Stormwater Management Maintenance Manual

Route 70 West LLC

Block 7.01, Lot 2
Township of Cherry Hill, Camden County, New Jersey

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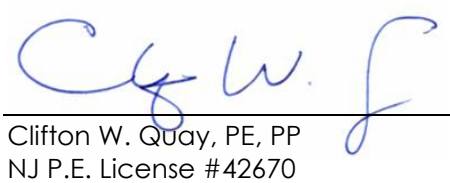

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1.0 Chapter 1 – STORMWATER MANAGEMENT FACILITIES

1.1 RESPONSIBILITY FOR MAINTENANCE

Route 70 West LLC will be responsible for maintaining the basin.

1.2 SEQUENCING

Care should be taken during construction to minimize the risk of premature failure of stormwater management facilities including the sand bottom basin and underground basin. This failure is caused by the deposition of sediments from disturbed, unstabilized areas. This can be minimized or avoided by proper sequencing.

A. Construction of the sand bottom basin and underground basin should take place after the site has been stabilized. All applicable erosion and sediment control practices shall be in place prior to any grading operation and installation of proposed structures or utilities.

B. No runoff should enter the sand bottom basin and underground basin prior to completion of construction and the complete stabilization of the tributary areas.

C. Diversion berms or silt fence should be placed around the perimeter of the basins during all phases of construction. Sediment and erosion controls should be used to keep runoff and sediment away from the basins.

D. Initial excavation of basins should be carried out to within one foot of the final grade of the basin floor. Final excavation of the basin floor should be delayed until all distributed areas in the drainage area are stabilized. All excavation should be performed by equipment with tracks exerting relatively light pressures. This will prevent compacting of the basin floor, which would reduce the detention capacity.

E. In order to avoid soil compaction, absolutely no equipment should be driven in the area of the basin before and after its construction.

F. Infiltration Basins: Basin construction must not compact soils below the infiltration basin bottom. Excavate infiltration basins from outside of the perimeter of the basin. No heavy equipment is permitted in the basin at any time.

G. Infiltration Basins: After final grading, the basin floor should be tilled to a depth of at least 6 inches to provide a well-aerated, porous surface texture. Six inches of compost should be tilled in at this time if soils are even the slightest bit compacted. This will help to facilitate infiltration.

H. Infiltration Basins: Sand layer (6-inch) thick is to consist of K5 sand with a maximum of 15% fines and a minimum permeability rate of 20 inches per hour.

I. During and after excavation, all excavated materials should be placed downstream, away from the basins, to prevent redepositing during runoff events.

J. Immediately following basin construction, the bottom and side slopes of the basin should be stabilized with a dense stand of appropriate plants.

1.3 CONSTRUCTION

Experience has shown that the longevity of a basin is strongly influenced by the care taken during construction. The construction sequence and specifications for each basin must be precisely followed.

A. Protection of the subgrade soils from compaction by construction equipment and contamination and clogging by sediment are vital.

B. Prior to the basin construction, the area of basins should be cordoned or roped off to prevent construction equipment and stockpiled materials from compacting the subgrade soils.

C. Basin construction should be delayed until all other construction within its drainage area is completed and the drainage area stabilized.

D. The use of basins as a temporary sediment basin during construction is strongly discouraged.

E. Smearing of the soil at the interface with the basin floor must be avoided and/or corrected by raking or rototilling.

F. Light earth-moving equipment should be used to excavate the basins. Use of heavy equipment causes compaction of the soils beneath the basin floor and side slopes, resulting in reduced capacity.

G. Once the final grading of the basin is reached, the bottom of the basin should be deeply tilled with a rotary tiller or disc harrow and then smoothed out with a leveling drag or equivalent grading equipment.

H. Protection of the subgrade soils from compaction by construction equipment and contamination and clogging by sediment are vital.

1.4 MAINTENANCE

Maintenance is required for the proper operation of stormwater (detention/retention and infiltration) basins, as it is with all BMPs. The use and regular maintenance of pretreatment BMPs will significantly minimize maintenance requirements for the basin.

1.4.1 STORMWATER BASINS

A. Pretreatment devices associated with basins should be inspected and cleaned at least twice a year, and ideally every other month.

B. Once the basin has gone on-line, inspections should occur after every major storm for the first few months to ensure proper stabilization and function. Attention should be paid to how long water remains standing in the basin after a storm; standing water within the basin more than 72 hours after a storm indicates that the infiltration capacity may have been reduced through poor construction practices and/or stabilization. Factors responsible for clogging (such as upland sediment erosion and excessive compaction of soils) should be repaired immediately. Also, the newly established vegetation should be inspected several times to determine if any remedial actions (reseeding, irrigation, etc.) are necessary.

