

Appendix A
TMDL Implementation Planning in the Huron Chain of Lakes Watershed
Tracking Code #8635-0009
Work Plan

Task/SubTask	Responsible Agency	Budget Category (estimate)	Products
1. Obtain, Finalize & Sign Contract (0% of LCDC time)	LCDC		- Signed Project Contract
2. Consolidate storm sewer system map (25%)			Products
<p>a. TMDL area partners collect and submit GIS or other mapping information to contractor. Partners will meet to discuss standards for GIS map information.</p> <p>b. Consolidate mapping information into a complete map for the TMDL watersheds. If there is enough funding, the rest of the HCOL watershed will be mapped as well. Where possible, complete storm sewer systems will be collected, but discharge points for each partner will be included at minimum. Each watershed partner will be responsible for the quality and completeness of its own data. All discharge points will have latitude/longitude coordinates. A good faith effort will be made to encourage watershed partners to improve storm sewer system information where necessary, and, if resources permit, assistance will be provided. Field verification will be conducted if resources permit. Complete discharge mapping is ultimately the responsibility of watershed partner agencies. Other available GIS information will be collected and geo-referenced to the storm sewer system map. Coverages such as land use/land cover, parcel maps, septic vs. sewer, and aerial photography are some examples of additional data that will be collected. If needed, aerial photo interpretation may be conducted in TMDL critical areas. All data collection will be focused on TMDL drainage area. All data will be consistently geo-referenced. GIS data will be</p>	<p>Partners</p> <p>Contractor and LCDC, with partners</p> <p>Contractor with LCDC and partners</p>	<p><u>Match</u> Salary* \$763</p> <p>Contract \$4,000</p> <p><u>Grant</u> Salary \$2,126</p> <p>Contract \$8,000</p> <p>Travel \$91</p>	<p>- Set of discharge points and storm system maps</p> <p>- Final storm system map, with discharge points, for the TMDL watersheds.</p> <p>- TMDL catchment analysis</p>

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<p>submitted according to the DNRE Electronic Geospatial Data and Format Guidance. The storm sewer system map will be finalized and made available via the LCDC and HRWC websites. Potential source catchments will be identified, through GIS analysis. A statistical analysis of catchment attributes, such as percentages of septic systems, imperviousness, road density, lawn, etc. will be generated to provide information for selecting monitoring sites (in Task 3) and developing implementation projects (in Task 5).</p>			
<p>3. Develop TMDL monitoring plan (10%)</p>		<p>Budget Category</p>	<p>Products</p>
<p>a. Consolidate monitoring information and previous model results for the TMDL watersheds. All available information from original TMDL development, TMDL implementation plans and other existing monitoring programs will be collected and organized. Some baseline monitoring has already been conducted.</p> <p>b. Develop draft monitoring framework for the TMDL watersheds. In consultation with DNRE, evaluate existing monitoring information to develop a monitoring framework for further discussion. Analysis will include a statistical power analysis to determine the necessary monitoring frequency. Potential monitoring of new monitoring sites (to be added to existing sites) will be evaluated using information from Task 2 and 3a to determine high-priority sampling sites.</p> <p>c. Develop complete draft monitoring plan. Meetings will be established to consult with partners, DNRE, potential laboratory staff, and others to discuss details of the monitoring plan. Among items discussed will include initial and follow-up monitoring sites and strategies; baseline and storm sampling strategies; parameters to be analyzed (phosphorus and total suspended solids at minimum); data</p>	<p>Contractor with LCDC and partners</p> <p>Contractor</p> <p>Contractor, with LCDC and partners</p>	<p>Grant Salary \$851</p> <p>Contract \$10,000</p>	<p>- Compilation of site and monitoring information</p> <p>- Draft monitoring framework</p> <p>- Draft monitoring plan</p>

