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City of Waukegan, Illinois

NPDES Phase II Stormwater Program

Stormwater Pollution Prevention Plan
Public Works Facility

July 2011

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City of Waukegan, Illinois
Stormwater Pollution Prevention Plan
for the Public Works Facility

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LIST OF EXHIBITS

Exhibit

1. STORMWATER POLLUTION PREVENTION PLAN OVERVIEW

1.1 Introduction

The City of Waukegan has a General National Pollutant Discharge Elimination System (NPDES) Permit for Discharges from Small Municipal Separate Storm Sewer Systems (General Permit). The General Permit, as developed by the Illinois Environmental Protection Agency (IEPA), requires the permittee to develop and implement pollution prevention and good housekeeping practices for its municipal operations. A goal of IEPA's stormwater program is to improve water quality by reducing the amount of pollutants contained in stormwater runoff.

This Stormwater Pollution Prevention Plan (SWPPP) was prepared to assist the City in meeting some of the General Permit requirements for the Waukegan Public Works Facility (PWF). The objectives of this SWPPP are as follows: (1) to identify potential sources of pollution which may affect the quality of stormwater discharges, (2) to describe best management practices (BMPs) or control measures intended to minimize the pollutants in the facility's runoff, (3) to provide practical guidance for implementing the SWPPP, and (4) to comply with the terms and conditions of the General Permit.

1.2 Organization of Stormwater Pollution Prevention Plan

This SWPPP contains the following elements to meet the requirements of the General Permit:

- Section 2 - Potential Sources of Stormwater Pollutants;
- Section 3 - Stormwater Management Measures and Controls (Best Management Practices, or BMPs);

- Section 4 - Stormwater Pollution Prevention Team; and
- Section 5 - Annual Inspection Procedures.

This SWPPP is consistent with other environmental management plans prepared for the facility. The City has various protocols in place to operate and maintain its equipment.

2. POTENTIAL SOURCES OF STORMWATER POLLUTANTS

2.1 Introduction

This section of the SWPPP defines the stormwater system and associated potential water pollution problems. Specifically, a description of potential pollution sources which may add significant quantities of pollutants to stormwater discharges, or which may result in non-stormwater discharges from the facility need to be identified and described. Raw materials, waste products, fuels and other materials are typical potential pollutant sources.

2.2 Description of Facility

The Waukegan Public Works Facility (PWF) stores and maintains vehicles, equipment and materials used by the City of Waukegan Department of Public Works. Residential development occupies most of the land surrounding the PWF with McAree Road bordering it to the east. The site location is presented on Exhibit A. The site is approximately 15 acres in size. Approximately 70 percent of the ground surface is impervious (e.g., buildings, structures, pavement).

2.3 Site Maps

2.3.1 Site Location – Exhibit A presents a location map extending at least one-quarter mile beyond the facility property boundary.

2.3.2 Structural Control Measures – Exhibit B presents the structural control measures for the facility. This site map shows the following features:

- Paved areas and buildings;
- Areas that may impact stormwater runoff; and
- Location of existing stormwater structural control measures.

2.3.3 Storm Sewer System – Exhibit C presents the storm sewer system for the facility. The following features are shown on Exhibit C:

- Outfalls where stormwater is discharged from the facility property;
- Stormwater conveyance and discharge structures;
- The PWF storm sewer system discharges to retention ponds at the east end of the site

2.3.4 Sanitary Sewer System – Exhibit C presents the sanitary sewer system for the facility.

2.4 Activity and Significant Materials Inventory

Potential stormwater pollutant sources are listed below. A list of pollutant types that have the potential to be present in stormwater discharges is also presented.

2.4.1 Potential Stormwater Pollutant Sources - Vehicle fueling, vehicle maintenance and washing, vehicle equipment storage, vehicle liquid storage, heavy equipment storage, material storage, and road salt distribution occur at the PWF. Potential pollutants that could be present in stormwater runoff are listed below.

