OAKLAND COUNTY MS4 TMDL IMPLEMENTATION AND MONITORING PLAN

May 18, 2021

Prepared by the Oakland County Water Resources Commissioner's Office

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I. U.S. Environmental Protection Agency-Approved Total Maximum Daily Loads in Oakland County

The following U.S. Environmental Protection Agency (EPA)-Approved Total Maximum Daily Loads (TMDL's) have been identified to apply within Oakland County as of April, 2017.

- Kent Lake, Strawberry Lake and Brighton Lake - Huron River Watershed: Total Phosphorus
- Norton Creek - Huron River Watershed: Dissolved Oxygen and Sedimentation/Siltation
- Rouge River Watershed: *E. coli* and Biota (Sedimentation)
- Johnson Creek - Rouge River Watershed: Dissolved Oxygen
- Lower Clinton River, Red Run Drain and Bear Creek - Clinton River Watershed: *E. coli*

A TMDL represents the maximum amount of pollutant that a waterway can receive without exceeding State water quality standards. The following waste load allocations (WLA's) or TMDL Targets, potential sources of water quality impairment from MS4's, and recommended strategies for pollutant reduction for each TMDL in the MS4-area are summarized in **Table 1**:

Table 1 - Summary of TMDL Targets, Common Sources of Impairments and Strategies for Meeting TMDL Targets

TMDL	*WLA or TMDL Target for Oakland County MS4*	*Common Sources of Impairment from Direct Discharges and Stormwater Runoff*	*Strategies for Meeting TMDL Targets*
***E. coli*:**	***300* E. coli*/100 mL daily max and 130* E. coli*/100 mL 30-day geometric mean for Total Body Contact (TBC) (May 1 – Oct. 31)*** ***1,000* E.coli*/100 mL daily max for Partial Body Contact (PBC) (year round)***	• Illicit connections of sanitary to storm sewers • Contaminated runoff during storm events from pets, feral animals, nuisance wildlife, improper garbage disposal, failing septic systems and re-suspended sediments • Combined Sewer Overflow (CSO) and Sanitary Sewer Overflows (SSO) Events • Waste Water Treatment Plant (WWTP) and other NPDES Permitted Discharges	• Public education regarding pet waste and waterfowl waste management, and septic system inspection and maintenance • IDEP Implementation • Sanitary Sewer Operation and Maintenance to prevent SSO's • CSO Control • Catch basin cleaning • Street sweeping • Retention/Detention Basin Inspection and Maintenance • Waterfowl management • Onsite Sewage Disposal System (OSDS) Inspection, Maintenance and Repair

TMDL	*WLA or TMDL Target for Oakland County MS4*	*Common Sources of Impairment from Direct Discharges and Stormwater Runoff*	*Strategies for Meeting TMDL Targets*
			• Compliance with NPDES Permits
Total Phosphorus (TP):	***0.030 mg/L (in-lake concentration for Kent Lake)*** **4,700 lb/year allocated to nonpoint source loads** **2,700 lb/year allocated to point source loads** **200 lb/year allocated to a margin of safety**	• Phosphorus-containing fertilizers • Soil erosion and sedimentation • Organic matter (leaves, grass clippings, etc.) • Pet and waterfowl waste • Illicit discharges (sewage, soaps, cleaners and industrial discharge nutrient sources) • Failed or misconnected OSDS' • CSO and SSO Events • WWTP and other NPDES Permitted Discharges	• Public education regarding proper fertilization practices, soil erosion prevention, yard waste and pet waste management • Implementation of IDEP • OSDS Inspection, Maintenance and Repair • Soil Erosion and Sedimentation Control (SESC) program implementation • Enforcement of Post-Construction Stormwater Standards on New and Redevelopments that require BMPs to stabilize runoff discharges and reduce flashy flows, improve infiltration of stormwater, and minimize sediment loading • Catch basin cleaning • Street sweeping • Drain maintenance cleaning and repair • Sanitary Sewer Operation and Maintenance to prevent SSO's • CSO Control • Compliance with NPDES Permits
Dissolved Oxygen (DO):	***5 mg/L minimum for warmwater fishery***	• Loss of in-stream and nearshore habitat • Increased direct stormwater runoff from impervious surfaces • Increased peak flow velocities resulting in streambank and	• Public education for riparian landowners on naturalized shorelines and homeowner associations regarding proper stormwater facility operation and maintenance to improve habitat and water quality • Enforcement of Post-Construction

