and/or armor to provide stable conveyance in accordance with approved plans.
Check Dams	Check for evidence of flow cutting around edges of structure and evidence of erosion at the downstream toe.	Re-grade and repair with topsoil, seed and matting. Provide stone at downstream toe.
Sediment Accumulation	Check for accumulated sediment in conveyance systems and on filter bed. Check for clogged openings.	When sediment accumulates to 1 inch depth, remove sediment. Remove sediment from clogged openings. Dispose of all sediment in an acceptable location.
Blockages	Check overflow inlet (riser), piping, and underdrain for blockages. Check observation wells for water level.	Clear out any blockages.
ANNUAL INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Maintenance Access	Check for accessibility to facility.	Prevent excessive vegetative growth, erosion, and obstructions on access way.
Flow Conveyance System	Check overflow inlet, piping, and bypass for misalignments, breakage, and blockage.	Repair any broken or faulty piping. Clear out any blockages.
Structural Components	Check for evidence of structural deterioration, spalling, or cracking. Inlet and outlet structures as well as riprap outfalls must be in good condition.	Repair to good condition according to specifications on the approved plans.
Overall Function of Facility	Check that practice is functioning as designed.	Repair to good condition according to specifications on the approved plans.

STORMWATER MAINTENANCE SCHEDULE
WET SWALE

MONTHLY INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Debris and Trash	Check for trash and debris in facility including inlets, outlets, conveyance systems, and area around facility.	Remove all trash and debris and dispose in an acceptable manner. Unclog all openings.
Vegetative Cover	Check grass on side slopes. Check for channelizing, erosion, and bare spots. Check for vegetation blocking inlets, weirs, and outlet.	Mow grass to maintain a height of 4 to 6 inches. Remove grass clippings. Re-seed or re-plant in accordance with approved landscaping plans. Remove or cut back vegetation around inlets, weirs, and outlet structure.
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Erosion	Check inlets, channel, outlets, and side slopes for evidence of erosion, rills, gullies, and runoff channelization.	Re-grade if concentrated flow is causing rills or gullying through the facility. Grade, vegetate, and/or armor to provide stable conveyance in accordance with approved plans.
Check Dams	Check for evidence of flow cutting around edges of structure and evidence of erosion at the downstream toe. Check for blockages in weir.	Re-grade and repair with topsoil, seed and matting. Provide stone at downstream toe. Clear out any blockages.
Sediment Accumulation	Check for accumulated sediment in conveyance systems and in swale.	Clean out sediment before depth reaches 50% of design depth. Discharge any sediment-laden water through a filter bag or other dewater device. Dispose of sediment in an acceptable location.
Blockages	Check overflow structure, check dams, and weirs for blockages.	Clear out any blockages.
ANNUAL INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Maintenance Access	Check for accessibility to facility.	Prevent excessive vegetative growth, erosion, and obstructions on access way.
Flow Conveyance System	Check bypass, overflow structure and check dams for misalignments, breakage, and blockage.	Repair any broken or faulty elements. Clear out any blockages.
Structural Components	Check for evidence of structural deterioration, spalling, or cracking. Inlet and outlet structures as well as riprap outfalls must be in good condition.	Repair to good condition according to specifications on the approved plans.
Overall Function of Facility	Check that practice is functioning as designed.	Repair to good condition according to specifications on the approved plans.

STORMWATER MAINTENANCE SCHEDULE
GRASS SWALE

MONTHLY INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Debris and Trash	Check for trash and debris in channel including inlets, outlets, and area around facility.	Remove all trash and debris and dispose in an acceptable manner. Unclog all openings.
Grass Cover	Grass in swale must be maintained at a height of 4 to 6 inches. Check for channelizing and bare spots.	Mow side slopes when grass exceeds 12 inches in height. Mow channel at least bi-annually. Remove grass clippings. Re-plant with topsoil, seed, and matting.
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Sediment Accumulation	Check for accumulated sediment and clogged openings.	When sediment accumulates to 2 inches in depth, remove sediment. Remove sediment from any clogged openings. Dispose of all sediment in an acceptable location.
Erosion	Check inflow, channel, outfall, and side slopes for evidence of erosion, rills, gullies, and runoff channelization.	Re-plant with topsoil, seed, and matting. Re-grade if concentrated runoff to the facility is causing rills or gullying. Grade, vegetate, and/or armor to provide stable conveyance in accordance with approved plans.
ANNUAL INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Maintenance Access	Check for accessibility to facility.	Prevent excessive vegetative growth, erosion, and obstructions on access way.
Overall Function of Facility	Check that flow conveyance is operating as designed	Repair to good condition according to specifications on the approved plans.

