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**Permanent Stormwater Control Facility**

**Operation and Maintenance (O&M) Plan**

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| **Development** | **Development Name**Location (Address, cross-streets, etc.) |
| **Permanent Control Facility** | **Facility Name & Type**(Ex: Extended Detention Basin A – EDB) |
| **Property Owner\*** | **Owner Name**Contact NameAddressPhoneEmail |
| **Property Manager\*** | **Manager Company**Contact NameAddressPhoneEmail |
| **Maintenance Provider\*** | **Maintenance Provider Company**Contact NameAddressPhoneEmail |

\* To be filled out after construction is complete by owner

Plan Contents:

* PSC Information Sheet – Explains specific information about the location, components, design, and maintenance of the PSC located on this development.
* PSC Recommended Maintenance Schedule – Lists typical maintenance tasks and associated frequencies.

Design Information Sheet: *(Delete all blue text once filled out)*

1. General Information
	1. Facility description

*Provide a brief description of the type of PSC installed, approximate size of the facility, and how the facility functions.*

* 1. Storms considered in design:

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| [ ]  | Water Quality |
| [ ]  | EURV |
| [ ]  | Minor Detention |
| [ ]  | 100-year Detention |

* 1. Typical Down Time: *enter time* hrs

*Enter the time for the facility to drain for the 80th percentile storm event (water quality event).*

This is the time that it should take the facility to empty during typical storms. If the facility does not drain in this time, contact the Stormwater Quality Program to determine next steps.

* 1. Facility components

*List and briefly describe components for each facility (e.g. inlets, low flow channel, micropool, filter media, underdrain, outlet structure, emergency spillway, maintenance access). Make sure that duplicate components (e.g. inlets) have a name or label to distinguish each individual component.*

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| **Component** | **Location(s)** |
| *Ex: Inlet A* | *Southwest and southeast perimeter of PSC* |
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1. PSC Schematic

*Include a simple diagram of the facility that is roughly to scale. The diagram should display each component and contain a label for each component. Include landscaping information (e.g. location of trees, shrubs, turf, landscape rock, etc…)*

1. Additional Specific Maintenance Items

*Please include any additional information that will help the owner/maintainer understand unique design components or challenges with the facility.*

Recommended Scheduled Maintenance:

The schedule below is a recommended list of tasks and associated timelines. These can vary with PSC design and the area (watershed) draining to the PSC. If issues arise that are not covered below or you have questions related to a specific maintenance item, contact the Stormwater Quality Program.

*Insert recommended scheduled maintenance sheet for appropriate PSC. Review sheet to ensure it includes only the appropriate maintenance items per the design.*

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| **Extended Detention Basin Maintenance Activity and Frequency** |
| **Category** | **Maintenance** | **Frequency** |
| **NOTE: all sediment, debris, and trash removed from any component should be removed from the site and disposed of properly.**  |
| Routine | Mowing manicured grasses to maintain desired height (minimum 3-4 inches) tall | As needed |
| Routine | Mowing native and drought tolerant grasses to maintain 6 inches or taller, as needed | As needed |
| Routine | Mow and/or maintain vegetation around structures (e.g. inlets, outlet structures) to accommodate inspections. Remove woody vegetation from within 5’ of any concrete structures or out of flow paths. | As needed |
| Routine | Visually inspect after larger storm event (>0.25”) to check facility function and/or alert to maintenance needs | Annually |
| Routine | Trash and debris removal from forebay/inlet structure. | Quarterly to Annually |
| Routine | Trash and debris removal from outlet structure. (well screen/bar grate, orifices, overflow)  | Quarterly to Annually |
| Routine | Remove trash and litter from bottom basin area.  | Monthly to Quarterly |
| Routine | Remove sediment from the low flow channel.  | Annually |
| Routine | Use aerator to punch holes at least 2” deep and no more than 4” apart when ground is not frozen | Annually (spring or fall) |
| Routine | Clean micropool surface of trash and algae | As needed |
| Routine | Mosquito Control (i.e., Larvicide application in micropool) | As needed |
| Periodic | Vacuum micropool water and sediment or pump micropool into grass of EDB using submersible pump and sediment sack and then remove sediment using a shovel.  | 3-5 years |
| Periodic | Repair and re-vegetate eroded areas when identified during visual inspections | As needed |
| Non-Routine | Major sediment removal and regrading | 15-25 years, as needed |
| Non-Routine | Concrete structure repair/replacement | 25-50 years, as needed |