C. All basins and wet pond components expected to receive and/or trap debris and sediment must be inspected for clogging and excessive debris and sediment accumulation at least four times annually as well as after every storm exceeding 1 inch of rainfall.

    a. Basin components include basin bottom, riprap aprons, trash racks, outlet structures and inflow points.

D. Sediment removal should take place when the basin is thoroughly dry. Sediment removal within the basin should be performed when the sediment is dry enough so that it is cracked and readily separates from the basin floor. This also prevents smearing of the basin floor.

E. Light equipment, which will not compact the underlying soil, should be used to remove the top layer of sediment. The remaining soil should be tilled and revegetated as soon as possible.

F. Disposal of debris, trash, sediment and other waste material should be done at a suitable disposal/recycling sites and in compliance with all applicable local, state and federal waste regulations.

G. Grass should be mowed at least once a month during the growing season. Vegetated areas must also be inspected at least annually for erosion and scour. The basin must be inspected for unwanted tree growth at least once a year.

H. When establishing or restoring vegetation, biweekly inspections of vegetation health should be performed during the first growing season or until vegetation is established. Once established, inspections of vegetation health, density and diversity should be performed at least twice annually during both the growing and non-growing season.

I. Vegetative cover should be maintained at 85 percent. If vegetation has greater than 50 percent damage, the area should be reestablished in accordance with original specifications and inspection requirements.

J. All vegetated areas should be inspected at least annually for unwanted growth which should be removed with minimum disruption to the remaining vegetation and basin subsoil.

K. All structural components must be inspected for cracking, subsidence, spalling, erosion, and deterioration at least annually.

L. All outlets, outlet structures and control structures are to be inspected at least four times annually.

M. The bottom sand layer of the infiltration basins should be inspected at least monthly as well as after every storm exceeding 1 inch of rainfall. If the water fails to infiltrate 72 hours after the end of the storm, corrective measures must be taken. Annual tilling by light equipment can assist in maintaining infiltration capacity and break up clogged surfaces.

N. The basins should be inspected at least four times per year. Important items to check include: differential accumulation of sediment, erosion of the basin floor, condition of riprap and the health of the vegetation. Eroded or barren spots should be replanted immediately after inspection to prevent additional erosion and accumulation of sediment.

O. Direct access to the basin shall be provided to simplify maintenance. Provision of a hardened access or staging pad adjacent to each basin is to be provided. Such an area helps protect the basin from excessive erosion resulting from operation of equipment used for maintenance. The pad area can be hardened by installing block pavers or similar material.

P. In addition, a fixed, vertical, sediment depth marker should be installed in each basin to measure the sediment deposition. The sediment depth marker will allow the owner to monitor the accumulation and anticipate maintenance needs. Clean out frequency will vary depending on the conditions of the upstream watershed and the given site.

1.4.2 POROUS PAVEMENT

A. Special Maintenance Considerations:

1. Prevent clogging of pavement surface with sediment.
2. Vacuum pavement four times per year. Dispose of particles off-site.
3. Maintain planted areas adjacent to pavement. Immediately clean any soil deposited on pavement.
4. Do not allow construction staging, soil/mulch storage, etc. on unprotected pavement surface.
5. Clean inlets twice per year.

B. Repairs: Potholes in the porous pavement are extremely unlikely; though settling might occur if a soft spot in the subgrade is not removed during construction. For damaged areas of less than 50 square feet, a declivity could be patched by any means suitable with standard pavement, with the loss of porosity of that area being insignificant. The declivity can also be filled with porous mix. If an area greater than 50 sq. ft. is in need of repair, approval of patch type must be sought from either the engineer or owner. Under no circumstance is the pavement surface to ever be seal coated. Any required repair of drainage structures should be done promptly to ensure continued proper functioning of the system.

1. Surface should never be seal-coated.
2. Damaged areas less than 50 sq. ft. can be patched with porous or standard asphalt.
3. Larger areas should be patched with an approved porous asphalt.

