

Table 1 lists the SMP Goals associated with the Lower One and Middle One subwatershed(s) and the reasons why a specific goal, if any, does not apply to Plymouth Township. Table 2 outlines the specific activities that Plymouth Township has undertaken, or will undertake, with respect to each of the applicable goals and/or actions.

2. Annual Report to Assess Progress

In order to assess our progress, Plymouth Township will document the following on an annual basis:

- Changes to goals and/or actions in the SMP prior to the required permit date for biannual review and revision
- Progress with respect to specific goals and/or actions
- Actions taken to eliminate illicit discharges.
- Schedule for elimination of illicit connections identified but not eliminated.
- Documentation of the public education effort and an evaluation of its effectiveness.
- Any additional actions taken to reduce the discharge of pollutants in storm water.
- Progress on approved activities under IDEP and PEP.
- Modifications to approved IDEP and PEP, if applicable.

3. Subwatershed Plan and SWPPI Revisions

The SWPPI shall be reviewed every two years and, as necessary, revised. Revisions to date-specific commitments listed in Table 2 can be made with approval of MDEQ. The SMP and the SWPPI can be revised at the same time, but will be due on the revision date for the SMP.

4. Retention of records

Plymouth Township will retain the approved Storm Water Pollution Prevention Initiative and its associated records in-house for a minimum of three years after the termination of the permit. The records will be available upon request by MDEQ and shall include, but not be limited to:

- Information regarding the effectiveness of these activities;
- Records of analyses performed;
- Calibration and maintenance of instrumentation, if used;
- Recordings from continuous monitoring instrumentation.

5. SWPPI goals and priorities of Plymouth Township

Plymouth Township is located in the Middle One and Lower One Subwatershed of the Rouge River. The Middle Rouge River flows through the northeast corner of the community and is largely contained within the boundaries of the Wayne County Edward Hines Parkway. Two major empondments exist along this route; Phoenix Lake and Wilcox Lake. Newburgh Lake, located in the City of Livonia, is directly adjoining the Township's east border.

The community, on the western edge of Wayne County, has experienced continuous moderate growth for the past thirty-five years. In the mid 1970's, the control of storm water runoff was a concern to community leaders as there was a desire to preserve open waterways and associated floodplains. This is in contrast to drain enclosures that were popular in that era. These storm water runoff concerns lead to the adoption of Ordinances that required new construction to employ storm water detention and limit the impacts of developed runoff.

All significant land development projects constructed since the early 1980's employ storm water detention. These projects include significant portions of the residential and industrial lands in the Township.

Development has occurred generally east to west; higher density is a characteristic of the older areas without detention, and these largely rely on totally enclosed storm drainage systems that terminate at the Rouge River or a major tributary. Alternately, many of the areas that developed in the last thirty years are dependent on open waterways to transport runoff easterly towards the Rouge River. There are approximately ninety detention basins that provide flow control of developed runoff discharged into these waterways. One facility, constructed twenty-five years ago, is a regional basin that mitigates developed flows on the South Branch of the Tonquish Creek and is located in a community park.

Recent studies of the Middle Rouge River, and major tributaries in the vicinity of Plymouth Township, suggest that significant conditions impacting the quality of water runoff are related to flow variability, total suspended solids, nutrient loading and e. coli levels. The control of these factors are expressed in the first three goals of the Middle One Subwatershed Management Plan.

Accordingly, Plymouth Township has adopted these first three goals as the priority of its SWPPI.

As a general theme, short term goals will focus on investigating and educating; long term goals will concentrate on implementing and monitoring.

Plymouth Township supports all ten goals of both the Lower One and Middle One Subwatershed Management plans. As outlined in the Community's SWPPI, all goals of the plans have been addressed.

