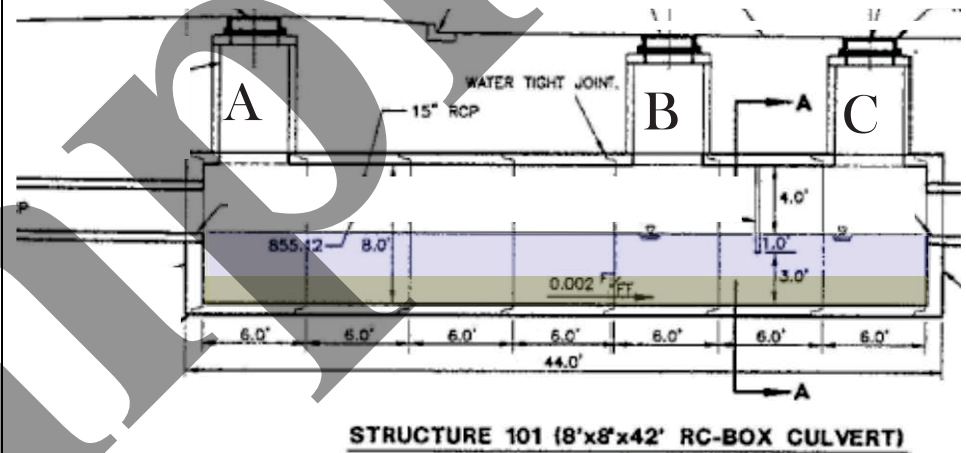
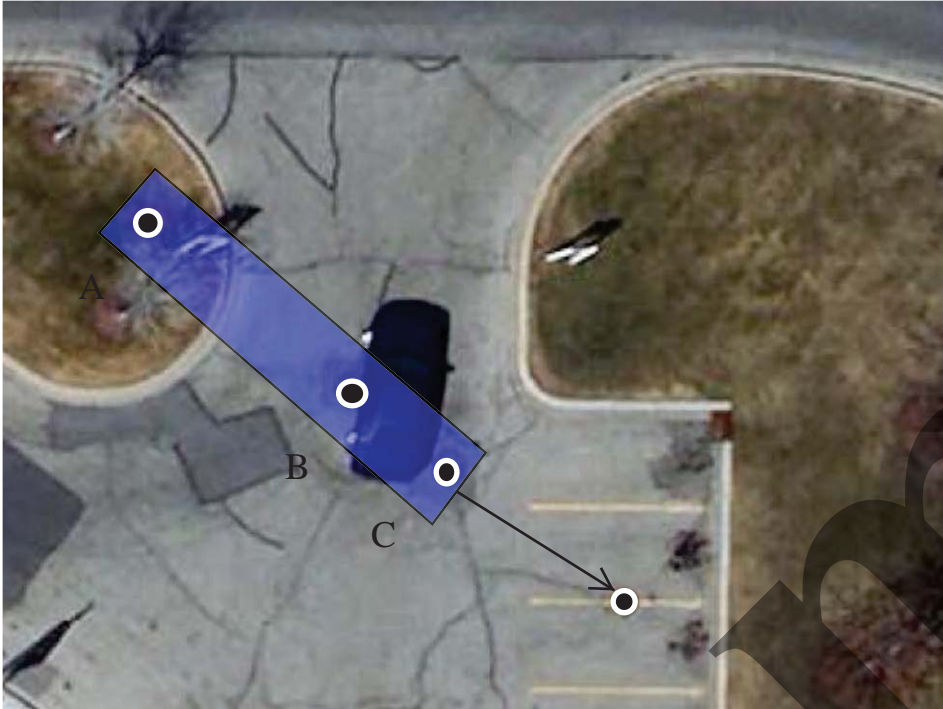