TMDL	*WLA or TMDL Target for Oakland County MS4*	*Common Sources of Impairment from Direct Discharges and Stormwater Runoff*	*Strategies for Meeting TMDL Targets*
		stream bed scouring • Loss of stream canopy and cover • Increased BOD/COD from sewage and industrial pollutants from illicit discharges and stormwater runoff sources • Nutrient loading resulting in excessive algal and plant growth • Soil erosion and sedimentation from construction sites, streambank erosion and TSS loading from improperly maintained stormwater infrastructure • Low flows during dry weather	Stormwater Standards on New and Redevelopments that require BMPs to stabilize runoff discharges and reduce flashy flows, improve infiltration of stormwater, and minimize sediment loading • Minimize clearing of tree canopy during routine drain maintenance; limit tree clearing to obstructions within open channel • Soil Erosion and Sedimentation Control (SESC) program implementation • Sanitary Sewer Operation and Maintenance to prevent SSO's • CSO Control
Sedimentation/Siltation (TSS):	***91 lb/day TSS for MS4's***	• Soil erosion and sedimentation from construction sites, streambank erosion and TSS loading from improperly maintained stormwater infrastructure	• SESC program implementation • Enforcement of Post-Construction Stormwater Standards on New and Redevelopments that require BMPs to stabilize runoff discharges and reduce flashy flows, improve infiltration of stormwater, and minimize sediment loading • Catch basin cleaning • Street sweeping • Drain maintenance cleaning and repair

TMDL	*WLA or TMDL Target for Oakland County MS4*	*Common Sources of Impairment from Direct Discharges and Stormwater Runoff*	*Strategies for Meeting TMDL Targets*
Biota:	***1˚ - Procedure 51 (or similar) Scores greater than or equal to "acceptable" for 2 successive years*** ***2 ˚ - Suspended solids less than or equal to 80 mg/L annual average during wet weather***	• Soil erosion and sedimentation from construction sites, streambank erosion and TSS loading from improperly maintained stormwater infrastructure	• SESC program implementation • Enforcement of Post-Construction Stormwater Standards on New and Redevelopments that require BMPs to stabilize runoff discharges and reduce flashy flows, improve infiltration of stormwater, and minimize sediment loading • Catch basin cleaning • Street sweeping • Drain maintenance cleaning and repair

II. Monitoring for Pollutants of Concern at Oakland County MS4 High Priority Facilities in the TMDL Areas

All Oakland County facilities with an MS4 in the regulated urbanized area were evaluated for their potential to discharge pollutants of concern in the TMDL areas to surface waters of the state. Based on the results of that prioritization process (as outlined in each department's "Municipal Inventory and Assessment Procedure/Guideline"), the following facilities were found to be "High Priority" in each TMDL area:

Norton Creek DO and Sedimentation TMDL:

1. Lyon Oaks County Park (OCPRC)

Kent Lake Phosphorus TMDL:

1. Lyon Oaks County Park (OCPRC)
2. Commerce Twp WWTP (WRC)

Rouge River Watershed Biota (Sedimentation) and *E. coli* TMDL:

1. Walled Lake-Novi WWTP (WRC)

2. Glen Oaks County Park (OCPRC)

Red Run Drain *E. coli* TMDL:

1. Red Oaks County Park (OCPRC)

Most of these facilities have developed and are implementing a Stormwater Pollution Prevention Plan (SWPPP) and conduct regular inspections of their stormwater BMPs and outfalls (Lyon Oaks County Park SWPPP is under development and is expected to be complete by the end of FY 2021. Glen Oaks County Park SWPPP will be completed by the end of FY 2021). The facilities that are in TMDL areas for *E. coli* will evaluate wet weather samples for *E. coli* twice per permit cycle from appropriate representative sample sites. In addition, facilities with a DO and Total Phosphorus TMDL will perform chemical analyses on wet weather samples twice per permit cycle from appropriate representative sample sites. Wet weather samples will be collected within 30 to 60 minutes of the start of a wet weather event in an effort to capture the first flush. A wet weather event is defined as a precipitation event that produces at least 0.25" of rain over a 24-hour period.

