

Oakland County MS4 SWMP Activity Table

Best Management Practice (BMP) Action/Activity	BMP Description/Method of Implementation	Target Audience and Key Message(s) Addressed (PEP Actions Only)	Responsible Department: -OCFM -EDCA -OCPRC -OCHD -WRMD -WRC	Schedule	Measurable Goal(s)	Method of Evaluating Effectiveness
Pollution Prevention and Good Housekeeping for Municipal Operations						
Employee/Contractor Training						
Employee/Contractor Training Related to Stormwater Management Activities	Existing employees/contractors to receive training once within 5-year permit cycle, at minimum. New employees to receive training within first year of employment. Training to include appropriate topics such as storm drain awareness, illicit discharge detection and elimination and ground maintenance, as applicable.	-	WRC OCPRC OCFM	Existing employees/contractors to receive training once within 5-year permit cycle New employees to receive training within first year of employment	Continue to train appropriate staff within each permit cycle.	-Number of employees/contractors trained and type of training received -Documentation of pollution prevention language in best management practice detail sheets or bid specs to protect water quality.
Pollution Prevention and Good Housekeeping for Municipal Operations						
Maintenance Activities for Stormwater Structural Controls						
Bar Screen Cleanout	Bar screens are cleaned to remove debris that would create backups in the storm drain system.	-	WRC	Bar screens are cleaned following rain events or as-needed. Annually	Continue to clean bar screens per scheduled maintenance programs in place	Report annually on: -Number of bar screens cleaned
Catch Basin Cleaning	WRC - Catch basins are inspected on a 4-year cycle; basins will be cleaned when sump is no more than 50% full. OCPRC - Catch basins are inspected annually; basins will be cleaned when sump is no more than 50% full. OCFM - Catch basins inspection program is under development; Basins will be cleaned when sump is no more than 50% full.	-	WRC OCFM OCPRC	Catch basins are cleaned when sump is no more than 50% full	Continue to inspect per schedule and clean when sump is no more than 50% full; properly dispose of the waste	Report on number of catch basins cleaned annually Report on yards of debris/waste that was properly disposed of
Stormwater Detention/Retention Basin Maintenance and Inspections	WRC stormwater detention basin maintenance program includes the maintenance of a listing of all Chapter 18 stormwater detention basins under WRC's jurisdiction. Field staff inspect each basins' forebay, inlet, outlet, overflow structure and pond banks. Maintenance needs are identified on the inspection form and work orders are issued to implement the necessary repair. OCPRC and OCFM inspect basins under their jurisdiction annually.	-	WRC OCPRC OCFM	WRC - Triennially OCPRC/OCFM - Annually	Continue to inspect and/or clean detention/retention basins as needed/scheduled and properly dispose of the waste	Report on number of inspections and maintenance activities performed annually
Pump Station Maintenance	Approximately 140 storm and sanitary pump stations are operated and maintained by WRC's Pump Maintenance Unit staff to ensure proper operation.	-	WRC	-Small pump stations are inspected every 2 weeks -Large pump stations are inspected 3-5 times per week -Wet wells and bar screens are cleaned twice per year -Bar screens are cleaned after each significant rain event	Continue to inspect and/or clean bar screens and wet wells as needed/scheduled and properly dispose of the waste	Report annually on pump maintenance activities
Sanitary Sewer Maintenance and Inspections	Perform routine inspections of WRC-owned or operated sanitary sewer systems to ensure proper operation and prevent overflows and/or release of sewage to surface waters.	-	WRC	-Interceptors are inspected on a 3-yr cycle -Laterals are inspected every 5-10 years -Frequencies of inspections are specified in the contract between WRC and the community served by the system	Continue to perform inspection and maintenance on sanitary sewer systems to protect water quality	Report annually on: -Number of systems inspected -Number of systems repaired -Report on yards of debris/waste that was properly disposed of -Reports are available upon request