- Diesel fuel, oil and other petroleum hydrocarbons;
- Antifreeze;
- Solvents, paint, and other vehicle maintenance chemicals;
- Vehicle washdown debris;
- Wood chips;
- Road salt;
- Calcium Chloride
- Sand, gravel;
- Mulch;
- Recycled asphalt;
- Pesticides;
- Street Sweeping/Catch Basin Cleaning Debris

2.4.2 Stormwater Management Control Measures - A list of existing stormwater management control measures, or best management practices, for the PWF include the following:

- Proper labels on storage containers;
- Enclosed flammable liquids and toxic chemicals (Exhibit D.6);
- Pavement sweeping;
- Covered (e.g., roofs) storage areas (Exhibit D.2);
- Covered fueling area (Exhibit D.1);
- Triple basins in vehicle bays;
- Retention Facilities (Exhibit D.8);
- Indoor and outdoor areas kept clean to avoid tracking of spilled materials (Exhibit D.5);
- Vehicle maintenance performed inside with appropriate controls, including triple basin prior to discharging to sanitary sewer (Exhibit D.4);
- Loading/unloading equipment kept in good working order; and
- Spill kits in vehicles.

A description of these stormwater management control measures is presented in Section 3.

2.5 Summary of Existing Stormwater Sampling Data

The City does not sample any stormwater runoff at this time.

3. STORMWATER MANAGEMENT MEASURES AND CONTROLS

Stormwater management control measures, or best management practices, are used to reduce the amount of pollutants in the stormwater discharged from the PWF. The following stormwater management controls are described in this section:

- Good Housekeeping
- Preventive Maintenance
- Spill Prevention and Response
- Stormwater Management Practices
- Sediment and Erosion Prevention
- Employee Training
- Routine Visual Inspections
- Non-Stormwater Discharges

3.1 Good Housekeeping

Good housekeeping practices are intended to maintain areas which may contribute pollutants to runoff in a clean and orderly manner. A clean and orderly work area reduces the possibility of accidental spills caused by mishandling of equipment and should reduce safety hazards to facility personnel. Examples of good housekeeping practices for the site are presented below.

- The facility should be kept clean by picking up all trash and unwanted debris on a regular basis. The pavement should be swept clean on a regular basis. Avoid hosing down areas outside of designated washdown areas.
- Store drums, containers and other materials in a neat and orderly fashion. Provide adequate aisle space to facilitate material transfer and easy access for inspections. Store containers away from direct traffic routes to prevent accidental spills. Properly label containers.
- All dumpsters should be covered by a removable lid or a leak-proof tarpaulin, or placed under a roof.
- Make sure equipment is working properly.
- Routinely inspect for leaks or conditions that could lead to discharges of pollutants into stormwater.
- Ensure that employees and contractors understand pollution prevention and spill cleanup procedures.

3.2 Preventive Maintenance

The recommended preventive maintenance program includes inspection and maintenance of facility equipment and stormwater controls that could fail or leak, resulting in discharge of pollutants to stormwater. Appropriate preventive maintenance procedures for the facility are listed below.

- Facility vehicles and equipment should be maintained in accordance with the equipment manufacturer's manuals. The regular maintenance shall include the visual inspection and replacement, as necessary, of seals, gaskets and other parts.
- Facility equipment and systems should be inspected and tested on a regular basis to uncover conditions that could result in the discharge of pollutants to surface waters.
- All storage containers should be inspected on a monthly basis for signs of cracks and leaks.
- Stormwater management devices (e.g., cleaning catch basins and washwater storage tank) should be subject to timely inspection and maintenance.
- Vehicle maintenance activities should be performed inside.

3.3 Spill Prevention and Response

Potential pollution sources which could spill or leak are to be inspected on a regular basis. All observed spills or leaks observed will be immediately contained by a drip pan or absorbent materials. Spills shall be cleaned up as soon as possible using appropriate methods. Leaks are to be repaired as soon as possible. All affected employees are to be informed of their responsibilities to control leaks and spills, which would be covered in general awareness type training. Spill prevention procedures are described below.

- Any observed leak or spill should be immediately contained, cleaned up, and, as soon as possible, repaired.

