


STORMWATER MANAGEMENT PROGRAM

CITY OF AURORA, ILLINOIS

General NPDES Permit No. IL400283

Updated February 2022

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Acronyms

ATC – Aurora Transportation Center

BMP – Best Management Practice

CC&R – Covenants, Conditions, and Restrictions

Cl - Chloride

DO – Dissolved Oxygen

DRSCW – DuPage River Salt Creek Workgroup

FMWRD – Fox Metro Water Reclamation District

FOFR – Friends of the Fox River

FRIP – Fox River Implementation Plan

FRSG – Fox River Study Group

Hg – Mercury

HOA – Homeowner Association

IEPA – Illinois Environmental Protection Agency

ISWS – Illinois State Water Survey

MS4 – Municipal Separate Storm Sewer System

NPDES – National Pollutant Discharge Elimination System

POA – Property Owner Association

PCB – Polychlorinated Biphenyl

SSA – Special Service Area

SWMP – Stormwater Management Program

TPH – Total Petroleum Hydrocarbons

TDS – Total Dissolved Solids

TMDL – Total Maximum Daily Load

TP – Total Phosphorus

TSS – Total Suspended Solids

USEPA – United States Environmental Protection Agency

Introduction

Background

Stormwater management systems are designed and built in order to reduce the likelihood of flooding and improve the quality of stormwater discharges to receiving waters. The City's stormwater management system consists of storm sewers, storm drains, gutters, ditches, culverts, detention basins, and rain gardens.

Purpose

This SWMP documents the practices used by the City of Aurora to reduce the discharge of pollutants from the stormwater management system to the maximum extent practicable. It has been prepared in order to meet the requirements of the City's NPDES Permit No. IL400283.

Future Updates

The practices used to reduce the discharge of pollutants from the stormwater management system are bound to change over time. These changes might be brought about by factors such as regulatory changes, new technology, or changes to the City's budget and staff resources. In any event, this document should be updated whenever there is a significant change to the BMPs that comprise the City's SWMP.

Related Documents

The City has filed several Notices of Intent with the IEPA to comply with the General NPDES Permit for MS4s. The City has also submitted Annual Reports to the IEPA, as required by the General Permit. These documents contain additional information about the BMPs and measurable goals of the City's SWMP.

Receiving Waters

Watersheds

The City of Aurora lies within the watersheds of two rivers: the Fox River and the DuPage River. Appendix 1 is a map showing the watershed and subwatershed boundaries within the City.

The Fox River originates approximately 15 miles northwest of Milwaukee, Wisconsin and drains south to the Illinois River. The Fox River runs north to south through the City of Aurora's downtown. It enters the City just south of the I-88 Tollway and exits the City at Ashland Avenue. Approximately 43 square miles of the City drains to the Fox River (93%).

Major tributaries to the Fox River located in the City of Aurora include Blackberry Creek, Indian Creek, and Waubonsie Creek. Of the three, only Indian Creek discharges to the Fox River within the City limits. Blackberry Creek drains north to south along the western edge of the City and eventually discharges to the Fox River in the United City of Yorkville. Waubonsie Creek runs southwest from the eastern edge of the City until it discharges into the Fox River in the Village of Oswego. Its sub-watershed includes the southeast quarter of the City. Indian Creek drains much of the northeast quarter of the City and discharges into the Fox River just north of downtown.

Approximately 3 square miles (7%) of the City drains to the West Branch of the DuPage River. This portion of the City consists of several residential subdivisions, industrial developments, farmed land, and open space.

Figure 1: City of Aurora Area by Watershed

Receiving Water	Acres	Square Miles	%
Fox River	7,928	12.39	26.9
East Run Blackberry Creek	4,612	7.21	15.7
Indian Creek	6,245	9.76	21.2
Waubonsie Creek	8,619	13.47	29.3
Lower West Branch DuPage River	911	1.42	3.1
Spring Brook DuPage River	1,105	1.73	3.8
Total	**29,419**	**45.97**	**100**

Impairments

Section 303(d) of the Clean Water Act requires states to develop a list of waterbodies that do not meet water quality standards. Illinois developed its 303(d) list in 1992 and has updated the list every two years since then. The 303(d) list separates waterbodies into segments and designates uses for each segment. A segment is considered impaired if it does not meet the water quality standards for one of its designated uses.

Figure 2: City of Aurora Receiving Water Impairments

Receiving Water	Assessment ID	Impairments	Compliance Measures
Fox River	IL_DT-38	Fecal Coliform, Hg, pH, TP, PCBs, TSS	FRIP – Document/report TP reductions
Blackberry Creek	IL_DTD-02	Fecal Coliform	
Indian Creek	IL_DTZK	Cl, Fecal Coliform	
Waubonsie Creek	IL_DTE-01	Not impaired	
W. Branch DuPage River	IL_GBK-12	Salinity, TDS, Cl	TMDL – Use of prudent deicing BMPs

TMDLs

A TMDL is a regulatory term in the Clean Water Act describing a plan for restoring impaired waters. A TMDL identifies the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards.

The General NPDES Permit for MS4s requires that if a TMDL has been approved by the IEPA for any waterbody into which Aurora discharges, then the City's SWMP must be designed in order to meet the TMDL. Furthermore, the City must demonstrate compliance with the TMDL through water quality monitoring data.

The USEPA approved a TMDL Report for salinity, TDS, and Cl in the DuPage River Watershed. The management measures recommended in the TMDL Report can be successfully implemented through the City's continued partnership with the DRSCW and the City's continued use of sensible road salting techniques for snow and ice removal.

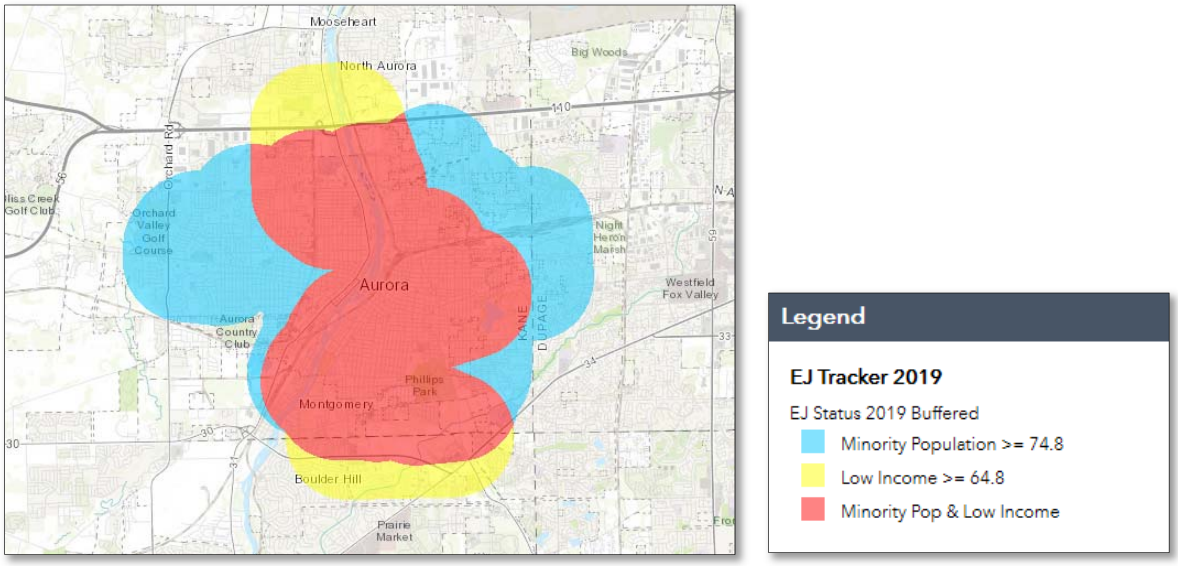
The FRSG developed the FRIP in partnership with the IEPA as an alternative to the traditional TMDL approach. By agreement between the IEPA and the FRSG, the FRIP takes the place of a traditional TMDL for DO and nuisance algae in the Fox River. The FRIP requires MS4s to document phosphorus load reductions and report these reductions to FRSG.

Environmental Justice Areas

Environmental justice means fair treatment and meaningful involvement of all people regardless of race, color, national origin or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. The General NPDES Permit for MS4s requires the City to identify environmental justice areas within its jurisdiction and include BMPs in the SWMP that will educate and involve the public - particularly from these environmental justice areas.

An interactive mapping tool on the IEPA's website shows environmental justice areas based on minority population and low income. The data for Aurora is presented in Figure 3.

Figure 3: City of Aurora Environmental Justice Areas



The BMPs that comprise the City's SWMP are described in the next section. Two BMPs in particular that are intended to address the environmental justice areas in Aurora are the distribution of educational bookmarks in elementary schools (BMP A.1) and the Watershed Watchdogs program (BMP B.6).

BMPs

Public Education and Outreach

BMP A.1 – Distributed Paper Material

During the fall of each school year, the Engineering Division prints and delivers educational bookmarks to the 5th Grade students at every elementary school in Aurora. A list of the elementary schools in Aurora is included as Appendix 2. Before delivering the bookmarks, the Engineering Division obtains a letter of permission from each school district in Aurora. Example letters of permission are included as Appendix 3. Bookmarks are printed on cardstock and in full-color at Aurora Fastprint. 2,500 bookmarks cost approximately $210.

Groups of 50 bookmarks rubber-banded together make distribution easier. The bookmarks are delivered to the main office at each school with a copy of the permission letter. Staff at the main office is asked to distribute the bookmarks to each 5th Grade teacher so the bookmarks can be incorporated into a lesson at an appropriate time during the school year. The number of bookmarks left at the main office is based on the number of 5th Grade students enrolled that year, which is determined at the time of bookmark delivery.

BMP A.2 – Speaking Engagement

The Engineering Division makes presentations on stormwater pollution prevention from time-to-time. Common venues include school classrooms, school career fairs, watershed groups, and community groups. Example presentation slides are included as Appendix 4.

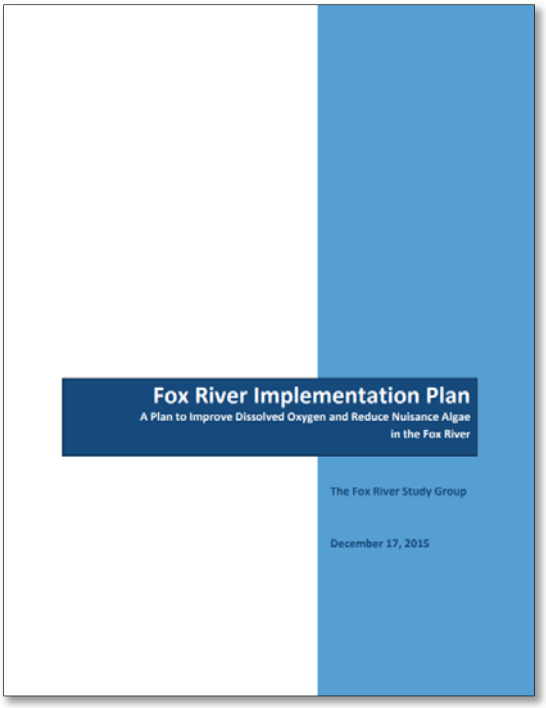
BMP A.6 – Other Public Education

The City's website (https://www.aurora-il.org/1787/Protecting-Auroras-Waterways) includes links to public information about stormwater pollution prevention, as well as links to the City's General NPDES Permit for MS4s, Notice of Intent to comply with the General Permit, and recent Annual Reports to the IEPA.

The City maintains permanent rain barrel displays at the Phillips Park Visitor Center and the Phillips Park Zoo. These displays demonstrate how residents can use rain barrels to reduce the volume of stormwater runoff from their property, which will improve the quality of stormwater runoff.

The City partners with The Conservation Foundation to implement the Conservation in our Community Program, which aims to educate HOAs on the maintenance of stormwater detention basins and the management of other common areas. The Conservation Foundation offers presentations and webinars for interested HOAs, as well as site visits with site specific recommendations.

Public Involvement and Participation



BMP B.3 – Stakeholder Meeting

The FRSG developed the FRIP and meets monthly in order to improve DO and reduce nuisance algae in the Fox River. The Engineering Division represents the City on the FRSG's Board of Directors, as well as various FRSG Committees. Each year the City contributes approximately $100,000 to FRSG from account 510-4063-511-3218. In accordance with the FRIP, the City also provides FRSG with a spreadsheet documenting phosphorus load reductions due to detention basins and street sweeping. Appendix 5 is a City Council Resolution committing financial support for FRSG for 2019-2022. Appendix 6 contains the City's Phosphorus Load Reduction Spreadsheet.

The City also maintains a membership in the Fox River Ecosystem Partnership and the DuPage River Salt Creek Workgroup.

BMP B.4 – Public Hearing

The City's General NPDES Permit for MS4s requires an annual public meeting for the public to provide input as to the adequacy of the SWMP. In order to meet this requirement, the Engineering Division typically presents the SWMP at a February meeting of the Infrastructure and Technology Committee, which is publicly noticed and provides an opportunity for public comment on the SWMP. Appendix 7 contains slides from the Public Hearing.

BMP B.5 – Volunteer Monitoring

The City's website (https://www.aurora-il.org/1787/Protecting-Auroras-Waterways) includes the Water & Sewer Maintenance Division's phone number so residents can report illegal dumping, suspicious

discharges from the storm sewer system, or soil erosion problems. It also notifies residents of the InfoAurora app available for iPhone or Android. With this app, a resident can click to 'Create a Service Request', tag the exact location of the issue, and submit photos, if available. Customer service issues reported in this way will typically be assigned to the Water & Sewer Maintenance Division through Public Stuff.

BMP B.6 – Program Involvement

The City partners with FOFR to implement the Aurora Watershed Watchdogs program, which teaches kids about water quality through outreach to schools and community groups. The program includes in-stream education with collection of water quality data, whenever possible. FOFR provides educators and does the outreach. The City pays FOFR so the program can be offered at no charge to the schools and community groups. FOFR typically invoices the Engineering Division twice per year – in the spring and in the fall – and reports on events (location and attendance) upon request. The expense is charged to account 280-1852-512-8122. Appendix 8 is a promotional brochure describing the Aurora Watershed Watchdogs program.