Storm Drain Maintenance and Inspections	Perform routine inspections of WRC-owned or operated storm drains. Storm structures are inspected for leaks, illegal connections, root intrusions, evidence of chemicals or oil, deterioration or other repairs needed. The downstream line condition is also inspected for needed repairs including settlement, cleaning, surface restoration and others. Open ditches are inspected for evidence of sedimentation, blockage or improper function. Inspectors record findings on field reports and generate repair sheets for any corrective actions required. During maintenance activities, WRC staff comply with proper procedures to protect the drain from erosion, minimize the amount of solids entering the drain, stabilize stream banks and protect aquatic habitat.	-	WRC	Inspections conducted on a 4-year cycle	Continue to perform storm drain system inspections and maintenance as needed/scheduled	Report annually on: -Number of certified storm water operators on staff -Number of structures inspected -Number of drains inspected -Number of structural repairs completed -Reports are available upon request
Pollution Prevention and Good Housekeeping for Municipal Operations						
Controls Used for Reducing or Eliminating Discharges of Water and Pollutants from Streets and Maintenance Garages						
Road Salt Application	OCFM is responsible for winter maintenance on the County campus (roads, parking lots and sidewalks). Salt is stored at the Grounds Maintenance facility on Public Works Drive in Waterford. There is one salt storage area which is a covered bin that holds approximately 800 tons of bulk rock salt. The nearest storm drain has a geotextile fabric insert in place. The area is kept clean with the loader by scraping the pavement and placing loose salt back into the covered bin and then the area is swept with a rotary broom. Hook-lift trucks are used so either salt brine or bulk rock salt can be applied. The brine application is controlled from the cab of the truck and can be set to apply brine between 40 and 120 gallons per acre. The brine is manufactured in our garage. It is set to a salinity of 23.3% which is the optimum melting brine concentration. One ton of salt creates 780 gallons of salt brine. The brine is also stored in our garage inside containment. The floor drains in the shop are hooked to the sanitary sewers. Up to a day before snow or ice are predicted, all paved surfaces have an anti-icing salt brine application of 40 gallons per acre. This helps to prevent snow and ice from bonding to the pavement. Plowing begins at 1.5 inches and continues until the storm is complete. After the storm, a de-icing salt brine is applied at 60 to 80 gallons per acre to melt any residue left from plowing. The only time bulk salt is used is during ice storms. Bulk salt and salt brine lose 95% of their effectiveness when the pavement temperatures are below 18°F. A product called Headwaters Hot is added to the salt brine. It is added at 5 to 20% depending on pavement temperatures. This can increase the effectiveness of the salt brine to 5°F below zero. Since using almost 100% salt brine on our walks and parking lots, salt usage has been reduced by 80%. OCFM developed an Integrated Contingency Plan (SWPPP, PIPP and SPCC combined) and is available upon request.	-	OCFM	Annually (winter)	Continue to ensure that salt spreading equipment is regularly calibrated to minimize salt use while effectively maintaining safe conditions on roadways and parking lots Ensure Integrated Contingency Plan is updated and implemented, as appropriate	Report on the BMPs in place to prevent stormwater runoff contamination from salt storage areas Integrated Contingency Plan (ICP) available upon request
Street Sweeping Programs	Continue to conduct street sweeping on roads and parking lots under County jurisdiction.	-	OCFM	RCOC: -Local roads that involve WRC Chapter 18 drains are swept once per year OCFM: -Campus streets and parking lots swept in spring and fall, at minimum	Continue to perform street sweeping, as needed, to protect water quality	Report on number of curb miles swept Report on acres of parking lot cleaned

Oakland County MS4 SWMP Activity Table

Best Management Practice (BMP) Action/Activity	BMP Description/Method of Implementation	Target Audience and Key Message(s) Addressed (PEP Actions Only)	Responsible Department: -OCFM -EDCA -OCPRC -OCHD -WRMD -WRC	Schedule	Measurable Goal(s)	Method of Evaluating Effectiveness
