

SECTION 8 - ACTION PLAN

The Broad Goals were refined by the Upper Flint River Watershed workgroup. They were then ranked reviewed by stakeholders and the public. Throughout the process, specific actions or concerns were proposed by the public or stakeholders and implemented whenever possible to create Goals 1 through 5, their objectives and specific actions. Goal 6 and 7 is taken from the NPDES Ph 2 permit language, and goal 8 was developed at the request of MDEQ.

Public Act (PA) 342 of 1939

In 2001, the Board of Commissioners of Genesee County made a resolution to establish the Genesee County Drain Commissioner's Office the agency for the County to provided for the management and operation of a system of storm water management services pursuant to the above act, to enable the County and cities, townships and charter townships located within the County to comply with the requirements of the Phase II regulations and also to engage in other watershed management activities necessary for the public health and welfare of the residents of those cities, townships and charter townships. Because of the PA 342, the Drain office was able to sign a contract with the communities to provide services.
(See Section 7 for details)

Throughout the action plan under the Labor Hours & Material cost estimate section many of the line items indicate E342C. This code indicates that these are services provided or costs included in the contract between the Drain office & the communities.

Although all Genesee County Communities have signed a contract with the Drain office to provide services, only those Phase II communities that have a certificate of coverage (permittees) are shown in the action plan.

Specific actions within the action table that must be performed or done by each permittee are highlighted in gray. Other actions are done by committee through the or when necessary by contract with a third party.

Schedule: Definitions of terms

S	Short term (Before May 1, 2009)
L	Long term (after May 1, 2006)
W	Wish List (no commitment or means)
N/A	Not Applicable
C	Complete (specific action complete)
O	Ongoing (currently being done and will continue being done)

Other Definitions

E342C	Contract for Services between communities and Drain Office
TBD	To be Determined
BMP	Best Management Practices
NRCS	Natural Resources Conservation Service
FRWC	Flint River Watershed Coalition
SWM	Genesee County Drain Commissioner's Office- Surface Water Management
WWS	Genesee County Drain Commissioner's Office-Water and Waste Management
Ad hoc	The Ad hoc Committees are formed to work on a specific objective until complete.

GOAL #1 – PROTECT PUBLIC HEALTH

Objective	Action	Responsible Parties	Schedule	Labor Hours & Material cost estimate
'Time of Sale Septic Ordinance'	Health Department/Ad Hoc Committee will draft ordinance for the sale of septic	Health Dept Water & Waste Ad hoc Committee	S	E342C 80-100 hours \$5,000 - \$10,000
	Health Dept and Ad Hoc committee to develop fee structure options for septic ordinance.	Health Dept Water & Waste Ad hoc Committee	S	E342C 80-200 hours \$5,000 - \$10,000
	County and Phase II Permittee will adopt septic new ordinance county wide	County Phase II Permittees	S	E342C 20-100 hours legal fees per comm.
	Health Department will work with local business and residents to implement the new ordinance.	Health Dept	S	E342C Advertising: \$300-\$2000 100-400 hours
	Health Department will enforce the new septic ordinance	Health Dept	L	Cost and Hours TBD
	Work with the county health department to develop and implement septic system tracking program for evaluation purposes.	Health Dept SWM	L	Cost and Hours TBD
Connect to Available Sewer System (beyond state building code)	Committee and WWS to develop ordinance requiring connection to sewer system.	Health Dept Water & Waste Ad hoc Committee Beecher Water District	W	E342C Existing State Requirement \$3,000 - \$5,000
	Committee and WWS to develop fee structure options for sewer system ordinance.	Health Dept Water & Waste Ad hoc Committee	W	E342C 80-200 hours \$5,000 - \$10,000
	Permittees to adopt sewer system ordinance.	Phase II Permittees	W	E342C 20-100 hours legal fees per comm.
	Develop/Train health department, municipals and developer on sewer system ordinance.	Health Dept Water & Waste Ad hoc Committee	W	E342C Advertising: \$300-\$2000 100-400 hours
	Permittees to enforce new sewer system ordinance.	Phase II Permittees	W	Cost and Hours TBD
	Develop/implement sewer connection tracking system county wide.	Health Dept Water & Waste Ad hoc Committee	W	Cost and Hours TBD

Goal	Objective	Action	Evaluation Mechanism	Included in SWPPI	Argentine Township	City of Fenton	City of Linden	Clayton Township	Fenton Township	Gaines Township	Tyrone Township	Genesee County	
1 a		1	Draft ordinance is produced and adopted by Committee	Y									
		2	Document that outlines fee options and evaluates the practicality of each of them. Adoption of a funding options)	Y									
		3	No. of communities supporting ordinance.	Y									
		4	Attendance to Training No. of advertisements.	Y									
		5	No. of Inspections Long Term Failure Rate Trend. Improvement in water quality, especially in rural areas.	Y									
		6	No. of Inspections Long Term Failure Rate Trend	Y									
1 b		1	Draft ordinance is produced										
		2	Document that outlines fee options and evaluates the practicality of each of them. Adoption of a funding options)										
		3	No. of ordinances supported locally		N/A	N/A	W	W	W	W	W	W	W
		4	Attendance to Training No. of advertisements.										
		5	Increase number of inspections & connections in short-term		N/A	N/A	W	W	W	W	W	W	W
		6	Creation of tracking system. Statistics on "connections"										