STORMWATER MAINTENANCE SCHEDULE
POROUS BITUMINOUS/PERVIOUS CONCRETE

ON-GOING		
Item	**Preventive Maintenance**	
Trucks	Prevent trucks and other heavy vehicles from tracking, spilling, or grinding material onto permeable pavement.	
Deicers	Use only non-toxic and organic deicers in moderation and apply as either calcium magnesium acetate or pretreated salt.	
Plowing	Plow snow carefully with blades set one-inch higher than normal. Do not direct plowed snow piles or snowmelt to permeable pavement.	
Good Housekeeping	Never place soil piles on pavement.	
Cleaning	Vacuum and power wash annually the entire surface area even if there is no visible sediment accumulation or clogging. Power wash after vacuuming. Do not use compressed air units for surface cleaning.	
MONTHLY INSPECTIONS		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Debris and Trash	Check for trash and/or debris on surface.	Dispose of trash and debris in an acceptable manner.
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Sediment Accumulation	Check for clogged openings. Check for accumulated sediment on surface.	Remove sediment from any clogged openings and dispose of in an acceptable location. Sweep and vacuum to reduce sediment accumulation and ensure surface porosity. Do not use compressed air units for surface cleaning.
Dewatering	Check surface for ponding. Facility must dewater within 48 hours of rainfall. Water on the pavement surface more than 6 hours after a rainfall is an indication of inadequate dewatering of the facility.	Vacuum and power wash entire surface area and clear drainage system. Power wash after vacuuming. Do not use compressed air units for surface cleaning. Confirm adequate dewatering with follow up inspections. If the facility does not function as intended after the above action, the entire pavement and drain system needs to be removed and replaced.
Blockages	Check overdrain, underdrain, and distribution piping for blockages.	Clear out any blockages.
ANNUAL INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Flow Conveyance System	Check overdrain, underdrain, distribution piping, and bypasses for misalignments, breakage, and blockage.	Repair any broken or faulty piping. Clear out any blockages.
Overall Function of Facility	Check surface for deterioration or spalling.	Repair to good condition according to specifications on the approved plans. If the facility does not function as intended after the above action, the entire surface needs to be removed and replaced.

STORMWATER MAINTENANCE SCHEDULE
REINFORCED TURF

ON-GOING		
Item	**Preventive Maintenance**	
Trucks	Prevent trucks and other heavy vehicles from tracking, spilling, or grinding material onto reinforced turf.	
Deicers	Never use deicers on vegetated reinforced turf. Otherwise, use only non-toxic and organic deicers in moderation and apply as either calcium magnesium acetate or pretreated salt.	
Plowing	Plow snow carefully with blades set one-inch higher than normal. Do not direct plowed snow piles or snowmelt to pavers.	
Good Housekeeping	Never place soil piles on reinforced turf.	
MONTHLY INSPECTIONS		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Debris and Trash	Check for trash and debris on surface, in conveyance system, and in surrounding area.	Remove all trash and debris and dispose in an acceptable manner. Unclog all openings.
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Dewatering	Check surface for ponding. Facility must dewater within 48 hours of rainfall. Water on the reinforced turf more than 6 hours after a rainfall is an indication of inadequate dewatering of the facility.	Vacuum and power wash entire surface area and clear drainage system. Power wash after vacuuming. Do not use compressed air units for surface cleaning. Confirm adequate dewatering with follow up inspections. If the facility does not function as intended after the above action, the entire reinforced turf system needs to be removed and replaced.
Blockages	Check overdrain, underdrain, and distribution piping for blockages.	Clear out any blockages.
ANNUAL INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Flow Conveyance System	Check overdrain, underdrain, distribution piping, and bypasses for misalignments, breakage, and blockage.	Repair any broken or faulty piping. Clear out any blockages.
Overall Function of Facility	Check surface for deterioration, misalignment, and ponding.	Repair to good condition according to specifications on the approved plans. If the facility does not function as intended after the above action, the entire reinforced turf system needs to be removed and replaced.

