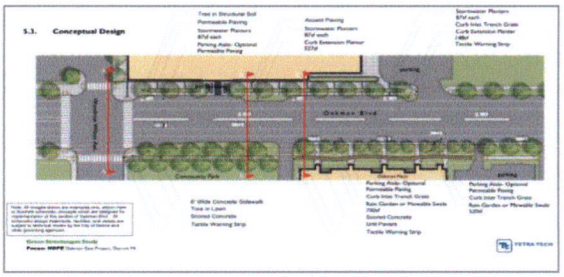
Bridge Street Corridor. This includes managing stormwater runoff from site development, streets and streetscapes (including planned new streets), and open spaces.

The following highlights exemplify this project:

- The new Bridge Street Corridor form-based code was reviewed for its freedom in facilitating stormwater BMPs.
- Stormwater BMP guidance summaries were developed consisting of a concise table of design requirements and calculations for each stormwater BMP.
- Accompanying each stormwater BMP guidance table is an isometric diagram of the BMP. Please refer to the image above. The diagram correlates major design elements with the elements from the guidance table. The primary advantage of using an isometric rather than a two-dimensional drawing is that it can show BMP setback distances from buildings, pavement, and property lines.
- A chapter of the manual is dedicated to correlating the form-based code with applicable stormwater BMPs. For example, the form-based code dictates specific requirements for a building type, such as an apartment building, including setbacks, required building zones, roof pitch, and location of parking. The manual interprets this code and indicates which BMPs are appropriate for an apartment building and also the suitable BMP placement. In addition to building type, stormwater BMPs are correlated with street types, neighborhood standards, open space types, and site development standards.
- A section of the manual addresses managing stormwater cooperatively with other site developments. This section covers cooperative design criteria, shared stormwater system agreements, and long-term operation and maintenance considerations.

CSO Green Infrastructure Program (CS-1522), Detroit, MI

CLIENT: Detroit Water and Sewerage Department (DWSD)
COMPLETION DATE: Ongoing through 2018
REFERENCE: Wendy Barrott, DWSD, 9300 W. Jefferson Ave., Detroit, MI 48209, 313.297.0300



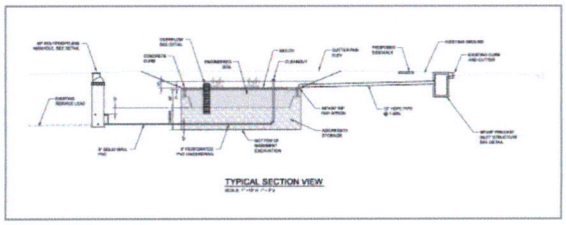
In 2010, DWSD and the Michigan Department of Environmental Quality (MDEQ) negotiated a green infrastructure program to assist in reducing CSOs to the Rouge River. This program would replace the then proposed Upper Rouge Tunnel (URT) The green infrastructure program is part of DWSD's National Pollutant Discharge Elimination System (NPDES) permit and includes a requirement to invest $15 million in green infrastructure over the period of 2013–2017 and a performance expectation of 2.8 million gallons of stormwater removed from the combined sewer system during a 2-year, 24-hour storm event.

Tetra Tech has been working with DWSD since February 2014 to implement their green infrastructure program and its NPDES permit requirements. The primary purpose of the program is the reduction of combined sewage flows through stormwater management. The project is being coordinated with DWSD, the City of Detroit, the Southeastern Municipal Council of Governments (SEMCOG) and a wide variety of other institutional partners.

Activities that are being performed by Tetra Tech and our subconsultants under this contract include:

- **Program Management** – Tetra Tech provides program management for DWSD's green infrastructure program including project planning, coordination with agencies and entities, code and ordinance review, and drainage charge credit system.
- **Green Infrastructure Plan** – Tetra Tech completed the DWSD Green Infrastructure Plan (update) in August 2014. The Plan considers requirements of the NPDES Permit and will lead to the reduction of storm water inputs into the DWSD combined sewer system, aiding in the reduction of CSO discharges. The plan establishes a balanced suite of activities which consider long-term and short-term objectives, and balance institutional structures with project implementation. Green infrastructure project types identified in the plan include green infrastructure on public properties of various types, land assembly and large-scale greening, ROW bioretention and curb extensions, street runoff diversion onto parcels and community enhancement projects with parcel and roadway bioretention and impervious area removal.
- **Opportunity Assessment** – This effort involves identifying locations where innovative green infrastructure practices could be implemented to reduce CSO discharges, evaluating the locations relative to the projects' ability to impact the combined sewer system, be cost-effective, and provide additional community benefits among other metrics.
- **Project Implementation** – Specific project types presented in the Green Infrastructure Plan include downspout disconnections (residential and non-residential buildings), public facilities flow management, park flow management, demolitions and removal of structures on vacant properties, tree planting, and transportation corridor flow management. Design of these projects requires coordination with multiple agencies, departments and stakeholders throughout the City. Tetra Tech provides design services and assistance in coordinating cross-department goals.
- **Communication and Outreach** – Successful implementation and effective maintenance of green infrastructure requires sustained communication. Tetra Tech is leading the efforts on behalf of DWSD to communicate, coordinate and collaborate with key partners on both public and private property.
- **Project implementation** – Dependent on project type and lead agency, some components of the green infrastructure program will be implemented as a design-build effort. Tetra Tech is supporting coordination with institutional partners and agencies for implementation of those projects. In addition, a number of foundations and other entities are investing in such efforts as urban agriculture. Facilitating strategic investments will be part of this effort.
- **Performance Assessment** – Performance assessments include a broad array of issues such as green infrastructure practice sustainability, community acceptance, comprehensive flow monitoring to determine the change in hydrologic characteristics and plant and vegetation health and growth (for practices with vegetation), accumulation of sediment, accumulation of trash and debris, and soil characteristics. Lessons learned through the assessment process will lead to revisions to the program as part of an adaptive management approach to the green infrastructure program.
- **Vacant Lot Greening Ecological Design Project** – Tetra Tech is acting on behalf of DWSD in a collaborative project with the University of

Michigan, Wayne State University, and the Detroit Land Bank Authority to evaluate and compare green infrastructure strategies as they relate to water quantity, water quality and aquatic toxicity. Design includes bioretention gardens in four areas once containing residential houses. Once the houses are demolished, the excavated area is backfilled with a cross-section of aggregate storage, engineered soil and planted with native plants. Runoff is conveyed along the gutter pan and diverted into the bioretention area before entering the existing catch basin in the street. Infiltration is promoted by providing an upturned elbow on the underdrain. The storage volume within the bioretention gardens allows for storage of at least the 90% non-exceedance event.



Hinkston Creek Watershed Plan and BMP Cost-Share, East-Central, KY

CLIENT: Kentucky Division of Conservation
PERIOD OF PERFORMANCE: November 2008 – September 2011

Tetra Tech developed a Quality Assurance Project Plan, collected existing and new water quality data, implemented an outreach/education program, and worked with a stakeholder group to develop a watershed-based plan addressing EPA's nine key elements for Hinkston Creek in east-central Kentucky. Hinkston Creek has been listed as impaired for many years due to poor biological conditions and elevated levels of fecal coliform bacteria, sedimentation, and nutrients linked to low dissolved oxygen and organic enrichment. The plan, which was approved by the Kentucky Division of Water in June 2011, included detailed cost and load reduction information for a suite of mostly agricultural best management practices, was based on conventional modeling approaches and innovative analytical tools.

For example, onsite wastewater treatment system potential risk to water quality was assessed via mapping analyses that considered system densities (i.e., number per square mile), system age, and proximity to surface waters. Prioritization was based on level of household density, closeness to streams, and closeness to karst topography (to account for impacts to groundwater). A riparian buffer assessment and deficiency analysis used aerial photography to determine canopy cover presence/absence and buffer zone widths. Finally, a desktop profile of high-risk stream channel reaches was conducted via mapping work that analyzed riparian vegetation (i.e., canopy cover), cattle access points, and property ownership records. The riparian deficiency data was overlaid with imagery from USDA's National Agriculture Imagery Program and was used to assess the intensity of impact on riparian areas within the Blacks and Boone Creek subwatersheds. Reaches within each subwatershed were visually scanned against the NAIP imagery to assess the land cover context for riparian buffers. Impacted riparian areas were divided into four levels of impact based on stress conditions observable from the aerial imagery, such as proximity of intense tilling and/or grazing to the stream edge, cattle access points, and lack of tree or shrub cover in the riparian buffer. Parcel boundaries were obtained from the county property valuation office to identify landowners who might be interested in stream protection BMPs.