Quarry Center BMP Maintenance and Inspection Specifications

Box Culvert Grit Chamber Operations and Maintenance



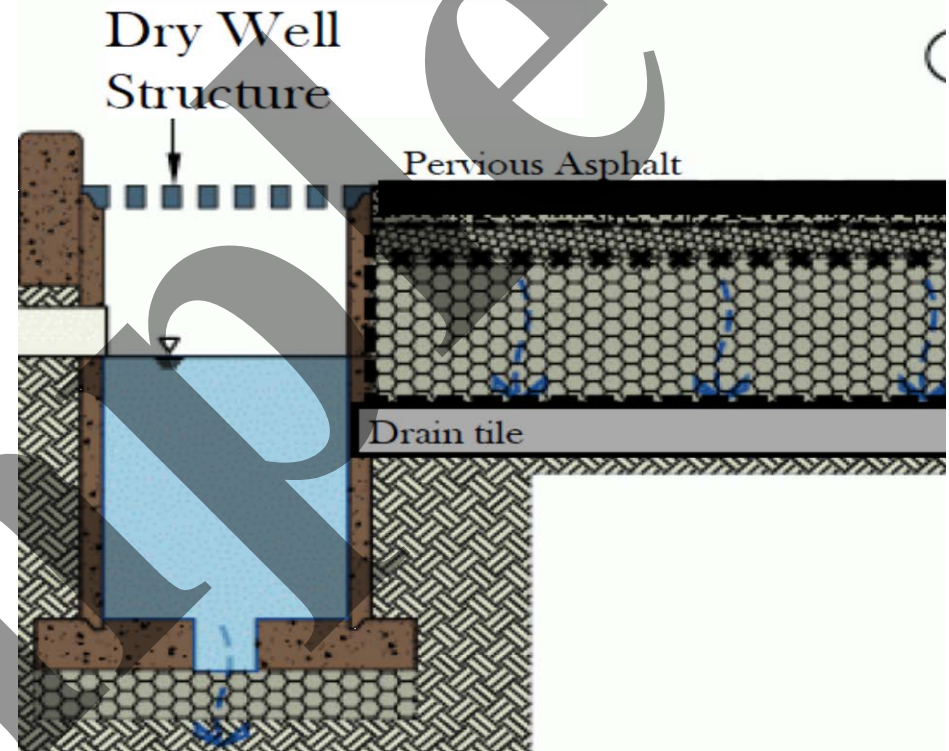
BMP ID: 1132-2	Location: East end of Quarry in entry to bank	Inspection Frequency: Bi-annually (April 1 st or after first significant rain event, and November 1) until a specific Schedule is developed
Description of Device: 8' X 8' X 42' long box culverts. The inverts of the pipes create approximately 48" Sump, when full has a sump capacity of approximately 50 yards if full to the top. A skimmer plate is situated so the bottom is 12" below the water line allowing the floatables and oil to remain up stream of the outfall manhole.		
Structure Access: 3 Standard 36" Manholes covers on a 48" riser with rungs to the top of the box structure		
Notes and Comments: 2 of the three structures are located in a drive through lane, care should be taken to direct traffic around open structures preventing any traffic issues. This Structure has a skimmer plate for floatables and the manholes are easily opened with a standard pick. A routine inspection does not require entry to the structure however a full cleaning may depending on depth of sediment. Entry to this structure does require a Confined Space Entry Permit		

Quarry Center BMP Maintenance and Inspection Specifications

BMP ID GC-1132-2	Box Culvert Manhole Grit Chamber Inspection Report			
Inspection Date / / 20		Inspector		
Inspection Activity	Observations Measurements	Maintenance	Maintenance Required	Actions Required/Date Completed/Responsible Foreman
Inspection of structure for trash, debris, floatables and oil at manholes		Remove any floatables, accumulated trash or debris.	Yes No	
		Vacuum any visible oil prior to pumping permanent pool of water down stream	Yes No	
	/ / 20	Responsible party:		
Measure depth to the top of accumulated sediment (Measurement from top of sediment to top of casting at each manhole) Note: Average depth to invert =14.45 feet	MH A Measured Depth = MH B Measured Depth = MH C Measured Depth =	Remove sediment anytime the depth exceeds 6" (any measurement less than) 14.9 feet at MH A 14.3 feet at MH B 14.0 feet at MH C	Yes No	
	/ / 20	Responsible party:		
Inspect contributing areas (Parking lots, sidewalks, landscaped islands etc.) for erosion, trash, leaves, salt and sand. Check ground surface directly above and adjacent to the grit chamber for sinkholes or depression areas		Notify appropriate maintenance staff or property owner of need sweep and or remove litter/debris.	Yes No	
		Sink holes shall be filled and monitored for further depression.	Yes No	
	/ / 20	Responsible party:		
Inspect all visible structural components: Manholes, Castings, Covers, skimmer Plate and pipe connections.		Repair as able and note observations notifying maintenance foremen of any observed damage to structure, manholes, casings, tide flex valves and associated loose or missing bolts, blockages of inlets/outlets, etc.	Yes No	
	/ / 20	Responsible party:		

New French Bakery Stormwater Best Management Practice Maintenance and Inspection Specifications

Pervious Asphalt



BMP ID:7156

Location:

Boulevard SW property along Broadway

Inspection Frequency:

Bi-annually (Spring and Fall) and after large rain storms

Description of Device: Pervious asphalt functions like traditional asphalt surfaces, but allows water to seep through the pavement surface - which would otherwise be impermeable. Pervious pavement allows water to flow into an underlying rock storage area that stores water while it slowly infiltrates into the ground. This system also has an under drain that conveys water to a dry well which provides another route for infiltration during large storm events.

