

TOTAL MAXIMUM DAILY LOAD IMPLEMENTATION PLAN



**Village of Lake Orion
21 E. Church Street
Lake Orion, MI 48362**

December, 2023

PURPOSE:

The purpose of this plan is to identify the Best Management Practices (BMP's) needed to address the pollutants associated with impaired water bodies with approved Total Maximum Daily Load (TMDL) assessments that are impacted by stormwater runoff from the Village of Lake Orion's storm sewer system. The Michigan Department of Environment, Great Lakes and Energy (EGLE) National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Phase II Stormwater Discharge Permit Application requires that this Plan include for each BMP a measurable goal, a measure of assessment, a schedule for implementation and the implementation frequency as appropriate. This plan is one element of the Village's Stormwater Management Program (SMP).

APPLICABLE TMDL'S

MS4 permittees that discharge to a watershed with an approved TMDL for E. coli are required to develop a TMDL Implementation Plan to reduce the discharge of E. coli from the permittee's MS4 to make progress in meeting the E. coli Water Quality Standards (WQS). The TMDL Implementation Plan identifies prioritized Best Management Practices (BMP). The permittee is required to implement this plan during the permit term to make progress in achieving the pollutant load reduction requirement in the TMDL. MS4 permittees are also responsible for implementing a TMDL Monitoring Plan for assessing the effectiveness of the prioritized BMPs implemented to make progress toward achieving the TMDL pollutant load reduction requirement. A minimum approach to monitoring includes conducting E. coli monitoring of the MS4 during wet weather at the beginning of the permit term, generally in Year 1, to establish baseline E. coli levels. The monitoring is repeated in Year 4 of the permit cycle to determine if the implemented BMPs were effective at reducing E. coli concentrations. Additional interim monitoring may be helpful to ensure progress is on track.

Statewide E. coli: The Village of Lake Orion falls under Statewide E Coli TMDL, which requires a wet weather monitoring plan, where outfalls are monitored 2 times during the permit cycle and samples collected within 30-60 minutes of a rain event to E coli. An action level must be defined that will be used to trigger additional monitoring.

The Village maintains one beach – Greens Park Village Beach. The beach is monitored by the Oakland County Health Division (OCHD ID #114), and is monitored weekly during the swim season of Memorial Day through Labor Day. The beach observes Total Body Contact attainment and Partial Body Contact attainment.

BMP SELECTION

The BMP's were selected based on the suspected sources of E. coli as indicated in the TMDL – MS4 Guidance document. These possible sources include sanitary sewer overflows (SSO's), failing septic systems, illicit connections to storm sewers, improper garbage disposal, and wildlife and/or pet waste. The Village has not experienced SSO's, there are a limited number of septic systems, and garbage is collected weekly by GFL, which leaves illicit connections, wildlife and pet waste as potential E. coli sources. The selected BMP's focus on investigating potential illicit discharges and addressing nonpoint sources.

The BMP's that will be implemented following the issuance of the updated permit are described in Table 1. The Baseline Activities (A, B, C and D) will occur regardless of the status of the source investigations. The additional activities will be implemented as described in the following section on Monitoring.

Assuming that stormwater and / or wildlife are the most likely sources of E. coli, the BMP's that are proposed address education to reduce nonpoint sources, such as RV waste and pet waste and that address illicit discharges through outfall screenings and investigations.

The BMP's have been selected to make progress toward achieving the E.coli pollutant load requirement established in the TMDL. Each BMP includes a schedule for completion, measurement metric, and milestone.

MONITORING

The Village will collect a sample from two outfalls during years 1 and 4 of the permit. The samples will be collected from the outfalls identified in Figure 1.

FIRST SAMPLING EVENT (Year 1 of the Permit)

The Village will inspect the outfalls during dry weather. If the outfall is submerged, then it will be inspected at the first upstream manhole that does not contain standing water. If flow is present during dry weather, the Village will collect a sample and analyze for E.coli.

- If the dry weather sample result is >1,000 cfu /100 ml, the Village will implement Activities A-D at the appropriate outfall, with a focus on dry weather sources.
- If the dry weather sample result is <1,000 cfu /100 ml, the Village will collect a sample during wet weather and analyze for E. Coli.
 - If the wet weather result is <1,000 cfu /100 ml, the Village will continue to implement their permit
 - If the wet weather result is >1,000 cfu /1000 ml, the Village will implement activities A-D, plus activities E and F.

