

Stormwater Management Plan

**City of Appleton
Fire Station Number 6
4930 Lightning Drive
Appleton, WI 54911**

Prepared for the:



City of Appleton
100 N. Appleton Street
Appleton, WI 54911

Prepared by:

Earth Tech, Inc.
1020 N. Broadway, Suite 400
Milwaukee, WI 53202

October 2007

STORMWATER MANAGEMENT PLAN

**CITY OF APPLETON
FIRE STATION NUMBER 6
4930 LIGHTNING DRIVE
APPLETON, WI 54911**

Prepared for:

**City of Appleton
100 N. Appleton Street
Appleton, WI 54911**

October 2007

TABLE OF CONTENTS

	<u>Page</u>
1. INTRODUCTION.....	1-1
1.1 Site Description	1-1
1.2 Regulatory Background	1-1
1.3 Objectives and Scope of Stormwater Management Plan	1-2
1.4 Stormwater Pollution Prevention Responsibility	1-2
1.5 Plan Availability.....	1-2
1.6 Plan Compliance and Modifications.....	1-3
1.7 Previously Developed Stormwater Management Plans.....	1-3
2. STORMWATER POLLUTION PREVENTION TEAM.....	2-1
2.1 Team Coordinator.....	2-2
2.2 Team Members.....	2-2
3. POTENTIAL CONTAMINATION SOURCES AND RISK IDENTIFICATION.....	3-1
3.1 Initial Site Evaluation Summary	3-1
3.2 Stormwater Drainage and Outfalls.....	3-2
3.3 Areas of Potential Stormwater Contamination.....	3-3
3.3.1 Asphalt Drives and Parking Areas	3-3
3.3.2 Training/Storage Area.....	3-4
3.3.3 Refuse and Recycling Containers.....	3-4
3.4 Materials Inventory	3-4
3.5 Historical Leaks and Spills.....	3-6
4. NON-STORMWATER DISCHARGES	4-1
5. BEST MANAGEMENT PRACTICES	5-1
5.1 Objective.....	5-1
5.2 Measures and Controls.....	5-1
5.2.1 Existing Management Practices.....	5-1
5.2.2 Proposed Best Management Practices.....	5-2
5.3 Best Management Practices Implementation	5-2
5.4 Prohibited Activities	5-2
5.5 Residual Pollutants Expected to Remain in Stormwater	5-3
6. INSPECTIONS AND RECORDKEEPING.....	6-1
6.1 Quarterly Visual Stormwater Inspections.....	6-1
6.2 Annual Site Inspection	6-1
6.3 Semi-Annual Dry Weather Inspection.....	6-1
6.4 Spill Management and Documentation.....	6-1
6.5 Annual Stormwater Sampling and Testing	6-2

6.6 SWMP Updates or Revisions6-2
6.7 Employee Training Requirements6-2
6.8 Preventive Maintenance6-3
6.9 Implementation Schedule6-3
7. REFERENCES.....7-1

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1	Stormwater Pollution Prevention Team.....	2-1
2	Stormwater Areas and Activity Inventory	3-3
3	Materials Inventory.....	3-5
4	Recommended Best Management Practices.....	5-4

LIST OF FIGURES

Figure

- 1 Site Location Map
- 2 Site Plan and Drainage Map

LIST OF APPENDICES

Appendix

- A Municipal Stormwater Permit
- B Blank Checklists and Forms
 - Quarterly Visual Stormwater Inspection
 - Non-Stormwater Discharges
 - Annual Site Inspection Checklist
 - Spill Documentation Form
 - Employee Training Record
- C Completed Checklists and Forms
- D WDNR Fact Sheet Defining Reportable Spills

STORMWATER MANAGEMENT PLAN VS. STORMWATER POLLUTION PREVENTION PLAN

The City of Appleton received a Municipal Stormwater Permit under NR 216.02, because it is a listed "urbanized area." One of the NR 216 permit requirements is a stormwater pollution prevention program for management of municipal garages, storage areas, and other municipal sources of pollution (NR 216.07(6)(a)4). Other municipal sources of pollution include facilities with fueling, chemical storage, vehicle maintenance, vehicle washing, outside storage of materials, or other activities that could be a source of stormwater pollution. Oils and other materials for vehicle maintenance, along with various chemicals are stored at Fire Station Number 6. Fire training materials are stored outside and vehicle washing is also conducted at the site. These activities could contribute to stormwater pollution if not managed properly.

