

# Stormwater Pollution Prevention Plan

**for:**

Fort Carson, Colorado  
1626 Evans Street, Building 1219  
Fort Carson, CO 80913

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## **SWPPP Preparation Date:**

August 17, 2015

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## Contents

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EXECUTIVE SUMMARY .....	1
SECTION 1: FACILITY DESCRIPTION AND CONTACT INFORMATION .....	3
1.1 Facility Information .....	3
1.1.1 Facility Information for Facilities at Fort Carson .....	3
1.1.2 Facility Information for Facilities near Colorado Springs Municipal Airport.....	5
1.1.3 Facility Information for Facilities at Pinon Canyon .....	6
1.2 Contact Information/Responsible Parties .....	8
1.3 Stormwater Pollution Prevention Team.....	9
1.4 Site Description.....	10
1.5 Activities at the Facility .....	10
1.5.1 Sector P Facilities .....	10
1.5.2 Sector S Facilities .....	12
1.5.3 Sector N Facilities.....	14
1.5.4 Sector K Facilities.....	15
1.5.5 Sector T Facility.....	16
1.6 General Location Map .....	17
1.7 Site Map.....	17
SECTION 2: POTENTIAL POLLUTANT SOURCES .....	19
2.1 Potential Pollutants Associated with Industrial Activity .....	19
2.2 Spills and Leaks .....	20
2.3 Unauthorized Non-Stormwater Discharges Documentation .....	21
2.4 Salt Storage .....	22
2.5 Sampling Data Summary .....	22
SECTION 3: STORMWATER CONTROL MEASURES.....	25
3.1 Non-numeric Technology-based Effluent Limits .....	25
3.1.1 Minimize Exposure.....	25
3.1.2 Good Housekeeping.....	25
3.1.3 Maintenance.....	26
3.1.4 Spill Prevention and Response.....	27
3.1.5 Erosion and Sediment Controls .....	27
3.1.6 Management of Runoff.....	29
3.1.7 Salt Storage Piles or Piles Containing Salt .....	30
3.1.8 Dust Generation and Vehicle Tracking of Industrial Materials.....	31
3.2 Sector-Specific Non-Numeric Effluent Limits .....	32
3.2.1 Sector P Specific Non-Numeric Effluent Limits .....	32
3.2.2 Sector S Specific Non-Numeric Effluent Limits .....	33
3.2.3 Sector N Specific Non-Numeric Effluent Limits.....	36

3.2.4	Sector T Specific Non-Numeric Effluent Limits .....	38
3.3	Numeric Effluent Limitations Based on Effluent Limitations Guidelines .....	38
3.4	Water Quality-based Effluent Limitations and Water Quality Standards .....	38
<b>SECTION 4: SCHEDULES AND PROCEDURES.....</b>		<b>39</b>
4.1	Good Housekeeping.....	39
4.2	Maintenance.....	39
4.3	Spill Prevention and Response Procedures.....	40
4.4	Erosion and Sediment Control.....	41
4.5	Employee Training.....	41
4.6	Inspections .....	41
4.6.1	Routine Facility Inspections .....	42
4.6.2	Quarterly Visual Assessment of Stormwater Discharges .....	44
4.6.3	Exception to Routine Facility Inspection and Quarterly Visual Assessments for Inactive and Unstaffed Sites.....	47
4.7	Monitoring .....	47
4.7.1	Impaired Waters Monitoring.....	48
4.7.2	Sector N Monitoring .....	49
4.7.3	Sector K Monitoring.....	50
<b>SECTION 5: DOCUMENTATION TO SUPPORT ELIGIBILITY CONSIDERATIONS UNDER OTHER FEDERAL LAWS .....</b>		<b>53</b>
5.1	Documentation Regarding Endangered Species.....	53
5.2	Documentation Regarding Historic Properties .....	53
5.3	Documentation Regarding NEPA Review.....	54
<b>SECTION 6: SWPPP CERTIFICATION .....</b>		<b>55</b>
6.1	Certification .....	55
6.2	Delegation of Signature Authority.....	55
<b>SECTION 7: SWPPP MODIFICATIONS .....</b>		<b>57</b>
7.1	Corrective Actions .....	57
7.2	Corrective Action Timeframes .....	58
7.3	Corrective Action Documentation .....	58
<b>SECTION 8: SWPPP APPENDICES .....</b>		<b>59</b>
Appendix A – MSGP .....		A-1
Appendix B – Notice of Intent Form and EPA Authorization.....		B-1
Appendix C – Confidential or Restricted Information .....		C-1
Appendix D – Additional MSGP Documentation .....		D-1

## **Abbreviations and Acronyms**

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ADACG	Arrival and Departure Airfield Control Group
AFB	Air Force Base
AST	Aboveground Storage Tank
BAAF	Butts Army Airfield
BAT	Best Available Technology
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practice
BOD5	Biochemical Oxygen Demand
BPT	Best Practicable Control Technology
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
CDPHE	Colorado Department of Public Health and Environment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COD	Chemical Oxygen Demand
CWA	Clean Water Act
DLADS	Defense Logistics Agency Disposition Services
DPW	Directorate of Public Works
ECAT	Environmental Compliance Assessment Team
EPA	Environmental Protection Agency
EPO	Environmental Protection Officer
GSE	Ground Supporting Equipment
ICP	Integrated Contingency Plan
ICRMP	Integrated Cultural Resources Management Plan

IRP	Installation Restoration Program
MgCl	Magnesium Chloride
MS4	Municipal Separate Storm Sewer System
MSGP	Multi-Sector General Permit
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
ODU	Open Detonation Unit
PCMS	Pinon Canyon Maneuver Site
POL	Petroleum, Oil, and Lubricant
RCRA	Resource Conservation and Recovery Act
SIC	Standard Industrial Classification
SOP	Standard Operating Procedure
SPCCP	Spill Prevention, Control, and Countermeasure Plan
SWPPP	Stormwater Pollution Prevention Plan
T&E	Threatened and Endangered Species
TM	Technical Manual
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
US	United States
USC	United States Code
WWTP	Waste Water Treatment Plant

## EXECUTIVE SUMMARY

This Stormwater Pollution Prevention Plan (SWPPP) serves as a compliance document for all of the Fort Carson managed industrial sites regulated under the 2015 United States (US) Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) Multi-Sector General Permit (MSGP) for Stormwater Discharges Associated with Industrial Activity, herein referred to as the Permit (Appendix A). This SWPPP includes the identification of the Stormwater Pollution Prevention Team, site descriptions, evaluations of potential pollutants, description of control measures, schedules and procedures, documentation to support eligibility considerations under other federal laws, and signatures and certifications as required by the Permit.

The primary industrial activity at Fort Carson is land transportation and warehousing (Sector P), though numerous collocated, auxiliary activities are present, including hazardous waste treatment facilities (Sector K), scrap recycling facilities (Sector N), a railroad transportation facility (Sector P), petroleum bulk stations and terminals (Sector P), an air transportation facility (Sector S), and a treatment works (Sector T). Two additional facilities, a land transportation and warehousing facility and an air transportation facility, are managed by Fort Carson, though they are physically located off-site of Fort Carson proper. These two sites are included in the Fort Carson NOI. In addition, Pinon Canyon Maneuver Site (PCMS) has land transportation and warehousing facilities, a bulk fuel facility, a railroad transportation facility and an air transportation facility. PCMS is covered under a separate NOI. This SWPPP includes descriptions and requirements for all these Fort Carson industrial facilities managed under the Permit.

Several facilities at Fort Carson qualify for and are covered under the no exposure exception to permit coverage. These facilities are also referenced in this SWPPP to provide background information, rationale, and documentation for the no exposure certification.

Confidential or restricted information regarding specifics of certain facilities are required by the Permit. This information has been omitted from the main body of this SWPPP and instead included in Appendix C to facilitate redaction when released for public viewing.

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## SECTION 1: FACILITY DESCRIPTION AND CONTACT INFORMATION

This SWPPP was prepared in accordance with good engineering practices and to industry standards. It was developed in part by various members of the Stormwater Pollution Prevention Team, as detailed below. The Permit is included with this SWPPP in Appendix A, and the NOI, authorization to use a paper NOI, and corresponding EPA authorization is included in Appendix B.

### 1.1 Facility Information

Facility information is separated into the following three sections based on the three geographical areas discussed in this SWPPP.

#### 1.1.1 Facility Information for Facilities at Fort Carson

Name of Facility: [United States Department of the Army, Fort Carson](#)

Street: [1626 Evans St., Building 1219](#)

City: [Fort Carson](#)

State: [CO](#)

ZIP Code: [80913](#)

County or Similar Subdivision: [El Paso](#)

NPDES ID (i.e., permit tracking number): [COR05F003](#)

Primary Industrial Activity SIC code, and Sector and Subsector:

- [Terminal and Joint Terminal Maintenance Facilities for Motor Freight Transportation, SIC 4231, Sector P1](#)

Co-located Industrial Activities SIC codes, Sectors and Subsectors:

- [Hazardous Waste Treatment, Storage, or Disposal Facility, Activity Code HZ, Sector K1;](#)
- [Scrap Recycling Facility, SIC 5093, Sector N1;](#)
- [Railroad Transportation, SIC 4013, Sector P1;](#)
- [Petroleum Bulk Stations and Terminals, SIC 5171, Sector P1;](#)
- [Air Transportation Facility, SIC 4512, 4522, and 4581, Sector S1; and](#)
- [Treatment Works, Activity Code TW, Sector T1.](#)

Latitude/Longitude Latitude:

Longitude:

Method for determining latitude/longitude:

Other: [ESRI Basemap, Arc GIS](#)

Horizontal Reference Datum:

WGS 84

Is the facility located in Indian country?

