

Bioretention Stormwater Management Practices Level 1 Inspection Checklist							
SMP ID #			SMP Owr	ier			PrivatePublic
SMP Location (Address; Latitude							
& Longitude)	Latitude				Longitude		
Party Responsible for Maintenance		System Type			Type of Site		
 Same as SMP Owner Other 		 Seasonal Continuous Use Other Above Groun Below Groun 		bove Ground elow Ground		 Commercial Industrial Residential State 	
Inspection Date				Inspec	ction Time		
Inspector						1	
Date of Last Inspection							

BR Drainage Area								
Look for areas that are uphill from the Bioretention cell.								
Problem (Check if Present)		Follow-Up Actions						
Ban of the (rill the	are soil, erosion f the ground rills washing out he dirt)	 Seed and mulch areas of bare soil to establish vegetation. Fill in erosion areas with soil, compact, and seed and straw to establish vegetation. If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. Other: 						

BR Drainage Area								
Look for areas that are uphill from the Bioretention cell.								
Problem (Check if Present)		Follow-Up Actions						
		Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths.						
	Piles of grass clippings, mulch, dirt, salt, or other materials	 Remove or cover piles of grass clippings, mulch, dirt, etc. Other: 						
	Open containers of oil, grease, paint, or other substances	 Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. Other: 						



BR Inlets

Stand in the Bioretention cell itself and look for all the places where water flows in. Often there will be multiple points of inflow to the practice.

Problem (Check if Present)	Follow-Up Actions					
 Inlets collect grit and debris or grass/weeds. Some water may not be getting into the Bioretention cell. The objective is to have a clear pathway for water to flow into the cell. 	 Use a flat shovel to remove grit and debris (especially at curb inlets or openings). Parking lots generate fine grit that will accumulate at these spots. Pull out clumps of growing grass or weeds and scoop out the soil or grit that the plants are growing in. Remove any grass clippings, leaves, sticks, and other debris that is collecting at inlets. For pipes and ditches, remove sediment and debris that is partially blocking the pipe or ditch opening where it enters the Bioretention cell. Dispose of all material properly where it will not re-enter the Bioretention cell. Other: 					
Some or all of the inlets are eroding so that rills, gullies, and other erosion is present, or there is bare dirt that is washing into the Bioretention cell.	 For small areas of erosion, smooth out the eroded part and apply rock or stone (e.g., river cobble) to prevent further erosion. Usually, filter fabric is placed under the rock or stone. In some cases, reseeding and applying erosion-control matting can be used to prevent further erosion. Some of these materials may be available at a garden center, but it may be best to consult a landscape contractor. Other: Kick-Out to Level 2 Inspection: Erosion is occurring at most of the inlets, and it looks like there is too much water that is concentrating at these points. The inlet design may have to be modified. 					



BR Ponding Area Examine the entire Bioretention surface and side slopes **Problem (Check if Present) Follow-Up Actions** Add new mulch to a total depth (including any existing mulch that is left) of 2 to 3 inches. The mulch should be shredded hardwood mulch that is less likely to float away during rainstorms. Avoid adding too much mulch so that inlets are obstructed or certain areas become higher than the rest of the Bioretention surface. Other: Mulch (if used) needs to be replaced or replenished. The mulch layer had decomposed or is less than 1-inch thick. Use a shovel to scoop out minor areas of sediment or grit, especially in the spring after winter sanding materials may wash in and accumulate. Dispose of the material where it cannot re-enter the Bioretention cell . If removing the material creates a hole or low area, fill with soil mix that matches original mix and cover with mulch so that the Bioretention surface area is as flat as possible. Remove trash, vegetative debris, and other undesirable materials. Other: Kick-Out to Level 2 Inspection: Sediment has accumulated more than 2inches deep and covers 25% or more of the Bioretention surface. Kick-Out to Level 2 Inspection: The Bioretention cell is too densely vegetated to assess sediment accumulation or ponding; see BR-4, Vegetation. Minor areas of sediment, grit, trash, or other debris are accumulating on the bottom.



BR Ponding Area						
Examine the entire Bioretention surface and side slopes						
Problem (Check if Present)	Follow-Up Actions					
 There is erosion in the bottom or on the side slopes. Water seems to be carving out rills as it flows across the Bioretention surface or on the slopes, or sinkholes are forming in certain areas. Source: Stormwater Maintenance, LLC. 	 Try filling the eroded areas with clean topsoil or sand, and cover with mulch. If the problem recurs, you may have to use stone (e.g., river cobble) to fill in problem areas. If the erosion is on a side slope, fill with clay that can be compacted and seed and mulch the area. Other: Kick-Out to Level 2 Inspection: The problem persists or the erosion is more than 3-inches deep and seems to be an issue with how water enters and moves through the Bioretention cell. Kick-Out to Level 2 Inspection: The problem does not seem to be caused by flowing water, but a collapse or sinking of the surface (e.g., "sinkhole") due to some underground problem. 					
 The bottom of the Bioretention cell is not flat, and the water pools at one end, along an edge, or in certain pockets. The whole bottom is not uniformly covered with water. See design plan to verify that bioretention surface is intended to be flat. Check during or immediately after a rainstorm 	 If the problem is minor (just small, isolated areas are not covered with water), try raking the surface OR adding mulch to low spots to create a more level surface. You may need to remove and replace plantings in order to properly even off the surface. Check the surface with a string and bubble level to get the surface as flat as possible. Other: Kick-Out to Level 2 Inspection: Ponding water is isolated to less than half of the Bioretention surface area, and there seem to be elevation differences of more than a couple of inches across the surface. 					

BR Ponding Area Examine the entire Bioretention surface and side slopes Problem (Check if Present) Follow-Up Actions Image: Colspan="2">Image: Colspan="2" Image: Co

BR Vegetation						
Examine all Bioretention cell vegetation.						
Problem (Check if Present)	Follow-Up Actions					
	 If you can identify which plants are weeds or not intended to be part of the planting plan, eliminate these, preferably by hand pulling. If weeds are widespread, check with the local stormwater authority and/or Extension Office about proper use of herbicides for areas connected with the flow of water. Even vegetation that is intended to be present can become large, overgrown, and/or crowd out surrounding plants. Prune and thin accordingly. If weeds or invasive plants have overtaken the whole Bioretention cell , bush-hog the entire area before seedheads form in the spring. It will be necessary to remove the root mat manually or with appropriate herbicides, as noted above. Re-plant with species that are aesthetically pleasing and seem to be doing well in the Bioretention cell. Other: 					
 Vegetation requires regular maintenance—pulling weeds, removing dead and diseased plants, replacing mulch around plants, adding plants to fill in areas that are not well vegetated, etc. 	Kick-Out to Level 2 Inspection: You are unsure of the original planting design, or the vegetation maintenance task is beyond your capabilities of time, expertise, or resources. If you are unsure of the health of the vegetation (e.g. salt damage, invasives, which plants are undesirable) or the appropriate season to conduct vegetation management, consult a landscape professional before undertaking any cutting, pruning, mowing, or brush hogging.					



BR Vegetation Examine all Bioretention cell vegetation. **Follow-Up Actions Problem (Check if Present)** The original plants are likely not suited for the actual conditions within the Bioretention cell . If you are knowledgeable about plants, select and plant more appropriate vegetation (preferably native plants) so that almost the entire surface area will be covered by the end of the second growing season. Other: □ Kick-Out to Level 2 Inspection: For all but small practices (e.g., rain gardens), this task will likely require a landscape design professional or horticulturalist. Vegetation is too thin, is not healthy, and there are many spots that are not well vegetated.

BR Outlets						
Examine outlets that release water out of the Bior	etention cell.					
Problem (Check if Present)	Follow-Up Actions					
Erosion at outlet	 Add stone to reduce the impact from the water flowing out of the outlet pipe or weir during storms. Other: 					
	Kick-Out to Level 2 Inspection: Rills have formed and erosion problem becomes more severe.					
	 Remove the debris and dispose of it where it cannot re-enter the Bioretention cell . Other: 					
 Outlet obstructed with mulch, sediment, debris, trash, etc. 	Kick-Out to Level 2 Inspection: Outlet is completely clogged or obstructed; there is too much material to remove by hand or with simple hand tools.					



Additional Notes:

Inspector:_____

Date:

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on ______ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____



Bioretention Stormwater Management Practices Level 2 Inspection Checklist								
SMP ID #			SMP Own	er				PrivatePublic
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& Longitude)	Latitude				Longitude			
Party Responsible for Maintenance		System Type			Type of Site			
Same as SMP OwOther	Same as SMP Owner Seasonal Other Continuous Us Other Other		lse	se Above Ground C		C C I R S	Commercial ndustrial Residential State	
Inspection Date				Inspec	ction Time			
Inspector								
Date of Last Inspection								

Level 2 Inspection: BIORETENTION NOTE: Key Source for this Information <i>(CSN, 2013)</i>							
Recommended Repairs	Triggers for Level 3 Inspection						
Observed Condition: Water Stands on Surface for More than 72 Hours after	Storm						
 Condition 1: Small pockets of standing water Use a soil probe or auger to examine the soil profile. If isolated areas have accumulated grit, fines, or vegetative debris or have bad soil media, try scraping off top 3 inches of media and replacing with clean material. Also check to see that surface is level and water is not ponding selectively in certain areas. Condition 2: Standing water is widespread or covers entire surface Requires diagnosis and resolution of problem: Clogged underdrain? Filter fabric between soil media and underdrain stone? Need to install underdrain if not present? Too much sediment/grit washing in from drainage area? Too much ponding depth? Improper soil media? 	 Soil media is clogged and problem is not evident from Level 2 inspection. Level 2 inspection identifies problem, but it cannot be resolved easily or is associated with the original design of the practice. Level 3 inspection necessary 						
Observed Condition: Vegetation is sparse or out of control							
 Condition 1: Original design planting plan seems good but has not been maintained, so there are many invasives and/or dead plants Will require some horticultural experience to restore vegetation to intended condition by weeding, pruning, removing plants, and adding new plants. Condition 2: Original design planting plan is unknown or cannot be actualized A landscape architect or horticulturalist will be needed to redo the planting plan. Will likely require analysis of soil pH, moisture, organic content, sun/shade, and other conditions to make sure plants match conditions. Plan should include invasive plant management and maintenance plan to include mulching, watering, disease intervention, periodic thinning/pruning, etc. 	 Vegetation deviates significantly from original planting plan; Bioretention has been neglected and suffered from deferred maintenance. Owner/responsible party does not know how to maintain the practice. Level 3 inspection necessary 						
Observed Condition: Bioretention does not conform to original design plan	in surface area or storage						
 Condition 1: Level 2 Inspection reveals that practice is too small based on design dimension, does not have adequate storage (e.g., ponding depth) based on the plan, and/or does not treat the drainage area runoff as indicated on the plan Small areas of deviation can be corrected by the property owner or responsible party, but it is likely that a Qualified Professional will have to revisit the design and attempt a redesign that meets original objectives or that can be resubmitted to the municipality for approval. 	 More than a 25% departure from the approved plan in surface area, storage, or drainage area; sometimes less than this threshold at the discretion of the Level 2 inspector. Level 3 inspection necessary 						