III. Monitoring for Pollutants of Concern on a Watershed Scale

In general, the monitoring strategy to be employed under this plan is intended to reflect water quality conditions at the watershed-scale. As such, the data results will be indicative of the health of waterways receiving inputs from MS4's situated in Oakland County communities, as well as WRC county drains within the TMDL watersheds. The assumption is that all of these MS4's are implementing a suite of BMPs as part of their Phase II stormwater permits and monitoring results should reflect improvements in water quality over many permit cycles.

Given this in mind, monitoring locations under this TMDL implementation and monitoring plan have generally been selected at the lower terminus points of county drains or watershed outlets at the county line. This sampling protocol has been termed the "Pour Point Method" as defined in the "Technical Guidance for Designing a TMDL Effectiveness Monitoring Plan".

The proposed list of sampling locations is included below in **Table 2** and a summary list and map is provided in **Attachments 1A and 1B**.

Table 2 - List of Sampling Locations

Watershed	TMDL Area	Subwatershed	County Drain/Waterbody Name	Sample Location	Parameter/Pollutant of Concern to be Sampled
Huron River	Norton Creek	1. Norton Creek	1. Norton Creek	1. At Gibson Park, Wixom	TP, DO and TSS
Huron River	Kent Lake	1. Norton Creek 2. Huron River 3. Hayes Creek	1. Norton Creek 2. Montante Drain 3. Hayes Creek	1. At Mont Eagle Bridge, Commerce Twp. 2. At Pontiac Rd and Haggerty, Commerce Twp. 3. At Outlet of Union Lake, Commerce Twp.	TP
Huron River	Strawberry Lake	1. Davis Creek 2. Inchwagh Lake 3. Inchwagh Lake	1. Novi-Lyon Drain 2. Yerkes Drain 3. Underhill Drain	1. At Dixboro Rd, N. of 11 Mile Rd, Lyon Twp. 2. At Dixboro Rd and 10 Mile Rd, South Lyon 3. At Dixboro Rd and 9 Mile Rd, South Lyon	TP
Clinton River	Lower Clinton River	1. Clinton River	1. Rewold Drain	1. At Dequindre and Avon Rd, Rochester Hills	*E. coli*
Clinton River	Red Run*	1. Plum Brook 2. Plum Brook 3. Red Run/Big Beaver Creek	1. Nelson Drain 2. Ireland Drain 3. GWK/Red Run	1. At Dequindre, N. of M-59, Troy 2. At Dequindre, N. of South Rd, Rochester Hills 3. GWK Basin Outlet to Red Run, Warren	*E. coli*
Clinton River	Bear Creek*	1. Bear Creek 2. Bear Creek 3. Bear Creek	1. Sharkey Drain 2. Kutchey Drain 3. McCoy Drain	1. At I-696, Madison Heights 2. At Dequindre and 10 Mile Rd, Hazel Park 3. At Dequindre and 12 Mile Rd, Madison Heights	*E. coli*
Rouge River	Rouge River	1. Belle Branch 2. Upper Rouge 3. Upper Rouge	1. Caddell Drain 2. Clarenceville Drain 3. Minnow Pond Drain	1. At 8 Mile and Gill Rd, Livonia 2. S. of 8 Mile Rd and Grand River, Livonia 3. At Halstead and 14 Mile Rd, Farmington Hills	*E. coli* and TSS

*****A separate collaborative TMDL implementation and monitoring plan has been developed to address elevated *E. coli* levels from MS4's within the communities of Hazel Park, Madison Heights and Troy. The results of that implementation and monitoring plan will be incorporated into the data evaluation as part of this TMDL implementation and monitoring plan.

IV. Summary of Water Quality Monitoring Locations, Frequencies and Costs

The intent of this monitoring plan is that one representative stormwater quality sample will be taken from each high priority Oakland County facility's MS4 (as noted in Section II). The sampling frequency is intended to occur twice per permit cycle per sample site. The goal is to assess changes in water quality over the long-term as the implementation of established BMPs continues to take place. Samples will be taken during daytime work hours within the time period from May 1 through October 31 of any given year.