C. Winter Maintenance: Winter maintenance for a porous parking lot may be necessary but is usually less intensive than that required for a standard asphalt lot. By its very nature, a porous pavement system with subsurface aggregate bed has superior snow melting characteristics than standard pavement. The underlying stone bed tends to absorb and retain heat so that freezing rain and snow melt faster on porous pavement. Therefore, ice and light snow accumulation are generally not as problematic. However, snow will accumulate during heavier storms. Abrasives such as sand or cinders should not be applied on or adjacent to the porous pavement. Snow plowing is fine, provided it is done carefully (i.e. by setting the blade slightly higher than usual, about an inch). Salt is acceptable for use as a deicer on the porous pavement, though nontoxic, organic deicers, applied either as blended, magnesium chloride-based liquid products or as pretreated salt, are preferable.

1. Snow and Ice Removal

    a) Do not apply abrasives such as sand or cinders on or adjacent to porous pavement

    b) Snow plowing is fine but should be done so as not to gouge the pavement (i.e. set the blade one-inch higher than usual).

    c) Salt application is acceptable, although more environmentally-benign deicers are preferable.

2.0 Chapter 2 – MAINTENANCE STANDARDS FOR DRAINAGE FACILITIES

2.1 INFILTRATION BASINS

MAINTENANCE COMPONENT	DEFECT	CONDITIONS WHEN MAINTENANCE IS NEEDED	RESULTS EXPECTED WHEN MAINTENANCE IS PERFORMED
General	Trash & Debris	Any trash and debris which exceed 1 cubic foot per 1,000 square feet (this is about equal to the amount of trash it would take to fill up one standard size office garbage can). In general, there should be no visual evidence of dumping.	Trash and debris cleared from site.
	Poisonous Vegetation	Any poisonous or nuisance vegetation which may constitute a hazard to the public.	No danger of poisonous vegetation where the public might normally be.
	Pollution	Oil, gasoline, or other contaminants of one gallon or more or any amount found that could: 1) cause damage to plant, animal, or marine life; 2) constitute a fire hazard; or 3) be flushed downstream during rain storms.	No contaminants present other than a surface film. (Coordination withCounty Health Department)
	Unmowed Grass/ Ground Cover	If facility is located in private residential area, mowing is needed when grass exceeds 18 inches in height. In other areas, the general policy is to make the pond site match adjacent ground cover and terrain as long as there is no interference with the function of the facility.	When mowing is needed, grass/ground cover should be mowed to 2 inches in height. Mowing of selected higher use areas rather than the entire slope may be acceptable for some situations.
	Rodent Holes	Any evidence of rodent holes if facility is acting as a dam or berm, or any evidence of water piping through dam or berm via rodent holes.	Rodents destroyed and dam or berm repaired. (Coordination with County Health Department)
	Insects	When insects such as wasps and hornets interfere with maintenance activities.	Insects destroyed or removed from site.
	Tree Growth	Tree growth does not allow maintenance access or interferes with maintenance activity (i.e., slope mowing, silt removal, vactoring, or equipment movements). If trees are not interfering with access, leave trees alone.	Trees do not hinder maintenance activities. Selectively cultivate trees such as alders for firewood.
Side Slopes of Basin	Erosion	Eroded damage over 2 inches deep where cause of damage is still present or where there is potential for continued erosion.	Slopes should be stabilized by using appropriate erosion control measure(s); e.g., rock, grass, compaction.
Storage Area	Sediment	A percolation test pit or test of facility indicates facility is only working at 90% of its designed capabilities. If two inches or more sediment is present, remove.	Sediment is removed and/or facility is cleaned so that infiltration system works according to design.
	Sheet Cover (If Applicable)	Sheet cover is visible and has more that three 1/4-inch holes in it.	Sheet cover repaired or replaced.
	Sump Filled with Sediment and Debris (If Applicable)	Any sediment and debris filling vault to 10% of depth from sump bottom to bottom of outlet pipe or obstructing flow into the connector pipe.	Clean out sump to design depth.

Filter Bags	Filled with Sediment and Debris	Sediment and debris fill bag more than 1/2 full.	Replace filter bag or redesign system.
Rock Filters	Sediment and Debris	By visual inspection, little or no water flows through filter during heavy rain storms.	Replace gravel in rock filter.
Emergency Overflow/Spillway	Rock Missing	Only one layer of rock exists above native soil in area five square feet or larger, or any exposure of native soil at the top of out flow path of spillway.	Replace rocks to design standards.