6. Storm Water Pollution Prevention Development

This SWPPI has been designed and will be implemented to reduce the discharge of pollutants to the maximum extent practicable and is consistent with the Lower One and Middle One Subwatershed Management Plan developed under Part I.B.1 of the General Permit, and includes those actions expected to be implemented over the term of this permit. This SWPPI will be implemented upon approval of the District Supervisor, and includes:

1. Actions required of Plymouth Township in the Lower One and Middle One Subwatershed Management Plan as described in Table 2;
2. Evaluation and implementation of pollution prevention and good housekeeping activities, as appropriate, having considered the following practices:
 - a. Maintenance activities, maintenance schedules, and inspection procedures for storm water structural controls to reduce pollutants (including floatables) in discharges from our permitted separate storm water drainage system;

- b. Controls for reducing or eliminating the discharges of pollutants from streets, roads, highways and parking lots;
 - c. Procedures for the proper disposal of operation and maintenance waste from the permitted separate storm water drainage system (dredge spoil, accumulated sediments, floatables, and other debris);
 - d. Ways to ensure that new flood management projects assess the impacts on the water quality of the receiving waters and, whenever possible, examine existing projects for incorporation of additional water quality protection devices or practices; and
 - e. Implementation of controls to reduce the discharge of pollutants related to application of pesticides, herbicides, and fertilizers applied in our permitted jurisdiction.
3. Evaluation and implementation of site appropriate, cost-effective structural and nonstructural best management practices (BMPs) to minimize the water quality impacts from areas of new development and significant redevelopment, with the understanding that the goal is to protect the designated uses in the receiving waters from the effects commonly associated with urbanization.
 4. The methods of assessing subwatershed progress in storm water pollution prevention, as summarized for each of the Subwatershed Management Plan(s) Goals in Table 1.

7. Targets for Evaluation in Table 1.

It is recognized by the permittee and the MDEQ that the subwatershed targets and schedules in Table 1 are intended to track effectiveness and progress of the SWPPI actions, and progress towards the subwatershed goals. The targets and schedules are not enforceable compliance items required by the permit, and the permittee will not be found in noncompliance with the permit if they are not achieved. The permittee's actions and schedules in Table 2 are enforceable. If, during SWPPI revisions, it is determined that progress towards achieving the subwatershed targets is not being made, the permittee and the MDEQ will negotiate additional and/or alternative actions, schedules, or targets.

Table 1. Goal-Specific Long Term Assessment of Progress in Subwatershed

#	SMP Goals	N/A*	Methods for Evaluating Progress in River	Target for Evaluation in the Subwatershed	Responsible Party for Evaluating Progress
1	Reduce flow variability		A. New USGS stations at downstream ends of L1 and M1 Subwatersheds. B. Wayne County rainfall monitoring	<ul style="list-style-type: none"> Peak flow trends will be observed with new data from new USGS gages at downstream ends of L1 and M1 Subwatersheds. To not exceed target peak flows for more than 10% of the time by 2020. 	A. RPO, USGS B. Wayne County C. RPO
2	Reduce nutrient loading, especially with regard to all impoundments of the Middle Rouge River, upstream of and including Newburgh Lake		A. Dry and wet weather sampling.	<ul style="list-style-type: none"> Using 0.05 mg/l TP in dry weather as a reference, study and identify sources of TP in subwatershed to determine date by which we can expect to achieve 0.05 mg/l TP (or other target shown to support fair to good aquatic diversity, if found), by 2003. 	A. RPO
3	Reduce soil erosion and sedimentation		A. Dry and wet weather sampling. B. Habitat assessment, embeddedness and bottom deposition measures C. Aesthetics monitoring.	<ul style="list-style-type: none"> Based on achieving desired aesthetic use, maintain or achieve TSS concentrations below 80 mg/l in dry weather conditions, by 2006. MDEQ/GLEAS habitat evaluations of embeddedness and bottom deposition, showing trends of decreasing sedimentation in Rouge by 2006. 	A. RPO B. MDEQ/GLEAS C. Communities/agencies, Volunteers
4	Protect and mitigate the loss of natural features	N/A			
5	Increase opportunities for passive and active recreational uses		A. Recreation use and aesthetics monitoring/surveys B. Dry and wet weather sampling.	<ul style="list-style-type: none"> Improve aesthetic conditions where feasible, by 2010. Based on achieving desired aesthetic use, maintain or achieve TSS concentrations below 80 mg/l in dry weather conditions, by 2006. Increase recreation potential and use in the subwatershed by 2007. Maintain or achieve partial body contact in dry weather conditions (1,000 colonies per 100 ml) for main branch and tributaries with a base flow of, or greater than, 2 cfs, by 2010. 	A. Communities/agencies, Volunteers B. RPO C. Wayne County