Level 2 Inspection: BIORETENT NOTE: Key Source for this Information	TON (CSN, 2013)
Recommended Repairs	Triggers for Level 3 Inspection
Observed Condition: Severe erosion of filter bed, inlets, or around outlets	
 Condition 1: Erosion at inlets The lining (e.g., grass, matting, stone, rock) may not be adequate for the actual flow velocities coming through the inlets. First line of defense is to try a more non-erosive lining and/or to extend the lining further down to where inlet slopes meet the Bioretention surface. If problem persists, analysis by a Qualified Professional is warranted. Condition 2: Erosion of Bioretention filter bed This is often caused by "preferential flow paths" through and along the Bioretention surface. The source of flow should be analyzed and methods employed to dissipate energy and disperse the flow (e.g., check dams, rock splash pads). Condition 3: Erosion on side slopes Again, the issue is likely linked with unanticipated flow paths down the side slopes. For small or isolated areas, try filling, compacting, and re-establishing healthy ground cover vegetation. If the problem is more widespread, further analysis is required to determine how to redirect the flow. 	 Erosion (rills, gullies) is more than 12 inches deep at inlets or the filter bed or more than 3 inches deep on side slopes. If the issue is not caused by moving water but some sort of subsurface defect. This may manifest as a sinkhole or linear depression and be associated with problems with the underdrain stone or pipe or underlying soil. Level 3 inspection necessary
Observed Condition: Significant sediment accumulation, indicating an unco	ntrolled source of sediment
 Condition 1: Isolated areas of sediment accumulation, generally less than 3-inches deep Sediment source may be from a one-time or isolated event. Remove accumulated sediment and top 2 to 3 inches of Bioretention soil media; replace with clean material. Check drainage area for any ongoing sources of sediment. Condition 2: Majority of the surface is caked with "hard pan" (thin layer of clogging material) or accumulated sediment that is 3-inches deep or more This can be caused by an improper construction sequence (drainage area not fully stabilized prior to installation of Bioretention soil media) or another chronic source of sediment in the drainage area. Augering several holes down through the media can indicate how severe the problem is; often the damage is confined to the first several inches of soil media. Removing and replacing this top layer (or to the depth where sediment incursion is seen in auger holes) can be adequate, as long as the problem does not recur. 	 More than 2 inches of accumulated sediment cover 25% or more of the Bioretention surface area. "Hard pan" of thin, crusty layer covers majority of Bioretention surface area and seems to be impeding flow of water down through the soil media. New sources of sediment seem to be accumulating with each significant rainfall event. Level 3 inspection necessary



Notes:

Inspector:_____

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on ______(DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator:



Disconnection & Sheetflow Stormwater Management Practices Level 1 Inspection Checklist								
SMP ID #			SMP Own	er				PrivatePublic
SMP Location (Address; Latitude & Longitude)								
a congrade)	Latitude				Longitude			
Party Responsible for Maintenance		System Type			Type of Site			
Same as SMP Owner Seasonal Other Continuous Use Other Other		lse	Above GroundBelow Ground		 Commercial Industrial Residential State 			
Inspection Date				Inspec	ction Time			
Inspector								
Date of Last Inspection								

Table 2.4.1 D&S Drainage Area

Visually inspect any surfaces in the drainage area.

Problem (Check if Present)		Follow-Up Actions
	Changes in flow; more runoff; runoff bypassing the practice	 For rooftop areas, make sure downspouts are still disconnected and conveying water into the treatment area. Look for and remove any "dams" of sediment and grass clippings that prevent water from entering the treatment area as sheet flow. Other:

Table 2.4.1 D&S Drainage Area

Visually inspect any surfaces in the drainage area.

Problem (Check if Present)		Follow-Up Actions
		Kick-Out to Level 2 Inspection: Changes to drainage area size or amount of runoff due to construction, tillage, etc.
	For parking lots in the drainage area—sediment, grass clippings, or other	 For small, isolated amounts of debris, sweep up by hand and dispose properly so that it will not be exposed to runoff. Other:
	debris has accumulated at pavement edge.	Kick-Out to Level 2 Inspection: Sediment is widespread and cannot be removed by manual sweeping.
	For parking lots in the drainage area—dips or damage at pavement edge caused flow to concentrate.	Kick-Out to Level 2 Inspection: This will likely require special expertise to diagnose and fix pavement edge.



Table 2.4.2 D&S Level Spreader/Energy Dissipator

Inspect the energy dissipator closely, during a rain event if possible.

Problem (Check if Present)		Foll	ow-Up Actions
	Debris and/or sediment accumulated behind or around the level spreader.		Remove debris and sediment by hand and ensure that the area behind the level spreader is relatively flat. Too much debris and sediment can cause runoff to bypass the level spreader structure. Other:
			For stone/gravel spreaders, add new material or rake out as needed to make it even.
	Sinking, cracking,		Other:
	sloughing, or other structural problem makes the energy dissipator no longer level.		Kick-Out to Level 2 Inspection: Structural issues that cannot be easily fixed by hand

Table 2.4.3 D&S T	reatment <i>i</i>	Area
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Examine where flow enters the treatment area as well as the whole flow path. Look for signs of concentrated flow.					
Problem (Check if Present)	Follow-Up Actions				
□ Trash and/or debris in the treatment area	Collect trash/debris and dispose of properly.				
Grass filter strip has grown very tall, to the point that runoff cannot easily enter or is getting concentrated.	Mow filter strip twice a year or more frequently in a residential yard.				

Table 2.4.3 D&S Treatment Area				
Examine where flow enters the treatment area as well as the whole flow path. Look for signs of concentrated flow.				
Problem (Check if Present)	Follow-Up Actions			
Sparse vegetation or bare spots	 For grassy areas, add topsoil (as needed), grass seed, mulch, and water during the growing season to re-establish consistent vegetation cover. Other: 			
	 For minor rills, fill in with soil, compact, and add seed and straw to establish vegetation. Other: 			
 Rills or gull forming in tarea where become co 	es are eatment flow has incentrated Kick-Out to Level 2 Inspection: Rills are more than 2" to 3" deep and require more than just hand raking and re-seeding.			

Additional Notes:





Inspector:

Date:

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on ______ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____



Disconnection & Sheetflow Stormwater Management Practices Level 2 Inspection Checklist Private SMP ID # **SMP Owner** Public **SMP** Location (Address; Latitude & Longitude) Latitude Longitude Party Responsible for System Type Type of Site Maintenance Above Ground Commercial Same as SMP Owner Seasonal Below Ground Other Continuous Use Industrial Residential Other □ State **Inspection Date Inspection Time** Inspector Date of Last Inspection



Level 2 Inspection – DISCONNECTION AND SHEETFLOW				
Recommended Repairs	Triggers for Level 3 Inspection			
Observed Condition: Significant sediment on pavement that drains to e	disconnection area (e.g., grass strip)			
Condition 1: Sediment on parking lot is widespread Enlist a mechanical sweeper or vacuum sweeper to remove sediment across entire pavement surface. Pay special attention to downhill edges of pavement where more sediment may have accumulated.	 Sediment accumulation is so serious that it cannot be sufficiently removed with mechanical sweeper. May indicate a high sediment load from uphill in the drainage area that needs to be mitigated. Level 3 inspection necessary 			
Observed Condition: Pavement edge deteriorating				
 Condition 1: Dips or damage at pavement edge causing runoff to concentrate Determine whether the damaged edge is causing significant enough concentration of runoff to warrant repair or regrading of the pavement. 	 Edge must be patched or re-paved to make secure and level. Parking lot not draining properly to the energy dissipator and treatment area. Level 3 inspection necessary 			
Observed Condition: Level spreader/energy dissipator				
 Condition 1: Level spreader sinking or uneven If basic equipment can be used, prop up and secure any section of level spreader that is sinking. Regrade soil all around level spreader and add stone as necessary to prevent erosion and bypassing. Condition 2: Level spreader is broken These repairs can be simple for small, residential-scale practices, such as at a downspout. Ensure the level spreader is level across, keyed in to soil at the edges, and made of durable material that can withstand the flow of water running across it. Larger or more complicated level spreaders (e.g., concrete) will likely require specialized skill and equipment. 	 Level spreader requires specialized equipment, regrading, or large amount of material to make level again. Level spreader needs to be re-designed and replaced. Level 3 inspection necessary 			



Level 2 Inspection – DISCONNECTION AND SHEETFLOW				
Recommended Repairs	Triggers for Level 3 Inspection			
Observed Condition: Erosion in treatment area				
Condition 1: Rills from concentrated flow Inspect energy dissipator to see whether it needs to be improved to better spread out incoming flow. Regrade flow path to ensure that it is relatively flat (if minor). If major re-grading is needed, the treatment area may need to be redesigned and fixed with specialized equipment.	 Major rills and gullies Treatment area needs to be re-designed and major grading needed. Level 3 inspection necessary 			

