

# City of Wheaton, Illinois

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## ***STORMWATER MANAGEMENT PROGRAM PLAN***

*DuPage County - May 2016*



Winfield Creek – West of Northside Park

City of Wheaton  
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## 1.0 Overview of the Stormwater Management Program Plan

This Stormwater Management Program Plan (SMPP) was developed by the City of Wheaton based off a SMPP template provided by the Lake County Stormwater Management Commission. The purpose of the SMPP is to meet the minimum standards required by the United States Environmental Protection Agency (USEPA) under the National Pollutant Discharge Elimination System (NPDES) Phase II program. Federal regulations through the USEPA require that all Municipal Separate Storm Sewer Systems (MS4s), partially or fully in urbanized areas based on the 2000 census, obtain stormwater permits for their discharges into receiving waters. There are many different types of MS4s including municipalities, park districts, drainage districts, township highway departments, counties and county and state transportation departments DuPage County Division of Transportation (DuDot) and the Illinois Department of Transportation (IDOT).

### 1.1 Introduction

The SMPP describes the procedures and practices that can be implemented by the City of Wheaton toward the goal of reducing the discharge of pollutants within stormwater runoff in order to comply with Federal standards. Compliance with the plan is intended to protect water quality thus contributing to the following amenities:

- cleaner lakes and streams,
- improved recreational opportunities and tourism,
- flood damage reduction,
- better aesthetics and wildlife habitat, and
- a safer and healthier environment for the citizens.

The SMPP addresses the primary program elements for all City of Wheaton activities, including the manner in which the City of Wheaton:

- reviews, permits and inspects construction activity within its limits;
- manages the planning, design and construction of projects performed within its limits;
- maintains its facilities and performs its day-to-day operations;
- works toward protecting the receiving waters from illicit discharges;
- provides public education and outreach;
- trains its employees in carrying out and reporting program activities; and
- continually monitors and evaluations the program.

## **1.2 State and Federal Regulations**

Federal environmental regulations based on the 1972 Clean Water Act (CWA) require that MS4s, construction sites and industrial activities control polluted stormwater runoff from entering receiving bodies of water (including navigable streams and lakes). The NPDES permit process regulates the discharge from these sources based on amendments to CWA in 1987 and the subsequent 1990 and 1999 regulations by the U.S. Environmental Protection Agency (USEPA). In Illinois, the USEPA has delegated administration of the Federal NPDES program to the Illinois Environmental Protection Agency (IEPA). On December 20, 1999 the IEPA issued a general NPDES Phase II permit for all MS4s. Under the General ILR 40 Permit each MS4 was required to submit a Notice of Intent (NOI) declaring compliance with the conditions of the permit by March 10, 2003. The original NOI describes the proposed activities and best management practices that occurred over the original 5-year period toward the ultimate goal of developing a compliant SMPP. At the end of the 5th year (March 1, 2008) the components of the SMPP were required to be implemented per the ILR40 permit. The IEPA reissued the ILR 40 permit on April 1, 2009. September 1, 2016 is the deadline for compliance with new provisions of the General NPDES Permit ILR40.

Additionally, under the General ILR10 permit also administered by the IEPA, all construction projects that disturb greater than 1 acre of total land area are required to obtain an NPDES permit from the IEPA prior to the start of construction. Municipalities covered by the General ILR40 permit, are automatically covered under ILR10 30 days after the IEPA receives the NOI from the municipality.

## **1.3 Countywide Approach to NPDES Compliance**

DuPage County Stormwater Management is a countywide governmental agency created by county ordinance under the authority of Illinois Revised Statute 55/5-1062. The principle purpose of the countywide ordinance is to promote effective, equitable, acceptable and legal stormwater management measures. Other purposes include managing and mitigating the effects of urbanization on drainage, reducing the existing potential for stormwater damage, protecting human life and health from the hazards of flooding and the degradation of water quality, and protecting and enhancing the quality, quantity and availability of surface and groundwater resources amongst many other purposes.

The City of Wheaton is a Partial Waiver Community with respect to the DuPage Countywide Stormwater Ordinance. The City of Wheaton reviews all permits with respect to compliance with the ordinance except for special management areas such as wetlands, buffers, floodplains and floodways. Any development that may impact those special management areas needs certification from the county before the City issues a permit.

DuPage County updated the county-wide stormwater ordinance in 2012 and 2013 as adopted by the City via ordinance No. F1652. The county did a thorough job of reaching out to local engineers, land owners and developers for input on the matter. City of Wheaton staff was active with the Municipal Engineers Group and the DuPage Mayors and Manager's Conference on this issue. Some major changes with the new ordinance are:

- Requirements that apply to redevelopment of land instead of just farm fields
- Regulations that reflect current NPDES requirements for water quality
- A new volume control Best Management Practice (BMP), which seeks to infiltrate certain volumes of stormwater depending on the amount
- An improved format to more easily find and understand the regulations
- Provisions aimed at reducing submittals to the county and allowing construction by either General Certifications or Letters of Permission

The General Permit allows for MS4s to take credit for activities being performed by a Qualifying Local Program (QLP) toward meeting its permit requirements. DuPage County Stormwater Management is a Qualifying Local Program for MS4s in DuPage County. As part of their ongoing services, DuPage County Stormwater Management performs some functions related to each of the six minimum control measures. However, MS4s are required to provide additional services for each of the Minimum Control Measures with the greatest effort in the Illicit Discharge Detection and Elimination and Pollution Prevention/Good Housekeeping categories.

However, using the countywide approach, municipalities may take credit for the programs and ordinances developed by DuPage County Stormwater Management as well as tailor specific local BMP programs for compliance with the Phase II rules.

This general list summarizes additional DuPage County Stormwater Management services under the six minimum control categories:

**1. Public Education and Outreach:** DuPage County Stormwater Management provides through its Stormwater Outreach Coordinator various training workshops, homeowners workshops, brochures, training manuals, teacher/student education, videos, etc.

**2. Public Participation and Involvement:** DuPage County Stormwater Management coordinates and participates in public meetings and committees, including the Municipal/County Intergovernmental Advisory Committee, Stormwater Management Committee (SMC), Municipal Engineers Technical Advisory Committee (TAC), and volunteer support.

**3. Illicit Discharge Detection & Elimination:** DuPage County initiated their Illicit DuPage County is in partnership with the City of Wheaton regarding the screening for and tracing of illicit discharges into Waters of the State from MS4 outfalls. County staff hosts an illicit discharge hotline, performs field inspections of known outfall locations, and, where applicable, traces a suspected illicit discharge to the source.

**4. Construction Site Runoff Control:** DuPage County Stormwater Management adopted the Countywide Stormwater & Flood Plain Ordinance (CSFPO) in 1991, which establishes the minimum stormwater management requirements for development in DuPage County. The CSFPO, which is enforced by DuPage County Stormwater Management as well as by certified county communities establishes standards for construction site runoff control.

**5. Post-Construction Runoff Control:** The City follows the CSFPO and also establishes standards for post-construction runoff control.

**6. Pollution Prevention/Good Housekeeping:** DuPage County Stormwater Management provides guidance for winter de-icing and chloride reduction, best management practices, and other green initiatives.



#### **1.4 Organization of SMPP**

The City of Wheaton Stormwater Management Program Plan (SMPP) consists of policies, programs, and practices that implement and enforce stormwater management throughout the City. The plan is structured to meet the six minimum control measures as defined in the General NPDES Permit No. ILR40. Wheaton's Stormwater plan goals are to reduce the discharge of pollutants from our stormwater system to the maximum extent practicable and to protect water quality, among other requirements.

The SMPP identifies best management practices to be implemented in six categories:

1. Public Education and Outreach,
2. Public Participation/Involvement,
3. Construction Site Runoff Control,
4. Post-Construction Runoff Control,
5. Illicit Discharge Detection and Elimination, and
6. Pollution Prevention/Good Housekeeping



Winfield Creek – East of Main Street



### 1.5 Watersheds, Sub-Watersheds and Receiving Waters

The City of Wheaton is primarily located within the West Branch DuPage River and East Branch DuPage River Watersheds. There five sub-basins, tributary to these two watersheds, which are located within City limits. These sub-basins include Springbrook #1 and Winfield creek which are tributary to the West Branch of the DuPage River. Willowway Brook, Glencrest, and Rott Creek are tributary to the East Branch of the DuPage River. These sub-basins are presented in Figure 1 - Map of Major Sub-basins.