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<p>storage, analysis and reporting; and integration with existing monitoring programs. An important early step will be to identify potential analytical labs, along with their costs, analytical resolution and capacity. Total suspended solids will be collected to help distinguish particulate from dissolved phosphorus sources.</p> <p>d. Develop and submit a QAPP to the DNRE for review and approval at least nine (9) weeks prior to monitoring. Monitoring will not begin (under task 4) without DNRE approval. Any work completed prior to approval will not be reimbursed or counted as match.</p> <p>e. Finalize monitoring plan. Following revision of initial plan, development of a QAPP and initial hot spot monitoring (task 4), the monitoring plan will be finalized.</p>	<p>Contractor</p> <p>Contractor, with LCDC</p>		<p>- QAPP for monitoring program</p> <p>- Final monitoring plan</p>
<p>4. Conduct hot spot monitoring (30%)</p>	<p>Responsible agency</p>	<p>Budget</p>	<p>Products</p>
<p>a. Select target hot spots for monitoring. Based on the draft monitoring plan, select hot spot sites for initial monitoring. Develop a schedule for baseline and wet weather monitoring for hot spot sites. At minimum, the six current monitoring sites will be sampled twice monthly and at least 4 additional sites will be sampled. Initial ambient tributary sites will be located near tributary mouths. Sampling will progress upstream in the tributaries with the highest mean concentrations (or mean loads) of total phosphorus to sample between major discharge points where possible. The intent is to isolate different potential source drainages to determine if there are hot spot areas that are contributing more pollutants than others. Such hot spot areas would then be further sampled to narrow down potential sources. Multiple samples from at least 4 upstream sites (more if time and resources allow) will be collected. The LCDC has one auto-sampler, which will be used to sample at least 4 events where such information is likely to provide the greatest use in determining the stormwater contribution of pollutants. If</p>	<p>Contractor, with LCDC and partners</p> <p>Contractor, with LCDC</p> <p>Contractor</p> <p>Contractor, with LCDC and partners</p>	<p><u>Match</u> Contract \$2,900</p> <p>Supplies \$2,300</p> <p><u>Grant</u> Salary \$2,552</p> <p>Contract \$31,384</p> <p>Supplies \$1,500</p> <p>Travel \$92</p>	<p>- Hot spot locations and monitoring schedule</p> <p>- Monitoring data</p>

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<p>another auto-sampler can be obtained, more storm samples will be collected.</p> <p>b. Conduct initial monitoring. This monitoring will consist of twice monthly baseline sampling and storm event sampling at hot spot sites.</p> <p>c. Analyze initial results and conduct follow-up monitoring. Follow-up to confirm and characterize “hot spot” discharge points or other contributing areas. Analysis will be directed to characterize loading or contribution of relevant impairments from different sources or areas in TMDL drainages.</p> <p>d. Create monitoring report. At the completion of the project, a report will be developed to include the monitoring analysis and update conclusions from previous monitoring. In-stream water quality data will be submitted to the DNRE on the STORET template.</p> <p>e. A completed Contractor Qualification Form will be submitted for any contractor not yet determined</p>			<ul style="list-style-type: none"> - Monitoring report - Contractor Qualification Form
5. Update TMDL and Watershed Plans (25%)			
<p>a. Update TMDL and WMP action plans. Following development of the monitoring plan and initial hot spot monitoring, existing TMDL implementation plans will be reviewed and evaluated. A report on suggested revisions will be developed and discussed with the partners. An effort will be made to make recommended actions specific in location and content to facilitate development of future BMP projects. TMDL action plans will be finalized. A new TMDL plan will be developed for the Strawberry Lake watershed, which includes Ore Lake and Davis Creek, among other drainages. The Brighton Lake TMDL Implementation Plan will be updated. Plans will include the following:</p> <ul style="list-style-type: none"> - an evaluation of the location, nature and degree of point and nonpoint sources contributing TMDL pollutants to 	<p>Contractor</p> <p>Contractor, with LCDC and partners</p>	<p><u>Match</u> Salary \$764</p> <p>Contract \$1,400</p> <p><u>Grant</u> Salary \$2,126</p> <p>Contract \$30,785</p>	<ul style="list-style-type: none"> - New TMDL implementation plan for Strawberry Lake (including Ore Lake and Davis Creek drainage). - Updated TMDL implementation plan for Brighton Lake.