Notes:



Inspector:_____



Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on ______(DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator:



Green Roof Stormwater Management Practices Level 1 Inspection Checklist								
SMP ID #			SMP Owr	ier				PrivatePublic
SMP Location (Address; Latitude								
& Longitude)	Latitude				Longitude			
Party Responsible for Maintenance		System Type					Type of S	Site
Same as SMP Ow Other	ner	SeasonalContinuous LOther	Jse	□ A □ B	bove Ground Below Ground		Com Indus Resi	mercial strial dential e
Inspection Date				Inspe	ction Time			
Inspector						•		
Date of Last Inspection								

	GR Vegetation and Surface	
Visually inspect the surface and vegetation of the practice.		
Problem (Check if Present)	Follow-Up Actions	
 Wilting or nutrient-deprived vegetation; bare areas developing on the roof 	 Water or irrigate. Prune or remove dead or dying vegetation. Other: 	

	GR Vegetation and Surface		
Visually inspect the surface and vegetation of the practice.			
Problem (Check if Present)	Follow-Up Actions		
	 Kick-Out to Level 2 Inspection: Greater than 20% plant dieoff or wilting, even after rainy periods. May require new vegetation or indicate a problem with the soil medium. Kick-Out to Level 2 Inspection: Yellowing vegetation may indicate a need for fertilizer, but do not fertilize unless explicitly included in the management plan or with a Level 2 Inspection. Kick-Out to Level 2 Inspection: Bare areas with no vegetation growing. These may become weed problems in the future. 		
	 Remove weeds by hand. Apply lime to kill moss. Other: 		
 Weeds or moss 	Kick-Out to Level 2 Inspection: Weeds cover more than 25% of the surface, or the original planting plan has been compromised.		
Ponding between storm events	Kick-Out to Level 2 Inspection: Surface ponding more than 24 hours after a storm event presents a hazard and needs to be addressed immediately.		

GR Overflows and Drains

Review the specific maintenance plan for this practice to determine where inspection ports are. Remove the cover and inspect the port.

Problem (Check if Present)	Follow-Up Actions
Inspection port for roof drainage (can be clogged	Remove debris by hand or flush through with a hose.Other:
with debris)	Kick-Out to Level 2 Inspection: Debris cannot be removed, or it appears that debris has accumulated in the underdrains.
 Damage to other roof drainage structures (e.g., roof scuppers) 	 Call contractor or individual in charge of regular building maintenance. This is a building maintenance issue. Other:



Additional Notes:

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Green Roof Stormwater Management Practices Level 2 Inspection Checklist								
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Inspector								
Date of Last Inspection								



Level 2 Inspection: GREEN ROOF				
Recommended Repairs and Required Skills	Triggers for Level 3 Inspection			
Observed Condition: Unhealthy or Dying Vegetation				
 Condition 1: Large number of plants dying from wilt If this is a one-time occurrence, review weather and landscaping records to see whether the die off seems reasonable. If so, deeply water immediately, and plant reinforcements in the spring. Condition 2: Vegetation is dying and yellowing For yellowing vegetation, consider testing the media for pH, nutrient levels, and other factors that may affect growth. Problems identified would go to a Level 3 inspector (see note to right). 	 More than 25% die off Plants are unhealthy for a prolonged period of time or need to be replanted repeatedly, indicating that a new planting plan may be necessary, or the planting medium is not functioning properly. pH or other media constituents are not conducive to plant growth, and the media needs to be amended (e.g., lime, fertilizer). This should be handled by a green roof vendor or green roof plant specialist. Level 3 inspection necessary 			
Observed Condition: Ponding Between Storm Events or Debris Accumulation				
 Condition 1: Further inspection shows debris is clogging the outflow drainpipe Remove debris by hand and revisit within 24 hours to see whether this action fixed the problem. Condition 2: Debris has backed up to include the underdrain Attempt to remove by hand or flush out with a hose. 	 Ponding continues even after debris has been removed. This may indicate a problem with either the media or the underdrain system. Level 3 inspection necessary 			
Observed Condition: Structural Damage to Overflows				
Condition: If the damage is minor, repair damage directly, per original design drawings	 Most instances of structural damage will need to be referred to the designer or a qualified green roof vendor. Level 3 inspection necessary 			
Observed Condition: Roof is Leaking or indication that the	e membrane has a leak			
Condition: Roof is leaking	 Any leaks in the membrane trigger a Level 3 inspection or an inspection by the original installer or designer. Level 3 inspection necessary 			



Notes:

Inspector:_____

Date: _____

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Infiltration Stormwater Management Practices Level 1 Inspection Checklist								
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Party Responsible for Maintenance	•	System Type				•	Type of \$	Site
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Inspection Date				Inspec	ction Time			
Inspector						1		
Date of Last Inspection								

IN Drainage Area

Look for both pervious and impervious areas that are uphill from the Infiltration cell.

Problem (Check if Present)		Follow-Up Actions
	Bare soil, erosion of the ground (rills washing out the dirt)	 Seed and straw areas of bare soil to establish vegetation. Fill in erosion areas with soil, compact, and seed and straw to get vegetation established. If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. Other:

IN Drainage Area					
Look for both pervious and impervious areas that are uphill from the Infiltration cell.					
Problem (Check if Present)		Follow-Up Actions			
		Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths.			
For Dry Wells: Leaves, sticks, or other debris in gutters and downspouts		 Remove all debris by hand. Other: 			
	Piles of grass clippings, mulch, dirt, salt, or other materials	 Remove or cover piles of grass clippings, mulch, dirt, etc. Other: 			
	Open containers of oil, grease, paint, or other substances	 Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. Other: 			

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IN Inlets				
Look for all the places where water flows into the Infiltration practice.				
Problem (Check if Present)	Follow-Up Actions			
	 Use a flat shovel to remove grit and debris (especially at curb inlets or openings). Parking lots generate fine grit that will accumulate at these spots. Pull out clumps of growing grass or weeds and scoop out the soil or grit that the plants are growing in. Remove any grass clippings, leaves, sticks, and other debris that is collecting at inlets. For pipes and ditches, remove sediment and debris that is partially blocking the pipe or ditch opening where it enters the Infiltration practice. Dispose of all material properly in an area where it will not re-enter the practice. Other: 			
 Inlets are collecting grit and debris or grass/weeds are growing. Some water may not be getting into the Infiltration practice. 	Kick-Out to Level 2 Inspection: Inlets are blocked to the extent that most of the water does not seem to be entering the Infiltration practice.			
Some or all of the inlets are eroding so that rills, gullies, and other erosion is present, or there is bare dirt that is washing into the Infiltration practice.	 For small areas of erosion, smooth out the eroded part and apply rock or stone (e.g., river cobble) to prevent further erosion. Usually, filter fabric is placed under the rock or stone. In some cases, reseeding and applying erosion-control matting can be used to prevent further erosion. Some of these materials may be available at a garden center, but it may be best to consult a landscape contractor. Other: Kick-Out to Level 2 Inspection: Erosion is occurring at most of the inlets and it looks like there is too much water that is concentrating at these points. The inlet design may have to be modified. 			



IN Infiltration Area

Examine the surface of the infiltration area and the observation well. Note: The following Problem and Follow-Up Actions apply to infiltration practice pretreatment areas also.

Problem (Check if Present)	Follow-Up Actions			
 For grass-covered Infiltration practices: grass has grown very tall, 	 Mow infiltration area at least twice per year. Other: 			
Photo credit: Stormwater Maintenance, LLC				
	 Add topsoil (as needed), grass seed, straw, and water during the growing season to re-establish consistent grass coverage. Other: 			
 For grass-covered Infiltration practices: sparse vegetation cover or bare spots 	Kick-Out to Level 2 Inspection: Sparse vegetation cover can be a sign that the infiltration area is not infiltrating at the proper rate and water is standing too long after a storm. The surface may be saturated or squishy, and the conditions do not enable grass to grow. This situation should be evaluated by a Level 2 Inspection and likely corrected by a qualified contractor.			
Minor areas of sediment, grit, trash, or other debris are accumulating on the surface.	 Use a shovel to scoop out minor areas of sediment or grit, especially in the spring after winter sanding materials may wash in and accumulate. Dispose of the material where it cannot re-enter the Infiltration practice. If removing the material creates a hole or low area, rake the surface smooth and level. Remove trash, debris, and other undesirable materials. Other: 			
	Kick-Out to Level 2 Inspection: Sediment has accumulated more than 2-inches deep and covers 25% or more of the surface of the Infiltration area.			



IN Infiltration Area

Examine the surface of the infiltration area and the observation well. Note: The following Problem and Follow-Up Actions apply to infiltration practice pretreatment areas also.

Problem (Check if Present)	Follow-Up Actions
	 For minor areas of erosion, try filling the eroded areas with clean topsoil, sand, or stone (whatever the existing cover is). If the problem recurs, you may have to use larger stone (e.g., river cobble) to fill in problem areas. Other:
 There is erosion on the surface; water seems to be carving out rills as it flows across the surface of the Infiltration area or sinkholes are forming in certain areas. 	 Kick-Out to Level 2 Inspection: The problem persists or the erosion is more than 3-inches deep and seems to be an issue with how water enters and moves through the infiltration area. Kick-Out to Level 2 Inspection: The problem does not seem to be caused by flowing water but a collapse or sinking of the surface (e.g., "sinkhole") due to some underground problem.
 Observation well is damaged or cap is missing 	Kick-Out to Level 2 Inspection: Requires replacing pipes or caps.



IN Infiltration Area

Examine the surface of the infiltration area and the observation well. Note: The following Problem and Follow-Up Actions apply to infiltration practice pretreatment areas also.

IN Outlets			
Locate and inspect all outlets.			
Problem (Check if Present)	Follow-Up Actions		
	 Remove the debris and dispose of it where it cannot re-enter the infiltration area. Other: 		
	Kick-Out to Level 2 Inspection: Outlet is completely obstructed; there is too much material to remove by hand or with simple hand tools.		
Outlet obstructed with sediment, debris, trash, etc.			
	 For minor rills, fill in with soil, compact, and seed and straw to establish vegetation. Other: 		
Rins or guilles are forming at outlet.	Kick-Out to Level 2 Inspection: Rills are more than 2" to 3" deep and require more than just hand raking and re-seeding.		