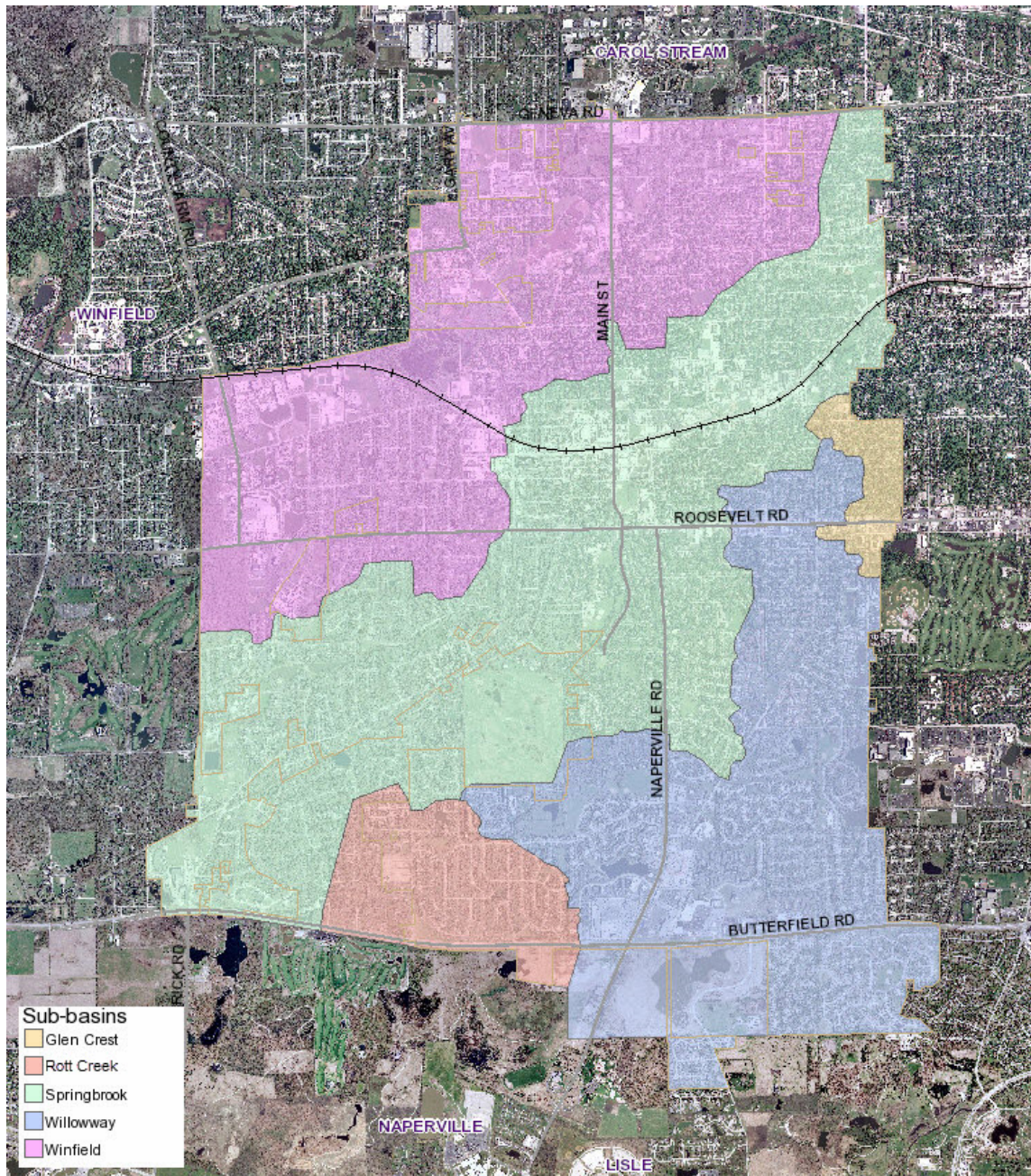


Figure 1 – Map of Major Sub-Basins



## 2.0 Program Management

This Chapter describes the organizational structures of the City of Wheaton, the County and IEPA. It further discusses the roles and responsibilities of the various involved parties.

### 2.1 Intra-Department Coordination

The City Council is the policy and budget setting authority for the City of Wheaton. The Engineering Department and the Public Works Department work together to implement this SMPP. The Stormwater Coordinator has the primary responsibility for managing the overall program.

#### 2.1.1 Stormwater Coordinator

The City of Wheaton Director of Engineering is the Stormwater Coordinator and is responsible for the oversight and implementation of this SMPP. The Stormwater Coordinator has many different responsibilities, he/she:

- a. Is the lead contact for coordination with the DuPage County Stormwater Management, the Illinois Environmental Protection Agency, contractors, the development community and other external regulatory agencies;
- b. Understands the requirements of ILR40, ensures that the SMPP meets the permit requirements and that the City of Wheaton effectively implements the SMPP;
- c. Ensures that the City of Wheaton complies with all minimum DuPage County Countywide Stormwater & Floodplain Ordinance and Wheaton Municipal Code provisions;
- d. Ensures that the Municipal Facilities comply with all minimum ILR40 permit requirements;
- e. Is aware when a Municipal Project is required to be authorized under the ILR10 permit. In these cases the Stormwater Coordinator should ensure that the NOI is received by IEPA at least 30 days prior to the start of construction; and
- f. Assists the development community in understanding when a ILR10 permit is required and whether construction sites comply with the general ILR10, the Wheaton Municipal Code and DuPage County Countywide Stormwater & Floodplain Ordinance permit conditions; and
- g. Should understand the role illicit discharges play in the overall NPDES II program. In general, an incidence of non-compliance must be filed with IEPA for illicit discharges

exiting an MS4's outfall into a receiving water. Additionally, if the illicit discharge is generated by a construction site, it may be necessary for both the applicant and the MS4 to file the NOI form with the IEPA.

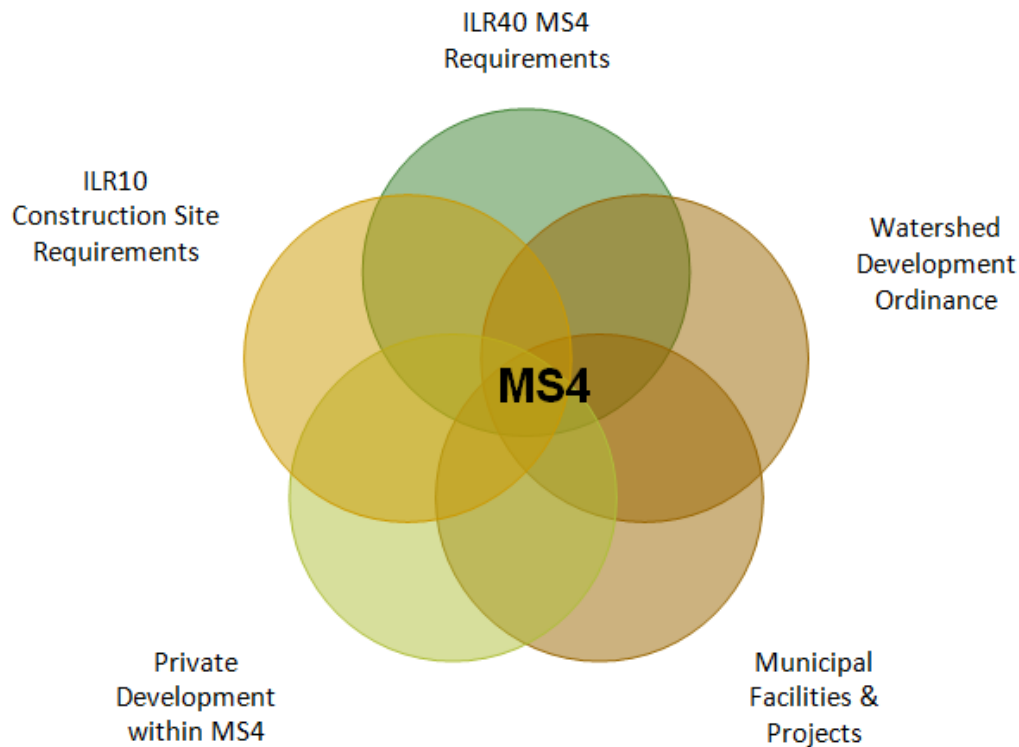


Figure 2 – Roles of MS4 (provided by Gewalt Hamilton & Associates)

### 2.1.2 Department of Engineering

Department of Engineering personnel support the Stormwater Coordinator in obtaining compliance with both the NPDES and the CSFPO. The Department of Engineering is the enforcement hand for the City for stormwater management. The design and construction of all public projects shall comply with the CSFPO.

The Stormwater Ordinance Coordinator has the responsibility to concur that projects meet CSFPO standards prior to the issuance of permits, and oversees site inspections during construction. Refer to Chapter 3.4 and 3.5 for additional information on this process.

### **2.1.3 Public Works Department**

Public Works personnel carry out infrastructure maintenance activities within the MS4. They are also one of the first departments to respond to hazardous waste spills and illicit discharges. Public Works and Department of Engineering personnel are designated as the primary entities responsible for performing the duties specified under Chapter 3.3 Illicit Discharge Detection and Elimination and Chapter 3.6 Pollution Prevention and Good Housekeeping.

Coordination between the MS4 and the DuPage County Stormwater Management occurs through both participation in the DuPage County sponsored forums and through the Partial Waiver Community Status under the DuPage County CSFPO. The MS4's Stormwater Coordinator is the lead contact for participation in the forums. If the MS4 is a Partial Waiver Community, the MS4's Enforcement Officer (Director of Engineering) is responsible for enforcement of the CSFPO and is designated by the MS4 to the DuPage County Stormwater Management.

### **2.1.4 Consultants**

The MS4 may enlist the services of consultants to assist in the implementation of the CSFPO (including, but not limited to, plan review, site inspections and enforcement), and the design of MS4 projects. The Stormwater Coordinator has the responsibility of administering these contracts. Currently, most engineering plan reviews (including stormwater/drainage, roadway, geometrics, utilities, signage, ect.) are done in-house by the Development Engineer and/or the Director of Engineering. Special management areas, wetlands and vegetative BMP's are reviewed by DuPage County Stormwater Management.

### **2.1.5 Fire District**

Fire protection for the City of Wheaton is provided by the Wheaton Fire District. Depending upon product, size or location of a hazardous waste spill, the Fire District is contacted if not already aware of the situation. The Fire District would assess the scene and depending upon the product, mitigate the spill. If product or size warrants it, the Fire District would call for hazardous material clean-up.