2.2 POROUS PAVEMENT

MAINTENANCE COMPONENT	DEFECT	CONDITIONS WHEN MAINTENANCE IS NEEDED	RESULTS EXPECTED WHEN MAINTENANCE IS PERFORMED
Porous Pavement	Sediment Accumulation	Sediment accumulated. Pavement is to be vacuumed each season, four times per year.	No sediment accumulation in porous pavement.
Catch Basins		See “Catch Basins” Section 2.4.	See “Catch Basins” Section 2.4.
Planting Areas	Soil migration	Soil deposited on porous pavement. Immediately clean any soil deposited on pavement.	Stabilization of planting areas adjacent to porous pavement.

2.3 OUTLET STRUCTURE/CONTROL STRUCTURE

MAINTENANCE COMPONENT	DEFECT	CONDITION WHEN MAINTENANCE IS NEEDED	RESULTS EXPECTED WHEN MAINTENANCE IS PERFORMED
General	Trash and Debris (Includes Sediment)	Distance between debris build-up and bottom of orifice plate is less than 1-1/2 feet.	All trash and debris removed.
	Structural Damage	Structure is not securely attached to manhole wall and outlet pipe structure should support at least 1,000 lbs of up or down pressure.	Structure securely attached to wall and outlet pipe.
		Structure is not in upright position (allow up to 10% from plumb).	Structure in correct position.
		Connections to outlet pipe are not watertight and show signs of rust.	Connections to outlet pipe are water tight; structure repaired or replaced and works as designed.
		Any holes--other than designed holes--in the structure.	Structure has no holes other than designed holes.
Cleanout Gate	Damaged or Missing	Cleanout gate is not watertight or is missing.	Gate is watertight and works as designed.
		Gate cannot be moved up and down by one maintenance person.	Gate moves up and down easily and is watertight.
		Chain leading to gate is missing or damaged.	Chain is in place and works as designed.
		Gate is rusted over 50% of its surface area.	Gate is repaired or replaced to meet design standards.

Orifice Plate	Damaged or Missing	Control device is not working properly due to missing, out of place, or bent orifice plate.	Plate is in place and works as designed.
	Obstructions	Any trash, debris, sediment, or vegetation blocking the plate.	Plate is free of all obstructions and works as designed.
Overflow Pipe	Obstructions	Any trash or debris blocking (or having the potential of blocking) the overflow pipe.	Pipe is free of all obstructions and works as designed.
Manhole		See “Manholes” Section 2.4	See “Manholes” Section 2.4
Catch Basin		See “Catch Basins” Section 2.4	See ‘Catch Basins” Section 2.4

2.4 CATCH BASINS/MANHOLES

MAINTENANCE COMPONENT	DEFECT	CONDITIONS WHEN MAINTENANCE IS NEEDED	RESULTS EXPECTED WHEN MAINTENANCE IS PERFORMED
General	Trash & Debris (Includes Sediment)	Trash or debris of more than 1/2 cubic foot which is located immediately in front of the catch basin opening or is blocking capacity of the basin by more than 10%	No Trash or debris located immediately in front of catch basin opening.
		Trash or debris (in the basin) that exceeds 1/3 the depth from the bottom of basin to invert the lowest pipe into or out of the basin.	No trash or debris in the catch basin.
		Trash or debris in any inlet or outlet pipe blocking more than 1/3 of its height.	Inlet and outlet pipes free of trash or debris.
		Dead animals or vegetation that could generate odors that could cause complaints or dangerous gases (e.g., methane).	No dead animals or vegetation present within the catch basin.
		Deposits of garbage exceeding 1 cubic foot in volume	No condition present which would attract or support the breeding of insects or rodents.
	Structure Damage to Frame and/or Top Slab	Corner of frame extends more than 3/4 inch past curb face into the street (If applicable).	Frame is even with curb.
		Top slab has holes larger than 2 square inches or cracks wider than 1/4 inch (intent is to make sure all material is running into basin).	Top slab is free of holes and cracks.
		Frame not sitting flush on top slab, i.e., separation of more than 3/4 inch of the frame from the top slab.	Frame is sitting flush on top slab.
	Cracks in Basin Walls/ Bottom	Cracks wider than 1/2 inch and longer than 3 feet, any evidence of soil particles entering catch basin through cracks, or maintenance person judges that structure is unsound.	Basin replaced or repaired to design standards.
		Cracks wider than 1/2 inch and longer than 1 foot at the joint of any inlet/ outlet pipe or any evidence of soil particles entering catch basin through cracks.	No cracks more than 1/4 inch wide at the joint of inlet/outlet pipe.
	Sediment/ Misalignment	Basin has settled more than 1 inch or has rotated more than 2 inches out of alignment.	Basin replaced or repaired to design standards.
	Fire Hazard	Presence of chemicals such as natural gas, oil and gasoline.	No flammable chemicals present.