- Facility vehicle and equipment operators should check their equipment each shift for signs of leaks. If any significant leaks are detected, the operator is to place a drip pan under the equipment (stationary equipment) until it can be repaired.
- Drip pans should be placed under all unused equipment and vehicles which are stored outside and observed to be leaking. These leaks should be repaired as soon as practicable.
- Above ground storage tanks and pipes should be secured when not in use.
- Filling of storage tanks, vehicle fuel tanks, and equipment tanks should be observed. Any spills which occur shall be immediately cleaned up.
- Contact the Fire Department for any spills that cannot be contained on-site or that pose an immediate health and safety threat.

3.4 Stormwater Management Practices

Stormwater management practices are practices (other than those which control the source of pollutants) used to divert, infiltrate, reuse, or otherwise manage the discharge of pollutants in runoff. These practices are described below.

- Covered Storage Areas - Road salt is stored in a covered area. The PWF's vehicle maintenance supplies are stored inside. All vehicles are stored inside, and all vehicles are maintained and washed inside. Paint and solvents are stored inside, as are all pesticides.
- Containment - The diesel fuel storage tank is located below ground. The fueling area is covered. All building floor drains are connected to the sanitary sewer.

- Oil & grease separation - There is a triple basin oil/water/grit separator located in the vehicle maintenance/storage bay.
- Debris and sediment control - Storm sewer inlets with grates are located throughout the facility.
- Waste chemical disposal - Waste chemicals such as antifreeze, degreasers, and used oils are recycled or disposed of properly, in accordance with regulatory requirements.

3.5 Sediment and Erosion Prevention

Paved areas will be maintained. The rest of the ground surface is either covered with vegetation or gravel. Most loose materials are stored under cover. Other areas will continue to be observed for soil erosion, and if significant erosion potential is found, corrective measures will be enacted.

3.6 Employee Training

Effective management of stormwater pollution will require that facility staff be aware of the conditions that may cause pollution. Furthermore, proper use of Best Management Practices (BMPs) by employees is essential for the success of the Stormwater Pollution Prevention Plan (SWPPP).

The Stormwater Pollution Prevention Team (Team) (Section 4) is responsible for developing and implementing an employee training program. At a minimum, the SWPPP training will be conducted annually. The SWPPP information should also be reviewed with all

new employees. The following subjects will be addressed in the training program:

- Objectives and requirements of the SWPPP;
- Spill prevention, response, and internal and external reporting procedures;
- Good housekeeping practices;
- Material management practices; and
- Proper fueling and storage procedures.

The Team will evaluate the effectiveness of the training program and make improvements as necessary to promote employee awareness and accountability.

3.7 Routine Visual Inspections

The Team (or designees) will conduct regular visual inspections of designated areas of the facility for the evidence of, or the potential for, pollutants entering the stormwater drainage system. The purpose of the visual inspection is to confirm that potential pollution sources are being properly controlled.

Areas to inspect, at a minimum, include:

- Potential sources of stormwater pollutants identified in Section 2;
- Outdoor material handling and chemical storage areas;
- Loading/unloading areas;
- Areas where spills/leaks have occurred in the past; and
- Fuel storage and pump areas.

A routine inspection form will be filled out each time an inspection is conducted that documents the following information:

- Facility name;
- Date of inspection;
- Name of inspector;
- Potential pollution sources identified; and
- Corrective actions needed to control the sources.

A blank routine inspection form is shown on Exhibit E. All routine inspection forms will be retained with this SWPPP for at least three years from the date of the inspection.

3.8 Non-Stormwater Discharges

The General Permit prohibits unauthorized non-stormwater discharges to the storm drainage system unless specifically covered by a NPDES permit. The facility is required to certify that unauthorized non-stormwater discharges covered under the General Permit do not exist at the facility.

Typical sources of non-stormwater discharges that are not authorized by the General Permit include:

- Floor drains, sinks, and other waste discharges to the ground surface;
- Boiler blow down or cooling water;
- Vehicle and equipment wash water; and
- Steam cleaning wastes.

Non-stormwater discharges authorized by the General Permit include:

- Discharges from fire fighting activities;
- Fire hydrant flushings;

- Waterline flushings of potable water sources;
- Irrigation drainage;
- Lawn watering;
- Uncontaminated groundwater;
- Foundation or footing drains where flows are not contaminated with process materials;
- Discharges from springs;
- Routine exterior building washdown which does not use detergents;
- Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred and where detergents are not used;
- Emergency eyewash/shower drain water;
- Steam leaks/condensate; and
- Air conditioning condensate.