STORMWATER MAINTENANCE SCHEDULE
PERMEABLE PAVERS

ON-GOING		
Item	**Preventive Maintenance**	
Trucks	Prevent trucks and other heavy vehicles from tracking, spilling, or grinding material onto pavers.	
Deicers	Use only non-toxic and organic deicers in moderation and apply as either calcium magnesium acetate or pretreated salt.	
Plowing	Plow snow carefully with blades set one-inch higher than normal. Do not direct plowed snow piles or snowmelt to pavers.	
Good Housekeeping	Never place soil piles on pavers.	
Cleaning	For pavers made of porous material, vacuum and power wash annually even if there is no visible sediment accumulation or clogging. Power wash after vacuuming. Do not use compressed air units for surface cleaning.	
MONTHLY INSPECTIONS		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Debris and Trash	Check for trash and debris on surface, in conveyance system, and in surrounding area.	Remove all trash and debris and dispose in an acceptable manner. Unclog all openings.
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Sediment Accumulation	Check for clogged openings. Check for accumulated sediment on pavers.	Remove sediment from any clogged openings and dispose of in an acceptable location. Sweep and vacuum to reduce sediment accumulation and ensure surface porosity. Do not use compressed air units for surface cleaning.
Dewatering	Check surface for ponding. Facility must dewater within 48 hours of rainfall. Water on the pavers more than 6 hours after a rainfall is an indication of inadequate dewatering of the facility.	Vacuum and power wash entire surface area. Power wash after vacuuming. Do not use compressed air units for surface cleaning. Where applicable, replace lost aggregate between pavers. Clear drainage system. Confirm adequate dewatering with follow up inspections. If the facility does not function as intended after the above action, the entire pavement and drain system needs to be removed and replaced.
Blockages	Check overdrain, underdrain, and distribution piping for blockages.	Clear out any blockages.
ANNUAL INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Flow Conveyance System	Check overdrain, underdrain, distribution piping, and bypasses for misalignments, breakage, and blockage.	Repair any broken or faulty piping. Clear out any blockages.
Overall Function of Facility	Check surface for deterioration or spalling.	Repair to good condition according to specifications on the approved plans. If the facility does not function as intended after the above action, the pavers need to be removed and replaced.

STORMWATER MAINTENANCE SCHEDULE
BIORETENTION

MONTHLY INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Debris and Trash	Check for trash and debris in facility including inlets, gravel diaphragm, forebay, outlets, conveyance systems, and area around facility.	Remove all trash and debris and dispose in an acceptable manner. Unclog all openings.
Plant Composition and Health	Compare plant composition with approved plans. Check for invasive species or weeds. Check for dead or dying vegetation.	Remove invasive species and weeds. Replace dead plants in accordance with approved landscaping plan.
Vegetative Cover	Check for channelizing, erosion, and bare spots. Check for vegetation blocking inlets and outlet. Check for woody growth on embankment.	Remove or cut back vegetation around inlet and outlet structures. Mow side slopes when grass exceeds 12 inches in height, but do not mow filter bed. Remove grass clippings. Cut trees with 4 inch or smaller diameter flush to ground. Re-seed or re-plant bare areas in accordance with approved landscaping plans. **Contact MDE Sediment, Stormwater, and Dam Safety Plan Review Division regarding removal of trees larger than 4 inch diameter.**
Mulch Layer	Check mulch for adequate cover, sediment accumulation, or discoloration.	Replace and remove old mulch and excess sediment. Provide adequate mulch cover according to approved design.
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Dewatering	Check ponding levels. Forebay must dewater within 36 hours. Surface storage above filter bed must dewater within 72 hours of rainfall. Check observation wells for water level. Noticeable odors, stained water on the filter surface or at the outlet, or the presence of algae or aquatic vegetation are indicators of anaerobic conditions and inadequate dewatering of the facility.	Clean sediment from forebay and wash /replace drawdown device. Remove and replace top few inches of media on filter bed. Confirm adequate dewatering with follow up inspections. If the facility does not function as intended after the above action, the entire system including the underdrain may need refurbishing.
Erosion	Check inlets, gravel diaphragm, forebay, filter bed, outlets, and side slopes for erosion, rills, gullies, and runoff channelization.	Re-grade if concentrated flow is causing rills or gullying through the facility. Grade, vegetate, and/or armor to provide stable conveyance in accordance with approved plans.
Sediment Accumulation	Check for accumulated sediment in conveyance systems, gravel diaphragm, and forebay. Check for accumulated sediment on filter bed. Check for clogged openings.	When the forebay depth is less than half the approved design, remove sediment. When sediment accumulation in filter bed exceeds 1 inch, remove sediment. Remove sediment from clogged openings. Dispose of all sediment in an acceptable location.
Blockages	Check overflow inlet (riser), piping, and underdrain for blockages. Check observation wells for water level.	Clear out any blockages.

