

Invesco Field at Mile High

STORMWATER MANAGEMENT PLAN INVESCO FIELD AT MILE HIGH COLORADO DISCHARGE PERMIT NO. COR-090000

Prepared for:

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DRAFT EFFECTIVE DATE: JULY 9, 2004

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CERTIFICATION AND STATEMENT OF COMMITMENT

Permittee Name: Stadium Management Company, LLC/Metropolitan Football
Stadium District

Facility Name: Invesco Field at Mile High
1701 Bryant Street
Denver, Colorado 80204

CDPS Permit No. COR-090000

I certify under penalty of law that this Stormwater Management Plan and all attachments, meeting the requirements of CDPS Permit No. COR-090000, were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including possibility of fine and imprisonment for knowing violations.

Malcolm Freeman
Vice President

Date Signed

1.0 INTRODUCTION

1.1 Purpose and Objectives

The Stadium Management Company, LLC (SMC) operates the Invesco at Mile High Stadium (Invesco Field) for the exhibition of professional football and soccer games and additional special events. Facility operations began in the summer of 2001, and annual football season operations extend approximately from August through January, depending on participation in post-season play. Annual soccer season operations extend from the beginning of April to the middle of October. Invesco Field is located at 1701 Bryant Street in Denver, Colorado as shown on Figure 1 – General Site Location and Permit Boundaries. The facility lies between Colfax Avenue on the south and 20th Avenue on the north, and is bounded by Interstate 25 (I-25) on the east. The western boundary varies by location, but extends to within 1 block of Federal in some areas.

SMC has prepared this Stormwater Management Plan (SWMP) to:

- Provide for the effective management of stormwater runoff;
- Minimize the potential for pollutants to enter stormwater runoff;
- Comply with and be protective of the water quality standards for the South Platte River;
- Meet the Municipal Separate Storm Sewer System (MS4) permit requirements specified for the facility under CDPS General Permit No. COR-090000.

The SWMP provides:

- A description of facility activities with the potential to contribute pollutants to stormwater runoff;
- An identification of potential pollutant sources;
- Pollutant risk assessment;
- Stormwater discharge monitoring requirements;
- Facility- and operation-specific Best Management Practices (BMPs) implemented at Invesco Field;
- General BMPs implemented at Invesco Field;
- Employee and contractor training requirements; and
- Inspection, reporting, and recordkeeping requirements.

The SWMP is implemented by the SWMP Administrative Team, which is managed by the Vice President of Operation and the Chief Engineer, and supported by various groups under the Engineering Department. The SWMP Administrative Team members and their responsibilities are described below in Table 1:

TABLE 1 – SWMP Administrative Team

Team Member	Title and Contact Number	SWMP Responsibilities
Malcolm Freeman	Vice President (720) 258-3000	<ul style="list-style-type: none"> ◆ SWMP Administrator. ◆ Ensure all conditions of SWMP are implemented. ◆ Ensure adequate resources are allocated to implement the SWMP.
Wayne Bottom	Chief Engineer (720) 258-3152	<ul style="list-style-type: none"> ◆ Implement SWMP procedures in daily operations, as required. ◆ Notify the SWMP Administrator of compliance requirements. ◆ Manage facility personnel. ◆ Direct all required SWMP inspections, including the Comprehensive Site Inspections. ◆ Maintain and update written SWMP, as required. ◆ Coordinate training of facility personnel. ◆ Submit SWMP Annual Report. ◆ Submit Notices of Non-Compliance.
Various Department Staff	Engineering, Mechanical, Grounds-Keeping, Maintenance	<ul style="list-style-type: none"> ◆ Assist in conducting the Comprehensive Site Inspections. ◆ Assist with implementation and maintenance of SWMP. ◆ Assist with matters related to compliance.

The Chief Engineer maintains a current copy of the SWMP. Amendments and/or revisions to the SWMP will be made whenever there is a change in design, construction, operation, or maintenance that has a significant effect on the potential for the discharge of pollutants to the waters of the State, or if the SWMP is demonstrated to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges from Invesco Field. Amendments to the SWMP will be included with Annual Reports (March 10th of each reporting year) submitted following implementation of the amendment.

Procedural changes and Amendments relating to the maintenance and cleaning of the stormwater collection system in preparation for rerouting the discharges from the sanitary sewer system to the permitted Outfall 001 and South Platte River following applicable events (see Section 4.1.2) will be submitted to the Colorado Department of Public Health and Environment - Water Quality Control Division (CDPHE-WQCD) for review and approval thirty (30) days prior to implementation.

1.2 Description of Facility Activities

Invesco Field is operated for the exhibition of professional football and soccer games and special events. The Standard Industrial Classification (SIC) for Invesco Field is 7941-Professional Sports Clubs. The Invesco Field facilities consist of the stadium, operational support facilities, and vehicle parking lots.

The football stadium includes the playing field, spectator seating area, paved walkways, and concession stands. The operational support facilities include grounds keeping, facility engineering, facility cleaning and maintenance, shipping docks, cooling towers and fuel storage, the Sports Legends Mall, the Broncos Team Store, and administrative offices.

The vehicle parking areas include approximately forty-eight (48) acres of paved lots within the district boundaries. In addition to the parking lots adjacent to the south, north and west sides of the stadium structure, lots M and N lie on the west and east sides of Decatur Street, respectively, south of Colfax Street. The very small Lot P is south of the southwest corner of Lot M. Small employee parking Lots V and T are located east of Lot M on the east side of Decatur just south of Colfax. Lots E and F are located west of Mile High Stadium Circle West, on the south side of 17th and 19th Avenues, respectively, and Lots H and PPA are located north of 20th Avenue, south of 22nd Avenue and 21st Avenue, on the east side of Decatur, respectively. Figure 2, Stormwater Flow and Schematic of Permit-Designated Stormwater Outfalls and Inlets, shows the overall layout of the facility grounds, surrounding parking areas, and stormwater management system components.

1.3 Description of Stormwater Inlets/Conveyances, Collection and Treatment Components, and Permit-Designated Outfalls

Stormwater runoff is collected from the playing field, spectator seating area, concrete walkways, roof, dock areas, compactor bays, fuel storage area, and parking lots. The stormwater is transmitted via stormwater inlets that subsequently discharge into onsite collection and treatment systems, i.e. water quality ponds, the sanitary sewer system, or directly to the City and County of Denver (CCD) municipal stormwater system.

The area between Colfax and 20th and between Bryant and Mile High Stadium Circle West, not inclusive of the streets, is identified as the Stadium Proper. This area includes Lots A, B, Z, C, D, G, I, J, K, and L, as well as the supporting operational structures around the stadium complex, i.e. walkways, art works, docks, Legends Mall, Team Store, Ticket Office, and Comcast. Stormwater from the Stadium Proper all drains to water quality/controlled discharge ponds that drain to the CCD storm water system or, in a few cases, drain directly to stormwater inlets that flow directly to the CCD stormwater system. Within the Stadium Proper, there are 10 storm water rundown structures that direct stormwater from the upper parking lots to the lower parking lot areas via sloped, concrete catch pans, as detailed on Figures 4 and 5, both titled Typical Pond Detention And Drainage System Details.

Once the stormwater is directed to the lower lots, it primarily flows to 1 of the 15 water quality ponds that include the water quality stand pipe/inlet structures detailed on Figure 4. Upon entry into the water quality ponds system, the water settles, a portion is filtered by the underbed gravel system, and water is released at specified rates via the riser and subsurface inlet structure. There are 2 storm water curb inlets located on the north-central portion of the stadium perimeter, between Lots J and L, which drain directly to the CCD storm system that runs along Mile High Stadium Circle/Bryant Street downgradient to the east. In addition, there is a small (approximately 1/10th of an acre) constructed wetland located just east of the Decatur/Colfax entrance to the stadium parking in Lot C. This pond is considered a retention structure, as there are no apparent outlets.