If flow is not present during dry weather, the Village will collect a wet weather sample and analyze for E. Coli.

- If the wet weather result is <1,000 cfu /100 ml, the Village will continue to implement their permit
- If the wet weather result is >1,000 cfu /1000 ml, the Village will implement activities A-D, plus activities E and F.

SECOND SAMPLING EVENT (Year 4 of the Permit)

The Village will repeat the first sampling at the same outfalls, under the same conditions.

****Dry weather samples will be collected after a minimum of 48-hours of no (or trace) precipitation.**

****Wet weather samples will be collected within 30-60 minutes after the start of a wet weather event. A wet weather event is defined as a precipitation event that produces at least 0.25" of rain over a 24-hour period.**

PROCESS FOR REVISION

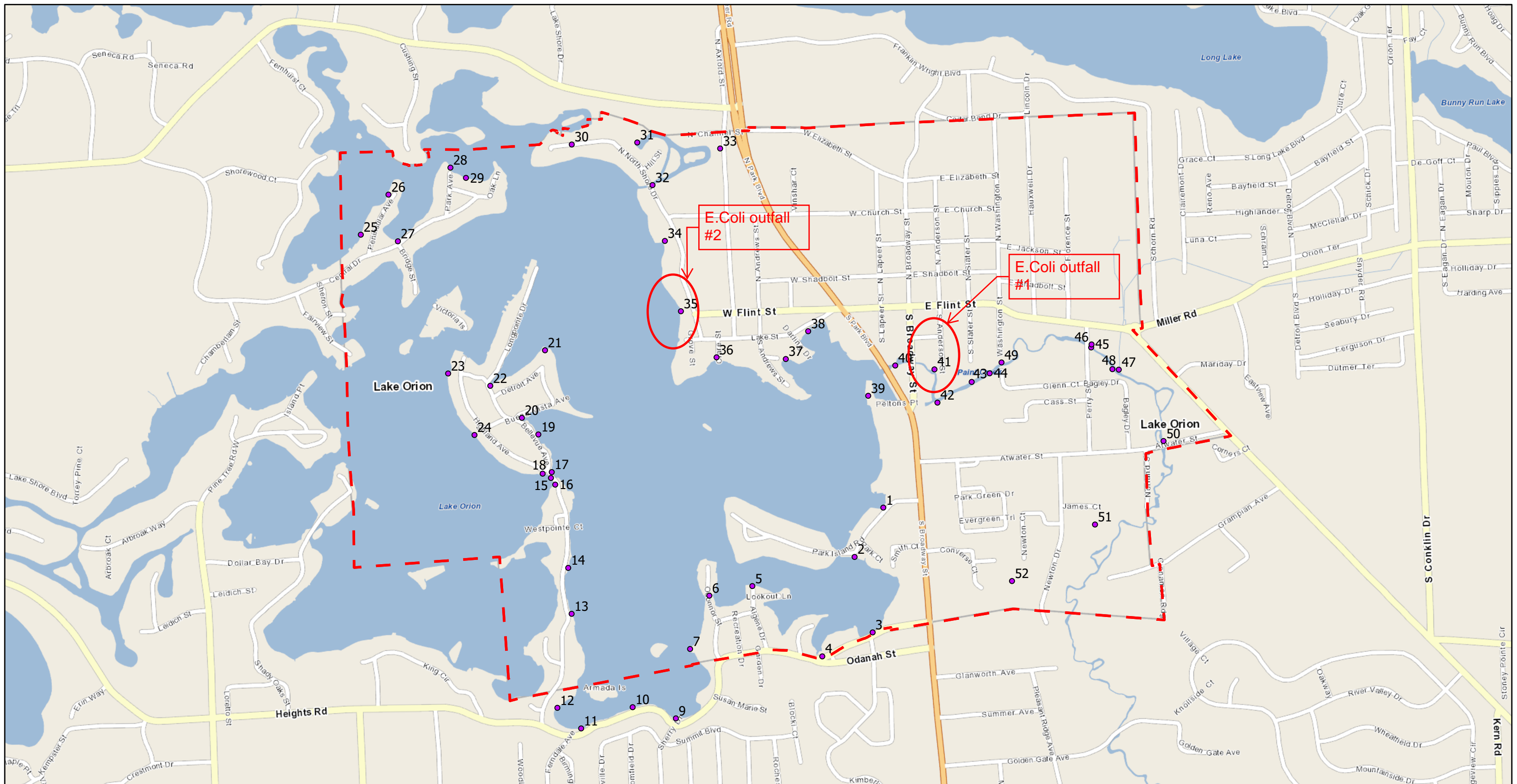
Any questions on this policy and procedure should be directed to the Village Manager. This procedure and the associated prioritized BMP's listed in Table 1 shall be reviewed once per permit cycle by the Village Manager for any updates based on field findings.