Additional Notes:

Inspector:_____

Date:

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on ______(DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____



Infiltration Stormwater Management Practices Level 2 Inspection Checklist								
SMP ID #			SMP Owner				PrivatePublic	
SMP Location (Address; Latitude								
& Longhude)	Latitude				Longitude			
Party Responsible for Maintenance		System Type					Type of Site	
Same as SMP OwOther	ner	SeasonalContinuous LOther	Jse	□ A □ B	bove Ground elow Ground		Con Indu Res Stat	nmercial Istrial idential e
Inspection Date				Inspec	ction Time			
Inspector								
Date of Last Inspection								



Level 2 Inspection: INFILTRATION					
Recommended Repairs	Triggers for Level 3 Inspection				
Observed Condition: Water Stands on Surface for More than 72 Hours after Storm					
 Condition 1: Small pockets of standing water For infiltration basins with soil, use a soil probe or auger to examine the soil profile. For gravel infiltration trenches or basins, use a shovel to dig into the gravel layer where the problem is occurring. If isolated areas have accumulated grit, fine silt, or vegetative debris or have bad soil or clogged gravel, try removing and replacing with clean material. If the practice is supposed to have grass cover, it will likely be necessary to replant once the problem is resolved. Condition 2: Standing water is widespread or covers entire surface Look in the observation well (if it exists) and use a tape measure to estimate the depth of water standing in the soil or gravel. Requires diagnosis and resolution of problem: Too much sediment/grit washing in from drainage area? Too much ponding depth? Underlying soil not suitable for infiltration? As above, the resolution will likely require replanting and re-establishment of good grass cover if this is part of the design. 	 Infiltration media is clogged and problem cannot be diagnosed from Level 2 inspection. Level 2 inspection identifies problem, but it cannot be resolved easily or it is associated with the original design of the practice. Level 3 Inspection necessary 				

Observed Condition: Severe erosion of infiltration bed, inlets, or around outlets

Condition 1: Erosion at inlets	
The lining (e.g., grass, matting, stone, rock) may not be adequate for the actual flow velocities coming through the inlets. First line of defense is to try a less erosive lining and/or extending the lining further down to where inlet slopes meet the infiltration surface. If problem persists, analysis by a Qualified Professional is warranted.	 Erosion (rills, gullies) is more than 12 inches deep The issue is not caused by moving water but some sort of subsurface defect, which may manifest as a sinkhole or linear depression and be associated with problems with the underlying stone or soil.
This is often caused by "preferential flow paths" along the surface. The source of flow should be analyzed and methods employed to dissipate energy and disperse the flow (e.g., check dams, rock splash pads).	Level 3 Inspection necessary


Notes:

Inspector:_____

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on ______(DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator:



Permeable Pavement Stormwater Management Practices Level 1 Inspection Checklist									
SMP ID #			SMP Owr	ier				PrivatePublic	
SMP Location (Address; Latitude									
& Longitude)	Latitude				Longitude				
Party Responsible for Maintenance	sible for System Type						Type of Site		
 Same as SMP Ow Other 	ner	SeasonalContinuous LOther	Jse	□ A □ B	bove Ground elow Ground		Com Indus Resid	mercial strial dential	
Inspection Date				Inspec	ction Time				
Inspector									
Date of Last Inspection									

PP Drainage Area

Look for areas that are uphill from the Permeable pavement.

Problem (Check if Present)		Follow-Up Actions				
	Bare soil, erosion of the ground (rills washing out the dirt)	 Seed and straw areas of bare soil to establish vegetation. Fill in erosion areas with soil, compact, and seed and straw to establish vegetation. If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. Other: 				



	PP Drainage Area						
Look for areas that are uphill from the Permeab	le pavement.						
Problem (Check if Present)		Follow-Up Actions					
		Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths.					
	Piles of grass clippings, mulch, dirt, salt, or other materials	 Remove or cover piles of grass clippings, mulch, dirt, etc. Other: 					
	Open containers of oil, grease, paint, or other substances	 Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. Other: 					

PP Surface

Examine the entire permeable pavement surface.

Problem (Check if Present)		Follow-Up Actions			
	Dirt and grit accumulating on pavement surface		For small areas (e.g., driveways, patios), try a leaf blower or sweep the area to remove the dirt/grit from the Permeable pavement and properly dispose of the material. If dirt/grit remain in the joint areas between paver blocks, agitate with a rough brush and vacuum the surface with a wet/dry vac. Remove and replace clogged blocks in segmented pavers. For larger areas (e.g., parking lots, courtyards), hire a vacuum sweeper to restore the surface to a cleaner condition. Other: Kick-Out to Level 2 Inspection: Grit is widespread and cannot be removed by manual sweeping.		
	Grass and weeds are growing on the permeable pavement surface (applies only to pavement types that are not intended to be covered in vegetation).		If paver type is not intended to be covered in vegetation, remove the grass/weeds either mechanically (pulling, by hand or with a flame weeder) or with a herbicide approved for use in or near water (consult your local Extension Office for suggestions). Follow the actions listed above for removing dirt/grit from the pavement surface. Other: Kick-Out to Level 2 Inspection: Grass/weeds cover more than 25% of surface area.		
	Slumping, sinking, cracking, or breaking of the pavement surface (Source: CSN, 2013)		For small areas (e.g., patios, small driveway), it may be possible to remove the damaged pavers, check and fill in the underlying gravel, and replace with new materials. Other: Kick-Out to Level 2 Inspection: Problem affects more than a small, isolated area. Will typically require a qualified contractor to fix it. Problem recurs or occurs in multiple small locations.		
	Water stands on Permeable pavement for days after a rainstorm; the Permeable pavement is clogged and doesn't let water through. (Source: CSN, 2013)		Kick-Out to Level 2 Inspection: This is generally a serious problem, and it will be necessary to activate a Level 2 Inspection.		



Additional Notes:

Inspector:_____

Date:

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on ______ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator:	Date:
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Permeable Pavement Stormwater Management Practices Level 2 Inspection Checklist									
SMP ID #			SMP Own	ier					PrivatePublic
SMP Location (Address; Latitude & Longitude)									
a Longhade)	Latitude				Longitude				
Party Responsible for Maintenance	Party Responsible for System Type						Type of Site		
□ Same as SMP Ow	ner	Seasonal		 A	bove Ground			Comm	nercial
□ Other		Continuous U	lse	D B	elow Ground			ndust	rial
		Other					🗆 F	Reside	ential
								State	
Inspection Date				Inspec	ction Time				
Inspector									
Date of Last Inspection									



Level 2 Inspection: P	ERMEABLE PAVEMENT
Recommended Repairs and Required Skills	Triggers for Level 3 Inspection
Observed Condition: Bare Soil or Erosion in the Drainage	Area
 Condition 1: Extensive problem spots, but no channels or rills forming Reseed problem areas. If problem persists or grass does not take, consider hiring a landscape contractor. Condition 2: Problem is extensive, and rills/channels are beginning to form May be necessary to divert or redirect water that is causing the erosion problem. If it appears that simple regrading—such as installing a berm or leveling a low spot–will fix the problem, make repairs and check to ensure that the problem is repaired after the next storm. 	 Large rills or gullies are forming in the drainage area. An attempt to regrade the drainage area has been unsuccessful Fixing the problem would require major regrading (i.e., redirecting more than a 100-square-foot area. It is not clear why the problem is occurring. Level 3 inspection necessary
Observed Condition: Dirt or Grit Accumulating, or Grass G	rowing on Pavement Surface
 Condition 1: Grit beginning to form but is isolated to a small area or does not fill the joints between paver blocks Try to agitate and sweep by hand, or hire a contractor with a vacuum sweeper. Also investigate the drainage area for potential sediment sources. If no obvious sources are found, discuss winter sanding and salting operations with the property owner to identify whether this could be the source. Condition 2: Grit is forming and cannot be removed with agitation and hand sweeping Hire a vendor with a regenerative air vacuum sweeper, maximum power 2,500 rpm; avoid sweepers that use water. 	 More than 2 inches of sand/dirt/grit are on some of the pavement surface. More than 25% of the pavement surface is covered with sand/dirt/grit to the extent that joints between paver blocks are filled. Regenerative air sweeper cannot remove grit. Level 3 inspection necessary



Level 2 Inspection: P	
Recommended Repairs and Required Skills	Triggers for Level 3 Inspection
Observed Condition: Structural Damage	
 Condition 1: Portions of porous asphalt or permeable pavers are damaged, and the cause is known to be at the surface. If the damage is from a single event such as heavy equipment or heavy fallen objects, or the surface has been damaged by wear over time, hire a contractor experienced in permeable pavement installation to repair the damaged areas. Condition 2: Damage to other structures, such as drainage infrastructure If possible, repair or replace damaged items, or hire a contractor with permeable pavement experience if the damaged infrastructure is within the pavement surface. 	 More than 25% of the surface needs to be repaired or replaced. It appears that the underlying material has "caved in," indicating an underlying water conveyance or soil stabilization issue. Problem is repaired but recurs within less than five years. Level 3 inspection necessary
Observed Condition: Ponding on the Pavement Surface	
 Condition 1: Underdrains (if present) may be clogged Check to see whether underdrains are clogged by inspecting cleanouts (if present) or catch basins and looking for debris. If underdrains appear clogged, it may be necessary to hire a router service to ream out the underdrains. Condition 2: At time of Level 2 inspection, water is not ponded, and there is no obvious clogging of the surface. Conduct a flood test to determine whether the ponding is an ongoing problem. 	 Water stands on the pavement surface more than 72 hours after a storm, and the problem cannot be resolved by unclogging underdrains. More than 25% of the pavement surface is covered with sand/dirt/grit to the extent that joints between paver blocks are filled. Level 3 inspection necessary