Mayor Richard Irvin made a proclamation on September 21, 2019 that each year the third Saturday in September would be Fox River Day in Aurora. The Engineering Division contacts FOFR and FRSG during August and September to help promote events that honor and celebrate the wellbeing of the Fox River. Appendix 9 includes Mayor Irvin's proclamation.

The City partners with Kiwanis International and other agencies on an annual community-wide service day that involves cleaning the banks of the Fox River and Indian Creek. The event typically attracts 350 volunteers for a Saturday in April. The City supports the event by providing banners and a grill (Streets Maintenance), tents (Equipment Services), and dumpsters (Groot/Waste Connections). Planning meetings are typically held in February and March at the Fox Metro Water Reclamation District.

The City sponsors a rain barrel program each year with The Conservation Foundation. 55 gallon rain barrels made by Upcycle Products can be purchased online from the City's website (https://www.aurora-il.org/1065/Rain-Barrel-Program) for $60 plus tax. Rain barrels can be picked up at the first Downtown Farmer's Market of the season, or The Conservation Foundation will deliver rain barrels to the purchaser's home for an additional $18.50 fee. Early in the calendar year, the Engineering Division reserves a Farmer's Market booth with the Special Events Division. Then, the Engineering Division executes a Rain Barrel Event Agreement with The Conservation Foundation. Appendix 10 includes an example Rain Barrel Event Agreement. The Conservation Foundation attends the Farmer's Market and distributes the rain barrels without assistance from the Engineering Division. Any unclaimed rain barrels at the conclusion of the Farmer's Market booth can be delivered by The Conservation Foundation to the Phillips Park Maintenance Facility at 903 Ray Moses Drive. Residents can make arrangements with the Parks & Recreation Division to pick up their rain barrel when it is convenient. At the end of the sales season, Upcycle Products provides the City with a spreadsheet documenting the number of rain barrels sold.

The cities of Aurora and Naperville work together with Kane County, DuPage County, and the IEPA on a Household Hazardous Waste Drop-off located at the Naperville Public Works Facility at 156 Fort Hill Drive. Residents can drop off a wide range of waste items at no cost and the items are disposed of properly. A full list of the items accepted and the hours of operation are provided on the website (https://www.countyofkane.org/Recycling/Pages/hhw/napervilleDropoff.aspx).

Illicit Discharge Detection and Elimination

BMP C.1 – Sewer Map Preparation

The City's GIS-based sewer atlas is continually updated based on as-built plans from new development and capital improvement projects. These updates include revising the GIS data, as well as linking digital copies of the as-built plans to the atlas. The Information Technology Division performs these updates upon notice from the Engineering Division that as-built plans are available.

When sewer lines are cleaned and televised, Deuchler Engineering links the inspection videos and inspection reports to the sewer atlas.

BMP C.2 and C.5 – Regulatory Control Program and Illicit Source Removal Procedures

Sections 48-131 and 48-132 of the Municipal Code prohibit any pollutant from being discharged or deposited into a sewer or watercourse. Section 48-138 allows the Public Works Department to inspect for violations, even on private property, and Section 48-140 allows City representatives to perform tests and examine records to determine whether a violation has occurred. Section 48-141 and Section 48-169 provide the enforcement procedures.

The Water & Sewer Maintenance Division will generally take the lead on tracing an illicit discharge to its source. The Engineering Division should inquire with the Water & Sewer Maintenance Division several times a year to obtain records of the inspection and tracing of suspicious discharges. The Engineering Division is typically responsible for sending any necessary notices of violation by certified mail. If water quality testing is necessary, Deuchler Engineering can collect the sample, transport it to First Environmental Labs for testing, and provide the necessary chain-of-custody documentation.

BMP C.3 – Detection/Elimination Prioritization Plan

Given the City's current staffing and budget, it is not practical to inspect every outfall during every calendar year. Instead, outfalls with the greatest potential for non-stormwater discharges have been prioritized for annual inspection and an inspection schedule has been established for the remaining outfalls.

Outfalls are designated as priority outfalls if they have a dimension larger than 48 inches (diameter, width, or height); or, if they were previously found with a suspicious odor or a suspicious visual characteristic. Approximately 60 outfalls meet one or both of these criteria.

The 707 total outfalls within the City limits have been separated into four groups.

- Indian Creek, including Selmartin Creek, South Tributary, and Ferry Creek (Structure_ID = IC, ICS, ICST, FC, Null) = 195 outfalls
- Fox River east bank (Structure ID = FR) = 174 outfalls
- Fox River west bank (Structure ID = FR) = 174 outfalls
- Waubonsie Creek and Blackberry Creek, including North Run, South Run, Wolf Creek, Spring Brook, Blackberry Creek, Aurora Tributary, and East Run (Structure ID – WC, WCN, WCS, WFC, SB, BC, BCAT, BCER) = 164 outfalls

Each calendar year, the outfalls in one of these four groups will be inspected, along with the priority outfalls. By following this Plan, the City will inspect over 30% of its outfalls in any given year and each outfall will be inspected at least once during the 5 year cycle of the City's NPDES Permit.

BMP C.7 – Visual Dry Weather Screening

A portion of the City's outfalls are inspected each summer, during dry weather and when the water level is typically low. The outfalls are inspected by a two-person team. The inspection team is comprised of an Environmental Scientist from Deuchler Engineering and an intern working for the City's Engineering Division. Inspections performed by a two-person team are safer than inspections performed by an individual. Incorporating Deuchler's Environmental Scientist ensures consistency in the outfall assessment from year to year. The two-person team will typically perform the outfall inspections in a leap-frog pattern to promote efficiency and to make sure the team maintains visual contact at all times. Both inspectors should wear hip waders. The Engineering Division has hip waders in a couple different sizes. The inspection team should also carry copies of a letter on Public Works letterhead authorizing the work. This letter is helpful in case a property owner has questions about the inspections.

During the inspection, each outfall is checked for deposits or stains in the pipe and benthic growth on the pipe. The inspector also checks for abnormal growth of vegetation near the outfall or poor quality water in a pool below the outfall. If the outfall is flowing during dry weather, the inspector notes whether the flow has color, odor, turbidity, or floatables. Hach 5-in-1 test strips, ammonia test strips, and a thermometer allow the inspector to perform basic field tests when there is water flowing from an outfall. Based on the physical indicators and the results of any water quality tests, each outfall is characterized on a numeric scale from 1-4. An obvious illicit discharge would be assigned a 1 and a suspected illicit discharge would be assigned a 2. In either case, the inspector would immediately notify the Water & Sewer Maintenance Division so the discharge can be traced to its source. A potential or unlikely illicit discharge would be assigned a 3 or 4, respectively.

The results of an outfall inspection are recorded using the City's mobile app (https://cityofaurora.maps.arcgis.com/). This app is maintained by the Information Technology Division.

Upon completion of the annual outfall inspections, Deuchler Engineering reviews the results and updates the list of priority outfalls. An outfall that was newly assigned a 1 or 2 should be added to the

list of priority outfalls. An outfall that was assigned a 2 or 3 and has repeatedly been inspected without further evidence of an illicit discharge can be removed from the list of priority outfalls.

BMP C.9 – Public Notification

Specifications for the City's road projects and the permit requirements for private development projects require contractors to install grates on storm drains that are cast with the statement "Dump No Waste, Drains to River." This statement helps to make the public aware that anything dumping in the storm drains can pollute the City's waterways because it will not be removed by a wastewater treatment plant.

BMP C.10 – Other Illicit Discharge Controls

Pet waste receptacles are provided at public locations throughout the City and are regularly serviced by City staff. For example, receptacles at McCarty Park and the Phillips Park Dog Park are typically serviced 2-3 times per week between Spring and Fall. Receptacles at Millennium Plaza are typically serviced 3-4 times per week. By making it easy for residents to pick up after their pets, the City is reducing the amount of harmful bacteria in stormwater runoff.

Construction Site Runoff Control

BMP D.1 and D.4 – Regulatory Control Program and Site Plan Review Procedures

Sections 18-201 through 18-204 of the Municipal Code adopt the Kane County Stormwater Ordinance by reference and make some aspects more restrictive. This Ordinance is enforced throughout the City limits – even in portions of the City that are outside Kane County. It requires soil erosion and sediment controls for all regulated development and it includes sanctions the City can use to ensure compliance. All Site Plans for proposed development in Aurora are reviewed by the City's Review Engineers. Site Plans are also reviewed by the Kane DuPage Soil and Water Conservation District if the proposed development would disturb 20,000 square feet or more land, or if the proposed development involves in-stream work or work within a wetland. Proposed development that is over 1 acre in size is required to meet the conditions of General NPDES Permit No. ILR10.

The City maintains files for every regulated development. The file includes an approved Site Plan specifying appropriate soil erosion and sediment controls.

BMP D.5 – Public Information Handling Procedures

Many proposed developments require the approval of one or more political body, such as: the Plan Commission; the Building, Zoning, and Economic Development Committee; the Committee of the Whole; and the City Council. Meetings of these political bodies are publicly noticed and typically provide public with the opportunity to comment on development projects that are proposed for approval.

BMP D.6 – Site Inspection/Enforcement Procedures

Smaller projects, such as infill residential development, are typically inspected at critical milestones in the construction process. Examples include a pre-pour inspection for public sidewalks and driveways or an inspection prior to temporary occupancy. These inspections are performed by the City's Engineering Technicians. Larger projects that require Final Engineering Approval are inspected at critical milestones and following significant storm events. These inspections are performed on behalf of the City by CMT, the City's Resident Engineering consultant, and by Kane DuPage Soil and Water Conservation District. Ongoing projects are also inspected in response to complaints received from the public.

Regardless of the reason for the inspection, insufficient erosion control measures are addressed promptly. The City attempts to achieve compliance first through verbal discussions and written inspection reports. If necessary, the City can issue a Stop Work Order or can use the financial security posted prior to Final Engineering Approval as leverage as enforcement mechanisms.

Post-Construction Runoff Control

BMP E.2 and E.4 – Regulatory Control Program and Pre-Construction Review of BMP Designs

Sections 18-201 through 18-204 of the Municipal Code adopt the Kane County Stormwater Ordinance by reference and make some aspects more restrictive. This Ordinance is enforced throughout the City limits – even in portions of the City that are outside Kane County. It is the regulatory mechanism used

to minimize the volume of stormwater runoff and reduce the discharge of pollutants from new development, redevelopment, and public surfaces.

The City's Review Engineers reviews the design of all proposed stormwater infrastructure prior to granting Final Engineering Approval for development and redevelopment.

Files are maintained for every regulated development. The file includes an approved Site Plan and design calculations for any structural BMPs and green infrastructure. The file may also include a Plat of Easement.

BMP E.3 – Long Term O&M Procedures

The property owner or POA is responsible for the maintenance of the stormwater drainage system, except the portion of the system draining a public right-of-way. As a condition of development, the City requires a long-term maintenance plan for the proposed stormwater infrastructure. The long-term maintenance plan identifies the components of the proposed stormwater drainage system, the party responsible for maintaining each component, and lists the expected maintenance tasks. The long-term maintenance plan is incorporated into the CC&Rs for a subdivision or is recorded as a covenant running with the land for an individual property.

The Kane County Stormwater Ordinance requires a back-up funding mechanism for any stormwater infrastructure that will be maintained by a private property owner or a POA. To accomplish this, the City's Law Department establishes a dormant SSA during the development process that can be activated if the property owner or POA does not perform the necessary maintenance.

Prior to significant storm events, detention basin restrictors that are prone to clogging are typically inspected and cleaned by the City's Water & Sewer Maintenance Division.

BMP E.5 and E. 6 – Site Inspections During Construction and Post-Construction Inspections

The City and its consultants inspect development and redevelopment throughout construction (refer to BMP D.6), as well as at the completion of construction. Once construction is substantially complete, the City requires submittal of as-built plans and the Resident Engineering consultant performs a final site inspection. As-built plans are compared with the approved Site Plan and any deficiencies are noted. The final site inspection generates a punch-list of required corrective actions for the contractor to address. City Council will not accept the public infrastructure or release the financial security for the development until the as-builts are corrected and the punch-list items are complete.

BMP E.7 – Other Post-Construction Runoff Controls

New and retrofit flood management projects are designed with permanent erosion control measures and native plantings, where appropriate. Rip-rap and permanent turf reinforcement matting are typically specified in locations where overland flow or wave action may be too erosive for turf grass to withstand. Appendix 12 is a list of native plants that have performed well in rain gardens and bio-swales. Plants will be selected from this list whenever additional native plantings are desirable.

Pollution Prevention/Good Housekeeping

BMP F.1 – Employee Training Program

The Engineering Division provides annual training on stormwater pollution prevention for employees in the Water & Sewer Maintenance Division, the Streets Maintenance Division, and the Parks and Recreation Division. The training provides general information about the NPDES requirements for MS4s. It also covers: potential sources of pollution at municipal facilities; existing control measures at those facilities; drainage system maintenance for grey and green infrastructure; and illicit discharge detection and elimination. Appendix 13 contains slides from the Employee Training Program.

The training is typically provided in October or November with separate presentations for each City Division. Each training session typically lasts 45 minutes to an hour. Sign-in sheets are used to document the number of employees that receive the training at each session.

Every 2-3 years, the City hires a consultant to provide its snowplow drivers with training on Sensible Salting techniques. This training is a substitute for the training provided by the Engineering Division during the years it is provided.

The City has installed rain gardens and bio-infiltration measures in numerous locations throughout the City – downtown along Downer Place and at RiverEdge Park, on the near-east side at McCarty Park the ATC parking lot, in the neighborhood surrounding the Old Copley Hospital, in Phillips Park, and along Kensington Place near Holy Angels School. Some of these BMPs are maintained by City Staff under the supervision of the City's horticulturalist. Others are maintained by a contractor hired by the Engineering Division. When a contractor is hired for maintenance of stormwater BMPs, the City uses

prequalification requirements to hire contractors that have been trained and are experienced in this type of work. The expense is charged to account 280-1852-512-8190.

