



City of Kent Maintenance Standards for Stormwater Flow Control, Conveyance, and Water Quality Facilities

ENGINEERED BIOFILTRATION SWALE			
Maintenance Component		Condition When Maintenance Is Needed	Result Expected After Maintenance Is Performed
Site and Access	Access	Access to bioswale site is obstructed or unsafe, preventing inspection and maintenance personnel from performing their duties with no danger or difficulty.	Inspection and maintenance personnel are able to safely, clearly, and easily access bioswale site and perform their duties.
	Access roads, fencing, gates, bollards	<i>Refer to the current King County Surface Water Design Manual.</i>	<i>Refer to the current King County Surface Water Design Manual.</i>
	Sign (if applicable)	Sign missing, not posted, not visible, illegible, inaccurate, or a hazard due to damage.	Sign is posted, visible, legible, accurate, and does not pose a hazard.
	Illicit discharges and/or connections	Any evidence of illicit discharges and/or connections allowing or which will allow pollutants to enter or exit the bioswale.	Pollutants removed from site and bioswale and disposed of according to applicable regulations. Illicit discharges and/or connections to site and bioswale eliminated or controlled with BMP's.
	Trash, debris, dead animals	Any trash, debris, or dead animals on site or in bioswale.	No trash, debris, or dead animals on site or in bioswale.
	Insects	Insects (such as wasps and hornets) or insect nests that constitute a hazard to people threaten or interfere with inspection or maintenance personnel and activities.	Insects and/or insect nests destroyed or removed from site.
Vegetation	Noxious or nuisance vegetation	Any noxious or nuisance vegetation which may constitute a hazard to people.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where people might normally be.
	Trees/plants	Trees/plants hindering access or interfering with inspection or maintenance activities, and/or facility function.	No trees/plants hindering access or interfering with inspection or maintenance activities, and/or facility function.
	Grass/ Groundcover	Grass or groundcover exceeds 10-inches in height.	Grass or groundcover mowed to a height less than 10-inches. (Mowed clippings are not left behind.)
Grass or groundcover is sparse or bare in more than 10% of swale bottom.		Reason for lack of vegetation growth addressed and vegetation is restored in swale to design function.	
Swale	Sediment	Sediment accumulation exceeds 2-inches in depth in 10% or more of the bioswale.	No sediment accumulation or sediment accumulation at least less than 2-inches in depth in less than 10% of bioswale.
	Piping	Discernable water flow through pond berm.	Cause of piping eliminated and berm restored to design function.
	Erosion/ Scouring	Any evidence of erosion or scouring in swale.	Cause of erosion or scouring eliminated and swale restored to design function.
	Standing Water	Water pools in the swale between storms and does not drain freely.	Swale freely drains and there is no standing water between storms.
	Constant baseflow	Continuous flow through the swale, even when it has been dry for weeks or an eroded, muddy channel has formed in swale bottom.	Baseflow removed from swale by a low-flow pea-gravel drain or bypassed around the swale.
	Channelization	Flow concentrates and erodes channel through swale.	No flow channels in swale.
	Flow spreader	Flow from spreader not uniformly distributed across entire swale width.	Spreader is level and allows uniform flow across entire swale width.
Inlet/Outlet Pipes	Sediment	Sediment filling 20% or more of pipe.	No sediment in pipes.
	Trash and debris	Any trash and debris (including dead animals) accumulated in pipes.	No trash or debris in pipes.
	Cracks, damage, voids	Cracks wider than 1/2-inch at the joint of the pipes or any damage or openings/voids at or inside pipes allowing material into or out of pipes or bioswale.	No cracks, damage or openings/voids at or inside pipes allowing material into pipes or bioswale.

ENGINEERED BIOFILTRATION SWALE			
Maintenance Component		Condition When Maintenance Is Needed	Result Expected After Maintenance Is Performed
	Free flow	Obstructions and/or damage to pipes or trash racks (if applicable) blocking the designated flow of water into or out of bioswale.	Pipes and trash racks free of damage and obstruction, and water may flow as designed into or out of bioswale.
General	Function, safety, design	If function or failure of bioswale has created a safety, design or system problem, and inspection or maintenance personnel deem the facility as unsound.	Bioswale design and performance restored to standards, and is considered safe and sound.