ANNUAL INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Maintenance Access	Check for accessibility to facility including riser and spillways.	Remove excessive vegetative growth and obstructions. Repair access way or road to stable condition.
Woody Vegetation	Check for woody vegetation on zones of concern: the embankment, within 15 feet of the toe of embankment, within a 25 foot radius of the control structure (riser or weir), and within 15 feet of principal spillway pipe.	Mow down woody vegetation within zones of concern. Cut trees with 4 inch or smaller diameter flush to ground. Re-seed bare areas according to plan stabilization requirements. **Contact MDE Sediment, Stormwater, and Dam Safety Plan Review Division regarding removal of larger trees than 4 inch diameter.**
Inlets	Check for flow blockages, erosion, rills, gullies, and displaced riprap.	Restore grades and re-seed or armor bare areas to provide stable conveyance in accordance with the approved plans.
Cleanouts/Observation Wells	Check for misaligned, broken, or uncapped cleanouts/observation wells.	Repair or replace to good working condition in accordance with the approved plans. Replace missing caps.
Trash Rack	Check that trash rack is clear of blockages and in good condition.	Remove any blockages. Repair or replace to good working condition in accordance with the approved plans.
Riser and Barrel	Check for evidence of cracks, spalling, and joint failures. Check connection between riser and barrel for water tightness. Check spillway pipe for water tight joints. Check for seepage around and along spillway pipe.	Repair or replace to good working condition in accordance with the approved plans.
Structural Components: Endwalls, Headwalls, Weirs and Abutments.	Check for evidence of structural deterioration, spalling, or cracking. Check for seepage. Check for missing manhole covers or inlet grates.	Repair to good condition according to specifications on the approved plans.
Outfall	Check for displaced riprap, blow outs, unstable conveyance, and erosion below the outlet.	Repair and restore function in accordance with the approved plans and to achieve stable conveyance.
Embankment Integrity	Check upstream face and downstream face for soft spots and boggy areas, boils at the toe, settlements, depressions and bulges, signs of erosion, animal burrows, slope failures, and seepage. Check that ground cover is in good condition. Check for wetland type vegetation.	Repair and stabilize in accordance with the approved plans. Presence of wetland vegetation on embankment may indicate seepage and structural integrity concerns. **Contact MDE Sediment, Stormwater, and Dam Safety Plan Review Division MDE Sediment before performing major pond repairs.**
Emergency Spillway Channel	Check for evidence of erosion, soft or wet areas, or obstructions. Check for woody vegetation. Check for displaced riprap.	Remove any obstructions. Mow and cut flush trees with 4 inch or smaller diameter. Re-seed or armor bare areas to provide stable conveyance in accordance with the approved plans. **Contact MDE Sediment, Stormwater, and Dam Safety Plan Review Division regarding removal of larger trees than 4 inch diameter.**
Overall Function of Facility	Check that practice is functioning as designed.	Repair to good condition according to specifications on the approved plans.

STORMWATER MAINTENANCE SCHEDULE
DRY SWALE

MONTHLY INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Debris and Trash	Check for trash and debris in facility including inlets, outlets, conveyance systems, and area around facility.	Remove all trash and debris and dispose in an acceptable manner. Unclog all openings.
Vegetative Cover	Check grass. Check for channelizing, erosion, and bare spots. Check for vegetation blocking inlets, weirs, and outlet.	Mow grass to maintain a height of 4 to 6 inches. Remove clippings. Re-vegetate with topsoil, seed, and matting. Remove or cut back vegetation around inlets, weirs, and outlet structure.
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Dewatering	Facility must dewater within 48 hours of rainfall. Noticeable odors, stained water on the filter surface or at the outlet, or the presence of algae or aquatic vegetation are indicators of anaerobic conditions and inadequate dewatering of the facility.	Remove top three inches of soil and replace with soil material as per plan specifications. Follow up inspections must confirm adequate dewatering. If the facility does not function as intended after the above action, the entire system including the underdrain may need refurbishing.
Erosion	Check inlets, channel, outfall, and side slopes for evidence of erosion, rills, gullies, and runoff channelization.	Re-grading may be required when concentrated flow causes rills or gullying through the facility. Grade, vegetate, and/or armor to provide stable conveyance in accordance with approved plans.
Check Dams	Check for evidence of flow cutting around the structure and evidence of erosion at the downstream toe.	Re-grade and repair with topsoil, seed and matting. Provide stone at downstream toe.
Sediment Accumulation	Check for accumulated sediment in conveyance systems and in swale. Check for clogged openings.	When sediment accumulates to 1 inch depth, remove sediment. Remove sediment from clogged openings. Dispose of all sediment in an acceptable location.
Underdrain and Overflow Structures	Check for misalignments, broken pipes, and blockages. Check observation well for water levels.	Repair any broken or faulty piping. Clear out any blockages.
ANNUAL INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Maintenance Access	Check for accessibility to facility.	Prevent excessive vegetative growth, erosion, and obstructions on access way.
Structural Components	Check for evidence of structural deterioration, spalling, or cracking. Inlet and outlet structures as well as riprap outfalls must be in good condition.	Repair to good condition according to specifications on the approved plans.
Overall Function of Facility	Check that flow conveyance and bypasses are functioning as designed.	Repair to good condition according to specifications on the approved plans.