Yes

No

If yes, name of Reservation, or if not part of a Reservation, indicate "not applicable."

Not Applicable

Are you considered a "federal operator" of the facility?

**Federal Operator** – an entity that meets the definition of "operator" in this permit and is either any department, agency or instrumentality of the executive, legislative and judicial branches of the Federal government of the United States, or another entity, such as a private contractor, operating for any such department, agency, or instrumentality.

Yes  No

Estimated area of industrial activity at site exposed to stormwater: 1029.5 (acres)

### Discharge Information

Does this facility discharge stormwater into a municipal separate storm sewer system (MS4)?  Yes  No

If yes, name of MS4 operator: Fort Carson, CO

Name(s) of surface water(s) that receive stormwater from your facility:

B-Ditch, Clover Ditch, Infantry Creek, Rock Creek, and Young Hollow. These are all tributaries to Fountain Creek.

Does this facility discharge industrial stormwater directly into any segment of an "impaired water" (see definition in 2015 MSGP, Appendix A)?

Yes  No

If Yes, identify name of the impaired water(s) (and segment(s), if applicable):

All tributaries to Fountain Creek that are not on National Forest or Air Force Academy Land (COARF004).

Identify the pollutant(s) causing the impairment(s): E. coli (both locations)

Which of the identified pollutants may be present in industrial stormwater discharges from this facility?

E. coli is not expected to be present in industrial stormwater discharges from Fort Carson. Waste streams containing E. coli are treated at the waste water treatment plant and do not discharge to stormwater.

Has a Total Maximum Daily Load (TMDL) been completed for any of the identified pollutants? If yes, please list the TMDL pollutants: A TMDL is required, but is not completed at this time.

Does this facility discharge industrial stormwater into a receiving water designated as a Tier 2, Tier 2.5 or Tier 3 water (see definitions in 2015 MSGP, Appendix A)?  Yes  No

Are any of your stormwater discharges subject to effluent limitation guidelines (ELGs) (2015 MSGP Table 1-1)?  Yes  No

The primary industrial activity is not subject to effluent guidelines.

The auxiliary activities occurring at the two Sector K facilities do not qualify for effluent guidelines as neither facility is a hazardous waste landfill; see Section 1.5.4 of this SWPPP for details. The Sector S facility does not qualify for effluent guidelines; see Section 3.2.2 of this SWPPP for details.

### 1.1.2 Facility Information for Facilities near Colorado Springs Municipal Airport

Name of Facility: [United States Department of the Army, Fort Carson; Arrival and Departure Airfield Control Group and Space Command Motor Pool](#)

Street: [7330 Embraer Heights and 2515 Aviation Way](#)

City: [Colorado Springs](#)

State: [CO](#)

ZIP Code: [80916](#)

County or Similar Subdivision: [El Paso](#)

NPDES ID (i.e., permit tracking number): [COR05F003](#)

Primary Industrial Activity SIC code, and Sector and Subsector:

- [Terminal and Joint Terminal Maintenance Facilities for Motor Freight Transportation, SIC 4231, Sector P1](#)

Co-located Industrial Activities SIC codes, Sectors and Subsectors:

- [Air Transportation Facility, 4581, Sector S1.](#)

Latitude/Longitude

Latitude:

Longitude:

Method for determining latitude/longitude:

Other: [ESRI Basemap, Arc GIS](#)

Horizontal Reference Datum:

WGS 84

Is the facility located in Indian country?

Yes

No

If yes, name of Reservation, or if not part of a Reservation, indicate "not applicable."

[Not Applicable](#)

Are you considered a "federal operator" of the facility?

**Federal Operator** – an entity that meets the definition of "operator" in this permit and is either any department, agency or instrumentality of the executive, legislative and judicial branches of the Federal government of the United States, or another entity, such as a private contractor, operating for any such department, agency, or instrumentality.

Yes

No

Estimated area of industrial activity at site exposed to stormwater: [89.5 \(acres\)](#)

**Discharge Information**

Does this facility discharge stormwater into a municipal separate storm sewer system (MS4)?  Yes  No

If yes, name of MS4 operator: [Colorado Springs, CO](#)

Name(s) of surface water(s) that receive stormwater from your facility:

[Big Johnson Reservoir.](#)

Does this facility discharge industrial stormwater directly into any segment of an "impaired water" (see definition in 2015 MSGP, Appendix A)?

Yes                       No

If Yes, identify name of the impaired water(s) (and segment(s), if applicable):

All tributaries to Fountain Creek which are not within the boundaries of National Forest or Air Force Academy Lands, including all wetlands, lakes, and reservoirs, from a point immediately above the confluence with Monument Creek to the confluence with the Arkansas River (COARFO04L\_3500)

Identify the pollutant(s) causing the impairment(s): E. coli

Which of the identified pollutants may be present in industrial stormwater discharges from this facility?

E. coli is not expected to be present in industrial stormwater discharges from Fort Carson.  
Waste streams containing E. coli are treated at a waste water treatment plant and do not discharge to stormwater.

Has a Total Maximum Daily Load (TMDL) been completed for any of the identified pollutants? If yes, please list the TMDL pollutants: A TMDL is required, but is not completed at this time

Does this facility discharge industrial stormwater into a receiving water designated as a Tier 2, Tier 2.5 or Tier 3 water (see definitions in 2015 MSGP, Appendix A)?     Yes                       No

Are any of your stormwater discharges subject to effluent limitation guidelines (ELGs) (2015 MSGP Table 1-1)?                       Yes                       No

The Sector S facility does not qualify for effluent guidelines; see Section 3.2.2 of this SWPPP for details.

### 1.1.3 Facility Information for Facilities at Pinon Canyon

Name of Facility: United States Department of the Army, Fort Carson; Pinon Canyon Maneuver Site

Street: 36086 U.S. Highway 350

City: Model

State: CO

ZIP Code: 81059

County or Similar Subdivision: Las Animas

NPDES ID (i.e., permit tracking number):

COR05F002

Primary Industrial Activity SIC code, and Sector and Subsector:

- Terminal and Joint Terminal Maintenance Facilities for Motor Freight Transportation, SIC 4231, Sector P1

Co-located Industrial Activities SIC codes, Sectors and Subsectors:

- Air Transportation Facility, SIC 4581, Sector S1.

Latitude/Longitude

Latitude:

Longitude:

Method for determining latitude/longitude:

Other: ESRI Basemap, Arc GIS

**Horizontal Reference Datum:**

WGS 84

Is the facility located in Indian country?  Yes  No

If yes, name of Reservation, or if not part of a Reservation, indicate "not applicable."

[Not Applicable](#)

Are you considered a "federal operator" of the facility?

**Federal Operator** – an entity that meets the definition of "operator" in this permit and is either any department, agency or instrumentality of the executive, legislative and judicial branches of the Federal government of the United States, or another entity, such as a private contractor, operating for any such department, agency, or instrumentality.

Yes  No

Estimated area of industrial activity at site exposed to stormwater: [88 \(acres\)](#)

**Discharge Information**

Does this facility discharge stormwater into a municipal separate storm sewer system (MS4)?  Yes  No

Name(s) of surface water(s) that receive stormwater from your facility:

[Simpson Lake](#)

Does this facility discharge industrial stormwater directly into any segment of an "impaired water" (see definition in 2015 MSGP, Appendix A)?

Yes  No

Does this facility discharge industrial stormwater into a receiving water designated as a Tier 2, Tier 2.5 or Tier 3 water (see definitions in 2015 MSGP, Appendix A)?  Yes  No

Are any of your stormwater discharges subject to effluent limitation guidelines (ELGs) (2015 MSGP Table 1-1)?  Yes  No

If Yes, which guidelines apply?

[The Sector S facility does not qualify for effluent guidelines; see Section 3.2.2 of this SWPPP for details.](#)

## 1.2 *Contact Information/Responsible Parties*

### Facility Operator/Owner

Name: [United States Department of the Army](#)  
[Fort Carson](#)

Address: [1626 Evans St., Bldg 1219](#)

City, State, Zip Code: [Fort Carson, CO 80913](#)

Telephone Number: [719-526-1697](#)

Email address: [usarmy.carson.imcom-central.list.dpw-ed-storm-water@mail.mil](mailto:usarmy.carson.imcom-central.list.dpw-ed-storm-water@mail.mil)

Fax number: [719-526-6428](#)

### SWPPP Contact (Primary):

Name: [Fort Carson Stormwater Program Manager](#)

Telephone number: [719-526-1697](#)

Email address: [usarmy.carson.imcom-central.list.dpw-ed-storm-water@mail.mil](mailto:usarmy.carson.imcom-central.list.dpw-ed-storm-water@mail.mil)

Fax number: [719-526-6428](#)

### SWPPP Contact (Backup):

Name: [Fort Carson Compliance Branch Chief](#)

Telephone number: [719-526-1694](#)

Email address: [usarmy.carson.imcom-central.list.dpw-ed-storm-water@mail.mil](mailto:usarmy.carson.imcom-central.list.dpw-ed-storm-water@mail.mil)

Fax number: [719-526-6428](#)

### 1.3 Stormwater Pollution Prevention Team

Staff Titles	Individual Responsibilities
Stormwater Program Manager	<p>Program management and oversight; final reviewer and approver for SWPPP development, implementation, and modifications; reviewing sampling and inspection reports; water quality data interpretation; coordination with other team members and other departments.</p> <p>Stormwater Program Manager is the primary contact for the EPA, and has the delegated signature authority to sign inspection forms and discharge monitoring reports.</p>
Stormwater Technician	Facility inspections, visual sampling, coordination between other departments
Environmental Compliance Assessment Team (ECAT)	Facility inspections, coordination with motor pool facility managers.
Stormwater Team (various consultants)	Water quality sampling, program support
Arrival and Departure Airfield Control Group (ADACG) Environmental Coordinator	Point of contact for ADACG. Document and control petroleum, oil, and lubricants (POLs) stored and used at ADACG. Maintain and use the SWPPP to guide daily activities. Perform inspections and report any issues concerning environmental activities.
Bulk Refueling Facility Environmental Coordinator	Point of contact for Bulk Refueling Facilities. Document and control POLs stored and used. Maintain and use the SWPPP to guide daily activities. Perform inspections and report any issues concerning environmental activities.
Environmental Team Lead, PCMS	Point of contact for PCMS. Conduct facility inspections, quarterly visual sampling, and provide updated information for SWPPP.