Objective	Action	Responsible Parties	Schedule	Labor Hours & Material cost estimate
Homeowner education at Time of Sale	Committee to analysis funding options. Potentially use advertising to fund printing costs.	Ad hoc Committee	S	40-200 hours of prioritizing and finding funding
(Septic, lawn, leaves, grass, carwash, etc)	<u>Develop partnership with local organizations</u> to promote general public information topics such as septic maintenance, lawn & auto care, well water, proper household hazardous waste disposal, and well protection.	SWM Public Ed Committee	S	\$1-\$3 ea 500 - 1000 packets \$500 - \$3000 Total 40-100 hours of development, 20-50 hours of distribution
	Committee to implement public education on Storm Water. (See above topics)	TBD by Public Ed Committee	S	Distribution method to be determined but may include: information booths county fair other crossover events
	Distribute materials to homeowners and environmental organizations.	SWM Public Ed Committee	S	Brochures/tip cards:\$0.20 each 10,000-50,000ct. \$2000-\$10,000; 40 hours of organizing mailing
Disconnecting of Footing Drains From Sanitary	Committee to draft ordinance to disconnect footing drains.	Permittees WWS Ad Hoc Committee	W	E342C 100-200 hours \$5,000 - \$10,000
	WWS and Ad Hoc committee to develop fee structure options for footing drains.	Permittees WWS Ad hoc Committee	W	E342C 80-200 hours \$5,000 - \$10,000
	Communities to adopt new footing drain ordinance.	Permittees WWS Ad Hoc Committee	W	E342C 20-100 hours legal fees per comm.
	Train and educate developer on footing drains new ordinance.	WWS	W	E342C Advertising: \$300-\$2000 100-400 hours
	Permittees to enforce new footing drains ordinance.	WWS Phase II Permittees	W	Cost and Hours TBD
	Permittee to develop database and track disconnecting footing drains throughout the community.	WWS Phase II Permittees	W	Cost and Hours TBD

Goal	Objective	Action	Evaluation Mechanism	Included in SWPPI	Argentine Township	City of Fenton	City of Linden	Clayton Township	Fenton Township	Gaines Township	Tyrone Township	Genesee County	
1 c		1	Memo on options Presentations to appropriate authorities Adoption of a funding option	Y									
		2	Distribution channels are established and maintained. No. of packets distributed by partners.	Y									
		3	Count # packets distributed Targeted Public Survey by PEP No. of Volunteers	Y									
		4	No. of packets printed and distributed by permittees and organization. Social Survey	Y									
1 d		1	Draft ordinance is produced and adopted by Committee										
		2	Document that outlines fee options and evaluates the practicality of each of them. Adoption of a funding options)										
		3	No. of ordinances supported locally										W
		4	Attendance to Training No. of advertisements.										
		5	No. of footing drains removed. Long Term SSO Trend										W
		6	Creation of tracking system. Statistics on "disconnections" No. of Disconnections										W

Objective	Action	Responsible Parties	Schedule	Labor Hours & Material cost estimate
Identify Existing Wellhead Protection Programs	Work with MDEQ to identify existing wellhead protection programs within watershed	Monitoring and Mapping Committee Ad hoc Committee	W	Cost and Hours TBD
	Identify responsible parties that would benefit from a Wellhead protection program	Monitoring and Mapping Committee Ad hoc Committee	W	Cost and Hours TBD
	Communities will examine potential to participate in the development of new wellhead protection program	Monitoring and Mapping Committee Ad hoc Committee	W	Cost and Hours TBD
Drinking water well test at time of sale ordinance	Health Dept/Ad Hoc Committee to draft ordinance to drinking water well testing.	Health Dept Ad hoc Committee	W	E342C 100-500 hours \$5,000 - \$15,000
	Health Dept and Ad Hoc committee to develop fee structure options for well water test.	Health Dept Water & Waste Ad hoc Committee	W	E342C 80-200 hours \$5,000 - \$10,000
	County & Permittees to adopt new drinking water well ordinance.	County Phase II Permittees	W	E342C 20-100 hours legal fees per community
	Health Dept. to provide training and educate new ordinance.	Health Dept	W	E342C Advertising: \$300-\$2000 100-400 hours
	Health Dept./Permittees to enforce new ordinance.	Health Dept or designated agency	W	TBD as part of ordinance
Map Arsenic Levels for drinking wells	Identify existing arsenic levels that have been tested in the watershed	Health Dept Ad hoc Committee	W	Cost and Hours TBD
	Make information available to decision makers and general public	To be Determined	W	Cost and Hours TBD

Goal	Objective	Action	Evaluation Mechanism	Included in SWPPI	Argentine Township	City of Fenton	City of Linden	Clayton Township	Fenton Township	Gaines Township	Tyrone Township	Genesee County
1 e	1	1	Done									
		2	List of potential Wellhead protection programs									
		3	New wellhead protection program adoption. Future recognition of WHP in WMP									
1 f	1	1	draft ordinance is produced and adopted by Committee									
		2	Document that outlines fee options and evaluates the practicality of each of them. Adoption of a funding options)									
		3	No. of ordinances supported locally									W
		4	Attendance to Training No. of advertisements.									
		5	# of Inspections Long Term Trend. Improvement in water quality, especially in rural areas.									W
1 g	1	1	Production of a County map indicating arsenic levels									
		2	# of hits on website No. of maps distributed. No. of drinking water tests requested.									

GOAL #2 – ESTABLISH A WATERSHED STEWARDSHIP ETHIC AMONG THE PUBLIC

Objective	Action	Responsible Parties	Schedule	Labor Hours & Material cost estimate
(PEP) Partner with existing programs that public can participate in	Establish/Strengthen through partnership the network of volunteer monitoring initiatives such as the River Cleanup/Benthic Monitoring/etc. Identify/prioritize needed projects.	Public Ed Committee Phase II Permittees	O	E 342C Part of Education Media Campaign budget TBD by Public Ed Committee
	Determine if there is room to improve existing programs or a need for new programs	Public Ed Committee	O	E342C Part of Public Ed Budget 20 hours/ year
	Implement improvements	Public Ed Committee	O	E 342C Part of Education Media Campaign budget
(PEP) Improve communication of water quality issues and their potential impact on the public	Update website with watershed wide educational material, monitoring results, permit information, meeting information and committees. Links from/to all community websites.	Public Ed Committee	O	E342C Part of Education Media Campaign Budget 80-200 hours/ year
	Determine best media to reach public and disseminate media through municipal and other methods.	Public Ed Committee Phase II Permittees	O	E342C Part of Public Ed Budget 20 hours/ month
	Implement campaign	Public Ed Committee Phase II Permittees	O	E342C Part of Public Ed Budget 20 hours/ year
Direct Mailing to Riparian Land owners (Rivers/Lakes)	Design riparian landowner educational materials emphasizing protecting and managing the riparian corridor.	SW Public Ed Committee	S	Brochures Part of Education Media Campaign Budget \$2,000-\$10,000
	Develop & Maintain a list of riparian landowners.	To be determined from Public Ed Committee	S	Develop Cost Analysis 20 hours per community
	Committee to implement mailings to land owners and updating public education materials.	To be determined from Public Ed Committee	S	\$4,000 - \$8000