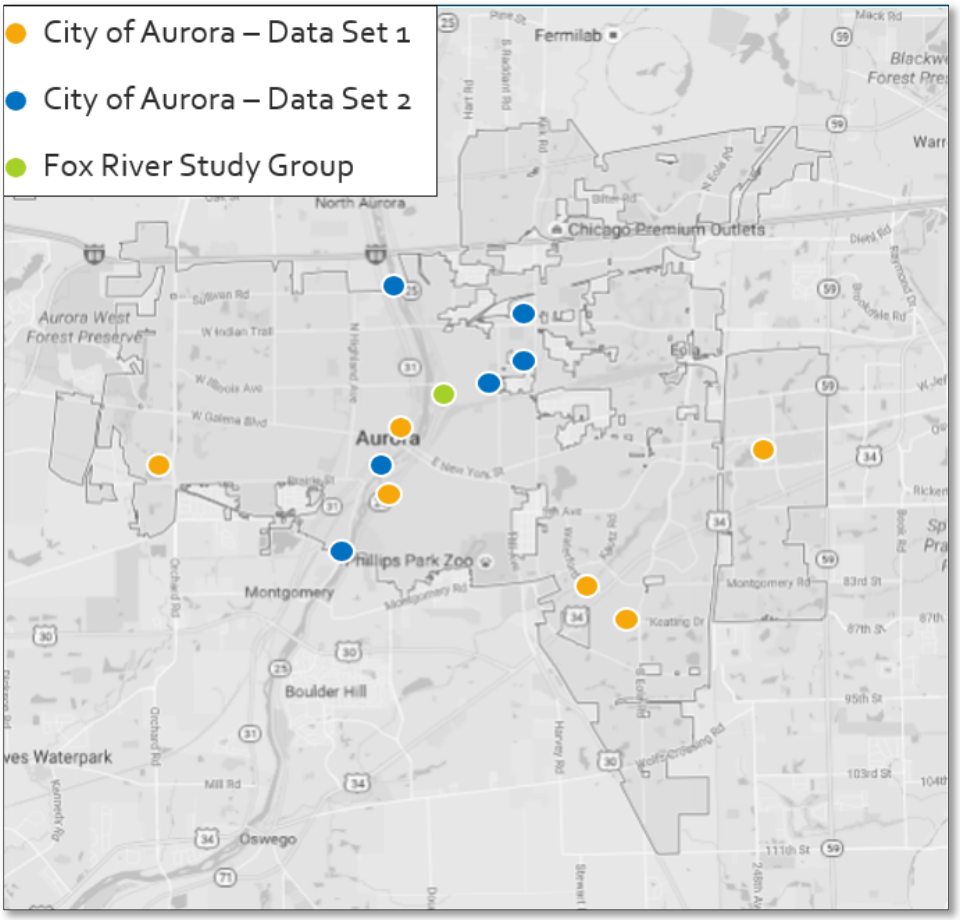
BMP F.3 – Municipal Operations Stormwater Control

Design of a new Public Works Facility is underway and stormwater pollution prevention measures have been incorporated into the site design. Once the design is complete, the City will prepare a Stormwater Pollution Prevention Plan for the site. After the new Public Works Facility is up and running, the City will annually evaluate the effectiveness of the Stormwater Pollution Prevention Plan and update the Plan, as needed.

Monitoring Plan

Water quality samples are regularly collected for the City in two distinct data sets. Deuchler Engineering collects quarterly water quality samples for the City's first data set at the locations listed below.

- The 48 inch storm sewer discharging to the Fox River near the intersection of West Park Avenue and River Street
- The 72 inch storm sewer discharging to the Fox River near Hurds Island Park, south of North Avenue
- The 96 inch storm sewer discharging to Waubonsie Creek near the intersection of Raintree Road and Gregory Street
- An open channel in the Waubonsie Creek watershed near the intersection of Ellington Drive and Keating Drive
- Waubonsie Creek near the City limits at Waterford Drive
- The 48 inch storm sewer discharging to a tributary of Blackberry Creek near the intersection of Coach and Surrey Lane and Lakeview Drive



Samples are typically collected within 24 hours of a storm event producing at least 0.25 inch of precipitation within a 24 hour period. Each sample is tested for: temperature, DO, pH, conductivity, TSS, nitrate, nitrite, TKN, ammonia, TP, fecal coliforms, Cl, and TPH. These parameters are also tested by FRSG at other locations in the Fox River watershed. Since the City's NPDES Permit also requires testing of pollutants for which the receiving water is considered impaired, the City also tests the two Fox River discharges listed above for Hg and PCBs. These parameters are only tested biannually because they are considered legacy pollutants in the Fox River. Temperature, DO, pH, and conductivity testing is performed in the field by Deuchler Engineering . All other testing is performed by FMWRD, Aurora's Water Treatment Plant, or First Environmental Laboratories, Inc after receiving the samples from Deuchler Engineering. Sample collection for this data set began in October 2016.

Deuchler Engineering also collects quarterly water quality samples for the City's second data set at the bridges listed below.

- Fox River at Sullivan Road
- Fox River at North Avenue
- Fox River at Ashland Avenue
- Indian Creek at Reckinger Road
- Indian Creek at Austin Avenue
- Indian Creek at Ohio Street

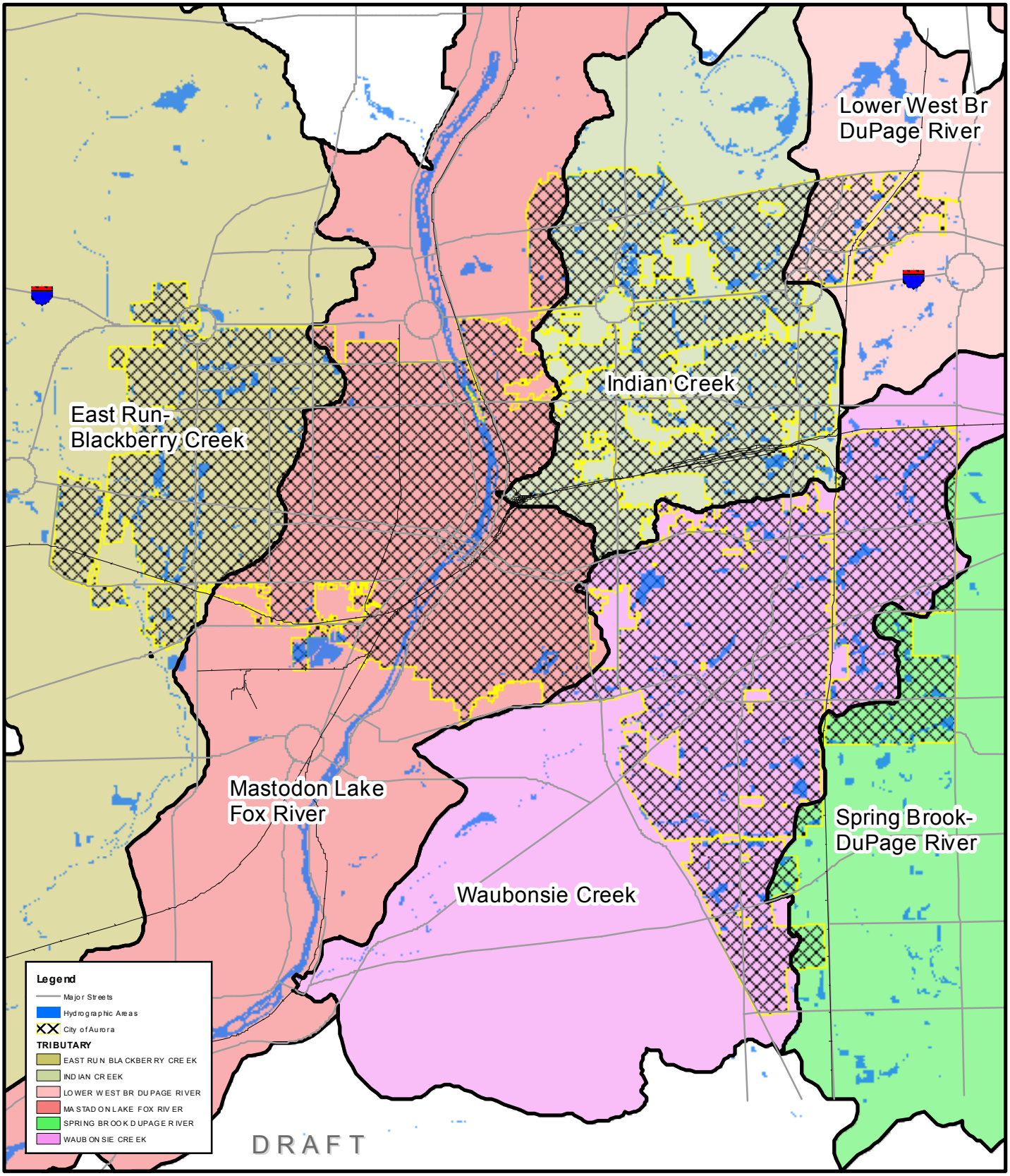
Until March 2021, Deuchler Engineering collected monthly water quality samples at these locations for FMWRD. That sampling program was discontinued by FMWRD due to budget constraints, but the City restarted the program with quarterly sample collection in August 2021. These samples are collected on the third Tuesday of the month in conjunction with FRSG's monthly sampling schedule. Each sample is tested for: temperature, DO, pH, conductivity, TSS, nitrate, nitrite, TKN, ammonia, organic nitrogen, TP, fecal coliforms, Cl, carbonaceous biological oxygen demand, and chlorophyll a.

FRSG has collected additional water quality data in the Fox River Watershed since 2002, including at the mouth of Indian Creek in Aurora. In February 2019 the ISWS published a report on this data titled "Water Quality Trend Analysis for the Fox River Watershed: Stratton Dam to the Illinois River." The report included analyses of data collected at Geneva (upstream of Aurora) and Montgomery (downstream of Aurora), determining Upper and Lower Quartile values by month for water quality parameters including pH, TSS, TKN, and TP.

The City's Annual MS4 Reports to the IEPA include water quality test results from the City's monitoring data. Charts showing pH, TSS, TKN, and TP at locations within the MS4 are shown with Fox River Upper and Lower Quartile values, based on data reported in the ISWS's Water Quality Trend Analysis. These Upper and Lower Quartile values indicate whether the monitoring data collected by Aurora is within the range of values typical for the Fox River for the given time of year.

APPENDIX 1

WATERSHED MAP



N
W E
S
Not To Scale

Sub Watersheds & Receiving Waters City of Aurora, IL

CITY OF AURORA GEOGRAPHIC INFORMATION SYSTEM
COA GIS

Prepared By:
The City of Aurora MIS Div
Date: 4/20/2016

APPENDIX 2

ELEMENTARY SCHOOLS IN AURORA

District	Elementary School	Address	Zip	Avg.	2017
129	Freeman Elementary School	153 S Randall Rd	60506	98	120
129	Greeenman Elementary School	729 W Galena Blvd	60506	130	106
129	Hall Elementary School	2001 Heather Dr	60506	108	110-125
129	Hill Elementary School	724 Pennsylvania Ave	60506	94	110
129	McCleery Elementary School	1002 W Illinois Ave	60506	111	106
129	Smith Elementary School	1332 Robinwood Dr	60506	87	100
131	Allen Elementary School	700 S Farnsworth Ave	60505	144	125
131	Bardwell Elementary School	550 S Lincoln Ave	60505	140	150
131	Beaupre Elementary School	954 E Benton St	60505	55	55
131	Brady Elementary School	600 Colombia St	60505	90	80
131	Dieterich Elementary School	1141 Jackson St	60505	106	125
131	Gates Elementary School	800 7th Ave	60505	105	105-155
131	Hermes Elementary School	1000 Jungles Ave	60505	138	145
131	Johnson Elementary School	1934 Liberty St	60502	59	50
131	Krug Elementary School	240 Melrose Ave	60505	41	50
131	Oak Park Elementary School	1200 Front St	60505	88	100
131	O'Donnell Elementary School	1640 Reckinger Rd	60505	65	80
131	Rollins Elementary School	950 Kane St	60505	84	85
204	Brooks Elementary School	2700 Stonebridge Blvd	60502	100	140
204	Georgetown Elementary School	995 Long Grove Dr	60504	100	95
204	Gombert Elementary School	2707 Ridge Rd	60504	100	100
204	McCarty Elementary School	3000 Village Green Dr	60504	100	120
204	Nancy Young Elementary School	800 Asbury Dr	60502	100	126
308	Homestead Elementary School	2830 Hillsboro Blvd	60503	100	121
308	The Wheatlands Elementary School	2290 Barrington Drive	60503	100	114
308	Wolf's Crossing Elementary School	3015 Heggs Road	60503	100	75
	Aurora Christian Elementary School	2255 Sullivan Road	60506		25
	Our Lady of Good Counsel Catholic School	601 Talma St	60506		25
	Annunciation BVM Catholic Elementary School	1840 Church Road	60505		25
	St. Rita of Cascia School	770 W. Old Indian Trail	60506		50
	St. Joseph School	706 High Street	60505		15-100
	Holy Angels Catholic School	720 Kensington Place	60506		50
	St. Peter Catholic School	915 Sard Ave	60506		25
	Resurrection Lutheran School	2567 W. Sullivan Road	60506		25
	St. Therese of Jesus Catholic School	255 North Farnsworth Ave	60505		10
	St. Paul Lutheran School	85 S. Constitution Drive	60506		25
	Covenant Christian School	10 North Edgelawn Drive	60506		25
131	John C. Dunham STEM Partnership School	405 S. Gladstone Ave	60506		25-50
131	Fred Rogers Magnet Academy	157 N Root St	60505	75	75

APPENDIX 3

LETTERS OF PERMISSION FROM SCHOOL DISTRICTS IN AURORA

EAST AURORA
SCHOOL DISTRICT 131

SUPERINTENDENT OFFICE
East Aurora Administrative Center
310 Seminary Avenue • Aurora, IL 60505
630/299-5554 • info@d131.org • www.d131.org

November 18, 2021

Gerardo Licon
City of Aurora - Engineering Division
77 S. Broadway
Aurora, Illinois 60505

RE: Permission to Distribute Bookmarks

East Aurora School District 131 supports the City of Aurora's efforts to protect the Fox River and its tributaries from pollution through education. The District has reviewed the bookmark titled "Help Keep Aurora's Waterways Clean!" and provides this letter permitting the City to distribute these bookmarks to East Aurora Elementary Schools in for distribution to 5th grade students sometime during the 2021-2022 school year.