A certification of evaluation of non-stormwater discharges is presented in Exhibit F.

3.9 Potential Future Best Management Practices

There are two pollutant sources that could benefit from additional structural measures and should be evaluated regularly by the City: 1) outdoor storage of mulch and other materials, and 2) washing of vehicles sometimes occurs outside near a storm drain. Use of a leak-proof tarpaulin to cover the stockpiles would reduce sediment in stormwater runoff. Employees should remember to wash all vehicles at the indoor washdown area where debris will enter the sanitary system through the triple basin.

4. STORMWATER POLLUTION PREVENTION TEAM

The stormwater pollution prevention team is responsible for developing, implementing, maintaining and revising this plan. The members of the team are familiar with management and operations of the facility. Mr. Tom Hagerty, Director of Public Works is primarily responsible for coordinating overall stormwater pollution prevention practices.

5. ANNUAL INSPECTION PROCEDURES

5.1 Annual Inspection

In addition to the routine visual inspections (Section 3.7), the General Permit requires that an annual facility inspection be conducted. The objectives of the inspection are to assess the overall effectiveness of this Stormwater Pollution Prevention Plan (SWPPP) and to modify or improve the SWPPP, where appropriate. The annual inspection includes the following tasks:

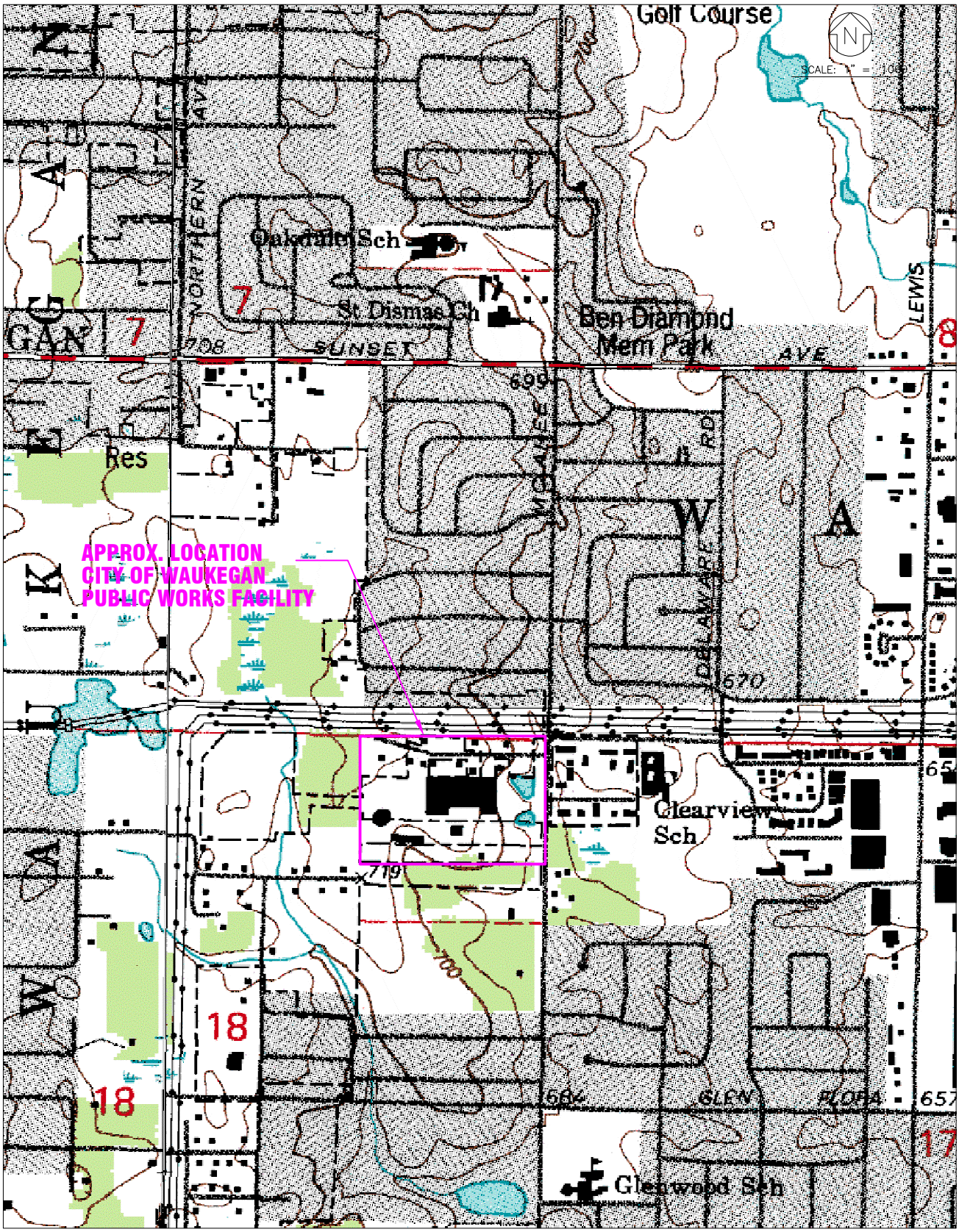
- Modify or update the site map to reflect current conditions;
- Identify all potential pollution sources;
- Inspect outfalls for evidence of pollutants entering the drainage system and adversely impacting the receiving water body;
- Verify that source and structural controls have been implemented, are being maintained, and are effective in controlling stormwater pollution;
- Determine if improvements or additional control measures are needed; and
- Inspect the availability of adequate spill response equipment and supplies.