In essence, the pond portion of the storm sewer system at the facility is a combination of detention and retention designs, with associated settling and filtration treatment of the stormwater in the ponds prior to discharge. The overall system is designed to manage a 100-year storm event using the retention-detention abilities of the system design that includes design parameters to effect a regulated 40-hour draw down to the municipal storm sewer system in the event of maximum capacity water-input, i.e., when the ponds are inundated in a 100-year storm event.

Stormwater from the parking lot areas outside of the Stadium Proper primarily drain to curb inlets in the adjacent streets. Curb inlet structures meet City and County of Denver and Metropolitan Wastewater Reclamation District (MWRD) design requirements. One exception to this is found in the Tent and Tailgate Club Lot (privately owned and operated) located between 20th and 21st, and between Decatur and Clay Streets. This lot has a true retention pond constructed in the southeast corner of the lot. Additional exceptions exist in Lots F and M, which both have small pond and inlet structures built along their eastern boundaries.

Stormwater from the field infiltrates, is collected in a subsurface under-field collection system, and is transmitted to the facility Hydro-Gate Storm Water Vault. The remaining stormwater effluent from the site originates in the seating bowl, transportation docks, and interior walkways, and it is transmitted to the facility Hydro-Gate Storm Water Vault via a sub grade piping system. Once the stormwater enters the Hydro-Gate Vault, it is either directed to the sanitary sewer system managed by MWRD, or it is directed to the Vortech's Brand Water Quality Separator (Vortechs) 3-chamber vault and is subsequently discharged to the South Platte River.

At least 4 hours prior to every event at Invesco Field where 1,000 people or greater are expected to be present at the site in a manner that could impact stormwater quality, flows from the Hydro-Gate Vault are directed to discharge to the sanitary sewer system managed by MWRD. Within 48 hours following each such event, the entire stadium seating bowl that was used as part of the event is pressure washed and flows from the Hydro-Gate Vault are redirected to discharge to the Vortech's Water Quality Separator Vault that subsequently flows to the South Platte River. The Vortech's vaults are proven water quality treatment systems effective at minimizing Total Suspended Solids (TSS) and oil and grease effluent concentrations in addition to removing other potential pollutants.

One (1) of the stormwater conveyance points at the facility discharges directly to the South Platte River and will be operated as a “stormwater outfall” Point of Compliance (POC) by SMC under CDPS Permit No. COR-090000. This stormwater outfall is the effluent discharge pipe from the Vortech's vault and is designated Outfall 001. The stormwater outfall from the Hydro-Gate Vault is designated as Outfall 001A when the system is turned to discharge to the storm water system. The overall design and functionality of the stormwater collection, distribution, and treatment system is illustrated in Figures 2 through 5, and is further described in Table 2 below:

TABLE 2 – Stormwater Outfalls

<i>“Permit-Designated Outfall Number”/</i>	Stormwater/Runoff Source
“#001”	Seating bowl and roof; bay/dock areas; and contributing walkway areas via Hydro-Gate Vault during all events and following all events until affected seating bowl areas are cleaned and pressure washed. Requires strict adherence to the Hydro-Gate Vault and Vortech's Water Quality Separator Vault Inspection and Maintenance procedures detailed in this SWMP.
“#001A”	Seating bowl and roof; bay/dock areas; and contributing walkway areas via Hydro-Gate Vault during all events and following all events until affected seating bowl areas are cleaned and pressure washed. Requires strict adherence to the Hydro-Gate Vault and Vortech's Water Quality Separator Vault Inspection and Maintenance procedures detailed in this SWMP.

2.0 POLLUTANT SOURCE IDENTIFICATION

2.1 Potential Pollutant Sources

SMC conducts ongoing evaluations of Invesco Field operations to identify the nature and source of potential pollutants to stormwater flows. The identified facility areas and operational activities with the potential for exposure to stormwater and the potential stormwater pollutants are identified below in Table 3.

TABLE 3 - Potential Stormwater Pollutant Sources

Area / Operational Activity	Potential Pollutants
Construction, Maintenance, Repair	<ul style="list-style-type: none"> ◆ Sediment / particulates ◆ Concrete / cement ◆ Paint and related materials ◆ Cleaning solutions/materials ◆ Sidewalk salt ◆ Trash, debris, solids
Outdoor Raw Material Storage	<ul style="list-style-type: none"> ◆ Fuel Storage Tanks (diesel and unleaded fuels) ◆ Field sand/soils
Groundskeeping	<ul style="list-style-type: none"> ◆ Sediment / particulates ◆ Pesticides, herbicides, soil conditioners, and fertilizers ◆ Vehicle oil, grease, antifreeze ◆ Used oil ◆ Cleaners/Solvents
Parking Lots	<ul style="list-style-type: none"> ◆ Sediment / particulates ◆ Vehicle leak residues of oil, grease, antifreeze ◆ Trash, debris, solids
Transportation Docks	<ul style="list-style-type: none"> ◆ Sediment / particulates ◆ Vehicle leak residues of oil, grease, antifreeze ◆ Trash, debris, solids ◆ Incidental spills or releases of all materials used at Invesco Field including food, beverages, cleaning compounds, groundskeeping materials, and other chemical materials
Stadium Seating, Roof, Walkways	<ul style="list-style-type: none"> ◆ Sediment / particulates ◆ Food / beverage waste including particulates from the concession vents ◆ Trash ◆ Uncontaminated air conditioning and compressor condensates

TABLE 3 - Potential Stormwater Pollutant Sources (continued)

Area / Operational Activity	Potential Pollutants
Above Ground Storage Tanks	<ul style="list-style-type: none"> ◆ Diesel fuel #2 ◆ Unleaded gasoline
Waste Storage	<ul style="list-style-type: none"> ◆ Sediment / particulates ◆ Solid wastes such as trash, paper, cardboard, glass, empty containers, etc. ◆ Food / beverage waste ◆ Waste cooking grease

2.2 Pollutant Risk Assessment

SMC has conducted a stormwater risk assessment to prioritize the Best Management Practices used at the facility. The stormwater risk assessment considers the potential for exposure to stormwater, the volume of materials managed or stored in the area of activity, and the toxicity of the potential pollutants. The results of the stormwater risk assessment are provided below in Table 4.

TABLE 4 - Stormwater Pollutant Source Risk Assessment

Priority	Area / Operational Activity	Potential Exposure to Stormwater	Material Volume	Toxicity of Potential Pollutants
1	Stadium Seating, Roof, Walkways	High	High	Low
2	Transportation Docks	Low	Moderate	Moderate
3	Construction, Maintenance, Repair	Moderate to High	Low to Moderate	Low
4	Waste Storage	Moderate	Moderate	Low
5	Parking Lots	High	Low	Low
6	Groundskeeping	Low	Moderate	Low to Moderate
7	Above Ground Storage Tanks	Moderate	Low	Low to Moderate
8	Outdoor Raw Material Storage	Low	Low	Low

2.3 Non-Stormwater Discharges

The Permit authorizes discharge of the specific non-stormwater flows listed below:

- Fire-fighting water runoff,
- Uncontaminated compressor condensate,
- Irrigation drainage,
- Lawn watering,
- Air conditioner condensate, and
- Uncontaminated springs.

The Chief Engineer and his designates conduct periodic facility evaluations to identify the presence and, as necessary, source(s) of non-stormwater component(s) discharging or potentially discharging to the stormwater sewer system. This evaluation reviews facility operations, construction and piping diagrams, and includes direct observation of stormwater inlets and permit-designated outfalls.

Non-stormwater discharge components have been identified in the flows of Outfall 001, and are described below in Table 5. Figure 2 – Stormwater Flow and Schematic of Permit-Designated Stormwater Outfalls and Inlets provides a schematic representation of the identified stormwater flows for the facility. No non-stormwater flows have been identified for the remaining permit-designated Outfalls or stormwater sewer system conveyances.