For the outreach/education program, Tetra Tech used a multi-pronged approach, including weekly newspaper columns that mixed water quality issues

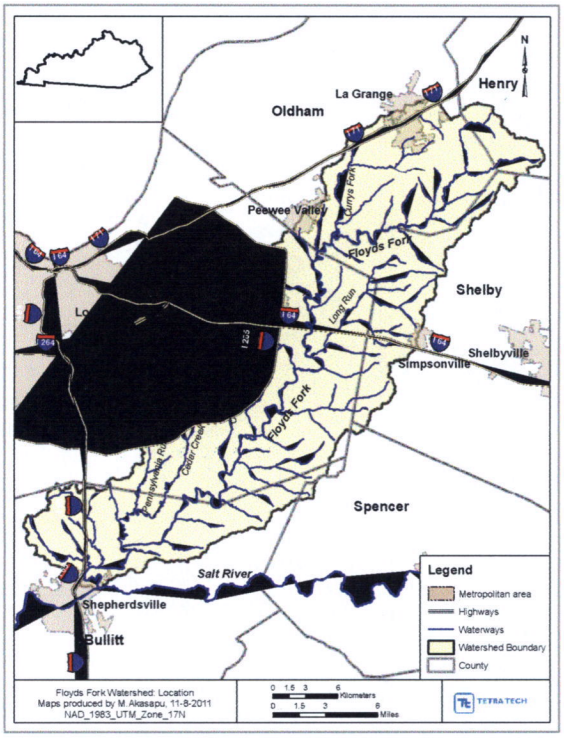
with area historical events, a series of billboards featuring positive "thank a farmer" for adopting BMP messages, an informational web site with water quality monitoring and other information, signage installed at watershed boundaries and creek crossings, and presentations to area groups on the watershed and the project. The project also sponsored a cost share program for agricultural producers interested in implementing plan-based BMPs on land in the upper portion of the watershed.

Floyds Fork Watershed Water Quality Model Development, KY

CLIENT: United States Environmental Protection Agency, Region IV
CONTACT: Tim Wool; (404) 562-9260
DURATION: June 2011 – May 2013
RELEVANT SKILL AREAS: Watershed Modeling; Water Quality Modeling; Linked Models; Model Scenarios; Nutrient Criteria Evaluation; Stakeholder Involvement; Public Meetings; Technical Advisory Meetings; Training the Staff in using the models for future needs

Floyds Fork is a major tributary of the Salt River. Its drainage area is 285 square miles and is within the Salt River basin which represents a significant part of central Kentucky. A total of six counties (Bullitt, Henry, Jefferson, Oldham, Shelby and Spencer) are partially located in the Floyds Fork watershed, making the watershed very important to a wide-range of communities. The watershed is located in northwestern Kentucky, approximately 10 miles NE of Louisville. The east side of the watershed is dominated by agricultural land use while the west side by urban land use.

The Loading Simulation Program C++ (LSPC) was used to develop a watershed model to represent the hydrological and water quality conditions in the Floyds Fork watershed. The watershed model was calibrated to daily flows and discrete water quality data measured by KDOW, USGS, local municipalities, counties and other data sources. Once calibrated, LSPC was linked to the in-stream water quality model, the Water Quality Analysis Simulation Program (WASP) by providing flows and concentrations at tributaries and local drainage areas to simulate inflow to Floyds Fork.



The WASP model was used to address the nutrient loadings and the water quality standards for chlorophyll-a and dissolved oxygen in the main stem and tributaries of Floyds Fork. Results from the WASP model were then evaluated against the water quality targets (total nitrogen and total phosphorus) developed by KDOW. Once the system of models was calibrated, they were then used to run a variety of scenarios to aid in the development of the TMDL. The scenarios included but not limited to: natural conditions, removing point source discharges, land use changes, as well as a variety of point source management strategies suggested by the Stakeholders and KDOW.