The annual site inspection will be performed each year by a member of the Pollution Prevention Team or designee. An annual inspection form will be filled out each time an annual site inspection is conducted. A blank form is shown in Exhibit G.

The SWPPP shall be revised whenever there is a change in design, construction, operation or maintenance, which may impact the potential for pollutants to be discharged or if the SWPPP proves to be ineffective in controlling the discharge of pollutants.

5.2 Annual Report

The City must submit an Annual Report to the IEPA each year it is covered under the General Permit (currently by June 1 of each year). The Annual Report covers the City's Stormwater Management Program, including pollution prevention and good housekeeping for municipal operations.



BAXTER WOODMAN
Consulting Engineers

Baxter & Woodman
Crystal Lake, Illinois
Mokena, Illinois
Burlington, Wisconsin
DeKalb, Illinois
Crayslake, Illinois
Plainfield, Illinois
Itasca, Illinois
Madison, Wisconsin
Chicago, Illinois

CITY OF WAUKEGAN, ILLINOIS

PUBLIC WORKS FACILITY
SITE LOCATION

EXHIBIT A

DESIGNED BY	SCALE AS NOTED
DRAWN BY CSK	PROJECT NO. 110306.90
CHECKED BY	SHEET NO.
DATE 6-2-11	1 OF 1

SCALE: 1" = 300'