Table 3 below outlines a summary of the proposed water quality monitoring locations, parameter to be sampled and cost per sample analysis.

Table 3 - Summary of Water Quality Monitoring Locations, Parameter to be Sampled and Cost per Sample Analysis

County Facility/Drain/ Waterway Location	*Sample Location ID*	*Parameter to be Sampled*	*Cost per Sample Analysis*
Huron River Watershed			
Lyon Oaks County Park (OCPRC)	One representative sample site to be determined	DO TP Sediment (TSS)	$0.94 $20 $11
Commerce Twp WWTP (WRC)	One representative sample site to be determined	TP	$20
Drains/Waterways	7 sample sites - See **Table 2** and **Attachment 1A and 1B**	TP	$20 each
Rouge River Watershed			
Walled Lake-Novi WWTP (WRC)	One representative sample site to be determined or will use data collected from ARC Sample Site #MD17	*E. coli* Sediment (TSS)	$23 $11
Glen Oaks County Park (OCPRC)	One representative sample site to be determined	*E. coli* Sediment (TSS)	$23 $11
Drains/Waterways	3 sample sites - See **Table 2** and **Attachment 1A and 1B** (plus the data collected from the 18 sites via the ARC Collaborative TMDL)	*E. coli* Sediment (TSS)	$23 each $11 each
Clinton River Watershed			
Red Oaks County Park (OCPRC)	One representative sample site to be determined	*E. coli*	$23
Drains/Waterways	7 sample sites - See **Table 2** and **Attachment 1A and 1B**	*E. coli*	$23 each

V. Sample Collection and Analysis Protocol

Sample collection, analytical method, holding time and sample bottle type are summarized below in **Table 4**. Grab samples will be collected carefully to make sure the most representative sample possible is obtained. Only clean containers will be used for collecting samples and the container will be rinsed several times first with the water to be sampled unless there is a reagent in the sample bottle. Samples will be analyzed as soon as possible after collection. Analysis protocols are provided in the "Walled Lake - Novi Wastewater Treatment Plant Laboratory, Standard Operating Procedures Manual" (see **Attachment 2**).

Table 4 - Summary of Sample Collection and Analysis Protocol

Parameter	*Sample Collection Method*	*Analytical Method**	*Holding Time*	*Bottle Type*
E. coli	Grab Sample*	Colilert MPN Method SM 9233 B 21st ed.	8-hours (refrigerated)	100 mL IDEXX bottles w/ dechlorinating powder
DO	In-situ measurement with CHEMets Visual Test Kit or with a Testing Probe/Sensor	Indigo Carmine ASTM D 888-87	N/A	N/A
TP	Grab Sample* or with a Testing Probe/Sensor	Ascorbic Acid Method SM 4500-P(E) 20th Ed.	31-days (refrigerated)	250 mL preserved (sulfuric acid) bottle
Sediment (TSS)	Grab Sample* or with a Testing Probe/Sensor	SM 2540D 21st Ed.	7-days (refrigerated)	1 L unpreserved bottle

Note: *All grab samples will be analyzed at the Walled Lake-Novi WWTP laboratory. QA/QC will also be performed at that time. The number of *E. coli* samples dropped to the lab should be kept to **10 or less,** dropped off before 1:00 p.m., Monday through Wednesday. TSS and TP can be analyzed Monday through Friday.

VI. Supporting Activities for Meeting TMDL Targets and Assessing Water Quality Conditions in TMDL Areas

There are many programs in place that will be beneficial in meeting TMDL targets and assessing improvements in water quality within the TMDL watersheds as a whole to help guide future potential BMP efforts. The following programs are currently conducted in the TMDL watershed areas:

A. Dry Weather Screening and Illicit Discharge Investigation Water Quality Sample Data taken as part of the Oakland County MS4 Illicit Discharge Elimination Program (IDEP)

B. Surface Water Pollution Complaints and Spill Response
    - Oakland County operates a 24-hour Complaint Hotline for citizens to report pollution incidents to surface water throughout the County. WRC has trained spill responders and spill response procedures for dealing with spills of hazardous and polluting materials.