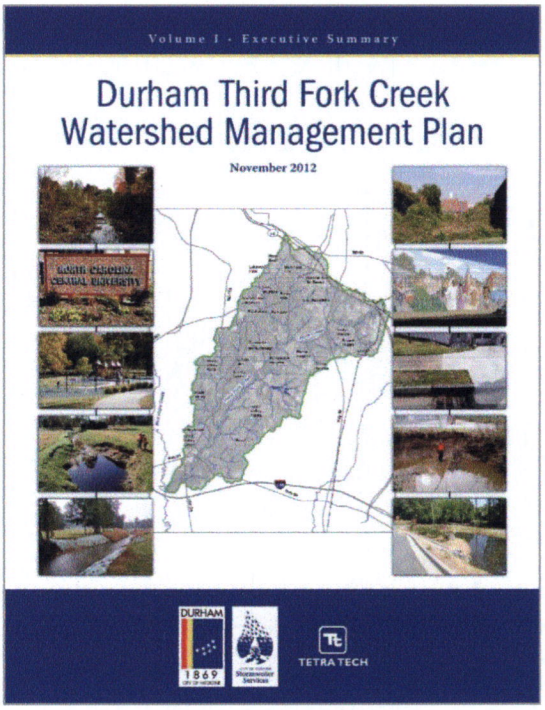
For the model development, inputs included 73 point source discharges, nearly 1,000 sink holes, over 20 springs and over 200 SSO events, making Floyds Fork watershed model quite complex. Tetra Tech applied site specific data to evaluate the contribution from various land uses such as cropland, pastureland, golf courses (part of grassland), and urban areas. Data on fertilizer and manure were collected by working closely with different stakeholder groups. Tetra Tech then developed tools to use the data to compute loading

rates to be applied to the Watershed model. Part of the success of this project was working closely with the various stakeholder groups.

Tetra Tech also participated in Technical Advisory Committee (TAC) and Stakeholder meetings, and provided technical training to the KDOW personnel. Tetra Tech developed manuals on models and model linkage to support the KDOW staff in using the models for future needs.

Third Fork Creek Watershed Plan and General Program Support, City of Durham, NC

CLIENT: Sujit Ekka, P.E., City of Durham, Department of Public Works, Stormwater Services Division, (919) 560-4326
PROJECT DATES: August 2009 – December 2012
KEY SERVICES: Stream and Upland Assessment; Watershed and BMP Modeling; Identification of Stormwater Retrofit and Stream Restoration Opportunities; Best Management Practice Selection and Prioritization; Pilot Project Preliminary Engineering Designs; Codes and Ordinance Review; Maintenance Program Review; Technical Stakeholder Facilitation; Management Strategy Development & Evaluation; Program Implementation Guidance



Tetra Tech prepared a Watershed Management Plan for Third Fork Creek for the City of Durham's Stormwater Services Division and developed a comprehensive implementation strategy for restoring watershed function and protecting the downstream public water supply in Jordan Reservoir. Tetra Tech also provided support for Stormwater Program enhancement.

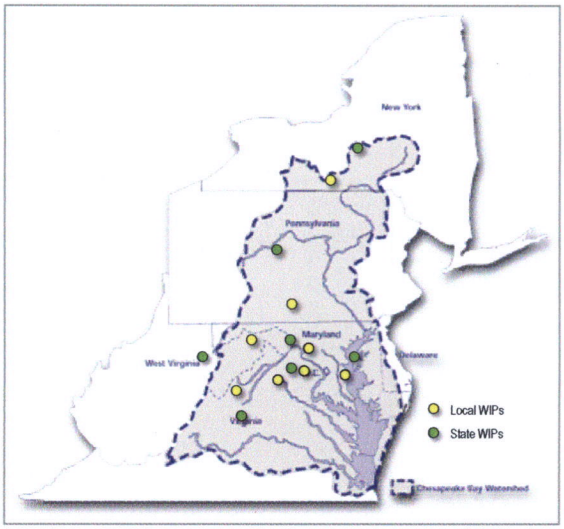
Tasks involved data compilation and analysis, stakeholder interviews, field surveys to assess condition and identify management opportunities, and setting of goals and objectives for the City's broader watershed approach and specific to the Third Fork Creek watershed.