This report is the stormwater pollution prevention program for Fire Station Number 6 and is formatted and written as if it was a Stormwater Pollution Prevention Plan (SWPPP). Under NR 216 the City of Appleton Fire Station Number 6 is not required to obtain an Industrial Stormwater Permit and, therefore, a SWPPP is not required. If, in the future, the Wisconsin Department of Natural Resources (WDNR) requires Fire Station Number 6 to obtain an Industrial Stormwater Permit, this document can be converted into a SWPPP with minimal revisions.

1. INTRODUCTION

1.1 Site Description

The Appleton Fire Station Number 6 site (FS-6 site) is located at 4930 Lightning Drive, Appleton, WI 54911, in the NW 1/4 of NW 1/4 Section 7 of Township 21 North, Range 18 East, Outagamie County, Wisconsin. FS-6 is approximately 1/10 mile south of Edgewood Drive (County Road JJ), approximately 1/10 mile north of Ashbury Drive. The location of the FS-6 site is shown on Figure 1. The FS-6 site is bounded by farmland in crop production to the east, north, and south, and Lightning Drive to the west. The majority of the stormwater runoff from the FS-6 site is conveyed via overland flow to green space areas surrounding the perimeter of the site. The stormwater runoff from the training building and outside storage training area is conveyed via sheet flow to a drainage swale surrounding the east and southern outside perimeter of the fence surrounding the training facility or piped to the existing storm sewer conveyance system. The entire FS-6 site, including the drainage swale, encompasses approximately 5.3 acres. The FS-6 site layout is shown on Figure 2.

1.2 Regulatory Background

The United States Environmental Protection Agency (USEPA) developed the stormwater regulatory program through the authority of the Clean Water Act amendments of 1987, to reduce discharges of contaminated stormwater associated with industrial facilities. The National Pollutant Discharge Elimination System (NPDES) program is the means that the USEPA regulates discharges of potentially contaminated wastewater and stormwater into Waters of the United States through the issuance of permits applicable to specific sources.

The Federal Clean Water Act of 1972 and rules adopted by the USEPA require permits for stormwater discharges where precipitation or stormwater runoff come into contact with contaminants through industrial activity, at construction sites, or from municipal areas. The philosophy for implementing the permit requirements emphasizes pollution prevention, which provides substantial environmental benefit with minimum regulatory burden.

In Wisconsin, the Department of Natural Resources (DNR) is the permitting authority for the stormwater NPDES program. Stormwater regulations are in chapter NR 216 of the Wisconsin Administrative Code. All code references cited in this Stormwater Management Plan refer to the current NR 216 code, dated July 2004, effective August 1, 2004.

The City of Appleton received a Municipal Stormwater Permit under NR 216.02, because it is a listed "urbanized area". One of the permit requirements is to develop a Stormwater Pollution Prevention Program for management of municipal garages, storage areas, and other municipal sources of pollution (NR 216.07(6)(a)4). Other municipal sources of pollution include facilities with fueling, chemical storage, vehicle maintenance, vehicle washing, outside storage of materials, or other activities that could be a source of stormwater pollution. Oils and other materials for vehicle maintenance, along with various chemicals are stored at FS-6. Fire training materials are stored outside and vehicle washing is also conducted at the site. These activities could contribute to stormwater pollution if not managed properly. A copy of the Municipal Stormwater Permit is located in Appendix A.

1.3 Objectives and Scope of Stormwater Management Plan

This Stormwater Management Plan (SWMP) identifies potential sources of stormwater contamination, response and preventive measures utilized to reduce the risk of stormwater contamination, and ongoing management practices designed to prevent stormwater pollution at the facility. The SWMP focuses on two major objectives: (1) the identification of site activities that are potential sources of stormwater pollution, and (2) the identification of practices that minimize and control pollutants in stormwater runoff.

The scope of this Plan includes:

- Identifying stormwater team coordinator and team members
- Descriptions and maps showing applicable site features
- An inventory of equipment used or stored at the facility
- A description of exposed significant material
- A list of significant spills and leaks over the last 3 years
- A list of pollutant sources
- A description of current and proposed Best Management Practices (BMPs)
- Implementation schedule for BMPs
- Employee training documentation
- A description of site compliance and monitoring
- Recordkeeping and internal reporting requirements

1.4 Stormwater Pollution Prevention Responsibility

The Battalion Fire Chief, listed below, is responsible for all aspects of stormwater management at the FS-6 site, including revisions to the SWMP.