These maintenance standards comply, or exceed compliance, with the: King County 2009 Surface Water Design Manual, Appendix A-Maintenance Requirements for Flow Control, Conveyance and WQ Facilities; and the Washington State Department of Ecology 2012 (as amended in December 2014) Stormwater Management Manual for Western Washington, Volume V-Runoff Treatment BMP's



City of Kent Maintenance Standards for Stormwater Flow Control, Conveyance, and Water Quality Facilities

CATCH BASIN/INLET/MANHOLE			
Maintenance Component		Condition when maintenance is needed	Result expected after maintenance is performed
Access	Access and opening	Any blocking of access to or inletting capacity of basin by more than 10%. Or trash and debris accumulation exceeds 1/2-cu ft. at opening of basin.	No blocking of access to or inletting capacity of basin. No accumulated trash and debris at opening of basin.
	Cover/grate	Cover/grate missing or only partially in place; and/or damaged or broken.	Cover/grate is in place and is safe and sound.
		Cover/grate cannot be removed with proper tools and after applying appropriate amount of lift; or locking cover/grate does not lock.	Cover/grate can be removed and reinstalled, and locked (if applicable) by one inspection or maintenance person with proper tools and appropriate lift.
	Ladder (if applicable)	Ladder missing or unsafe due to damage or missing rungs, misalignment, or not securely attached to basin wall.	Ladder is allows inspection and maintenance personnel safe access in to and out of catch basin.
Basin	Illicit discharges and/or connections	Any evidence of illicit discharges and/or connections allowing or which will allow pollutants to enter or exit the basin.	Pollutants removed from basin and disposed of according to applicable regulations. Illicit discharges and/or connections to basin eliminated or controlled with BMP's.
	Sediment	Sediment accumulation in basin exceeds 60% of the sump depth as measured from the bottom of basin to invert of the lowest pipe into or out of the basin.	No sediment in basin.
	Trash and debris	Trash or debris accumulation (includes floatables and non-floatables) in basin exceeds 1/3 or 33% of sump depth from the bottom of the basin to the invert of the lowest pipe into or out of the basin.	No trash or debris in basin.
	Animals and vegetation	Live or dead animals or vegetation in basin.	No live or dead animals or vegetation in basin. If possible, effect a prevention of ability for animals or vegetation to enter or remain in basin.
	Frame to top slab/risers	Frame not sitting flush or securely on top slab; separation of more than 3/4-inch from the frame to the top slab/risers.	Frame is sitting flush with top slab/risers and is firmly and securely attached.
	Top slab, walls, bottom	Top slab/walls/bottom has holes larger than 2-sq in. or cracks wider than 1/4-inch; any evidence of soil particles entering catch basin through cracks, or inspection or maintenance personnel deems basin as unsound.	Catch basin is free of holes and cracks; is sealed and structurally sound.
	Settlement/misalignment	Catch basin has settled more than 1-inch or has rotated more than 2-inches out of alignment.	Basin repaired or replaced and restored to design standards.
	Inlet/Outlet Pipes	Sediment	Sediment filling 20% or more of pipe.
Trash and debris		Any trash and debris (including dead animals) accumulated in pipes.	No trash or debris in pipes.
Cracks, damage, voids		Cracks wider than 1/4-inch at the joint of the pipes or any damage or openings/voids at or inside pipes allowing material into or out of basin.	No cracks, damage or openings/voids at or inside pipes allowing material into or out of basin.
Free flow		Obstructions and/or damage to pipes or trash racks (if applicable) blocking the designated flow of water into or out of basin.	Pipes and trash racks free of damage and obstruction, and water may flow as designed into or out of basin.
General	Pollution prevention stencil/button (if applicable)	Pollution prevention stencil/button (notice to dump no pollutants, outfalls to stream) is missing, displays inaccurate message, or is not visible or legible.	Stencil/button or sign displays accurate message, is visible and legible.
	Function, safety, design	If function or failure of catch basin has created a safety, design or system problem, and inspection or maintenance personnel deem the facility as unsound.	Catch basin design and performance restored to standards, and is considered safe and sound.

These maintenance standards comply, or exceed compliance, with the: King County 2009 Surface Water Design Manual, Appendix A-Maintenance Requirements for Flow Control, Conveyance and WQ Facilities; and the Washington State Department of Ecology 2012 (as amended in December 2014) Stormwater Management Manual for Western Washington, Volume V-Runoff Treatment BMP's.