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<p>the permittee's MS4</p> <ul style="list-style-type: none"> - a set of planned efforts with commitments by responsible parties, including milestones and a timeline to reduce the discharge of the TMDL pollutant consistent with the TMDL (e.g., location-specific BMPs, information/education activities, and land use activities such as ordinance improvements). <p>b. At least one project design plan will be developed. If time and budget allow, effort will be made to develop additional detailed design plans for high priority BMP projects. A contractor will be sought to develop engineering design plans to facilitate project development. A Contractor Qualification Form will be submitted for any contractor not yet determined.</p>		<p>Travel \$92</p>	<ul style="list-style-type: none"> - Contractor Qualification Form - Implementation project design(s)
<p>6. Project Administration (10%)</p>			<p style="text-align: center;">Products</p>
<ul style="list-style-type: none"> a. Submit Quarterly Status Reports <i>per the Status Report and Project Documentation Requirements</i>. b. All GIS data will be submitted according the DNRE <i>Electronic Geospatial Data and Format Guidance</i>. c. Submit Quarterly American Recovery and Reinvestment Act (ARRA) reports. Acknowledgement of ARRA funding on products will be done in accordance with the American Recovery and Reinvestment Act General Guidelines for Emblem and Logo Applications and Michigan Economic Recovery Office Logo Terms of Use. d. Submit all draft and final products and deliverables in both hard copy and electronic format (as specified in the final contract), which include the appropriate logos, consistent with the <i>Nonpoint Source (NPS) Grants Administration Summary Sheet</i> on the NPS web page. e. Submit draft Project Report, and new/updated TMDL Implementation Plans, 45 days prior to the end of project; incorporate DNRE comments. f. Submit final Project Report, and TMDL Implementation Plans, 30 days prior to the end of the contract. g. Submit a Project Fact Sheet using the DNRE-NPS template. 	<p>LCDC LCDC</p> <p>LCDC</p> <p>LCDC LCDC</p>	<p><u>Grant</u> Salary \$851</p> <p>Contract \$8,000</p> <p>Supplies \$88</p>	<ul style="list-style-type: none"> - Quarterly Status Reports - GIS maps - Quarterly ARRA reports - All draft and final products with logos - Final Project Close-out Report - TMDL Implementation Plans - Updated WMP - Fact Sheet - Data - Release of Claims Form - Submittal of all products will be 3 hard copies and 1 electronic version, at a minimum

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Draft is due 45 days prior to the end of the contract and the final is due with the Final Project Report.			

LCDC – Livingston County Drain Commissioner’s office.

Partners – Huron Chain of Lakes members of the Livingston Watershed Advisory Group

* **Salary totals include fringe and indirect costs**

**TMDL Implementation Planning in the Huron Chain of Lakes
Livingston County Drain Commissioner**

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Project Timetable

Project Tasks	2010												2011									
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	
1. Obtain, Finalize & Sign Contract																						
2. Consolidate outfall map																						
A Partners meet and submit mapping information																						
B Consolidate maps into single GIS																						
F Review and finalize outfall/storm system map																						
3. Develop TMDL monitoring plan																						
A Consolidate existing monitoring information																						
B Develop draft monitoring framework																						
C Complete draft monitoring plan																						
D Develop and submit QAPP																						
E Finalize monitoring plan																						
4. Conduct Hot Spot Monitoring																						
A Select target hot spots																						
B Conduct initial monitoring																						
C Analyze results and follow-up monitoring																						
D Develop monitoring report																						
5. Update TMDL and Watershed Plans																						
A Update and develop TMDL plans																						
B Develop TMDL priority project designs																						
6. Project Administration																						
A Submit quarterly progress reports																						
B Submit final deliverables																						
C Submit draft and final reports																						
D Submit final data																						
E Submit a release of claims statement																						