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#	SMP Goals	N/A*	Methods for Evaluating Progress in River	Target for Evaluation in the Subwatershed	Responsible Party for Evaluating Progress
6	Improve water quality, water quantity and biological monitoring in the subwatershed to measure progress		A. Long term Subwatershed In-Stream Monitoring Plan for the Rouge B. Work with FOTR volunteer monitoring programs	<ul style="list-style-type: none"> Establish a subwatershed based, or community based, monitoring plan as needed to determine progress toward goals. Work with monitoring agencies (RPO, DEQ, FOTR, etc.) to support and enhance existing monitoring programs. 	A. RPO, Communities/agencies B. FOTR/Volunteers
7	Increase public understanding of their role in protecting water quality		A. Reporting on activities performed and evaluating success.	See Table 2.	A. Communities/agencies
8	Integrate storm water management in planning and land use approval process		A. Reporting on activities performed and evaluating success.	See Table 2.	A. Communities/agencies
9	Establish financial and institutional arrangements for the fulfillment of the management plan		A. Reporting on activities performed and evaluating success.	See Table 2.	A. Communities/agencies
10	Enforce action plans and increase accountability for storm water management		A. Reporting on activities performed and evaluating success.	See Table 2.	A. Communities/agencies

* Explanation required in Section 5

Table 2: Storm Water Pollution Prevention Initiative for Plymouth Township

Approved Illicit Discharge Elimination Plan (IDEP) projects/programs as per current General Permit (in italicized type) and any additional related projects/programs since the approval of the IDEP. Note: ALL approved IDEP items must be transferred into this summary SWPPI.

Action	SMP Goals Addressed	Permit Required Activities	Table 7.1 Proposed Actions	Method of Implementation and Schedule	Methods of measuring progress (to be documented in SWPPI annual report)
<i>1. Confirm jurisdiction of storm sewers and outfalls.</i>	M2 L2 M5 L5	6.2.a. IDEP	N/A	<i>Maintain up to date records of existing and newly constructed storm sewers and outlets together with agency responsible for operation. Updating to occur annually.</i>	Provide updated record with annual report.
<i>2. Operate complaint system.</i>	M2 L2 M5 L5	IDEP	30.	<i>Continue to operate complaint system that is in place. Include overview of system in all employee training. When available, incorporate software to computerize this process and integrate into GIS. Complaint system includes complaint intake, response, corrective action and follow-up.</i>	Report number of complaints. Report progress on computerization.
<i>3. Operate program for visual screening of Township outfalls.</i>	M2 L2 M5 L5	6.2.a., IDEP	30.	<i>Maintain ongoing training of personnel for outfall screening.</i>	Report number of staff attending training.
<i>4. Train Township employees about illicit discharges.</i>	M2 L2 M5 L5	6.2.a. IDEP	30.	<i>Maintain ongoing training of personnel for illicit discharge identification.</i>	Report number of staff attending training.
<i>5. Maintain list of illicit discharges.</i>	M2 L2 M5 L5	6.2.a IDEP	N/A	<i>Record reports of illicit discharges and relevant details as they occur.</i>	Report details in annual report.
<i>6. Maintain legal basis for correcting illicit discharges.</i>	M2 L2 M5 L5	IDEP	N/A	<i>Review annually any failure of existing ordinances, etc. to correct illicit discharges. Where problems are identified, recommend action to Board for correction of deficiency.</i>	Report problems encountered and action taken.
<i>7. Coordinate responses to complaints</i>	M2 L2 M5 L5	IDEP	N/A	<i>Maintain ongoing coordination of receiving and handling complaints of illicit discharges with Township staff.</i>	Report activities to maintain coordination.
<i>8. Investigate leaking sanitary sewers.</i>	M2 L2 M5 L5	6.2.a. IDEP	11., 30.	<i>Observe possible cross connections from sanitary sewers to storm drains during annual/routine sanitary sewer inspections/repairs and correct same.</i>	Report number found and corrected.
<i>9. Summarize illicit discharge complaints.</i>	M2 L2 M5 L5	6.2.a. IDEP	N/A	<i>Annually report summary of complaints and document same in GIS.</i>	Provide summary and map with annual report.