City of Kent Maintenance Standards for Stormwater Flow Control, Conveyance, and Water Quality Facilities

CONTROL STRUCTURE/FLOW RESTRICTOR			
Maintenance Component		Condition when maintenance is needed	Result expected after maintenance is performed
Access	Access and opening	Any blocking of access to or inletting capacity of basin by more than 10%. Or trash and debris accumulation exceeds 1/2-cu ft. at opening of basin.	No blocking of access to or inletting capacity of basin. No accumulated trash and debris at opening of basin.
	Cover/grate	Cover/grate missing or only partially in place; and/or damaged or broken.	Cover/grate is in place and is safe and sound.
		Cover/grate cannot be removed with proper tools and after applying appropriate amount of lift; or locking cover/grate does not lock.	Cover/grate can be removed and reinstalled, and locked (if applicable) by one inspection or maintenance person with proper tools and appropriate lift.
	Ladder (if applicable)	Ladder missing or unsafe due to damage or missing rungs, misalignment, or not securely attached to basin wall.	Ladder allows inspection or maintenance personnel safe access in to and out of basin.
Basin	Illicit discharges and/or connections	Any evidence of illicit discharges and/or connections allowing or which will allow pollutants to enter or exit the basin.	Pollutants removed from basin and disposed of according to applicable regulations. Illicit discharges and/or connections to basin eliminated or controlled with BMP's.
	Sediment, trash and debris	Sediment, trash or debris accumulation in basin exceeds 25% of sump depth as measured from the bottom of the basin to the invert of the lowest pipe into or out of the basin, but in no case less than a minimum of 6-inches from bottom of the FROP-T or elbow.	No sediment, trash or debris in basin.
		Any sediment, trash or debris accumulation inside control device.	No sediment, trash or debris in control device.
	Animals and vegetation	Live or dead animals or vegetation in basin or control device.	No live or dead animals or vegetation in basin or control device. If possible, effect a prevention of ability for animals or vegetation to enter or remain in basin or control device.
	Frame to top slab/risers	Frame not sitting flush or securely on top slab; separation of more than 3/4-inch from the frame to the top slab/risers.	Frame is sitting flush with top slab/risers and is firmly and securely attached.
	Top slab, walls, bottom	Top slab/walls/bottom has holes larger than 2-sq in. or cracks wider than 1/4-inch; any evidence of soil particles entering basin through cracks, or inspection or maintenance personnel deem basin as unsound.	Basin is free of holes and cracks; is sealed and structurally sound.
	Settlement/misalignment	Basin has settled more than 1-inch or has rotated more than 2-inches out of alignment.	Basin restored or replaced and restored to design standards.
Flow Control/ Restrictor Device (i.e. FROP-T, Elbows, Baffles, etc...)	Control device	Control device not in correct position, or not securely attached to basin wall, or connections to inlet/outlet pipes are not watertight, or damaged and not working as designed.	Control device is in correct position, secured to basin wall, watertight, and functions as designed.
	Cleanout gate (if applicable)	Cleanout gate missing, or not watertight, or chain or rod is missing, or gate cannot be opened and closed by inspection or maintenance personnel.	Cleanout gate in place, watertight, and gate can be opened and closed by inspection or maintenance personnel with the attached chain or rod.
	Orifice plate (if applicable)	Orifice plate missing, out of place, damaged or obstructed.	Orifice plate in place, free of all obstructions, and functions as designed.
	Overflow pipe/baffle	Overflow pipe/baffle damaged or obstructed.	Overflow pipe/baffle restored and free of all obstructions and functions as designed.
Inlet/ Outlet Pipes	Sediment	Sediment filling 20% or more of pipe.	No sediment in pipes.
	Trash and debris	Any trash and debris (including dead animals) accumulated in pipes.	No trash or debris in pipes.

CONTROL STRUCTURE/FLOW RESTRICTOR			
Maintenance Component		Condition when maintenance is needed	Result expected after maintenance is performed
	Cracks, damage, voids	Cracks wider than 1/4-inch at the joint of the pipes or any damage or openings/voids at or inside pipes allowing material into or out of pipes or basin or control device.	No cracks, damage or openings/voids at or inside pipes allowing material into or out of pipes or basin or control device.
	Free flow	Obstructions and/or damage to pipes or trash racks (if applicable) blocking the designated flow of water into or out of basin and control device.	Pipes and trash racks free of damage and obstruction, and water may flow as designed into or out of basin and control device.
General	Pollution prevention stencil/button (if applicable)	Pollution prevention stencil/button (notice to dump no pollutants, outfalls to stream) is missing, displays inaccurate message, or is not visible or legible.	Stencil/button or sign displays accurate message, is visible and legible.
	Function, safety, design	If function or failure of catch basin or control device has created a safety, design or system problem, and inspection or maintenance personnel deem the facility as unsound.	Catch basin or control device design and performance restored to standards, and are considered safe and sound.