TABLE 5 - Non-Stormwater Flows

Outfall No.	Non-Stormwater Flows	Status
001/001A	Air conditioner and compressor condensate	Allowable discharge to CCD stormwater sewer system
	After-event stadium wash water	Discharged to sanitary sewer; periodically test per SWMP; amend SWMP if indicated by analytical results; during non-event periods, discharged to Vortechs Separator Vault and then to South Platte River per permit requirements and SWMP.
	Playing field irrigation water	Same as above.

2.4 Spill History

Facility operations began in the summer of 2001, and since that time:

- No spills or releases of oil, toxic, or hazardous substances in excess of a regulatory reporting threshold have occurred at Invesco Field, and
- No spills or releases of oil, toxic, or hazardous substances requiring implementation of third party spill response procedures have occurred at Invesco Field.

3.0 DISCHARGE MONITORING INFORMATION

3.1 Discharge Monitoring Point

Stormwater **Outfall 001**, which is the discharge point from the Vortechs Water Quality Separator Vault (see Figure 2), is the regular discharge monitoring point and the Point of Compliance (POC) for monitoring included in Permit No. COR-090000.

For the first year of the Permit, SMC will collect 3 discharge grab samples from Outfall 001 for laboratory analysis and collect the additional monitoring information described below in Section 3.2 for each sample. The sample dates will be selected to represent the three primary types of events conducted at the facility, i.e. a professional football game, a professional soccer game, and an “entertainment” occurrence such as a concert or related type of event. The analytical and sampling methods will conform to the Colorado Regulations for Effluent Limitations current as of the effective date of this Permit. The discharge monitoring results will be included with the Annual Report due and submitted by March 10th of each year (for the prior calendar year activities). If all analytical events conducted during the first year of the permit are below the permit effluent limitations, subsequent sampling will be conducted two (2) times per year and will follow the same procedures detailed for the first year. The sampling dates will be selected to include one sample in June (towards the end of the soccer season) and one sample in December (towards the end of the football season).

3.2 Sampling Parameters

A grab sample of the discharge from Outfall 001 is collected for laboratory analysis according to the following conditions:

- The sample is collected after completing the “Post-Event” cleaning and after switching the discharge from the sanitary sewer to the stormwater sewer system (see Section 4.1.2).
- The sample is collected within the first thirty (30) minutes of a storm event resulting in an adequate discharge from Outfall 001. If collection of the sample cannot be conducted within the first 30 minutes, the sample may be collected within the first sixty (60) minutes, and the reporting information will document the reason(s) for not collecting the sample within the first 30 minutes.
- In lieu of sampling a storm event, SMC may sample water intentionally flushed through the system to simulate a storm event. One (1) or more stormwater inlets will be chosen that are representative of the entire stormwater collection system, and water will be flushed into the inlet(s). A grab sample of the flushed water will be collected within the first ten (10) minutes of the discharge at Outfall 001.

The discharge sample is packaged and delivered to a contract laboratory in accordance with all applicable preservation and holding time requirements. The sample is analyzed for the parameters identified below in Table 6. The stormwater discharge water quality goals established for Invesco Field are based upon the EPA Multi-Sector Stormwater Permit Benchmark Water Quality Levels for these parameters [Federal Register Vol. 60, Page 50826 (9/29/95)], as presented in Table 6 below:

TABLE 6 - Analytical Parameters and Invesco Field Stormwater Discharge Water Quality Levels

Analytical Parameter	Benchmark Level	Sample Type
Total Suspended Solids (TSS)	30.0 mg/L	Grab
Biological Oxygen Demand (BOD ₅)	30.0 mg/L	Grab
PH	6.0 – 9.0 S.U.	Grab
Oil & Grease (O&G)	10.0 mg/L	Grab

Notes: mg/L = Milligrams Per Liter or Parts Per Million (ppm)
 S.U. = Standard Units
 Benchmark Level = EPA Multi-Sector Stormwater Permit Benchmark Water Quality Levels [Federal Register Vol. 60, Page 50826 (9/29/95)] – As Presented in Table 6

In addition, the information identified below is documented for each sampling event and included with the Annual Report.

- Date of the storm event(s);
- Duration, in hours, of the storm event(s);
- Rainfall measurement or estimates, in inches;
- Duration between the storm event sampled and the end of the previous measurable (i.e., greater than 0.1 inches) storm event;
- Estimate of the size of the drainage area, in square feet;
- Estimate of the runoff coefficient [e.g., low (less than 40%), medium (40% to 65%) or high (greater than 65%)];
- Estimate of the total volume discharged, in gallons; and
- If applicable, a description of the flushing method used to simulate a stormwater discharge to include:
 - ◆ Volume and source of water,
 - ◆ Duration of flushing, and
 - ◆ Location and/or identification of the stormwater inlet(s).

4.0 STORMWATER POLLUTION CONTROLS

In Title 40 of the Code of Federal Regulations (CFR) Part 122.2, the Environmental Protection Agency (EPA) defines Best Management Practices (BMPs) as “...schedules of activities, prohibition of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States.” This definition essentially includes any procedures that can be applied or prevented from occurring in order to control storm water pollution. Such procedures may include work practices, structural controls, preventative operations, and maintenance tasks.

Based upon the source and risk of potential pollutants, SMC employs both facility-specific and general BMPs to minimize and/or prevent pollutants from entering stormwater discharges from Invesco Field. A discussion of each of the BMPs employed at Invesco Field is provided below.

4.1 Facility-Specific Best Management Practices

Facility-specific BMPs are employed at Invesco Field to minimize and/or eliminate the potential for pollutants from the identified source areas and activities present at the facility. These BMPs consist of operational procedures and structural controls to effectively manage the potential pollutant sources of greatest risk at the facility.

4.1.1 Stormwater Management and Diversion System

A stormwater collection system is operated at Invesco Field to manage stormwater flows from the stadium area, which are discharged through Outfall 001. The system consists of a series of stormwater drains, collection pipes, a Hydro-Gate Vault, a Vortechs Water Quality Separator Vault, and diversion valves. The stadium area inlet drains are double screened to minimize the amount of solid debris entering the collection system. The vaults are designed to separate floating and suspended solids from the stormwater prior to discharge, in addition to capturing oils and greases.

All stormwater entering the stadium area inlet drains flows through the Hydro-Gate Vault where it undergoes natural solids settling and separation. Solids sink to the base of the vault where they are periodically collected by standard vault maintenance procedures.

During all applicable “events” held at the stadium the effluent is pumped to the MWRD sanitary system, and during “non-events”, the effluent is pumped to the Vortechs Water Quality Separator Vault prior to discharge to the South Platte River. During and after events until the stadium is cleaned and pressure washed, all of the stormwater flows and stadium wash water flows generated in the stadium seating area, exposed pedestrian walkways, and roof areas flow to the Hydro-Gate Vault and are discharged to the MWRD sanitary sewer system. Enzyme solutions are presently not flushed through the drains periodically to prevent buildup of food and beverage-related wastes in the collection system. However, this step may become necessary in the future as the stadium and system ages.

The stadium grounds stormwater inlets that do not flow through the vault system consist primarily of parking area conveyances that flow to the Water Quality Pond detention ponds (15 ponds) or flow directly to the CCD stormwater sewer system. There are two (2) stormwater curb inlets on the Stadium Proper grounds that flow directly to the CCD system. These include the two (2) curb inlets located in the north-central portion of the north perimeter of the stadium between Lots J and L. All remaining stormwater inlets associated with parking lots outside of the Stadium Proper flow to curb inlets, detention ponds, or a retention pond. These inlets are part of the CCD storm water system.