## 3.0 The Program

This Stormwater Management Program Plan includes six components, each of which is necessary in an effort to reduce/eliminate stormwater pollution in receiving water bodies. Chapter 3.1 describes the efforts to educate the public about stormwater pollution and stormwater pollution prevention. The manner in which the City of Wheaton incorporates public participation and involvement into the SMPP is explained in Chapter 3.2. Chapter 3.3 describes the approach to detecting and eliminating stormwater illicit discharges. Construction and post construction runoff control is addressed in Chapters 3.4 and 3.5. Lastly, Chapter 3.6 discusses responsibilities for the care and upkeep of its general facilities, associated maintenance yards, and municipal roads and to minimize pollution. This chapter also discusses intended training for employees on the implementation of the SMPP. If you would like to know more, please visit <http://www.wheaton.il.us/departments/engineering/detail.aspx?id=6051>.

### 3.1 Public Education & Outreach

The City of Wheaton endorses and utilizes the DuPage County Water Quality Education Program. The primary goals of the program are: to increase the awareness and appreciation of a watershed community that will result in a lasting change in behavior; show how the protection and enhancement of the quality, quantity, and availability of surface and groundwater resources will preserve and enhance the health of existing aquatic and riparian environments as well as the quality of life; and establish the necessary resources to support the development and distribution of educational materials throughout the County. The County provides educational information to the public that outlines the steps that the public can take to reduce pollutants in storm water runoff that fulfill the requirements for the Public Education and Outreach minimum control measure in the General NPDES Permit No. ILR40.

DuPage County and the City of Wheaton educates via:

- **Distribution of Publications.** DuPage County staff has created several handouts and brochures pertaining to sources of pollutants in waterways and water quality BMPs. These, as well as handouts from other entities, are distributed at public events, at the DuPage County complex and through municipal partners. They are also available online. Informational topics include rain barrels, rain gardens, native plants, other green infrastructure techniques, citizen monitoring of waterways and seasonal BMPs for the spring, summer, fall and winter. The County continues updating and developing educational materials to include new and updated information,



including the effects of climate change on stormwater impacts. City of Wheaton residents without internet access can reach this information through publically available computers such as those at City Hall or at the Public Library. Brochures are also made available for pick up at City Hall.

- **Speaking Engagements** DuPage County staff coordinates, hosts and presents at many workshops and community events countywide throughout the year. These events are held for residents, community groups, professional organizations, businesses and governmental agencies. Among the topics discussed are water quality efforts for the watersheds, methods for pollutant reduction, during and after construction BMPs, native vegetation and green infrastructure. In accordance with the updated ILR40 requirements, recent presentations have included information on the potential impacts and effects of stormwater discharge due to climate change. The County also invites outside speakers who are experts on particular topics to present.
- **Public Service Announcements & Media.** DuPage County Stormwater Management has taken advantage of technology to enhance outreach efforts. The department runs Facebook, Twitter, Instagram and YouTube pages that detail water quality trends and highlight practices that can reduce the transport of pollutants into waterways. In recent years, DuPage County has created video public service announcements, videos detailing flood control facilities and water quality projects occurring around the County, and displayed billboards as part of a water quality campaign with seasonal messages. The City of Wheaton disseminates additional information to the public about City infrastructure improvement projects affecting the environment, community events and public participation programs such as the Main Street Flood Control project; the Bicycle Committee; the recycling of: Cooking Oil, Fluorescent Tubes, Electronics; the Recycling Extravaganza; the Native Plant Sale; the Refuse and Recycling program; the Pickup program; the Illinois Prairie Path Clean Up; the Electronics Recycling program; the Adopt a Highway program; the Holiday Light Collection program, and many other such activities run by the City of Wheaton's Environmental Improvement Commission through the City website and the City of Wheaton Channel 10 television broadcasts. Additionally the City of Wheaton's Environmental Improvement Commission meeting minutes are available online for the public to view.

- **Community Event.** The City of Wheaton’s Environmental Improvement Commission holds two major community events per year; the Recycling Extravaganza and the Native Plant Sale. These events engage the public on the topics of recycling and waste reduction and the benefits of native planting for the environment and stormwater related issues.
- **Classroom Education.** In partnership with schools and local educational organizations, DuPage County students are educated on stormwater management and water quality. Using several watershed models owned or borrowed by the County, students learn how watersheds work, including the transport of pollutants from watershed-wide land uses to waterways via stormwater. The students also learn about green infrastructure, such as rain gardens, permeable pavers, green roofs, native plants and bio swales. DuPage County also promotes water quality and environmental efforts through the Water Quality Flag program. Schools within the area can earn a Water Quality Flag by participating in certain educational trainings, using green infrastructure as a learning opportunity and participating a hands-on activity. The County also hosts the Sustainable Design Challenge where students from across DuPage County participate to design buildings and landscapes using sustainable design techniques, including LEED strategies to reduce environmental impacts and green infrastructure to capture and treat stormwater runoff.
- **Other Public Education.** The City of Wheaton provides education to its residents through a resident-public official meeting known as a Drainage Review. These meetings are handled by the City’s Stormwater Engineer as they are requested by residents and help to increase the public knowledge base of the hydrologic cycle, increase awareness of stormwater runoff during storms, increase knowledge of property owner’s individual watershed, and where storm sewers drain as well as basic flood protection.

## 3.2 Public Participation/Involvement

In 1977, Wheaton enacted its first storm water control ordinances. Since that time Wheaton has participated directly in the development of stormwater policy in DuPage County establishing and retaining committee participation. City of Wheaton staff actively participates in the DuPage County

Municipal Engineers Group (MEG), Water Quality Stakeholders Group, and the DuPage River/Salt Creek Work Group, all of which have a focus on stormwater management and water quality. The MEG was established by the Countywide Stormwater and Flood Plain Ordinance to provide input to the City Stormwater Coordinator on technical matters related to the Ordinance, recommend General Certification topics, review draft Ordinance revisions, review draft General Certifications, and discuss permitting issues where a recommendation is requested.

In September 1989, the DuPage County Stormwater Management Plan was established. The City of Wheaton and the public have been involved in the development and implementation of each of the subsequent appendices and ordinances. Public participation is done through public notices of revisions of key documents guiding the plan as well as public hearings for the adoption of policy regulation and ordinances.

DuPage County also formed a water quality education program comprised of volunteers from the general public, non-profit agencies, consultants, developers, municipal engineers, state agencies and County staff, to spearhead the development of water quality policy for the County of DuPage. In addition to the publically open meetings and hearings, there is an adult volunteer monitoring initiative being supported by the DuPage County Water Quality Education program through the Illinois department of Natural Resources, Chicago Wilderness, and The Conservation Foundation, which fulfills the requirements for the Public Participation/Involvement minimum control measure in the General NPDES Permit No. IL40. The City also fulfills this requirement by supporting the City of Wheaton's Environmental Improvement Commission.

Public involvement and participation is an integral part of water quality improvement programs. When residents are engaged in the process, change is more likely to occur in everyday practices, which can greatly improve water quality throughout the watershed. DuPage County Stormwater Management aims to inform the public on watershed initiatives and engage a broad range of individuals regarding policies and projects related to the control and reduction of pollutants in stormwater runoff. This is accomplished through technical trainings, stakeholder groups, volunteer opportunities and public meetings. The County will enhance this effort by identifying environmental justice areas within the watershed planning jurisdictions in order to ensure prioritization of efforts in regards to public involvement and participation initiatives. Annual

reports provided by DuPage County to the IEPA will include an evaluation of public involvement and participation goals, listed below.

- **Public Panels.** DuPage County Stormwater Management annually supports several training initiatives throughout the County, including The Conservation Foundation's Environmental Summit and Beyond the Basics seminars and the DuPage River Salt Creek Workgroup's chloride reduction trainings. The purpose of the events is to engage local residents, organizations and government agencies in pollution reduction practices and volunteer opportunities.
- **Stakeholder Meetings.** DuPage County Stormwater Management hosts two regular water quality stakeholder meetings per year in each of the County's three main watersheds. These meetings address matters pertaining to pollutant reduction on a watershed level. In addition, input on water quality impairments is requested from stakeholders for incorporation into watershed planning efforts, which may provoke the need for separate stakeholder groups any given year. Additionally, the municipal engineers of DuPage County along with the County of DuPage host a regularly scheduled monthly meeting that is open to the public in which the countywide ordinance, water quality, best management practices, and permit processes are discussed.
- **Public Meetings & Hearings.** DuPage County Stormwater Management provides opportunity for public comment on the adequacy of its MS4 permit, watershed plans and projects. At least one public meeting and/or hearing also accompany public comment periods. The County publicizes public comment periods in accordance with its education and outreach initiatives and includes opportunities to comment online, in person or by mail.
- **Program Coordination.** DuPage County Stormwater Management staff has a full time Stormwater Communications Supervisor who is responsible for coordinating 10 educational and public involvement strategies. To gauge their effectiveness, the County develops and distributes surveys via an email list, webpage and on social media. These surveys measure citizen views, behaviors and concerns pertaining to a variety of topics, including water quality, property management, flood perceptions and residential pollutant control. County staff and/or



educational partners analyze results of these surveys in order to improve and enhance the current program.