The procedure to be implemented for identifying and prioritizing BMPs that have an impact on the *E. coli* TMDL in Lake Orion is as follows:

1. Lake Orion will continue its involvement with the Clinton River Watershed Council (CRWC) for Stormwater Management and cooperate with those developing a collaborative plan to address the regional issue of the *E. coli* TMDL.
2. Lake Orion will also work with local stakeholder groups who are involved in the ongoing

Watershed Management Plan and its associated work to identify and implement economically feasible BMPs.

3. Lake Orion will review the existing *E. coli* TMDL adopted by the EGLE in August of 2012 for recommended BMPs.
4. Lake Orion will cooperate with the WRC and CRWC and others, as necessary, to revise this TMDL procedure to assure it can be realistically implemented. This will be done at least once per permit cycle.
5. Once a BMP is implemented, it will be reviewed (this is not to be interpreted as an inspection) at least once per permit cycle to determine its effectiveness. If it is an administrative BMP such as a procedure, policy or operation standard, then updates or revisions will be implemented as necessary.
6. Criteria for review, updates, or revisions of a BMP will be completed during the permit cycle.
7. Any changes in identification of BMPs or prioritization of BMPs will be reported in a progress report during a permit cycle.



Village of Lake Orion Outfall Map
 SAMPLING LOCATIONS
 (Figure 1)

Table 1 BMP's selected to address the E. coli TMDL

Activity	Description of Action	SP SW Goals Addressed	Method of Implementation	Schedule	Methods of Measuring Progress	Milestones
A	Perform visual inspections and dry-weather screening of Village-owned and or operated storm water conveyance outfalls.	3A, 3C, 3G IDEP 1.2, 3.1	<ul style="list-style-type: none"> Conduct dry weather inspections 	Ongoing; Every 5 years (Once per permit cycle)	<ul style="list-style-type: none"> Documentation of findings and observations # of possible illicit connections discovered 	Screening of 100% of outfalls
B	Encourage the use of the existing OCWRC complaint receipt and response system.	3A, 3C, 3G IDEP 1.9	<ul style="list-style-type: none"> Village web link to OCWRC hotline (248) 855-0931 	Ongoing throughout permit cycle	<ul style="list-style-type: none"> Documentation of efforts and referrals 	Respond to all complaints within 48 hours
C	Trace illicit connections and owner notification. Follow up enforcement for non-correction	3A, 3C, 3G IDEP 1.3, 1.4	<ul style="list-style-type: none"> Trace suspected illicit found to their source Follow-up with the owner to ensure the illicit connection has been eliminated 	Ongoing; As-Needed	<ul style="list-style-type: none"> # of illicit connections/discharges traced Documentation of notification and elimination Documentation of enforcement actions # of illicit connections/discharges found vs. # eliminated 	Begin investigation within two months of discovery of suspicious discharge
D	Education regarding waterfowl and pet waste management programs	2A, 3C, 3E, 7A PEP 1.7, 2.8, 3.8, 4.9, 5.13	<ul style="list-style-type: none"> The Village will feature web links and information regarding pet waste, car care, fertilizers, HHW, etc. Park area signage Distribute SEMCOG pet care tip cards Post information on the Village website 	Ongoing	<ul style="list-style-type: none"> # of website hits Topics of information posted # of tip cards distributed # of signs installed 	Website posting by year 5 of permit, one sign posted
Additional Activities						
E	Targeted IDEP Investigations	3A, 3C, 3G IDEP 1.3, 1.4	If the probable source of E. coli is related to storm water runoff, the Village will conduct targeted IDEP investigations in the storm drains located immediately tributary to the outfall with the goal of identifying illicit connections	Within 6 months of determining that storm water is likely source of E coli at outfall	Description of results of investigation, include in report	Complete by the end of year 4

Additional Activities (continued)						
F	Waterfowl Management Assessment	N/A	If the probable source of E. coli is avain in nature, the Village will investigate methods for deterring wildlife from congregating in parks along the creek.	Within 6 months of determining that waterfowl is a likely source of E.coli	Description of recommended improvements / methods	Complete by the end of year 4