Sincerely,

Dr. Jennifer Norrell
Superintendent of Schools

West Aurora School District 129
WEST AURORA • NORTH AURORA • MONTGOMERY • SUGAR GROVE • BATAVIA

District Administration Office
1877 W. Downer Place
Aurora, IL 60506

Phone: 630.301.5000
Fax: 630.844.4442
www.sd129.org

10/6/2021

Gerardo Licon

City of Aurora - Engineering Division

77 S. Broadway

Aurora, Illinois 60505

Subject – Permission to Distribute Bookmarks

West Aurora School District 129 supports the City of Aurora's efforts to protect the Fox River and its tributaries from pollution through education. The District has reviewed the bookmark titled "Help Keep Aurora's Waterways Clean!" and provides this letter permitting the City to distribute these bookmarks to West Aurora School District Elementary Schools in Aurora for distribution to 5th grade students sometime during the 2021-2022 school year.

Sincerely,

Jeff Craig Ed.D.

Superintendent

West Aurora School District 129

INDIAN PRAIRIE
SCHOOL DISTRICT 204

October 6, 2021

Gerardo Licon
City of Aurora - Engineering Division
77 S. Broadway
Aurora, Illinois 60505

Subject – Permission to Distribute Bookmarks

Indian Prairie School District 204 supports the City of Aurora's efforts to protect the Fox River and its tributaries from pollution through education. The District has reviewed the bookmark titled "Help Keep Aurora's Waterways Clean!" and provides this letter permitting the City to distribute these bookmarks to IPSD 204 Elementary Schools in Aurora for distribution to 5th grade students sometime during the 2021-2022 school year.

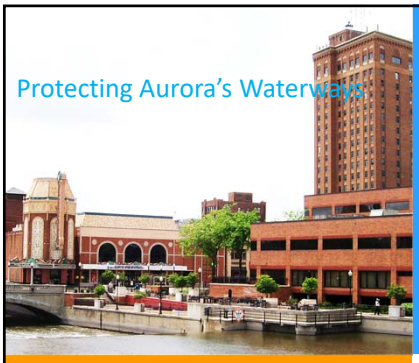
Sincerely,

Adrian B. Talley, Ed.D.
Superintendent
Indian Prairie School District 204

APPENDIX 4

PUBLIC EDUCATION PRESENTATION SLIDES

Protecting Aurora's Waterways



Hill Elementary School – December 4, 2019
Mark Phipps, P.E., CFM, CPESC

AURORA ILLINOIS CITY OF LIGHTS

1

Why should we protect water quality?

1. Aquatic Life

2

Why should we protect water quality?

1. Aquatic Life
2. Your Drinking Water
3. Someone Else's Drinking Water

3

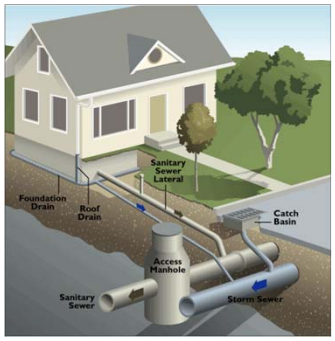
Aurora's Water Treatment Plant

4

Where does river water come from?

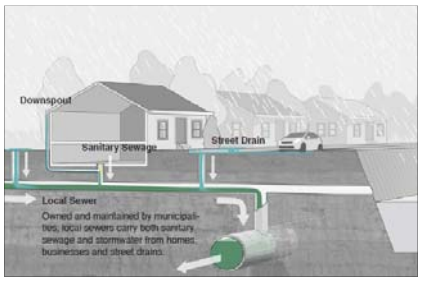
5

Storm Sewers and Sanitary Sewers



6

Combined Sewers



7

Combined Sewers

8

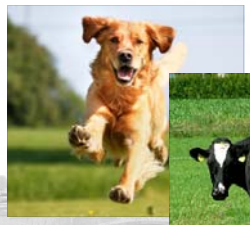
Common Pollutants in Waterways

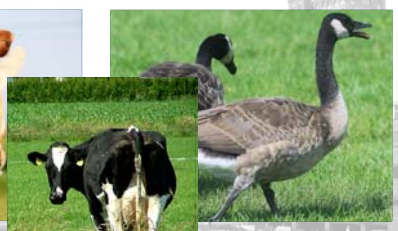
1. **Bacteria (E. Coli)**

9

Common Pollutants in Waterways

1. **Bacteria (E. Coli)**





10

Common Pollutants in Waterways

1. **Bacteria (E. Coli)**
2. **Oil**

11

Common Pollutants in Waterways

1. **Bacteria (E. Coli)**
2. **Oil**
3. **Soil (TSS)**

12

Common Pollutants in Waterways

1. Bacteria (E. Coli)
2. Oil
3. Soil (TSS)
4. Salt (Chloride)


13

Common Pollutants in Waterways

1. Bacteria (E. Coli)
2. Oil
3. Soil (TSS)
4. Salt (Chloride)
5. Nutrients



14

Common Pollutants in Waterways

1. Bacteria (E. Coli)
2. Oil
3. Soil (TSS)
4. Salt (Chloride)
5. Nutrients
6. Garbage

15

What is the City doing?

1. Sewer Separation

16

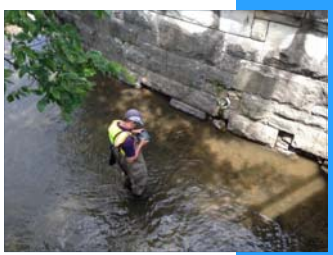
What is the City doing?

1. Sewer Separation
2. Maintenance

17

What is the City doing?

1. Sewer Separation
2. Maintenance
3. Monitoring



18

What is the City doing?

1. Sewer Separation
2. Maintenance
3. Monitoring
4. Education

19

What can you do?

1. Only Rain Down the Drain

20

What can you do?

1. Only Rain Down the Drain
2. Use Chemicals Sparingly

21

What can you do?

1. Only Rain Down the Drain
2. Use Chemicals Sparingly
3. Pick Up Pet Waste

22

What can you do?

1. Only Rain Down the Drain
2. Use Chemicals Sparingly
3. Pick Up Pet Waste
4. Use a Commercial Car Wash

23

What can you do?

1. Only Rain Down the Drain
2. Use Chemicals Sparingly
3. Pick Up Pet Waste
4. Use a Commercial Car Wash
5. Repair Leaking Vehicles

24

What can you do?

1. **Only Rain Down the Drain**
2. **Use Chemicals Sparingly**
3. **Pick Up Pet Waste**
4. **Use a Commercial Car Wash**
5. **Repair Leaking Vehicles**
6. **Soak Up Spills**

25

Questions?

Mark Phipps, P.E., CFM, CPESC
City of Aurora, Engineering Division
mphipps@aurora-il.org
630-256-3231

AURORA ILLINOIS CITY OF LIGHTS

26

APPENDIX 5

RESOLUTION SUPPORTING FRSG

TO: Mayor Richard C. Irvin

FROM: Mark Phipps, Drainage and Underground Coordinator

DATE: September 24, 2018

SUBJECT:
Resolution authorizing payment to the Fox River Study Group to conduct water quality studies of the Fox River and implement a plan for improving water quality.

PURPOSE:
To adopt a resolution authorizing payment to the Fox River Study Group from the 2019 through and including the 2022 budget.

BACKGROUND:
Starting in 1998, the Illinois Environmental Protection Agency has included the Fox River on Illinois' 303(d) list of impaired waterways. Federal law requires that a Total Maximum Daily Load (TMDL) Study be conducted for waterways that are listed on the State's 303(d) list. In 2001, the Fox River Study Group was formed to plan and conduct a TMDL Study of the Fox River. The Fox River Study Group is a diverse coalition of stakeholders and is supported by financial contributions from the Illinois Environmental Protection Agency, Fox Metro Water Reclamation District, Sierra Club, Aurora, Algonquin, Batavia, Geneva, St. Charles, Yorkville, Elgin, Fox River Water Reclamation District, Yorkville-Bristol Sanitary District, Crystal Lake, Illinois State Water Survey, and Kane County.

The Fox River Study Group is in the final phase of a four phase work plan. This phase involves using a watershed model as a management tool to:
1. Ensure efficient use of taxpayer and private money on watershed projects;
2. Assess the effect of various development options throughout the watershed;
3. Educate stakeholders;
4. Identify sensitive regions within the watershed; and
5. Develop effective continuing monitoring programs.

DISCUSSION:
Each year the City of Aurora has been contributing $0.50 per capita times the Aurora census population. The 2018 City Budget provides $105,000 for this item in account 510-4063-511.32-18 (Water and Sewer Fund). Payment for this contribution was previously authorized by resolutions R11-040 and R15-108.

IMPACT STATEMENT:
The work of the Fox River Study Group is vital to maintaining compliance with the federal Clean Water Act.

RECOMMENDATIONS:
Staff recommends the proposed resolution be adopted.

cc: Building, Grounds and Infrastructure Committee

CITY OF AURORA, ILLINOIS

RESOLUTION NO. _____
DATE OF PASSAGE _____

A Resolution authorizing payment to the Fox River Study Group to conduct water quality studies of the Fox River and implement a plan for improving water quality.

WHEREAS, the City of Aurora has a population of more than 25,000 persons and is, therefore, a home rule unit under subsection (a) of Section 6 of Article VII of the Illinois Constitution of 1970; and

WHEREAS, subject to said Section, a home rule unit may exercise any power and perform any function pertaining to its government and affairs for the protection of the public health, safety, morals, and welfare; and

WHEREAS, the Illinois Environmental Protection Agency has classified the Fox River as an impaired waterway; and

WHEREAS, the City is an active member of the Fox River Study Group along with representatives of the Fox Metro Water Reclamation District, the Fox River Ecosystem Partnership, the Fox River Water Reclamation District, the Friends of the Fox River, Kane County, the City of Elgin, the Sierra Club, and the Tri-Cities of Batavia, Geneva, and St. Charles; and

WHEREAS, the work of the Fox River Study Group is vital to maintaining compliance with the federal Clean Water Act; and

WHEREAS, the City has been asked to contribute $0.50 per capita, per year for the years 2019, 2020, 2021, and 2022 for its cost share of the Fox River Study Group; and

WHEREAS, the 2018 City Budget provides $105,000 for this item in account 510-4063-511.32-18 (Water and Sewer Fund).

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Aurora, Illinois, as follows: that payment of $0.50 per capita per year to the Fox River Study Group is hereby authorized for the years 2019, 2020, 2021, and 2022 and the Director of Purchasing is hereby authorized to make such payment on behalf of the City.

APPENDIX 6

PHOSPHORUS LOAD REDUCTION SPREADSHEET

MS4 Non-Point Source Control Measure Tracking Tool

Fox River Watershed, Illinois

MS4	Project Name	Project Cost	Project Type	Total Area Captured (acres)	% Urban High Density	% Low-Medium Density	% Urban Open Space	Area-Weighted UAL (lb/acre/yr)	Load (lb)	Removal Efficiency	Total Load Removed (lb/yr)	Cost per Pound P Removed ($/lb)
Aurora city	Ginger Woods Unit 6		Wet detention	21	70%	0%	30%	0.76	16.0	68%	10.9	$0
Aurora city	Ginger Woods Unit 2		Wet detention	20	0%	95%	5%	0.48	9.7	68%	6.6	$0
Aurora city	Aurora Corporate Center		Wet detention	40	100%	0%	0%	0.98	39.2	68%	26.7	$0
Aurora city	CDH Fox Valley Medical Campus		Dry detention	15	95%	0%	5%	0.94	14.2	26%	3.7	$0
Aurora city	Acorn Woods		Wet detention	9.5	10%	0%	90%	0.32	3.1	68%	2.1	$0
Aurora city	West Ridge Corporate Center Ph II		Wet detention	62	100%	0%	0%	0.98	60.8	68%	41.3	$0
Aurora city	Dolan-Lies		Wet detention	32	100%	0%	0%	0.98	31.4	68%	21.3	$0
Aurora city	West Ridge Corporate Center Ph III		Wet detention	143	100%	0%	0%	0.98	140.2	68%	95.4	$0
Aurora city	Farnsworth Center for Business		Wet detention	39	100%	0%	0%	0.98	38.2	68%	26.0	$0
Aurora city	Church Corporate Park		Wet detention	16	100%	0%	0%	0.98	15.7	68%	10.7	$0
Aurora city	958 & 966 Corporate Bl Sub		Dry detention	22	95%	0%	5%	0.94	20.8	26%	5.4	$0
Aurora city	Mitutoyo Subdivision		Dry detention	18	100%	0%	0%	0.98	17.7	26%	4.6	$0
Aurora city	Fermi Corporate Park Phase II		Wet detention	19	90%	0%	10%	0.91	17.2	68%	11.7	$0
Aurora city	Fermi Corporate Park Phase II		Dry detention	9	90%	0%	10%	0.91	8.2	26%	2.1	$0
Aurora city	Fermi Corporate Park Phase II		Dry detention	13	90%	0%	10%	0.91	11.8	26%	3.1	$0
Aurora city	Centerpoint Prime Aurora		Wet detention	20	100%	0%	0%	0.98	19.6	68%	13.3	$0
Aurora city	Prime Business Park Unit 3		Dry detention	70	100%	0%	0%	0.98	68.6	26%	17.8	$0
Aurora city	Farmers Insurance Group		Wet detention	26	90%	0%	10%	0.91	23.6	68%	16.0	$0
Aurora city	Bowman Corporate Center Unit 2		Wet detention	28	70%	0%	30%	0.76	21.3	68%	14.5	$0
Aurora city	Toyota Subdivision 1st Resub		Wet detention	30	100%	0%	0%	0.98	29.4	68%	20.0	$0
Aurora city	Toyota Subdivision 2nd Resub		Wet detention	11	80%	0%	20%	0.83	9.2	68%	6.2	$0
Aurora city	Toyota Subdivision 3rd Resub		Wet detention	44	80%	0%	20%	0.83	36.7	68%	25.0	$0
Aurora city	Orchard Corridor Office Park Unit 1		Contstructed wetlands	35	50%	0%	50%	0.61	21.5	44%	9.5	$0
Aurora city	Fox Valley Park District		Wet detention	20	0%	0%	100%	0.25	5.0	68%	3.4	$0
Aurora city	Foxcroft Subdivision		Wet detention	79	75%	0%	25%	0.80	63.0	68%	42.8	$0
Aurora city	Orchard Business Park		Wet detention	82	100%	0%	0%	0.98	80.4	68%	54.7	$0
Aurora city	Landmark Industrial Park		Dry detention	47	100%	0%	0%	0.98	46.1	26%	12.0	$0
Aurora city	Prime Business Park Unit 2		Wet detention	43	100%	0%	0%	0.98	42.2	68%	28.7	$0
Aurora city	Prime Business Park Unit 2		Dry detention	20	100%	0%	0%	0.98	19.6	26%	5.1	$0
Aurora city	Prime Business Park Unit 1		Wet detention	51	100%	0%	0%	0.98	50.0	68%	34.0	$0
Aurora city	Golden Oaks Unit 1		Wet detention	41	0%	40%	60%	0.35	14.2	68%	9.7	$0
Aurora city	Golden Oaks Unit 4		Wet detention	20	0%	50%	50%	0.37	7.4	68%	5.1	$0
Aurora city	Joseph Freed Subdivision		Wet detention	20	100%	0%	0%	0.98	19.6	68%	13.3	$0
Aurora city	Marywood North Estates		Dry detention	7	100%	0%	0%	0.98	6.9	26%	1.8	$0
Aurora city	Marywood Meadow Estates		Dry detention	19	0%	80%	20%	0.45	8.5	26%	2.2	$0
Aurora city	Marywood Meadows South		Dry detention	16	0%	90%	10%	0.47	7.5	26%	2.0	$0
Aurora city	Lora Lei Acres		Dry detention	11	10%	0%	90%	0.32	3.5	26%	0.9	$0
Aurora city	Linden Grove		Dry detention	12	0%	100%	0%	0.50	5.9	26%	1.5	$0
Aurora city	Prairie Path Estates		Dry detention	9	0%	90%	10%	0.47	4.2	26%	1.1	$0
Aurora city	Country Squire Estates Unit 7		Dry detention	15	20%	80%	0%	0.59	8.9	26%	2.3	$0
Aurora city	Prairie Point West		Wet detention	72	80%	0%	20%	0.83	60.1	68%	40.8	$0
Aurora city	White Oak West		Wet detention	46	70%	0%	30%	0.76	35.0	68%	23.8	$0
Aurora city	Linden Woods		Wet detention	7	10%	0%	90%	0.32	2.3	68%	1.5	$0
Aurora city	Stonegate Unit 1		Wet detention	55	0%	60%	40%	0.40	21.8	68%	14.8	$0