All Stormwater Pollution Prevention Team members have access to the 2015 MSGP and this SWPPP.

## **1.4 Site Description**

Fort Carson is a federal facility that occupies approximately 220 square miles south of Colorado Springs, Colorado. Two additional properties owned and operated by Fort Carson have industrial activities covered by this SWPPP, including PCMS between Trinidad and La Junta, Colorado, and the Arrival Departure Airfield Control Group (ADACG) Facility and a motor pool near the Colorado Springs Municipal Airport. Fort Carson prepares forces for mission deployment, provides support to Soldiers and families, and coordinates with community, state, and interagency partners for the greater good of the Soldiers and their mission. Industrial activities occur at Fort Carson in support of this mission. There are nearly 60 motor pools at Fort Carson that specialize in maintaining, repairing, and housing various types of military vehicles or equipment as detailed later in this section. The various motor pools in addition to the other land transportation and warehousing activities utilize more personnel than other industrial activities at Fort Carson. Accordingly, the primary industrial activity at Fort Carson is Sector P, Land Transportation and Warehousing.

As an Army installation and a municipality, Fort Carson contains various types of activities that would not normally exist at a typical industrial site. Other industrial sectors that occur at Fort Carson include air transportation activities, scrap recycling, hazardous waste treatment and storage, and treatment works. Industrial stormwater discharges from these sites are also managed under this SWPPP as sector specific requirements have been incorporated where applicable. Details regarding specific permitted facility activities are discussed in Section 1.5 below.

Certain activities and facilities managed by Fort Carson that potentially qualify for MSGP coverage are not included under this Permit as described below.

Fort Carson maintained its own landfills (Sector L) for a period of time. This activity no longer occurs at the installation, and the landfills have either been remediated or closed and capped as appropriate. These final controls eliminate waste, product, or materials from exposure to stormwater. These areas are managed by the Installation Restoration Program (IRP) in accordance with State of Colorado regulations under the Resource Conservation and Recovery Act (RCRA). These facilities have been excluded from permit coverage under the no exposure exclusion.

The PCMS cantonment area has a waste water treatment facility/sewage disposal system. The design flow for this facility is 10,000 gallons per day; therefore this facility does not qualify for permit coverage under the MSGP.

## **1.5 Activities at the Facility**

The sector specific industrial activities covered under this SWPPP are discussed below. Building numbers are considered confidential and restricted information by the Army, and are not included in the public release version of this document. Appendix C contains restricted information required by the Permit, and may be redacted when necessary for distribution.

### **1.5.1 Sector P Facilities**

There are three general types of Sector P facilities managed by Fort Carson: motor pools, bulk fueling stations, and rail yards. All three of these facilities are located at Fort Carson and PCMS, and a motor pool

is located near the Colorado Springs Municipal Airport. The Sector P facilities at Fort Carson have been grouped based on proximity on the basis of substantially identical outfalls, as described in Section 4.6.2 of this SWPPP. These facilities are discussed below.

### **Motor Pools**

Motor Pools are used by each unit to store and manage their supplies, equipment, and vehicles. Industrial activities at the motor pools include vehicle and equipment maintenance; minor vehicle and equipment cleaning; vehicle and equipment fueling; loading and unloading of materials; material storage; fuel and POL storage; combat and non-combat vehicle parking; and onsite waste storage (municipal type, recyclable, and hazardous).

Vehicle maintenance is performed inside the bays within each facility, with a limited amount of maintenance performed in the vehicle parking area, usually on the washrack. The bays where maintenance activities are performed are equipped with drains that discharge either to the industrial treatment system or to an oil/water separator that leads to the sanitary sewer system. Wash racks located outdoors drain either directly to the industrial sewer system, or to an oil/water separator that discharges to the sanitary sewer system. Some motor pools may have dirt or gravel parking areas; however, vehicles in need of repair are generally stored indoors.

Most of the motor pool sites are used for tracked and conventional vehicle parking and “dry storage” in CONEXs, utilizing approximately 60–80 percent of the outdoor area. Storage of used oil and used antifreeze is generally located outdoors, while storage of product and material is located within the building facility or outdoors, under cover. Within most motor pools, fuel storage and dispensing activities occur outdoors. Each site will vary in activity and change in function as the military units deploy, redeploy, or relocate to a different facility. It is reasonable to conclude that the activities performed at each site within the Motor Pool, including the facility near the Colorado Springs Municipal Airport and PCMS motor pool, are consistent with one or more of the industrial activities discussed in this SWPPP.

### **Bulk Fueling Stations**

The four bulk fueling stations at Fort Carson are the Land Vehicle Fueling Facility, Bulk Fuel Facility off of Butts Rd., Hot Refuel Facility (at Butts Army Airfield [BAAF]), and Vehicle Fuel Facility off Specker. These are described below.

- The Land Vehicle Fueling Facility is used for the fueling of military vehicles and equipment and only military vehicles are authorized to refuel at this facility. The facility consists of one building, multiple fueling stations with a canopy, fuel storage tanks, and parking for military vehicles. The facility handles JP-8, diesel, and gasoline.
- The Bulk Fuel Facility consists of bulk fuel storage and distribution. Distribution is into military bulk fuel haulers and by pipeline to the Helicopter Refueling Facility. The facility maintains six aboveground fuel storage tanks, a tank truck loading area, fuel piping systems, an emergency generator, an electrical transformer, and an oil/water separator. The facility is an automated fueling facility with each authorized vehicle having an electronic key. The facility handles JAA, a kerosene-based turbine fuel for use in military tactical vehicles and aircraft.
- The Hot Refuel Facility is strictly for re-fueling of helicopters at the BAAF. The facility consists of one aboveground fuel storage tank, four pump manifolds, two filter/separators, four concrete

helicopter fueling pads and four helicopter fuel systems, a supply and return piping system to each fueling point, and an oil/water separator. Each of the four fueling systems is comprised of a meter, a flow control valve, and a stainless steel pantograph with hose and fuel nozzle. The facility handles JAA.

- The Vehicle Fuel Facility is a fleet vehicle fueling facility. The facility consists of three aboveground fuel storage tanks, a tank truck loading area, four vehicle fueling islands and five dispensers, fuel piping systems, an emergency generator, an electrical transformer, and an oil/water separator. The facility handles three products: E85, low sulfur diesel, and a JAA.

A bulk fueling facility is also located at PCMS. The facility consists of underground storage tanks, three aboveground storage tanks (ASTs), and dispensers. The facility handles diesel, gas, and JP-8. Stormwater from the facility discharges into a lined pond with an oil skimmer.

These facilities also have onsite waste storage (municipal type, recyclable, and hazardous). The bulk fueling stations are similar in function, activities, and potential pollutants, and accordingly have been grouped for the purpose of discussion in this SWPPP.

### **Rail Yard**

The Fort Carson rail yard is located on the north end of the Fort Carson Cantonment area and is used for the transportation, loading, and unloading of materials, equipment, and vehicles via freight trains. Locomotive maintenance occurs indoors and under cover at the locomotive maintenance building. Isolated locomotive sanding occurs north of the maintenance building on a concrete pad. Material storage at the rail yard may consist of equipment and vehicle storage on rail cars prior to unloading or transportation, limited outdoor storage of rails and rail spurs, and hazmat storage in covered sheds.

The PCMS railhead is utilized for transportation, loading, and unloading of materials, equipment, and vehicles via freight trains. Locomotive maintenance does not occur at the PCMS railhead.

### **1.5.2 Sector S Facilities**

The Sector S facilities managed under this SWPPP are located at three separate locations: the BAAF at Fort Carson, the ADACG facility near the Colorado Springs Airport, and the PCMS clamshell. These facilities are described below. The industrial activities associated with each facility are summarized in the corresponding tables. Building and facility numbers are included in Table 2 of Appendix C.

#### **Butts Army Airfield**

BAAF is an active airfield located south of the Fort Carson Cantonment area. The facility is primarily used for the operation, maintenance, and fueling of army helicopters. Various buildings and hangars at BAAF are utilized for helicopter maintenance, hot fueling, washing, and painting, as well as maintenance on ground support equipment (GSE) and vehicles, as described in Appendix C. Helicopter operations have the potential to occur site-wide.

Deicing operation of aircraft and runways does not occur at BAAF.