C. IDEP Investigations and Illicit Discharge Removal
    - WRC has trained IDEP inspectors that investigate illicit discharges discovered during dry weather screening of outfalls and discharge points, as well as in response to complaints. WRC has established procedures for prioritizing IDEP activities and working with local communities, EGLE, and other regulatory authorities to locate and eliminate illicit discharge sources. Details of Oakland County's IDEP, including schedules for dry weather screening, IDEP prioritization and investigation procedures, and surface water pollution complaint investigations can be found in Oakland County's Alternative IDEP.

D. IDEP Reporting and Data Sharing
    - WRC and OCPRC data related to dry weather screening, IDEP investigations, complaint investigations and illicit discharge elimination activities are reported to EGLE on a biennial basis. This information is also summarized and provided to communities for use to assist in their MS4 permit reporting.

E. Red Run Subwatershed and GWK RTF Wet Weather Monitoring in partnership with Madison Heights, Hazel Park and City of Troy

F. Clinton River Water Quality Sampling Project with the University of Michigan and the Office of the Great Lakes
    - Currently, monitoring includes only flow; there is potential that these monitoring sites could incorporate physical and chemical water quality sampling and analyses at some point in the future.

G. Alliance of Rouge Communities (ARC) Collaborative TMDL Monitoring Plan work in the Oakland County portion of the Rouge River Watershed
    - Eighteen (18) ARC sample locations being evaluated by Oakland County as part of this plan are included on the map and list in **Attachment 1**

H. Michigan Department of Environment, Great Lakes and Energy's (EGLE) Biennial Integrated Monitoring Reports (Water Quality and Pollution Control in Michigan Sections 303(d), 305(b), and 314 Integrated Report) – Years 2018, 2020, etc.

I. EGLE Assessments of Michigan Waters Results (watersheds evaluated on 5-year rotating cycles) – see 2017 Monitoring Strategy Update: [NOTE: the sample size for determining the statewide biological condition (via benthic macroinvertebrate surveys and limited fish surveys) in rivers and streams for 2016-2020 is only 250 sites – see Page 71/97 of reference monitoring strategy. Trends will not be calculated until 2020 when three cycles of biological surveys have been completed.]
    - Huron River Watershed: To be conducted in Year 2017, 2022, etc.
    - Clinton River Watershed: To be conducted in Year 2019, 2024, etc.
    - Rouge River Watershed: To be conducted in Year 2020, 2025, etc.

J. Adopt-a-Stream (AAS) Program and Winter Stonefly Search Macroinvertebrate Data (available from Friends of the Rouge (FOTR) will be helpful to evaluate conditions in the Rouge River TMDL area for biota.

K. Frog and Toad Surveys (available from FOTR annually) or similar Amphibian/Fish Monitoring (FOTR began fish assessments in 2012) will be helpful to evaluate conditions in the Rouge River TMDL area for biota.

L. Long-term water quality monitoring in the Huron River Watershed for TP and TSS is done by the Huron River Watershed Council; however, it is primarily done outside of Oakland County. One long-term monitoring site is located just downstream of the Kent Lake dam in Livingston County (not too far from the Oakland County border). Evaluation of that data will also be useful to document the water quality trends coming out of Kent Lake that would be representative of what's happening upstream in the Huron River watershed in Oakland County. Data for 2010 - 2016 for this site is available here.

M. United States Geological Survey (USGS) Water Quality Monitoring Data and Reports (future availability undetermined – reports will be evaluated as they become available). National assessment data is available online here.
    - There is one continuous flow USGS gage stations funded by WRC within Oakland County. Their locations and flow data (Discharge [cfs] and gage height) is available at:
        i. Clinton River at Auburn Hills - #04161000

N. Soil Erosion and Sedimentation Control Programs

- WRC is an Authorized Public Agency (APA) and implements SESC standards on all county drain projects. In addition, WRC is a County Enforcing Agency (CEA) and currently implements SESC programs in 48 of the 61 communities within Oakland County.
- OCPRC follows SESC standards that are in place for the community or county, as applicable.

VII. Prioritized BMPs at Oakland County MS4's in TMDL Areas

The BMPs selected as priority for implementation for Oakland County MS4's are based on 1) their ability to target multiple pollutants of concern at once, 2) the county department's regulatory authority to implement the BMP, and 3) funding/staff resources available to implement them.