Goal	Objective	Action	Evaluation Mechanism	Included in SWPPI	Argentine Township	City of Fenton	City of Linden	Clayton Township	Fenton Township	Gaines Township	Tyrone Township	Genesee County
2 a		1	Increased no of organizations willing to participate. Increased participation at events									
		2	Gap analysis with list of existing/ proposed programs and gaps									
		3	catalog changes to existitng new programs Social Survey									
2 b		1	No. of hits on website and downloads. List of information kept on website.	Y								
		2	No. of ad's, print material and units distributed (etc.) by each permittee Social survey	Y	O	O	O	O	O	O	O	O
		3	No. of ad's, print material and units distributed (etc.) by each permittee Social survey	Y								
2 c		1	Creation of riparian landowner brochure.									
		2	List developed with regularly scheduled updates (5 yrs)									
		3	No. of information packets distributed No. of hits on web site. Returned postcard from newsletter									

Objective	Action	Responsible Parties	Schedule	Labor Hours & Material cost estimate
Partner with existing household hazardous waster program committee to increase awareness and use	Meet with existing household hazardous waster program committee. Investigate options to assist program.	Program Organizers Public Ed Committee	L	Neglegable 10- 20 hours
	Conduct needs assessment that includes determining collection dates (annually, monthly or weekly) and locations.	Program Organizers Ad hoc Committee	L	Cost TBD 40-80 hours
	Determine feasibility of implementing recommendations from needs assessment.	Program Organizers Ad hoc Committee	L	\$1000 - \$5000
	Implement recommendations from needs study as completely as is feasible and identify future opportunities and actions.	SWM HHW Organizer	L	Cost and time TBD
Enhance Existing Benthic Monitoring Program (See Section 4 for results)	Meet with Flint River Watershed Coalition (FRWC) to identified opportunities to develop partnership(s).	Monitoring and Mapping Committee	C	Cost negligible 5 hours
	Identify additional stream segments that would be desirable to gather macroinvertebrate sampling data on.	FRWC	C	Costs Negligible 10-20 hours
	Determine what additional resources are needed to expand the monitoring program.	Monitoring and Mapping Committee FRWC	O	20 hours to meet to negotiate contract with FRWC
	Agree on monitoring enhancements and expansion; i.e. responsibility, schedule and cost.	Monitoring and Mapping Committee FRWC	O	E342C Part of Monitoring and Mapping. Total cost = \$ 5150/yr
	Implement a yearly schedule and set up dead lines displaying when stream sections will be inventory yearly.	FRWC SWM	O	E342C contract done by FRWC
	Develop a centralized, geo-referenced data warehouse for all monitoring information	Monitoring and Mapping Committee SWM	S	E342C Costs and hours TBD
	Conduct monitoring	FRWC	O	E342C contract done by FRWC

Goal	Objective	Action	Evaluation Mechanism	Included in SWPPI	Argentine Township	City of Fenton	City of Linden	Clayton Township	Fenton Township	Gaines Township	Tyrone Township	Genesee County
2 d		1	Increased demand/use of HHW program									
		2	List of potential improvements									
		3	Document that outlines fee options and evaluates the practicality of each of them. Adoption of a funding options)									
		4	Long-term: reduction of the presence of HH chemical in water quality monitoring samples.									
2 e		1	The 16 sites in Genesee county are tested consistently twice a year									
		2	Additional sites are identified.									
		3	Report of estimated additional resources needed.									
		4	Existing schedule Bi-annual (Spring/Fall) Sign Contract									
		5	Implementation of schedule.									
		6	Trend data is entered and analyzed All monitoring activities should be related together (e.g. road/stream, WQ)									
		7	Track WQ improvements over the permit cycle									

Objective	Action	Responsible Parties	Schedule	Labor Hours & Material cost estimate
Enhance Existing Project GREEN Program (for further information see Section 4).	Identify local schools to participate. Strive to increase volunteer levels to a sustainable level.	Monitoring & MappingComm. FRWC	O	E342C Done by contract with FRWC
	Meet with school district representatives to layout the framework for a monitoring program. Identify responsibilities, schedule and costs.	Monitoring & MappingComm FRWC	O	E342C Done by contract with FRWC
	conduct monitoring	FRWC Participating Schools	O	Contract Total=\$7500 40+ hours/year
	Develop a centralized, geo-referenced data warehouse for all monitoring information	Monitoring & MappingComm SWM	S	E342C Up to \$5000 20 hours/mo
	Work with teaches and school districts to provide resources to implement watershed education program. Coordinate with State curriculum.	Monitoring & MappingComm FRWC	C	E342C Done by contract with FRWC
	Implement education program and provide teachers and schools annually project materials.	FRWC SWM	O	E342C Done by contract with FRWC
Stream Crossing Watershed Survey with Photography.	Evaluate Road Commission road stream inspection program. Identify additional road/stream crossings information needs	Monitoring & MappingComm GCRC	C	Expansion of an existing GCRC program. Total Additional Cost \$500-\$2000
	Determine implementation options and responsibilities.	Monitoring & MappingComm GCRC	S	E342C 20 hours
	Identify training requirements and additional resources needed.	Monitoring & MappingComm GCRC	S	E342C 20 hours
	Develop and Implement schedule - identifying when each road/stream crossing will be inventoried	Monitoring & MappingComm GCRC	S	E342C 80 hours
	Develop a centralized, geo-referenced data warehouse for all monitoring information	Monitoring & MappingComm SWM	S	E342C Costs and hours TBD

Goal	Objective	Action	Evaluation Mechanism	Included in SWPPI	Argentine Township	City of Fenton	City of Linden	Clayton Township	Fenton Township	Gaines Township	Tyrone Township	Genesee County
2 f	1	1	Increase No. of organizations that able to participate in project Green and MDEQ curriculum.									
		2	Samples of DO, Ammonia, Nitrate, PH, Phosphate, and temperature are collected regularly.									
		3	Track WQ improvements over the permit cycle									
		4	Program provides results from all participating schools not just the 6 sponsored. Trend data is entered and analyzed All monitoring activities should be related together (e.g. road/stream, WQ)									
		5	Curriculum is created									
		6	Curriculum is being taught. Test results. Increase in volunteerism.									
2 g	1	1	Documentation of water and stream characteristics, plant life, foam, trash, etc.									
		2	Memo on options Presentations to appropriate authorities									
		3	No. of people trained. Program sustained over time.									
		4	Schedule is created and implemented. Photos are taken, reports are written									
		5	Expansion of existing database. Data entered and analysis performed.									