Battalion Fire Chief
Fire Department
700 North Drew Street
Appleton, Wisconsin 54911
(920) 832-2281

A stormwater pollution prevention team is responsible for implementation of this SWMP. Team members are listed on Table 1 and described in Section 2.0 of this Plan.

1.5 Plan Availability

A copy of this SWMP will be maintained at the FS-6 site at all times and will be made available to USEPA and WDNR representatives at their request. A copy will also be kept at the City of Appleton's Engineering Department.

1.6 Plan Compliance and Modifications

This SWMP will be updated and amended whenever there is a change in design, construction, operation, or maintenance that may impact the potential for pollutants to be discharged through stormwater. This SWMP also should be revised in accordance with the findings and recommendations of the annual Comprehensive Site Compliance Evaluation. In addition, if this SWMP is found to be ineffective in controlling the discharge of pollutants, the SWMP should be amended to correct the identified deficiencies.

If the WDNR provides notification that the SWMP does not meet the minimum requirements of an Industrial Stormwater Permit or NR 216 Municipal Permit, then the SWMP will be modified.

1.7 Previously Developed Stormwater Management Plans

Certain other environmental management plans may contain provisions for managing stormwater. In some cases, it may be possible to build on elements of these plans that are relevant to stormwater pollution prevention.

This site is included in the drainage area plan for Ashbury Pond. Stormwater that leaves this site eventually flows into Ashbury Pond.

No other stormwater management plans were developed for the FS-6 site to date.

2. STORMWATER POLLUTION PREVENTION TEAM

The stormwater pollution prevention team consists of a team coordinator and team members who are assigned various responsibilities for implementing the SWMP. Implementation of this SWMP includes ongoing assessment of potential sources of contamination and associated BMPs, response to spill events, if any, employee training, and the annual plan evaluation. The current team roster is provided in Table 1.

The following individuals make up the stormwater pollution prevention team for the City of Appleton FS-6 site, City of Appleton, Wisconsin. Each member has specific responsibilities in maintaining and implementing the Stormwater Management Plan. Individuals may have more than one responsibility.

TABLE 1

**STORMWATER POLLUTION PREVENTION TEAM
FIRE STATION NUMBER 6
APPLETON, WISCONSIN
OCTOBER 2007**

RESPONSIBILITY	NAME	PHONE NUMBER
Team Coordinator	Battalion Chief	920-832-2281
Primary Emergency Contact (M-F 7:30am – 4:00pm)	Battalion Chief	920-832-2281
Secondary Emergency Contact (M-F 8:00am – 4:30pm)	Deputy Chief	920-832-5821
Authorized Signature	Deputy Chief	920-832-5821
Plan Implementation	Battalion Chief	920-832-2281
Plan Revision	Battalion Chief	920-832-2281
Employee Training	Battalion Chief	920-832-2281
Inspections	Deputy Chief	920-832-5821
Preventive Maintenance	Deputy Chief	920-832-5821
Spill Response	Appleton Fire Department	911
Emergency Calls – After Hours (24 hours)	Appleton Fire Department	911

2.1 Team Coordinator

The stormwater pollution prevention coordinator has the ongoing responsibility for implementation of this SWMP. Specifically, this includes implementation of inspection schedules, records preservation, coordinating responses to spill emergencies, employee training, and annual updates to the SWMP, if required. The team coordinator serves as a point of contact for facility personnel and for those outside the facility (such as regulatory officials) who may wish to discuss aspects of the SWMP or to obtain other information. The coordinator oversees the re-evaluation and modification of the SWMP annually and following a potential major spill event. These modifications may include relocation or alteration of material storage or handling areas, BMP revisions, altering drainage patterns, addition of structural control measures, or documentation of significant leak or spill events. The coordinator must be familiar with all phases of facility operation to evaluate potential sources of pollution during implementation and periodic reevaluation of the SWMP.

If a new team coordinator is required, the Battalion Fire Chief will make that selection.

2.2 Team Members

Members of the team have the responsibility for conducting inspections, implementing and maintaining BMPs, conducting annual employee training and new employee training, and responding to spill events, if any. Pollution prevention team members will meet with the coordinator annually and following spill events to re-evaluate and modify the SWMP as needed. If individual team members must be replaced, equally qualified personnel will be assigned by the team coordinator to assume the previous member's responsibilities. If this cannot be accomplished immediately, the current team members will be assigned to those responsibilities during the interim.