Routine Maintenance

- Clear pavement of leaves and larger debris as necessary, do not store debris, dirt or other clogging items on or adjacent to pavement.
- Do not use chemical deicers or sand on pervious pavement

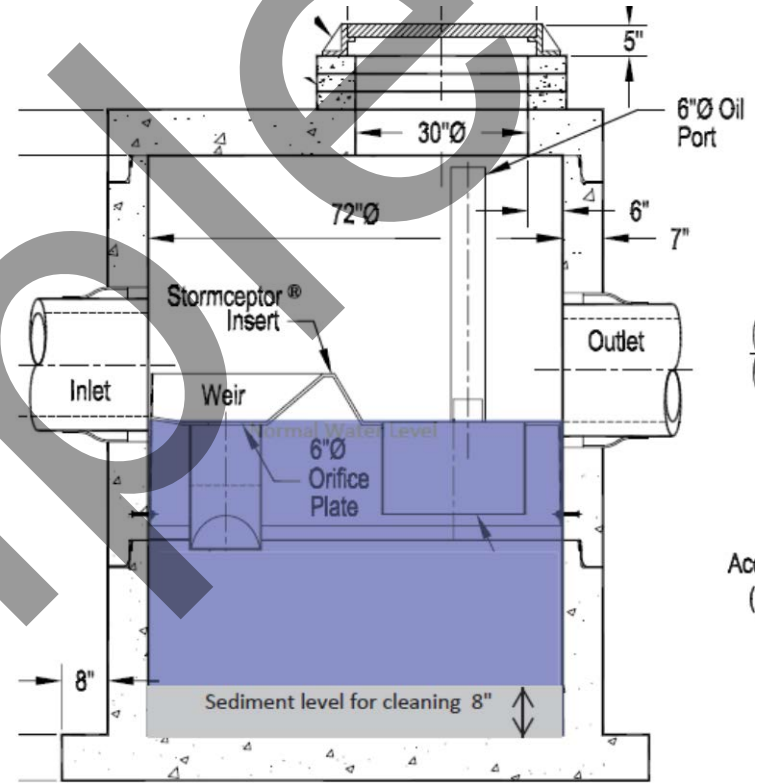
Notes: Return reports annually to Minneapolis Public Works SWS stormwater@minneapolismn.gov

New French Bakery Stormwater Best Management Practice Maintenance and Inspection Specifications

BMP ID 8429		Stormceptor STC 900 Maintenance and Inspection Report		
Inspection Date / / 20		Inspector:		
Inspection Activity	Observations Measurements	Maintenance	Maint. Required	Actions Required/Date Completed/Responsible Foreman
Visual inspection of pavement for cracks, depressions, holes or excess sand dirt or litter		Remove any litter or debris, sweep if infiltration is compromised. Monitor cracks and depressions report to maintenance staff for repairs. Continued depressions or a crack is a possible indicator of a structural failure, contact project engineer or contractor.	Yes No	/ / 20 Responsible Party:
Dry Well Manhole Check for standing water and accumulated sediment		Remove any accumulated sediment when depth is 6" or greater and notify City of Minneapolis if water has not drained out 48 hours after a rain event.	Yes No	/ / 20 Responsible Party:
Inspect contributing areas (non- pervious asphalt, sidewalks landscaping areas etc.) for erosion, trash, leaves, and debris.		Notify appropriate maintenance staff or property owner of need sweep and or remove litter/debris. Sink holes shall be filled and monitored for further depression.	Yes No	/ / 20 Responsible Party:
Verify that pavement is adequately infiltrating water during storm events and is dry afterwards		Vacuum sweeping and jet washing porous pavements is required after snow melt and as needed to provide infiltration during the year.	Yes No	/ / 20 Responsible Party:

Stadium Apartments Site ID 6997 BMP Maintenance and Inspection Specifications

Stormceptor STC 900



BMP ID:7191

Location:

Landscape area at NW Exit

Inspection Frequency:

Bi-annually (Spring and Fall) until a specific schedule is developed

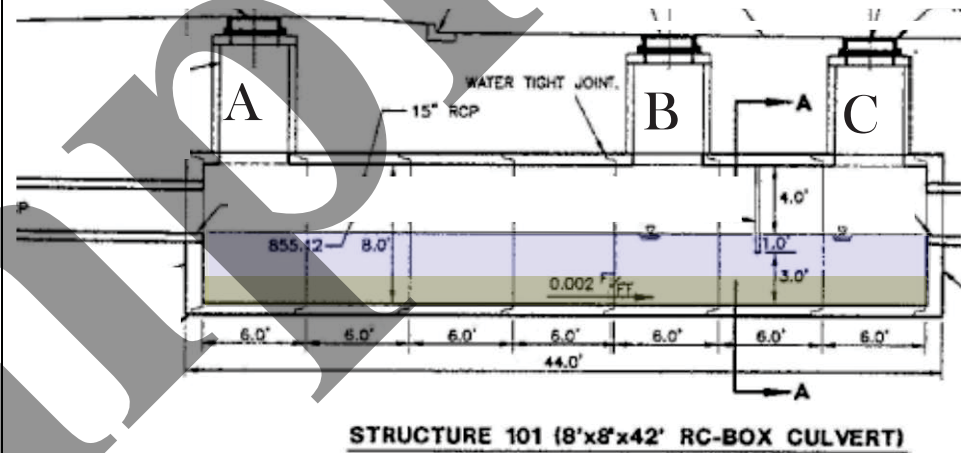
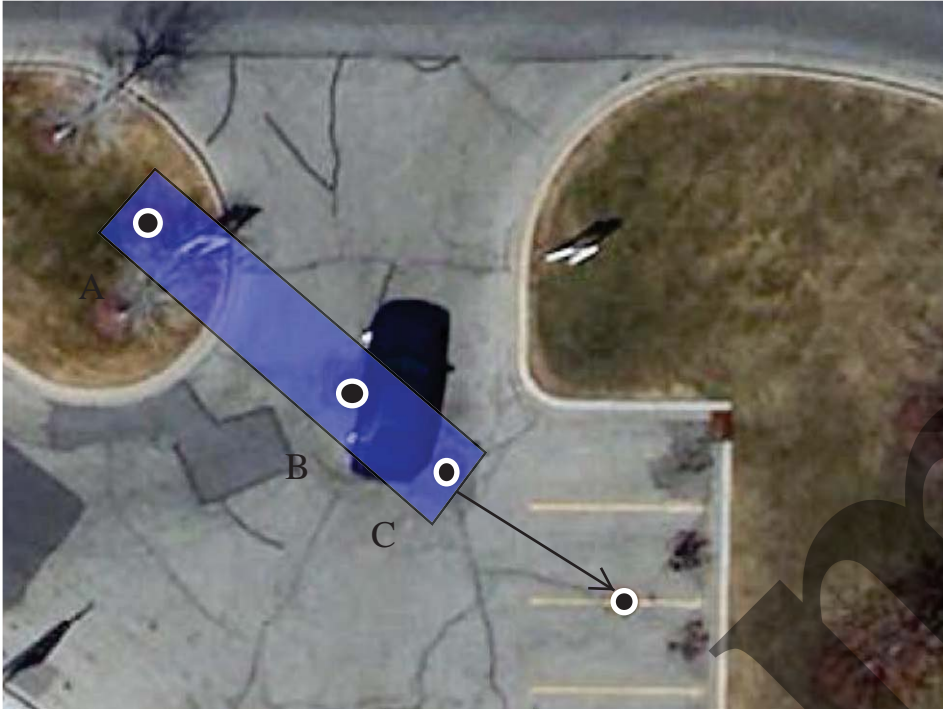
Description of Device: 72" Diameter precast manhole with a hydrodynamic separator. Flow enters structure on the West side through a pipe where solids settle out in a 72" sump with clean flow discharging through a 12" concrete pipe on the east side of the structure

Structure Access: Through a standard surface manhole located. No *Confined Space Entry* permit is required for routine cleaning and inspections. This structure is located in the planting area and has been frequently covered with mulch

Notes and Comments: Sediment and oil depth inspections are performed with a sediment probe and oil dipstick. Oil depth is measured through the oil inspection port. Sediment depth can be measured through the oil inspection port or exit riser pipe. Inspections also involve a visual inspection of the internal components of the system. To avoid underestimating the sediment level in the chamber, the measuring device must be lowered to the top of the pile carefully; finer, silty particles at the top of the pile typically offer less resistance to the end of the rod than larger particles toward the bottom of the pile. The Stormceptor system should be pumped down immediately after a gasoline spill.