Facility Function	Potential Industrial Activities
Outdoor parking, loading, interim storage of helicopters and equipment	Helicopter parking/waiting/fueling/operation, loading/unloading, temporary equipment storage

Facility Function	Potential Industrial Activities
Indoor helicopter storage and maintenance	Helicopter maintenance, storage, loading and unloading, and equipment storage
Fueling Area	Fueling
Painting	Painting (indoor), loading/unloading, material storage

***Implementation Responsibility for Airport Authority and Tenants***

Tenants operate at BAAF include but are not limited to the Army Air National Guard and Army Reserves. Fort Carson assumes all MSGP related responsibilities at BAAF at this time, including inspection, monitoring, and best management practice (BMP) implementation. Tenants are not responsible for completing MSGP requirements, though they must comply with Fort Carson procedures as applicable.

**Arrival and Departure Airfield Control Group**

The ADACG consists of three buildings, an aircraft apron, and parking for personal vehicles, buses, and military vehicles. An outdoor area of the facility will be used for aircraft fueling, deicing, and loading; however, not all of these activities are conducted by the ADACG. Some fueling and loading may be conducted by Colorado Springs Municipal Airport, Peterson Air Force Base (AFB), or the Jet Center based on the equipment use. Deicing activities are conducted by the Colorado Springs Municipal Airport. Indoor activities not exposed to stormwater include repairs and maintenance of GSE, and equipment and machinery storage. GSE is required to be stored indoors or with proper control measures if stored outdoors. Associated potential pollutants are included in Section 3 of this SWPPP. The site will be used for deployments/redeployments associated with military action (examples are a terrorist or natural disaster event).

Activities at the ADACG are performed to support the rapid air deployment/redeployment of contingency task forces assigned to Fort Carson or supported by the installation. The facility will also be used to support training exercises and day-to-day operations, ensuring maximum readiness and real-time movement of personnel and equipment. Training activities will reflect real life activities; thus, they will not be described separately. Occasional indoor training, such as parachute packing classes, will be held outdoors when other facilities are not available.

Facility Function	Potential Industrial Activities
Outdoor parking, loading, and interim storage of planes and equipment	Aircraft parking/waiting/fueling, loading and deicing; cargo vehicle unloading; temporary equipment storage
Indoor storage, loading, and weighing of equipment and planes.	Loading and unloading of equipment, vehicles, and machinery (prepositioning). Other activities occur indoors and are not exposed to stormwater.
Indoor vehicle repair bay used for repairs of aerospace GSE. Wash area is present and drains to sanitary sewer.	Loading, unloading, and storage of GSE. Maintenance activities occur indoors and are not exposed to stormwater. Washing occurs over a wash rack area that drains to sanitary sewer system.

***Implementation Responsibilities for Airport Authority and Tenants***

The ADACG is a tenant to Colorado Springs Municipal Airport. This SWPPP has been coordinated with the Airport's comprehensive SWPPP. The ADACG and Fort Carson are responsible for implementing control measures related to their activities. Colorado Spring Municipal Airport is responsible for deicing operations

and, accordingly, MSGP requirements related to deicing, including monitoring and increased inspections occurring during deicing season. The ADACG Environmental Coordinator tracks the quantities of deicer applied by the Colorado Springs Municipal Airport used on aircraft associated with ADACG operations.

**PCMS Clamshell**

The clamshell facility at PCMS is primarily utilized for the operation, maintenance, and storage of helicopter GSE. Helicopter maintenance may also occur at the facility. Helicopter pads are located adjacent to the maintenance facility and helicopter operations have the potential to occur site-wide, though typically these are only used as temporary tie-down areas for training activities. Helicopter fueling may occur at the site during training activities. In this circumstance, fueling will be conducted with a mobile fuel tanker.

Deicing operation of aircraft and runways does not occur at PCMS.

***Implementation Responsibilities for Airport Authority and Tenants***

There are currently no tenants at the PCMS clamshell facility. In the event that tenants use the facility, Fort Carson will assume all MSGP related responsibilities, including inspection, monitoring, and BMP implementation unless otherwise noted in this SWPPP. Tenants will not be responsible for completing MSGP requirements, though they must comply with Fort Carson procedures as applicable.

**1.5.3 Sector N Facilities**

Three Sector N facilities are located at Fort Carson including the Defense Logistics Agency Disposition Services (DLADS), Recycle Center, and Ammunition Residue Yard. These facilities are described below. The industrial activities associated with each facility are summarized in the corresponding tables, and building numbers are included in Table 3 of Appendix C.

**Defense Logistics Agency Disposition Services**

The DLADS provides a location for collection and distribution of reusable and/or recyclable materials. Materials are collected from military facilities in several states, including Colorado, Texas, Arizona, New Mexico and Wyoming. Some materials are utilized intact, while others are taken apart to use individual components. Certain items are selected for public auction if it is probable that they will be sold. Reusable materials include computer equipment, vehicles and vehicle parts, furniture, air conditioning units, scrap metal, textiles and miscellaneous electronic equipment.

Fort Carson Landfill 4 is located underneath the DLADS paved parking lot and a portion of some DLADS buildings. The remedy on this landfill is complete, and the completion report has been accepted by the Colorado Department of Public Health and Environment (CDPHE). Landfill 4 does not influence the day-to-day activities at the DLADS.

There are no liquids or hazardous materials stored on site for reclamation. There is currently one diesel fuel AST located on the southeast side of the property. Secondary industrial activities would include the use of forklifts and trams for moving pallets of reusable materials.

Facility Function	Potential Industrial Activities
Fuel and vehicle storage, vehicle fueling	Diesel fuel storage in concrete, double-walled AST and vehicle storage. Minor maintenance

Facility Function	Potential Industrial Activities
Outdoor storage	Outdoor storage of scrap metal, furniture, air conditioners, canvas tents, munitions shells (on pallets or in roll-offs)
Administrative office	First stage of property storage, and computer storage; temporary outside storage of property and storage of heavy equipment (e.g., fork lifts); flammable locker.
Storage buildings for various types of equipment and materials.	Potential outdoor storage and loading/unloading of equipment and materials. Exact items may change over time; however, examples may include the following: computers, monitors, electronics, office equipment tools, x-ray film, textiles, auto parts, tools, clothing books, DVDs, body armor, helmets, etc.

### Recycle Center

The current Recycle Center consists of administrative and storage buildings as well as a storage yard. The facility is operated by the Directorate of Public Works (DPW) and accepts streams of recyclable material. Materials are stored at the center until they are either reused or transported off-site to be recycled.

The function of the facility is outdoor storage for recyclable materials (wood, pallets, plastics, glass, aluminum, brass, metal, tires), and vehicles. Associated potential activities include infrequent vehicle and equipment maintenance and outdoor recyclable material storage.

The Recycle Center facility may move locations within Fort Carson in 2015 or beyond. While site specifics may change, the function and facility layout will remain the same. Both locations are addressed in this SWPPP until the current facility is taken out of service. Site specifics of the new location will be added to this SWPPP when appropriate.

### Ammunition Residue Yard

Ammunition Residue Yard receives and recycles all ammunition residue collected by Fort Carson units. Activities consist of removal of dirt from expended munitions, storage of expended munitions and other ammunition residue, and eventual release of the materials to other Fort Carson programs. Ammunition residue includes spent cartridges, spent shell casings, spent flares, primers, bazookas, rocket tubes, metal ammunition boxes, wooden ammunition crates, ammunition storage pallets, cartridge clips, and shell containers.

The function of the facility is indoor and outdoor storage for ammunition residue as well as equipment and vehicles used for transportation of residue. Associated potential activities include storage of ammunition residue, vehicle and equipment fueling, and infrequent vehicle and equipment maintenance.

### 1.5.4 Sector K Facilities

Two Sector K facilities are located at Fort Carson, Range 121 ODU, and the Hazardous Waste Storage Facility.

## **Range 121 Open Detonation Unit**

Range 121 ODU is located in the down-range portion of Fort Carson approximately 13 miles south of the Cantonment Area. The range is used by Department of Defense and other authorities to detonate unexploded ordnances. Detonations take place within the area bounded by the loop at the end of the entrance road in pits created by previous detonations. According to the Fort Carson Hazardous Waste Permit (CO-06-09-29-01), the facility is used for treating reactive hazardous waste by open detonation. The reactive wastes treated are limited to those that have the potential to detonate or to have an explosive reaction or decomposition. As such, this facility is considered a hazardous waste treatment facility, and not a hazardous waste landfill. Routine groundwater monitoring associated with the Hazardous Waste permit is conducted at the site. The munitions and various activities at the site have the potential to leave behind hazardous explosive residue; therefore, the site is considered a RCRA-permitted reactive hazardous waste treatment facility under this SWPPP.

## **Hazardous Waste Storage Facility**

The Hazardous Waste Storage Facility is located south of the Fort Carson cantonment area. According to the Fort Carson Hazardous Waste Permit (CO-06-09-29-01), the facility is permitted for storage of hazardous waste such as ignitable, corrosive, reactive, and metal-containing wastes, and spent solvents. Hazardous wastes generated at Fort Carson are sent to this centralized facility and stored until shipment to a final disposal destination off-post. Wastes are typically stored at the facility no longer than 90 days. The wastes are stored within sealed drums and under cover or indoors.

Industrial activities associated with this facility include loading and unloading hazardous waste drums to and from the facility, and the use of vehicles and equipment for this process. Several ASTs are located at the facility, including diesel (2), gasoline, used oil (2), liquid propane (3), JP 8, and used antifreeze, as shown on the site map. There is also an uncovered roll-off of contaminated soil.