Table 2: Storm Water Pollution Prevention Initiative for Plymouth Township (Con't)

Approved Illicit Discharge Elimination Plan (IDEP) projects/programs as per current General Permit (in italicized type) and any additional related projects/programs since the approval of the IDEP. Note: ALL approved IDEP items must be transferred into this summary SWPPI.

Action	SMP Goals Addressed	Permit Required Activities	Table 7.1 Proposed Actions	Method of Implementation and Schedule	Methods of measuring progress (to be documented in SWPPI annual report)
<i>10. Screen suspicious outfalls.</i>	M2 L2 M5 L5	6.2.a., IDEP	30.	<i>Inspect all suspicious outfalls as soon as possible and document follow up action.</i>	Report number inspected and follow up action.
<i>11. Visual screening of Township outfalls.</i>	M2 L2 M5 L5	6.2.a., IDEP	30.	<i>All Township outfalls will be inspected every 36 months. Document findings, if any, in GIS.</i>	Report number inspected and any unusual conditions with follow up action.
<i>12. Document improperly functioning OSDS locations</i>	M2 L2 M5 L5	IDEP	14., 30.	<i>Annually follow up with Wayne County on results of any testing or inspections that indicate OSDS failure. Include data in planning activity for future sanitary sewers.</i>	Report results and planning activities.
<i>13. Document improperly connected premises.</i>	M2 L2 M5 L5	IDEP	30.	<i>Continually maintain records of buildings/structures found to be improperly connected and action taken to correct situation.</i>	Report findings and corrective actions.
<i>14. Test manholes or outlets.</i>	M2 L2 M5 L5	6.2.b., IDEP	30.	<i>From complaints or visual observations, perform tests as soon as possible on suspicious conditions to determine if problem exists. Document test, results and follow up.</i>	Report testing, results and follow up action.

Table 2: Storm Water Pollution Prevention Initiative for Plymouth Township (con't)

Approved Public Education Plan (PEP) projects/programs as per current General Permit (in italicized type) and any additional related projects/programs since the approval of the PEP. Note: ALL approved PEP items must be transferred into this summary SWPPI.

Action	SMP Goals Addressed	Permit Required Activities	Table 7.1 Proposed Actions	Method of Implementation and Schedule	Methods of measuring progress (to be documented in SWPPI annual report)
<i>15. Report illicit discharges or improper disposal</i>	M2 L2 M5 L5	PEP	30.	<i>1.Develop complaint system and publish telephone number. On-going operation of completed complaint system. 2.See IDEP above.</i>	# of complaints and follow-up
<i>16. Educate public on availability, location, and requirements for the disposal or drop-off of HHW, travel trailer sanitary wastes, chemicals, grass clippings, leaf litter, animal wastes, and motor vehicle fluids</i>	M2 L2 M5 L5	PEP	15., 30., 36., , 38.	<i>Flyers, brochures, calendar, newsletter.</i> Continue implementation of existing program. Annually – CCR mailing Quarterly – Newsletter Periodically – Cable messages Topics to be covered; Disposal of HHW, travel trailer sanitary waste, chemicals, grass clippings, leaf litter, animal waste and motor vehicle fluids.	# of documents; public surveys; observed public habits/practices
<i>17. Application of pesticides and herbicides</i>	M2 L2 M7 L7	PEP 6.2.e.	13.	<i>Distribute educational flyers and fact sheets.</i> Continue current program implementation. Alter methods employed on Township property to follow BMP guidelines. Annually – Calendar, CCR mailing Quarterly – Newsletter Periodically – Cable messages	Changes in public practices to be evaluated based on long term monitoring (See #6, Table 1) Report changes in Township practices.
<i>18. Residential car washing/main tenance</i>	M2 L2 M5 L5 M7 L7	PEP	30.	<i>Distribute educational flyers and fact sheets.</i> Continue current program implementation. Obtain SEMCOG car washing video by 12/2002 and make available for cable T.V. and homeowner groups. Annually – Calendar, CCR mailing Quarterly – Newsletter Periodically – Cable messages	Change in public practices to be evaluated based on long term monitoring (See #6, Table 1)