The list of prioritized BMPs will be reviewed during the time of each biennial stormwater progress report that is due to EGLE to ensure that those activities are still the most appropriate to be targeting the Oakland County MS4's in the TMDL areas. The priority BMPs are likely to evolve over time as more efficient or new technologies /activities become available, as well as additional funding becomes available to improve existing stormwater management programs. As that information and funding becomes available, the BMPs will be added/revised in the Oakland County MS4 Stormwater Management Plan (SWMP).

Table 5 summarizes the prioritized BMPs that are currently being implemented to address the pollutants of concern at applicable MS4 facilities:

Table 5 - Summary of Prioritized BMPs at Applicable MS4 Facilities

Prioritized BMP	*TMDL Addressed*	*Responsible Party*	*Schedule/Location*
Public Education Program Activities			
Pet Waste , Waterfowl and Onsite Sewage Disposal System Management Education: **- Pet Waste Pickup Signage** **- Pet Waste Bag Stations** **- Oakland Lakefront Lifestyles Ads** **- Waterfront Wisdom Booklet** **- Seven Simple Steps to Clean Water Materials** **- Websites**	*E. coli* DO TP	OCPRC WRC	Signage and Pet Waste Bag Stations installed at Lyon Oaks and Red Oaks Dog Parks Pet waste management ad published in April of each year and Septic Maintenance Ad published in August each year in the *Oakland Lakefront Lifestyles* magazine Public education materials distributed and Web sites available throughout the year

Prioritized BMP	*TMDL Addressed*	*Responsible Party*	*Schedule/Location*
Illicit Discharge Elimination Program Activities			
- OSDS Permitting Program **- OSDS Operation and Maintenance at Oakland County Facilities:** **WRC operates and maintains the following community septic systems:** **-Island Club Condominiums in Commerce Township** **-Woodbridge Lake Estates in Commerce Township** **-Lower Pettibone Lake Community Septic in Highland Township** **OCPRC operates and maintains seven (7) septic systems (including one nibbler system) and four (4) lift stations at Lyon Oaks County Park**	*E. coli* DO TP	OCHD WRC OCPRC	Proper permitting of new and replacement OSDS and response to failing OSDS complaints via OCHD Regular inspection and maintenance of community septic systems Regular inspection and maintenance of onsite septic systems and lift stations
Illicit Discharge Elimination Program (ID's removed, CSO RTB Operation, WWTP Operation)	*E. coli* DO TP Sediment	OCPRC WRC	Details provided in OC MS4 IDEP
Construction Runoff Control Program Activities			
Soil Erosion and Sedimentation Control Program Implementation	TP Sediment	WRC	Details provided in OC MS4 SWMP
Post-Construction Runoff Control Program Activities			
Implement Post-Construction Stormwater Standards	*E. coli* DO TP Sediment	OCPRC WRC	Ongoing Newly built or redeveloped County facilities, as well as developments (new or re-developed) that tap into a county drain must implement post-construction BMPs that will address both water quality and quantity related to stormwater management from the site.

Prioritized BMP	*TMDL Addressed*	*Responsible Party*	*Schedule/Location*
			Low Impact Development BMPs will be encouraged in the stormwater management standards for TMDL areas within Oakland County.
Pollution Prevention and Good Housekeeping Program Activities			
Catch basin cleaning	*E. coli* DO TP Sediment	WRC OCPRC	WRC: All catch basins that lie within paved surfaces and roadways, or are within reach of paved surfaces and roadways, are being cleaned within the next anticipated permit cycle (within six years from the submittal of this document). WRC is tracking sediment build-up as part of its 4-year inspections of the structures to determine future cleaning schedules and/or immediate cleaning needs. Generally, sumps are two-feet deep, so the cleaning trigger is when sediment is no more than one foot beneath the lowest invert. OCPRC: Annually inspect catch basins associated with the drainage area of maintenance facilities and major public parking areas. Clean as needed. Sumps will be cleaned when they are no more than 50% full.
Detention/Retention Basins	*E. coli* DO TP Sediment	WRC OCPRC	WRC: Inspect every four years; maintenance performed as needed. OCPRC: Inspect annually; maintenance performed as needed.
Manufactured Treatment Devices (i.e. swirl chambers and oil/grit separators)	*E. coli* *TP* *Sediment*	WRC OCPRC	WRC: Inspect every four years; clean as needed. Currently there are four (4) swirl chambers along the Tribute Drain in the City of Wixom (Huron River watershed). There is one (1) hydrodynamic separator on the Bungalows Drain in West Bloomfield Twp (Rouge River watershed) and one (1) swirl concentrator on the Heron Drain in West Bloomfield Twp (Rouge River watershed). OCPRC: Inspect annually; cleaning and televising of devices planned for a 7-year cycle.