BAXTER WOODMAN Consulting Engineers

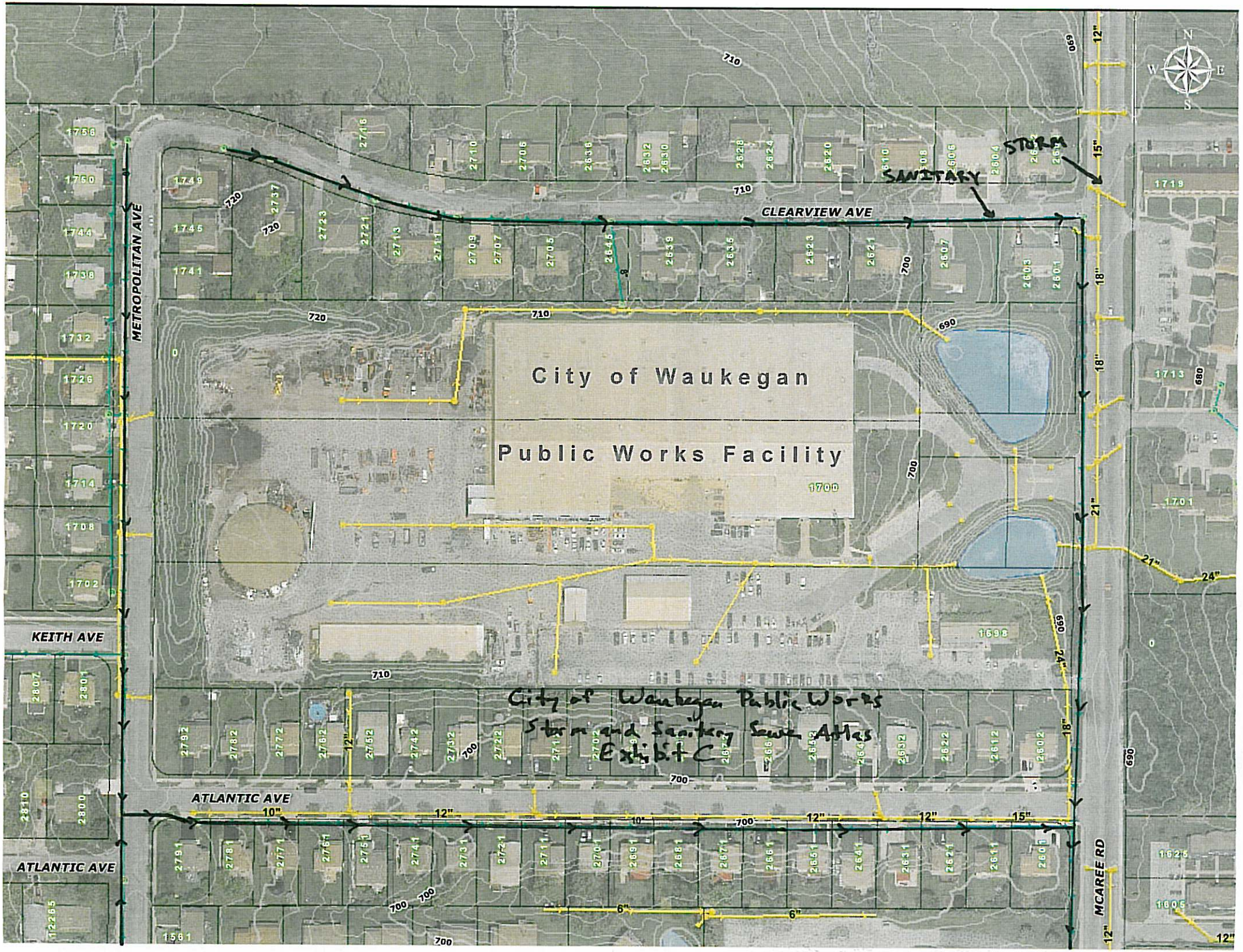
Baxter & Woodman
Crystal Lake, Illinois
Mokena, Illinois
Burlington, Wisconsin
DeKalb, Illinois
Grayslake, Illinois
Plainfield, Illinois
Itasca, Illinois
Madison, Wisconsin
Chicago, Illinois

CITY OF WAUKEGAN, ILLINOIS

PUBLIC WORKS FACILITY
STRUCTURAL CONTROL MEASURES

EXHIBIT B

DESIGNED BY	SCALE: AS NOTED
DRAWN BY: CSK	PROJECT NO.: 110306.90
CHECKED BY	SHEET NO.:
DATE: 6-2-11	1 OF 1


City of Waukegan
Public Works Facility
1700
CLEARVIEW AVE
METROPOLITAN AVE
KEITH AVE
ATLANTIC AVE
ATLANTIC AVE
MCAREE RD
SANITARY
STORM
City of Waukegan Public Works
Storm and Sanitary Sewer Atlas
Exhibit C