Quarry Center BMP Maintenance and Inspection Specifications

Box Culvert Grit Chamber Operations and Maintenance



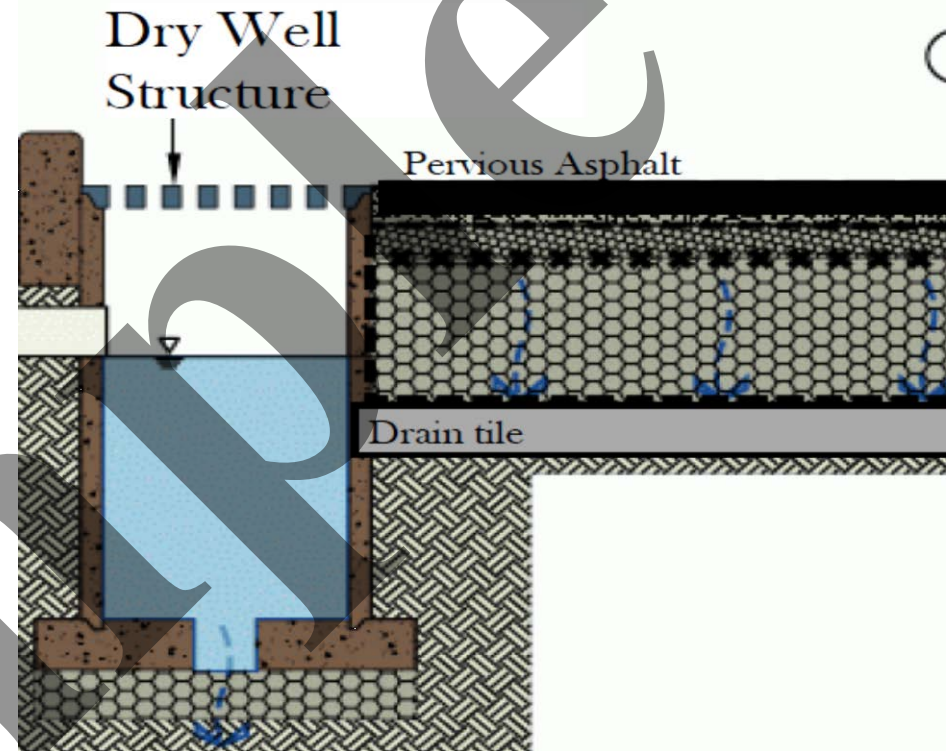
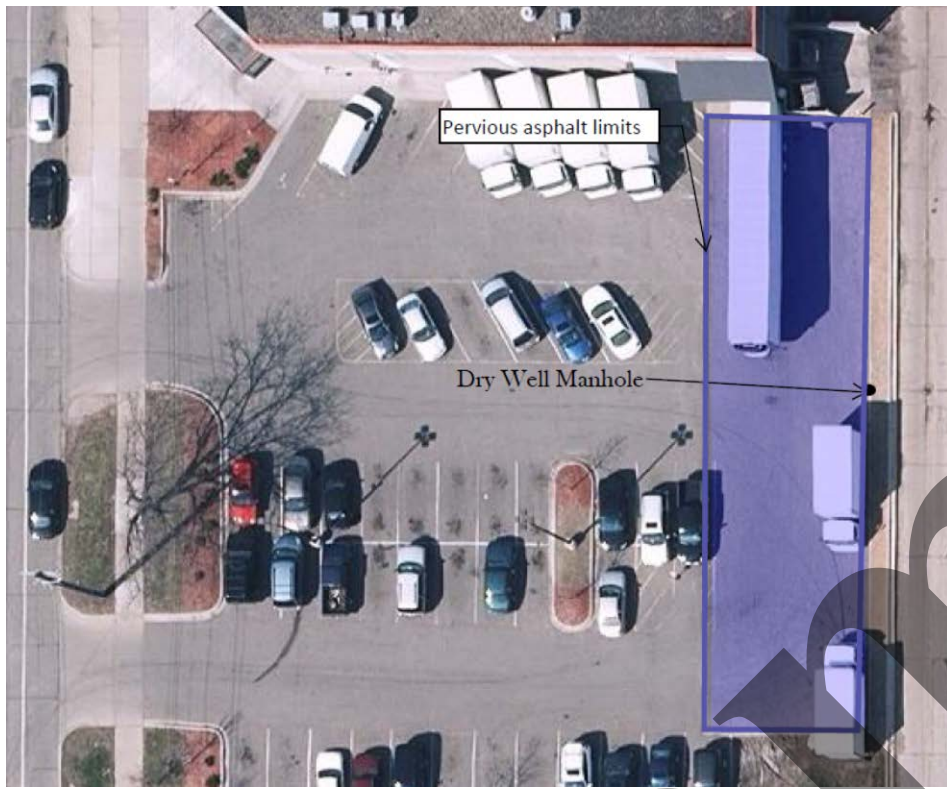
BMP ID: 1132-2	Location: East end of Quarry in entry to bank	Inspection Frequency: Bi-annually (April 1 st or after first significant rain event, and November 1) until a specific Schedule is developed
Description of Device: 8' X 8' X 42' long box culverts. The inverts of the pipes create approximately 48" Sump, when full has a sump capacity of approximately 50 yards if full to the top. A skimmer plate is situated so the bottom is 12" below the water line allowing the floatables and oil to remain up stream of the outfall manhole.		
Structure Access: 3 Standard 36" Manholes covers on a 48" riser with rungs to the top of the box structure		
Notes and Comments: 2 of the three structures are located in a drive through lane, care should be taken to direct traffic around open structures preventing any traffic issues. This Structure has a skimmer plate for floatables and the manholes are easily opened with a standard pick. A routine inspection does not require entry to the structure however a full cleaning may depending on depth of sediment. Entry to this structure does require a Confined Space Entry Permit		

Quarry Center BMP Maintenance and Inspection Specifications

BMP ID GC-1132-2	Box Culvert Manhole Grit Chamber Inspection Report			
Inspection Date / / 20		Inspector		
Inspection Activity	Observations Measurements	Maintenance	Maintenance Required	Actions Required/Date Completed/Responsible Foreman
Inspection of structure for trash, debris, floatables and oil at manholes		Remove any floatables, accumulated trash or debris. Vacuum any visible oil prior to pumping permanent pool of water down stream	Yes No Yes No	/ / 20 Responsible party:
Measure depth to the top of accumulated sediment (Measurement from top of sediment to top of casting at each manhole) Note: Average depth to invert =14.45 feet	MH A Measured Depth = MH B Measured Depth = MH C Measured Depth =	Remove sediment anytime the depth exceeds 6" (any measurement less than) 14.9 feet at MH A 14.3 feet at MH B 14.0 feet at MH C	Yes No	/ / 20 Responsible party:
Inspect contributing areas (Parking lots, sidewalks, landscaped islands etc.) for erosion, trash, leaves, salt and sand. Check ground surface directly above and adjacent to the grit chamber for sinkholes or depression areas		Notify appropriate maintenance staff or property owner of need sweep and or remove litter/debris. Sink holes shall be filled and monitored for further depression.	Yes No Yes No	/ / 20 Responsible party:
Inspect all visible structural components: Manholes, Castings, Covers, skimmer Plate and pipe connections.		Repair as able and note observations notifying maintenance foremen of any observed damage to structure, manholes, casings, tide flex valves and associated loose or missing bolts, blockages of inlets/outlets, etc.	Yes No	/ / 20 Responsible party:

New French Bakery Stormwater Best Management Practice Maintenance and Inspection Specifications

Pervious Asphalt



BMP ID:7156

Location:

Boulevard SW property along Broadway

Inspection Frequency:

Bi-annually (Spring and Fall) and after large rain storms

Description of Device: Pervious asphalt functions like traditional asphalt surfaces, but allows water to seep through the pavement surface - which would otherwise be impermeable. Pervious pavement allows water to flow into an underlying rock storage area that stores water while it slowly infiltrates into the ground. This system also has an under drain that conveys water to a dry well which provides another route for infiltration during large storm events.

Routine Maintenance

- Clear pavement of leaves and larger debris as necessary, do not store debris, dirt or other clogging items on or adjacent to pavement.
- Do not use chemical deicers or sand on pervious pavement

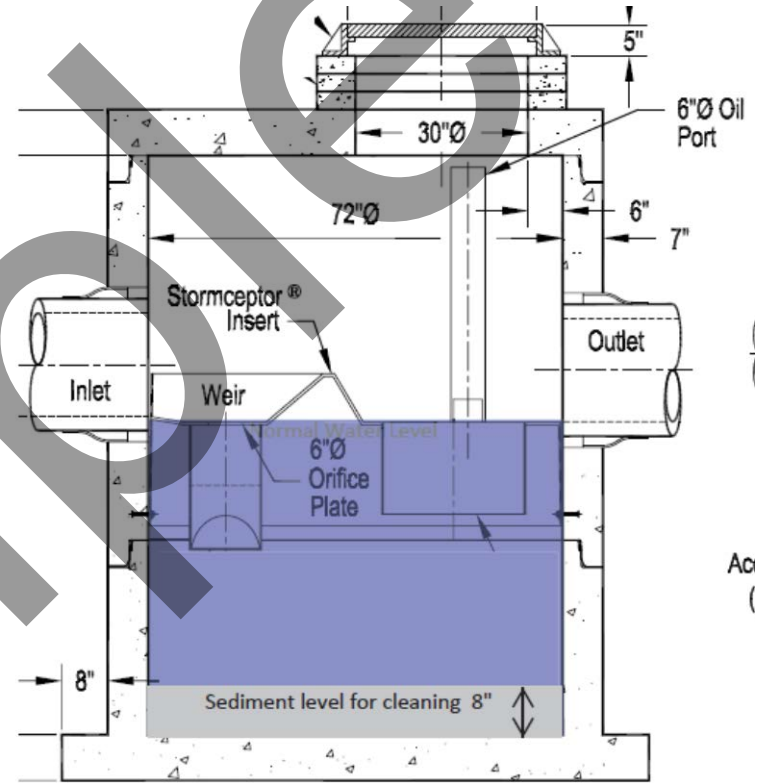
Notes: Return reports annually to Minneapolis Public Works SWS stormwater@minneapolismn.gov

New French Bakery Stormwater Best Management Practice Maintenance and Inspection Specifications

BMP ID 8429		Stormceptor STC 900 Maintenance and Inspection Report		
Inspection Date / / 20		Inspector:		
Inspection Activity	Observations Measurements	Maintenance	Maint. Required	Actions Required/Date Completed/Responsible Foreman
Visual inspection of pavement for cracks, depressions, holes or excess sand dirt or litter		Remove any litter or debris, sweep if infiltration is compromised. Monitor cracks and depressions report to maintenance staff for repairs. Continued depressions or a crack is a possible indicator of a structural failure, contact project engineer or contractor.	Yes No	/ / 20 Responsible Party:
Dry Well Manhole Check for standing water and accumulated sediment		Remove any accumulated sediment when depth is 6" or greater and notify City of Minneapolis if water has not drained out 48 hours after a rain event.	Yes No	/ / 20 Responsible Party:
Inspect contributing areas (non- pervious asphalt, sidewalks landscaping areas etc.) for erosion, trash, leaves, and debris.		Notify appropriate maintenance staff or property owner of need sweep and or remove litter/debris. Sink holes shall be filled and monitored for further depression.	Yes No	/ / 20 Responsible Party:
Verify that pavement is adequately infiltrating water during storm events and is dry afterwards		Vacuum sweeping and jet washing porous pavements is required after snow melt and as needed to provide infiltration during the year.	Yes No	/ / 20 Responsible Party:

Stadium Apartments Site ID 6997 BMP Maintenance and Inspection Specifications

Stormceptor STC 900



BMP ID:7191

Location:

Landscape area at NW Exit

Inspection Frequency:

Bi-annually (Spring and Fall) until a specific schedule is developed

Description of Device: 72" Diameter precast manhole with a hydrodynamic separator. Flow enters structure on the West side through a pipe where solids settle out in a 72" sump with clean flow discharging through a 12" concrete pipe on the east side of the structure

Structure Access: Through a standard surface manhole located. No *Confined Space Entry* permit is required for routine cleaning and inspections. This structure is located in the planting area and has been frequently covered with mulch

Notes and Comments: Sediment and oil depth inspections are performed with a sediment probe and oil dipstick. Oil depth is measured through the oil inspection port. Sediment depth can be measured through the oil inspection port or exit riser pipe. Inspections also involve a visual inspection of the internal components of the system. To avoid underestimating the sediment level in the chamber, the measuring device must be lowered to the top of the pile carefully; finer, silty particles at the top of the pile typically offer less resistance to the end of the rod than larger particles toward the bottom of the pile. The Stormceptor system should be pumped down immediately after a gasoline spill.

Stadium Apartments Site ID 6997 BMP Maintenance and Inspection Specifications

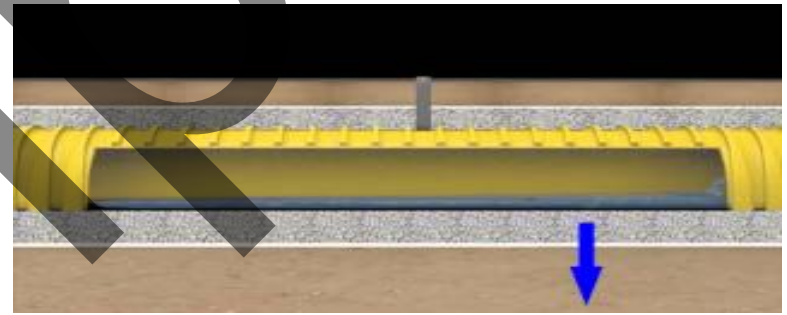
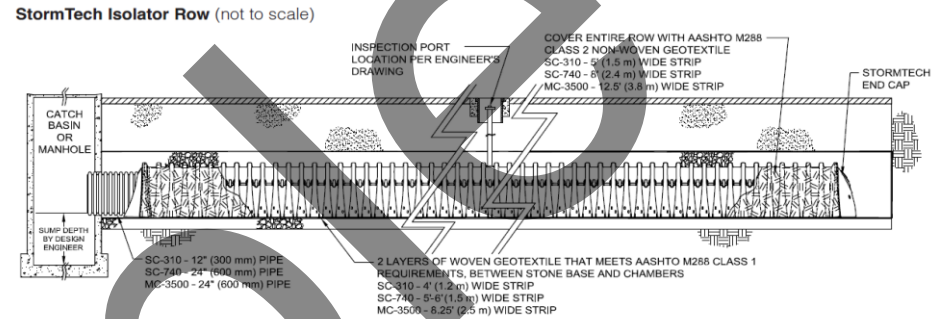
BMP ID GC 7191		Stormceptor STC 900 Maintenance and Inspection Report		
Inspection Date / / 20		Inspector:		
Inspection Activity	Observations Measurements	Maintenance	Maint. Required	Actions Required/Date Completed/Responsible Foreman
Inspection of structure for trash, debris, floatables and oil		Remove any floatables, accumulated trash or debris with a dip net or vacuum. More frequent cleaning is necessary if floatables regularly exceed a depth of 1 ft. Vacuum any visible oil prior to pumping permanent pool of water downstream.	Yes No Yes No	Volume Floatables removed: Amount and method of removal for oil: / / 20 Responsible Party:
Measure depth of accumulated sediment	Measured Depth =	Pump out entire structure annually and remove sediment anytime depth exceeds 10" Note: Sediment depths in the sump over 18" dictate a more frequent cleaning regiment.	Yes No	Yards Removed / / 20 Responsible Party:
Inspect contributing areas for plugged catch basins, erosion, trash, leaves, and debris. Check ground surface directly adjacent to the structure for sinkholes or depression areas		Notify appropriate maintenance staff or property owner of need sweep and or remove litter/debris. Sink holes shall be filled and monitored for further depression.	Yes No Yes No	 / / 20 Responsible Party:
Inspect all visible structural components: Manholes, Castings, Covers, Stormceptor insert, oil riser pipe and pipe connections.		Repair as able and note observations notifying maintenance foremen of any observed damage to structure, manholes, casings, screen, and associated loose or missing bolts, blockages of inlets/outlets, etc. For replacement parts contact: Contech 1-800--2211	Yes No	 / / 20 Responsible Party:

Parkway Place Stormwater Best Management Practice Maintenance and Inspection Specifications