- **Volunteer Opportunities.** A variety of volunteer opportunities are sponsored by DuPage County Stormwater Management, including: Adopt-a-Stream program, which engages the public by providing an opportunity to pick up trash and/ or monitor a stretch of waterway; The DuPage River Sweep, which is an annual event which allows residents, groups, schools, and businesses to volunteer for a day to pick up trash out of section of a local waterways
- **Other Volunteer Opportunities.** The City of Wheaton requires its refuse provider to have a curbside recycling program to help keep recyclable material out of the environment.

### 3.3 Illicit Discharge Detection and Elimination (IDDE)

Illicit discharges (defined in 40 CFR 122.26(B)(2)) contribute considerable pollutant loads to receiving waters. There are two primary situations that constitute illicit discharges:

- 1) non-stormwater runoff from contaminated sites (as displayed in figure 2)
- 2) deliberate discharge or dumping of non-stormwater (as displayed in figure 3). Illicit discharges can enter the storm sewer system as either an indirect or direct connection.



Figure 2 – Contaminated Site Runoff ([sustainablewestseattle.org](http://sustainablewestseattle.org))



Figure 3 – Deliberate dumping into the storm sewer

In 2010, the City of Wheaton passed a resolution (Resolution # R-44-10) establishing an intergovernmental agreement with DuPage County for the implementation of the Illicit Discharge Detention and Elimination monitoring and sampling. The City of Wheaton responds to suspected illicit

discharges and manages enforcement procedures. In 2011, The City of Wheaton approved Ordinance # F-1543 amending City Code for the Illicit Discharge Detection and Elimination program. This ordinance is the mechanism that allows for the execution and enforcement of the SMPP and it is strictly enforced.

### **3.3.1 Regulatory Authority**

Effective implementation of an IDDE program requires adequate legal authority to remove illicit discharges and prohibit future illicit discharges. This regulatory authority is achieved through the adoption of the CSFPO, and The City of Wheaton IDDE Ordinance. Additionally, IEPA has regulatory authority to control pollutant discharges and can take the necessary steps to correct or remove an inappropriate discharge over and above MS4 jurisdiction.

### **3.3.2 Watershed Development Ordinance**

The City of Wheaton adopted the DuPage County IDDE Ordinance effective February 22, 2011 as the IDDE Ordinance of the City in Chapter 34 of the City Municipal Code which prohibits illicit discharges as part of the development process. These provisions are applicable for regulated development activities as defined by the Municipal Code. Regulated developments are required to meet the soil erosion and sediment control standards of the Municipal Code. Furthermore, the Municipal Code requires that the applicant prohibit illicit discharges into the stormwater management system generated during the development process. The Municipal Code allows the City of Wheaton to require inspections, performance bonds, and to adopt/enforce violation procedures. These tools assist in achieving compliant construction sites. These items are further discussed in Chapters 3.4 and 3.5.

### **3.3.3 Understanding Outfalls and Illicit Discharges**

Understanding the potential locations and the nature of illicit discharges in urban watersheds is essential to find, fix and prevent them. An Outfall (is defined at 40 CFR 122.26(B)(9)) means a point source (as defined by 40 CFR 122.2) at the point where a municipal separate storm sewer discharges into a waters of the United States “receiving water”. Open conveyances connecting two municipal storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other Waters of the United States are not considered Outfalls. For the purposes of this plan the following definitions shall be used:

*Outfall:* Storm sewer outlet, or other open conveyance point discharge location, that discharges into a Waters of the U.S, receiving water or another MS4.



Storm Sewer Outfall in Kelly Park – Start of Springbrook #1

Regulated systems include the conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, gutters, ditches, swales, manmade channels or storm sewers.

An Outfall Inventory Map was completed by the City of Wheaton. This investigation was completed with a GPS Receiver and ArcGIS software. This map is used in combination with the previously existing Storm Sewer Atlas to help determine the extent of discharged dry weather flows, the possible sources of the dry weather flows, and the particular water bodies these flows may be affecting. The inlets and outfall locations have been numbered to facilitate detection and tracking of identified illicit discharges.

The Outfall Inventory Map will be revised annually to incorporate permitted outfalls associated with new developments. An outfall inventory will be performed every 5 years; the focus of this effort is to search for new outfalls (i.e. those not already included on the existing Outfall Inventory Map). The search for new outfalls will be combined with the pre-screening efforts

### **3.3.3A Potential Sources of Illicit Discharges**

Table 1 shows that direct connections to storm sewer systems most likely originate from commercial/industrial facilities. Thus, the focus on Chapter 3.3 is on the identification of illicit discharges from commercial/industrial facilities.



**Table 1: Potential Sources of Illicit Discharges to Storm Sewers**

Potential Sources	Storm Sewer Entry		Flow Characteristics	
	Direct	Indirect	Continuous	Intermittent
<b>Residential Sources</b>				
Sanitary Wastewater	√	X	√	X
Septic Tank Effluent	-	√	√	X
Household Chemicals	X	√	-	√
Laundry Wastewater	√	-	-	√
Excess Landscaping Watering	-	√	-	√
Leaking Potable Water Pipes	-	√	√	-
<b>Commercial Sources</b>				
Gasoline Filling Stations	√	X	-	√
Vehicle Maint./Repair Facilities	√	X	-	√
Laundry Wastewater	√	-	√	X
Construction Site Dewatering	-	√	√	X
Sanitary Wastewater	√	X	√	-
<b>Industrial Sources</b>				
Leaking Tanks and Pipes	X	√	√	X
Misc. Process Waters	√	X	√	X

√: Most likely condition.

X: May Occur

-: Not very likely

Source: Adapted From: USEPA. January 1993. *Investigation of Inappropriate Pollutant Entries Into Storm Drainage Systems: A User's Guide*. Cincinnati, Ohio.

### 3.3.3B USEPA Exclusions

The illicit discharge detection and elimination program does not need to address the following categories of non-stormwater discharges or flows unless the City identifies them as significant contributors of pollutants to its MS4 per the USEPA. Not all dry-weather flows are considered inappropriate discharges. Acceptable discharges would be:

- Water line flushing
- Landscaping irrigation
- Diverted stream flows
- Rising groundwaters
- Uncontaminated groundwater infiltration
- Uncontaminated pumped groundwater
- Discharges from potable water sources
- Flows from foundation drains
- Air conditioning condensation
- Irrigation water
- Springs
- Water from crawl spaces
- Lawn watering

- Individual car washing
- Flows from riparian habitats and wetlands
- Dechlorinated swimming pool water, and
- Street wash water

### 3.3.3C Pollutant Physical Indicators

Adapted from New Hampshire Estuaries Project and the IDDE Guidance Manual by the Center for Watershed Protection. (found in reference section)

Odor - Water is a neutral medium and does not produce odor; however, most organic and some inorganic chemicals contribute odor to water. Odor in water may originate from municipal and industrial waste discharges, from natural sources such as decomposition of vegetative matter, or from associated microbial activity.





**Table 2: Odor or Potential Illicit Discharges** (adapted from CWP)




Odor	Possible Cause
Sewage	Wastewater treatment facilities, domestic waste connected into storm drain, failing septic system
Sulfide (rotten eggs)	Decaying organic waste from industries such as meat packers, dairies and canneries
Rancid/sour	Many chemicals, including pesticides and fertilizers, emit powerful odors that may produce irritation or stinging sensations.
Petroleum/gas	Industry associated with vehicle maintenance or petroleum product storage; gas stations
Laundry	Laundromat, dry cleaning, household laundry

Color - is a numeric computation of the color observed in a water quality sample, as measured in cobalt-platinum units. Both industrial liquid wastes and sewage tend to have elevated color values.

Unfortunately, some “clean” flow types can also have high color values. A color value higher than 500 units may indicate an industrial discharge.

**Table 3: Color of Potential Illicit Discharges** (adapted from CWP)

Water Color	Possible Cause	Images
<p><b>Brown Water</b> – water ranging in color from light-tea to chocolate milk; it may have a rotten egg odor.</p>	<p>Human causes may be eroded, disturbed soils from constr. sites, animal enclosures, destabilized stream banks and lake shore erosion due to boat traffic.</p>	
<p><b>Yellow</b> –</p>	<p>Human causes may include textile facilities, chemical plants or pollen.</p>	
<p><b>Gray Water</b> – water appears milky and may have a rotten egg smell and/or soap odor. There may also be an appearance of cottony slime.</p>	<p>Human causes may be illicit connections of domestic wastewater; untreated septic system discharge; illegal boat discharge; and parking lot runoff.</p>	
<p><b>Green Water</b> – ranging from blue green to bright green color and may impart odor. Conditions typically occur from May to October.</p>	<p>Human causes may be over-fertilizing lawns, boat discharges, septic systems, agriculture operations, or discharging poorly treated wastewater.</p>	
<p><b>Orange/Red -</b></p>	<p>Human causes may include meat packing facilities or dyes.</p>	
<p><b>Green Flecks</b> – resmbing floating blue-green paint chips or grass clippings. These <i>Blooms</i> and are potentially toxic.</p>	<p>Human cause is excessive nutrients. Fertilizers used on lawns can contaminate surface and ground water.</p>	

<b>Green Flecks</b> - (cont)		
<b>Green Hair-Like Strands</b> - bright or dark green, resembling cotton candy and often in floating mats.	Human causes are excessive nutrients from fertilizers or failed on-shore septic systems.	
<b>Multi-Color Water</b> – various or uniform color, other than brown, green or gray. For rainbow sheen see floatables.	Human causes include oil or hazardous waste spill, paint and paint equipment rinsed into storm drains or into failing septic systems.	