MS4 Non-Point Source Control Measure Tracking Tool

Fox River Watershed, Illinois

MS4	Project Name	Project Cost	Project Type	Total Area Captured (acres)	% Urban High Density	% Low-Medium Density	% Urban Open Space	Area-Weighted UAL (lb/acre/yr)	Load (lb)	Removal Efficiency	Total Load Removed (lb/yr)	Cost per Pound P Removed ($/lb)
Aurora city	Stonegate West Unit 7B		Wet detention	11	0%	75%	25%	0.43	4.8	68%	3.2	$0
Aurora city	Prairie Point Condominiums		Wet detention	17	10%	0%	90%	0.32	5.5	68%	3.7	$0
Aurora city	Stonegate West Unit 5		Wet detention	12	30%	0%	70%	0.47	5.6	68%	3.8	$0
Aurora city	Stonegate West Unit 6		Wet detention	10	40%	0%	50%	0.52	5.2	68%	3.5	$0
Aurora city	Stonegate Unit 3		Wet detention	21	0%	75%	25%	0.43	9.1	68%	6.2	$0
Aurora city	Stonegate West Unit 7A		Wet detention	40	0%	60%	40%	0.40	15.9	68%	10.8	$0
Aurora city	Stonebridge Country Club Unit 47B		Contstructed wetlands	28	85%	5%	10%	0.88	24.7	44%	10.9	$0
Aurora city	Sheffer Woods		Wet detention	7	0%	75%	25%	0.43	3.0	68%	2.1	$0
Aurora city	Valayna		Dry detention	9	0%	75%	25%	0.43	3.9	26%	1.0	$0
Aurora city	Blazing Trails		Dry detention	6	0%	60%	30%	0.37	2.2	26%	0.6	$0
Aurora city	Farnsworth Plaza		Dry detention	5	100%	0%	0%	0.98	4.9	26%	1.3	$0
Aurora city	Indian Trail Estates Unit 1		Dry detention	44	0%	50%	50%	0.37	16.4	26%	4.3	$0
Aurora city	Edgebrook Estates Unit 2		Dry detention	8	0%	100%	0%	0.50	4.0	26%	1.0	$0
Aurora city	Towne Club		Wet detention	30	0%	20%	80%	0.30	8.9	68%	6.1	$0
Aurora city	Kensington Lakes Unit 1		Wet detention	24	0%	80%	20%	0.45	10.7	68%	7.3	$0
Aurora city	Edgebrook Estates Unit 1		Dry detention	12	0%	100%	0%	0.50	5.9	26%	1.5	$0
Aurora city	Indian Trail West		Wet detention	122	0%	95%	5%	0.48	59.0	68%	40.1	$0
Aurora city	Greenfield Commons		Wet detention	65	70%	0%	30%	0.76	49.5	68%	33.6	$0
Aurora city	East Reimers Subdivision		Wet detention	29	80%	0%	20%	0.83	24.2	68%	16.5	$0
Aurora city	Alschuler's Subdivision		Contstructed wetlands	111	0%	90%	10%	0.47	52.3	44%	23.0	$0
Aurora city	Natures Edge		Wet detention	30	0%	85%	15%	0.46	13.8	68%	9.4	$0
Aurora city	Natures Pointe Unit 6		Dry detention	25	35%	5%	60%	0.52	12.9	26%	3.4	$0
Aurora city	Natures Pointe Unit 7		Dry detention	17	80%	0%	20%	0.83	14.2	26%	3.7	$0
Aurora city	Waterford Unit 2		Wet detention	47	80%	0%	20%	0.83	39.2	68%	26.7	$0
Aurora city	Natures Glen		Wet detention	22	100%	0%	0%	0.98	21.6	68%	14.7	$0
Aurora city	Natures Pointe Unit 1		Wet detention	19	100%	0%	0%	0.98	18.6	68%	12.7	$0
Aurora city	Hometown of Waterford Unit 9		Wet detention	36	70%	0%	30%	0.76	27.4	68%	18.6	$0
Aurora city	Hometown of Waterford Unit 10		Wet detention	15	90%	0%	10%	0.91	13.6	68%	9.3	$0
Aurora city	Hometown Farnsworth Phase I		Wet detention	30	80%	0%	20%	0.83	25.0	68%	17.0	$0
Aurora city	Waterford Unit 1		Wet detention	26	100%	0%	0%	0.98	25.5	68%	17.3	$0
Aurora city	Four Pointes		Dry detention	56	90%	0%	10%	0.91	50.8	26%	13.2	$0
Aurora city	Fox Valley Villages Unit 8		Dry detention	64	80%	0%	20%	0.83	53.4	26%	13.9	$0
Aurora city	Chatham Grove Unit 1		Wet detention	13	95%	0%	5%	0.94	12.3	68%	8.3	$0
Aurora city	The Gables East		Wet detention	13	100%	0%	0%	0.98	12.7	68%	8.7	$0
Aurora city	The Vineyards		Wet detention	26	0%	75%	25%	0.43	11.3	68%	7.7	$0
Aurora city	Savannah Crossings		Wet detention	40	60%	0%	40%	0.69	27.5	68%	18.7	$0
Aurora city	Kirkland Farms Unit 1		Wet detention	25	0%	90%	10%	0.47	11.8	68%	8.0	$0
Aurora city	Kirkland Farms Unit 2		Wet detention	24	0%	85%	15%	0.46	11.0	68%	7.5	$0
Aurora city	Kirkland Crossing Unit 2		Wet detention	24	75%	0%	25%	0.80	19.1	68%	13.0	$0
Aurora city	Savannah Unit 1		Wet detention	76	0%	67%	33%	0.41	31.5	68%	21.4	$0
Aurora city	Ginger Woods Unit 1		Wet detention	21	0%	80%	20%	0.45	9.4	68%	6.4	$0
Aurora city	Ginger Woods Unit 5		Wet detention	18	100%	0%	0%	0.98	17.7	68%	12.0	$0
Aurora city	Kirkland Crossing		Wet detention	19	67%	0%	33%	0.74	14.0	68%	9.5	$0
Aurora city	Butterfield Phase II Unit 1D		Wet detention	33	90%	0%	10%	0.91	29.9	68%	20.4	$0

MS4 Non-Point Source Control Measure Tracking Tool

Fox River Watershed, Illinois

MS4	Project Name	Project Cost	Project Type	Total Area Captured (acres)	% Urban High Density	% Low-Medium Density	% Urban Open Space	Area-Weighted UAL (lb/acre/yr)	Load (lb)	Removal Efficiency	Total Load Removed (lb/yr)	Cost per Pound P Removed ($/lb)
Aurora city	White Oak Business Park Unit 1		Wet detention	133	90%	0%	10%	0.91	120.7	68%	82.1	$0
Aurora city	Ginger Woods Unit 3		Wet detention	22	0%	100%	0%	0.50	10.9	68%	7.4	$0
Aurora city	Cambridge Countryside Unit 4		Wet detention	39	60%	0%	40%	0.69	26.8	68%	18.2	$0
Aurora city	Cambridge Countryside Unit 3		Wet detention	47	10%	0%	90%	0.32	15.1	68%	10.3	$0
Aurora city	Cambridge Countryside Unit 5		Wet detention	11	20%	0%	80%	0.39	4.3	68%	3.0	$0
Aurora city	White Oak Business Park Unit 3		Wet detention	35	100%	0%	0%	0.98	34.3	68%	23.3	$0
Aurora city	White Oak Business Park Unit 2		Wet detention	75	95%	0%	5%	0.94	70.8	68%	48.1	$0
Aurora city	Palomino Springs		Wet detention	30	0%	100%	0%	0.50	14.9	68%	10.1	$0
Aurora city	Stonebridge Country Club Unit 36		Wet detention	33	75%	0%	25%	0.80	26.3	68%	17.9	$0
Aurora city	Stonebridge Country Club		Wet detention	303	70%	5%	25%	0.77	234.3	68%	159.3	$0
Aurora city	Stonebridge Country Club Unit 38		Wet detention	12	80%	0%	20%	0.83	10.0	68%	6.8	$0
Aurora city	Stonebridge Country Club Unit 36B		Wet detention	15	67%	0%	33%	0.74	11.1	68%	7.5	$0
Aurora city	Harris Farm		Wet detention	35	0%	100%	0%	0.50	17.4	68%	11.8	$0
Aurora city	Cambridge Chase		Wet detention	88	0%	80%	20%	0.45	39.3	68%	26.7	$0
Aurora city	Fox Valley East Reg 2 Unit 49 Ph 2		Dry detention	47	80%	0%	20%	0.83	39.2	26%	10.2	$0
Aurora city	Stonebridge Country Club Unit 48		Wet detention	15	60%	0%	40%	0.69	10.3	68%	7.0	$0
Aurora city	Meridian Business Campus Ph II Unit 3		Wet detention	45	100%	0%	0%	0.98	44.1	68%	30.0	$0
Aurora city	Meridian Business Campus Ph II Unit 2		Wet detention	117	90%	0%	10%	0.91	106.2	68%	72.2	$0
Aurora city	Ashton Pointe Unit 1		Wet detention	23	100%	0%	0%	0.98	22.6	68%	15.3	$0
Aurora city	Ashton Pointe Unit 2		Contstructed wetlands	62	70%	0%	30%	0.76	47.2	44%	20.8	$0
Aurora city	Fox Valley East Reg 2 Unit 53 Ph 2		Wet detention	187	50%	0%	50%	0.61	114.9	68%	78.1	$0
Aurora city	Country Club Village		Wet detention	73	0%	90%	10%	0.47	34.4	68%	23.4	$0
Aurora city	Stonebridge C.C. Unit 45B (The Glens)		Wet detention	15	90%	0%	10%	0.91	13.6	68%	9.3	$0
Aurora city	Stonebridge C.C. Unit 47		Wet detention	20	80%	0%	20%	0.83	16.7	68%	11.3	$0
Aurora city	Stonebridge C.C. Unit 47A		Wet detention	64	75%	0%	25%	0.80	51.0	68%	34.7	$0
Aurora city	Stonebridge Unit 49		Wet detention	47	90%	0%	10%	0.91	42.6	68%	29.0	$0
Aurora city	Reflections		Wet detention	61	50%	0%	50%	0.61	37.5	68%	25.5	$0
Aurora city	Legacy Fields		Wet detention	31	60%	0%	40%	0.69	21.3	68%	14.5	$0
Aurora city	Fox Valley East Reg. 2 Unit 53 Ph 1		Contstructed wetlands	126	67%	0%	33%	0.74	93.1	44%	41.0	$0
Aurora city	The Reserve of Oakhurst		Dry detention	7	0%	90%	10%	0.47	3.3	26%	0.9	$0
Aurora city	Woodland Lakes		Dry detention	17	50%	0%	50%	0.61	10.4	26%	2.7	$0
Aurora city	Abington Trace		Wet detention	9	70%	0%	30%	0.76	6.8	68%	4.7	$0
Aurora city	Crossings at Oakhurst		Wet detention	34	90%	0%	10%	0.91	30.9	68%	21.0	$0
Aurora city	Abington Woods		Wet detention	16	50%	0%	50%	0.61	9.8	68%	6.7	$0
Aurora city	Pasquinelli's Park Avenue		Contstructed wetlands	21	70%	0%	30%	0.76	16.0	44%	7.0	$0
Aurora city	Fox Valley East Region II Unit 52A		Wet detention	31	70%	0%	30%	0.76	23.6	68%	16.0	$0
Aurora city	Fox Valley East Region II Unit 52		Wet detention	30	75%	0%	25%	0.80	23.9	68%	16.3	$0
Aurora city	Fox Valley East Region II Unit 35		Wet detention	17	100%	0%	0%	0.98	16.7	68%	11.3	$0
Aurora city	Fox Valley East Region II Unit 35 Ph 2		Wet detention	16	50%	0%	50%	0.61	9.8	68%	6.7	$0
Aurora city	Forestview		Wet detention	16	0%	90%	10%	0.47	7.5	68%	5.1	$0
Aurora city	Fox Valley East Region II Unit 33B		Wet detention	64	85%	0%	15%	0.87	55.7	68%	37.9	$0
Aurora city	Fox Valley Properties Ph 1		Wet detention	3	100%	0%	0%	0.98	2.9	68%	2.0	$0
Aurora city	Fox Valley Properties Ph 2		Wet detention	32	85%	0%	15%	0.87	27.9	68%	18.9	$0
Aurora city	Fox Valley East Region II Unit 41		Dry detention	58	100%	0%	0%	0.98	56.9	26%	14.8	$0