These maintenance standards comply, or exceed compliance, with the: King County 2009 Surface Water Design Manual, Appendix A-Maintenance Requirements for Flow Control, Conveyance and WQ Facilities; and the Washington State Department of Ecology 2012 (as amended in December 2014) Stormwater Management Manual for Western Washington, Volume V-Runoff Treatment BMP's.



City of Kent Maintenance Standards for Stormwater Flow Control, Conveyance, and Water Quality Facilities

DETENTION POND			
Maintenance Component		Condition When Maintenance Is Needed	Result Expected After Maintenance Is Performed
Site and Access	Access	Access to pond site is obstructed or unsafe, preventing inspection and maintenance personnel from performing their duties with no danger or difficulty.	Inspection and maintenance personnel are able to safely, clearly, and easily access pond site and perform their duties.
	Access roads, fencing, gates, bollards	<i>Refer to the current King County Surface Water Design Manual.</i>	<i>Refer to the current King County Surface Water Design Manual.</i>
	Sign (if applicable)	Sign missing, not posted, not visible, illegible, inaccurate, or a hazard due to damage.	Sign is posted, visible, legible, accurate, and does not pose a hazard.
	Trash, debris, dead animals	Trash and debris accumulation exceeds 1-cu ft. per 1,000-sq ft. (this is about equal to the amount of trash it would take to fill up one standard size office garbage can). Any dead animals on site.	No trash, debris, or dead animals on site.
	Noxious and nuisance vegetation	Any noxious or nuisance vegetation which may constitute a hazard to people.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where people might normally be.
	Illicit discharges and/or connections	Any evidence of illicit discharges and/or connections allowing or which will allow pollutants to enter or exit the pond.	Pollutants removed from site and pond and disposed of according to applicable regulations. Illicit discharges and/or connections to site and pond eliminated or controlled with BMP's.
	Insects	Insects (such as wasps and hornets) or insect nests that constitute a hazard to people threaten or interfere with inspection or maintenance personnel and activities.	Insects and/or insect nests destroyed or removed from site.
	Beaver dams	Dam results in change or function of the facility.	Dam is removed and facility is restored to design function.
	Rodent holes	Any evidence of rodent holes causing, or having potential to cause, erosion or water piping.	Rodents causing the holes are removed or destroyed, holes are filled and facility is restored to design function.
	Grass/groundcover	Grass or groundcover exceeds 18-inches in height.	Grass or groundcover mowed to a height less than 18-inches.
	Pond Berms, Slopes, and Emergency Overflow/Spillway	Trees/plants	Trees/plants hindering access or interfering with maintenance activities, and/or facility function.
		Trees/plants impede flow or threaten integrity of slopes or spillway.	Problem trees/plants and roots systems removed (if root base is larger than 4-inches diameter). Slopes and spillway restored to design function.
Settlement/slumping		Any part of berm which has settled or slumped 4-inches lower than the design elevation.	Cause of settlement/slumping is corrected and berm is built back to design elevations.
Erosion		Eroded damage over 2-inches deep where cause of damage is still present or where there is potential for continued erosion.	Cause of erosion eliminated and slopes are stabilized and restored to design function.
Piping		Discernable water flow through pond berm.	Cause of piping eliminated and berm restored to design function.
Rock/pad		One layer of rock exists above native soil in area 5-sq ft. or larger or any exposure of native soil at the top of outflow path or spillway. Rock/pad spread and/or depth is not to design standards.	Rock/pad spread and depth restored to design function.
	Overflow/spillway damaged, obstructed or has the potential to be obstructed.	Overflow/spillway not obstructed or potentially obstructed and is restored to design function.	

DETENTION POND			
Maintenance Component		Condition When Maintenance Is Needed	Result Expected After Maintenance Is Performed
Storage Area	Sediment	Sediment accumulation exceeds 10% of designated pond depth unless otherwise specified, or interferes with designated flow into or out of pond.	Sediment is removed and pond is restored to designated shape and depth, and sediment does not interfere with designated flow into or out of pond.
	Liner damaged (if applicable)	Liner is visible and has more than three 1/4-inch holes in it; or liner does not hold water as designed.	Liner restored or replaced. Liner is fully covered. Liner holds water as designed.
	Retaining wall (if applicable)	Retaining wall damaged and seeping/leaking.	Retaining wall restored and does not seep/leak.
Inlet/Outlet Pipes	Sediment	Sediment filling 20% or more of pipe.	No sediment in pipes.
	Trash and debris	Any trash and debris (including dead animals) accumulated in pipes.	No trash or debris in pipes.
	Cracks, damage, voids	Cracks wider than 1/2-inch at the joint of the pipes or any damage or openings/voids at or inside pipes allowing material into or out of pipes or pond.	No cracks, damage or openings/voids at or inside pipes allowing material into pipes or pond.
	Free flow	Obstructions and/or damage to pipes or trash racks (if applicable) blocking the designated flow of water into or out of pond.	Pipes and trash racks free of damage and obstruction, and water may flow as designed into or out of pond.
General	Function, safety, design	If function or failure of pond has created a safety, design or system problem, and inspection or maintenance personnel deem the facility as unsound.	Pond design and performance restored to standards, and is considered safe and sound.