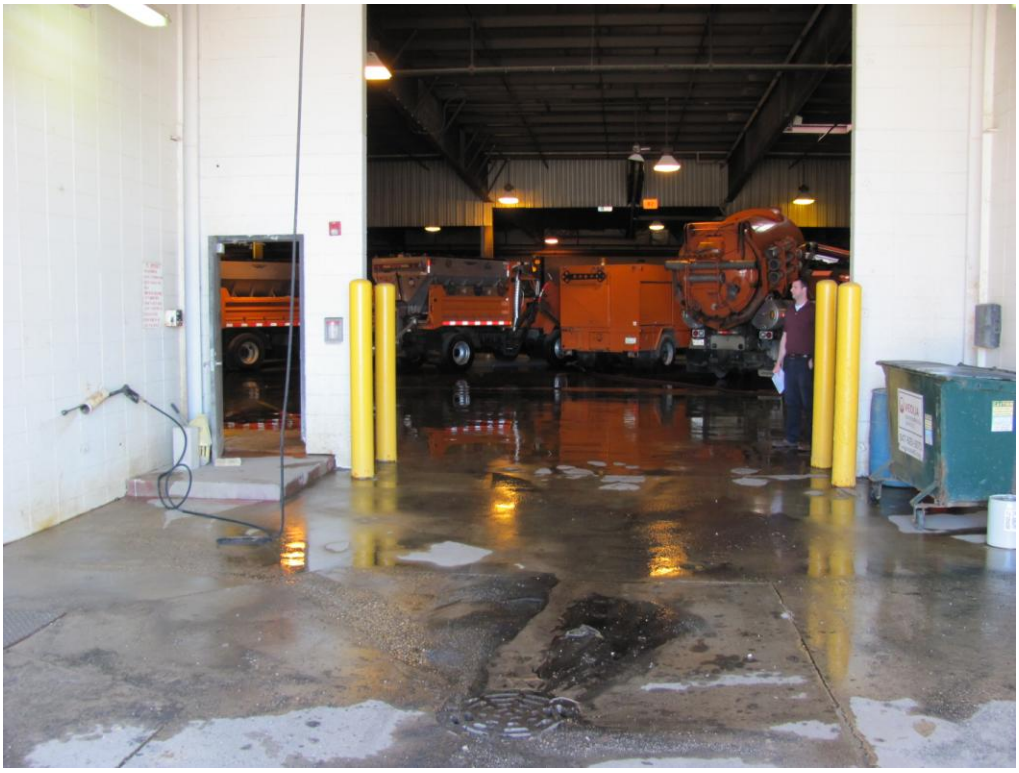
Public Works Facility
Waukegan, Illinois
Stormwater Pollution Prevention Plan – Exhibit D

D.1 - View covered fueling area.


D.2 - View of outdoor covered materials storage.

Public Works Facility
Waukegan, Illinois
Stormwater Pollution Prevention Plan – Exhibit D

D.3 - View of drip pans at oil dispensing area.



D.4 - View of the indoor vehicle washdown area.

D.5 – View of the vehicle bay with a center drain.

D.6 – View of the cabinets in which flammable materials and toxic chemicals are stored.

Public Works Facility
Waukegan, Illinois
Stormwater Pollution Prevention Plan – Exhibit D

D.7 – View of salt storage dome.

D.8 – View of retention facility.

EXHIBIT F
ROUTINE INSPECTION FORM
WAUKEGAN PUBLIC WORKS FACILITY

Inspector: **Date:**

Potential Pollutant Sources	Yes	No	If No, Describe Location & Action Needed	Initial & Date After Action Is Completed
A. Material and waste storage areas are maintained in good condition to minimize discharge of pollutants.				
B. Any oil leaks or spills present are properly contained by drip pans or absorbents. Absorbents are picked up and properly disposed of in a timely manner.				
C. Containers and aboveground storage tanks are in sound condition (check for corroded or damaged containers, supports, and valves).				
D. Fueling area and underground storage tanks in good condition.				
E. Road salt is stored properly.				
F. Vehicle and equipment maintenance areas in sound condition.				
G. Grounds do not show signs of erosion.				
H. Catch basins and washwater tanks in good working order.				

EXHIBIT G
NON-STORM WATER DISCHARGE ASSESSMENT AND CERTIFICATION
WAUKEGAN PUBLIC WORKS FACILITY

Date of Test or Evaluation	Outfall Directly Observed During the Test	Method Used to Test or Evaluate Discharge	Describe Results from Test for the Presence of Non-Storm Water Discharge	Identify Potential Significant Sources	Name of Person Who Conducted Test or Evaluation

The undersigned certifies that the Waukegan Public Works located in Waukegan, Illinois was inspected for non-storm water discharges to storm water outfalls covered under the General Permit, and no unauthorized non-storm water discharges were observed.