4.1.2 Post-Event Cleaning

Following each event where at least 1,000 people are located at the facility (staff and event participants/fans) in a manner that can affect stormwater quality, the affected stadium seating area, pedestrian walkways, and associated facility areas are thoroughly cleaned and pressure washed prior to switching the discharge point of Outfall 001A from the sanitary sewer to the Vortechs Water Quality Separator Vault and Outfall #001 to the South Platte River. The Post-Event Cleaning operations consist of:

- “Pickers” handpick larger trash items from the seating and walkway areas. A crew of employees follows the pickers and collects the filled trash bags and places them into small, rolling dumpsters. A second crew of employees directs loose trash with backpack air blowers into piles and sweeps and collects the trash in bags. Once the loose trash is removed, employees pressure wash the seating and concourse areas with high-pressure spray washers. In the final step, employees may use power scrubbers to remove any residual wastes from the concrete walkways.
- The concession vendor cleans and sanitizes all the exposed surface areas and equipment in the concession areas.
- The concrete detail cleaning is conducted using an alkaline cleaning solution, which is allowed to remain in contact with the concrete surfaces for approximately 15 minutes. The cleaner is then rinsed into the collection system using water sprayers.
- A final flushing of the collection system is then completed.
- After completing the cleaning, the effluent in the Hydro-Gate Vault is pumped to the MWRD sanitary system and the discharge is then directed to the Vortechs Water Quality Separator Vault for final treatment and then discharges to the South Platte River. Both vault systems will be inspected on a quarterly basis and cleaned as indicated by the inspection findings. All effluent will be discharged to the sanitary sewer system or collected in vacuum trucks and transported for offsite disposal at a permitted facility. If necessary, the vaults may be spray washed using a 5% hypochlorite solution, followed with a power wash using a sodium bisulfite neutralizing solution. The neutralized solution will be pumped to the sanitary sewer system (Hydro-Gate Vault) or collected in a vacuum truck and transported for offsite disposal (Vortechs Vault).

- The discharge monitoring samples will be collected for laboratory analysis in accordance with the SWMP and Permit requirements and schedule. If the laboratory analytical results show the discharge does not meet the Benchmark Water Quality Levels (see Table 6), the system will be turned back to the sanitary discharge, and the vault cleaning process will be repeated. Refer to Appendix G for detailed sampling and reporting requirements related to monitoring. The SWMP will be amended, as necessary, based on the inspection and sampling findings identified during the first year of the permit. All sampling and analytical information is submitted with the DMR on an annual basis (by March 10th).

4.1.3 Materials Handling and Spill Prevention

Materials handling and spill prevention structural controls and management practices are employed in the dock areas, the waste management areas, the above ground storage tank area, and the outdoor material storage areas of the facility.

The dock areas are primarily located in the north-central portion of the facility building, and the area includes the protective structural components identified below:

- The truck bays are covered and are large enough to fit an entire truck trailer, which prevents exposure to stormwater during loading and unloading activities.
- The drive entrance is sloped into the truck bays, preventing spilled materials from flowing from the dock area and into the storm drains.

The waste management areas include the trash compactor bays, recyclable materials bins, and waste food grease bins. The protective measures incorporated into these areas include:

- The trash compactor bays are covered and are large enough to fit the entire compactor, which prevents exposure to stormwater during loading and unloading activities.
- The waste food grease bins are kept under covered areas and are not exposed to stormwater. The vendor is responsible for keeping this area clean and well maintained.

Four (4) above ground storage tanks (ASTs) are in use at the facility. Two (2) 660-gallon, double-walled, sub-base or “belly” tanks are used to store diesel fuel (#1) to power the two emergency electrical generators at the facility. One emergency generator is located on the exterior of the facility in a housing on the west side of the main dock area, and the second is located in an interior room near the center of the south end of the stadium. Additionally, two (2) double-walled, Convault ASTs are located at the west end of Lot G in a fenced enclosure. One of the Convault ASTs is 250-gallon capacity and holds diesel fuel #2.

The second Convault AST is a double-vault tank holding two (2) 250-gallon vaults, one for diesel fuel #2 and one for unleaded gasoline. These USTs are used for fueling carts and vehicles. The tanks are equipped with the following spill, overflow, and leak detection systems:

- ◆ Double walls with interstitial monitoring for leak detection.
- ◆ The Convaults have an external concrete coating for corrosion protection.
- ◆ Automatic shut-off devices on the delivery pump to prevent overfilling (on the pump system for the fueling tanks only).
- ◆ Convault area is behind locked fencing when not in use to prevent unauthorized access.
- ◆ Where applicable, vehicle posts (bollards) are situated to minimize and/or prevent damage from minor collisions.
- ◆ The fuel delivery contractor is required to employ spill prevention practices including:
 - Maintaining a spill notification and response plan,
 - Automatic shut-off device on the fill hose,
 - Attending the fill hose during all loading activities, and
 - Cleaning up all incidental spills and dripping.

4.2 General Best Management Practices

General BMPs are non-specific operational practices employed to minimize or prevent pollutants from entering stormwater flows throughout the Invesco Field facility. The general BMPs include preventative maintenance, good housekeeping, sediment and erosion control, spill prevention and response, and employee training.

4.2.1 Preventative Maintenance Program

SMC implements a Preventative Maintenance Program to keep equipment, operating systems, SWMP structures, and the overall facility clean and in good working order. The program consists of periodic inspections and maintenance to minimize the potential for pollutants to enter stormwater discharges due to equipment or system failures. Preventative maintenance activities affecting the stormwater management structures that are performed as a part of this program include:

- Hydro-Gate Vault and Vortechs Water Quality Separator Vault
 - ◆ Removing accumulated sediment, solids, and debris on a periodic basis.
 - ◆ Removing all accumulated sediment, debris, and oils/greases via a vacuum truck and pressure cleaning each the vaults at least twice per year, or more often as indicated by inspection findings. The removed materials are to be discharged to the sanitary sewer system or transported and disposed offsite at a permitted facility (Vortechs Vault). The effluent from the pressure washing cleaning may be discharged to the sanitary sewer system or removed via a vacuum truck and disposed at a permitted facility.

- Stadium stormwater drainage system
 - ◆ Enzyme solutions, if needed in the future, may be flushed through the stadium stormwater drainage system to remove and prevent buildup of food and beverage-related pollutants in the system.
 - ◆ The enzyme solutions, if used, will be flushed through the system only during periods when the discharges are directed into the sanitary sewer system.

- Water Quality Ponds and Parking Lots
 - ◆ Periodic inspection of the ponds, conveyance ditches, sediment basins, drainage pipes, and overflow drains to ensure the structures are clear and free of excessive buildup of sediment, trash, and debris.
 - ◆ As necessary, cleaning and repair of the ponds and associated drainage structures are performed to maintain performance.

- Facility systems are periodically inspected to identify conditions that could cause failures resulting in discharges of pollutants to stormwater. Facility systems include:
 - ◆ Heating, ventilation, and air conditioning (HVAC) system
 - ◆ Potable water
 - ◆ Sanitary sewer
 - ◆ Main and emergency electrical system
 - ◆ Refrigeration systems
 - ◆ Fire-fighting sprinklers, pumps, and alarms
 - ◆ Irrigation system pumps, valves, and piping

- Groundskeeping vehicle maintenance is performed under cover in the Groundskeeping Shop or related area, which is not exposed to stormwater.

4.2.2 Good Housekeeping

Good housekeeping is basic cleaning to maintain the facility in a clean and orderly fashion. Good housekeeping practices reduce the potential for accidental spills, reduce intermittent pollutant sources, and reduce safety hazards in the facility. Good housekeeping practices employed at Invesco Field include:

- Grounds are observed daily; and debris, foreign matter, or any spills or leaks encountered are cleaned up.

- The concessions vendor is required to keep all concession areas neat, clean, and in an orderly fashion.

- Trash is cleaned from the stadium seating, walkways, and concession areas daily. The trash is placed in industrial compactors and removed from the facility periodically.

- The trash compactors are sealed and kept in covered access bays, which are not exposed to stormwater.