### **1.5.5 Sector T Facility**

The waste water treatment plant (WWTP) at Fort Carson is located on the southeast side of the cantonment area. The design flow for the WWTP is 4 million gallons per day, and waste water discharges are permitted under a separate NPDES permit. The WWTP consists of the pretreatment facility and the primary treatment facility. The pretreatment consists of two large ponds with a 10.5 acre-feet (ac-ft) storage capacity each, and two small ponds with a 5.9 ac-ft storage capacity each. The primary facility consists of the following treatment process: (in order of treatment) a head works with rough screening and grit/grease removal, an aerated equalization basin, an oxidation ditch, secondary clarifiers, sand filters, ultraviolet disinfection, and discharge to Clover Ditch or pumping to the golf course pond for reclaimed water use via irrigation. Solids generated during the process are taken off the secondary clarifiers and go through aerobic digestion and a belt filter press, and are then stacked on concrete sludge drying beds before they are hauled off-site for composting. The treatment process is either located under cover indoors, or is contained in an internal system that does not discharge to stormwater.

Industrial activities associated with the facility include the previously discussed treatment process, the loading and unloading of materials and chemicals for the treatment process, the storage of treatment products/chemicals (which occurs indoors), and the use of vehicles and equipment at the plant for routine operations. There are 2 diesel and 2 used oil ASTs on site.

### **1.6 General Location Map**

A general location map of Fort Carson is included as Figure 1, and the general location map of PCMS is Figure 2 (Appendix C).

### **1.7 Site Map**

Site maps of the industrial areas at Fort Carson are included as Figures 3-78, and the site maps of the industrial areas at PCMS are included as Figures 79-83 (Appendix C).

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## SECTION 2: POTENTIAL POLLUTANT SOURCES

### 2.1 Potential Pollutants Associated with Industrial Activity

The industrial activities and associated pollutants are fairly consistent throughout the Fort Carson industrial sites even though the specific activities are different. The industrial activities and associated pollutants that are common to most industrial sites are listed in the table below. These activities and pollutants may not be present at all sites, but are representative of the majority of sites at Fort Carson.

Industrial Activity	Associated Pollutants
Parts and equipment storage	Benzene, toluene; ethylbenzene; and xylene (BTEX); hydrocarbons; ethylene glycol; heavy metals; antifreeze; brake fluid; hydraulic oil; battery acid
Vehicle and equipment fueling and fuel storage (including fuel tanks and mobile fuel tankers)	Diesel, gasoline, other types of fuels, hydrocarbons
Prepositioning of vehicles	POLs (leaks)
POL storage	BTEX, hydrocarbons, ethylene glycol
Scrap metal storage	Heavy metals
Onsite municipal waste storage (roll-offs) including municipal recyclables	Household products (cleaning liquids, etc.), floatables, potential residue from materials originally stored in the plastic or glass
Onsite hazardous waste storage, initial accumulation point	BTEX, hydrocarbons, ethylene glycol. Note: These locations are generally kept under cover and are not exposed to stormwater
Scrap wood/wood chips/pallet storage	Paint/stain/finishing products, floatables
Used antifreeze storage	Ethylene glycol
Flammable storage	Paint waste, hazardous materials and wastes, toluene, liquid propane
Used oil storage	Hydrocarbons, heavy metals
Solvent storage	Simple Green® household solvent, OzzyJuice® SW-3 truck degreaser, OzzyJuice® SW-8 aircraft and weapons degreaser. Brand names of these specific products may change over time, and similar products may be used
Tire storage	BTEX, hydrocarbons, ethylene glycol, heavy metals, antifreeze, brake fluid, hydraulic oil
Vehicle and equipment activity, storage, parking for those awaiting maintenance, and maintenance	BTEX, hydrocarbons, ethylene glycol, heavy metals, antifreeze, brake fluid, hydraulic oil
Wash racks	BTEX, hydrocarbons, sediment, heavy metals, antifreeze, brake fluid, hydraulic oil. Note: Wash racks discharge to industrial sewer system and do not pose a risk to stormwater.
Shop floor drains	BTEX, hydrocarbons, antifreeze, ethylene glycol, heavy metals, brake fluid, hydraulic oil, solvent (see above) Note: Floor drains in shops are connected to the industrial sewer system and do not pose a risk for contributing pollutants to the stormwater system

Certain facilities have unique activities and corresponding potential pollutants based on the facility function. These unique facility pollutants are shown below:

<b>Facility</b>	<b>Industrial Activity</b>	<b>Associated Pollutants</b>
Motor Pool Facility (See Appendix C)	Road deicer storage	Magnesium chloride, salts
Rail yard	Locomotive sanding	Sediment
Bulk fueling stations	Fuel storage	BTEX, other hydrocarbons
Recycle Center	Recyclable metals storage	Metals including but not limited to aluminum, brass, ferrous metals
Ammunition Residue Yard	Ammunition residue recycling	Ammunition residue and metals
DLADS	Recycle/reissue material storage	Miscellaneous non-hazardous materials, floatables, metals
Range 121 ODU	Munitions training	Explosives and metals
Hazardous Waste Storage Facility	Hazardous waste loading and unloading, and storage (indoors)	Ignitable, corrosive, reactive, and metal containing wastes; spent solvents; contaminated soil
BAAF, ADAGC, PCMS Clamshell	Aircraft storage, maintenance, cleaning, and fueling	BTEX, other hydrocarbons, Jet-A, Jet-A with Prist, soap
BAAF, ADAGC, PCMS Clamshell	Jet fuel storage	BTEX, other hydrocarbons
BAAF, ADAGC	Aircraft painting	Paint waste, volatile organic compounds
ADAGC	Aircraft deicing (administered by Colorado Springs Municipal Airport)	Propylene glycol magnesium chloride
ADAGC	Aircraft loading	POLs (leaks), Floatables, Palletized Class 4 Small Arms
WWTP	Waste water treatment process; product/chemical loading, unloading, and storage	Grit, grease, sludge, bio solids, various treatment chemicals (stored indoors)

## 2.2 Spills and Leaks

The potential for spills and leaks exists at all outdoor industrial areas at the Fort Carson covered facilities. The areas with the greatest likelihood for spills and leaks are those that involve the transfer of liquids or the use of equipment/vehicles, and may include fueling areas, storage areas, or loading and unloading areas amongst others.

The corresponding outfalls that have the potential to be affected by spills and leaks are included in the outfall table listed in Appendix C of this SWPPP.

Significant spills and leaks as defined by the Permit include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under Clean Water Act (CWA) Section 311 (see 40 Code of Federal Regulations [CFR] 110.6 and 40 CFR 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 United States Code (USC) §9602. The permit does not relieve the reporting requirements of 40 CFR 110, 40 CFR 117, and 40 CFR 302 relating to spills or other releases of oils or hazardous substances.

The Fort Carson SPCC Program considers a spill significant if it is 5 gallons or greater, or reaches a waterway, unless a specific reportable quantity (referenced above) is less than 5 gallons. The significant spills that have occurred in the past three years are listed in Table 5 in Appendix C. These are also documented in the spill database on the internal sharepoint site and are annotated on site maps (Appendix C). The Fort Carson SPCC Program also separately maintains a spill map that tracks spill location, time, material, and quantity. This additional information is available upon request.

### **2.3 *Unauthorized Non-Stormwater Discharges Documentation***

Non-stormwater discharges are those that do not originate from storm events. The Permit authorizes several non-stormwater discharges as described below. Non-stormwater discharges not authorized by the Permit or covered under a separate NPDES Permit must either be eliminated or covered under another NPDES Permit.

Authorized non-stormwater discharges include the following:

- Discharges from emergency/unplanned fire-fighting activities;
- Fire hydrant flushing;
- Potable water, including water line flushings;
- Uncontaminated condensate from air conditioners, coolers/chillers, and other compressors and from the outside storage of refrigerated gases or liquids;
- Irrigation drainage;
- Landscape watering provided all pesticides, herbicides, and fertilizers have been applied in accordance with the approved labeling;
- Pavement wash waters where no detergents or hazardous cleaning products are used (e.g., bleach, hydrofluoric acid, muriatic acid, sodium hydroxide, nonylphenols), and the wash waters do not come into contact with oil and grease deposits, sources of pollutants associated with industrial activities, or any other toxic or hazardous materials, unless residues are first cleaned up using dry clean-up methods and appropriate control measures have been implemented to minimize discharges of mobilized solids and other pollutants;
- Routine external building wash-down/power wash water that does not use detergents or hazardous cleaning products (e.g., those containing bleach, hydrofluoric acid, muriatic acid, sodium hydroxide, nonylphenols);
- Uncontaminated ground water or spring water;
- Foundation or footing drains where flows are not contaminated with process materials; and
- Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but not intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown; drains).

Potential sources of non-stormwater discharges vary by site activities, but could include wash waters (used with detergents and/or those in contact with oil and grease deposits), illicit sewer or process water connections, and illicit floor drain connections.

Non-stormwater discharge evaluations were initially conducted during the previous permit term from 2008–2013 by various members of the Stormwater Pollution Prevention Team. Evaluation criteria used for this process included a physical inspection of each site, a desktop review of the storm sewer infrastructure, and interviews with site personnel. Corrective actions were not required as a result of the initial evaluation.

More recent evaluations have been conducted through the annual illicit discharge survey required by the MS4 Permit, the stormwater infrastructure survey, and the oil/water separator survey.

The illicit discharge survey involves a desktop review of the storm sewer infrastructure, and a physical investigation of the primary receiving waters (e.g., B Ditch, Clover Ditch, Infantry Creek, etc.) and culverts, outfalls, or other hydrologic inputs for signs of illicit discharge. This survey occurs annually, but was most recently completed 3 September – 17 September 2014.