Turbidity - is a measure of the clarity of water. Turbidity may be caused by many factors, including suspended matter such as clay, silt, or finely divided organic and inorganic matter. Turbidity is a measure of the optical properties that cause light to be scattered and not transmitted through a sample. The presence of turbidity is to be assessed by comparing the sample to clean glass sample container with colorless distilled water.

Turbidity and color are related terms but are not the same. Remember, turbidity is a measure of how easily light can penetrate through the sample bottle, whereas color is defined by the tint or intensity of the color observed.

**Figure 4 -Turbidity Severity Examples**  
(adapted from CWP)



Severity 1



Severity 2



Severity 3

Floatables - The presence of sewage, floating scum, foam, oil sheen, or other materials can be obvious indicators of an illicit discharge. However, trash originating from areas adjacent to the outfall is this section.

If you think the floatable is sewage, you should automatically assign it a severity score of three since no other source looks quite like it.

Suds are rated based on their foaminess and staying power. A severity score of three is designated for thick foam that travels many feet before breaking up. Natural foam breaks apart easily, can be brown, black or yellowish and may smell fishy or musty.

Surface oil sheens are ranked based on their thickness and coverage. In some cases, surface sheens may not be from oil discharges, but instead created by in-stream processes. Petroleum sheens do not break apart and they quickly flow back together.

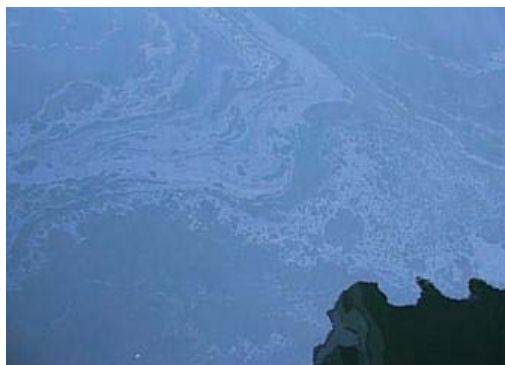


**Figure 5 - Natural Sheen versus Synthetic**

(adapted from CWP)





Sheen from natural bacteria forms a swirl-like film that cracks if disturbed



Synthetic oil forms a swirling pattern

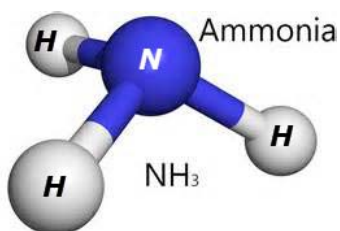
**Table 4: Floatables in Potential Illicit Discharges** (adapted from CWP)

Floatables	
<p>Sewage</p> 	<p>Human causes include connection of domestic wastewater, leaking sanitary sewers or failing septic systems.</p>
<p>Suds and Foam –</p> 	<p>Common human causes of unnatural foam include leaking sewer lines, boat discharges, improper sewer connections to storm sewers and detergents from car washing activities.</p>

<p>Petroleum (oil sheen)</p> 	<p>Human causes may include leaking underground storage tank or illegal dumping.</p>
<p>Grease</p> 	<p>Common human causes include overflow from sanitary systems (due to clogging from grease) and illegal dumping.</p>

### 3.3.3D Testing Indicator

#### Ammonia:



Ammonia is a good indicator of sewage, since its concentration is much higher in contaminated groundwater or tap water. High ammonia concentrations (>50 mg/l) may also indicate liquid wastes from some industrial sites. Ammonia is relatively simple and safe to analyze. Some challenges include the potential generation of wastes from non-human sources, such as pets or wildlife.

#### Chlorine:



Chlorine is used throughout the country to disinfect tap water, except where private wells provide the water supply. Chlorine concentrations in tap water tend to be significantly higher than most other discharge types. Unfortunately, chlorine is extremely volatile, and even moderate levels of organic

materials can cause chlorine levels to drop below detection levels. Because chlorine is non-conservative, it is not a reliable indicator, although if very high chlorine levels are measured, it is a strong indication of a water line break, swimming pool discharge, or industrial discharge from a chlorine bleaching process.

Copper:



Concentrations of copper in dry-weather flows can be a result of corrosion of water pipes or automotive sources (for example, radiators, brake lines, and electrical equipment). The occurrence of copper in dry-weather flows could also be caused by inappropriate discharges from facilities that either use or manufacture copper-based products. A copper value of  $>0.025\text{-mg/L}$  indicates an industrial discharge is present.

Industrial sources of copper include the following:

- Copper manufacturing (smelting),
- Copper metal processing/scrap remelting,
- Metal plating,
- Chemicals manufacturing,
- Analytical laboratories,
- Power plants,
- Electronics,
- Wood preserving, and
- Copper wire production.

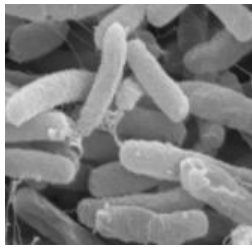
In each of these industries, wastes containing copper would normally be discharged to a treatment facility. Sludge from the waste treatment facility, whether on-site (including lagooning) or publicly operated treatment facilities, would contain copper. If the sludge (or the treatment process) is not managed properly, copper could enter the storm sewer system.

Detergent:



Most illicit discharges have elevated concentration of detergents. Sewage and washwater discharges contain detergents used to clean clothes or dishes, whereas liquid wastes contain detergents from industrial or commercial cleansers. The nearly universal presence of detergents in illicit discharges, combined with their absence in natural waters or tap water, makes them an excellent indicator. Research has revealed three indicator parameters that measure the level of detergent or its components-- surfactants, fluorescence, and surface tension. Surfactants have been the most widely applied and transferable of the three indicators. Fluorescence and surface tension show promise, but only limited field testing has been performed on these more experimental parameters; therefore these are not tested. Refer to Boron and Surfactants descriptions.

*E. coli, Enterococci and Total Coliform:*



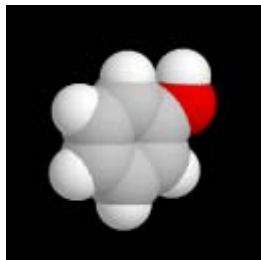
Each of these bacteria is found at very high concentrations in sewage compared to other flow types, and is a good indicator of sewage or seepage discharges, unless pet or wildlife sources exist in the subwatershed. Overall, bacteria are good supplemental indicators and can be used to find “problem” streams or outfalls that exceed public health standards. A Fecal Coliform count greater than 400 per 100 mL indicates waste water contamination.

Fluoride:



Fluoride, at a concentration of two parts per million, is added to drinking water supplies in most communities to improve dental health. Consequently, fluoride is an excellent conservative indicator of tap water discharges or leaks from water supply pipes that end up in the storm drain. Fluoride is obviously not a good indicator in communities that do not fluorinate drinking water, or where individual wells provide drinking water. Fluoride levels greater than 0.6-mg/L indicate a potable water source is connected to the stormwater system.

Phenol:



Phenol is a very commonly occurring chemical and can be found in foods, medicines, and cleaning products, as well as industrial products and by-products. Generally, the appearance of phenols in stormwater would indicate a misconnected industrial sewer to a storm drain or ditch. Exceptions would include runoff from treated wood storage yards (for example, treated lumber and telephone poles) and improper disposal (flash dumping) of cleaning products. A phenol value greater than 0.1-mg/L indicate an illicit discharge is present.

Industrial sources of phenol include the following:

- Chemical manufacturing (organic),
- Textile manufacturing,
- Paint and coatings manufacturing,
- Metal coating,
- Resin manufacturing,
- Tire manufacturing,



- Plastics fabricating,
- Electronics,
- Oil refining and re-refining,
- Naval stores (turpentine and other wood treatment chemicals),
- Pharmaceutical manufacturing,
- Paint stripping (for example, automotive and aircraft),
- Military installations (rework and repair facilities),
- Coke manufacturing,
- Iron production, and
- Ferro-alloy manufacturing.

Other sources of phenol include improper handling and disposal of cleaning compounds by institutions such as hospitals and nursing homes.

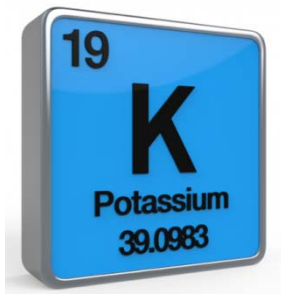
#### pH:



Potential ID Range: <6.5 and > 8.5

Most discharge flow types are neutral, having a pH value around 7, although groundwater concentrations can be somewhat variable. pH is a reasonably good indicator for liquid wastes from industries, which can have very high or low pH (ranging from 3 to 12). The pH of residential wash water tends to be rather basic (pH of 8 or 9). The pH of a discharge is very simple to monitor in the field with low cost test strips or probes. Although pH data is often not conclusive by itself, it can identify problem outfalls that merit follow-up investigations using more effective indicators.

#### Potassium:



Potassium is found at relatively high concentrations in sewage, and extremely high concentrations in many industrial process waters. Consequently, potassium can act as a good first screen for industrial wastes, and can also be used in combination with ammonia to distinguish wash waters from sanitary wastes. An ammonium to potassium ratio of  $>1$  or  $<1$  indicate waste water or wash water discharge respectively. A potassium value of  $>20\text{-mg/l}$  is a good indicator for industrial discharges.