- All flammable and combustible solvents, cleaners, lubricants, oils, and other materials for groundskeeping and/or vehicle maintenance are stored in flammable liquids cabinets in the Groundskeeping Shop or related area on the interior of the facility.
- All pesticides, herbicides, soil conditioners, and fertilizers are maintained in a locked storage room in the Groundskeeping Shop, which is not exposed to stormwater. Only qualified personnel apply the groundskeeping chemicals, and application is minimized to the extent possible at all times.
- One-quart, 1-gallon, and 5-gallon containers of general cleaning compounds are kept in a central storage facility maintained by the concessions vendor, which is not exposed to stormwater. As needed, small amounts of the cleaning compounds (1-quart containers and less) are stored in satellite storage cabinets located throughout the facility. The satellite storage cabinets are kept locked to limit unauthorized access.
- Drums, barrels, and other storage containers are stored on pallets out of the main traffic aisles. Any 55-gallon container that is used to transfer materials to or from is stored on a secondary containment basin. The containers are labeled and inspected periodically for leaks.

4.2.3 Sediment and Erosion Control

Sediment and erosion control practices and structures are employed at Invesco Field to minimize the impacts of dirt and sediment from fugitive sources, erosion, and construction activities upon stormwater quality. The sediment and erosion controls include:

- Water Quality Ponds #1 through #15 (some ponds have more than one engineered outlet structure), which are constructed with
 - ◆ Stormwater inlet sediment vaults,
 - ◆ Rip rap rock,
 - ◆ Vegetative plants and cover overlying an aggregate base, and
 - ◆ Water bars in certain areas.
- Unpaved areas around the facility building are landscaped with trees, shrubbery, grasses, and landscape cover (e.g., bark, gravel, and fines).
- Construction and repair projects are managed to minimize dust and sediment producing activities, including:
 - ◆ Disturbed areas are kept as small as possible, which minimizes the potential exposure to stormwater.
 - ◆ Drain covers or other sediment control structures are used (e.g., absorbent booms, silt fences, or hay bales), as appropriate or necessary.
 - ◆ Construction, maintenance, and repair contractors are required to employ good housekeeping practices and stormwater protection practices with regard to erosion and sedimentation and materials and waste handling.

- ◆ Future construction projects disturbing one (1) acre or greater in size will be required to submit a project-specific stormwater management plan as part of the project submittals. The project-specific SWMP is required to meet or exceed the minimum requirements of the City and County of Denver and CDPHE-WQCD standards. Internally managed projects that meet the size threshold will also meet this requirement.
- ◆ Post-Construction activities including all erosion and sedimentation controls employed on disturbed areas will meet the City and County of Denver Stormwater Program requirements.

4.2.4 Spill Prevention and Response Procedures

In the event of a material spill or release incident at Invesco Field, SMC will implement their Spill Response Procedure, which is currently under modification. The Spill Response Procedure includes communication and response procedures based upon the volume and nature of materials used and stored at the facility. Specifically, the Spill Response Procedure addresses the following:

- Employee Roles and Responsibilities;
 - ◆ Spill Response Coordinator,
 - ◆ Facility Employees;
- Emergency Recognition;
- Emergency Notification; and
- Emergency Response Actions.

4.2.4.1 Spill Response Coordinator Responsibilities

The SMC employees listed in Table 7 below are designated and qualified to act as the Spill Response Coordinator in the event of a material spill or release at the facility. The Primary and/or Secondary Spill Response Coordinator will be on site or available 24-hours per day, via pager.

TABLE 7 - Spill Response Coordinators

	Name	Contact Numbers
Primary	Wayne Bottom – Chief Engineer	Office: (720) 258-3152
Secondary	Dave Clark – Assistant Chief Engineer	Office: (303) 312-3000

Whenever there is a material spill or release, the Spill Response Coordinator, or his designee, is responsible for implementing and directing the spill response procedures. The specific duties of the Spill Response Coordinator are:

1. Activating the internal alarm and communications system to notify employees, contractors, and visitors of an emergency situation.

2. Discontinuing operations in the immediate vicinity and/or the entire facility, as necessary.
3. In the event of a material spill or release, the Spill Response Coordinator, or his designee, is responsible for:
 - ◆ Identifying the character, source, amount, and extent of the spilled material.
 - ◆ Assessing potential hazards to human health and the environment resulting directly or indirectly (i.e., impacts from response activities) from the incident.
 - ◆ Implementing the Emergency Notification Procedures to initiate response actions by facility employees, outside contractors, and appropriate Local, State, and Federal agencies.
4. In the event a material spill or release occurs that threatens human health or the environment outside the facility, the Spill Response Coordinator is responsible for determining whether a Reportable Quantity (RQ) was released and if notification of local, State and/or Federal agencies is required (see Section 4.2.4.3).
5. During a spill or release event, the Spill Response Coordinator, or his designee, is responsible for implementing actions to ensure that further releases, exposures, fires, or explosions do not occur, recur, or spread within the facility, as feasible.
6. After a spill or release event, the Spill Response Coordinator, or his designee, is responsible for:
 - ◆ Identifying and communicating when it is safe for facility personnel to return to the affected area;
 - ◆ Providing for treating, accumulating, and disposing of any recovered waste, contaminated soil, contaminated water, or other material resulting from the incident;
 - ◆ Ensuring that no material that is incompatible with the released material is managed or stored in the proximity of the affected area until clean-up is completed; and
 - ◆ Ensuring all emergency equipment is cleaned and fit for its intended use before operations are resumed.

4.2.4.2 Facility Employee Responsibilities

Appropriate facility employees are trained and qualified to identify potential and actual emergency situations at the site including spill or release of a hazardous material, substance, or waste; fire; and explosion. All facility personnel are responsible for:

1. Notifying the Security Department immediately upon recognition of any potential or actual emergency situation in or around the facility; and
2. Following the response directions of the Spill Response Coordinator.
3. The Security Department will notify the Primary or Secondary Spill Response Coordinator immediately upon notification of any potential or actual emergency situation in or around the facility.

The Spill Response Coordinator is responsible for directing the spill response activities of all trained and qualified facility employees. As directed by the Spill Response Coordinator, the qualified employees will:

1. Stop facility operations;
2. Control, contain, and/or recover any spilled materials;
3. Remove and isolate other containers or building systems that could be affected; and
4. Monitor the facility for leaks, pressure buildup, gas generation, or ruptures.

The priorities of the spill response personnel will be to protect people, property and the environment, with concentration on preventing any spilled materials from spreading to other areas inside or outside the facility. Response actions will be continued until the incident is controlled, or facility personnel are relieved by the Denver Fire Department Hazardous Materials Unit or outside emergency response contractors.

4.2.4.3 Spill Notification Procedures

SMC is in the process of preparing and implementing Spill and Release Notification Procedures to satisfy the reporting requirements of CERCLA, SARA Title III, and State regulations in the event of a fire, explosion, or release of oil, a hazardous substance, or extremely hazardous substance (EHS).

The notification procedures and information requirements are detailed below. In addition, a blank Spill and Release Reporting Form is included as Appendix B to promote proper notification procedures.

Upon being informed that a material spill or release has occurred, the Spill Response Coordinator must implement the Spill and Release Notification Procedures below.