The stormwater infrastructure survey was conducted 21 April – 1 May 2015. This survey evaluated the stormwater system infrastructure to identify problem areas, and in doing so helped evaluate for illicit connections to the system.

The oil/water separator survey was most recently conducted 27 April – 5 May 2015. This survey involved an evaluation of the Fort Carson oil/water separators for connections to the storm sewer, and an inspection for maintenance requirements and proper function.

Ongoing evaluations are performed during routine site inspections (which may occur monthly, quarterly, semi-annually, or annually depending on the site) and undocumented daily inspections conducted primarily by the ECAT team (and other Stormwater Pollution Prevention Team members as appropriate). These evaluations include physical inspections of the site and interviews with site personnel.

Records and findings of the various evaluations are maintained in the stormwater program's tracker spreadsheet that is kept on the internal sharepoint, and can be provided upon request. Observed non-stormwater discharges would typically be fixed via work order or service order depending on the severity of the situation.

## **2.4 Salt Storage**

Fort Carson stores sand mixed with magnesium chloride in piles at the Base Operations Motor Pool, identified in Appendix C. Salt is not stored at PCMS nor ADACG. The Colorado Springs Municipal Airport manages aircraft and runway deicer near the ADACG.

## **2.5 Sampling Data Summary**

Sampling data collected during the previous permit term include those collected under the previous MSGP coverage, as well as data collected under the MS4 Permit. Sampling parameters were based on the effective permits at the time and may not necessarily reflect the most current sampling parameters. Sample results were reviewed and considered in the development of this SWPPP and the selection of control measures.

Previous sampling results indicated elevated metal concentrations and total suspended solids (TSS) at Sector N facilities. Projects are in development to address these elevated results. Where practicable, metal storage has been moved indoors, and the feasibility of paving the areas is being evaluated to address TSS levels. Projects are subject to availability of funds.

The Sector K facility typically does not discharge due to the runoff management BMPs; however, a sample was collected in 2015 due to large rainfall events. TSS, magnesium, and selenium were the only constituents found to be in exceedance of water quality or effluent limit guidelines. Selenium at this site is attributed to natural sources, as found throughout the installation. The BMPs in place at the site are expected to control these constituents under normal circumstances; however, sources will be continually evaluated to ensure limits are met. Due to the nature of the activities at the site, selection of control measures will be limited.

MS4 sampling conducted above and below the installation show exceedances only in E. coli and selenium. Both are attributed to natural sources.

Previous sampling data are available upon request.

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## **SECTION 3: STORMWATER CONTROL MEASURES**

Stormwater control measures are implemented to minimize pollutant discharges in stormwater. The selection, design, installation, and implementation of these control measures are in accordance with good engineering practices and manufacturer's specifications. The four types of control measures required by the Permit are discussed in this section.

### **3.1 *Non-numeric Technology-based Effluent Limits***

The following sections describe the non-numeric, technology-based effluent limits that are best practicable control technology currently available (BPT), best available technology economically achievable (BAT), and best conventional pollutant control technology (BCT). The following control measures represent Fort Carson's general approach to addressing the effluent limits. These measures are implemented at most sites unless infeasible or other site specific control measures are utilized. Sector specific effluent limits are discussed in Section 3.2.

#### **3.1.1 Minimize Exposure**

Fort Carson utilizes controls to minimize the exposure of industrial areas to rain, snow, snowmelt, and runoff to minimize pollutant discharges, and to prevent stormwater from coming into contact with polluting materials. Industrial activities are conducted indoors or under storm resistant shelter whenever feasible. The following steps are also taken whenever feasible to further minimize exposure:

- Use grading, berming, or curbing to prevent runoff of contaminated flows and divert run-on away from these areas, particularly at fueling areas;
- Perform vehicle and equipment maintenance inside maintenance bays or outdoor washrack areas so that potential leaks and spills are contained;
- Cover materials stored outdoors in locations where spills and leaks are able to be contained or diverted prior to discharge;
- Place spill kits throughout industrial sites to clean up spills and leaks promptly;
- Place drip pans under vehicles parked outside;
- Store materials and equipment indoors so that potential leaks and spills are contained;
- Use spill/overflow protection equipment and methods when applicable;
- Wash vehicles and equipment only in approved washracks or inside maintenance bays where a connection to the industrial sewer is located;
- Drain fluids from equipment and vehicles that will be decommissioned, and for any equipment and vehicles that will remain unused for extended periods of time

#### **3.1.2 Good Housekeeping**

At each site, a member of the Stormwater Pollution Prevention Team will ensure that personnel are made aware of the proper disposal of waste material, will identify and correct environmental concerns, and will check the site for unsafe conditions. Good housekeeping controls prevent stormwater from coming into

contact with polluting materials, and reduce the burden of other measures that are also used to control pollutants. The following good housekeeping practices will be implemented where applicable:

- Perform routine site cleanup including the pick up/sweeping of trash, debris, and sediment sitewide, minimizing the potential for such material to be discharged;
- Follow established procedures for material storage (e.g., waste materials in proper locations, tools and parts indoors/under cover when not in use, unused materials indoors or under cover);
- Keep all dumpster lids closed when not in use. For dumpsters and roll off boxes that do not have lids and could leak, ensure that discharges have a control (e.g., secondary containment, treatment). Consistent with Part 1.1.3 of the Permit, dry weather discharges from dumpsters or roll off boxes are not authorized discharges;
- Ensure that washwater containing detergents or hazardous chemicals does not discharge to the storm sewer system

Schedules relating to good housekeeping measures are included in Section 4 of this SWPPP.

### **3.1.3 Maintenance**

Routine maintenance is performed on vehicles, equipment, and components of the stormwater system (e.g., oil/water separators, fueling stations, etc.) to ensure personnel are able to conduct daily activities that support the Fort Carson mission. Maintenance on these items, stormwater control measures, equipment and systems prevents stormwater from contacting pollutants, reduces the burden on structural control measures, and prevents a major source of potential pollution.

The following maintenance practices will be implemented where applicable:

- Conduct daily and weekly inspections of vehicles stored at the sites for leaking vehicles, and clean spills and leaks immediately upon discovery;
- Inspect and maintain oil/water separators regularly to ensure proper function and drainage to industrial storm sewer;
- Conduct inspections, testing, repairs, and maintenance on all fueling equipment as required by the Spill Prevention, Control and Countermeasure Plan (SPCCP), as detailed in the next section of this SWPPP;
- Annually perform MS4 drainage surveys to inspect stormwater infrastructure, and perform maintenance as needed;
- Maintain spill kits on necessary sites, and ensure staff/personnel are trained in their use;
- Inspect and maintain permitted bag houses at least quarterly to prevent the escape of dust from the system and immediately remove any accumulated dust at the base of the exterior bag house. Permit exempt bag houses will be inspected and maintained as needed;
- Clean catch basins when the depth of debris reaches two-thirds of the sump depth and keep debris surface at least six inches below the lowest outlet pipe.

In addition, military personnel are required to adhere to technical manuals (TMs) for industrial equipment spill avoidance, site control maintenance activities, and maintenance schedules.

Control measures in need of routine maintenance must be addressed immediately to minimize pollutant discharges. A control measure requiring repair or replacement must follow all reasonable steps to prevent or minimize the discharge of pollutants until the final repair or replacement is implemented, including cleaning up any contaminated surface so that the material will not be discharged during subsequent storm events. Final repairs/replacement should be completed as soon as feasible, but not later than the timeline established by the Permit (14 days, or if that is infeasible, within 45 days) and included in Section 7 of this SWPPP. Maintenance and corrective actions to control measures are documented by the Stormwater Program in the program's tracker spreadsheet that is kept on the internal sharepoint. Schedules relating to maintenance activities are included in Section 4 of this SWPPP.

### **3.1.4 Spill Prevention and Response**

Spill prevention and response measures at Fort Carson and PCMS are directed by the Fort Carson SPCCP and the Pinon Canyon SPCCP respectively. These reports are available for regulatory review from the Environmental Compliance Branch at Fort Carson upon request. Controls implemented through the SPCCPs address one of the more significant sources of potential pollutants (spills and leaks), and prevent stormwater from coming into contact with such materials. Spill prevention and response control measures required by the Permit are addressed by the SPCCP, including the following:

- Plainly label containers that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur;
- Implement procedures for material storage and handling, including the use of secondary containment and barriers between material storage and traffic areas, or a similarly effective means designed to prevent the discharge of pollutants from these areas;
- Train applicable facility personnel on the procedures for expeditiously stopping, containing, and cleaning up leaks and spills;
- Keep spill kits on-site, located near areas where spills may occur or where a rapid response can be made; and
- Notify appropriate facility personnel when a leak, spill, or other release occurs.

In addition to MSGP and SPCCP reporting requirements, spills and leaks will be reported to other applicable agencies, including the CDPHE and the Colorado Office of Public Safety. The SPCCPs are kept onsite and available for review consistent with Permit requirements found in Part 5.4.

Spill prevention and response procedures at the ADACG are a combination of controls implemented through the Peterson AFB Integrated Contingency Plan (ICP) and the Fort Carson spill response procedures training. The ICP is similar to an SPCCP in that it contains procedures to prevent and respond to spills. These procedures at the ADACG address the spill prevention and response control measures required by the Permit previously discussed in this section.