These maintenance standards comply, or exceed compliance, with the: King County 2009 Surface Water Design Manual, Appendix A-Maintenance Requirements for Flow Control, Conveyance and WQ Facilities; and the Washington State Department of Ecology 2012 (as amended in December 2014) Stormwater Management Manual for Western Washington, Volume V-Runoff Treatment BMP's



City of Kent Maintenance Standards for Stormwater Flow Control, Conveyance, and Water Quality Facilities

MEDIA FILTER VAULT			
Maintenance Component		Condition when maintenance is needed	Result expected after maintenance is performed
Site and Access	Access and opening	Any blocking of access to or inletting capacity of vault by more than 10%. Access to vault site is obstructed or unsafe, preventing inspection and maintenance personnel from performing their duties with no danger or difficulty.	No blocking of access to or inletting capacity of basin. Inspection and maintenance personnel are able to safely, clearly, and easily access vault site and perform their duties.
	Access roads, fencing, gates, bollards	<i>Refer to the current King County Surface Water Design Manual.</i>	<i>Refer to the current King County Surface Water Design Manual.</i>
	Trash, debris, dead animals	Trash and debris accumulation exceeds 1-cu ft. per 1,000-sq ft. (this is about equal to the amount of trash it would take to fill up one standard size office garbage can). Any dead animals on site.	No trash, debris, or dead animals on site.
	Noxious or nuisance vegetation	Any noxious or nuisance vegetation which may constitute a hazard to people.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where people might normally be.
	Insects	Insects (such as wasps and hornets) or insect nests that constitute a hazard to people threaten or interfere with inspection or maintenance personnel and activities.	Insects and/or insect nests destroyed or removed from site.
	Grass/groundcover	Grass or groundcover exceeds 18-inches in height.	Grass or groundcover mowed to a height less than 18-inches.
	Trees/plants	Trees/plants hindering access or interfering with maintenance activities, and/or facility function.	No trees/plants hindering access or interfering with maintenance activities, and/or facility function.
	Cover/grate	Cover/grate missing or only partially in place; and/or damaged or broken.	Cover/grate is in place and is safe and sound.
		Cover/grate cannot be removed with proper tools and after applying appropriate amount of lift; or locking cover/grate does not lock.	Cover/grate can be removed and reinstalled, and locked (if applicable) by one inspection or maintenance person with proper tools and appropriate lift.
Ladder (if applicable)	Ladder missing or unsafe due to damage or missing rungs, misalignment, or not securely attached to vault wall.	Ladder allows inspection or maintenance personnel safe access in to and out of vault.	
Treatment Area	Illicit discharges and/or connections	Any evidence of illicit discharges and/or connections allowing or which will allow pollutants to enter or exit the vault.	Pollutants removed from site and vault and disposed of according to applicable regulations. Illicit discharges and/or connections to site and vault eliminated or controlled with BMP's.
	Sediment	Sediment accumulation exceeds 2-inches average depth across bottom of vault.	No sediment in vault.
		Sediment exceeds 1/2-inch depth on top of media cartridges.	No sediment on top of media cartridges.
		Underdrains and/or cleanouts damaged or partially plugged or filled with sediment and/or debris.	Underdrains and/or cleanouts free of sediment and debris and allows flow per design function.
	Trash and debris	Any trash or debris accumulation in vault or on media cartridges (includes floatables and non-floatables).	No trash or debris in vault or on media cartridges.
	Animals and vegetation	Live or dead animals or vegetation in vault.	No live or dead animals or vegetation in vault. If possible, effect a prevention of ability for animals or vegetation to enter or remain in vault.
Scum Lines	Thick or multiple scum lines above top of media cartridges, which may be an indicator of plugged media or underdrains.	Cause of plugging corrected, such as underdrains cleaned out and/or cartridges replaced.	