MS4 Non-Point Source Control Measure Tracking Tool

Fox River Watershed, Illinois

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Aurora city	Madison Park		Wet detention	38	70%	0%	30%	0.76	28.9	68%	19.7	$0
Aurora city	Yorkshire Square		Wet detention	34	50%	0%	50%	0.61	20.9	68%	14.2	$0
Aurora city	NAP 20 Ponds 377, 381, 391, 392, 395		Dry detention	63	100%	0%	0%	0.98	61.8	26%	16.1	$0
Aurora city	Aurora Crossing		Dry detention	21	100%	0%	0%	0.98	20.6	26%	5.4	$0
Aurora city	Fox Valley East Region I Unit 15		Wet detention	68	30%	0%	70%	0.47	31.8	68%	21.6	$0
Aurora city	Laurel Ridge		Dry detention	66	85%	0%	15%	0.87	57.5	26%	14.9	$0
Aurora city	Meridian Business Campus Unit 1		Wet detention	146	90%	0%	10%	0.91	132.5	68%	90.1	$0
Aurora city	Meijer		Dry detention	55	100%	0%	0%	0.98	53.9	26%	14.0	$0
Aurora city	Yorkshire Plaza		Dry detention	41	100%	0%	0%	0.98	40.2	26%	10.5	$0
Aurora city	Thatcher's Grove		Wet detention	40	0%	80%	20%	0.45	17.9	68%	12.1	$0
Aurora city	Chicory Place Unit 2		Wet detention	15	0%	90%	10%	0.47	7.1	68%	4.8	$0
Aurora city	Blackstone		Wet detention	24	100%	0%	0%	0.98	23.5	68%	16.0	$0
Aurora city	Blackstone Unit 2		Wet detention	17	50%	0%	50%	0.61	10.4	68%	7.1	$0
Aurora city	Fox Valley Villages Unit 27		Wet detention	31	100%	0%	0%	0.98	30.4	68%	20.7	$0
Aurora city	F.V.V. Unit 27		Wet detention	14	80%	0%	20%	0.83	11.7	68%	7.9	$0
Aurora city	Emerald Shores		Dry detention	3	85%	0%	15%	0.87	2.6	26%	0.7	$0
Aurora city	Ogden Pointe		Wet detention	24	50%	0%	50%	0.61	14.7	68%	10.0	$0
Aurora city	Fox Valley East Region II Unit 34		Wet detention	67	25%	0%	75%	0.43	28.9	68%	19.7	$0
Aurora city	Georgetown		Dry detention	229	85%	0%	15%	0.87	199.4	26%	51.8	$0
Aurora city	Meadow Lakes Unit 26 Ph 1		Wet detention	68	60%	0%	40%	0.69	46.8	68%	31.8	$0
Aurora city	Oakhurst Unit 37		Dry detention	24	100%	0%	0%	0.98	23.5	26%	6.1	$0
Aurora city	Autumn Grove		Wet detention	25	0%	90%	10%	0.47	11.8	68%	8.0	$0
Aurora city	Amomac		Dry detention	5	100%	0%	0%	0.98	4.9	26%	1.3	$0
Aurora city	Green Hills		Dry detention	145	100%	0%	0%	0.98	142.2	26%	37.0	$0
Aurora city	F.V.V. Unit 8 Hunters Run		Dry detention	58	85%	0%	15%	0.87	50.5	26%	13.1	$0
Aurora city	The Colony of Fox Valley		Wet detention	89	0%	90%	10%	0.47	41.9	68%	28.5	$0
Aurora city	F.V.V. Reg II Unit 18D Ph 1		Wet detention	24	100%	0%	0%	0.98	23.5	68%	16.0	$0
Aurora city	Fry's Copenhagen Colony		Wet detention	10	0%	100%	0%	0.50	5.0	68%	3.4	$0
Aurora city	Briarwood		Dry detention	97	90%	0%	10%	0.91	88.0	26%	22.9	$0
Aurora city	Golf Villas		Wet detention	15	50%	0%	50%	0.61	9.2	68%	6.3	$0
Aurora city	White Eagle Club		Wet detention	359	50%	0%	50%	0.61	220.6	68%	150.0	$0
Aurora city	Fox Valley East Region II Unit 26 Ph II		Wet detention	139	90%	0%	10%	0.91	126.1	68%	85.8	$0
Aurora city	Chicory Place Unit 1		Wet detention	47	0%	90%	10%	0.47	22.1	68%	15.1	$0
Aurora city	Stonehaven Unit 1		Wet detention	35	0%	90%	10%	0.47	16.5	68%	11.2	$0
Aurora city	Calvary Church Campus		Wet detention	118	100%	0%	0%	0.98	115.7	68%	78.7	$0
Aurora city	Summerlin Unit 1		Dry detention	24	0%	75%	25%	0.43	10.4	26%	2.7	$0
Aurora city	Citizens 1st National Bank Business Park		Dry detention	15	100%	0%	0%	0.98	14.7	26%	3.8	$0
Aurora city	Summerlin Unit 3		Dry detention	36	0%	100%	0%	0.50	17.8	26%	4.6	$0
Aurora city	Grand Pointe Trails		Dry detention	49	33%	33%	34%	0.57	28.0	26%	7.3	$0
Aurora city	Amber Fields Unit 3		Wet detention	44	70%	0%	30%	0.76	33.5	68%	22.8	$0
Aurora city	Deerbrook Unit 1		Wet detention	47	0%	80%	20%	0.45	21.0	68%	14.3	$0
Aurora city	Deerbrook Unit 3B		Dry detention	19	0%	90%	10%	0.47	8.9	26%	2.3	$0
Aurora city	The Wheatlands Unit 1A		Dry detention	34	50%	0%	50%	0.61	20.9	26%	5.4	$0
Aurora city	Misty Creek		Dry detention	50	0%	70%	30%	0.42	21.1	26%	5.5	$0

MS4 Non-Point Source Control Measure Tracking Tool

Fox River Watershed, Illinois

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Aurora city	The Wheatlands Unit 2B		Dry detention	19	65%	0%	35%	0.72	13.8	26%	3.6	$0
Aurora city	Amber Fields Unit 5		Wet detention	37	0%	85%	15%	0.46	17.0	68%	11.5	$0
Aurora city	Amber Fields Unit 6		Wet detention	137	10%	80%	10%	0.52	71.2	68%	48.4	$0
Aurora city	Deerpath Commerce Center Unit 1		Wet detention	38	100%	0%	0%	0.98	37.3	68%	25.3	$0
Aurora city	Deerpath Commerce Center Unit 1		Wet detention	69	100%	0%	0%	0.98	67.7	68%	46.0	$0
Aurora city	Deerpath Estates		Dry detention	30	0%	40%	60%	0.35	10.4	26%	2.7	$0
Aurora city	Orchard Road Business Park		Wet detention	47	100%	0%	0%	0.98	46.1	68%	31.3	$0
Aurora city	Orchard Valley Village Center Unit 9		Wet detention	19	90%	0%	10%	0.91	17.2	68%	11.7	$0
Aurora city	Orchard Valley		Wet detention	274	30%	0%	70%	0.47	128.3	68%	87.2	$0
Aurora city	Tanglewood Oaks		Dry detention	38	0%	25%	75%	0.31	11.8	26%	3.1	$0
Aurora city	Verona Ridge Unit 2		Wet detention	37	0%	50%	50%	0.37	13.8	68%	9.4	$0
Aurora city	Ingham Park Unit 2		Dry detention	117	0%	50%	50%	0.37	43.5	26%	11.3	$0
Aurora city	The Lindens Unit 5		Wet detention	32	0%	90%	10%	0.47	15.1	68%	10.2	$0
Aurora city	The Lindens Estates		Wet detention	58	0%	60%	40%	0.40	23.0	68%	15.7	$0
Aurora city	Remington Crossing		Wet detention	57	0%	70%	30%	0.42	24.0	68%	16.3	$0
Aurora city	Eola Crossings		Wet detention	22	90%	0%	10%	0.91	20.0	68%	13.6	$0
Aurora city	Washington Square Unit 3		Wet detention	16	70%	0%	30%	0.76	12.2	68%	8.3	$0
Aurora city	Barrington Ridge Unit 3		Wet detention	67	90%	0%	10%	0.91	60.8	68%	41.3	$0
Aurora city	Barrington Ridge Unit 1		Dry detention	38	85%	0%	15%	0.87	33.1	26%	8.6	$0
Aurora city	Wheatlands Unit 7		Wet detention	23	100%	0%	0%	0.98	22.6	68%	15.3	$0
Aurora city	Barrington Ridge Unit 2		Wet detention	39	70%	0%	30%	0.76	29.7	68%	20.2	$0
Aurora city	Columbia Station Unit 1		Wet detention	45	90%	0%	10%	0.91	40.8	68%	27.8	$0
Aurora city	Grayhawk Unit 2		Wet detention	35	0%	40%	60%	0.35	12.2	68%	8.3	$0
Aurora city	Ogden Pointe II		Wet detention	33	70%	0%	30%	0.76	25.1	68%	17.1	$0
Aurora city	Ogden Point IV		Wet detention	16	80%	0%	20%	0.83	13.3	68%	9.1	$0
Aurora city	The Wheatlands Units 4A/4B		Wet detention	28	100%	0%	0%	0.98	27.5	68%	18.7	$0
Aurora city	Harvest Run Unit 2		Dry detention	13	70%	0%	40%	0.79	10.2	26%	2.7	$0
Aurora city	Wheatlands Unit 5		Wet detention	21	70%	0%	30%	0.76	16.0	68%	10.9	$0
Aurora city	Lakewood Valley Unit 3		Wet detention	38	85%	0%	15%	0.87	33.1	68%	22.5	$0
Aurora city	Lakewood Valley Unit 2		Wet detention	90	75%	0%	25%	0.80	71.8	68%	48.8	$0
Aurora city	Lakewood Valley Unit 1		Wet detention	33	50%	0%	50%	0.61	20.3	68%	13.8	$0
Aurora city	Amber Fields Unit 1		Wet detention	41	0%	80%	20%	0.45	18.3	68%	12.4	$0
Aurora city	Butterfield Oaks		Wet detention	24	90%	0%	10%	0.91	21.8	68%	14.8	$0
Aurora city	Lakewood Valley Unit 5		Wet detention	25	90%	0%	10%	0.91	22.7	68%	15.4	$0
Aurora city	Butterfield Ph II Unit 2B		Wet detention	21	70%	0%	30%	0.76	16.0	68%	10.9	$0
Aurora city	Chicago Premium Outlets		Wet detention	81	70%	0%	30%	0.76	61.6	68%	41.9	$0
Aurora city	Blackberry Creek Unit 1		Wet detention	46	0%	75%	25%	0.43	20.0	68%	13.6	$0
Aurora city	West Reimers Subdivision		Wet detention	20	65%	0%	35%	0.72	14.5	68%	9.9	$0
Aurora city	Hunters Ridge		Dry detention	20	0%	90%	10%	0.47	9.4	26%	2.4	$0
Aurora city	Loujake Waterford Center		Dry detention	12	70%	0%	30%	0.76	9.1	26%	2.4	$0
Aurora city	Hometown Unit 3		Wet detention	6	40%	0%	60%	0.54	3.2	68%	2.2	$0
Aurora city	Hometown Unit 1		Wet detention	18	85%	0%	15%	0.87	15.7	68%	10.7	$0
Aurora city	Hometown Unit 2		Wet detention	19	80%	0%	20%	0.83	15.9	68%	10.8	$0
Aurora city	Waterford Plaza		Wet detention	17	90%	0%	10%	0.91	15.4	68%	10.5	$0

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Fox River Watershed, Illinois

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Aurora city	Butterfield Unit 5		Wet detention	159	95%	0%	5%	0.94	150.1	68%	102.1	$0
Aurora city	Butterfield Phase II Unit 18		Dry detention	23	100%	0%	0%	0.98	22.6	26%	5.9	$0
Aurora city	Butterfield Phase II Unit 1E		Wet detention	25	0%	0%	100%	0.25	6.2	68%	4.2	$0
Aurora city	Savannah Unit 2		Wet detention	48	0%	85%	15%	0.46	22.0	68%	15.0	$0
Aurora city	Harbor Springs		Wet detention	115	80%	0%	20%	0.83	95.9	68%	65.2	$0
Aurora city	Roads - West Side		Street sweeping	910.125	32%	46%	22%	0.60	542.9	6%	32.6	$0
Aurora city	Roads - Central Business District		Street sweeping	57	98%	0%	2%	0.97	55.1	6%	3.3	$0
Aurora city	Roads - East Side		Street sweeping	983.5	42%	32%	26%	0.64	624.6	6%	37.5	$0
Aurora city	Roads - Fox Valley		Street sweeping	1164	65%	11%	24%	0.75	874.8	6%	52.5	$0
Aurora city												
										Total =	**4242.2**	