	Vegetation	Vegetation growing across and blocking more than 10% of the basin opening.	No vegetation blocking opening to basin.
		Vegetation growing in inlet/outlet pipe joints that is more than six inches tall and less than six inches apart.	No vegetation or root growth present.
	Pollution	Nonflammable chemicals of more than 1/2 cubic foot per three feet of basin length.	No pollution present other than surface film.
Catch Basin Cover	Cover Not in Place	Cover is missing or only partially in place. Any open catch basin requires maintenance.	Catch basin cover is closed
	Locking Mechanism Not Working	Mechanism cannot be opened by on maintenance person with proper tools. Bolts into frame have less than 1/2 inch of thread.	Mechanism opens with proper tools.
	Cover Difficult to Remove	One maintenance person cannot remove lid after applying 80 lbs. of lift; intent is keep cover from sealing off access to maintenance.	Cover can be removed by one maintenance person.
Ladder	Ladder Rungs Unsafe	Ladder is unsafe due to missing rungs, misalignment, rust, cracks, or sharp edges.	Ladder meets design standards and allows maintenance person safe access.
Metal Grates (If Applicable)		Grate with opening wider than 7/8 inch.	Grate opening meets design standards.
	Trash and Debris	Trash and debris that is blocking more than 20% of grate surface.	Grate free of trash and debris.
	Damaged or Missing.	Grate missing or broken member(s) of the grate.	Grate is in place and meets design standards.
Manhole	Cover Not in Place	Cover is missing or only partially in place. Any open manhole requires maintenance.	Manhole is closed.
	Locking Mechanism Not Working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts into frame have less than ½ inch of thread (may not apply to self-locking lids.)	Mechanism opens with proper tools.
	Cover Difficult to Remove	One maintenance person cannot remove lid after applying 80lbs of lift. Intent is to keep cover from sealing off access to maintenance.	Cover can be removed and reinstalled by one maintenance person.
	Ladder Rungs Unsafe	County Safety Office and/or maintenance person judges that ladder is unsafe due to missing rungs, misalignment, rust, or cracks.	Ladder meets design standards allows maintenance person safe access.

2.5 DEBRIS BARRIERS (TRASH RACKS)

MAINTENANCE COMPONENT	DEFECT	CONDITIONS WHEN MAINTENANCE IS NEEDED	RESULTS EXPECTED WHEN MAINTENANCE IS PERFORMED
General	Trash and Debris	Trash or debris that is plugging more than 20% of the openings in the barrier.	Barrier clear to receive capacity flow.
Metal	Damaged/ Missing Bars.	Bars are bent out of shape more than 3 inches.	Bars in place with no bends more than 3/4 inch.
		Bars are missing or entire barrier missing.	Bars in place according to design.
		Bars are loose and rust is causing 50% deterioration to any part of barrier.	Repair or replace barrier to design standards.

2.6 CONVEYANCE SYSTEMS (PIPES & DITCHES)

MAINTENANCE COMPONENT	DEFECT	CONDITIONS WHEN MAINTENANCE IS NEEDED	RESULTS EXPECTED WHEN MAINTENANCE IS PERFORMED
Pipes	Sediment & Debris	Accumulated sediment that exceeds 20% of the diameter of the pipe.	Pipe cleaned of all sediment and debris.
	Vegetation	Vegetation that reduces free movement of water through pipes.	All vegetation removed so water flows freely through pipes.
	Damaged	Protective coating is damaged; rust is causing more than 50% deterioration to any part of pipe.	Pipe repaired or replaced.
		Any dent that decreases the cross section area of pipe by more than 20%.	Pipe repaired or replaced.
Open Ditches	Trash & Debris	Trash and debris exceeds 1 cubic foot per 1,000 square feet of ditch and slopes.	Trash and debris cleared from ditches.
	Sediment	Accumulated sediment that exceeds 20 % of the design depth.	Ditch cleaned/ flushed of all sediment and debris so that it matches design.
	Vegetation	Vegetation that reduces free movement of water through ditches.	Water flows freely through ditches.
	Erosion Damage to Slopes	See “Infiltration Basins” Section 2.1	See “Infiltration Basins” Section 2.1
	Rock Lining Out of Place or Missing (If Applicable).	Maintenance person can see native soil beneath the rock lining.	Replace rocks to design standards.
Catch Basins		See “Catch Basins: Section 2.4	See “Catch Basins” Section 2.4
Debris Barriers (e.g., Trash Rack)		See “Debris Barriers” Section 2.5	See “Debris Barriers” Section 2.5