Tetra Tech developed a continuous hydrodynamic watershed model (SWMM) to help assess water quantity and quality management needs, predict future conditions, and evaluate the effectiveness of alternative management options. Model development included working with the City to refine existing GIS-based land use and land cover (LULC) data and to generate future LULC for model application. Existing stormwater BMPs were identified and incorporated with the SWMM model. Tetra Tech helped the City prioritize stormwater retrofits and stream restoration opportunities using a variety of criteria including cost-effectiveness. Conceptual engineering designs were developed for several selected upland stormwater BMP and instream restoration sites. Tetra Tech also identified and prioritized critical lands for protection/preservation and helped to update the City's Riparian Management Manual, including specifics on invasive species for the Third Fork Creek watershed.

In addition to tasks specific to the Third Fork Creek Watershed, Tetra Tech provided a number of services that pertain to citywide programs: Local stormwater codes, ordinances, policies and procedures have been reviewed for refinement needs. Similarly, BMP maintenance standards, protocols and policies were reviewed for potential refinement. Throughout the project, Tetra Tech facilitated coordination with a team of City staff from programs needing to integrate efforts. Results from the watershed characterization, goals development, prioritization analyses, strategy development, pilot project preliminary designs, and implementation studies were compiled into a three-volume master watershed management plan set of documents for the City.

Support for Chesapeake Bay TMDL Watershed Implementation Plan Development

CLIENT: Ms. Jennifer Sincock, U.S. Environmental Protection Agency, Region 3, (215) 814-5766
PROJECT DATES: 2008–Present
KEY SERVICES: Watershed Implementation Planning; BMP Selection; Agency and Stakeholder Coordination; Tracking System Development; Modeling; Public Outreach; Public Comment Management; Meeting Logistics and Facilitation



Tetra Tech has provided a wide range of technical and managerial support to EPA Region 3 and the Chesapeake Bay Program Office (CBPO) related to TMDL development efforts for the Chesapeake Bay. EPA has led development of TMDLs through a collaborative effort involving all 6 bay states (Virginia, Maryland, Pennsylvania, Delaware, West Virginia, and New York) and the District of Columbia. A major portion of Tetra Tech's support has focused on development of statewide and higher resolution local Watershed Implementation Plans (WIPs), with the objective of identifying measures and milestones to comply with TMDL allocations.

Tetra Tech has provided support to each state and the District of Columbia for state-wide WIPs, including configuration of the CBPO's model for state use, development of management scenarios to evaluate using the model, confirmation of point source representation in the CBPO model, drafting

of WIP report sections, and stakeholder meeting support.

Tetra Tech has provided local WIP support to several MS4 and non-MS4 communities throughout the watershed. The primary objectives of Tetra Tech's support have been to review the communities' existing programs, identify measures and milestones to comply with TMDL allocations, prepare strategies, and develop tools to track future implementation. Tetra Tech has supported Prince William County, Virginia; Rivanna River Basin Commission, Virginia; Anne Arundel County, Maryland; Caroline County, Maryland; Conewago Creek Watershed Initiative, Pennsylvania; District of Columbia; Chemung County, New York; and Eastern Panhandle Planning and Development Council, West Virginia. (Although not funded through the same EPA contract, Tetra Tech is currently leading development of a WIP for Prince George's County, Maryland.)

Example tasks include:

- Participate in interagency meetings and educate groups on the TMDL and WIP process
- Collect data (e.g., BMPs, land use) for existing program and strategy evaluation
- Estimate jurisdictional sediment and nutrient pollutant loads using model output, land use, and municipal boundaries as well as some source-specific loads (e.g., septics)
- Compare Chesapeake Bay Watershed Model results to pollutant loads specified in existing local TMDLs
- Inventory, map and develop a database of planned and existing capital projects and BMPs
- Develop implementation recommendations, including identify and prioritize sites for urban stormwater and stream restoration BMPs
- Evaluate the possibility of a nutrient criteria trading program
- Estimate load reductions based on implementation recommendations
- Develop approach for estimating implementation costs
- Identify data gaps that need to be addressed for future WIP development and implementation efforts
- Prepare a guidance document based on lessons learned to support other counties with developing Phase II WIPs.