#### Surfactants:



Surfactants are the active ingredients in most commercial detergents, and are typically measured as Methyl Blue Active Substances (or MBAS). They are a synthetic replacement for soap, which builds up deposits on clothing over time. Since surfactants are not found in nature, but are always present in detergents, they are excellent indicators of sewage and wash waters. The presence of surfactants in cleansers, emulsifiers and lubricants also makes them an excellent indicator of industrial or commercial liquid wastes. A surfactant value of  $> 0.25\text{-mg/L}$  within residential areas indicates that either a sewage or washwater is present in the stormwater; a value of  $>5\text{-mg/L}$  within non-residential areas indicates that there is an industrial discharge (refer to Table 46 from the Illicit Discharge Detection and Elimination manual by the Center for Watershed Protection for use in determining industrial flow types).

### 3.3.3E Indirect Connection Program



Indirect connections are subtle connections, such as dumping or spillage of materials into storm sewer drains. Flash dumping is a common type of indirect connection. Generally, indirect modes of entry produce intermittent or transitory discharges, with the exception of groundwater seepage. There are five main modes of indirect entry for discharges.

#### *Groundwater Seepage*

Seepage discharges can be either continuous or intermittent, depending on the depth of the water table and the season. Groundwater seepage usually consists of relatively clean water that is not an illicit discharge by itself, but can mask other illicit discharges. If storm drains are located close to sanitary sewers, groundwater seepage may intermingle with diluted sewage. Addressing seepage that is observed during the outfall screening process is described in more detail in this Chapter.

#### *Spills*

These transitory discharges occur when a spill travels across an impervious surface and enters a storm drain inlet. Spills can occur at many industrial, commercial and transport-related sites. A very common example is an oil or gas spill from an accident that then travels across the road and into the storm drain system.

#### *Dumping*

Dumping a liquid into a storm drain inlet: This type of transitory discharge is created when liquid wastes such as oil, grease, paint, solvents, and various automotive fluids are dumped into the storm drain. Liquid dumping occurs intermittently at sites that improperly dispose of rinse water and wash water

during maintenance and cleanup operations. A common example is cleaning deep fryers in the parking lot of fast food operations.

#### *Outdoor washing activities*

Outdoor washing may or may not be an illicit discharge, depending on the nature of the generating site that produces the wash water. For example, hosing off individual sidewalks and driveways may not generate significant flows or pollutant loads. On the other hand, routine washing of fueling areas, outdoor storage areas, and parking lots (power washing), and construction equipment cleanouts may result in unacceptable pollutant loads. Individual washing activities are addressed through the Public Education and Outreach Program in Chapter 3.1 whereas observed/documentated routine washing activities should be addressed through the Removal of Illicit Discharges Procedure in Chapter 3.3.

#### *Non-target irrigation from landscaping or lawns*

Irrigation can produce intermittent discharges from over-watering or misdirected sprinklers that send tap water over impervious areas. In some instances, non-target irrigation can produce unacceptable loads of nutrients, organic matter or pesticides. The most common example is a discharge from commercial landscaping areas adjacent to parking lots connected to the storm drain system. This type of discharge is addressed by the Public Education and Outreach Program in Chapter 3.1.

### **3.3.4 Enforcement**

Sewer Use Ordinance includes Storm Sewer prohibitions. The City of Wheaton Engineering Department is responsible for enforcement of spills and illegal hook-ups. This is complaint driven and reactionary. Investigations can be cooperative with City Public Works Department and the Illinois Environmental Protection Agency.

### **3.3.5 Complaints**

When a complaint comes in, the Engineering Department arranges a meeting for an inspection of the property with the owner/operator of the property where the pollution source is suspected. Most illicit connections and improper disposal can be detected during this step. The City will notify the site owner/operator of the problem and instruct them to take corrective measures via notification of

noncompliance. The notification includes a description of the required action(s) and a time frame in which to assess the problem and take corrective action. The owner may be subject to penalties if corrective action is not achieved within the applicable time frame.

Conducting follow-up inspections after the stipulated time frame has elapsed determines whether corrective actions have been implemented to: 1) remove the illicit connection or 2) eliminate the improper disposal practice.

If corrective actions have been completed (i.e. and the illicit discharge has been eliminated), then the Engineering Department will notify the property owner that the site is now in compliance.

If corrective actions have not been completed, an additional internal meeting with appropriate City personnel (likely including involved Public Works Personnel, Engineering Department Personnel & the Director of Engineering ) is held to determine appropriate steps to obtain compliance. Appropriate actions may include monetary or other penalties.

Enforcement levels include:

- Containment, Clean-Up
- Violation Letters
- Clean-Up Costs
- Compliance Schedules
- Fines

### **3.3.6 Inspection**

Going forward, high priority outfalls will be inspected at least on an annual basis with reminders and scheduling managed through the City of Wheaton Office 365 network. The City welcomes reporting of illicit discharges through contacting the Engineering Department general line 630-260-2065, or in-person notification at City Hall. Enforcement is handled through the Department of Engineering. Depending upon the severity of the issue, a correction notice is given with a 0-14 day timeframe or immediate shut-down until the violation is remedied. Severity is based on life safety, health and welfare. If it is believed that an illicit discharge is occurring after normal business hours, and life safety, health



and welfare are at risk, then you are encouraged to dial 911 and they will direct the appropriate police and fire personnel.

Most common issues are:

- Contaminated run-off from leaking chemical drums and tanks, dumpsters, grease containers;
- Run-off from failed septic systems (unincorporated);
- Truck lots with poorly maintained or abandoned vehicles;
- Gasoline, Antifreeze, Diesel spills caused by accidents;
- Outside power washing of equipment;
- Heavy solids / siltation from construction sites;
- Direct dumping of illicit into storm sewers

### **3.3.7 Monitoring**

The City intends to expand its GIS component for storm sewer monitoring. This will be accomplished by:

- When new outfalls are added, using GPS to collect outfall data points
- Upload to GIS and attach pertinent data to the points
- Navigation
- Mapping and reporting
- Data will be “transferrable” to County
- Creation of a database – for the entire IDDE program

Each outfall on the GIS map will be hyperlinked to a folder containing the photo and data sheet for that outfall.

### **3.38 Prohibited Discharge Standards are outlined in the City Code**

Prohibition of illicit discharges can be found in Section 34-155.

## **3.4 Construction Site Runoff Control**

The goal is to ensure that new development does not increase existing stormwater problems or

create new ones. The City Code, Chapter 34, establishes City-wide standards for runoff maintenance, detention sites, soil erosion and sediment control, water quality, wetlands and floodplains. These provisions are only applicable for regulated development activities as defined by the Municipal Code. Applicants that hydrologically disturb greater than 1-acre are also required to seek coverage under the statewide construction general permit by filing a Notice of Intent (NOI) with IEPA.

### **3.4.1 Regulatory Program**

The Wheaton Municipal Code includes numerous performance standards on Grading, Stormwater and Soil Erosion/Sediment Control that must be met for all parties undertaking construction.



### **3.4.2 Applicant**

The applicant is ultimately responsible for ensuring compliant soil erosion and sediment control measures on-site during construction. General contractors, sub-contractors and other hired employees of the applicant can assist applicant in maintaining a compliant site; however the applicant remains the responsible party. The applicant is also responsible for obtaining all other required state and federal permits, including an NOI with IEPA and upholding all permit conditions (including completing inspection logs) as required by the DuPage County Stormwater Ordinance.

### **3.4.3 Site Plan Review**

The City of Wheaton is the enforcement agency of the Stormwater Provisions of the Municipal Code. The City's Engineering Department provides applicants with a variety of documents necessary to obtain municipal permits. Included in the packet is relevant permitting information including the performance guarantee information.

Engineering performs a review of the proposed site plan and provides comments to the applicant on any plan deficiencies and/or recommended plan enhancements. The plan review also assists in identifying other approvals that the applicant may be required to obtain. Concurrently, the City Engineer reviews for any site or stormwater issues. After reviewers concur that the applicable provisions of the Municipal Code have been addressed, a permit may be issued.

#### **3.4.4 Runoff Volume Reduction Hierarchy**

The Wheaton Municipal Code includes performance standards which require that the site plan include a combination of structural and/or non-structural BMPs that will reduce the discharge of pollutants, the volume and velocity of storm water flow to the maximum extent practicable. The permittee should ensure that the development plan addresses these provisions during the plan review process.

#### **3.4.5 Construction Site Inspection Process**

The City frequently receives public inquiries regarding a development, either during the review or construction phase. Both site design and construction related inquiries are directed to the Development Engineer, the City Engineer, or designee, and logged. Site design comments are handled on a case by case basis. Construction related inquiries are typically addressed by performing a site inspection. Construction site runoff in Wheaton is regulated by City Municipal Code Chapter 34". The Engineering Department is in charge of reviewing the site plans to ensure compliance with the City, DuPage County and IEPA stormwater regulations. Prior to starting any site work, the contractor/developer signs off on acknowledging the need to call in for erosion control inspections. Construction permits can then be issued. The Ordinance requires erosion and sediment control Best Management Practices (BMP) along with the control of construction material debris. The City reviews BMP designs prior to construction and inspects sites during construction. These policies form the fundamental regulatory control programs that enforce rules to reduce pollutants in storm water runoff from construction activities as a result of any land disturbances within the City. Included within these ordinances are requirements for:

- Sediment and erosion control, including recommendations for appropriate control practices;
- Site plan review;
- Public information handling procedures;
- Site inspection/enforcement procedures that fulfill the requirements for Construction Site Water Runoff Control measures in the General NPDES Permit NO. IL40

Inspection aims to determine if the erosion control measures match what is on the design plan, and ensures they are in good working order so they prevent materials from leaving the site and potentially ending up in storm drain system. This includes proper installation of silt fencing, additional BMPs installed at drainage outfalls, proper location of construction entrance and dewatering discharge filters. The City requires debris catch baskets at construction sites. This reduces solids which would otherwise enter the creek system.