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Action	SMP Goals Addressed	Permit Required Activities	Table 7.1 Proposed Actions	Method of Implementation and Schedule	Methods of measuring progress (to be documented in SWPPI annual report)
19. Ultimate discharge location and potential impacts	M2 L2 M5 L5 M7 L7	PEP	36., 38.	<i>Educational flyers</i> <i>Storm drain marking</i> Continue current program implementation. Annually – Calendar, CCR mailing Quarterly – Newsletter Periodically – Cable messages	# distributed. # of drains marked.
20. Management of riparian lands to protect water quality	M2 L2 M4 L4 M5 L5	PEP	36., 38.	<i>Articles in newsletter</i> <i>School programs at Township Park Outdoor Classroom</i> <i>Distribute RPO materials</i> Continue current program implementation. Topics include: Stream bank erosion control, native plantings, buffer plantings. Annually – Calendar, CCR mailing Quarterly – Newsletter Periodically – Cable messages	# of articles. Changes in public practices.
21. Citizen responsibility and stewardship (On going Storm water pollution prevention education)	M2 L2 M4 L4 M5 L5	PEP	36., 38.	<i>Rouge Rescue; Articles in calendar ,Township newsletter; cable messages.</i> Annually – Calendar, CCR mailing Quarterly – Newsletter Periodically – Cable messages Topics include: Eliminating sources of bacteria, animal/pet waste management Reduce nutrient loading, lawn care behavior Septic system maintenance Car washing Detention basin maintenance	# of articles and cable presentations. # of people participating in Rouge Rescue and amount of material removed from river. # of Rouge rescue sites.
22. Business pollution prevention education – “Clean Business Group”	M2 L2 M3 L3 M5 L5	PEP	24., 30., 36., 38.	Participate in Rouge and state “Clean Business” type programs through distribution and presentation of materials to local businesses. Obtain information on available programs by 12/2002 and implement initial programs by 6/2003 Distribute information to local builders and developers regarding Wayne County workshops on soil erosion and sedimentation control.	# of presentations made Amount and type of material distributed # of businesses part of program
23. Storm drain marking	M7 L7	PEP	36.	<i>Attach plastic disks at storm drain inlets. Disk has message advising that it drains to Rouge River and not to dump waste. Completed by 6/2003.</i>	# of disks placed.
24. Homeowner Association information	M7 L7	PEP	16., 30., 38.	<i>Make available news letter items for inclusion in Homeowner Association mailings. Various articles will be distributed on an annual basis.</i> Topics include: Eliminating sources of bacteria, animal/pet waste management Reduce nutrient loading, lawn care behavior Septic system maintenance Car washing Detention basin maintenance	# of mailings by HOA’s.
25. Tributary Signage	M7 L7	PEP	38.	<i>Place tributary signs at road crossings over significant waterways in the community. Grants for this activity will be sought by 08/2002; installation will follow. Will require permit from Wayne County.</i>	# of signs installed.

Table 2: Storm Water Pollution Prevention Initiative for Plymouth Township (con't)

Other Best Management Practice Project/Programs that do not necessarily fall under the categories of the IDEP or PEP.