Fleet Maintenance and Storage Yards	Implement SWPPP's, PIPP's and/or SPCC's, as applicable, to prevent pollution from maintenance garages and storage yards. Programs will address: -salt and chemical storage, vehicle washing (minimize pollution from runoff that may contain nutrients, metals, suspended solids and hydrocarbons) and maintenance (vehicle/motorized equipment fluids including used oil recycling, antifreeze recycling, containment and leak pads) and spill response.	-	WRC OCFM OCPRC	Annually	Ensure PIPPs, SWPPPs and SPCCs are updated and implemented, as appropriate OCFM and OCPRC to maintain certification under the Michigan Turfgrass Environmental Stewardship Program (MTESP)	-Report annually on compliance status of each county department's SWPPP, PIPP and or SPCC documents -Report on use of "green" cleaning products -Report on certification status under the MTESP -Documents available upon request
Waste Reduction Program	Oakland County Facilities Management has been recycling waste office paper generated in County buildings and facilities for over 20 years. For much of that time that waste paper has gone to Royal Oak Recycling, who is one of the largest independent recyclers in the Midwest. Their processing facility in Royal Oak Michigan has one of the largest and fastest shredding and baling machines in the country. Facilities Management has had a successful recycling program because of the commitment of County employees to set aside their office paper waste in special containers provided by Royal Oak Recycling.	-	OCFM OCPRC WRC	Annually	Continue paper, cardboard and battery recycling programs in the County	-Number of pounds of paper recycled annually -Amount of batteries recycled annually -Description of the different types of materials recycled annually
Pollution Prevention and Good Housekeeping for Municipal Operations						
Managing Vegetated Property						
Fertilizer Use	Continue the use of slow-release nitrogen fertilizer and/or low- or no-phosphorus fertilizer. Conduct soil testing to determine nutrient needs of turf.	-	OCFM OCPRC	Annually	Continue the use of slow-release nitrogen fertilizer and/or low or no-phosphorus fertilizer. Conduct soil testing, as needed	Report annually on the types of fertilizer used and soil testing performed
Greenbelt Maintenance	Maintain a "no-mow" and "fertilizer-free" buffer zone along MS4's.	-	OCFM OCPRC	Annually	Continue to implement no-mow and fertilizer-free buffer areas adjacent to waterways	Report on location of no-mow and fertilizer-free buffer areas
Irrigation Practices	Continue to pursue technologies to reduce water consumption for irrigation on the County campus.	-	OCFM	Annually	Continue to implement the Hydrowise system.	Report on the use of technologies to reduce water consumption for irrigation
Mowing Practices	Follow mowing practices that save energy and maximize infiltration potential.	-	OCFM WRC OCPRC	Annually	Continue to mow high and implement no-mow zones adjacent to waterways	-Report on mower blade height -Report on location of "no-mow zones"
Pesticide Applications	Ensure that staff and contractors are certified pesticide applicators. Practice integrated pest management (IPM) techniques for both indoor and outdoor operations.	-	OCFM OCPRC	Annually; OCFM and OCPRC staff recertified every 3 years	Continue to ensure proper certification credentials for pesticide applicators and practice integrated pesticide management (IPM)	Report on staff trained as certified pesticide applicators
Prescribed Burn Program	Oakland County Parks and Recreation Commission actively manages their natural areas with the use of prescribed burns in an effort to restore both upland and wetland natural areas and improve habitat quality within the parks. The timing of burns is carefully planned to minimize risk to park wildlife. The burns reduce shrubby invasives, release nutrients to the system, and facilitate microhabitat that favors native forbs, grasses, sedges and wildflowers.	-	OCPRC	Annually	Perform prescribed burns on a minimum of 500 acres of park properties per year.	Report on the location and amount of park properties managed with prescribed burns annually
Turf Management Training	Participate in the Michigan Turfgrass Environmental Stewardship Program (MTESP)	-	OCPRC OCFM	Annually	Continue to maintain certification under the MTESP	Report on the number of personnel trained and the number of OC parks certified under the MTESP, and OCFM's role on the Oakland County Complexes current certification in the program.