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| **Rain Garden Maintenance Activity and Frequency** |
| **Category** | **Maintenance** | **Frequency** |
| **NOTE: all sediment, debris, and trash removed from any component should be removed from the site and disposed of properly.**  |
| **NOTE: RAIN GARDENS SHOULD NOT BE USED FOR SNOW STORAGE.** |
| Routine |  Mowing manicured grasses to maintain desired height (minimum 3-4 inches) tall | As needed |
| Routine | Mowing native and drought tolerant grasses to maintain 6 inches or taller | As needed |
| Routine | Prune shrubs or ornamental grasses seasonally and replace dead plants.  | Spring and Fall |
| Routine | Maintain healthy weed-free vegetation. Repair any bare spots. | As needed |
| Routine | Trash and debris removal from forebay/inlet structure.  | Quarterly to Annually |
| Routine | Trash and debris removal from overflow/outlet structure.  | Quarterly to Annually |
| Routine | Remove debris and litter from filter media area.  | Monthly to Quarterly |
| Routine | Visually inspect media to confirm it remains flat and does not have areas of accumulated dirt or is used for snow storage. | Annually |
| Routine | Visually inspect after large storm event to check facility function and/or alert to maintenance needs. Verify drain time between 12-24 hours. Check outlet structure after storm to verify flow is passing through underdrain. | Annually |
| Periodic | Check media and embankments for erosion and repair | As needed |
| Periodic | Replace or restore riprap energy dissipation | 5-10 years |
| Non-Routine | Replace broken underdrain cleanout caps | As needed |
| Non-Routine | Cleanout underdrains | As needed |
| Non-Routine | Media replacement | 10-15 years |
| Non-Routine | Concrete structure repair/replacement | 25-50 years |

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| **Porous Landscape Detention Maintenance Activity and Frequency** |
| **Category** | **Maintenance** | **Frequency** |
| **NOTE: all sediment, debris, and trash removed from any component should be removed from the site and disposed of properly.**  |
| **NOTE: Porous Landscape Detention SHOULD NOT BE USED FOR SNOW STORAGE.** |
| Routine |  Mowing manicured grasses to maintain desired height (minimum 3-4 inches) tall | As needed |
| Routine | Mowing native and drought tolerant grasses to maintain 6 inches or taller | As needed |
| Routine | Prune shrubs or ornamental grasses seasonally and replace dead plants.  | Spring and Fall |
| Routine | Maintain healthy weed-free vegetation. Repair any bare spots. | As needed |
| Routine | Trash and debris removal from forebay/inlet structure.  | Quarterly to Annually |
| Routine | Trash and debris removal from overflow/outlet structure.  | Quarterly to Annually |
| Routine | Remove debris and litter from filter media area.  | Monthly to Quarterly |
| Routine | Visually inspect media to confirm it remains flat and does not have areas of accumulated dirt or is used for snow storage. | Annually |
| Routine | Visually inspect after large storm event to check facility function and/or alert to maintenance needs. Verify drain time between 12-24 hours. Check outlet structure after storm to verify flow is passing through underdrain. | Annually |
| Periodic | Check media and embankments for erosion and repair | As needed |
| Periodic | Replace or restore riprap energy dissipation | 5-10 years |
| Non-Routine | Media replacement | 10-15 years |
| Non-Routine | Concrete structure repair/replacement | 25-50 years |

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| **Sand Filter Maintenance Activity and Frequency** |
| **Category** | **Maintenance** | **Frequency** |
| **NOTE: all sediment, debris, and trash removed from any component should be removed from the site and disposed of properly.**  |
| **NOTE: Sand Filter SHOULD NOT BE USED FOR SNOW STORAGE.** |
| Routine | Trash and debris removal from forebay/inlet structure(s). | Quarterly to Annually |
| Routine | Trash and debris removal from outlet structure. | Quarterly to Annually |
| Routine | Weeding | Quarterly or Annually |
| Routine | Remove trash and litter from filter area. | Monthly |
| Routine | Visually inspect sand filter media to confirm that it remains flat and does not have areas of accumulated dirt and is not being used for snow storage. Rake sand filter media. | As needed |
| Routine | Visually inspect after large storm event to check facility function and/or alert to maintenance needs. Check outlet structure after storm to verify flow is passing through underdrain. | Annually |
| Periodic | Repair and vegetate eroded side slopes | As needed |
| Periodic | Remove excess sediment and scarify top two inches of filter surface. Maintain a minimum sand depth of 12 inches. | 2-5 years |
| Periodic | Replace or restore riprap energy dissipation | 5-10 years |
| Non-Routine | Replace broken underdrain cleanout caps | As needed |
| Non-Routine | Cleanout underdrains | As needed |
| Non-Routine | Media replacement | 10-15 years |
| Non-Routine | Concrete structure repair/replacement | 25-50 years |