Objective	Action	Responsible Parties	Schedule	Labor Hours & Material cost estimate
Hot Spot Water Quality Monitoring as needed	Identify initial list of target sites, chemical tests, parameters and collection method.	Monitoring & MappingComm	O	Is part of routine IDEP procedure. No additional costs.
	Determine who will collect the samples (Consults, municipal, or volunteers), laboratory needs, costs and sources of funding	Monitoring & MappingComm	C	5 hours negligible costs
	Create a protocol manual for field work crews (which will define sites, lab results parameters and collection methods).	Monitoring & MappingComm	C	E342C costs part of IDEP contract with Tetra Tech
	Schedule and conduct field work done by professionals (Consultants)	Monitoring & MappingComm	O	10 per year \$1000-\$1500 per site. Total =\$10000-\$15000
	Enter results into centralized, geo-referenced data warehouse for all monitoring information	Monitoring & MappingComm	O	Database costs are part of contract with Tetra Tech
Produce demonstration projects for each of the following categories (Bio-retention, Low Impact Development) for new and retrofit sites	Identify potential existing sites for retrofit with bio-retention. Either on permittee property or by education of private development.	BMP Committee	W	Costs and hours TBD
	Work with and educate developers on the benefits of incorporating bio-retention or low impact development into their site design.	BMP Committee	W	Costs and hours TBD
	Develop mechanism for providing funding or incentives to impliment bio-retention or Low impact development.	BMP Committee	W	Not part of the E342C Budget
	Have demonstration sites built.	Developer or Permittee	W	Costs and hours TBD
	Track reduction of flow/pollutants	SWM	W	Costs and hours TBD
	Use as educational tool for more sites.	Public Ed Committee	W	Costs and hours TBD

Goal	Objective	Action	Evaluation Mechanism	Included in SWPPI	Argentine Township	City of Fenton	City of Linden	Clayton Township	Fenton Township	Gaines Township	Tyrone Township	Genesee County
2	h	1	Documentation of water quality associated with hot spots.									
		2	Plan and needs assessment created Advanced sample collection needs to be done by professionals									
		3	Sites and protocols established									
		4	Schedule established, WQ samples collected									
		5	Trend data is entered and analyzed All monitoring activities should be related together (e.g. road/stream, WQ)									
2	i	1	Sites identified and opportunities for redevelopment evaluated.									
		2	Relationships have been developed and an indication of their willingness to partner on a project.									
		3	Documentation of potential funding schemes and sources.									
		4	# of sites built		W	W	W	W	W	W	W	W
		5	Flow meters or other measurement devices.									
		6	Field trips, Presentations, signage, etc.									

GOAL #3 – REDUCE IMPACT FROM PEAK FLOWS

Objective	Action	Responsible Parties	Schedule	Labor Hours & Material cost estimate
Storm Water Ordinance	Create a storm water design standards/site plan manual.	SWM	S	E342C 200 - 2000 hrs
	Draft a stormwater ordinance that refers to the design/site plan manual that considers quantity and quality BMPs.	BMP Committee	S	E342C Costs TBD 40 -200 hrs per committee members
	Develop new County site plan review process with the following steps: Step 1: Pre-Development Step 2: Prepare site plan Step 3: Coordinated County Review Step 4: Municipal Review Step 5: Site Plan Step 6: Approval	BMP Committee	L	E342C Costs- \$5000 Hours 200+
	Develop permit fee structure to cover the cost of processing and enforcement with provision for future adjustments.	BMP Committee	L	E342C 20-100 hours \$2,500 - \$3,000
	Facilitate community acceptance through public forms and information packets.	SWM Phase II Permittees	L	40 -200 hrs per community
	Permittees to approve/adopt ordinance.	Phase II Permittees	L	Budget and time will vary
	Train communities and their staff on the storm water ordinance, process and design manual.	BMP Committee	L	\$500 10 hours
	SWM Permittees to enforce new storm water ordinance.	SWM Phase II Permittees	L	3 - 4 staff \$120-160 K/yr

Goal	Objective	Action	Evaluation Mechanism	Included in SWPPI	Argentine Township	City of Fenton	City of Linden	Clayton Township	Fenton Township	Gaines Township	Tyrone Township	Genesee County		
3 a		1	Creation of a design manual	Y										
		2	Draft ordinance is produced	Y										
		3	Process is adopted and followed by county and communities. New development beings to take different form.	Y										
		4	Document that outlines fee options and evaluates the practicality of each of them. Adoption of a funding option(s)	Y										
		5	Information sessions. No. of information packets distributed by permittees	Y	L	L	W	L	L	L	L	L	L	
		6	No. of Communities that adopt ordinance,	Y	L	L	W	L	L	W	L	L	L	
		7	No. of participants in training Advertising of training	Y										
		8	No. of citations No. of developments going thru the process.	Y	L	L	w	L	L	W	L	L	L	

Objective	Action	Responsible Parties	Schedule	Labor Hours & Material cost estimate
Maintain Drainage System to Minimize Flooding	Inventory and inspect Point Source Discharges within County drains and Watercourses.	SWM IDEP	O	E342C Routine IDEP
	Develop list of pollution problems along Natural Watercourses not covered by IDEP. (Bank erosion...)	Monitoring and Mapping Committee	O	Negligible
	Determine mechanism under which maintenance/repair can be done to Natural Watercourses	Monitoring and Mapping Committee	W	Will have to be funded outside of E342C. Grants are most likely
	Develop a schedule of routine maintenance for County Drains	SWM BMP Committee Phase II Permittees	C	Routine and preventative maintenance is done under PA 40 (The Drain Code) and paid for by special assessment
Protect existing floodplains and wetlands from being filled or developed	Identify existing floodplains and wetlands	SWM	W	E342C 120 hrs @ \$50 hr = \$6000 FEMA floodplain is start
	Prioritize existing floodplains and wetlands based on amenity and ability to protect	SWM	W	E342C 40 hrs @ \$50 hr=\$2000
	Determine mechanism under which floodplains & wetlands can be protected	Ad hoc Committee Phase II Permittees	W	Cost shared, TBD
	County and communities implement recommended mechanism's).	County Phase II Permittees	W	Cost shared, TBD
Monitor Water Quantity to measure Change	Gather data from existing stream gauges and corresponding rain gauges.	Monitoring and Mapping Committee	S	WWS has a grant to cover this.
	Track water flows as they relate to rain events	SWM	S	E342C Costs and hours TBD
	Enter results into centralized, geo-referenced data warehouse for all monitoring information	SWM	S	E342C Costs and hours TBD
	Add stream/ precipitation gages as needed in key locations.	Monitoring and Mapping Committee WWS	L	E342C Costs and hours TBD