3. POTENTIAL CONTAMINATION SOURCES AND RISK IDENTIFICATION

3.1 Initial Site Evaluation Summary

The site evaluation includes an assessment of potential pollutant sources to determine areas, activities, and materials that may contribute pollutants to stormwater runoff. The evaluation determines the necessity for BMPs and helps guide the selection of the most appropriate BMPs to prevent or control pollutants from these areas, activities, and materials.

Earth Tech, Inc. (Earth Tech) conducted an initial site evaluation on June 21, 2007. The parking areas and driveways are concrete or asphalt paved. No equipment is stored outside. Materials for training exercises (concrete, metal scrapings, lumber, and HDPE pipe) are stored outside of the training building. The refuse and recycling containers are located on the east (back) side of the FS6 building and a refuse container is also located at the northwestern corner of the training/storage area.

Most of the grass areas at the FS-6 site are maintained to prevent erosion and filter stormwater, except for the landscaped area north of the garage, where the grass was scarce. According to Fire Department personnel, this is a snow storage area impacted by de-icing agents in the winter. There is also a brown area in the grass east of the training building where it appears something was put on the grass that is killing the vegetation.

The majority of the site stormwater is routed via overland flow to a grass swale that surrounds the east and north perimeter of the FS-6 training building. Roof runoff is via external roof drains directly to downspouts discharging to grade (grass or gravel). Two downspouts at the front of the FS-6 building discharge to impervious surfaces.

The floor drain system in the FS-6 vehicle storage bays consists of three floor drains, one drain per bay. Vehicle washing and minor maintenance are conducted in the storage bays. Floor cleaning products are stored in the vehicle bay area. Other chemicals are also stored in the building and in storage rooms located off the vehicle storage bays.

The training building has a sump in the lower level to collect water from the two floor drains in the lower level of the building. The sump discharges to the sanitary sewer. No chemicals are stored in this building.

The storage garage located between the training building and the FS-6 main building is used for general storage. No floor drain is located in the storage garage. Small quantities of hazardous materials (from fire or accident scenes) are stored in drums in the storage garage. If large amounts of hazardous materials are present at an incident scene, these are collected at the site of the incident by an outside agency. Any hazardous materials stored at the FS-6 site are collected by Recycle Technologies contracted through the City of Appleton.

No staining, pools, puddles, or other evidence of oils, greases, or other chemicals were observed on the facility surface, except for some iron staining concrete in the training storage area.

Earth Tech identified areas potentially exposed to stormwater based upon stormwater flow and area usage. These areas are:

- Asphalt Drives and Parking Areas
- Training Storage Area
- Refuse and Recycling Containers

3.2 Stormwater Drainage and Outfalls

The FS-6 property is a total of approximately 5.3 acres (Figure 2).

There are six stormwater drainage basins at the FS-6 site. Figure 2 identifies the drainage basins, overland flow patterns, buildings, drainage structures, surface material, and site use. Table 2 lists the drainage basins and the corresponding areas, activities, uses and impervious area.

Basin 1 includes runoff from the two western entrance driveways and the northwestern rooftop of the FS-6 building. Runoff flows overland to Lightning Drive, or into the inlets adjacent to the parking area and driveway. The inlets flow into the storm sewer along Lightning Drive, which flows along the southern edge of the site through outfall 2.

Basin 2 includes the middle portion of the site. This area includes the eastern half of the FS-6 building, the storage garage, and an asphalt drive and parking area. Runoff flows overland to a grass area near the east side of the storage garage where a series of catch basins are located that convey runoff to the south via storm sewer. The storm sewer pipe discharges into the City of Appleton's storm sewer system at stormwater outfall number 2. The refuse and recycling containers are stored in this basin on the east side of the FS-6 building. During winter months the snow that is removed from the impervious surfaces is stored in this area.

Basin 3 includes a small portion at the northeastern corner and eastern perimeter of the site. Runoff discharges to the north and east via overland flow through grass areas.

Basin 4 includes runoff from the training building and surrounding impervious surfaces. The northern half of basin 4 discharges to the north to a grass swale. The swale discharges runoff to the east at stormwater outfall number 1 (Figure 2). The southern portion of basin 4 runoff is conveyed overland flow through grass areas prior to discharge off site at outfall number 1.

Basin 5 includes a portion of the southern perimeter of the site. Runoff discharges to the south via overland flow through grass areas.