LID Manual for the Lower Maumee and Ottawa River Watersheds, Toledo, OH

CLIENT: American Rivers
PROJECT HIGHLIGHTS: Stakeholder workshop to gather needs and wishes for the manual; technically based LID manual for the design of structural and non-structural stormwater best management practices; contents customized to the unique characteristics of the watershed
PROJECT STAFF: Anne Thomas, P.E., Technical Lead; Dan Christian, P.E., Senior Water Resource Engineer; Andy Langenderfer, P.E., Project Manager
PROJECT DATES: September 2009 – May 2010
REFERENCE: Healthy Waters Campaign; American Rivers; 348 S. Erie St.; Toledo, OH 43604; Ms. Katie Swartz; Conservation Associate; 419.936.3759
MANUAL ACCESSIBLE AT: Americanrivers.org/library

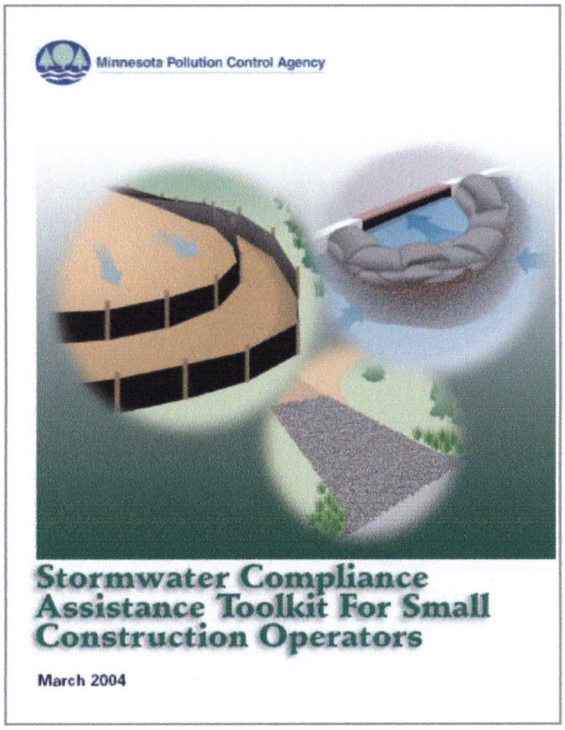
The Lower Maumee River Watershed is the most downstream subwatershed of the Maumee River Basin and thus accepts water from the entire watershed before discharging to Lake Erie. The Ottawa River Watershed is north of the Maumee River Watershed and also drains to Lake Erie. Within the two watersheds, agricultural is the predominant land use, and urban development is occurring in and around the City of Toledo and Lucas County, Ohio.

American Rivers received funding for this project from the Joyce Foundation and worked with Tetra Tech to develop the manual. The purpose of this manual is to provide stormwater managers and site designers with a common understanding of Low Impact Development (LID) goals and objectives, site assessment considerations, and a toolbox of stormwater Best Management Practices (BMP) applicable to the Lower Maumee and Ottawa River watersheds. BMP information includes design guidelines, specifications, details, and maintenance concerns as well as assistance in selecting the BMPs based on the unique characteristics of a particular site. This is a technical manual and the information provided is targeted for engineers, planners, landscape architects, technical staff to policy makers, and developers.

In addition, this manual will help to foster a watershed approach to improving water quality within the region. With this understanding, the manual focuses on stormwater BMPs that apply across the two watersheds ranging from using vegetated buffers in agricultural areas to vegetated roofs in urban areas. The aspiration is to create a user-friendly watershed-wide LID Manual to help protect the rivers and streams within the Lower Maumee and Ottawa River watersheds.

NPDES Stormwater Phase II Program Support, MN

PROJECT HIGHLIGHTS: Developed Stormwater Guidance Materials; Produced Stormwater Compliance Toolkit; Produced Stormwater Inspection Guide; Technical Support for Stormwater Program
PROJECT DURATION: October 2003 – March 2004
PROJECT STAFF: John Kosco, P.E.
REFERENCE: Minnesota Pollution Control Agency