Goal	Objective	Action	Evaluation Mechanism	Included in SWPPI	Argentine Township	City of Fenton	City of Linden	Clayton Township	Fenton Township	Gaines Township	Tyrone Township	Genesee County
3	b	1	Regular updating of inventory	Y								
		2	Work list is developed.	Y								
		3	List of options is created.	Y								
		4	Since 2000 the Drain Co. has performed preventative maintenance as a standard operating procedure. Schedule is created. Reduce complaint calls	Y								
3	c	1	List created									
		2	Prioritization list is developed.									
		3	List of options is created.		W	N/A	W	W	W	L	N/A	L
		4	Plan for protection is devised. Permittees follow plan. Reduction in the rate of loss of wetlands / floodplain dev.		W	N/A	W	W	W	W	W	L
3	d	1	Establish baseline measure	Y								
		2	Use baseline measure to gage future flows vs. current flows	Y								
		3	Trend data is entered & analyzed All monitoring activities should be related together (e.g. road/stream, WQ)	Y								
		4	Gauges added.	Y								

GOAL #4 - CREATE, RESTORE & ENHANCE RECREATIONAL USE

Objective	Action	Responsible Parties	Schedule	Labor Hours & Material cost estimate
(PEP) Recreational Uses	Committee/Parks & Rec. need to promote recreational programs through website, brochures, and community news.	Gen. Co. Parks & Rec Public Ed Committee	S	E342C – Costs and hours TBD
	Distribute materials to at local parks and recreational places.	Gen. Co. Parks & Rec Public Ed Committee	S	E342C- Costs and hours TBD
Protect /Expand Parks Trails and River Walk System	Coordinate with existing Greenways Initiative to compile a list of existing and proposed greenways	Public Ed Committee	L	E342C Costs and hours TBD
	Prioritize list for protection and for future enhancements (e.g. increased accesses)/ acquisition of property- if necessary	Public Ed Committee	L	- Costs TBD 80 200 hours for committee & contractor
	Identify methods for acquiring land (along water) for recreation/ Wildlife protection	Public Ed Committee	W	E342C - Costs TBD 80 200 hours for committee & contractor
	Implement enhancement and protection based on list of priorities and sign contracts if necessary	Public Ed Committee SWM	W	E342C - Costs TBD 80 200 hours for committee & contractor

Goal	Objective Action	Evaluation Mechanism	Included in SWPPI	Argentine Township	City of Fenton	City of Linden	Clayton Township	Fenton Township	Gaines Township	Tyrone Township	Genesee County
4 a	1	# of hits on website # of flyers distributed	Y	O	S	W	S	S	S	S	S
	2	No. of brochures, web hits, etc. Social survey.	Y	O	S	W	S	S	S	S	S
4 b	1	Meeting with Greenways occurs. List of existing and proposed areas compiled.									
	2	List of prioritized areas is created.									
	3	Acres of Land Acquired. Natural Inad vs. developed land calculations									
	4	Acres of Land Acquired. Natural Inad vs. developed land calculations									

GOAL #5 - RESTORE & PROTECT AQUATIC LIFE, WILDLIFE & HABITAT

Objective	Action	Responsible Parties	Schedule	Labor Hours & Material cost estimate
Re-establish stream buffers	Draft Buffer Strip Ordinance	BMP Committee	L	E342C 100-500 hours \$5,000 - \$15,000
	BMP committee to develop fee structure options for buffer strip ordinance.	BMP Committee	L	E342C \$5000
	County and permittees adopt new county wide re-establish stream buffer strips ordinance.	County Phase II Permittees	L	20- 100 hours legal fees vary by community
	Train and educate communities and staff about the new stream buffer strip ordinance.	To be determined	L	10 hours per community staff costs vary by community
	County/Permittees need to enforce new stream buffer strip ordinance.	County Phase II Permittees	L	Enforcement costs will vary by community
Protect key locations of threatened and endangered species and habitat	Identify key locations of threatened and endangered species and habitat.	Monitoring and Mapping Committee	W	Ongoing Program with MSUE 60 hours for committee, 100 hours for contractors
	Develop a plan to protect areas, or stabilize and enhance the habitat	Monitoring and Mapping Committee	W	E342C 200 = hours Costs TBD
	County/Permittees need to implement protection plan for threatened/endangered species.	County Phase II Permittees	W	Costs and hours TBD
Identify key soil erosion issues/ locations.	Work with soil conservation agency or NRCS to identify key soil erosion problems. Identify if the problem occurs due to development.	BMP Committee	W	E342C 80 hrs @\$50/hr=\$3500
	Coordinate needs/ efforts with SESC program to correct problems under their jurisdiction	NRCS SESC Program	W	E342C 200+ hours Costs TBD

Goal	Objective	Action	Evaluation Mechanism(Included in SWPPI	Argentine Township	City of Fenton	City of Linden	Clayton Township	Fenton Township	Gaines Township	Tyrone Township	Genesee County	
5 a		1	Draft ordinance is produced	Y									
		2	Document that outlines fee options and evaluates the practicality of each of them. Adoption of a funding option(s)	Y									
		3	No. of ordinances supported locally	Y	W	L	W	L	W	W	W	L	
		4	Attendance to Training Advertising information	Y									
		5	Citations issued. No. of miles of buffer strips implemented.	Y	W	L	W	L	W	W	W	L	
5 b		1	List created	Y									
		2	Develop Plan and Options for implementation										
		3	Plan is implemented locally. No. of Acres of habitat areas are preserved.		W	L	W	W	W	W	W	L	
5 c		1	Problems identified, prioritized and documented										
		2	Corrective measures proposed and implemented.										