Basin 6 includes a portion of the FS-6 building rooftop, a concrete walking path, and large grass area. Runoff flows to the southwest via overland flow through grass areas.

TABLE 2
STORMWATER AREAS AND ACTIVITY INVENTORY
FIRE STATION NUMBER 6
APPLETON, WISCONSIN

AREA ID.	AREA	PERCENT IMPERVIOUS	USES
1	16,870 sq ft (0.4 acres)	83 %	Asphalt entrance drives and parking, northwestern corner of the FS-6 building, grass area.
2	91,799 sq ft (2.1 acres)	70 %	Eastern portion of the FS-6 building, the storage garage, a portion of the training building, asphalt parking drive areas, and refuse and recycling storage containers.
3	8,532 sq ft (0.2 acres)	0%	No activities, grass area.
4	55,793 sq ft (1.3 acres)	44%	Portion of the training building, the storage area, asphalt/concrete parking and drives, and grass area.
5	30,086 sq ft (0.7 acres)	0%	No activities, grass area.
6	26,496 sq ft (0.6 acres)	0%	Portion of the FS-6 building, grass area.

3.3 Areas of Potential Stormwater Contamination

3.3.1 Asphalt Drives and Parking Areas

Asphalt-paved or concrete-paved drives and parking areas are present in drainage areas 1, 2 and 4 at the FS-6 site (see Figure 2). The majority of the stormwater runoff flows either overland to the grass swale on the northeast side of the facility or via storm sewer.

Inventory of Exposed Materials/Risk Identification

- Equipment and vehicles in these areas are exposed to precipitation. Traffic includes fire department and employee vehicles, plus vendor vehicles.
- These areas have the potential to contribute solids, salt, and oil and grease from vehicles that may leak during transit, as well as from parked vehicles and equipment.
- Potential pollutant parameters: Total Suspended Solids (TSS), Total Dissolved Solids (TDS), Total Oil and Grease (TOG), and chlorides.

3.3.2 Training Storage Area

Scrap metal, concrete, lumber, and HDPE pipe for Fire Department training are stored on the concrete north of the training building. Runoff from this area is via overland flow to the grass swale on the north side of the site.

Inventory of Exposed Materials/Risk Identification

- Scrap metal used for training exercises is exposed to precipitation. Some of the scrap metal currently is rusting. The exposure of metal and other corrodible materials results in the release of metals to stormwater.
- Sediment from concrete / rubble pile has the potential to be carried off-site via overland stormwater flow.
- Potential pollutant parameters: TSS and TDS.

3.3.3 Refuse and Recycling Containers

Description

The refuse and recycling containers are located east (back side) of the FS-6 building. The recycling area contains recycling bins for plastics, metals, and other recyclable materials. This entire area is paved. Stormwater runoff sheet flows on the asphalt to the south and east onto vegetated areas where the stormwater flows into small 6-inch diameter PVC inlets in the grass area east of the storage garage. There is a refuse container located at the northwestern corner of the training storage area. This area is concrete.

Inventory of Exposed Materials/Risk Identification

- The refuse and recycling containers are exposed to precipitation.
- Potential pollutant parameters: TSS, TDS, pH, and TOG.

3.4 Materials Inventory

Materials that are managed at this facility with potential to contribute to stormwater pollution are itemized in Table 3. These materials are identified by the material description, use, location, approximate quantity of material used, containment methods, and likelihood of exposure to stormwater.

TABLE 3

**MATERIALS INVENTORY
FIRE STATION NUMBER 6
APPLETON, WISCONSIN**

MATERIAL DESCRIPTION	MATERIAL USE	LOCATION	APPROXIMATE QUANTITY	CONTAINMENT METHODS	LIKELIHOOD OF EXPOSURE TO STORMWATER
Station vehicle and station cleaning supplies	Various cleaning products	Storage cupboard on south side of rig room	Approximately 20 gallons liquid and 200 pounds dry	Kept in original small containers	Minimal – stored inside
Tire dressing liquid	For vehicle cleaning	Shop area	5 gallons	Kept in original small containers in flammable liquid cabinet	Minimal – stored inside
Oil	Engine oil	Shop area	15 gallons	Kept in original small containers in flammable liquid cabinet	Minimal – stored inside
Gasoline	Small engine fuel	Shop area	10 gallons	Kept in original small containers in flammable liquid cabinet	Minimal – stored inside
Refuse and Recycling Containers	Refuse and Recyclable materials collection	East of the main building in basin 2 and in the training storage area in basin 4	4-6 containers plus a dumpster	None	Likely, however minimal impacts are expected because containers are covered, and inspected daily
Miscellaneous Materials	Scrap metal, wood, concrete, HDPE pipe	Training storage area in basin 4	Variable	none	Likely, however minimal impacts are expected because materials are generally inert. Scrap metal may rust and contribute to stormwater pollution

3.5 Historical Leaks and Spills

Based on information provided by City of Appleton, no reportable leaks or spills have occurred at the facility within the last 3 years.