MEDIA FILTER VAULT			
Maintenance Component		Condition when maintenance is needed	Result expected after maintenance is performed
	Standing water or bypass condition	9-inches or greater of static water in the vault for more than 24 hours following a rain event and/or overflow/bypass occurs frequently.	No standing water in vault 24 hours after a rain event and bypass condition is only observed after major storms if at all because flows go through filter media.
	Baffles/ Overflow	Baffle/overflow damaged or obstructed.	Baffle/overflow is restored, free of all obstructions, and functions as designed.
	Frame to top slab/risers	Frame not sitting flush or securely on top slab; separation of more than 3/4-inch from the frame to the top slab/risers.	Frame is sitting flush with top slab/risers and is firmly and securely attached.
	Top slab, walls, bottom	Top slab/walls/bottom has holes larger than 2-sq. inches or cracks wider than 1/2-inch; any evidence of soil particles entering vault through cracks, or inspection or maintenance personnel deem vault as unsound.	Vault is free of holes and cracks; and is sealed and structurally sound.
Inlet/ Outlet Pipes	Sediment	Sediment filling 20% or more of pipe.	No sediment in pipes.
	Trash and debris	Any trash and debris (including dead animals) accumulated in pipes.	No trash or debris in pipes.
	Cracks, damage, voids	Cracks wider than 1/2-inch at the joint of the pipes or any damage or openings/voids at or inside pipes allowing material into or out of pipes or vault.	No cracks, damage or openings/voids at or inside pipes allowing material into or out of pipes or vault.
	Free flow	Obstructions and/or damage to pipes or trash racks (if applicable) blocking the designated flow of water into or out of vault.	Pipes and trash racks free of damage and obstruction, and water may flow as designed into or out of vault.
General	Pollution prevention stencil/button (if applicable)	Pollution prevention stencil/button (notice to dump no pollutants, outfalls to stream) is missing, displays inaccurate message, or is not visible or legible.	Stencil/button or sign displays accurate message, is visible and legible.
	Function, safety, design	If function or failure of vault has created a safety, design or system problem, and inspection or maintenance personnel deem the facility as unsound.	Vault design and performance restored to standards, and is considered safe and sound.

These maintenance standards comply, or exceed compliance, with the: King County 2009 Surface Water Design Manual, Appendix A-Maintenance Requirements for Flow Control, Conveyance and WQ Facilities; and the Washington State Department of Ecology 2012 (as amended in December 2014) Stormwater Management Manual for Western Washington, Volume V-Runoff Treatment BMP's.



City of Kent Maintenance Standards for Stormwater Flow Control, Conveyance, and Water Quality Facilities

BAFFLE or COALESCING PLATE OIL/WATER SEPARATOR			
Maintenance Component		Condition when maintenance is needed	Result expected after maintenance is performed
Site and Access	Access and opening	Any blocking of access to or inletting capacity of structure by more than 10%. Access to structure site is obstructed or unsafe, preventing inspection and maintenance personnel from performing their duties with no danger or difficulty.	No blocking of access to or inletting capacity of structure. Inspection and maintenance personnel are able to safely, clearly, and easily access structure site and perform their duties.
	Cover/grate	Cover/grate missing or only partially in place; and/or damaged or broken.	Cover/grate is in place and is safe and sound.
		Cover/grate cannot be removed with proper tools and after applying appropriate amount of lift; or locking cover/grate does not lock.	Cover/grate can be removed and reinstalled, and locked (if applicable) by one inspection or maintenance person with proper tools and appropriate lift.
	Ladder (if applicable)	Ladder missing or unsafe due to damage or missing rungs, misalignment, or not securely attached to structure wall.	Ladder allows inspection or maintenance personnel safe access in to and out of structure.
Treatment Area	Illicit discharges and/or connections	Any evidence of illicit discharges and/or connections allowing or which will allow pollutants to enter or exit the structure.	Pollutants removed from site and structure and disposed of according to applicable regulations. Illicit discharges and/or connections to site and structure eliminated or controlled with BMP's.
	Floating oil	Floating oil in excess of 1-inch in first chamber, and any oil in other chambers.	No amount of floating oil in chambers other than a thin surface film.
	Sediment	Sediment accumulation exceeds 6-inches average depth across bottom of structure. Or any level of sediment which interferes with coalescing plates.	No sediment in structure.
		Any sediment on coalescing plates.	No sediment on coalescing plates.
	Trash and debris	Any trash or debris accumulation in structure or on media cartridges (includes floatables and non-floatables).	No trash or debris in structure or on media cartridges.
	Animals and vegetation	Live or dead animals or vegetation in structure.	No live or dead animals or vegetation in structure. If possible, effect a prevention of ability for animals or vegetation to enter or remain in structure.
	Coalescing plates	Plate media broken, deformed, cracked and/or showing signs of failure.	A portion of the plate media pack or the entire plate media pack is replaced, and structure is restored to function as designed.
	Baffles (if applicable)	Baffles damaged or obstructed.	Baffles restored, free of all obstructions, and functions as designed.
	Frame to top slab/risers	Frame not sitting flush or securely on top slab; separation of more than 3/4-inch from the frame to the top slab/risers.	Frame is sitting flush with top slab/risers and is firmly and securely attached.
	Top slab, walls, bottom	Top slab/walls/bottom has holes larger than 2-sq. inches or cracks wider than 1/2-inch; any evidence of soil particles entering structure through cracks, or inspection or maintenance personnel deem structure as unsound.	Structure is free of holes and cracks; and is sealed and structurally sound.
	Air vents (if applicable)	Any obstruction or damage to vents blocking ventilation of structure.	Vents are unrestricted and function as designed. Structure freely vents.
	Gravity drain	Gravity drain damaged, not sealed, or will not open or close.	Valve opens and closes, is completely sealed, and restored to function as designed.
	Shutoff Valve	Shutoff valve cannot be opened or closed.	Shutoff valve operates as designed.
Inlet/ Outlet Pipes	Sediment	Sediment filling 20% or more of pipe.	No sediment in pipes.
	Trash and debris	Any trash and debris (including dead animals) accumulated in pipes.	No trash or debris in pipes.
	Cracks, damage, voids	Cracks wider than 1/2-inch at the joint of the pipes or any damage or openings/voids at or inside pipes allowing material into or out of pipes or structure.	No cracks, damage or openings/voids at or inside pipes allowing material into or out of pipes or structure.