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| **Grass Buffer Maintenance Activity and Frequency** |
| **Category** | **Maintenance** | **Frequency** |
| **NOTE: all sediment, debris, and trash removed from any component should be removed from the site and disposed of properly.** |
| **NOTE: Grass Buffers SHOULD NOT BE USED FOR SNOW STORAGE.** |
| Routine | Mowing manicured grasses to maintain desired height (around 3-4 inches) tall | As needed |
| Routine | Mowing native and drought tolerant grasses to maintain 6 inches or taller | As needed |
| Routine | Mow and/or maintain vegetation around structures (e.g. Inlets, mow strip) | As needed |
| Routine | Remove sediment behind the level spreader or other interface between pavement and buffer. | Quarterly to Annually |
| Routine | Remove trash from buffer area. | Quarterly to Annually |
| Routine | Reseed and/or patch damaged areas in buffer to maintain healthy vegetative cover | As needed |
| Routine | Remove sediment from buffer area. Estimated that 3 to 10% of buffer interface length will require sediment removal annually. | As needed |
| Routine | Visually inspect for any erosion and repair and reseed. | Annually |
| Routine | Use aerator to punch holes at least 2” deep and no more than 4” apart when ground is not frozen | Annually (spring or fall) |
| Routine | Visually inspect after large storm event to check facility function and/or alert to maintenance needs | Annually |
| Non-Routine | Grass replacement for buffer interface | As needed, potentially every 10 to 20 years |

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| **Grass Swale Maintenance Activity and Frequency** |
| **Category** | **Maintenance** | **Frequency** |
| **NOTE: all sediment, debris, and trash removed from any component should be removed from the site and disposed of properly.**  |
| Routine | Mowing manicured grasses to maintain desired height (around 3-4 inches) tall | As needed |
| Routine | Mowing native and drought tolerant grasses to maintain 6 inches or taller | As needed |
| Routine | Mow and/or maintain vegetation around structures (e.g. inlets, outlet structures) | As needed |
| Routine | Remove trash from swale area. | Monthly to Quarterly |
| Routine | Remove sediment at inflow points. | Quarterly to Annually |
| Routine | Inspect inflow points for erosion and repair | Annually |
| Routine | Trash and debris removal from outlet structure. | Quarterly to Annually |
| Routine | Reseed and/or patch damaged areas in swale side slopes and channel to maintain healthy vegetative cover. | As needed |
| Routine | Remove accumulated sediment from swale area including near culverts and in channels to maintain flow capacity. Estimate 3 to 10% of swale length will require sediment removal annually. | As needed |
| Routine | Use aerator to punch holes at least 2” deep and no more than 4” apart when ground is not frozen | Annually (spring or fall) |
| Routine | Visually inspect after large storm event to check facility function and/or alert to maintenance needs | Annually |
| Non-Routine | Grass replacement | As needed, potentially every 10 to 20 years |

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| **Manufactured Treatment Device** **Maintenance Activity and Frequency** |
| **Category** | **Maintenance** | **Frequency** |
| **NOTE: all sediment, debris, and trash removed from any component should be removed from the site and disposed of properly.** |
| **NOTE: THE ABILITY TO OPEN MANHOLES IS NECESSARY TO INSPECT AND MAINTAIN Most MTDS. ADDITIONALLY CONFINED SPACE ENTRY MAY BE NEEDED FOR SOME MAINTENANCE EFFORTS. CONSULT MANUFACTURER’S GUIDANCE FOR ADDITIONAL INFORMATION.** |
| **HYDRODYNAMIC SEPARATORS (EX: STORMCEPTOR, CDS, baracuda) or Snouts** |
| Routine | Visually inspect MTD for trash or debris that could cause the structure to clog or bypass water quality flows. Strong odors may also indicate that the facility is not draining properly. | After large storm event for first two yearsAnnually after that |
| Routine | Visual inspect inlets to MTDs frequently. Removal of flow blocking debris is critical for flood control. | After every large storm event |
| Routine | Vacuum out dirt and debris from MTD using vactor vendor company. | Annually |
| Routine | Follow all manufacturer specified guidance | As specified |
| Non-Routine | Replace or repair device | 25-50 years |
| **High-Rate Media Filter** |
| Routine | Clean filter per manufacturer’s instructions  | Annually or as specified |
| Routine | Replace media per manufacturer’s instructions | As needed/specified |
| Routine | Visually inspect after large storm event to check facility function and/or alert to maintenance needs | Annually |
| Routine | Follow all manufacturer specified guidance  | As specified |
| Non-Routine | Replace or repair device | 25-50 years |
| **High-Rate Biofilter (Ex: Tree Box)** |
| Routine | Remove trash and debris on mulch layer.  | Monthly to Quarterly |
| Routine | Replace shredded hardwood mulch specified by the manufacture. | Annually or as specified |
| Routine | Remove leaf litter from inlet | Annually (fall) |
| Periodic | Media replacement | 5-10 years  |
| Periodic | Inspect tree health, prune or replace as needed | Annually |