4. NON-STORMWATER DISCHARGES

Stormwater runoff leaves the site via storm sewers or overland flow to adjacent properties following existing drainage patterns. Earth Tech initially conducted an evaluation for the presence of non-stormwater discharges, through on-site observations and discussion with site personnel on June 21, 2007. There was no evidence of unauthorized stormwater or non-stormwater discharges during the site reconnaissance.

5. BEST MANAGEMENT PRACTICES

5.1 Objective

This section describes BMPs for general facility operations and for each of the potential areas of stormwater contamination. The primary objective of BMPs is to prevent stormwater from coming into contact with source materials. Wherever possible, sources will be removed or covered to eliminate stormwater contamination. If source controls are inadequate, treatment practices may be recommended.

This section includes measures and controls taken to promote good housekeeping, run-on/runoff management, and preventive maintenance. Spill prevention techniques, inspections, employee training, and record keeping are addressed in separate sections of this SWMP.

5.2 Measures and Controls

Activities and materials present at the FS-6 site that may cause potential impacts to stormwater discharges are listed in Section 3.3 and summarized on Table 3.

The City of Appleton understands that source control is the most effective way to reduce pollutants in stormwater. Measures such as removing wastes, storing materials inside, and establishing a waste removal schedule that minimizes on-site storage have been implemented wherever possible. A summary of existing and proposed control measures follows.

5.2.1 Existing Management Practices

Existing Stormwater Management Practices, that will be continued, include:

- E1.** The site is neatly maintained and good housekeeping standards are followed.
- E2.** Several areas of the property are maintained as grass. These areas serve as a filtering media for stormwater runoff.
- E3.** The amount of grass chemically treated for weeds is kept to a minimum.
- E4.** Vehicles parked on the property are properly maintained, minimizing leaks or contaminants exposed to rainfall.
- E5.** The dumpsters and recycling containers are covered and the drains in all dumpsters are plugged.
- E6.** All vehicle maintenance occurs in the vehicle bays.
- E7.** All vehicle washing is done in the vehicle bays, which have floor drains that discharge to the sanitary sewer.

5.2.2 Proposed Best Management Practices

Implementation of the following BMPs is recommended to prevent stormwater contamination:

- P1.** Continue to maintain the existing management practices and good housekeeping standards.
- P2.** Conduct quarterly visual stormwater inspections and annual facility site inspections. The quarterly visual inspection will consist of observing stormwater runoff from each of the outfalls identified in this SWMP, and from each area where activities have the potential to impact stormwater.
- P3.** Implement an employee-training program (Refer to Section 6.6).
- P4.** All spills should be promptly cleaned up. Cleanup may involve shoveling or sweeping the solids, or using commercial sorbent material to absorb liquid spills. Any reportable spill must be reported to the WDNR, the Appleton Fire Department and Appleton's Director of Public Works. A summary of Wisconsin Spill Reporting Requirements is included in Appendix D.
- P5.** Use minimum amount of de-icing salt needed to maintain safe conditions. Consider using a sand and salt mixture and adjust deicer usage in accordance with activities.
- P6.** Clear debris away from storm sewer inlets throughout the property and dispose of debris properly.
- P7.** Plant salt tolerant grasses in snow storage area.
- P8.** Investigate cause of grass kill east of training building. No dumping or disposal of chemicals or other materials to the ground surface is allowed.
- P9.** Any metals stored outside that are prone to rust (e.g. iron) should be stored in an area that is not exposed to stormwater. Recommended areas of storage include under a canopy, indoors of building, or storage container with lid and plugged drain. If covered storage is not possible, these materials should be stored outside no longer than 60 days.

5.3 Best Management Practices Implementation

The existing BMPs will continue to be followed and maintained. If future changes in operational activities at the site require the implementation of additional BMPs, this Plan will be modified accordingly.