Prioritized BMP	*TMDL Addressed*	*Responsible Party*	*Schedule/Location*
			Currently there is one Contech Stormceptor installed at Glen Oaks County Park that filters drainage from the main public parking area prior to discharging to a wetland (Rouge River watershed).
Sanitary Sewer Maintenance	*E. coli* DO TP	WRC	All sanitary sewer interceptors are inspected on a 3-year cycle; laterals are inspected every 5-10 years and maintenance performed as issues are found.
Street Sweeping	*E. coli* DO TP Sediment	WRC OCPRC	Street sweeping is not specifically conducted at WRC/OCPRC facilities as they do not receive inundation of sediment build-up along curb lines in parking lots. General good housekeeping and turf maintenance activities help to keep parking lots clear of debris and trash on a regular basis; however, special attention will be given to ensuring that catch basin grates and surrounding curb and gutter areas are free of debris and accumulated sediment in all parking lots. Facilities within an urbanized area would be considered priority areas to ensure parking lots, streets and other impervious surfaces are kept free of accumulated sediment and debris with the use of good housekeeping practices. WRC: Streets within subdivisions that have established Chapter 18 drains (in West Bloomfield Township) are swept once per year by the Road Commission for Oakland County.
MDNR-Permitted Egg and Nest Destruction and Goose Roundup Programs; In-house Dog-Goose Control	*E. coli* DO TP	OCPRC	A combination of Goose Control methods is implemented annually as-needed based on the size of the goose population and associated nuisance levels at the following County Parks: -Glen Oaks County Park -Lyon Oaks County Park -Red Oaks County Park -White Lake Oaks County Park
No-mow Zones/Riparian Buffers	*E. coli* DO TP	OCPRC	Glen Oaks County Park Lyon Oaks County Park Red Oaks County Park

Prioritized BMP	*TMDL Addressed*	*Responsible Party*	*Schedule/Location*
	Sediment		White Lake Oaks County Park
Utilize low or no-phosphorus fertilizers on grounds	TP	OCPRC	The following County Parks comply with phosphorus regulations as MTESP-certified facilities per 451-1994-II-2-85, Section 324.8512b: -Glen Oaks County Park -Lyon Oaks County Park -Red Oaks County Park -White Lake Oaks County Park
Implementation of Stormwater Pollution Prevention Plans (SWPPPs) at Facilities with High Potential to discharge pollutants to Surface Waters of the State	*E. coli* DO TP Sediment	OCPRC WRC	OCPRC: Glen Oaks County Park – *expected to be complete by the end of FY 2021.* Lyon Oaks County Park – *expected to be complete by the end of FY 2021.* Red Oaks County Park WRC: Commerce WWTP Walled Lake-Novi WWTP

VIII. Adaptive Management for Effective BMP Implementation

The first round of monitoring to be conducted under the new Oakland County MS4 NPDES Permit at Oakland County facilities is intended to provide a baseline measurement of current pollutant loading within the TMDL areas for the pollutants of concern. The first round of monitoring will take place in the second year of the permit cycle. A second round of sampling will take place in the latter half of the permit cycle (by year 5). Based on comparison of that data, the intent is to evaluate if the current suite of BMPs being implemented are adequate to address pollutants of concern. If pollutant concentrations are higher than the WLA that has been determined in the TMDL, this will help aid in re-evaluating the BMPs in place and figuring out if new BMPs should be implemented, or changes made to existing BMPs. This iterative process is intended to take place during each future permit cycle based on monitoring results.

IX. Recordkeeping and Reporting

All recordkeeping associated with water quality monitoring and sample analysis will be kept on file for at least three (3) years. The available water quality results will be reported in each of Oakland County's Biennial Stormwater Progress Reports submitted to EGLE.