BMP ID 1094		Stormceptor Rain Gardens		
Inspection Date / / 20		Inspector:		
Inspection Activity	Observations Measurements	Maintenance	Maint. Required Yes No	Actions Required/Date Completed/Responsible Foreman
<p>General:</p> <p>Inspect basin and contributing areas (yard areas, sidewalks,) for dirt, trash, leaves etc.</p>		<p>Maintenance staff/contractor shall sweep and or remove litter/debris. Seed, mulch or sod any bare or eroded areas contributing to the BMP</p> <p>Maintenance staff/contractor.</p>	<p>Yes No</p>	<p>/ / 20 Responsible Party:</p>
<p>Stone Forebays/Curb Inlets</p> <p>Check for sediment build up in forebay and for erosion has occurred at discharge point</p>		<p>Stone Forebays:</p> <ol style="list-style-type: none"> 1. Remove accumulated sediment and debris. 2. Each forebay has drilled holes in the bottom and sides to allow for slow drain out of any standing water. Clean these out using a narrow rebar pipe. 	<p>Yes No</p>	<p>/ / 20 Responsible Party:</p>
<p>Vegetation/Mulch</p> <p>Visual inspection of Edge, basin bottom and all landscaping adjacent to or contributing to the basin</p>		<p>Remove and replace dead plants; remove cat tails, invasive plants, weeds and woody vegetation, prevent soil loss by protecting bare soils after weeding. Mulch depth should be 4" to 5" add whenever mulch levels are less than 3 using only a double shredded hardwood</p>	<p>Yes No</p>	<p>/ / 20 Responsible Party:</p>
<p>Dewatering</p> <p>Visual inspection for any standing water present in the basins or forebays</p>		<p><i>If standing water is present 72 hours after a storm event</i></p> <p><i>Notify City of Minneapolis 612-673-2406 and maintenance contractor if unable to drain pond or forebay.</i></p>	<p>Yes No</p>	<p>/ / 20 Responsible Party:</p>

BMP Maintenance and Inspection Specifications

StormTech SC-740 Underground Infiltration Device,



Include a Plan view that details the complete Foot print of *Stormtech*, location of isolator row, all clean outs, inspection ports and sumps

Include a relevant detail labeling structures that correspond with inspection activities

BMP ID: 7960	Location: 17 Washington Avenue North	Inspection Frequency: Spring, fall and after rain events > 2" Annually or if drainage is not sufficient
Description of Device: Flow enters structure through Manhole A where it flows into the "Isolator Row" there it is temporarily held so the sediment and pollutants can settle out. From the isolator row the flow moves to 6 Rows of 51" X 30" X 100' Stormtech pipe surrounded by washed angular stone below, between and above the chambers. Here the treated water slowly infiltrates into the ground. High flows will bypass the system at manhole A and connect directly to the City Storm drain.		
Structure Access: Manhole a, Isolator row and sump are accessible through a Standard 27" manhole cover (Contech Stormwater Solutions) should open with a pick axe, there is no need to enter this manhole unless there are structural problems or a blockage, confined space Entry Permit is required		
Notes and Comments: This structure is located in a driving lane; access to structure traffic will require a flagman.		

BMP Maintenance and Inspection Specifications

Site ID 7960		Stormtech Inspection Report		
Inspection Date / / 20		Inspector:		
Inspection Activity	Observations Measurements	Maintenance	Maint. Required	Actions Required/Date Completed/Responsible Foreman
Measure and record depth of sediment, in the Isolator Row at inspection ports B, C, D and Manhole A. If the average depth of sediment is at or above, 3 inch depth clean as indicated.	Measured Depth of sediment	Remove any floatables, accumulated trash or debris. Clean out Isolator Row using a JetVac A) A fixed culvert cleaning nozzle with rear facing nozzle spread of 45 inches or more is preferable B) Apply multiple passes of JetVac until backflush water is clean C) Vacuum manhole sump as required	Yes No	/ / 20 Responsible Party:
	Manhole A _____		Yes No	
	Inspection Port B _____			
	Inspection Port C _____			
Dewatering, preform a visual inspection for any standing water in Inspection Ports manholes, isolator row or associated piping.	Depth of Standing Water	Notify The City of Minneapolis of the System's failure to drain within 72 hours of a storm event Surface Waters and Sewers (612) 673-2406 stormwater@minneapolismn.gov	Yes No	/ / 20 Responsible Party:
	Manhole A _____			
	Inspection Port B _____			
	Inspection Port C _____			
Inspect contributing areas for plugged catch basins, erosion, trash, leaves, and debris. Check ground surface above the system for sinkholes or depression areas	Notes:	Notify appropriate maintenance staff or property owner of need sweep and or remove litter/debris.	Yes No	/ / 20 Responsible Party:
		Sink holes shall be filled and monitored for further depression.	Yes No	
Inspect all visible structural components: Manholes, Castings, Covers, pipe connections etc.	Notes:	Repair as able and note observations notifying maintenance foremen of any observed damage to structure, manholes, casings, tide flex valves and associated loose or missing bolts, blockages of inlets/outlets, etc.	Yes No	/ / 20 Responsible Party:

Complete this self-inspection form for each site inspection, and return a copy annually to:
 Minneapolis Surface Waters and Sewers stormwater@minneapolisMN.gov
 309 2nd Avenue South, Room 300
 Minneapolis, MN 55401-2268