GOAL #6 – MDEQ REQUIREMENT – GOOD HOUSEKEEPING ACTIVITIES

Objective	Action	Responsible Parties	Schedule	Labor Hours & Material cost estimate
Ensure Maintenance activities, schedules, and inspection procedures for storm water structural controls are appropriate.	Maintain and restore existing streams and channels that are within your system.	GC Parks&Rec GCRC, GCDC Permittees	S	Budget and time will vary for each permittee
	Install/maintenance soil erosion and sedimentation controls BMPs measures that are within your system.	GC Parks&Rec GCRC, GCDC Permittees	S	Budget and time will vary for each permittee
	Inspect maintenance practices and construction projects for storm and combined sewers that are within your system.	GC Parks&Rec GCRC, GCDC Permittees	S	Budget and time will vary for each permittee
	Maintain infrastructure failures (sink hole repairs) to roads and bridges, to prevent sediment buildup that are within your system.	GC Parks&Rec GCRC, GCDC Permittees	S	Budget and time will vary for each permittee
	Track inspections and maintenance functions related to your storm water infrastructure/system.	GC Parks&Rec GCRC, GCDC Permittees	S	Budget and time will vary for each permittee
Controls for reducing or eliminating the discharges of pollutants from streets, roads, highways, parking lots, and maintenance.	Clean, replace, and repair catch basins throughout your system to prevent unnecessary discharge to storm sewers. Also construction new catch basins if needed.	GC Parks&Rec GCRC, GCDC Permittees	S	Budget and time will vary for each permittee
	Verify the training and education of hazardous material personal on the proper spill/hazard response.	GC Parks&Rec GCHD GCRC, GCDC Permittees	S	Budget and time will vary for each permittee
	Sweep/clean municipal owned system parking lots and streets on regular basis to minimize storm water runoff.	GC Parks&Rec GCRC, GCDC Permittees	S	Budget and time will vary for each permittee
	Create/promote existing Adopt-A-River or other similar programs to pick up trash/liter annually or biannually, to control trash entering watercourse.	GC Parks&Rec GCRC, GCDC Permittees	S	Budget and time will vary for each permittee

Goal	Objective	Action	Evaluation Mechanism	Included in SWPPI	Argentine Township	City of Fenton	City of Linden	Clayton Township	Fenton Township	Gaines Township	Tyrone Township	Genesee County
6 a		1	Documented miles of stream bank restoration.	Y	O	N/A	W	N/A	S	N/A	S	S
		2	New structures, Maintenance schedules, Record of activities	Y	O	W	W	W	S	L	L	S
		3	Maintenance schedules, Record of activities	Y	S	S	W	S	S	W	O	S
		4	Structures are maintained and restored to minimize stormwater impacts (i.e. follows design and or BMP manual).	Y	S	S	W	S	N/A	N/A	O	S
		5	Inspection schedule Maintenance schedule Follows design and or BMP manual.	Y	S	S	W	S	S	S	O	S
6 b		1	Maintenance schedule. Amount of debris/sediment removed.	Y	O	S	W	S	N/A	S	O	S
		2	No. of participants in training Advertising of training	Y	O	S	W	S	S	S	N/A	S
		3	Maintenance schedule. Amount of debris/sediment removed.	Y	O	W	W	W	N/A	O	O	S
		4	Adopt-A-River program is expanded. annual cleanup occurs in Phase II Permittees.	Y	L	W	W	W	N/A	N/A	N/A	S

Objective	Action	Responsible Parties	Schedule	Labor Hours & Material cost estimate
Procedures for the proper disposal of operation and maintenance waste from the separate storm water drainage system (dredge spoil, accumulated sediments, floatables, and other debris) by street sweeping, catch basin clean out and vacuuming debris.	Dispose of operational and maintenance waste through a local facility that accepts and processes maintenance waste.	GC Parks&Rec GCDC County Permittees	S	Budget and time will vary for each permittee
Ensure that flood management projects assess the impacts on the water quality of the receiving waters.	Evaluate current procedures to ensure that flood management projects assess the impacts on the water quality of the receiving waters and, whenever possible, examine existing water quantity structures for incorporation of additional water quality protection devices or practices. Make changes to the program as appropriate to your system.	GC Parks&Rec GCRC GCDC Phase II Permittees	S	Budget and time will vary for each permittee
Examine existing water quantity structures for incorporation of additional water quality protection devices or practices.	When existing storm water quantity structures are maintained, evaluate the ability to adopt additional quality measures in your system.	GC Parks&Rec GCRC GCDC Phase II Permittees	S	Budget and time will vary for each permittee
	Seek opportunities to implement additional measures to existing structures.	GC Parks&Rec GCRC GCDC Phase II Permittees	S	Budget and time will vary for each permittee

Goal	Objective	Action	Evaluation Mechanism	Included in SWPPI	Argentine Township	City of Fenton	City of Linden	Clayton Township	Fenton Township	Gaines Township	Tyrone Township	Genesee County
6 c	1	1	Waste material is disposed of in an appropriate manner.	Y	O	S	W	S	N/A	S	O	S
6 d	1	1	Procedure is adopted that ensures flood plain management projects are evaluated.	Y	W	W	W	S	S	W	W	S
6 e	1	1	Water quality measures or processes are adopted as appropriate. Measures installed follow BMP manual.	Y	L	S	W	S	N/A	W	W	S
		2	Existing BMPs receive enhancements (where appropriate).	Y	L	S	W	S	N/A	W	W	S

Objective	Action	Responsible Parties	Schedule	Labor Hours & Material cost estimate
Reduce the discharge of pollutants related to application of pesticides, herbicides, and fertilizers applied in the permittee's regulated area.	Use low phosphorous fertilizers. Permittee will have soil testing performed, prior to application, and fertilizer application will be based on soil testing results.	BMP Committee GC Parks&Rec	S	Budget and time will vary for each permittee
	Any herbicides applied should be applied by a licensed individual and the herbicides applied should be appropriate for use.	GC Parks&Rec GCRC GCDC Phase II Permittees	S	Budget and time will vary for each permittee
	Apply pesticides sparingly.	GC Parks&Rec GCRC GCDC Phase II Permittees	S	Budget and time will vary for each permittee
	Store pesticides, herbicides and fertilizers in dry, self contained areas that are not connected to the storm water drainage system.	GC Parks&Rec GCRC GCDC Phase II Permittees	S	Budget and time will vary for each permittee