The existing and proposed BMPs are outlined in Table 4.

5.4 Prohibited Activities

The following are prohibited activities:

- Spraying or applying liquids onto pavements or gravel areas of the facility where they would discharge along with stormwater.
- Washing or maintaining vehicles outside.

- The cleaning of spills by flushing with water. Spills should be cleaned up by using absorbent material or sweeping.

5.5 Residual Pollutants Expected to Remain in Stormwater

Based on current operations at the subject site and the anticipated implementation of the BMPs, low concentrations of residual pollutants that are expected to remain in stormwater include oil and grease from employee/visitor parking areas, salt from de-icing drives and sidewalks, and residual solids from the training/storage area. Implementation of this SWMP and the BMPs are believed to be adequate to minimize pollutants in the facility's stormwater runoff.

TABLE 4
RECOMMENDED BEST MANAGEMENT PRACTICES
FIRE STATION NUMBER 6
APPLETON, WISCONSIN

STATUS	BEST MANAGEMENT PRACTICES	DESCRIPTION OF ACTIVITY
Existing to be continued	E2, E3	The amount of grass and/or brush treated with herbicide and fertilizer is kept to a minimum.
Existing to be continued	E1	The FS-6 site is neatly maintained and good housekeeping standards are followed.
Existing to be continued	E5	The dumpsters for refuse are tightly covered to properly protect from rainfall. Holes in the bottom of the dumpsters are plugged. Recycling bins are also covered.
Existing to be continued	E4	Sweep accumulations of sediment as needed. Any observed leak or spill will be contained, cleaned up, and responded to promptly.
Existing to be continued	E6, E7	Vehicle maintenance & washing to be conducted in vehicle storage bays.
Proposed	P1	Maintain existing BMPs and good housekeeping standards.
Proposed	P5	Use minimum amount of de-icing salt needed to maintain safe conditions. Consider using a sand and salt mixture.
Proposed	P2	Property is routinely inspected. Quarterly and annual site evaluations will be performed.
Proposed	P3	Annual meetings will be held to address health, safety, and spill prevention and response.
Proposed	P3, P4	Records will be kept and maintained for spills, inspections, and maintenance activities. This SWMP will be updated any time there is a change in the potential for pollutants to enter stormwater, when pollution prevention practices change, if the plan is ineffective in preventing stormwater pollution, or when there is a change in the Pollution Prevention Team. Records will be retained for a period of 5 years.
Proposed	P6	Clear debris away from storm sewer inlets and dispose of debris properly.
Proposed	P7	Possibly plant salt-tolerant grasses in snow storage area to reduce erosion potential and enhance filtering of stormwater.
Proposed	P8	Investigate cause of grass kill east of training building. No dumping or disposal of chemicals or other materials to the ground surface is allowed.
Proposed	P9	Recommend covered storage, or limiting the time of outdoor storage of metal materials in the training storage area. Covered storage could include under a canopy, inside a building, or a storage container with lid and plugged drain. If covered storage is not possible, these materials should be stored outside no longer than 60 days.

6. INSPECTIONS AND RECORDKEEPING

Quarterly inspections should be conducted to document that the provisions of this SWMP are being followed and to identify areas needing improvement, if any. Deficiencies revealed during inspection procedures that require further action, such as purchasing or replacing equipment, should be communicated to the SWMP team coordinator. Blank forms are located in Appendix B and completed forms are placed in Appendix C. Inspection records should be retained for a period of at least 5 years.

6.1 Quarterly Visual Stormwater Inspections

The swale and stormwater inlets on the site should be inspected at least once every three months at the beginning of a rainfall event. Basins 1, 3, 4, 5 and 6 discharge stormwater runoff via overland flow patterns. Basins 3 and 4 discharge stormwater runoff to the east through a grass swale. Basin 1 also has inlets that connect to the storm sewer along Lightning Drive. Outfall 1 is defined as the location where the grass swale leaves the site. Basin 2 has a series of stormwater inlets in the grass area between the garage building and training facility that are connected to the City of Appleton's storm sewer system. Outfall 2 is where this stormwater enters the City's storm sewer, on the south side of the site. Outfalls 1 and 2 shall be inspected during the quarterly visual stormwater inspections. The stormwater flow paths in each basin should also be inspected during quarterly visual stormwater inspections.