2.7 GROUNDS (LANDSCAPING)

MAINTENANCE COMPONENT	DEFECT	CONDITIONS WHEN MAINTENANCE IS NEEDED	RESULTS EXPECTED WHEN MAINTENANCE IS PERFORMED
General	Weeds (Nonpoisonous)	Weeds growing in more than 20% of the landscaped area (trees and shrubs only).	Weeds present in less than 5% of the landscaped area.
	Safety Hazard	Any presence of poison ivy or other poisonous vegetation.	No poisonous vegetation present in landscaped area.
	Trash or Litter	Paper, cans, bottles, totaling more than 1 cubic foot within a landscaped area (trees and shrubs only) of 1,000 square feet.	Area clear of litter.
Trees and Shrubs	Damaged	Limbs or parts of trees or shrubs that are split or broken which affect more than 25% of the total foliage of the tree or shrub.	Trees and shrubs with less than 5% of total foliage with split or broken limbs.
		Trees or shrubs that have been blown down or knocked over.	Tree or shrub in place free of injury.
		Trees or shrubs which are not adequately supported or are leaning over, causing exposure of the roots.	Tree or shrub in place and adequately supported; remove any dead or diseased trees.
	Modular Grid Pavement	Build-up of sediment mildly contaminated with petroleum hydrocarbons.	Removal of sediment and disposal in keeping with Health Department recommendations for mildly contaminated soils or catch basin sediments.
Shoulders and Ditches	Erosion Damage	Erosion within 1 foot of the roadway more than 8 inches wide and 6 inches deep.	Shoulder free of erosion and matching the surrounding road.
	Weeds and Brush	Weeds and brush exceed 18 inches in height or hinder maintenance access.	Weeds and brush cut to 2 inches in height or cleared in such a way as to allow maintenance access.

3.0 Chapter 3 – BMP MAINTENANCE SCHEDULE

3.1 BMP MAINTENANCE SCHEDULE

BMP	ACTIVITY	SCHEDULE
STORMWATER BASINS SEDIMENT FOREBAY	▪ Cleaning and removal of debris and accumulated sediment. ▪ Repair of embankment and side slopes. ▪ Repair or restore basin bottom. ▪ Repair of outlet control structure and emergency spillway. ▪ Repair or restore riprap. ▪ Repair or restore emergency spillway.	Inspect basin at least four (4) times annually as well as after every storm exceeding one (1) inch of rainfall. Bottom sand layer to be inspected monthly as well as after every storm exceeding one (1) inch of rainfall.
	▪ Grass to be mowed at least once monthly. ▪ Vegetative cover to be maintained at 85%.	Vegetative cover to be inspected annually.
POROUS PAVEMENT	▪ Cleaning and removal of debris and accumulated sediment. ▪ Repair of damaged areas.	Inspect pavement at least four (4) times annually. Patch to be approved by Engineer.
	▪ Winter Maintenance: Abrasives (sand or cinders) should NOT be applied. Plow carefully by setting blade one-inch higher than typical.	As required during winter season.

4.0 Chapter 4 – INSPECTION CHECKLISTS FOR DRAINAGE FACILITIES

4.1 STORMWATER BASINS

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 dewaters between storms			
○ Drawdown time does not exceed 36 to 48 hours			
5. Sediment Accumulation			
○ Approximate depth of accumulated sediment			
6. Catch Basins			
○ 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			
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:			
To Be Completed By (Date):			

4.2 POROUS PAVEMENT

Project/Location:_____

"As Built" Plans Available?_____

Date/Time:_____

Days Since Previous Rainfall and Rainfall Amount:_____

Inspector: _____

Maintenance Item	Satisfactory	Unsatisfactory	Comments
1. Sediment Accumulation			
○ No sediment accumulation identified in porous pavement.			
2. Debris Cleanout			
○ No excessive trash and debris on pavement or in areas immediately adjacent to pavement.			
3. Adjacent Landscaping			
○ Landscape beds adjacent to porous pavement stabilized and no soil, mud or sediment is being deposited on the porous pavement.			
4. Structural Stability			
○ Damaged areas repaired with approved patch.			
5. Catch Basins			
○ Good condition			
○ No sediment or trash accumulation			
Actions to Be Taken:			

To Be Completed By (Date):