Notes:

Inspector:_____

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on ______(DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator:



Pond and Wetland Stormwater Management Practices Level 1 Inspection Checklist								
SMP ID #			SMP Owr	ner				PrivatePublic
SMP Location (Address; Latitude								
& Longitude)	Latitude				Longitude			
Party Responsible for Maintenance		System Type				•	Type of S	Site
 Same as SMP Ow Other 	ner	SeasonalContinuous LOther	Jse	□ A □ B	bove Ground elow Ground		Com Indu Resi	nmercial strial idential e
Inspection Date				Inspec	ction Time			
Inspector				•				
Date of Last Inspection								

PW Drainage Area					
Look for areas that are uphill from the pond.					
Problem (Check if Present)	Follow-Up Actions				
Bare soil, erosion of the ground (rills washing out the dirt)	 Seed and straw areas of bare soil to establish vegetation. Fill in eroded areas with soil, compact, seed and mulch with straw to establish vegetation. Other: 				



Bare soil, erosion of the ground (rills washing out the dirt)	 Kick-Out to Level 2 Inspection: If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. If large areas of soil have been eroded or larger channels are forming, this may require rerouting of flow paths or use of an erosion-control seed mat or blanket to reestablish acceptable ground cover or anchor sod where it is practical.
 Piles of grass clippings, mulch, dirt, salt, or other materials 	 Remove or cover piles of grass clippings, mulch, dirt, etc. Remove excessive vegetation or woody debris that can block drainage systems. Other:
 Open containers of oil, grease, paint, or other substances exposed to rain in the drainage area 	 Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. Other:

Pond Inlets

Look for all areas where water flows into the pond during storms. Note that there may be multiple points of inflow and types of structures (e.g., pipes, open ditches, etc.).

Problem (Check if Present)		Foll	Follow-Up Actions	
		Inlets are buried, covered or filled with		If the problem can be remedied with hand tools and done in a safe manner, remove vegetation, trash, woody debris, etc. from blocking inlet structures. Other:
		blocked by excessive vegetation.		Kick-Out to Level 2 or 3 Inspection: If the amount of material is too large to handle OR there are ANY safety concerns about working in standing water, soft sediment, etc., the work will likely have to be performed by a qualified contractor.



Pond Inlets

Look for all areas where water flows into the pond during storms. Note that there may be multiple points of inflow and types of structures (e.g., pipes, open ditches, etc.).

Problem (Check if Present)		Foll	ow-Up Actions
	Inlets are buried, covered or filled with silt, debris, or trash, or blocked by excessive vegetation.		Kick-Out to Level 2 or 3 Inspection: If the amount of material is too large to handle OR there are ANY safety concerns about working in standing water, soft sediment, etc., the work will likely have to be performed by a qualified contractor.
	Inlets are broken, and, with pieces of pipe or concrete falling into the pond, there is erosion around the inlet, there is open space under the pipe, or there is erosion where the inlet meets the pond		Kick-Out to Level 2 Inspection: These types of structural or erosion problems are more serious and will require a qualified contractor to repair.

PW Pond Area and Embankments

Examine both interior and exterior pond banks as well as the pond body. Observe from the inlet pipes to the outfall structure and emergency overflow.

Problem (Check if Present)		Follow-Up Actions	
	The pretreatment area(s) or forebay(s) are filled with sediment, trash, vegetation, or other debris.	 If the problem can be remedied with hand tools and done in a safe manner, use a flat shovel or other equipment to remove small amounts of sediment. Remove trash and excessive vegetation from forebays if this can be done in a safe manner. Other: 	



PW Pond Area and Embankments

Examine both interior and exterior pond banks as well as the pond body. Observe from the inlet pipes to the outfall structure and emergency overflow.

Problem (Check if Present)		Follow-Up Actions
	The pretreatment area(s) or forebay(s) are filled with sediment, trash, vegetation, or other debris.	Kick-Out to Level 2 Inspection: Large amounts of sediment or debris will have to be removed by a qualified contractor. ANY condition that poses a safety concern for working in standing water or soft sediments should be referred to a Level 2 Inspection or qualified contractor.
 The pond area itself has accumulated sediment, trash, debris, or excessive vegetation that is choking the flow of the water, OR the pond area is covered with algae or aquatic plants. 		 Level 1 includes handling only small amounts of material that can be removed by hand, or with rakes or other hand tools. Do not attempt any repair that poses a safety issue. Other:
		 Kick-Out to Level 2 Inspection: Most cases will call for a Level 2 Inspection and/or a qualified contractor. You are not sure what type and amount of vegetation is supposed to be in the pond. The algae or aquatic plants should be identified so that proper control techniques can be applied.
	The side slopes of the pond are unstable, eroding, and have	 If there are only minor areas, try filling in small rills or gullies with topsoil, compacting, and seeding and mulching all bare dirt areas with an appropriate seed. Alternatively, try using herbaceous plugs to get vegetation established in tricky areas, such as steep slopes. Other:
	areas of bare dirt.	Kick-Out to Level 2 Inspection: Erosion and many bare dirt areas on steep side slopes will require a Level 2 Inspection and repair by a qualified contractor.



PW Pond Area and Embankments

Examine both interior and exterior pond banks as well as the pond body. Observe from the inlet pipes to the outfall structure and emergency overflow.

Problem (Check if Present)		Fo	Follow-Up Actions	
<image/>		The riser structure is clogged with trash, debris, sediment, vegetation, etc., OR is open, unlocked, or has a steep drop and poses a safety concern. The pond level may have dropped below its "normal" level.		 If you can safely access the riser on foot or with a small boat, clear minor amounts of debris and remove it from the pond area for safe disposal. Other: Kick-Out to Level 2 Inspection: The riser cannot be accessed safely, the amount of debris is substantial, or the riser seems to be completely clogged and the water level has risen too high. There are safety issues with the riser and concern about access to pipes, drops, or any other life safety concern. The riser is leaning, broken, settling or slumping, corroded, eroded or any other structural problem.
		The dam/embankment is slumping, sinking, settling, eroding, or has medium or large trees growing on it.		 If there are small isolated areas, try to fix them by adding clean material (clay and topsoil) and seeding and mulching. Periodically mow embankments to enable inspection of the banks and to minimize establishment of woody vegetation. Remove any woody vegetation that has already established on embankments. Other: Kick-Out to Level 2 Inspection: Most of these situations will require a Level 2 Inspection or evaluation and repair by a qualified contractor. Seepage through the dam or problems with the pipe through the dam can be a serious issue that should be addressed to avoid possible dam failure.



PW Pond Area and Embankments

Examine both interior and exterior pond banks as well as the pond body. Observe from the inlet pipes to the outfall structure and emergency overflow.

Problem (Check if Present)		Foll	Follow-Up Actions	
		The emergency spillway or outfall (if it exists) has		Clear light debris and vegetation. Other:
		Erosion, settlement, or loss of material. Rock- lined spillways have excessive debris or vegetation.		Kick-Out to Level 2 Inspection: Displacement of rock lining, excessive vegetation and erosion/settlement may warrant review and decision by Level 2 Inspector to check against original plan. Any uncertainty about the integrity of the emergency spillway should be referred to a Level 2 Inspector. Erosion or settlement such that design has been compromised should be reviewed by an engineer

PW Pond Outlet

Examine the outlet of the pipe on the downstream side of the dam/embankment where it empties into a stream, channel, or drainage system.

Problem (Check if Present)	Follow-Up Actions
	 If there is a minor blockage, remove the debris or vegetation to allow free flow of water. Remove any accumulated trash at the outlet. Outlet:
 The pond outlet is clogged with sediment, trash, debris, vegetation, or is eroding, caving in, slumping, or falling apart. 	 Kick-Out to Level 2 Inspection: If the area at the outlet cannot be easily accessed or if the blockage is substantial, a Level 2 Inspection is warranted. Erosion at and downstream of the outfall should be evaluated by a qualified professional. Any structural problems, such as broken pipes, structures falling into the stream, or holes or tunnels around the outfall pipe, should be evaluated by a Level 2 Inspector and will require repair by a qualified contractor. The pool of water at the outlet pipe is discolored, has an odor, or has excessive algae or vegetative growth.



Additional Notes:

Ins	nector:	
1113		

Date:

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on ______(DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator:	Date:
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Pond and Wetland Stormwater Management Practices Level 2 Inspection Checklist									
SMP ID #		SMP Owr	mer				PrivatePublic		
SMP Location (Address; Latitude									
a Longhude)	Latitude				Longitude				
Party Responsible for Maintenance		System Type				Type of Site			ite
□ Same as SMP Ow	ner	Seasonal		Above Ground			Commercial		
Other		Continuous Use		Below Ground			Industrial		
		□ Other						Resid	lential
								State	
Inspection Date				Inspec	ction Time				
Inspector						·			
Date of Last Inspection									



Level 2 Inspection: PONDS and WETLANDS							
Recommended Repairs and Required Skills	Triggers for Level 3 Inspection						
Observed Condition: Bare Soil or Erosion in the Drainage	Area						
 Condition 1: Extensive problem spots, but no channels or rills forming Reseed problem areas. If problem persists or grass does not take, consider hiring a landscape contractor. Condition 2: Problem is extensive, and rills/channels are beginning to form May be necessary to divert or redirect water that is causing the erosion problem. If it appears that simple regrading—such as installing a berm or leveling a low spot–will fix the problem, make repairs and ensure that the problem is repaired after the next storm. 	 Large rills or gullies are forming in the drainage area. An attempt to regrade the drainage area has been unsuccessful. Fixing the problem would require major regrading (i.e., redirecting more than a 100-square-foot area. It is not clear why the problem is occurring. Level 3 inspection necessary 						

Observed Condition: Manholes or Inlet Pipe Buried or Covered with Vegetation

Condition 1: Nearest manhole and inlet pipe not found						
Consult as-built drawings to get to closest suspected location and use metal detector to search for metal manhole cover. If unsuccessful, identify nearest drain inlets and approximate pipe direction to locate next manhole.						
Condition 2: Manhole located and inspected	To locate buried manholes and lost storm lines, it is sometimes page 2011 to him a pipeling inspection contractor with televising					
Never enter a manhole, except by following confined-space entry protocols.	equipment or ground-penetrating radar and enter at the closest upstream access point.					
If outlet pipe is not visible or greater than 25% full of sediment/debris or trash, it will typically require a qualified	 Locating a buried inlet pipe may require wading in the edge of the pond and using a metal probe and brush axe to find and expose the pipe. 					
contractor to hush, clean and clear blockages.	 If other than light digging is necessary to remove accumulated sediment, a contractor with heavy equipment may be required 					
Condition 3: Inlet pipe not found at pond						
Clear vegetation and brush that may be covering the inlet pipe. Buried inlet pipes may be found through use of a metal probe.	Level 3 inspection necessary					
Condition 4: Inlet pipe buried in sediment or blocked by vegetation						
Once located, the pipe path can be cleared of vegetation with brush hook or other brush tools. Light digging may clear sediment from the end of the pipe.						