Each inspection should be conducted within the first 30 minutes or as soon thereafter as practical, but not to exceed 60 minutes after runoff begins discharging to an outfall or leaving the property. The inspections should be documented, and include observations of color, odor, clarity, floating solids, foam, oil sheen, or other obvious indicators of stormwater pollution.

6.2 Annual Site Inspection

A comprehensive annual site compliance inspection of the facility and property should be performed. These inspections will be used to verify that the site drainage conditions and potential pollutant sources identified in the SWMP remain accurate, and that the BMPs prescribed in the SWMP are being implemented. The findings from the annual inspection should be documented. An annual inspection checklist is included in Appendix B. Based on the findings from these inspections, FS-6's SWMP may need to be revised.

6.3 Semi-Annual Dry Weather Inspection

Semi-annual visual observations, during dry weather, should be completed at outfalls 1 and 2, and along the stormwater flow paths in each basin. Observations should be made at times when non-stormwater discharges from the facility are considered most likely to occur (i.e., periods of dry weather during normal working hours). Indications of stains, sludge, color, odor, or other indications of a non-stormwater discharge should be recorded on the Non-Stormwater Discharges form in Appendix B.

6.4 Spill Management and Documentation

Should a spill occur in an area on the property that could be exposed to stormwater, the spill must be cleaned up immediately. If the spill is reportable, it must be reported to the Appleton Public Works Department, the WDNR, and the Appleton Fire Department. A record should be kept of all spills, and should include the following:

- Date and time of the incident
- Substance spilled
- Volume spilled
- Weather conditions
- Duration of the incident
- Cause of the incident
- Response procedures
- Parties notified
- Amount of spilled material recovered and recovery method

A spill documentation form is enclosed and can be used to record the pertinent data that must be documented whenever a spill occurs. A brief WDNR fact sheet providing definition for a reportable spill is included in Appendix D.

6.5 Annual Stormwater Sampling and Testing

The City of Appleton is not required to perform stormwater sampling at the FS-6 site.

6.6 SWMP Updates or Revisions

The Appleton Fire Department must amend this SWMP whenever there is a change in pollution prevention team personnel, design, construction, or operation that may impact the potential for pollutants to come into contact with stormwater; or if the SWMP proves to be ineffective in controlling the discharge of pollutants.

6.7 Employee Training Requirements

To effectively implement the SWMP, employees must be adequately trained. The goal of the training program is to teach personnel the components and goals of the Stormwater Management Plan. Properly trained personnel can recognize situations that could contaminate stormwater and can respond safely and effectively to an accident. The employee-training program should cover topics such as:

- Spill prevention and response
- Good housekeeping
- Material management practices

All employees should be trained at least annually. Training frequency should be determined based upon the complexity of stored materials, stormwater management practices, staff turnover, and changes in job assignments at the facility. Training effectiveness should be evaluated to ensure information has been effectively communicated. An employee training record is included in Appendix B.

6.8 Preventive Maintenance

The lawn areas and the condition of the refuse containers should be examined during the quarterly visual stormwater inspections and any needed repairs should be made promptly.

6.9 Implementation Schedule

According to the "General Permit to Discharge Under the WPDES Permit No. WI-S050075-1," municipal permit holders have up to 24 months to fully develop and up to 30 months to implement pollution prevention plans for municipal-owned facilities. The City of Appleton's coverage under the general stormwater permit became effective on December 15, 2006. Therefore, the Stormwater Management Plan for FS-6 is required to be developed by December 15, 2008, and implemented by June 15, 2009.

7. REFERENCES

United States Environmental Protection Agency, *Stormwater Management for Industrial Activities - Developing Pollution Prevention Plans and Best Management Practices*, September 1992. EPA 832-R-92-006.

Wisconsin Department of Natural Resources, *The Wisconsin Stormwater Manual*, Bureau of Water Resource Management, Non-point Source and Land Management Section, Publication Number: WR-349- 94.

Wisconsin Department of Natural Resources, *Wisconsin's Guidance for Industrial Stormwater Sampling*, Bureau of Wastewater Management, Municipal Wastewater Section - Stormwater Unit, September 1994.

U.S. Department of Labor, Occupational Safety and Health Administration, "Standard Industrial Code Manual", 1987.

FIGURES

APPENDIX A

MUNICIPAL STORMWATER PERMIT

APPENDIX B

BLANK CHECKLISTS AND FORMS

APPENDIX C

COMPLETED CHECKLISTS AND FORMS

APPENDIX D

WDNR FACT SHEET
DEFINING REPORTABLE SPILLS