APPENDIX 7

SWMP PUBLIC HEARING SLIDES

MS4 PERMIT REQUIREMENTS

- MS4 = Municipal Separate Storm Sewer System
- The City is required to reduce the discharge of pollutants from its MS4 to the maximum extent practicable
- Program Components
  - Public Education and Outreach
  - Public Involvement and Participation
  - Illicit Discharge Detection and Elimination
  - Construction Site Runoff Control
  - Post-Construction Stormwater Management
  - Pollution Prevention for Municipal Operations
- Enforced by Illinois Environmental Protection Agency

1

PUBLIC EDUCATION & OUTREACH

- Bookmarks and classroom education for elementary schools
- City website information
- Conservation in our Community

2

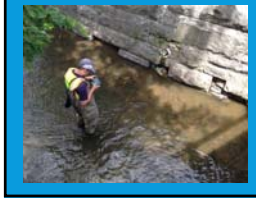
PUBLIC INVOLVEMENT & PARTICIPATION

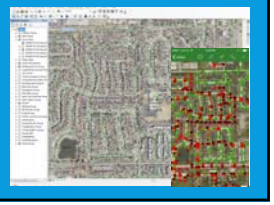
- Watershed Watchdogs program
- Rain barrel program
- Stormwater hotline
- Public meetings
- Fox River Study Group

3

ILLICIT DISCHARGE DETECTION & ELIMINATION

- Municipal code
- Inlet grates
- Outfall inspections
- Sewer atlas

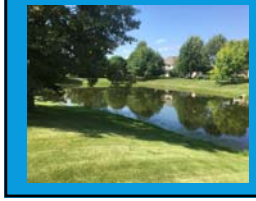




4

CONSTRUCTION SITE & POST-CONSTRUCTION STORMWATER MANAGEMENT

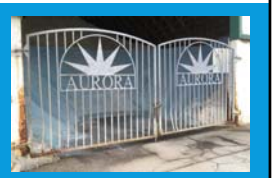
- Erosion control measures
- Stormwater detention
- Green infrastructure



5

POLLUTION PREVENTION FOR MUNICIPAL OPERATIONS

- Street sweeping
- Catch basin cleaning
- Winter de-icing
- Staff training



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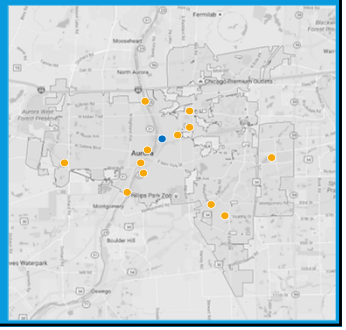
WATER QUALITY MONITORING

- City of Aurora
- Fox River Study Group



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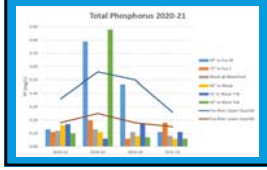
WATER QUALITY MONITORING



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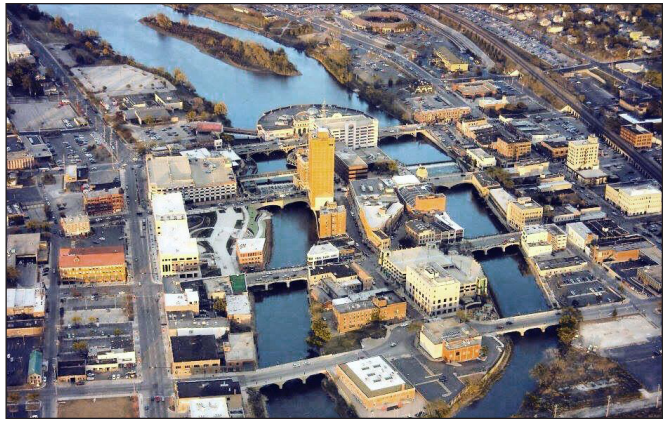
APPENDIX 8

AURORA WATERSHED WATCHDOGS BROCHURE



The Fox River has been a driver of economic growth for the City of Aurora from its earliest industrial days to new recreational attractions. Teaching children to care for our watershed teaches both science skills and stewardship of our community.

WATERSHED WATCHDOGS PROGRAM EXPANDS TO AURORA

An exciting opportunity awaits your students or youth group participants when your group joins the Aurora Watershed Watchdogs. Since 2009, the Watchdogs have welcomed more than 30,000 students into their local streams. The City of Aurora and Friends of the Fox River have recently partnered to expand this popular progam into Aurora to give our children hands-on STEM learning opportunities and a love for their natural world.

"I have never seen high school students this engaged in an academic activity."

Our young Watershed Watchdogs make meaningful contributions to the health of our waterways by providing data that helps our organization detect potential problems and make informed decisions on policies that affect the Fox River. Most importantly, youth who experience the life of the Fox River for themselves develop a lasting sense of stewardship for the river.

The mission of the Friends of the Fox River, a 501 (c)(3) organization, is to preserve, restore and protect the Fox River Watershed's resources by connecting people with nature through education, research, restoration and advocacy. Each year, more than 4,500 citizens participate in our water quality monitoring program, river and stream cleanups, river habitat improvement projects, and water quality education events.

CONTACT US

To schedule a group in-stream experience, for general questions, or to join our team as an outreach educator, volunteer, or partner organization, contact:

Gary Swick, president
greenswick@gmail.com
815-356-6605

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This program is funded in part by the City of Aurora. For more information on other sustainability initiatives for the long-term health of our community, visit www.aurora-il.org.

Aurora Watershed Watchdogs

IN-STREAM EXPERIENCES FOR SCHOOLS AND YOUTH GROUPS

FRIENDS OF THE FOX RIVER™

Students take pride in knowing that they are making meaningful contributions to the health of their local environment and develop a long-lasted sense of stewardship for their world.

WHAT CAN THE AURORA WATERSHED WATCHDOGS PROGRAM DO FOR YOUR CLASSROOM?

Friends of the Fox River currently offers in-stream experience programming for students in Pre-K through 12th grades. This experience is offered in the fall (September and October) and in the spring (April and May).

For teachers and group leaders, getting your students in the water will enhance your curriculum, improve your students' environmental literacy, and get students excited for science education knowing that science is all around them.

The hands-on Watershed Watchdogs experience gives students a chance to try real-world data collection and explore other scientific skills and principles.

WHAT'S AN IN-STREAM EXPERIENCE?

When your class or youth group joins our Friend of the Fox educators in the water, they'll be learning and actually making a difference in the health of the Fox River.

Participants get an overview of the watershed in their community and then participate in guided data collection, including biological sampling, chemical water analysis, and habitat evaluation. The data students collect is used to professionally monitor the health of local waterways and make decisions for their care. Students leave with an understanding of how humans impact local water quality and feel empowered to protect their local waterways.

Our team can also customize this experience to fit the needs of your classroom or youth group, including Scouting badges.

Students get out of the classroom and get their feet wet with biological sampling, water analysis and habitat evaluation.

Learn more, see photos of the Watchdogs in action, and sign up your group:

FriendsOfTheFoxRiver.org

TEACH SCIENTIFIC PRINCIPLES. Help students fall in love with nature.

Be a Watershed Watchdog.

APPENDIX 9

FOX RIVER DAY PROCLAMATION

Office of Mayor Richard C. Irvin
City of Aurora, Illinois

Proclamation

FOX RIVER DAY

September 21, 2019

WHEREAS, The Fox River was central to the lives of native Americans inhabiting the Fox River Valley in Wisconsin and Illinois for millennia, providing an abundance of food and water to wildlife and those native populations, and;

WHEREAS, The Fox River was the central to the lives of early settlers of the Fox River Valley, providing a source of water and power to mill the grains to feed those settlers, saw the lumber to shelter those settlers, and drive the early machinery which formed the commercial and industrial base that gave first growth to our community, and;

WHEREAS, The Fox River, once a fine fishery and source of public water, became burdened with the uncontrolled discharge of industrial, commercial and municipal wastes, with the resulting pollution threatening the health and welfare of all populations of the Fox River, including human and wildlife, and;

WHEREAS, sustained and increasingly diligent and effective efforts have been made over the past century to reduce and eliminate pollution and changes to our river's natural shorelines, and;

WHEREAS, The Fox River has been largely freed from its burden of pollution and once again has become a safe source of recreation and reliable public water supply, with its fish and wildlife population in clear recovery; and the City of Aurora recognizes the historic, present and future value of this unique and precious natural resource to our community, and all other communities within and beyond the Fox River Valley.

NOW THEREFORE, I, Mayor Richard C. Irvin, declare the third Saturday of September, this year and every year thereafter, shall be recognized as "Fox River Day" in the City of Aurora, and to have and support events, public and private, that honor and celebrate the life and well-being of the Fox River for us to share now, and with generations to come.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Seal of the City of Aurora, Illinois to be affixed this 21st day of September 2019 during the Aurora City Council Meeting.

Mayor Richard C. Irvin

APPENDIX 10

RAIN BARREL EVENT AGREEMENT

UpCycle Products Municipal Rain Barrel Event Agreement

The City of Aurora IL

(City, Village, etc.) (City) (State)

agrees to support a rain barrel event in their community.

The Point of contact will be Mark Phipps and they can be reached via Email at mphipps@aurora.il.us, telephone at 630-256-3231, and mobile phone at 630-450-2928.

Turnkey Event (with options)

- **The following will be offered:** (Check all that apply)
  - ☒ Pickup Event Downtown Farmer's Market
- Pick-up address: Parking Lot B - west side of Water Street, between Downer Place and Benton Street
- Sale Start Date: 2/21/21
- Sale End Date: 9/1/21
- Contact Person : Mark Phipps
  - Office Phone: 630-256-3231
  - Mobile Phone: 630-450-2928
- Pickup Date: 6/12/21
- Pickup Time: 8:00 am - 12:00 pm (delivery by 7:45 am)
  - ☒ Home Delivery
    - Delivery Start Date: upon first resident request
- Orders and payments will be made via: (Check all that apply)
  - ☒ UpCycle Website (Orders are processed through PayPal-$2.50 per item fee applies).
    - Website Point of contact to coordinate Website link for order form: Mark Phipps
    - Via mail to UpCycle Products (Checks only. No cash via Mail).
  - ☐ Via mail to Municipal location of choice.

    Address: _____
  - ☐ In person at Municipal location of choice.

    Address: _____

- Individual to file reports with. Order reports will be sent weekly, via email during active rain barrel events. (Municipality approval of reduced barrels needs to be reviewed and returned to Upcycle Products weekly; final review and approval is required **one** week following the deadline for placing orders.)

  Mark Phipps mphipps@aurora.il.us 630-450-2928

  (Name/Email/Phone Number)

Subsidized Event Options

- If the Municipality wishes to reduce the cost of the barrels for residents:

	Online/CC Orders	Mail-in Orders
Amount to be paid by Municipality per barrel	$_____	$_____
Cost to residents per barrel	$_____	$_____
Total cost of rain barrel to be paid to Upcycle Products per barrel	$_____	$_____

Municipality will be invoiced for 50% when half of reduced barrels is met, remaining 50% to be invoiced when total number of reduced barrels is met.

- Location to submit invoices for reduced amount _____

  (Name of Individual, Location Address, Individuals Phone Number)

- Requirements for individuals who qualify for reduced cost of barrels. (For example- Must be within water district or city limits, one per household. Limited to 100 barrels, etc.)

Disposition of barrels after pickup event. The municipality chooses to do the following with unclaimed product [please check one]:

- ☒ Leave with municipality for resident pickup. 649 S. River Street, Aurora
- ☐ Allow UpCycle Products to leave with all remaining barrels and schedule home delivery at a cost of $_____ per barrel (billed to municipality; prices quoted based on location of event).
- ☐ Allow UpCycle Products to leave with all remaining barrels. We will contact residents by e-mail and allow them to pick up their barrel(s) at our Minooka facility.
- ☐ Other (i.e., move to another location)

Additional Services requested by the Municipality:

- ☐ **Handle Media for Event: Additional charge may apply.**
- ☐ **Print and distribute Brochures for Event: Additional charge will apply.**
  - **•Number requested: _____**

The undersigned agrees that they are approving UpCycle products to proceed with a rain barrel event per the prior criteria.

Name (Print): Mark Phipps

Signature: _____

Title: Engineering Coordinator

Date: 2/16/21

Event Timeline after Signing Contract:

- **Week 1: Municipality signs Rain Barrel Event Agreement and supplies UpCycle Products with logo for custom order page.**
- **Week 2: UpCycle Products provides custom order form link to municipality to confirm. Once confirmed, order form is activated for the public.**
- **Week 3: 12 weeks to allow for advertising and ordering.**
- **Week 15: 1 Week to finalize orders. For reduced prices, confirm all orders meet set requirements.**
- **Week 16: Ship to facility, unload barrels and prepare for Event Day pick-up**

For office use:

Form Submitted Date:_____ Initials:_____

Order Deadline Date: _____ Initials: _____

Website Link Provided Date:_____ Initials: _____

UpCycle Order Form Requested Activation Date: _____ Initials:_____

UpCycle Order Form Actual Activation Date: _____ Initials:_____

Municipality Website Correct: _____ Initials:_____

Partner's Website Correct: _____ Initials:_____

UpCycle's Website Correct: _____ Initials:_____

APPENDIX 11

RESIDENT NOTIFICATION LETTER

City of Aurora

Public Works | Engineering
44 East Downer Place | Aurora, IL 60507
Phone: (630) 256-3200 | Fax: (630) 256-3229 | Web: www.aurora-il.org

June 7, 2021

Subject: City of Aurora
Inspections of Storm Drain Outfalls for Illicit Discharges

Dear Property Owner:

The City of Aurora has a permit from the Illinois Environmental Protection Agency for discharges from its storm sewer system. The permit requires the City to develop a comprehensive stormwater management program to reduce the discharge of pollutants from the storm sewer system. As a part of that program, the City is required to inspect storm sewer outfalls for evidence of illicit discharges. The inspections are intended to identify non-stormwater discharges and illegal dumping problems and, ultimately, to reduce the discharge of pollutants into our local waterways.

Over the next several weeks, a field team led by Mr. Matt Drabik, will be conducting outfall inspections in your area. On behalf of the City, I respectfully request that you provide them with access to any waterways that may be located on or near your property. With your cooperation, the field work these crews will be conducting will not only help the City meet its permit requirements, but will also help identify potential illicit discharges and recommend appropriate follow-up actions.