- Identify the nature of the incident (i.e., chemical spill, fire, explosion)
- If the incident is a fire or explosion, notify the Denver Fire Department by calling 911.
- If the incident is a chemical spill,
 - ◆ Identify the chemical(s) involved
 - ◆ Determine (or estimate) the quantity of each chemical spilled/released
 - ◆ Assess the potential hazards and spill pathways and receptors
 - ◆ Determine whether the quantity spilled/released exceeds the applicable Reportable Quantity (RQ)
- If an RQ is exceeded, provide the following information, to the extent known, to the Local, State, and Federal agencies, as applicable:
 - ◆ Name, address, and telephone number of facility/location of incident
 - ◆ Name, title, and telephone number of person reporting incident
 - ◆ Date, time of release (i.e., start, end, and duration), and time release discovered

- ◆ Potential hazards and threats to human health and the environment
 - ◆ Source/cause of the spill/release
 - ◆ Location and extent of release and media affected (e.g., air, soil, or water)
 - ◆ Actions taken in response to incident
 - ◆ Number and nature of injuries, if any.
- If an RQ is exceeded, make **immediate notification** to the following Local, State, and Federal agencies:
- ◆ Denver Fire Department / Local Emergency Planning Committee 911
 - ◆ Denver Police Department 911
 - ◆ National Response Center (800) 424-8802
 - ◆ Colorado Department of Public Health and Environment (877) 518-5608
or (303) 756-4455
 - ◆ State Emergency Response Commission (877) 518-5608
- Make notification to the following company officials and emergency response contractor:
- ◆ Malcolm Freeman-Vice President (720) 258-3000
 - ◆ Wayne Bottom, Chief Engineer (720) 258-3152
 - ◆ Landmark Environmental, Inc. 720.283-8974 or 303.961.5993 or 303.898.1042

4.2.4.4 Spill and Release Response Actions

As described below, facility personnel are qualified and trained to respond to small, medium, and large-sized material spills or releases at the facility. For the purposes of this Spill Response Procedure, small, medium, and large-sized spills are defined as follows:

- Small – Less than 15 gallons (< 15 gallons)
- Medium – Greater than 15 gallons but less than 110 gallons (15 to 110 gallons)
- Large – Greater than 110 gallons (>110 gallons)

In the event of a material spill or release, properly trained facility employees will take the following response actions:

Spill Size	Response Actions
Small	Evacuate the immediate vicinity of the incident.
	Notify, or designate a person to notify, the Security Department and the Primary Spill Response Coordinator, or in his absence, the Secondary Spill Response Coordinator.
	As necessary, the Spill Response Coordinator will stop operations in the vicinity of the spill.
	Control and clean up the spill using the site’s Spill Response Kits.
Medium	Evacuate the immediate vicinity of the incident.
	Notify, or designate a person to notify, the Security Department and Primary Spill Response Coordinator, or in his absence, the Secondary Spill Response Coordinator.
	As necessary, the Spill Response Coordinator will stop operations in the vicinity of the spill.
	As necessary, the Spill Response Coordinator will widen evacuation area.
	Control and clean up the spill using the site’s Spill Response Kits.
Large	Evacuate the immediate vicinity of the incident.
	Notify, or designate a person to notify, the Security Department and the Primary Spill Response Coordinator, or in his absence, the Secondary Spill Response Coordinator.
	The Spill Response Coordinator will initiate the Emergency Notification Procedure.
	As necessary, the Spill Response Coordinator will widen evacuation area.
	The Spill Response Coordinator will direct facility personnel in controlling the material spill until relieved by Emergency Response Personnel.

Spill response and clean-up materials and equipment are being procured to be kept in several locations at Invesco Field. The materials and equipment at the facility is capable of:

- Control and clean-up of small spills (i.e., < 15 gallons),
- Control and containment of moderate spills (i.e., 15 to 110 gallons) within a small area of the facility building, and
- Potential containment of large spills (i.e., > 110 gallons) within the building.

The Emergency Spill Kits are prominently situated in:

- Groundskeeping
- Engineering

Additional kits being procured will be situated in appropriate locations within the facility.

These spill kits, which are designed to control small spills (i.e., 15 gallons or less) from tanks and drums, consist of a nylon bag contain the following materials:

- Three (3), 4-foot absorbent socks;
- Two (2), 10-foot absorbent socks;
- Twelve (12), 17”x19” absorbent pads;
- Ten (10), 20-gallon plastic bags with ties and labels;
- Three (3) pairs of nitrile gloves; and
- One (1) pair of splash goggles.

4.2.5 Employee Training

SMC is in the process of developing and implementing a training program for their employees and contractors designed to:

- Communicate the importance of minimizing impacts to the water resources of the State of Colorado;
- Provide specific information regarding BMPs, operational practices, and regulatory requirements relative to stormwater pollution control; and
- Communicate the responsibilities of each employee and contractor with regard to implementing the SWMP.

The topics addressed as part of the training course include:

- Stormwater Pollutant Sources Associated with Invesco Field Operations
 - ◆ Food, beverage, trash, and other wastes
 - ◆ Materials handling and storage
 - ◆ Cleaning, maintenance, and fueling
 - ◆ Erosion and sedimentation
- Non-Stormwater Discharges
 - ◆ Wash water
 - ◆ Maintenance wastes
 - ◆ Condensate
- Best Management Practices
 - ◆ Facility-Specific Practices
 - ◆ General Practices
- Employee, Contractor, and Corporate Responsibilities
 - ◆ Implementing BMPs
 - ◆ Spill and release notification procedures
 - ◆ Spill response procedures
 - ◆ City and County of Denver SWMP development and compliance requirements for projects greater than 1 acre in size (includes staging and disturbed areas)

SMC will train selected employees and key contractor employees in the requirements of the SWMP. New employees, who will have responsibilities under the SWMP, will receive the SWMP training within thirty (30) days of hire and/or completion and implementation of the SWMP training program. SMC communicates with all vendors and contractors to ensure all parties understand it is the responsibility of the respective employers to ensure their employees are trained and aware of the requirements of and their responsibilities under the SWMP for Invesco Field.

5.0 INSPECTIONS, REPORTING, AND RECORDKEEPING

5.1 Comprehensive Site Inspections

The Chief Engineer is responsible for conducting a Comprehensive Site Inspection four times per year in accordance with the requirements detailed in Appendix G, Site Inspection Requirements and Reporting Procedures. The results of the Comprehensive Site Inspections are documented on the inspection report form (Appendix C) and reported to the CDPHE-WQCD in the Annual Report due March 10th of each year (see Section 5.3).

- Each Comprehensive Site Inspection will be conducted in March, June, September, and December. This schedule is intended to reflect the frequent use of the facility and to ensure proper cleaning and maintenance operations are conducted on a regular schedule. This schedule also coincides well with the start of the professional sports seasons conducted in the facility.

The scope of the Comprehensive Site Inspections consists of:

- A review of the SWMP to:
 - ◆ Verify the accuracy of the names, responsibilities, and contact numbers of the SMWP Administrative personnel;
 - ◆ Verify the accuracy of the description of facility activities, facility diagram, and stormwater flow diagram;
 - ◆ Verify the accuracy of the description of the potential pollutant sources; and
 - ◆ Verify the accuracy of the description of the BMPs employed at Invesco Field.
- An inspection of all identified pollutant sources including:
 - ◆ Cleaning and Maintenance chemical storage
 - Central storage areas
 - Satellite storage areas
 - ◆ Disturbed areas (e.g., landscaping, repair, construction)
 - ◆ Groundskeeping Shop and playing field accessways
 - ◆ Parking lots
 - ◆ Docks
 - ◆ Stadium seating area and pedestrian walkways
 - ◆ Above ground storage tanks
 - Emergency generators
 - Fueling
 - ◆ Waste handling areas
 - Food grease bins
 - Recycled materials bin
 - Trash compactors
 - Used oil storage drums
- An inspection of all structural BMP controls to verify the integrity and operational effectiveness of the controls.
- An inspection of all stormwater inlet drains to:

- ◆ Verify the structural integrity of the drains
 - ◆ Observe for evidence of buildup of solids, sediment, trash, or other debris;
 - ◆ Observe for evidence of non-stormwater discharges to the drains;
 - ◆ Observe for evidence of pollutants entering the drains; and
 - ◆ Observe for evidence of other instances of non-compliance with the SWMP and/or the Permit.
- An inspection of all stormwater outfalls and conveyances:
- ◆ Outfall 001: Discharge point and associated Vortechs Water Quality Separator Vault to assure that pollutant sources such as residues and oils/greases from facility operations are properly removed from the system and the system is pressure cleaned, with cleaning effluent being removed only via a vacuum truck for offsite disposal at a permitted facility.
 - ◆ Outfall 001A: Hydro-Gate Vault, for the presence of trash, solids, excessive sediment, debris or other evidence of pollutants entering or affecting the stormwater system. The structure will be cleaned as above at least once per year or more often as indicated by inspection findings.
 - ◆ Stormwater Sewer System Conveyances: Water Quality Ponds #1 through #12, stormwater inlet vaults, culverts, gutters, ditches, and all additional stormwater conveyances for the presence of trash, solids, sediment, debris, or other evidence of pollutants entering or affecting the stormwater system. Systems to be cleaned in accordance with inspection findings.
- A review of all documentation and reports prepared in the prior year to:
- ◆ Verify the accuracy and completeness of the information collected and/or reported,
 - ◆ Verify the collection of all required stormwater discharge sample data,
 - ◆ Verify compliance with all applicable Benchmark Water Quality Levels, and
 - ◆ Verify submittal of all required reports and notices to the City and County of Denver, CDPHE-WQCD, and/or EPA Region 8.
- A review, update, and/or revision to any SWMP action plan developed as a result of the findings of any Comprehensive Site Inspection or any other inspections conducted as part of the normal operating procedures of Invesco Field.