The City code also allows for violations to be corrected by the City with all costs being paid for by the owner/operator when compliance is not voluntarily achieved.



Example of proper erosion control at a new single family development

This SMPP creates and references extensive policies and procedures for regulating design and construction activities for protecting receiving waters. The design and construction site practices selected and implemented by the responsible party for a given site are expected to meet BMP measures described in the Revisions to Appendix E: Technical Guidance for the DuPage County Countywide Stormwater and Floodplain Ordinance and IEPA's Program recommendations. All

proposed permanent stormwater treatment practices must be reviewed and approved by the City Engineer.

#### **3.4.6 Erosion Control Inspections**

The City of Wheaton requires all earth disturbing activities that last longer than one day, to have installed the proper erosion control. Representatives of the City of Wheaton are authorized to enter upon any land or water to inspect that the correct erosion control is being utilized and that it is properly functioning. Sites found to be not in compliance will be notified that they are in violation of City code. The City may then issue a notice of violation followed with a Stop Work order, and/or fines to the contractor, developer, and/or property owner. The site will then need to be brought into compliance before any work can proceed.

#### **3.4.7 Minimum Construction Site Practices**

A site plan is required to comply with minimum prescribed practice requirements set forth in the Municipal Code. The Municipal Code also allows for the City of Wheaton to require additional measures, above and beyond minimum control measures, to prevent the discharge pollutants from construction sites. Design and implementation guidance is available in the DuPage County Technical Reference Manual and other reference materials identified in the SMPP. A copy of the DuPage County Technical Reference Manual can be found at:

[www.dupageco.org/EDP/Stormwater\\_Management/Water\\_Quality/1424/](http://www.dupageco.org/EDP/Stormwater_Management/Water_Quality/1424/)

Some minimum control measures include the following:

- Construction site sequencing and phasing,
- Preservation of existing vegetation and natural resources (through the runoff volume reduction hierarchy provisions),
- Stormwater conveyance systems (including concentrated flows, diversions, etc.),
- Stockpile management,
- Soil erosion control measures (including blanket and seeding),
- Stabilized construction entrances/exits and haul routes,
- Sediment Control (including silt fence, inlet/outlet protection, ditch checks, sediment traps, sediment basins etc.),
- Wind and Dust control measures,



- Non-stormwater management (including dewatering practices, waste management practices, spill prevention and control practices etc.),
- Construction Buffers, and
- Construction Details.

All projects that require a stormwater permit must have a SWPPP designed by a licensed engineer. The City does not designate control measure, but does enforce those listed and designed in the SWPPP.

### **3.4.8 City Construction**

The City of Wheaton follows the same construction standards to which private developers adhere. This includes using filter fabric, sediment logs and inlet filter bags for excavation work.

## **3.5 Post-Construction Runoff Control**

The City of Wheaton complies with NDPES permit requirements by incorporating Ordinance and BMP standards to minimize the discharge of pollutants of development projects. This chapter describes how the compliance with stormwater discharge permit requirements for long-term post-construction practices that protect water quality and control runoff flow is achieved.

The controlled release and storage of excess stormwater runoff shall be required in combination for all commercial and industrial developments, for residential developments in excess of 2½ acres in area, and for parking lots and other impervious areas exceeding 1,800 square feet. This shall include all such developments within the planning jurisdiction of the city.

The controlled release rate of stormwater runoff from all developments shall not exceed the existing safe storm drainage capacity of the natural downstream outlet channel or storm sewer system. The release rate shall be an average value computed as a direct ratio of the tributary watershed area. This value shall not exceed an average runoff rate of 0.15 inch per hour.

Additionally, when a development site increases its impervious coverage by 2,500 square feet or more compared to the pre-development site condition, then a Post-Construction BMP is required to be installed per the DuPage County Stormwater Ordinance.

## 3.6 Pollution Prevention / Good Housekeeping

The City of Wheaton is responsible for the care and upkeep of the general facilities, municipal roads, and associated maintenance yards. Many maintenance activities are most regularly performed directly by staff; however from time to time contractors are employed to perform specific activities. This chapter describes how the compliance with permit requirements is achieved by incorporating pollution prevention and good housekeeping stormwater quality management into day-to-day operations. On-going education and training is provided to ensure that all of its employees have the knowledge and skills necessary to perform their functions effectively and efficiently.

### 3.6 A Inspection and Maintenance Program

The following chapters describe areas/items that require inspection and their recommended inspection frequency. It further details recommended maintenance activities and subsequent tracking procedures for each of the tasks.

#### 3.6 A.1 Street Sweeping

Street sweeping operations are performed to reduce potential illicit discharges and to provide a clean environment. The curb lines of streets are cleaned on a rotating basis. The rotation may be changed or interrupted if heavy rain occurs, the sweeper is out of order due to mechanical problems, or the Public Works Divisions experiences heavy workload. The in-house sweepers handles all service requests, special events and in-house construction jobs. City streets are currently swept an average of 10,000 lane miles per year. This equates to each mile of City street being swept of sediment and debris over 33 times.

#### 3.6. A.2 Catch Basins and Storm Sewer

The City has a catch basin and storm sewer maintenance program which is carried out by the Wheaton Public Works Department (WPWD). WPWD currently inspects, cleans, and maintains the MS4 components on a routine annual basis of approximately 10% of the storm sewer pipe system and 30% of the catch basins. The debris that is collected by WPWD is taken to a specially designed and constructed storm sewer debris dump station which is located within the Public Works facility. This dump station is utilized for drying storm sewer debris prior to hauling the solid material off-site for proper disposal.

#### 3.6 A.3 Landscape Maintenance

The City of Wheaton maintains its general facilities, municipal roads, associated maintenance yards, and other public areas. Municipal staff is responsible for Litter and Debris control described in Chapter 3.6.A.3.a. The City annually selects and contracts with a landscape contractor. The landscape contractor is responsible for the remainder of the landscape maintenance program under the supervision of the Public Works Department. The City of Wheaton is responsible for ensuring that their landscape contractors are provided with training and/or other information to ensure that they adhere to the City of Wheaton's SMPP.

### **3.6 A. 3.a Litter and Debris**

Litter and debris can accumulate on City property and roadway right-of-ways. Clean-up at park district recreation areas is the responsibility of the Wheaton Park District. City properties and right-of-ways (including municipal, Township, County and State right-of-ways within the MS4 limits) are cleaned by Public Works personnel on an as-needed basis.

### **3.6.A 3.b Private Residence Yard Waste**

Yard waste and leaves from private residences are collected through the refuse collection contractor. Yard waste is collected weekly from April till November which reduces debris from landing in the street and being caught in catch basins and flowing to the creek system.

### **3.6.A 4 Snow Removal and Ice Control**

During snow removal and ice control activities, salt, de-icing chemicals, abrasives and snow melt may pollute stormwater runoff. To address these potential pollutants, the following procedures for the "winter season" (November 1 through April 1) are implemented.

### **3.6 A. 4.a Roadway Ice Control**

The City's goal is to use the minimal amount of salt, de-icing chemicals and additives necessary for effective control. Prior to November 1, preparation work to obtain seasonal readiness is completed. These tasks include: inspecting and re-conditioning of spreaders and spinners, installing these items onto snow removal vehicles, performing test operations, and conducting effective driver training. Performing these preparatory tasks helps ensure that only the necessary level of salt is applied.

The materials used for combating roadway ice include the following:

- Salt - Rock crystal form
- Pre-wetted salt – salt mixed with beet juice
- Salt Brine – 23.3% solution of salt and water
- Beet Juice – Engineered sugar beet based organic accelerator
- Calcium Chloride – liquid form
- Super Mix – liquid mix of salt brine, beet juice and calcium chloride in the ratio of 70%, 20%, 10% used in tanks on salt spreaders to pre-treat salt and to de-ice streets before storm event

City Public Works personnel has been taking measures to limit the use of salt due to its high cost and environmental impacts. Staff has reduced road salt usage by lowering the application rates for the salt when possible. Under certain circumstances only hills, curves, intersections, arterials, and collector streets and neighborhood connector roadways have been salted.

A liquid consisting of beet juice and other proprietary compounds is also used to treat our salt stockpile before the salt is spread on the streets during winter operations. The beet juice not only enhances the ability of the salt to melt ice at much lower temperatures, but will also reduce the amount of salt that is needed to keep the roads safe each winter.

The Public Works Department is taking a pro-active approach to snow and ice control by continuing to expand the anti-icing program. The program involves the application of a liquid salt brine, beet juice and calcium chloride, which we call “supermix” on specified streets prior to an expected storm.

The application of the “supermix” through spray nozzles leaves a residual on the street which begins the melting action as soon as the snow begins to fall. This residual prevents the snow and ice from bonding to the pavement. The immediate melting action will not only give snow fighting crews time to respond but should also reduce the number of isolated slippery conditions which would normally require limited action by the Public Works Department.

The program will concentrate on the downtown business district, arterials, and other known trouble spots around the city. Weather permitting, the anti-icing application will be done at least once a week. As we fully expect good results, it is our intention to continue the program each year.