Thank you in advance for your cooperation and your assistance in protecting the health of our water resources. If you have any questions, please feel free to contact me at 630-450-2928 or mphipps@aurora-il.org.

Sincerely,

CITY OF AURORA

Mark Phipps, P.E.
Engineering Coordinator

APPENDIX 12

NATIVE PLANT LIST

Botanical Name	Common Name
Nepeta x faassenii “Kit Cat”	Kit Cat Catmint
Max Frei Bloody Cranesbill	Max Frei Bloody Cranesbill
Asclepias incarnata	Swamp Milkweed
Asclepias tuberose	Butterfly Weed
Aster lanceolatus	Panicled Aster
Deschampisa cespitosa	Tufted Hair Grass
Echinacea purpurea	Purple Coneflower
Physostegia virginiana	Obedient Plant
Vernonia fasciculata	Common Ironweed
Hydrangea arborescens ‘Annabelle’	Annabelle Hydrangea
Rudbeckia fulgida ‘Goldstrum’	Black Eyed Susan
Helenium autumnale	Sneezeweed
Iris virginiana	Blue Flag
Carex spp.	Sedge
Cephalanthus occidentalis	Buttonbush
Lobelia siphilitica	Great Blue Lobelia
Oenothera macrocarpa	Missouri Evening Primrose
Parthenium integrifolium	Wild Quinine
Penstemon digitalis	Foxglove Beardtongue
Ruellia humilis	Wild Petunia
Zizia aurea	Golden Alexander
Aquilegia Canadensis	Wild Columbine
Panicum viratum	Switch Grass
Rosa rugosa	Frau Dagmar Hastrup
Schizachyrium scoparium	Little Bluestem Grass
Sporobolus heterolepis	Prairie Dropseed Grass
Amsonia tabernaemontana ‘Blue Ice’	Woodland Blue Star

APPENDIX 13

EMPLOYEE TRAINING PROGRAM SLIDES

Stormwater Pollution Prevention

1

Agenda

1. Introduction and Overview
2. Pollution Prevention for Municipal Operations
3. Illicit Discharges
4. Quiz

2

3

NPDES

- National
- Pollutant
- Discharge
- Elimination
- System

4

NPDES Permits

- Combined Sewer Overflows
- Industrial Sites
- Construction Sites
- Municipal Separate Storm Sewer Systems (MS4s)

5

NPDES Permits

- Combined Sewer Overflows
- Industrial Sites
- Construction Sites
- Municipal Separate Storm Sewer Systems (MS4s)

6

MS4 Permit

Reduce Stormwater Pollution
to the
Maximum Extent Practicable

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7

MS4 Program

Six Minimum Control Measures

1. Public Education and Outreach
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post-Construction Stormwater Management
6. Pollution Prevention for Municipal Operations

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MS4 Program

Six Minimum Control Measures

1. Public Education and Outreach
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post-Construction Stormwater Management
6. Pollution Prevention for Municipal Operations

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MS4 Program

- Notice of Intent
- Best Management Practices (BMPs)
- Annual Report
- Inspections

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MS4 Program

Annual
Stormwater Pollution Prevention
Training Required
for Municipal Employees

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Questions

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Stormwater Pollution Prevention for Municipal Operations

13

Municipal Operations

Facilities

Infrastructure

14

Municipal Facilities

15

Sources of Pollution

- Fuel and Other Vehicle Fluids
- Paint and Cleaning Solvents
- Vehicle Wash Water
- De-Icing Materials
- Landscaping Materials
- Lawn Chemicals

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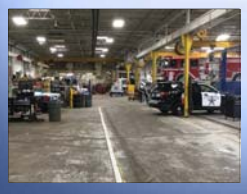
Control Measures

Good Housekeeping



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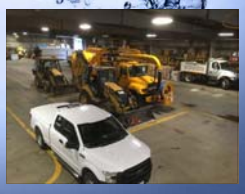
Control Measures

Preventative Maintenance



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Control Measures

Spill Prevention and Response


19

Control Measures

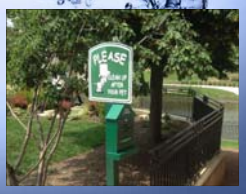
Structural Control Measures



20

Control Measures

Source Control

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Municipal Operations

Facilities

Infrastructure

22

Municipal Infrastructure

- Drainage System
  - Sewer Cleaning
  - Catch Basin Cleaning
  - Detention Basin Restrictor Cleaning


23

Municipal Infrastructure

- Streets
  - Sweeping
  - De-Icing
  - Repair



24

Municipal Infrastructure

- Green Infrastructure
  - Rain Gardens
  - Permeable Pavement
  - Rain Barrels
  - Buffer Strips

25

What's Wrong with These Pictures?

NOTE: NOT FROM AURORA

26

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29

30

Illicit Discharges

31

Program Components

- Regulations
- Storm Sewer System Map
- Procedures

32

Regulations

<u>Illicit Discharge Definition</u>

Any non-stormwater discharge to the stormwater drainage system, except as specifically exempted.

33

Regulations

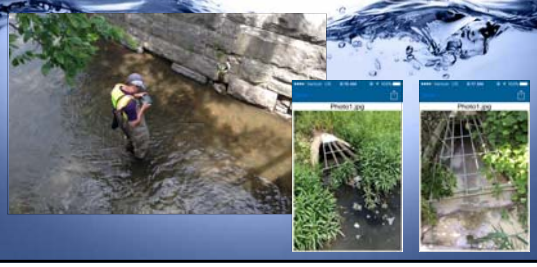
<u>Illicit Discharge Exemptions</u>

- Water main and hydrant flushing
- Lawn watering
- Storm sewer cleaning water
- Residential vehicle washing
- Fire fighting activities
- Others

34

Procedures

- Dry Weather Outfall Screening



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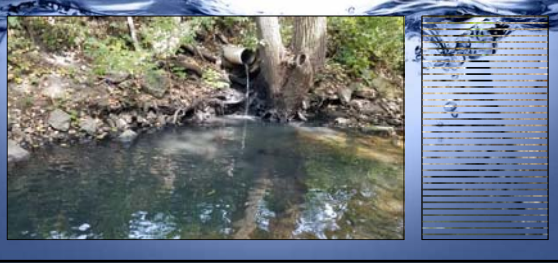
Procedures

- Notification by Public
- Notification by City Staff



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Stormwater Pollution Prevention Quiz

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Question #1

Where should a municipal vehicle be washed?

A. Inside the Public Works garage
B. Outside, in a location where the wash water will not drain to a storm sewer or waterway
C. Either A or B
D. Outside, if it's warm and sunny

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Question #1

Where should a municipal vehicle be washed?

A. Inside the Public Works garage
B. Outside, in a location where the wash water will not drain to a storm sewer or waterway
C. Either A or B
D. Outside, if it's warm and sunny

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Question #2

Which of the following materials is a likely source of pollution resulting from fleet maintenance?

A. Gasoline
B. Antifreeze
C. Solvents
D. All of the Above

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Question #2

Which of the following materials is a likely source of pollution resulting from fleet maintenance?

A. Gasoline
B. Antifreeze
C. Solvents
D. All of the Above

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Question #3

Which of the following is NOT an example of Green Infrastructure?

A. Rain Garden
B. Green PVC Pipe
C. Permeable Pavement
D. Rain Barrel

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Question #3

Which of the following is NOT an example of Green Infrastructure?

A. Rain Garden
B. Green PVC Pipe
C. Permeable Pavement
D. Rain Barrel

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Question #4

Which strategy for street de-icing would be an effective BMP for stormwater pollution prevention?

A. Just enough salt to keep the roads safe
B. The more salt, the better
C. Salt, salt, and then more salt
D. Don't stop until all the salt is gone

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Question #4

Which strategy for street de-icing would be an effective BMP for stormwater pollution prevention?

A. Just enough salt to keep the roads safe
B. The more salt, the better
C. Salt, salt, and then more salt
D. Don't stop until all the salt is gone

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Question #5

Which of the following BMPs is an example of Good Housekeeping?

A. Sweep pavement clean regularly
B. Properly dispose of vehicle fluids in hazardous waste containers
C. Label materials properly
D. All of the above

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Question #5

Which of the following BMPs is an example of Good Housekeeping?

A. Sweep pavement clean regularly
B. Properly dispose of vehicle fluids in hazardous waste containers
C. Label materials properly
D. All of the above

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Question #6

Which strategy should be used to clean up a little fertilizer that falls onto a paved area?

A. Sweep it into a vegetated area
B. Hose it into the nearest storm drain
C. Leave it and let the rain wash it away
D. Call the IEPA to clean it up

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Question #6

Which strategy should be used to clean up a little fertilizer that falls onto a paved area?

A. Sweep it into a vegetated area
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C. Leave it and let the rain wash it away
D. Call the IEPA to clean it up

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Question #7

Which of the following BMPs would effectively reduce stormwater pollution from a storage yard?

A. Store all materials under a roof or tarp
B. Regularly check vehicles for leaking fluids
C. A and B
D. Storage yards are not a significant source of pollutants

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Question #7

Which of the following BMPs would effectively reduce stormwater pollution from a storage yard?

A. Store all materials under a roof or tarp
B. Regularly check vehicles for leaking fluids
C. A and B
D. Storage yards are not a significant source of pollutants

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Question #8

Which strategy for park maintenance would be an effective BMP for stormwater pollution prevention?

A. The more fertilizer, the better
B. Test soil and apply only as much fertilizer as needed
C. Keep turf grass mowed short
D. Leave landscaping materials uncovered

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Question #8

Which strategy for park maintenance would be an effective BMP for stormwater pollution prevention?

A. The more fertilizer, the better
B. Test soil and apply only as much fertilizer as needed
C. Keep turf grass mowed short
D. Leave landscaping materials uncovered

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Question #9

Which of the following BMPs would be appropriate when a vehicle is leaking fluids?

A. Use a drip pan and wipe the floor clean
B. Drain the fluid and clean the floor with an absorbent material
C. A or B
D. Leave it because the fluid might evaporate

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55

Question #9

Which of the following BMPs would be appropriate when a vehicle is leaking fluids?

A. Use a drip pan and wipe the floor clean
B. Drain the fluid and clean the floor with an absorbent material
C. A or B
D. Leave it because the fluid might evaporate

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Question #10

Which of the following is considered an illicit discharge?

A. Fire hydrant flushing
B. Runoff from fire fighting activities
C. Wash water from municipal vehicles and equipment
D. Runoff from lawn watering

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Question #10

Which of the following is considered an illicit discharge?

A. Fire hydrant flushing
B. Runoff from fire fighting activities
C. Wash water from municipal vehicles and equipment
D. Runoff from lawn watering

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Question #11

Which of the following is NOT considered an illicit discharge?

A. Motor oil
B. Residential vehicle wash water
C. Paint
D. Prescription medication

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Question #11

Which of the following is NOT considered an illicit discharge?

A. Motor oil
B. Residential vehicle wash water
C. Paint
D. Prescription medication

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Question #12

Which of the following would indicate a potential illicit discharge?

A. Strong odor from a storm sewer inlet
B. Colored water in a storm sewer pipe
C. Stained outfall pipe
D. All of the above

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Question #12

Which of the following would indicate a potential illicit discharge?

A. Strong odor from a storm sewer inlet
B. Colored water in a storm sewer pipe
C. Stained outfall pipe
D. All of the above

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Question #13

How often can the IEPA conduct an inspection of the City's Stormwater Management Program?

A. Whenever they want
B. Once every five years
C. Once per year
D. Twice per year

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Question #13

How often can the IEPA conduct an inspection of the City's Stormwater Management Program?

A. Whenever they want
B. Once every five years
C. Once per year
D. Twice per year

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Question #14

When are municipal employees required to receive training in stormwater pollution prevention?

A. At the start of their employment
B. Annually
C. As needed
D. All of the above

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Question #14

When are municipal employees required to receive training in stormwater pollution prevention?

A. At the start of their employment
B. Annually
C. As needed
D. All of the above

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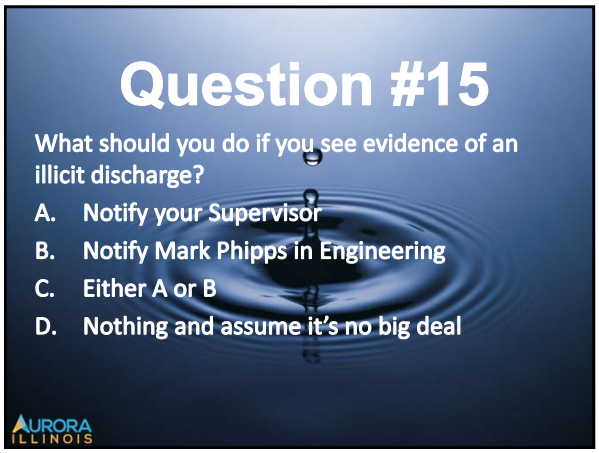
Question #15
What should you do if you see evidence of an illicit discharge?
A. Notify your Supervisor
B. Notify Mark Phipps in Engineering
C. Either A or B
D. Nothing and assume it's no big deal
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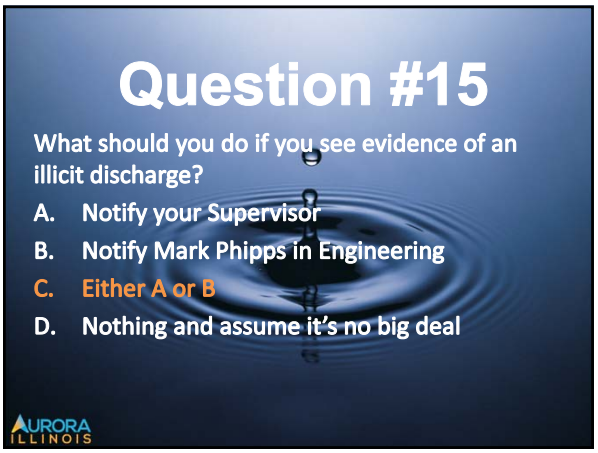
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AURORA ILLINOIS

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Thanks for Your Participation
AURORA ILLINOIS

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