Based upon the results of the Comprehensive Site Inspections, the descriptions of the SMWP Administrative Team, facility activities, facility diagram, stormwater flow diagram, potential pollutant sources, and BMPs will be revised as appropriate within two (2) weeks of the inspection or as soon as practicable and reasonable.

The Chief Engineer and his designees are responsible for providing the Engineering Department with a copy of the inspection report and recommended revisions to the SWMP as soon as practicable in order for the SWMP to be revised accordingly. Changes to operations that are affected by the SWMP revisions will be implemented as required by the Permit, as applicable, or within a timely manner and in no case more than ninety (90) days after the inspection.

In addition to the Comprehensive Site Inspections, facility personnel are educated to observe for evidence of, or the potential for, pollutants entering the stormwater drainage

system from equipment, materials handling areas, materials and chemical storage areas, and other operational areas. If only minor corrective actions are needed, they will be performed immediately and not reported. If more extensive actions are required, the Shift Supervisor is notified, and he or she will notify the Chief Engineer/SWMP Administrator.

5.2 Stormwater Monitoring Reports

SMC will maintain records of and report the results of all stormwater monitoring events to the CDPHE-WQCD. The stormwater monitoring results are provided in the Annual Report due no later than March 10th of each year (see Section 5.3) and include:

- The date, time, location, and type of any discharge sample(s) collected;
- Name of the person(s) collecting the discharge sample(s);
- Laboratory analytical report, including:
 - ◆ Analytical results,
 - ◆ Date(s) the laboratory analyses performed,
 - ◆ Person(s) performing the analyses, and
 - ◆ Laboratory analytical techniques or methods used.
- Other required information and/or observations, including:
 - ◆ Date of the storm event(s);
 - ◆ Duration, in hours, of the storm event(s);
 - ◆ Rainfall measurement or estimates, in inches;
 - ◆ Duration between the storm event sampled and the end of the previous measurable (i.e., greater than 0.1 inches) storm event;
 - ◆ Estimate of the size of the drainage area, in square feet;
 - ◆ Estimate of the runoff coefficient [e.g., low (less than 40%), medium (40% to 65%) or high (greater than 65%)];
 - ◆ Estimate of the total volume discharged, in gallons; and
 - ◆ If applicable, a description of the flushing method used to simulate a stormwater discharge to include:
 - Volume and source of water,
 - Duration of flushing, and
 - Location and/or identification of the stormwater inlet(s).

5.3 Annual Reports

SMC will prepare and submit an Annual Report on forms provided by the CDPHE-WQCD. The Annual Report is submitted to the CDPHE-WQCD on or before March 10th of each year, covering MS4 Program Objective accomplishments and SWMP monitoring activities of the prior calendar year. Information submitted in the Annual Report includes:

- The implementation status for each of the six Program Areas covered by the MS4 permit;

- The results of any information collected and analyzed, if any, during the reporting period, including any monitoring data used to assess the success of the program at reducing the discharge of pollutants to the Maximum Extent Practicable (MEP);
- A summary of the number and nature of inspections and formal enforcement actions performed (i.e. enforcement actions performed by SMC);
- Proposed changes to the CDPS Stormwater Management Program for Invesco Field;
- Activities for the next reporting cycle for each of the six Program Areas;
- Notices of Program Element Operation by a Second Party (Generally Not Applicable to SMC);
- Discharge Monitoring Report, including the results of all stormwater monitoring performed;
- Certification and Signature of the SWMP Administrator; and
- Certification and Signature of the “Applicant”, i.e. legally responsible person.

If requested by the City and County of Denver, SMC will provide a copy of the Annual Report, SWMP, and Permit application to the municipality.

5.4 Notices of Non-Compliance

If, for any reason, SMC does not comply with or is unable to comply with any discharge limitation, standard, or requirement of this Permit, including spill events and system upset conditions; the SWMP Administrator will submit a notice of Non-Compliance to the CDPHE-WQCD and EPA Region 8 (see Appendix E). The Notice of Non-Compliance provides:

- A description of the instance and cause of non-compliance;
- Period of non-compliance, including exact dates and times and/or anticipated time when the discharge will return to compliance; and
- Corrective actions taken to reduce, eliminate, and prevent recurrence(s) of the instance of non-compliance.

SMC will submit a Notice of Non-Compliance for the instances identified below **orally within twenty-four (24) hours** of gaining the knowledge of the incident and **in writing within five (5) days** for any:

- Instance of non-compliance that may endanger human health or the environment.

- Spill or discharge of oil or other substance that may cause pollution of the Waters of the State.

For all other instances of non-compliance, the Notice of Non-Compliance will be submitted within **thirty (30) days** of gaining knowledge of the non-compliant circumstance.

5.5 Other Notices

SMC will notify the CDPHE-WQCD of any intent to construct, install, or alter any process, facility, or activity that is likely to result in a new or altered stormwater discharge. The SWMP Administrator will submit the notice within two (2) weeks after making the determination to construct, install or alter any process, facility, or activity.

The SWMP will be revised and/or amended, and a copy of the changes will be submitted with the Annual Report, as described above in Section 5.3. However, amendments relating to the maintenance and cleaning of the stormwater collection system for the switch in discharges from Outfall 001A from the sanitary sewer system to the stormwater sewer system (i.e. potentially the South Platte River) shall be submitted to the CDPHE-WQCD for review and approval thirty (30) days prior to implementation.

5.6 Recordkeeping Requirements

SMC will maintain the records and data identified below for a period of three (3) years or a length of time requested by the CDPHE-WQCD or EPA Region 8 Administrator:

- Discharge monitoring results and reports;
- Spill and release notification reports;
- Employee training records;
- Comprehensive Site Inspection reports;
- Annual Reports;
- Notices of Non-Compliance; and
- Other notices.

The records are maintained in an orderly fashion in the Engineering Department offices and are available for inspection upon the request of the CDPHE-WQCD or EPA Region 8.

LIST OF FIGURES

- FIGURE 1: General Site Location and Permit Boundaries
- FIGURE 2: Stormwater Flow and Schematic of Permit-Designated Stormwater Outfalls and Inlets
- FIGURE 3: Typical Pond Treatment System and Schematic of Conveyance Input/Output
- FIGURE 4: Typical Pond Detention and Drainage System Details (1 of 2)
- FIGURE 5: Typical Pond Detention and Drainage System Details (2 of 2)

APPENDIX A

**AUTHORIZATION TO DISCHARGE UNDER
THE COLORADO DISCHARGE PERMIT SYSTEM**

PERMIT No. COR-090000

(Not Included With Final Draft)

APPENDIX B

SPILL AND RELEASE REPORTING FORM

(Not Included With Final Draft)

APPENDIX C

**COMPREHENSIVE SITE INSPECTION REPORTS –
PERMIT NO. COR-090000**

NOTE:

**ALL REPORTS WILL BE MAINTAINED FOR A PERIOD OF 3 YEARS FROM
THE DATE OF GENERATION, OR LONGER AS DIRECTED**

(Not Included With Final Draft)

APPENDIX D

**STORMWATER ANNUAL REPORTS –
PERMIT NO. COR-090000**

NOTE:

**ALL REPORTS WILL BE MAINTAINED FOR A PERIOD OF 3 YEARS FROM
THE DATE OF GENERATION, OR LONGER AS DIRECTED**

(Not Included With Final Draft)

APPENDIX E

NOTICES OF NON-COMPLIANCE

(NONE FILED AS OF DATE OF THIS DOCUMENT)

NOTE:

**ALL REPORTS WILL BE MAINTAINED FOR A PERIOD OF 3 YEARS FROM
THE DATE OF GENERATION, OR LONGER AS DIRECTED**

APPENDIX F

STORMWATER MANAGEMENT PLAN REVISION LOG

NOTE:

**ALL LOGS WILL BE MAINTAINED FOR A PERIOD OF 3 YEARS FROM THE
DATE OF GENERATION, OR LONGER AS DIRECTED**

(Not Included With Final Draft)

APPENDIX G

SITE INSPECTION REQUIREMENTS AND PROCEDURES

Included With Final Draft For Regulatory Review

Site Inspection Requirements and Reporting Procedures

G-1 Comprehensive Inspections.