STORMWATER MAINTENANCE SCHEDULE
SURFACE SAND FILTER

MONTHLY INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Debris and Trash	Check for trash and debris in facility including inlets, forebay, outlets, conveyance systems, and area around facility.	Remove all trash and debris and dispose in an acceptable manner. Unclog all openings.
Vegetative Cover	Check for channelizing, erosion, and bare spots. Check for vegetation blocking inlets and outlet.	Remove or cut back vegetation around inlet and outlet structures. Mow grass on filter and side slopes when grass exceeds 12 inches in height. Remove grass clippings. Re-seed or re-plant in accordance with approved landscaping plans.
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Dewatering	Check ponding levels. Forebay must dewater within 36 hours. Surface storage above filter bed must dewater within 72 hours of rainfall. Check observation wells for water level. Noticeable odors, stained water on the filter surface or at the outlet, or the presence of algae or aquatic vegetation are indicators of anaerobic conditions and inadequate dewatering of the facility.	Clean sediment from forebay and wash /replace drawdown device. Remove and replace grass/stone and top few inches of sand on filter bed. Confirm adequate dewatering with follow up inspections. If the facility does not function as intended after the above action, the entire system including the underdrain may need refurbishing.
Erosion	Check inlets, forebay, filter bed, outlets, and side slopes for erosion, rills, gullies, and runoff channelization.	Re-grade if concentrated flow is causing rills or gullying through the facility. Grade, vegetate, and/or armor to provide stable conveyance in accordance with approved plans.
Sediment Accumulation	Check for accumulated sediment in conveyance systems and forebay. Check for accumulated sediment on filter bed. Check for clogged openings.	When the forebay depth is less than half the approved design, remove sediment. When sediment accumulation on filter bed exceeds 1 inch, remove sediment. Remove sediment from clogged openings. Dispose of all sediment in an acceptable location.
Blockages	Check overflow inlet (riser), piping, and underdrain for blockages. Check observation wells for water level.	Clear out any blockages.
ANNUAL INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Maintenance Access	Check for accessibility to facility.	Prevent excessive vegetative growth, erosion, and obstructions on access way.
Flow Conveyance System	Check overflow inlet, piping, and bypass for misalignments, breakage, and blockage.	Repair any broken or faulty piping. Clear out any blockages.
Structural Components	Check for evidence of structural deterioration, spalling, or cracking. Inlet and outlet structures as well as riprap outfalls must be in good condition.	Repair to good condition according to specifications on the approved plans.
Overall Function of Facility	Check that practice is functioning as designed.	Repair to good condition according to specifications on the approved plans.