Goal	Objective	Action	Evaluation Mechanism	Included in SWPPI	Argentine Township	City of Fenton	City of Linden	Clayton Township	Fenton Township	Gaines Township	Tyrone Township	Genesee County
6 f	1		Measure reduction or elimination of phosphorous and or fertilizer due to permittee's change in procedure.	Y	N/A	S	W	N/A	N/A	N/A	W	S
	2		O&M procedures are reviewed and if need be adjusted. Education and training sessions occur. No. of participants in training. Reduce use of herbicide by permittees	Y	O	S	W	N/A	S	N/A	S	S
	3		O&M procedures are reviewed and if need be adjusted. Education and training sessions occur. No. of participants in training. Reduce use of pesticides by permittees	Y	S	N/A	W	S	N/A	N/A	S	S
	4		O&M procedures are reviewed and if need be adjusted. Education and training sessions occur. No. of participants in training. Material handling SOP are adjusted.	Y	N/A	N/A	W	N/A	N/A	N/A	S	S

GOAL #7 – MDEQ REQUIREMENT – POST CONSTRUCTION CONTROLS

Objective	Action	Responsible Parties	Schedule	Labor Hours & Material cost estimate
Evaluate and implement site appropriate, cost-effective structural and nonstructural best management practices (BMPs) that prevent or minimize the impacts on water quality.	Develop a BMP manual including design standards, inspection requirements, maintenance requirements, and pollutant removal levels.	GCRC GCDC Phase II Permittees	S	Budget and time will vary for each permittee
	Phase II Permittees and County to adopt and implement BMPs manual. When possible implement additional BMPs to protect water quality in both new development and in existing areas.	GCRC GCDC Phase II Permittees	S	Budget and time will vary for each permittee
Establish long-term operation and maintenance practices for storm water BMPs on private property.	Committee and County to review existing O&M practices as it relates to the BMP manual from 3a1 for their impacts on stormwater/water quality on new development within your jurisdiction.	BMP Committee GCRC GCDC Phase II Permittees	L	Budget and time will vary for each permittee
	Develop procedures to enforce O & M practices on private storm water systems.	BMP Committee GCRC GCDC Phase II Permittees	L	Budget and time will vary for each permittee
	Determine best method to adopt procedures for instituting new O&M practices.	BMP Committee GCRC GCDC Phase II Permittees	L	Budget and time will vary for each permittee

Goal	Objective	Action	Evaluation Mechanism	Included in SWPPI	Argentine Township	City of Fenton	City of Linden	Clayton Township	Fenton Township	Gaines Township	Tyrone Township	Genesee County	
7 a	1	1	Assessment is completed. BMP Manual created No. of people that use the manual. SOP are adjusted	Y	L	S	W	S	S	W	W	S	
			2	No. of permittees adopting BMP manual. Additional measures or processes are adopted (if necessary).	Y	L	S	W	S	S	W	W	S
7 b	1	1	Completion of review. Ability to determine needed O&M procedures	Y	L	L	W	L	L	W	W	L	
			2	O&M procedures developed and supported by local communities.	Y	L	L	W	L	L	W	W	L
			3	O&M manual/ procedures reflect new requirements	Y	L	L	W	L	L	W	W	L

GOAL #8 – MDEQ REQUIREMENT – OPPORTUNITIES FOR SUSTAINABILITY

Objective	Action	Responsible Parties	Schedule	Labor Hours & Material cost estimate
Increase funding available for implementation.	Identify existing federal, state, and local funding opportunities.	Ad hoc Committee	W	10,000 250-500 Hrs (includes action 3)
	Coordinate the development of grant proposals.	SWM	W	100-150 hrs
	Create new opportunities for funding.	SWM and all sub-committees	W	10,000 250-500 Hrs (includes action 1)
Institutionalize the committee structure.	Phase II permittee representative to site on Public Ed Committee.	Phase II Permittees GSD (To represent the School Districts)	O	100+ hrs/yr for administrator 24+ hrs/yr for members. Additional hours will be needed for any project implementation undertaken
	Phase II permittee representative to site on BMP Committee.	Phase II Permittees	O	100+ hrs/yr for administrator 24+ hrs/yr for members. Additional hours will be needed for any project implementation undertaken
	Phase II permittee representative to site on Monitoring and Mapping Committee.	Phase II Permittees	O	100+ hrs/yr for administrator 24+ hrs/yr for members. Additional hours will be needed for any project implementation undertaken
	Phase II permittee representative to site on an Ad hoc Committee.	Phase II Permittees	S	100+ hrs/yr for administrator 24+ hrs/yr for members. Additional hours will be needed for any project implementation undertaken

Goal	Objective	Action	Evaluation Mechanism	Included in SWPPI	Argentine Township	City of Fenton	City of Linden	Clayton Township	Fenton Township	Gaines Township	Tyrone Township	Genesee County
8 a		1	Funding Strategies and opportunity document created.									
		2	Multi-jurisdictional grants are applied for and received.									
		3	Coordinated efforts present previously unavailable funding opportunities.									
8 b		1	Meeting Minutes Action plan items are implemented. Attendance	Y	O	N/A	N/A	N/A	N/A	S	S	O
		2	Meeting Minutes Action plan items are implemented. Attendance	Y	N/A	N/A	O	N/A	O	N/A	N/A	O
		3	Meeting Minutes Action plan items are implemented. Attendance	Y	N/A	O	N/A	O	N/A	N/A	N/A	O
		4	Meeting Minutes Action plan items are implemented. Attendance	Y	S	S	W	W	S	W	W	S