The SWMP identifies qualified personnel that shall inspect designated equipment and plant areas. The procedures and intervals of the comprehensive inspection are herein specified in this SWMP and are required to be completed consistent with the procedures detailed below under Facility Inspections. Records of all such inspections will be maintained by the Engineering Department for a period of 3 years or as otherwise designated by the regulating authorities. The records will be made available to the CDPHE WQCD upon request and summarized in the Annual Report.

G-2 Facility Inspections

Qualified personnel identified in the SWMP shall make a comprehensive inspection of the facility's stormwater management system, at least four times per year. The first comprehensive inspection shall be performed within four (4) weeks of submission of this final draft document and the remaining inspections will be conducted in accordance with the schedule established in this SWMP. These comprehensive inspections must be documented and summarized in the Annual Report (see G-3 below).

- a. Material handling areas, disturbed areas, areas used for material storage that are exposed to precipitation, and other potential sources of pollution identified in the SWMP, shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Structural stormwater management measures, sediment and control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement and/or supplement the plan, such as spill response equipment, shall be made. At a minimum, each of the following shall be evaluated for the reasonable potential for contributing pollutants to runoff:
 - Loading and unloading operations
 - Outdoor storage activities
 - Outdoor manufacturing or processing activities
 - Significant dust or particulate generating processes
 - On-site waste disposal practices
 - The presence of salt piles
 - Areas where significant spills and significant leaks of toxic or hazardous substances have occurred at the facility from three years prior to permit certification to the time of SWMP preparation.

Factors to consider include the toxicity of chemicals; quantity of chemicals used, produced, or discharged; the likelihood of contact with stormwater; and history of significant leaks or spills of toxic or hazardous substances.

- b. During the first inspection, the stormwater collection system for Outfall 001A, the Hydro-Gate Vault, and Outfall OO1 (the permit POC), the Vortechs Water Quality Separator Vault shall be inspected as described in this SWMP. Both systems will be cleaned as per the SWMP requirements and all effluent shall be managed in accordance with the SWMP.

- c. Based on the results of the inspection, the description of potential pollutant sources and pollution prevention measures identified in the SWMP shall be revised as appropriate within two weeks of such inspection. Such revisions shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 90 days after the inspection.
- d. A report summarizing the scope of the inspection, personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the SWMP, and actions taken in accordance with paragraph b., above, shall be made and retained as part of the SWMP for at least three years. The report shall be signed in accordance with G-5, Signatory Requirements.

REPORTING REQUIREMENTS

G-3 Annual Report

SMC will submit an Annual Report, covering **January 1 through December 31** of each year, on the overall compliance with the SWMP. The Annual Report is due March 10th of each year and shall contain, at a minimum:

- a. Name of permittee, address, phone number, and permit number.
- b. A report on the facility's overall compliance with the SWMP.
- c. Changes made in the individual items of the SWMP, and any proposed changes.
- d. A summary of each comprehensive stormwater facility inspection made, including date, findings, and action taken.
- e. A Discharge Monitoring Report (DMR), with the results and interpretation of **all** stormwater monitoring performed. The interpretation shall address any potential water quality impacts.
- f. The report shall be signed and certified for accuracy, including the certification language outlined below in G-5, Signatory Requirements.

The Annual Report is due to the Division on or before **March 10th** of each year (see address below). The due date for the first Annual Report after this permit consolidation is completed is **March 10, 2005**.

The first report may include less than twelve months of information. The Division reserves the right to require additional information in the report as needed.

A signed copy of the above report form(s) shall be submitted to the following address:

Colorado Department of Public Health & Environment
Water Quality Control Division
WQCD-P-B2

4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

G-4 Reporting to Municipality

SMC shall provide the City and County of Denver with a copy of the permit application, Annual Reports, and/or Discharge Monitoring Reports, upon request. A copy of the SWMP shall also be provided to the municipality upon request.

G-5 Signatory Requirements

- a. All reports required for submittal shall be signed and certified for accuracy by a principal executive officer of at least the level of vice-president or his or her duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge described in the form originates.
- b. **Changes to authorization.** If an authorization under paragraph a., of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph a., of this section must be submitted to the Division, prior to or together with any reports, information, or applications to be signed by an authorized representative.
- c. **Certification.** Any person signing a document under paragraph a., of this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Discharge Parameters

G-6 Stormwater Discharges To The South Platte River

Discharges of stormwater to the South Platte River via the storm sewer system from Outfall 001 are only permitted following completion of the cleaning activities detailed in this SWMP. All discharges of process water and stormwater from Invesco Field's seating area, docks, and related appurtenances via outfall 001 during an applicable event shall be directed to the Metropolitan Wastewater District sanitary sewer system.

Before the switch to discharging stormwater to the South Platte River from Outfall 001 during non-event periods of operation, the following permit requirements must be met:

- a. The facility and stormwater collection system for Outfall 001A and 001 must be inspected and cleaned in accordance with the schedule provided in this SWMP. The affected portions of the seating bowl and related walkways must be cleaned and pressure washed in accordance with the SWMP prior to the switch to discharging stormwater to the South Platte River, and additional appropriate Best Management Practices (BMPs) implemented as described in the SWMP, to reduce the potential of contributing pollutants to the stormwater discharge, must be implemented.
- b. The inspections are to assure that pollutant sources, including residue from cleaning operations (soaps, etc.) and pollutants remaining from the event, do not remain within the system. If significant pollutant sources are discovered within the system, reasonable efforts must be made to remove the pollutant sources prior to discharging to the South Platte River. The scheduled quarterly inspections must be documented and summarized in the Annual Report, as described in G-3. An inspection of the entire affected seating bowl and related appurtenances shall be conducted and documented following the cleaning efforts after each applicable event and prior to redirecting the discharge from the sanitary sewer system to the storm sewer system and subsequently the South Platte River.
- c. Sampling of a storm event or representative discharge of intentionally flushed water is required in accordance with the schedule detailed in the SWMP. If the monitoring results reasonably indicate the presence of significant pollutant sources in the collection system, additional cleaning and maintenance shall be performed to remove the sources, and sampling as outlined in Section 3.0 of this SWMP shall be repeated. Any exceedances of the discharge limitations shall reported to the CDPHE-WQCD verbally within 24 hours of receipt of the analyses, and in writing within one week of analytical receipt.

If results of the sampling occurrence indicate that the discharge causes or threatens to cause pollution, contamination or degradation of the South Platte River, additional permit requirements and/or modification of the SWMP may be required.

G-7 Prohibition of Non-stormwater Discharges

- a. Except as provided in paragraph b., below, all discharges authorized by this permit shall be composed entirely of stormwater.

- b. Discharges from the following sources that are combined with stormwater discharges may be authorized by this permit, provided that the non-stormwater component of the discharge is identified in the SWMP: fire fighting activities, uncontaminated compressor condensate, irrigation drainage, lawn watering, air conditioner condensate, and uncontaminated springs.
- c. The discharge of groundwater from foundation or footing sumps is not authorized.