### **3.6.A 4.b Salt Delivery and Storage**

Steps are taken to ensure that the delivery, storage and distribution of salt does not pollute stormwater runoff from the Public Works Facility. The floor of the salt storage building and adjacent receiving/unloading area are constructed of concrete. Delivered salt is unloaded at the salt storage area at 818 W. Liberty Drive. The City has a covered salt storage bin.



City of Wheaton Salt Storage

### **3.6.A 4.c Snow Plowing**

Snow plowing activities direct snow off the pavement and onto the parkways. This reduces the amount of salt, chemical additives, abrasives or other pollutants that go directly into the storm sewer system. Snow blowing, plowing or dumping into drainageways is not allowed.



City of Wheaton Snow Plows

### **3.6.A 5 Vehicle and Equipment Operations**

Vehicle and equipment fueling procedures and practices are designed to minimize or eliminate the discharge of pollutants to the stormwater management system, including receiving waters.

#### **3.6.A 5.a Vehicle Fueling**

The vehicle fueling area contains two fiberglass underground storage tanks. Contractors hired by the City are responsible to follow bid specifications which outlines Fuel/Oiling procedures, i.e. Mowers shall not be fueled or oiled in grass areas. All equipment shall be moved to a concrete area to be fueled.

#### **3.6.A 5.b Vehicle Washing**

WPWD washes all vehicles in an enclosed wash bay at their facility which drains to the sanitary sewer after passing through a triple-basin separator. Fire Department vehicles are washed at their respective fire stations in a similar manner. All Police and other smaller municipal vehicles are washed at a local privately-owned commercial car wash facility.

#### **3.6.A 5.c Vehicle Maintenance**

Vehicle maintenance procedures and practices are designed to minimize or eliminate the discharge of petroleum based pollutants to the stormwater management system, including receiving waters. This chapter discusses proper handling and disposal of vehicle maintenance byproducts such as waste oil, antifreeze, batteries and tires.

**Waste Oil:** Used motor oil, transmission fluids, gear lubes, brake fluids and other vehicle fluids (except antifreeze) are collected and stored in a 750 gallon tank. Typically, the waste oil tank is emptied and the contents removed by a licensed waste oil contractor.





**Antifreeze:** Used antifreeze is inside a building in a 55 gallon drum. The waste antifreeze is then removed by a licensed waste antifreeze contractor.



**Batteries:** Used batteries are recycled by vendors when buying a replacement.

**Tires:** Used tires are disposed of at a vendor.

**Other:** Fleet Technicians are certified in air-conditioning. The refrigerant is captured and recycled whenever they work on vehicle air conditioning systems. This saves the environment and the cost of refrigerant.

### **3.6 A.6 Waste Management**

Waste Management consists of implementing procedural and structural practices for handling, storing and disposing of wastes generated by a maintenance activity. This helps prevent the release of waste materials into the stormwater management system including receiving waters. Public Works material storage bins at the Public Works facility run-off is conveyed into a sanitary sewer that flows directly to head of our wastewater treatment plant.

#### **3.6. A. 6.a Spoil Stock Pile**

The spoil stock pile is located at the Public Works Facility. Asphalt and concrete maintenance by-products and excess earth excavation materials are temporarily stored in the stock pile. Attempts are made to recycle asphalt and concrete products prior to storage in the spoil stock pile. Asphalt and concrete are separated and put into material storage bins separately and are hauled away separately. Licensed waste haulers are contracted to remove and dispose the contents of the spoil stock pile at a licensed landfill when designated waste storage bins are approaching capacity.



Concrete Waste Storage



Asphalt Waste Storage

### **3.6 A. 6.b Hazardous Waste**

Store all hazardous wastes in sealed containers constructed of compatible material and labeled. The containers are located in non-flammable storage cabinets or on a containment pallet. These items include paint, aerosol cans, gasoline, solvents and other hazardous wastes. Do not overfill containers. Paint brushes and equipment used for water and oil-based paints are cleaned within the designated cleaning area. Contain associated waste and other cleaning fluids within an enclosed tank, the tank is maintained by a private licensed special waste company.

### **3.6 B Employee Training**

The City's intent is to provide education and training to all employees to ensure that they have the knowledge and skills necessary to perform their functions effectively and efficiently. The purpose of the Employee Stormwater Training Program is to teach appropriate employees about:

- Stormwater characteristics and water quality issues;
- The roles and responsibilities of the various Departments, and individuals within these Departments, regarding implementation of the SMPP to consistently achieve Permit compliance;
- Activities and practices that are, or could be sources, of stormwater pollution and non-stormwater discharges;
- On managing and maintaining green infrastructure and low impact design features; and,
- How to use the SMPP and available guidance materials to select and implement BMP's.

The City maintains good housekeeping habits:

- Clean Facility – picking up trash/debris; sweeping out Public Works garage minimally monthly
- Sludge Hauling – if a spill occurs, the contractor or City employee must clean it up immediately
- Containers are stored orderly and away from traffic to prevent spills
- Dumpsters are covered and reported if a leak is detected
- Vehicles are cleaned inside garage which drains directly to Wastewater Treatment Plant
- Storage containers are properly labeled
- Plant chemicals, petroleum is stored inside the Public Works garage
- Building floor drains are piped back to the treatment facility



## 4.0 Complaint Procedure

The City welcomes and encourages the public to report issues that may affect the City waterways. The form below will be used and will be found at :

<http://www.wheaton.il.us/SWComplaint>



City of Wheaton, Illinois

City of Wheaton  
303 W. Wesley Street  
Wheaton, IL 60187-0727  
630-260-2000

[www.wheaton.il.us](http://www.wheaton.il.us)

## City Of Wheaton Stormwater Complaint

The storm drains in the street outside your home flow directly to waterways, without any treatment. It is therefore very important that no one be allowed to dump waste of any kind onto the street surface, drainage pipes, and ditches, or into storm drains – they are only for rainwater. If you see someone dumping anything onto street surfaces, into storm drains, or into any other device built to contain rainfall or runoff, please report it immediately by calling the Department of Engineering at 630-260-2065 or by completing the form below.

Fill in the information and the City of Wheaton will investigate all reports received and take any and all enforcement actions necessary to rectify by discharge.

**Erosion and Sediment Complaints:** observed excessive erosion and sedimentation from active construction sites.

**Illicit Drainage Complaints:** observed illegal dumping into the stormwater system and / or streams. Anything entering the stormwater system that is not stormwater is considered illicit discharge.

**Call 9-1-1 to Report an Emergency** do not use this form

Complaint can be made anonymously.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

Email: \_\_\_\_\_

Date / Time of Occurrence: \_\_\_\_\_

Location: \_\_\_\_\_

\_\_\_\_\_  
Description of Problem:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Was a Commercial Vehicle Involved? YES / NO

If Yes, what was company name or license plate? \_\_\_\_\_

## Reference Links

DuPage County General NPDES Permit No. ILR40 MS4

[http://www.dupageco.org/EDP/Stormwater\\_Management/Water\\_Quality/1166/](http://www.dupageco.org/EDP/Stormwater_Management/Water_Quality/1166/)

DuPage County Water Quality Education Program

[http://www.dupageco.org/EDP/Stormwater\\_Management/Water\\_Quality/1377/](http://www.dupageco.org/EDP/Stormwater_Management/Water_Quality/1377/)

DuPage County Water Quality Publications

[http://www.co.dupage.il.us/EDP/Stormwater\\_Management/1163/](http://www.co.dupage.il.us/EDP/Stormwater_Management/1163/)

Non-Profit Educational Partnerships: DuPage County partners with [The Conservation Foundation](#) and [SCARCE](#) to provide stormwater education and training

DuPage County Stormwater Committee

[https://www.dupageco.org/County\\_Board\\_Committees/Stormwater\\_Committee/17810](https://www.dupageco.org/County_Board_Committees/Stormwater_Committee/17810)

DuPage River/Salt Creek Work Group <http://www.drscw.org/> and education materials

DuPage County Ordinances and Documents

[http://www.dupageco.org/EDP/Stormwater\\_Management/Regulatory\\_Services/1420/](http://www.dupageco.org/EDP/Stormwater_Management/Regulatory_Services/1420/)

DuPage County Construction Site Storm Water RunOff Control

[http://www.dupageco.org/EDP/Stormwater\\_Management/Water\\_Quality/1315/](http://www.dupageco.org/EDP/Stormwater_Management/Water_Quality/1315/)

City website Stormwater Management

<http://www.wheaton.il.us/departments/engineering/detail.aspx?id=6051>

DuPage County Stormwater Management Projects

[http://www.dupageco.org/EDP/Stormwater\\_Management/1197/](http://www.dupageco.org/EDP/Stormwater_Management/1197/)

DuPage County Wetlands and Education/Training

[http://www.dupageco.org/EDP/Stormwater\\_Management/Natural\\_Areas/5136/](http://www.dupageco.org/EDP/Stormwater_Management/Natural_Areas/5136/)

DuPage County Stormwater Frequently Asked Questions

[http://www.dupageco.org/EDP/Stormwater\\_Management/6720/](http://www.dupageco.org/EDP/Stormwater_Management/6720/)

DuPage County Pollution Prevention and Good Housekeeping for Municipal Operations

[https://www.dupageco.org/EDP/Stormwater\\_Management/water\\_quality/1262/](https://www.dupageco.org/EDP/Stormwater_Management/water_quality/1262/)