Table 8-1: Benefits of each Objective

	Objectives	Benefits
1a	Time of Sale Septic Ordinance	<ul style="list-style-type: none"> Reduction in bacteria levels in waterways. (D)
1b	Connect to Available Sewer System (beyond state building code)	<ul style="list-style-type: none"> Reduction in bacteria levels in waterways. (D) Compel more compact urban design. (I)
1c	(PEP) Homeowner education at Time of Sale (Septic, lawn, leaves, grass, carwash, etc)	<ul style="list-style-type: none"> Increase in level of public awareness of homeowner actions on the health of local waters. (D) Reductions in pollutants generated by homeowners from reaching waterways. (I)
1d	Disconnecting of Footing Drains from Sanitary	<ul style="list-style-type: none"> Reduced SSO events. (D) Reduced flashiness in waterways. (D)
1e	Identify Existing Wellhead Protection Programs	<ul style="list-style-type: none"> Avoid duplication of effort, Maximize between program efficiencies. (D)
1f	Drinking water well test at time of sale ordinance	<ul style="list-style-type: none"> Protect public health. (D) Record of polluted groundwater. (D, if a database is maintained)
1g	Map Arsenic Levels for drinking wells	<ul style="list-style-type: none"> Protect public health. (D) Adjust development priorities. (I)
2a	(PEP) Promote existing programs that public can participate in	<ul style="list-style-type: none"> Extend Phase II programs presence in community. (D) Expand resource base to deliver Phase II program. (D)
2b	(PEP) Improve communication of water quality issues and their potential impact on the public	<ul style="list-style-type: none"> Raise public awareness about water quality and quality of life. (D)
2c	Direct Mailing to Riparian Land owners (Rivers/Lakes)	<ul style="list-style-type: none"> Change behavior of those having greatest impact on waterways. (D)
2d	Partner with existing household hazardous waster program committee to evaluate existing program and expand program if necessary.	<ul style="list-style-type: none"> Additional reductions in volume of household hazardous waste entering waterways. (D)
2e	Enhance Existing Benthic Monitoring Program (see Section 4)	<ul style="list-style-type: none"> Improved understanding on the health of local waterways. (D)
2f	Enhance Existing Project GREEN Program	<ul style="list-style-type: none"> Improved understanding on the health of local waterways. (D)
2g	Stream Crossing Watershed Survey with Photography.	<ul style="list-style-type: none"> Improved understanding on the health of local waterways. (D)
2h	Hot Spot Water Quality Monitoring as needed	<ul style="list-style-type: none"> Improved understanding on the health of local waterways. (D)
2i	Produce demonstration projects for each of the following categories (Bio-retention, Low Impact	<ul style="list-style-type: none"> Help public and developers visualize some of the infrastructure actions being proposed under Phase II. (D) Improve water quality in immediate vicinity.

	Development) for new and retrofit sites	(D)
3a	Storm Water Ordinance	<ul style="list-style-type: none"> • Ongoing structural changes to improve the management of stormwater throughout the watershed. (D)
3b	Maintain Drainage System to Minimize Flooding	<ul style="list-style-type: none"> • Ongoing structural changes to improve the management of stormwater and minimize flooding throughout the watershed. (D)
3c	Protect existing floodplains and wetlands from being filled or developed	<ul style="list-style-type: none"> • Protection of excess natural storage capacity on the landscape. (D) • Protection of vital components of the landscape that provide habitat connectivity and environmental services. (D) • Reduced financial burden on communities (floodplain). (D) •
3d	Monitor Water Quantity to measure change	<ul style="list-style-type: none"> • Improved understanding on the health of local waterways. (D) • Provide information that will help prioritize future activities. (I)
4a	(PEP) Promote Local Recreational Opportunities	<ul style="list-style-type: none"> • Increase public awareness/appreciation and use of local natural resources. (D) • Increase desire to protect these resources. (I)
4b	Protect /Expand Parks Trails and River Walk System	<ul style="list-style-type: none"> • Increase public awareness/appreciation and use of local natural resources. (D) • Increase desire to protect these resources. (I)
5a	Re-establish stream buffers	<ul style="list-style-type: none"> • Reduce pollutant loadings reaching waterways. (D) • Allow for more natural stream processes to occur. (D)
5b	Protect key locations of threatened and endangered species and habitat	<ul style="list-style-type: none"> • Protection of vital components of the landscape that provide habitat connectivity and environmental services. (D) • Increases species populations and diversity. (D)
5c	Identify key soil erosion issues/locations	<ul style="list-style-type: none"> • Reduce volume of sediments entering local waterways (D) • Increases in water quality (D)
6a	Ensure Maintenance activities, schedules, and inspection procedures for storm water structural controls are appropriate.	<ul style="list-style-type: none"> • Reductions in pollutants generated by municipal activities from reaching waterways. (D)
6b	Controls for reducing or eliminating the discharges of pollutants from streets, roads, highways, parking lots, and	<ul style="list-style-type: none"> • Reductions in pollutants generated by municipal activities on municipal property from reaching waterways. (D)

	maintenance.	
6c	Procedures for the proper disposal of operation and maintenance waste from the separate storm water drainage system (dredge spoil, accumulated sediments, floatables, and other debris) by street sweeping, catch basin clean out and vacuuming debris.	<ul style="list-style-type: none"> • Reductions in pollutants generated by municipal activities on municipal property from reaching waterways. (D)
6d	Ensure that flood management projects assess the impacts on the water quality of the receiving waters.	<ul style="list-style-type: none"> • Improved water quality over previous flood management project/infrastructure. (D)
6e	Examine existing water quantity structures for incorporation of additional water quality protection devices or practices.	<ul style="list-style-type: none"> • Reductions in pollutants generated by municipal activities on municipal property from reaching waterways. (D)
6f	Reduce the discharge of pollutants related to application of pesticides, herbicides, and fertilizers applied in the permittee's regulated area.	<ul style="list-style-type: none"> • Reductions in pollutants generated by municipal activities on municipal property from reaching waterways. (D)
7a	Evaluate and implement site appropriate, cost-effective structural and nonstructural best management practices (BMPs) that prevent or minimize the impacts on water quality. *	<ul style="list-style-type: none"> • Reductions in pollutants generated by municipal activities on municipal property from reaching waterways. (D)
7b	Establish long-term operation and maintenance practices for storm water BMPs on private property.	<ul style="list-style-type: none"> • Long-term maintenance of privately operated stormwater structures this reducing the public's future financial burden. (D) •
8a	Increase funding available for implementation.	<ul style="list-style-type: none"> • Stormwater control will be implemented at a more rapid rate. (D) • Stormwater management will become common practice. (I)
8b	Institutionalize the committee structure.	<ul style="list-style-type: none"> • Permittees will deliver a uniform program throughout the County. (D) • Savings will be realized through the cooperative effort. (D) • Action Items will be implemented. (D)

D = Direct Benefit as a result of implementing the objective.
I = Indirect Benefit as a result of implementing the objective.