Level 2 Inspection: PONDS and WETLANDS							
Recommended Repairs and Required Skills	Triggers for Level 3 Inspection						
Observed Condition: Pipe or Headwall Settlement, Erosic	n, Corrosion or Failure						
Condition 1: Pipe or headwall settlement or failure Severe sinkholes, settlement or corrosion should be kicked out to Level 3 Inspection.	• Where blockages are visible, a decision is needed on whether to clear them or leave in place. If a third of the pipe is full of sediment, it should be removed by a contractor with pipe-cleaning equipment.						
 Condition 2: Flow not confined to pipe and visible outside pipe wall With flashlight, observe the inside of the pipe and note its condition. Take photographs. Look for sinkholes developing that indicate pipe failure beneath the surface. Kick out to Level 3 inspection. 	 Corrosion of inlet pipes that allows flow around the pipe exterior is a structural concern because it can lead to settlement, sinkholes and undermining pond embankment. Evidence of this type of failure may require specialized pipe-inspection equipment and investigation by an engineer. Level 3 inspection necessary 						
Observed Condition: Pond Conditions							
 Condition 1: Pond pre-treatment zone is full of sediment or not constructed as shown on as-built drawings. Condition 2: Excessive buildup of sediment or overgrowth If the pre-treatment area or pond pool is overgrown or filled with sediment so that the original design is compromised, corrective measures are required. If plants have died, then replanting is necessary. If none of the original design exists due to alteration or sediment, kick out to Level 3 inspection. 	 It may require inspection by an engineer to determine next steps for clearing, replanting or reconstruction. Erosion or settlement such that design has been compromised should be reviewed by an engineer. Recurring erosion may require redesign and/or regrading to direct flow away from eroding area. If sediment has filled more than 50% of the pond's capacity, dredging is likely needed and should be evaluated by a qualified contractor. Removal or control of excessive algae or aquatic plants can be assessed by a qualified pond maintenance company. 						
	Level 3 inspection necessary						



Notes:

Inspector:_____

Date:

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on ______(DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator:



Rainwater Harvesting Stormwater Management Practices Level 1 Inspection Checklist									
SMP ID #		SMP Owner					PrivatePublic		
SMP Location (Address; Latitude									
a Longhude)	Latitude				Longitude				
Party Responsible for Maintenance		System Type					Type of Site		
□ Same as SMP Ow	ner	Seasonal		□ Above Ground					
Other		Continuous Use		Below Ground			Industrial		
		Other					Residential		
								tate	
Inspection Date				Inspec	ction Time				
Inspector									
Date of Last Inspection									

RWH Conveyance System and Filter

Inspect any gutters, downspouts, drainage pipes, and filters connected to the Rainwater Harvesting System.

Problem (Check if Present)	Follow-Up Actions					
Leaves, sticks, or other debris in gutters and downspouts	 Remove all debris by hand. Other: 					
Leaves, sticks, or other debris in filter(s)	 Clean out all debris and organic matter buildup by hand or by spraying with a hose. Other: 					



RWH Conveyance System and Filter

Inspect any gutters, downspouts, drainage pipes, and filters connected to the Rainwater Harvesting System.

Problem (Check if Present)	Follow-Up Actions				
	Kick-Out to Level 2 Inspection: Filter (first-flush diverter or vortex filter outside the tank) does not seem to be operating, is completely clogged, or does not appear to be trapping any debris.				
Loose or disconnected junctions between gutters, pipes, or filters	 Secure any loose junctions or parts and make sure they are properly sealed to prevent leaks, Other: 				

RWH Storage Tank

Inspect for any leaks or blockages when tank is full. Drain tank to visually inspect interior without breaking the plane of the opening with any part of the body. This is a confined space that should only be entered by those with special training.

Problem (Check if Present)		Follow-Up Actions						
	Tank is above ground and not freeze proof.	Win	terize the tank by performing the following steps: Drain down water level in the tank before winter to avoid damage from freezing temperatures. Drain water from pipes and pumps. Disconnect conveyance pipes from the tank to enable roof runoff to bypass the tank during winter.					
	Mosquito larvae or other insects present in the water		Add mosquito dunks to water. Ensure that insect screens are installed on all openings and are properly sealed (inlet and outlets). Other:					
			Remove as much as possible, by hand. Other:					
	Debris, algae, or organic matter accumulated in tank		Kick-Out to Level 2 Inspection: For large tanks that cannot easily be accessed for inspection and/or cleaning, defer to Level 2 Inspection.					
	Tank does not appear to fill fully even during large rains, or water level drops quickly after filling.		Kick-Out to Level 2 Inspection: Water is bypassing the tank and/or there are leaks in the tank wall. This will likely require special expertise to diagnose and fix.					
	Problems with pumps, filters, or other mechanical components		Kick-Out to Level 2 Inspection: This will likely require special expertise to diagnose and fix.					



RWH Outlets

Examine the outlet pipe(s) and the point at which it overflows onto the ground.

Problem (Check if Present)	Follow-Up Actions					
Slow flow from outlet caused by faulty and approximately and approximately and approximately appr	 If clogging seems to be the problem, ream out sediment from valve if this can be done from exterior. Other: 					
by faulty of clogged valve	Kick-Out to Level 2 Inspection: Valve needs to be replaced or cannot be cleaned out from outside of tank.					
Flow from outlet is backing up toward building foundation.	Add flexible pipe to end of outlet pipe to divert flow further away and downhill from building.					
Erosion or drainage issues at	 Add a gravel and/or stone pad to reduce the impact from the water flowing out of the outlet pipe during storms. Other: 					
OUTIET	Kick-Out to Level 2 Inspection: Rills have formed, erosion or drainage problems are more severe or cannot be resolved, or there is discoloration or other unusual conditions around the outlet.					

Additional Notes:



Inc	nactor:	
1115		

Date:

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on ______ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator:

Date: _____



Rainwater Harvesting Stormwater Management Practices Level 2 Inspection Checklist								
SMP ID #			SMP Own	ier				PrivatePublic
SMP Location (Address; Latitude & Longitude)								
a Longitado)	Latitude				Longitude			
Party Responsible for Maintenance	,	System Type				Type of Site		
□ Same as SMP Ow	ner	Seasonal		Above Ground			Commercial	
Other		Continuous Use		Below Ground			Industrial	
		Other					🗆 R	esidential
						-	□ S	tate
Inspection Date				Inspec	ction Time			
Inspector								
Date of Last Inspection								



Level 2 Inspection – RAINWATER HARVESTING					
Recommended Repairs	Triggers for Level 3 Inspection				
Observed Condition: Tank is not filling properly or water level drops quickly					
 Condition 1: Tank is not filling properly Look for signs of water bypassing the tank. Inspect the conveyance system and filters to make sure that all parts are properly connected and not leaking. Observe the system during a rainstorm to make sure that water is not backing up and spilling out of the gutters or getting excessively diverted by the filter. Adjust angles and placement of filter as needed. Condition 2: Water level drops quickly after filling Requires diagnosis and resolution of problem: Leaking valve or spigot? Crack in tank wall? Pump turning on unnecessarily? 	 Gutters, pipes, and/or filter appear to be undersized or not properly designed. Structural or mechanical problem requires special expertise in rainwater harvesting systems. Level 3 Inspection necessary 				
Observed Condition: Tank is sinking, leaning, or at risk of collapse					
 Condition 1: Foundation is not stable This repair may need specialized equipment and skill, depending on the size and type of tank. For smaller tanks (like rain barrels), drain and disconnect the tank to move it aside. Compact the underlying soil and create a solid, level base for the tank with concrete blocks or gravel. Seek professional help for larger tanks. Condition 2: Other structural problem Seek professional help. 	 Tanks cannot be easily adjusted or fixed by hand. Level 3 Inspection necessary 				
Observed Condition: Severe erosion at outlet					
Condition 1: Erosion gets worse even after re-seeding or adding stone There are several potential solutions to this continued erosion. Add geotextile fabric below the stone to protect the soil. Dig out a pit at the outfall and fill with gravel or stone to absorb the velocity of the water spilling out the tank. If the outlet flows onto a steep slope, consider extending the pipe length to a flatter area. Some of these actions may require help from a contractor.	 Erosion control cannot easily be installed by hand. Erosion recurs after previous repairs. Downstream drainage concerns Level 3 Inspection necessary 				



Notes:

Inspector:_____

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on ______(DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator:



Sand and Organic Filter Stormwater Management Practices Level 1 Inspection Checklist								
SMP ID #			SMP Owner					PrivatePublic
SMP Location (Address; Latitude								
& Longitude)	Latitude				Longitude			
Party Responsible for Maintenance		System Type				Type of Site		
 Same as SMP Ow Other 	ner	 Seasonal Continuous Use Other 		Above GroundBelow Ground			 Commercial Industrial Residential State 	
Inspection Date				Inspec	ction Time			
Inspector				•				
Date of Last Inspection								