### **3.1.5 Erosion and Sediment Controls**

Many of the industrial sites at Fort Carson are paved or covered with a permanent type of ground cover, and are on flat surfaces. For example, most of the motor pools are paved and very flat with the exception of the areas between pavement and the fence. These unpaved areas are typically covered with 2–3 inch

diameter gravel. Erosion and sedimentation is generally not an issue because of this. Other industrial sites have the following land cover as it relates to erosion potential:

- Bulk fueling stations are paved. They have a feature for stormwater collection and detainment. Stormwater is not discharged until it is verified that there is no sheen or other signs of pollution. Releases are controlled by a valve. Outfalls for these areas have riprap or other erosion control protection.
- Rail yard land cover consists of railroad ballasts and pea gravel. This area is flat to accommodate the rail facility and is a minimal risk for erosion.
- BAAF facility land cover is mostly paved. Exceptions include the personal vehicle parking areas and locations around the Hot Fueling Area. The parking areas include loose gravel that helps to minimize erosion. Gravel areas are surrounded by native vegetation, which acts as a filter prior to stormwater discharge to the drainage ways.
- ADACG facility land cover consists of a paved parking lot, aircraft aprons, landscaped grounds, and native grass areas. Erosion is controlled at this site by seeding where necessary to establish permanent vegetation. Site inspections monitor for erosion from any unpaved portions of the facility as well as facility outfalls, and any observed deficiencies are corrected through the base maintenance contract or DPW work order.
- DLADS land cover consists of asphalt, concrete, or gravel. In the gravel areas, grades are gradual and the gravel surface of the site is enough to prevent substantial erosion leading to rills. This gravel surface also limits the amount of sediment that is removed during sheet flow at the site.
- The current Recycle Center and Ammunition Residue Yard land cover consists of gravel surface atop gradual grades. The surface prevents substantial erosion leading to rills and limits the amount of sediment removed during sheet flow due to the gradual grades. The proposed new Recycle Center is paved.
- Range 121 ODU is required to maintain a 200 foot buffer of cleared vegetation to prevent fires. Erosion issues were addressed near Young Hollow as part of the Range 121 ODU Erosion Control Plan. This included slope stabilization and berm construction. This plan also addressed stabilization of areas that will no longer be used for detonation. Controls included covering eroded areas with compacted fill soil materials followed by planting a native seed mix and applying an erosion control fabric. Berms to minimize run-on (and accordingly any potential erosion) were constructed as discussed in Section 3.1. Low-lying vegetation will be maintained parallel to Young Hollow to act as a sediment stop for sediment that has detached from detonation areas.
- The Hazardous Waste Storage Facility land cover consists of dirt access roads and vegetated surfaces. The land slope throughout the facility is very flat, and erosion is typically not an issue at the site.
- The WWTP land cover consists of paved areas, dirt roads, and vegetated areas. The land slope throughout the facility is very flat, and erosion is typically not an issue at the site. A tributary to Clover Ditch bisects the site and is a potential location for erosion. This drainage will be inspected regularly to ensure erosion does not occur.

Any future construction activities that are performed at an industrial facility that require a Stormwater NPDES permit will be performed under a separate NOI and General Permit for each construction activity,

where applicable. All military construction and contracted construction activities will include BMPs for erosion control, including sediment barriers, grading controls, and measures to prevent vehicle tracking of sediment.

Polymers and/or other chemical treatments are not used for controlling erosion or sediment.

### **3.1.6 Management of Runoff**

Runoff management is somewhat unique to the various industrial sites. When utilized, runoff management techniques achieve the Permit design considerations relating to reducing runoff, attenuating flows, and treatment interceptors. Runoff management techniques are discussed below if utilized at an industrial facility:

- Runoff at most motor pools sheet flows along the paved areas and collects in either v-channels or gutters. The flow is then diverted to the storm sewer system through curb drains or drop structures. Stormwater runoff in most instances is not allowed to infiltrate, be contained in basins, or be reused due to the unique military operations and the minimal open space of the motor pool facilities. Select buildings that have been constructed recently contain stormwater catch basins. These basins contain stormwater drainage from locations where fueling activities are undertaken. The basins have manual valves that are used to ensure stormwater is free of contamination prior to discharging. These valves also provide additional protection in the event of a fueling spill. Valves remain in the closed position unless runoff has been evaluated to be free of contaminants, at which point the water is allowed to discharge. Buildings that have the stormwater cutoff valves are indicated in Table 1 of Appendix C.
- Runoff at the PCMS Motor Pool, Railhead, and clamshell sheet flows along the gravel areas, and discharges to the northeast corner of the site. Runoff from the PCMS bulk fueling stations flow into a self contained, lined pond with an oil skimmer.
- Runoff at the bulk fueling stations is routed through a catchment or detention basin that allows for inspection of detained runoff for pollutants prior to discharge through stabilized outlets to prevent erosion or scouring.
- Runoff at BAAF sheet flows along the paved or graveled areas and collects in either the storm system or the drainage channel. Vegetated buffers surround some of the gravel areas on site. Water in the storm system eventually outfalls to the drainage channel. The runoff is generally not allowed to infiltrate, as most aboveground BMPs are not feasible within the active areas of the BAAF due to the potential to impact facility operations. New facilities at the airfield are installing underground detention basins for infiltration to remedy this unique situation and allow for compliance with other federal requirements.
- Runoff at the ADACG facility occurs primarily in a southwesterly direction. All runoff eventually leads in the direction of the site outfall and is funneled through several stormwater drains leading to the culvert that is south of the building/parking areas and west of the apron. If fueling is done by the Jet Center personnel on the ADACG ramp, a catch basin valve is closed as a spill prevention measure. Once fueling is complete, this valve is re-opened to allow for normal stormwater drainage.
- Runoff at DLADS is routed off of the paved areas in v-channels. Drainage from the west and south drains directly into B-Ditch. Drainage on the north and east flows to a manmade ditch that

discharges to B-Ditch. Structural BMPs present at the DLADS are limited to straw wattles placed at storm drain inlets and outfalls. The use of detention and retention structures is not feasible due to the land requirements and the small drainage area per outfall at the site. Moreover, the small drainage area per outfall also makes BMPs such as flow attenuation structures and infiltration systems economically infeasible as the marginal water quality benefit would not offset the cost of a single device. The small drainage area per outfall results in low velocity discharges from the site that does not justify flow dissipaters.

- Runoff at the current Recycle Center sheet flows northeast into an engineered infiltration trench that treats water quality and promotes infiltration. The infiltration trench outlets at a drainage swale that ultimately drains to B Ditch. Runoff at the proposed Recycle Center sheet flows northeast to a concrete swale that runs through an adjacent paved parking lot area. This swale discharges to an outfall with rip rap that ultimately flows to B Ditch. Straw wattles are planned for the outfall as an interim control measure until the site can be fully evaluated and monitoring results considered for potential BMP application.
- Runoff at the Ammunition Residue Yard sheet flows to manmade ditches surrounding the site. The use of detention or retention structures or any centralized BMP is not feasible due to the drainage characteristics (dispersed sheet flow) and the routine vehicular traffic of the site. Vegetation surrounding the dirt road along the perimeter of the facility promotes the settling of sediment before runoff reaches nearby drainages.
- Stormwater run-on from areas up gradient of Range 121 ODU is diverted away from the area by a soil berm. Stormwater runoff from the area is captured in a non-engineered trench that infiltrates and evaporates collected stormwater. Runoff from the detonation area does not discharge to receiving waters.
- Land slopes at the Hazardous Waste Storage Facility are very flat, as previously discussed. Runoff does not concentrate on-site, and would sheet flow generally to the north and east during a large rainfall event. Stormwater from small to medium rainfall events typically infiltrates on-site.
- Stormwater that contacts the industrial process areas of the WWTP (such as processed water, sludge tanks, sludge drying beds, and the pre-treatment ponds) does not discharge to stormwater as these areas are "closed loop" systems that drain to the treatment system. Other areas of the facility such as loading/unloading areas and equipment parking are surrounded by vegetation that buffers stormwater runoff prior to discharging into stormwater.

### **3.1.7 Salt Storage Piles or Piles Containing Salt**

The sand with magnesium chloride pile is only stored at the Base Operations Motor Pool, which is identified in Table 1 of Appendix C. Sand storage is enclosed by sand bag berms and covered with a tarp to prevent runoff. The sand bags are monitored as part of operations and are replaced routinely as needed. Loading and unloading sand material is monitored by site personnel, and excess material is swept up as necessary to prevent offsite tracking.

Salt is not stored at PCMS nor ADACG. The Colorado Springs Municipal Airport manages aircraft and runway deicer near the ADACG.

### 3.1.8 Dust Generation and Vehicle Tracking of Industrial Materials

A majority of the industrial areas are paved as previously described in the Management of Runoff section (Section 3.1.6). Dust suppression is generally not necessary because of this. Similarly, industrial materials are not produced at any of the Fort Carson sites, so tracking of such materials is not a potential pollution source.