_____ (Name) _____ (Date)

_____ (Title)

Exhibit H
ANNUAL SITE INSPECTION REPORT

Public Works Facility
Waukegan, Illinois

Inspector:_____ Date:_____

SOURCES			
	Source Controlled?		
Source	Yes	No, Describe	Comments
1. Material Storage & Handling Areas			
2. Loading & Unloading Areas			
3. Vehicle Fueling Area			
4. Vehicle Maintenance Area			
5. Street Sweeper Washdown Area			
6. Salt Storage Area			
7. Other: _____			
8. Other: _____			

EXHIBIT H ANNUAL SITE INSPECTION REPORT

BEST MANAGEMENT PRACTICES

BMP	Implemented		Effectiveness	Action Needed			Comments
	Yes	No		What	By Whom	By When	
1. Good Housekeeping							
a. The facility should be kept clean by picking up all trash and litter on a regular basis. Pavement swept on a regular basis.							
b. Store drums, containers and other materials in a neat and orderly fashion. Provide adequate aisle space to facilitate material transfer and easy access for inspections. Store containers away from direct traffic routes to prevent accidental spills. Store containers on pallets or similar devices to prevent corrosion.							
c. All dumpsters should be covered by a removable lid or a leak proof tarpaulin, or placed under roof.							
d. Make sure equipment is working properly.							
e. Routinely inspect for leaks or conditions that could lead to the discharge of pollutants into storm water.							
f. Ensure that pollution prevention and spill cleanup procedures are understood by employees and contractors.							
2. Preventive Maintenance							
a. Facility vehicles and equipment shall be maintained in accordance with the equipment manufacturer's manuals. The regular maintenance shall include the visual inspection and replacement, as necessary, of seals, gaskets and other parts.							
b. All storage containers should be inspected on a monthly basis for signs of cracks and leaks.							
c. Facility equipment and systems should be inspected and tested on a regular basis to uncover conditions that could result in the discharge of pollutants to surface waters.							
d. Timely inspection and maintenance of storm water management devices.							
e. Vehicle maintenance activities should be performed inside.							

EXHIBIT H ANNUAL SITE INSPECTION REPORT

BEST MANAGEMENT PRACTICES

BMP	Implemented		Effectiveness	Action Needed			Comments
	Yes	No		What	By Whom	By When	
3. Spill Prevention and Response							
a. Any observed leak or spill should be immediately contained, cleaned-up, and-as soon as possible-repaired.							
b. Facility vehicle and equipment operators should check their equipment each morning for signs of leaks. If any significant leaks are detected, the operator is to place a drip pan under the equipment to contain the leak until it can be repaired.							
c. Drip pans should be placed under all unused equipment and vehicles which are stored outside and observed to be leaking. These leaks should be repaired as soon as practicable.							
d. The aboveground tanks and pipes should be secured/locked when not in use.							
e. Filling of storage tanks, vehicle and equipment fuel tanks should be observed. Any spills which occur shall be immediately cleaned up.							
4. Storm Water Management Practices							
a. Keep chemicals stored inside where appropriate. Keep salt stored inside salt storage building to the best extent practicable. Keep other materials (e.g., topsoil, sand, gravel) under cover.							
b. Maintain fueling area in good condition.							
c. Maintain outdoor material storage areas in good condition.							
e. Maintain inlets, catch basins, washdown basins and storm sewer system in good condition.							
f. Maintain grounds in good condition (no soil erosion).							

EXHIBIT H ANNUAL SITE INSPECTION REPORT

III. OTHER CONTROLS

	Yes	No	Action Needed			
			What	By Whom	By When	Comments
1. Is the plan and site map current with facility operations?						
2. Is the plan effective in achieving the general objectives of controlling pollutants in storm water runoff?						
3. Are all potential sources identified, to the best of your knowledge?						
4. Are the BMPs adequate in controlling sources?						
5. Are outfall locations free from obvious signs of contamination?						
6. Any event (spill, treatment unit malfunction, etc.) which required an inspection? Corrective maintenance?						