BAFFLE or COALESCING PLATE OIL/WATER SEPARATOR			
Maintenance Component		Condition when maintenance is needed	Result expected after maintenance is performed
	Free flow	Obstructions and/or damage to pipes or trash racks (if applicable) blocking the designated flow of water into or out of structure.	Pipes and trash racks free of damage and obstruction, and water may flow as designed into or out of structure.
	Discharge water	Effluent discharge water has obvious signs of poor water quality.	Effluent discharge from structure is clear with no thick visible sheen.
General	Pollution prevention stencil/button (if applicable)	Pollution prevention stencil/button (notice to dump no pollutants, outfalls to stream) is missing, displays inaccurate message, or is not visible or legible.	Stencil/button or sign displays accurate message, is visible and legible.
	Function, safety, design	If function or failure of structure has created a safety, design or system problem, and inspection or maintenance personnel deem the facility as unsound.	Structure design and performance restored to standards, and is considered safe and sound.

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City of Kent Maintenance Standards for Stormwater Flow Control, Conveyance, and Water Quality Facilities

VAULT/DETENTION TANK			
Maintenance Component		Condition when maintenance is needed	Result expected after maintenance is performed
Site and Access	Access and opening	Any blocking of access to or inletting capacity of vault by more than 10%. Access to vault site is obstructed or unsafe, preventing inspection and maintenance personnel from performing their duties with no danger or difficulty.	No blocking of access to or inletting capacity of basin. Inspection and maintenance personnel are able to safely, clearly, and easily access vault site and perform their duties.
	Access roads, fencing, gates, bollards	<i>Refer to the current King County Surface Water Design Manual.</i>	<i>Refer to the current King County Surface Water Design Manual.</i>
	Trash, debris, dead animals	Trash and debris accumulation exceeds 1-cu ft. per 1,000-sq ft. (this is about equal to the amount of trash it would take to fill up one standard size office garbage can). Any dead animals on site.	No trash, debris, or dead animals on site.
	Noxious or nuisance vegetation	Any noxious or nuisance vegetation which may constitute a hazard to people.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where people might normally be.
	Insects	Insects (such as wasps and hornets) or insect nests that constitute a hazard to people threaten or interfere with inspection or maintenance personnel and activities.	Insects and/or insect nests destroyed or removed from site.
	Grass/groundcover	Grass or groundcover exceeds 18-inches in height.	Grass or groundcover mowed to a height less than 18-inches.
	Trees/plants	Trees/plants hindering access or interfering with maintenance activities, and/or facility function.	No trees/plants hindering access or interfering with maintenance activities, and/or facility function.
	Cover/grate	Cover/grate missing or only partially in place; and/or damaged or broken.	Cover/grate is in place and is safe and sound.
		Cover/grate cannot be removed with proper tools and after applying appropriate amount of lift; or locking cover/grate does not lock.	Cover/grate can be removed and reinstalled, and locked (if applicable) by one inspection or maintenance person with proper tools and appropriate lift.
Ladder (if applicable)	Ladder missing or unsafe due to damage or missing rungs, misalignment, or not securely attached to vault wall.	Ladder allows inspection or maintenance personnel safe access in to and out of vault.	
Storage Area	Illicit discharges and/or connections	Any evidence of illicit discharges and/or connections allowing or which will allow pollutants to enter or exit the vault.	Pollutants removed from site and vault and disposed of according to applicable regulations. Illicit discharges and/or connections to site and vault eliminated or controlled with BMP's.
	Sediment	Sediment accumulation exceeds 10% of storage area/diameter in more than half of the vault storage area/diameter (Example: 10'x5' storage area will need cleaning when sediment depth is 5-inches over more than half of the vault storage area/diameter.) Or due to sediment accumulation, there is less than 1-ft of clearance from the bottom of any FROP-T or elbow in the vault.	No sediment in vault.
	Trash and debris	Any trash or debris accumulation in vault (includes floatables and non-floatables).	No trash or debris in vault.
	Animals and vegetation	Live or dead animals or vegetation in vault.	No live or dead animals or vegetation in vault. If possible, effect a prevention of ability for animals or vegetation to enter or remain in vault.
	Frame to top slab/risers	Frame not sitting flush or securely on top slab; separation of more than 3/4-inch from the frame to the top slab/risers.	Frame is sitting flush with top slab/risers and is firmly and securely attached.