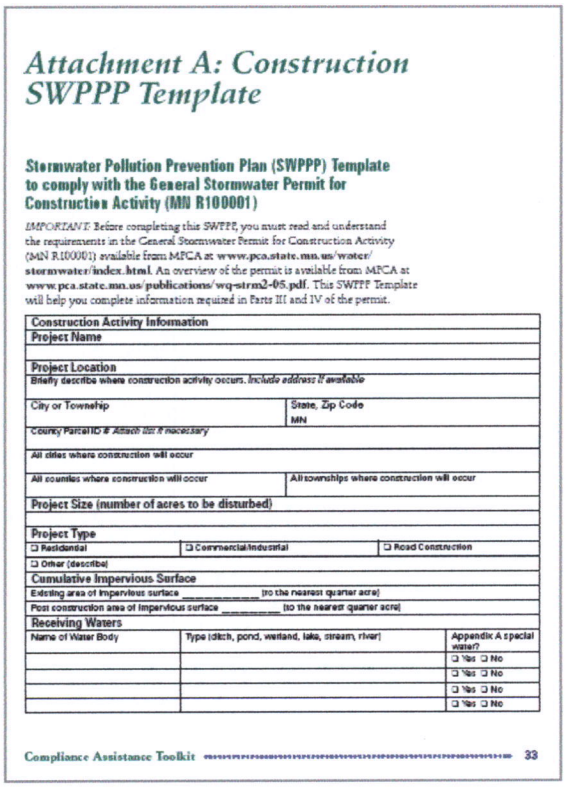
Tetra Tech developed two technical guidance manuals as part of a statewide toolkit to assist the Minnesota Pollution Control Agency in implementing stormwater requirements at small construction sites. The first guidance explained the stormwater regulatory requirements to small construction operators, while the second guidance explained the construction site inspection process to delegated state inspectors.

The *Stormwater Compliance Assistance Toolkit for Small Construction Operators* is a 44-page guide that explains the MPCA construction stormwater permit, how to develop a stormwater pollution prevention plan (SWPPP), how to select BMP, and

how to comply with the permit. In addition, Tetra Tech developed a construction SWPPP template that was included as an appendix.

The *Stormwater Construction Inspection Guide* is a 32-page document targeted to MPCA construction inspection staff and delegated inspectors. The guide explains how to conduct a construction site inspection, including required preparation before the inspection, entry procedures, records review procedures, site inspection techniques, and exit interview tips.

The guide also provides tips on what inspectors should look for when inspecting common BMPs. Finally, the guide includes information on enforcement and an example photo log page. Tetra Tech also developed a companion *Stormwater Construction Inspector's Field Guide* with the critical information needed during a field inspection formatted into a pocket guide.



Attachment A: Construction SWPPP Template

Stormwater Pollution Prevention Plan (SWPPP) Template to comply with the General Stormwater Permit for Construction Activity (MN R100001)

IMPORTANT: Before completing this SWPPP, you must read and understand the requirements in the General Stormwater Permit for Construction Activity (MN R100001) available from MPCA at **www.pca.state.mn.us/water/stormwater/index.html**. An overview of the permit is available from MPCA at **www.pca.state.mn.us/publications/wq-strm2-05.pdf**. This SWPPP Template will help you complete information required in Parts III and IV of the permit.

Construction Activity Information		
Project Name		
Project Location		
Briefly describe where construction activity occurs. *Include address if available*		
City or Township	State, Zip Code MN	
County Parcel ID # *Attach list if necessary*		
All cities where construction will occur		
All counties where construction will occur	All townships where construction will occur	
Project Size (number of acres to be disturbed)		
Project Type		
☐ Residential	☐ Commercial/Industrial	☐ Road Construction
☐ Other (describe)		
Cumulative Impervious Surface		
Existing area of impervious surface _____ (to the nearest quarter acre)		
Post construction area of impervious surface _____ (to the nearest quarter acre)		
Receiving Waters		
Name of Water Body	Type (ditch, pond, wetland, lake, stream, river)	Appendix A special water?
		☐ Yes ☐ No
		☐ Yes ☐ No
		☐ Yes ☐ No
		☐ Yes ☐ No

Compliance Assistance Toolkit 33

Watershed Plan Development and Water Quality Improvement Projects / Award and Utilization of 319(h) Grant Funding, Corbin City Reservoir / Laurel River Watershed, KY

PROJECT HIGHLIGHTS: Field water quality monitoring; watershed plan development; implementation of restoration projects; erosion potential rating
PROJECT STAFF: Steve Evans, Environmental Scientist; Jennifer Shelby, P.E., Water Resource Engineer; Bert Remley, Senior Biologist
PROJECT DATES: 2003–2006
REFERENCE: Brooke Shireman, Watershed Management; Kentucky Division of Water; 200 Fair Oaks Lane; Frankfort, KY 40601; (502) 564-7250, Ext. 553