Action	SMP Goals Addressed	Permit Required Activities	Table 7.1 Proposed Actions	Method of implementation and Schedule	Methods of measuring progress (to be documented in SWPPI annual report)
26. Street sweeping	M3 L3	6.2.a. 6.2.b.	30.	2 sweeps of all local Township streets per year	# of total street sweeps per year
27. On going Household hazardous waste program	M7 L7		30., 36.	Notify residents of drop off locations in coordination with Wayne County. Provide a household hazardous waste drop off day once a year. Coordinate with abutting communities for possible expansion after first year.	Amount of HHW dropped off. # of participants.
28. On going Yard waste composting program	M2 L2 M7 L7		30. 36.	On-going pick up separated yard waste at curbside w/weekly garbage pick up	Estimate of tonnage collected
29. Adopt Storm Water Ordinance	M1 L1 M2 L2 M5 L5	6.2.d. 6.3	1., 3., 5.	Review current Wayne County Ordinance by 6/2002 Modify as appropriate for Plymouth Township by 2/2003 Introduce to Township Board for action/adoption by 6/2003	Report status of ordinance
30. Investigate Retrofitting Selected Existing Basins for Water Quality Enhancement Features.	M1 L1 M2 L2 M3 L3 M5 L5	6.2.a., 6.3	4.	Following completion of the basin conversion demonstration project now in progress, utilize the results of this program to determine the potential for conversions at other locations. Prepare list of potential sites. Demonstration project is scheduled for completion 12/2001. Develop list by 6/2003. Investigate availability of grants to perform additional conversions by 06/2002.	Report outcome of demonstration project; provide list of other locations found to be potential conversion locations.
31. Fertilizer Ordinance/ Educational Program	M2 L2 M5 L5	6.2.e	10., 13.	Continued work with Wayne County and other regional efforts to curb impacts from the over application or incorrect usage of lawn fertilizers. Alter methods employed on Township property to follow BMP guidelines. (Reported under Item 17.)	TP measurements in Middle Rouge at D21 Observations and/or complaints about algae blooms in local lakes.
32. Promote educational programs at Plymouth-Canton Community School District	M7 L7	NA	36.	By 06/2002, follow up on the curriculum developed for the middle and high schools. Promote the usage of the teacher's guide and outdoor classroom.	Pre and post student testing results.
33. Lawn Care Education	M2 L2 M7 L7		13.	By 12/2002, explore the possibility of hosting a workshop on appropriate lawn care techniques. If feasible, schedule workshop by 04/2003. Material related to this topic could also be distributed to residences in newsletters, etc.	Post workshop evaluations

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Other Best Management Practice Project/Programs that do not necessarily fall under the categories of the IDEP or PEP.

Action	SMP Goals Addressed	Permit Required Activities	Table 7.1 Proposed Actions	Method of Implementation and Schedule	Methods of measuring progress (to be documented in SWPPI annual report)
34. Recreational vehicle waste disposal	M5 L5 M7 L7		30.	Identify locations for recreational vehicle owners to dispose of sanitary waste. Information will be circulated in newsletter, by 12/2002.	Document location of sites
35. Promote Stream Bank Landscaping	M2 L2 M3 L3 M7 L7		6., 27., 36.	Prepare material to be provided riparian owners that recommends plant types and examples for planting buffer areas adjoining streambanks by 12/2002.	Document recommendations
36. Support Monitoring of Waterways in or near Community	M6 L6	N/A	33., 34., 35.	Continue to support monitoring of waterways servicing community as a means of documenting impacts of programs. (Plymouth Township has already provided funding for monitoring during 2001)	Document support.
37. Incorporate Monitoring in GIS	M6 L6	N/A	33.	Utilize the GIS to catalog monitoring data as a means of visually displaying and understanding the ongoing condition of selected waterways. Up-date GIS as data becomes available.	Data cataloged in GIS
38. Zoning Ordinance Changes	M1 L1 M2 L2 M3 L3 M4 L4 M5 L5 M8 L8 M10 L10,	6.2.d	1., 3., 5., 27.	By 06/2002, review Zoning Ordinance to determine if new techniques for land management are adequately addressed, and provide recommendations for changes. Continued enforcement of land planning ordinances to protect open waterways.	Document recommendations. Document zoning related actions to protect waterways.
39. Provide Staffing for Watershed Programs	M9 L9	N/A	42., 43.	By 06/2003, review staffing necessary to accommodate SWPPI programs and provide recommendation for action.	Document recommendations
40. Provide Financial Arrangements	M9 L9	N/A	43.	Annually determine minimum budget to fund SWPPI activities and recommend adoption of same by Township Board.	Report budget approved.
41. Support local creek/lake protection groups		N/A	37.	Continue on-going staff participation in Johnson Creek and other appropriate creek/lake protection groups.	# of meetings attended. # of committees. # of related activities.