VAULT/DETENTION TANK			
Maintenance Component		Condition when maintenance is needed	Result expected after maintenance is performed
	Top slab, walls, bottom	Top slab/walls/bottom has holes larger than 2-sq. inches or cracks wider than 1/2-inch; any evidence of soil particles entering vault through cracks, or inspection or maintenance personnel deem vault as unsound.	Vault is free of holes and cracks; and is sealed and structurally sound.
	Air vents (if applicable)	Any obstruction or damage to vents blocking ventilation of vault.	Vents are unrestricted and function as designed. Vault freely vents.
Flow Control/ Restrictor Device (i.e. FROP-T, Elbows, Baffles, etc...)	Control device	Control device not in correct position, or not securely attached to vault wall, or connections to inlet/outlet pipes are not watertight, or damaged and not working as designed.	Control device is in correct position, secured to vault wall, watertight, and functions as designed.
	Cleanout gate (if applicable)	Cleanout gate missing, or not watertight, or chain or rod is missing, or gate cannot be opened and closed by inspection or maintenance personnel.	Cleanout gate in place, watertight, and gate can be opened and closed by inspection or maintenance personnel with the attached chain or rod.
	Orifice plate (if applicable)	Orifice plate missing, out of place, damaged or obstructed.	Orifice plate in place, free of all obstructions, and functions as designed.
	Overflow pipe/baffle	Overflow pipe/baffle damaged or obstructed.	Overflow pipe/baffle is restored, free of all obstructions, and functions as designed.
Inlet/ Outlet Pipes	Sediment	Sediment filling 20% or more of pipe.	No sediment in pipes.
	Trash and debris	Any trash and debris (including dead animals) accumulated in pipes.	No trash or debris in pipes.
	Cracks, damage, voids	Cracks wider than 1/2-inch at the joint of the pipes or any damage or openings/voids at or inside pipes allowing material into or out of pipes or vault.	No cracks, damage or openings/voids at or inside pipes allowing material into or out of pipes or vault.
	Free flow	Obstructions and/or damage to pipes or trash racks (if applicable) blocking the designated flow of water into or out of vault.	Pipes and trash racks free of damage and obstruction, and water may flow as designed into or out of vault.
General	Pollution prevention stencil/button (if applicable)	Pollution prevention stencil/button (notice to dump no pollutants, outfalls to stream) is missing, displays inaccurate message, or is not visible or legible.	Stencil/button or sign displays accurate message, is visible and legible.
	Function, safety, design	If function or failure of vault has created a safety, design or system problem, and inspection or maintenance personnel deem the facility as unsound.	Vault design and performance restored to standards, and is considered safe and sound.

These maintenance standards comply, or exceed compliance, with the: King County 2009 Surface Water Design Manual, Appendix A-Maintenance Requirements for Flow Control, Conveyance and WQ Facilities; and the Washington State Department of Ecology 2012 (as amended in December 2014) Stormwater Management Manual for Western Washington, Volume V-Runoff Treatment BMP's.