SF Drainage Area						
Look for both pervious and impervious areas that are uphill from the filter.						
Problem (Check if Present) Follow-Up Actions						
		Seed and straw areas of bare soil to get vegetation established.				
Pare coil, creation of the ground (rills weaking		Fill in erosion areas with soil, compact, and seed and straw to establish vegetation.				
out the dirt; reference below)		If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted.				
		Other:				



	SF Drainage Area						
Look for both pervious and impervious areas that are uphill from the filter.							
Problem (Check if Present)	Follow-Up Actions						
 Bare soil, erosion of the ground (rills washing out the dirt) 	Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths.						
 Piles of grass clippings, mulch, dirt, salt, or other materials 	 Remove or cover piles of grass clippings, mulch, dirt, etc. Other: 						
 Open containers of oil, grease, paint, or other substances 	 Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. Other: 						

SF Inlets						
Look for all the places where water flows into the filter practice.						
Problem (Check if Present)		Follow-Up Actions				
	Inlets are collecting grit and debris or grass/weeds growing. Some water may not be getting into the filter practice.	 Use a flat shovel to remove grit and debris (especially at curb inlets or openings). Parking lots generate fine grit that accumulates at these spots. Pull out clumps of growing grass or weeds and scoop out the soil or grit that the plants are growing in. Remove any grass clippings, leaves, sticks, and other debris that is collecting at inlets. For pipes and ditches, remove sediment and debris that is partially blocking the pipe or ditch opening where it enters the Filter practice. Dispose of all material properly in an area where it will not re-enter the practice. Other: 				
		Kick-Out to Level 2 Inspection: Inlets are blocked to the extent that most of the water does not seem to be entering the filter practice.				
	Some or all of the inlets are eroding so that rills, gullies, and other erosion are present, or there is dirt washing	 For small areas of erosion, smooth out the eroded part and apply rock or stone (e.g., river cobble) to prevent further erosion. Usually, filter fabric is placed under the rock or stone. In some cases, reseeding and applying erosion-control matting can be used to prevent further erosion. Some of these materials may be available at a garden center, but it may be best to consult a landscape contractor. Other: 				
10: 3.18PH	into the filter practice.	Kick-Out to Level 2 Inspection: Erosion is occurring at most of the inlets and it looks like there is too much water concentrating at these points. The inlet design may have to be modified.				
	For an underground filter, water is ponding and doesn't seem to be getting through the filter.	Kick-Out to Level 2 Inspection: This is generally a more serious problem and should be referred for a Level 2 Inspection because it will require opening up the filter vault to check for clogging.				

SF Filter Area (for Surface Sand Filters) Examine the surface of the filter and the observation well, if present. **Problem (Check if Present)** Follow-Up Actions Vegetation growing in the filter bed should be removed either manually or with a water-safe herbicide (e.g., glysophate without surfactants). Other: Kick-Out to Level 2 Inspection: The filter seems clogged, or vegetation and weeds have proliferated past the point where the Level 1 person can manage it. Filter has grass and vegetation growing on more than 25% of the filter bed, threatening to clog the filter. Use a shovel to scoop out minor amounts of sediment or grit, especially in the spring after winter sanding materials wash in and accumulate. Dispose of the material where it cannot re-enter the filter. If removing the material creates a hole or low area, rake the surface smooth and level. Remove trash, debris, and other undesirable materials. Minor amounts of sediment, grit, trash, or Other: other debris are accumulating on the surface. Kick-Out to Level 2 Inspection: Sediment (other than sand) has accumulated more than 2-inches deep and covers 25% or more of the surface of the filter area. For minor areas of erosion, try filling the eroded areas with clean, coarse construction sand. Other: Kick-Out to Level 2 Inspection: The problem persists or the erosion is more than 3-inches deep and seems to be an issue with how water enters and moves through the filter area. Kick-Out to Level 2 Inspection: The problem does not seem to be caused by flowing water but by a collapse or sinking of the surface (e.g., There is erosion on the surface; water seems "sinkhole") due to some underground problem. to be carving out rills as it flows across the filter surface, or sinkholes are forming in certain areas.



SF Filter Area (for Surface Sand Filters)

Examine the surface of the filter and the observation well, if present.

Problem (Check if Present)	Follow-Up Actions
 Water is still visible on the surface and/or the standpipe (if present) more than 72 hours after a rainstorm. The filter practice drains very slowly or is completely clogged. 	 Kick-Out to Level 2 Inspection: This is generally a serious problem, and it will be necessary to activate a Level 2 Inspection.

Additional Notes:



Inspector:

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on ______ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____



Sand and Organic Filter Stormwater Management Practices Level 2 Inspection Checklist									
SMP ID #			SMP Owner						PrivatePublic
SMP Location (Address; Latitude & Longitude)									
a Longhude)	Latitude				Longitude				
Party Responsible for Maintenance		System Type				Type of Site			
□ Same as SMP Ow	ner	Seasonal Above Ground							
Other		Continuous Use Below Grou		elow Ground		Industrial			
		□ Other			Residential		ential		
								State	
Inspection Date			Inspection Time						
Inspector									
Date of Last Inspection									



Table 3.12.1 Level 2 Inspection: SAND AND ORGANIC FILTERS						
Recommended Repairs	Triggers for Level 3 Inspection					
Observed Condition: Water Stands on Surface for More than 72 Hours after St	torm					
 Condition 1: Small pockets of standing water Use a soil probe or auger to examine the sand or filter profile. If isolated areas have accumulated grit, fine silt, vegetative debris, oily sludge or bad sand media, try scraping off top 3 inches of media and replacing with clean, coarse construction sand. Condition 2: Standing water is widespread or covers entire surface Look in the underdrain cleanout (if present) and use a tape measure to estimate the depth of water standing in the sand layer. Requires diagnosis and resolution of problem: Clogged underdrain Filter fabric between the sand layer and underdrain gravel OR on top of the sand filter layer (usually held in place by a thin layer of gravel) Too much sediment/grit/vegetative debris/oily sludge washing in from drainage area Too much ponding depth Improper sand media 	 Sand or organic media is clogged, but problem was not evident from Level 2 inspection. Level 2 inspection identifies problem, but it cannot be resolved easily or is associated with the original design of the practice. The problem seems to be filter fabric placement, but this is specified in the original design. The entire filter media layer or filter cartridges need to be replaced. The problem is associated with improper configuration of underdrain pipes or outlet structures. Level 3 Inspection necessary 					

Notes:



Inspector:_____

Date:

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on ______ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator:


Swale Stormwater Management Practices Level 1 Inspection Checklist								
SMP ID #			SMP Owr	ner				PrivatePublic
SMP Location (Address; Latitude								
& Longitude)	Latitude				Longitude			
Party Responsible for Maintenance		System Type				Type of Site		
Same as SMP Ow Other	ner	SeasonalContinuous LOther	Jse	□ A □ B	bove Ground		Com Indus Resid	mercial strial dential
Inspection Date				Inspec	ction Time			
Inspector						I		
Date of Last Inspection								

SW Drainage Area Look at areas that are uphill from the swale. **Problem (Check if Present) Follow-Up Actions** Seed and mulch or sod areas of bare soil to establish vegetation. Fill in erosion areas with soil, compact, and add seed and straw to establish vegetation. If a rill or small channel is forming, try to redirect water Bare soil, erosion of flowing to this area by creating a small berm or adding the ground (rills topsoil to areas that are heavily compacted. washing out the dirt) Other: Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths Piles of grass Remove or cover piles of grass clippings, clippings, mulch, mulch, dirt, etc. dirt, salt, or Other: other materials Open containers of Cover or properly dispose of materials; consult your oil, grease, paint, or local solid waste authority for guidance on materials that other substances may be toxic or hazardous. Seed and mulch; add topsoil or compost if needed. Other: □ Grass dying at edge of road Kick-Out to Level 2 Inspection: Grass on edge of pavement continues to die off for unknown reasons. Swale edge may need to be replaced with other materials (e.g., stone diaphragm).



SW Inlets

Stand in the swale and look for all the places where water flows in.

Problem (Check if Present)	Follow-Up Actions				
Inlets or the swale edge are collecting grit, grass clippings, or debris or have grass/weeds growing. Some water may not be getting into the swale. The objective is to have a clear pathway for water to flow into the swale.	 Use a flat shovel to remove grit and debris (especially at curb inlets or opening). Parking lots will generate fine grit that will accumulate at these spots. Pull out clumps of growing grass or weeds, and scoop out the soil or grit that the plants are growing in. Remove any grass clippings, leaves, sticks, and other debris that is collecting at inlets or along the edge of the swale where water is supposed to enter. For pipes and ditches, remove sediment and debris that is partially blocking the pipe or ditch opening where it enters the swale. Dispose of all material properly in an area where it will not re-enter the swale. Other: 				
	 to be entering the swale. For small areas of erosion, smooth out the eroded part and apply rock or stone (e.g., river cobble) to prevent further erosion. Usually, filter fabric is 				
 Some or all of the inlets are eroding so that rills, gullies, and other erosion are present, or there is bare dirt that is washing into 	 placed under the rock or stone. In some cases, reseeding and applying an erosion control matting can be used to prevent further erosion. Some of these materials may be available at a garden center, but it may be best to consult a landscape contractor. Other: 				
the swale.	Level 2 Inspection: Erosion is occurring at most of the inlets or along much of the swale edge. The inlet design may have to be modified.				