STORMWATER MAINTENANCE SCHEDULE
UNDERGROUND SAND FILTER

MONTHLY INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Debris and Trash	Check for trash and debris in facility including inlets, sedimentation chamber, outlets, conveyance systems, and area around facility.	Remove all trash and debris and dispose in an acceptable manner. Unclog all openings.
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Dewatering	Check ponding level. Surface storage must dewater within 72 hours of rainfall. Noticeable odors, stained water on the filter surface or at the outlet, or the presence of algae or aquatic vegetation are indicators of anaerobic conditions and inadequate dewatering of the facility.	Remove and replace top three inches of sand. Follow up inspections must confirm adequate dewatering. If the facility does not function as intended after the above action, the entire system including the underdrain may need refurbishing.
Sediment Accumulation	Check for accumulated sediment in conveyance systems and sedimentation chamber. Check for accumulated sediment on filter bed. Check for clogged openings.	When sediment depth exceeds 6 inches in sedimentation chamber, remove sediment. When sediment accumulation on filter bed exceeds 1 inch, remove sediment. Remove sediment from clogged openings. Dispose of all sediment in an acceptable location.
Blockages	Check inlet grates, weirs, underdrain and piping for blockages.	Clear out any blockages.
ANNUAL INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Underdrain and Overflow Structures	Check for misalignments, broken pipes, and blockages. Check observation well for water levels.	Repair any broken or faulty piping. Clear out any blockages.
Flow Conveyance System	Check piping for misalignments, breakage, and blockage. Check that bypass and flow splitters are operating as designed.	Repair any broken or faulty piping. Clear out any blockages.
Structural Components	Check for evidence of structural deterioration, spalling, or cracking. Check for missing manhole covers or inlet grates. Check chambers for evidence of leakage or seepage. Chambers should be holding water at normal pool elevation. Inlet and outlet structures must be in good condition.	Repair to good condition according to specifications on the approved plans.
Overall Function of the Facility	Check that practice is functioning as designed.	Repair to good condition according to specifications on the approved plans.

STORMWATER MAINTENANCE SCHEDULE
INFILTRATION TRENCH

MONTHLY INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Debris and Trash	Check for trash and debris in facility including inlets, forebay, outlets, conveyance systems, and area around facility.	Remove all trash and debris and dispose in an acceptable manner. Unclog all openings.
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Dewatering	Check ponding level. Surface storage must dewater within 48 hours of rainfall. Check observation wells for water level. Noticeable odors, stained water on the filter surface or at the outlet, or the presence of algae or aquatic vegetation are indicators of anaerobic conditions and inadequate dewatering of the facility.	Remove and replace top few inches of media. Confirm adequate dewatering with follow up inspections. If the facility does not function as intended after the above action, the entire system may need refurbishing.
Erosion	Check that sheet flow is being maintained into and out of practice. Check inlets, forebay, trench surface, outlets, and side slopes for erosion, rills, gullies, and runoff channelization.	Re-grade if concentrated flow is causing rills or gullying through the facility. Grade, vegetate, and/or armor to provide stable conveyance in accordance with approved plans.
Sediment Accumulation	Check for accumulated sediment in conveyance systems and forebay. Check for accumulated sediment on trench surface. Check for clogged openings.	When the forebay depth is less than half the approved design, remove sediment. When sediment accumulation on trench surface exceeds 1 inch, remove sediment. Remove sediment from clogged openings. Dispose of all sediment in an acceptable location.
Blockages	Check overflow inlet (riser) and piping for blockages. Check observation wells for water level.	Clear out any blockages.
ANNUAL INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Maintenance Access	Check for accessibility to facility.	Prevent excessive vegetative growth, erosion, and obstructions on access way.
Flow Conveyance System	Check overflow inlet, piping, and bypass for misalignments, breakage, and blockage.	Repair any broken or faulty piping. Clear out any blockages.
Structural Components	Check for evidence of structural deterioration, spalling, or cracking. Inlet and outlet structures as well as riprap outfalls must be in good condition.	Repair to good condition according to specifications on the approved plans.
Overall Function of Facility	Check that practice is functioning as designed.	Repair to good condition according to specifications on the approved plans.