Third Rock was retained to prepare a Watershed Plan for the Corbin City Reservoir, the drinking water supply for the City of Corbin. It is located in southeastern Kentucky with a drainage of over 200 square miles and over 450 miles of streams. The reservoir is listed as nonsupporting for drinking water and partially supporting for aquatic life due to excessive nutrients, organic enrichment/low DO, taste and odor problems, and algal growth/chlorophyll abundance. The sources of pollutants are widespread and varied with the primary sources being agricultural activities, construction/development, stormwater runoff, failing septic tanks and sanitary sewers, abandoned mine lands, streambank erosion, and the London wastewater treatment plant.

The combined impact of these pollutants has made streams, and ultimately the Corbin City Reservoir, unsafe for recreation, poor habitat for aquatic life, and problematic as a drinking water source. Third Rock biologists and engineers developed a Watershed Plan for the Corbin City Reservoir Watershed funded by a 319(h) grant from the US Environmental Protection Agency. This extensive document fully characterizes the watershed and provides solutions for the protection and remediation of these valuable water resources. The Watershed Plan has aided in the development of TMDLs for streams within the watershed and ultimately help remediate the streams and reservoir. Third Rock worked with several organizations in the process including the Kentucky Division of Water, Local and County governments, US Army Corps of Engineers, Eastern Kentucky University, and University of the Cumberlands, as well as a project team comprised of local schools, businesses, agencies, and governmental offices.

The fieldwork consisted of stream physical habitat determinations, biological surveys, and surface water quality sampling. Stream physical habitat determinations were performed to determine the sites with the poorest biological habitat due to land use practices. Information from these initial surveys was used to pick sites for biological and water quality sampling to further elucidate the level of degradation and sources of pollution. Kentucky Division of Water's aquatic assessment methodology was followed to establish the degree of impairment at the selected sites.

Physical stream degradation was consistently severe throughout the watershed. Sedimentation in streams was documented in the RBP assessments, causing frequent flooding events in the city of London. Flooding on Whitley Branch, a tributary within the London city limits, has increased significantly in recent years according to affected residents. The stream flow response to rainfall events is a high peak flow rate maintained for a short duration (flashy streams).

The watershed plan presents monitoring data, locations where pollution control will be most beneficial, and a plan for watershed-level remediation. Recommendations for nutrients and sediment control in the Corbin City Reservoir are listed and prioritized in the plan. For nutrients, recommendations concentrate on nonpoint source (NPS) pollution reduction. These include methods for reducing stormwater discharge to streams and facilitating improvements to the current SSO problem in London. For sediment issues, recommendations focus on sediment and erosion control techniques on construction sites and reducing the erosive effects of stormwater runoff. Some stream sites were identified where bank stabilization techniques could be used to reduce in-stream erosion. In addition, further study is imperative to determining the location and degree of sediment source contribution.

Following successful completion of the Corbin City Reservoir Watershed Plan, Third Rock applied for and was awarded a 319(h) grant to implement water quality improvement projects and perform additional study of the watershed. These projects include the design and construction of stormwater BMPs. Bioretention areas (rain gardens) and stormwater wetlands were designed and constructed to reduce stormwater runoff and urban nonpoint source pollutants, reduce peak runoff, and improve water quality by detaining parking lot and rooftop drainage. In a more agricultural portion of the watershed, the design and construction of a riparian wetland was used to treat storm flow and reduce sediment and nutrients transported by the Little Laurel River.

Creating or enhancing stream riparian buffers will reduce sediment, nutrients, and bacteria transported to the tributaries within the watershed. Selected locations were planted with 50-foot-wide buffers of native vegetation on both sides of a stream to improve stream water quality by trapping bacteria, sediment, and sediment-bound nutrients and infiltrating runoff. Each of these BMPs are to be monitored for success. The grant will also fund the prioritization of stream segments of Laurel and Little Laurel Rivers, Robinson Creek, and contributing tributaries for restoration or stabilization.

To determine areas that will be most ideal for remediation, an initial erosion inventory was completed for several miles of stream in the Little Laurel River watershed (the focus sub-watershed). The stream banks were rated for erosion potential and restoration / stabilization. Additionally, the data