SW Surface Area								
Examine the entire swale surface and side slopes.	Examine the entire swale surface and side slopes.							
Problem (Check if Present)	Follow-Up Actions							
Minor areas of sediment, grit, trash, or other debris are accumulating in the swale.	 Use a shovel to scoop out minor areas of sediment or grit, especially in the spring after winter sanding materials may wash in and accumulate. Dispose of the material where it cannot re-enter the swale. If removing the material creates a hole or low area, fill with good topsoil and add seed and straw to re-vegetate. Remove trash, vegetative debris, and other undesirable materials. If the swale is densely vegetated, it may be difficult to do the maintenance; check for excessive ponding or other issues described in this section to see if the accumulated material is causing a problem. Other: 							
	 Kick-Out to Level 2 Inspection: Sediment has accumulated more than 3 inches deep and covers 25% or more of the swale surface. The source of sediment is unknown or cannot be controlled with simple measures. 							
	 Try filling the eroded areas with clean topsoil, and then seed and mulch to establish vegetation. If the problem recurs, you may have to use some type of matting, stone (e.g., river cobble), or other material to fill in eroded areas. If the erosion is on a side slope, fill with soil and cover with erosion-control matting or at least straw mulch after re-seeding. 							
 There is erosion in the bottom or on the side slopes. Water seems to be carving out rills as it flows through the swale or on the slopes. 	 Kick-Out to Level 2 Inspection: The problem persists or the erosion is more than 3 inches deep and seems to be an issue with how water enters and moves through the swale. Kick-Out to Level 2 Inspection: The problem does not seem to be caused by flowing water, but a collapse or sinking of the surface (e.g., "sinkhole") due to some underground problem. 							
Water does not flow evenly down the length of the swale, but ponds in certain areas for long periods of time (e.g., 72 hours after a	 If the problem is minor (just small, isolated areas), try using a metal rake or other tools to create a more even flow path; remove excessive vegetative growth, sediment, or other debris that may be blocking the flow. Other: 							
storm). The swale does not seem to have "positive drainage." Check during or immediately after a rain storm.	 Kick-Out to Level 2 Inspection: Water ponds in more than 25% of the swale for three days or more after a storm. The issue may be with the underlying soil or the grade of the swale. Water ponds behind check dams for three days or more after a storm. Check dams may be clogged or not functioning properly. 							

SW Surface Area Examine the entire swale surface and side slopes. **Problem (Check if Present) Follow-Up Actions** If the problem is isolated to just a few check dams, try simple repairs. It is very important for the center of each check dam (where most of the water flows) to be lower (by at least several inches) than the edges of the check dams where they meet the side slopes. Also, the check dams should be keyed into side slopes so water does not flow between the check dam and side slope. Use a level to check the right check-dam configuration, as noted above. Repair by moving around stone, filling and compacting soil, or adding new material so that water will be directed to the center of the check dam instead of the edges. Other: Check dams (if present): water is flowing Kick-Out to Level 2 Inspection: Many check dams are impacted and/or the around the edges of check dams, creating problem seems to be a design issue with height, spacing, shape, or erosion or sinkholes on the uphill or downhill materials used to construct them. side, or the check dams are breaking apart or breaching.

SW Vegetation						
Assess the swale vegetation.						
Problem (Check if Present)	Follow-Up Actions					
 Vegetation is too overgrown to access swale for maintenance activities 	 Mow or bush-hog the path. Other: 					



SW Vegetation						
Assess the swale vegetation.						
Problem (Check if Present)	Follow-Up Actions					
	If you can identify which plants are weeds or not intended to be part of the planting plan, eliminate these, preferably by hand pulling.					
	If weeds are widespread, check with the local stormwater authority and/or Extension Office about proper use of herbicides for areas connected with the flow of water.					
A CARE CONT	Even vegetation that is intended to be present can become large, overgrown, block flow, and/or crowd out surrounding plants. Prune and thin accordingly.					
	If weeds or invasive plants have overtaken the whole swale, bush-hog the entire area before seed heads form in the spring. It will be necessary to remove the root mat manually or with appropriate herbicides, as noted above.					
	Replant with species that are aesthetically pleasing and seem to be doing well in the swale.					
	Other:					
Vegetation requires regular maintenance: pulling weeds, removing dead and diseased plants, adding plants to fill in areas that are not well vegetated, etc.	Kick-Out to Level 2 Inspection: You are unsure of the original planting design or the vegetation maintenance task is beyond your capabilities of time, expertise, or resources. If you are unsure of the health of the vegetation (e.g. salt damage, invasives, which plants are undesirable) or the appropriate season to conduct vegetation management, consult a landscape professional before undertaking any cutting, pruning, mowing, or brush hogging.					
Vegetation is too thin, is not healthy, and there are many spots that are not well vegetated.	 The original plants are likely not suited for the actual conditions within the swale. If you are knowledgeable about plants, select and plant more appropriate vegetation (preferably native plants) so that almost the entire surface area will be covered by the end of the second growing season. Other: 					
	Kick-Out to Level 2 Inspection: For all but small practices (e.g., in residential yards), this task will likely require a landscape design professional or horticulturalist.					

SW Outlets						
Examine outlets that release water out of the swale.						
Problem (Check if Present)	Follow-Up Actions					
 Outlet is obstructed with mulch, sediment, 	 Remove the debris and dispose of it where it cannot re-enter the swale. Other: 					
debris, trash, etc.	Kick-Out to Level 2 Inspection: Outlet is completely clogged or obstructed; there is too much material to remove by hand or with simple hand tools.					



Additional Notes:

Inspector:

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on ______ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator:

Date:



Swale Stormwater Management Practices Level 2 Inspection Checklist								
SMP ID #			SMP Owr	ier				PrivatePublic
SMP Location (Address; Latitude								
a Longhude)	Latitude				Longitude			
Party Responsible for Maintenance		System Type			Type of Site			
 Same as SMP Ow Other 	ner	SeasonalContinuous LOther	Jse	□ A □ B	bove Ground elow Ground		Cor Indu Res	nmercial ustrial sidential te
Inspection Date				Inspe	ction Time			
Inspector						·		
Date of Last Inspection								



• Owner/responsible party does not know how to maintain the practice.

 For large area, hire a professional to develop a grading plan and develop a

Level 3 inspection necessary

planting plan.

Level 2 Inspection: SWALE	
Recommended Repairs	Triggers for Level 3 Inspection
Observed Condition: Water Stands on Surface for More than 72 Hours after Sto	orm
Condition 1: Small pockets of standing water Use a soil probe or auger to examine the soil profile. If isolated areas have accumulated grit, fines, or vegetative debris or have compacted soil, try scraping off top 3 to 6 inches of soil and replacing with clean material. Also check to see that surface is level and water is not ponding selectively in certain areas.	 Soil is overly compacted or clogged and problem is not evident from Level 2 inspection. Level 2 inspection identifies problem, but it expect the machined ensity ensity.
 Condition 2: Standing water is widespread or covers entire surface Requires diagnosis and resolution of problem: Bad or compacted soil Filter fabric on the swale bottom Too much sediment/grit washing in from drainage area? Too much ponding depth? Longitudinal slope is too flat? 	it cannot be resolved easily or is associated with the original design of the practice (e.g., not enough slope down through the swale).
Observed Condition: Vegetation is predominantly weeds and invasive species	
	 Vegetation deviates significantly from original planting plan; swale has been neglected and suffered from deferred maintenance.

For a small area,	weed and dig	up invasive plants	. Replant with	natives or	plants
from original plar	iting plan.				

If longer than 100 feet, develop a new planting plan and have it professionally reviewed.

Notes:



Inspector:

Date:

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on ______ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____

Date: _____



Tree Planting Stormwater Management Practices Level 1 Inspection Checklist								
SMP ID #			SMP Owr	ner				PrivatePublic
SMP Location (Address; Latitude								
& Longitude)	Latitude				Longitude			
Party Responsible for Maintenance		System Type				Type of Site		
Same as SMP Ow Other	ner	SeasonalContinuous LOther	Jse	□ A □ B	bove Ground		Com Indu Resi	mercial strial dential
Inspection Date				Inspe	ction Time			
Inspector								
Date of Last Inspection								

TP Watering					
Inspect the trees to determine whether they need watering.					
Problem (Check if Present)	Follow-Up Actions				
Soil is not moist to the touch and/or it has not rained in a week, and leaves/needles are starting to appear wilted/dry.	 Water trees deeply and slowly near the base. Soaker hoses and drip irrigation work best for deep watering of trees and shrubs. Other: 				



TP Mulch

Mulch should be applied in the late spring and during leaf fall. Check the depth of mulch regularly. Rake the old mulch to break up any matted layers and to refresh the appearance.

Problem (Check if Present)	Follow-Up Actions				
Mulch is too thin or thick (should be approximately 3" deep) or does not extend to tree canopy (or 5' radius if tree has a larger than 10' canopy reach).	 Add or remove mulch around tree canopy to maximum 5' radius but not within 3" of the bark. If mulch is against the stems or tree trunks, pull it back several inches to expose the base of the trunk and root crown. Other: 				

TP Pruning				
Examine the branches and tree shape.				
Problem (Check if Present)	Follow-Up Actions			
Presence of suckers, dead or diseased branches, branches that interfere with pedestrian traffic	 Selective cutting Prune to make the tree more aesthetically pleasing and remove disease. Other: 			
	Kick-Out to Level 2 Inspection: Use an arborist or landscaper for more extensive pruning jobs.			

Additional Notes:





Inspector:

Date:

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on ______(DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____

Date: _____



Tree Planting Stormwater Management Practices Level 2 Inspection Checklist								
SMP ID #			SMP Owr	ner				PrivatePublic
SMP Location (Address; Latitude								
a Longitude)	Latitude				Longitude			
Party Responsible for Maintenance System Type						Туре с	of Site	
 Same as SMP Ow Other 	ner	SeasonalContinuous LOther	Jse	□ A □ B	bove Ground elow Ground		Co In Re St	ommercial dustrial esidential ate
Inspection Date				Inspec	ction Time			
Inspector								
Date of Last Inspection								

Level 2 Inspection: TREE PLANTING					
Recommended Repairs	Triggers for Level 3 Inspection				
Observed Condition: Appearance of fungus or pest damage					
Condition 1: Fungus, discoloration, browning leaves or holes in leaves Check with arborist or other tree professional about the best way to proceed. This requires a Level 3 inspection.	 Any concerns about how to address infestation or disease 				
 Condition 2: Burrowing insects, holes Check with arborist or other tree professional about the best way to proceed. This requires a Level 3 inspection. 	Level 3 inspection necessary				



Notes:

Inspector:

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on ______(DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator:	Date:	
	-	