STORMWATER MAINTENANCE SCHEDULE
INFILTRATION BASIN

MONTHLY INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Debris and Trash	Check for trash and debris in facility including inlets, forebay, riser, weirs, outlets, conveyance systems, and area around facility.	Remove all trash and debris and dispose in an acceptable manner. Unclog all openings.
Vegetative Cover	Check for channelizing, erosion, and bare spots. Check for vegetation blocking inlets and outlet. Check for woody growth on embankment.	Remove or cut back vegetation around inlet and outlet structures. Mow side slopes and basin surface when grass exceeds 12 inches in height. Remove grass clippings. Cut trees with 4 inch or smaller diameter flush to ground. Re-seed or re-plant bare areas in accordance with approved landscaping plans. **Contact MDE Sediment, Stormwater, and Dam Safety Plan Review Division regarding removal of trees larger than 4 inch diameter.**
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Dewatering	Check ponding level. Surface storage must dewater within 48 hours of rainfall. Check observation wells for water level. Noticeable odors, stained water on the filter surface or at the outlet, or the presence of algae or aquatic vegetation are indicators of anaerobic conditions and inadequate dewatering of the facility.	Remove and replace top few inches of media. Confirm adequate dewatering with follow up inspections. If the facility does not function as intended after the above action, the entire system may need refurbishing.
Erosion	Check inlets, gravel diaphragm, forebay, filter bed, outlets, and side slopes for erosion, rills, gullies, and runoff channelization.	Re-grade if concentrated flow is causing rills or gullying through the facility. Grade, vegetate, and/or armor to provide stable conveyance in accordance with approved plans.
Sediment Accumulation	Check for accumulated sediment in conveyance systems and forebay. Check for accumulated sediment on basin surface. Check for clogged openings.	When the forebay depth is less than half the approved design, remove sediment. When sediment accumulation on basin surface exceeds 1 inch, remove sediment. Remove sediment from clogged openings. Dispose of all sediment in an acceptable location.
Blockages	Check overflow inlet (riser) and piping for blockages. Check observation wells for water level.	Clear out any blockages.
ANNUAL INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Maintenance Access	Check for accessibility to basin including riser and spillways.	Remove excessive vegetative growth and obstructions. Repair access way or road to stable condition.
Woody Vegetation	Check for woody vegetation on zones of concern: the embankment, within 15 feet of the toe of embankment, within a 25 foot radius of the control structure (riser or weir),	Mow down woody vegetation within zones of concern. Cut trees with 4 inch or smaller diameter flush to ground. Re-seed bare areas according to plan stabilization

	and within 15 feet of principal spillway pipe.	requirements. **Contact MDE Sediment, Stormwater, and Dam Safety Plan Review Division regarding removal of larger trees than 4 inch diameter.**
Inlets	Check for flow blockages, erosion, rills, gullies, and displaced riprap.	Restore grades and re-seed or armor bare areas to provide stable conveyance in accordance with the approved plans.
Cleanouts/Observation Wells	Check for misaligned, broken, or uncapped cleanouts/observation wells.	Repair or replace to good working condition in accordance with the approved plans. Replace missing caps.
Trash Rack	Check that trash rack is clear of blockages and in good condition.	Remove any blockages. Repair or replace to good working condition in accordance with the approved plans.
Riser and Barrel	Check for evidence of cracks, spalling, and joint failures. Check connection between riser and barrel for water tightness. Check spillway pipe for water tight joints. Check for seepage around and along spillway pipe.	Repair or replace to good working condition in accordance with the approved plans.
Structural Components: Endwalls, Headwalls, Weirs and Abutments.	Check for evidence of structural deterioration, spalling, or cracking. Check for seepage. Check for missing manhole covers or inlet grates.	Repair to good condition according to specifications on the approved plans.
Outfall	Check for displaced riprap, blow outs, unstable conveyance, and erosion below the outlet.	Repair and restore function in accordance with the approved plans and to achieve stable conveyance.
Embankment Integrity	Check upstream face and downstream face for soft spots and boggy areas, boils at the toe, settlements, depressions and bulges, signs of erosion, animal burrows, slope failures, and seepage. Check that ground cover is in good condition. Check for wetland type vegetation.	Repair and stabilize in accordance with the approved plans. Presence of wetland vegetation on embankment may indicate seepage and structural integrity concerns. **Contact MDE Sediment, Stormwater, and Dam Safety Plan Review Division MDE Sediment before performing major pond repairs.**
Emergency Spillway Channel	Check for evidence of erosion, soft or wet areas, or obstructions. Check for woody vegetation. Check for displaced riprap.	Remove any obstructions. Mow and cut flush trees with 4 inch or smaller diameter. Re-seed or armor bare areas to provide stable conveyance in accordance with the approved plans. **Contact MDE Sediment, Stormwater, and Dam Safety Plan Review Division regarding removal of larger trees than 4 inch diameter.**
Overall Function of Facility	Check that practice is functioning as designed.	Repair to good condition according to specifications on the approved plans.

STORMWATER MAINTENANCE SCHEDULE
POND

MONTHLY INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Debris and Trash	Check for trash and debris in facility including inlets, forebay, riser, weirs, outlets, conveyance systems, and area around facility.	Remove all trash and debris and dispose in an acceptable manner. Unclog all openings.
Vegetative Cover	Check for channelizing, erosion, and bare spots. Check for vegetation blocking inlets and outlet. Check for woody growth on embankment.	Remove or cut back vegetation around inlet and outlet structures. Mow side slopes and basin surface when grass exceeds 12 inches in height. Remove grass clippings. Cut trees with 4 inch or smaller diameter flush to ground. Re-seed or re-plant bare areas in accordance with approved landscaping plans. **Contact MDE Sediment, Stormwater, and Dam Safety Plan Review Division regarding removal of trees larger than 4 inch diameter.**
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Ponding Level/ Dewatering	Check ponding levels. The dry storage volume should dewater within 24 hours of rainfall (12 hours for Use III and IV watersheds). Check low flow device for clogging.	Refurbish low flow device if clogged. Confirm adequate dewatering with follow up inspections.
Erosion	Check inlets, gravel diaphragm, forebay, filter bed, outlets, and side slopes for erosion, rills, gullies, and runoff channelization.	Re-grade if concentrated flow is causing rills or gullying through the facility. Grade, vegetate, and/or armor to provide stable conveyance in accordance with approved plans.
Sediment Accumulation	Check for accumulated sediment in conveyance systems and forebay. Check for accumulated sediment on basin surface. Check for clogged openings.	When the forebay depth is less than half the approved design, remove sediment. When sediment accumulation on basin surface exceeds 1 inch, remove sediment. Remove sediment from clogged openings. Dispose of all sediment in an acceptable location.
Blockages	Check overflow inlet (riser) and piping for blockages. Check observation wells for water level.	Clear out any blockages.
ANNUAL INSPECTION		
Inspection Item	**Inspection Requirements**	**Remedial Action**
Maintenance Access	Check for accessibility to pond including riser and spillways.	Remove excessive vegetative growth and obstructions. Repair access way or road to stable condition.
Woody Vegetation	Check for woody vegetation on zones of concern: the embankment, within 15 feet of the toe of embankment, within a 25 foot radius of the control structure (riser or weir), and within 15 feet of principal spillway pipe.	Mow down woody vegetation within zones of concern. Cut trees with 4 inch or smaller diameter flush to ground. Re-seed bare areas according to plan stabilization requirements. **Contact MDE Sediment, Stormwater, and Dam Safety Plan Review Division regarding removal of larger trees than 4 inch diameter.**

Inlets	Check for flow blockages, erosion, rills, gullies, and displaced riprap.	Restore grades and re-seed or armor bare areas to provide stable conveyance in accordance with the approved plans.
Trash Rack	Check that trash rack is clear of blockages and in good condition.	Remove any blockages. Repair or replace to good working condition in accordance with the approved plans.
Pond Drain	Check operation. Keep drain chained and locked.	Repair in accordance with approved plans.
Riser and Barrel	Check for evidence of cracks, spalling, and joint failures. Check connection between riser and barrel for water tightness. Check spillway pipe for water tight joints. Check for seepage around and along spillway pipe.	Repair or replace to good working condition in accordance with the approved plans.
Structural Components: Endwalls, Headwalls, Weirs and Abutments.	Check for evidence of structural deterioration, spalling, or cracking. Check for seepage. Check for missing manhole covers or inlet grates.	Repair to good condition according to specifications on the approved plans.
Outfall	Check for displaced riprap, blow outs, unstable conveyance, and erosion below the outlet.	Repair and restore function in accordance with the approved plans and to achieve stable conveyance.
Embankment Integrity	Check upstream face and downstream face for soft spots and boggy areas, boils at the toe, settlements, depressions and bulges, signs of erosion, animal burrows, slope failures, and seepage. Check that ground cover is in good condition. Check for wetland type vegetation.	Repair and stabilize in accordance with the approved plans. Presence of wetland vegetation on embankment may indicate seepage and structural integrity concerns. **Contact MDE Sediment, Stormwater, and Dam Safety Plan Review Division MDE Sediment before performing major pond repairs.**
Emergency Spillway Channel	Check for evidence of erosion, soft or wet areas, or obstructions. Check for woody vegetation. Check for displaced riprap.	Remove any obstructions. Mow and cut flush trees with 4 inch or smaller diameter. Re-seed or armor bare areas to provide stable conveyance in accordance with the approved plans. **Contact MDE Sediment, Stormwater, and Dam Safety Plan Review Division regarding removal of larger trees than 4 inch diameter.**
Overall Function of Facility	Check that practice is functioning as designed.	Repair to good condition according to specifications on the approved plans.