General exceptions to the paved areas at industrial sites that have the potential to generate dust include unpaved personal vehicle parking areas, temporary storage areas, or dirt road/tank trails associated with the facility. Specific locations that have potential for dust generation are discussed below:

- Dirt tank trails are used as entrance/exits to some motor pool facilities and may be a source of dust generation. Magnesium chloride may be applied for dust suppression at these locations.
- A majority of the Recycle Center storage yard is unpaved. Dust suppression at this location occurs twice annually as part of the base-wide Fort Carson dust suppression program. Magnesium chloride is applied to the unpaved portions of the site. Inspections monitor for vehicle tracking and will continually evaluate the need for non-routine dust suppression.
- The Ammunition Residue Yard storage yard and any temporary storage area as well as the personal vehicle parking area are unpaved and may generate dust. To date vehicle tracking has not been an issue, as determined from previous inspection results. Should it become an issue at unpaved areas, signs will be placed at the exit of the facility stating tires must be clean prior to exiting the site. In addition, the exit and road preceding the exit may be covered with 1–2 inch diameter gravel to help remove debris from vehicles prior to leaving the site.
- Range 121 ODU is unpaved and contains natural, vegetated conditions outside the detonation area, and exposed ground inside the detonation area. The vegetated conditions control dust generation and minimize vehicle tracking. Access within the detonation area is restricted and vehicle tracking is not expected.
- The Hazardous Waste Storage Facility consists of dirt roads and unpaved parking areas. To date vehicle tracking has not been an issue as determined from site assessments.
- Some unpaved driveways and parking areas exist at the WWTP; however, they are located at less frequently used portions of the site and are less likely to contribute to vehicle tracking. The primary entrance/exit and parking area at the site are paved.

If vehicle tracking is observed during inspections, the procedure generating the dust will first be evaluated to determine if it is necessary and in what ways it can be conducted differently to generate less dust.

Potential suppression techniques, if necessary, include:

- Unpaved areas: Water application to wet the surface without causing runoff with the use of a water truck (rented or borrowed from another building) or in accordance with the Fort Carson Dust Suppressant Application Standard Operating Procedure (SOP).
- Piles and unloading/loading activities: Spray down of generated dust using water. The amount of water applied will be minimized to control the dust without generating runoff. Spraying can be accomplished with a hose attached to either a fire hydrant or water truck.

Unpaved roads and tank trails are managed by Fort Carson Support Services. There are no unpaved/dirt roads at the facilities near the Colorado Springs Municipal Airport.

### **3.2 Sector-Specific Non-Numeric Effluent Limits**

The following section describes controls and procedures used to comply with the sector-specific requirements of the Sector N, P, and S sites. Sector K does not have sector specific non-numeric effluent limits.

#### **3.2.1 Sector P Specific Non-Numeric Effluent Limits**

The following controls are implemented at the Sector P sites to comply with sector specific requirements. Routine inspections monitor for potential pollutants at the Sector P sites, and support the control measures discussed below by monitoring for their proper implementation and for potential improvements.

#### **Vehicle and Equipment Storage Areas**

Controls utilized on leaky or leak-prone vehicles/equipment awaiting maintenance include the following when practicable:

- Utilize drip pans under vehicles and equipment stored outdoors;
- Store vehicles and equipment awaiting maintenance indoors when practicable;
- Drain fluids from vehicles and equipment if stored outdoors for an extended period of time; and
- Maintain spill kits on site and utilize to clean up spills using dry clean up methods.

#### **Fueling Areas**

Controls utilized at fueling areas to minimize contamination of stormwater runoff are primarily driven by the applicable SPCCP, as previously discussed in the Spill Prevention and Response section of this SWPPP. Controls implemented by the SPCCP include but are not limited to the following when practicable:

- Utilize berming or other secondary containment around fueling stations and storage tanks to minimize stormwater run-on/runoff and prevent spilled materials from entering the storm drain system;
- Treat collected stormwater runoff in conjunction with berming/other secondary containment utilizing stormwater catch basin valves as indicated in Appendix C of this SWPPP;
- Utilize spill overflow/protection and clean up equipment; and
- Maintain spill kits on site and utilize to clean up spills using dry clean up methods.

The PCMS motor pool and fueling area drain to a self-contained, lined pond with an oil skimmer to capture and treat potentially contaminated runoff if needed.

#### **Material Storage Areas**

Controls utilized at material storage areas include the following when practicable:

- Maintain and plainly label material storage vessels (e.g., for used oil/oil filters, spent solvents, paint wastes, hydraulic fluids);
- Store vessels under a storm resistant shelter atop pallets or indoors, preventing contact with rainfall and stormwater runoff; and

- Maintain spill kits on site and utilize to clean up spills using dry clean up methods.

### **Vehicle and Equipment Cleaning Areas**

Discharges of vehicle and equipment wash water, including tank cleaning operations, are not authorized by the Permit for Sector P.

Vehicle and equipment washing at Fort Carson generally occurs at the Central Vehicle Wash Facility; however, some sites have their own wash racks for smaller vehicles or pieces of equipment. Regardless of the location, wash waters drain either to the industrial sewer system or to one of the oil water separators that discharge to the sanitary sewer, and do not drain to the stormwater system. The industrial sewer system ultimately discharges to the WWTP, which is permitted under NPDES Permit Number CO0021181.

### **Vehicle and Equipment Maintenance Areas**

A majority of the maintenance activities at the industrial sites occur indoors within a maintenance bay. This activity is not exposed to stormwater and does not pose a risk of contributing pollutants. Units and personnel at Sector P sites keep an organized inventory of materials to document potential pollutants. Unique to the ADACG facility, a sand/oil interceptor is located at the maintenance bay to collect oil. This system is not connected to the storm drain system.

Minor, non-routine maintenance may occur outdoors in some circumstances. When this occurs, the following control measures will be implemented when practicable:

- Utilize drip pans to prevent leaks or spills;
- Drain fluids from parts prior to disposal; and
- Maintain spill kits on site and utilize to clean up spills using dry clean up methods.

### **Locomotive Sanding Areas**

Locomotives that are associated with rail operations on the installation utilize sand for traction. This is done either by loading the back of the locomotive with non-silica sand (done every 92 days), or, during winter months, by spraying sand on the tracks. Sanding is done primarily at the concrete pad area to the north of the locomotive maintenance building. Minimal amounts of sand may end up on the ground in the vicinity of where the material is placed on the tracks.

### **Vehicle and Equipment Wash Water Requirements**

Information regarding wash water required by the Permit is included in the Vehicle and Equipment Cleaning Areas discussion above.

### **3.2.2 Sector S Specific Non-Numeric Effluent Limits**

The following controls are implemented at the Sector S sites to comply with sector specific requirements. Routine inspections monitor for potential pollutants at the Sector S sites, and support the control measures discussed below by monitoring for their proper implementation and for potential improvements. Information regarding the delegation of MSGP implementation responsibilities amongst Sector S tenants is included in Section 1.5.2 of this SWPPP.

### **Aircraft, Ground Vehicle, and Equipment Maintenance Areas**

Aircraft, ground vehicle and equipment maintenance at BAAF and ADACG generally occurs inside maintenance bays and is not exposed to stormwater.

Minor, non-routine maintenance may occur outdoors in some circumstances. When this occurs, the following control measures will be implemented when practicable:

- Utilize drip pans to prevent leaks or spills;
- Drain fluids from parts prior to disposal; and
- Maintain spill kits on site and utilize to clean up spills using dry clean up methods.

### **Aircraft, Ground Vehicle, and Equipment Cleaning Areas**

Cleaning at the BAAF site will occur at designated wash rack areas, which are physical structures that do not require signage or other delineation. Currently these systems have a diversion valve system that is activated when the yard hydrant is turned on. During washing events, the valve is opened to allow wash water to be discharged to the WWTP. When the yard hydrant is turned off, the valve closes, forcing any stormwater that collects on the washrack to be discharged to the storm sewer system.

Washing of aircraft will not be done at the ADACG, although some ground support equipment will be serviced at the site, and undercarriages of vehicles may need washing before loading on to aircraft. When this is necessary, localized controls will be utilized, possibly including temporary berms or similar BMPs as practicable to minimize contamination of stormwater runoff from cleaning areas. Signage or other appropriate means of demarcation will be used if a washing area is established.

### **Aircraft, Ground Vehicle, and Equipment Storage Areas**

Aircraft, ground vehicle, and equipment storage occurs indoors whenever practicable. Outdoor storage may occur at both the BAAF and ADACG on a sporadic basis; undocumented routine "walk through" type inspections will be conducted to monitor for pollutants.

### **Material Storage Areas**

Stored materials are kept indoors whenever practicable. The vessels of stored materials (such as used oils) are labeled, maintained in good condition, and are inspected regularly. Hazardous waste at BAAF is managed as part of the current hazardous waste management plan, under the control of the building hazardous waste manager. Hazardous waste is not generated at the ADACG.

### **Airport Fuel System and Fueling Area**

Controls utilized at BAAF fueling areas to minimize contamination of stormwater runoff are primarily driven by the SPCCP, as previously discussed in the Spill Prevention and Response section of this SWPPP. Controls implemented by the SPCCP include, but are not limited to the following when practicable:

- Maintain spill kits on site and utilize to clean up spills using dry clean up methods;
- Utilize spill overflow/protection and clean up equipment; and

- Utilize berming or other secondary containment around fueling stations and storage tanks to minimize stormwater run-on/runoff and prevent spilled materials from entering the storm drain system.

Fueling at ADACG is conducted by the Jet Center personnel, and not administered or managed by Fort Carson. Fueling may occur on portions of the ADACG facility; however, the portions of the ADACG facility where fueling occur contain a central drainage point down the middle where flows are directed towards a pollution/spill prevention control valve feature intended to contain spills. Jet Center personnel responsible for fueling activities should be trained to safely and properly conduct fueling activities to prevent pollution, though these trainings are not administered by Fort Carson. Trainings may include National Air Transportation Association's Safety First Training and appropriate training through the Peterson ICP.

Aircraft fueling is not a routine activity at the PCMS clamshell, but may occur as needed for training activities. When needed, fueling will be conducted using mobile fuel tankers. Mobile secondary containment will be used when this fueling occurs.

### **Source Reduction**

Deicing operations do not currently occur at BAAF. This section will be updated as appropriate if the use changes.

Aircraft deicing may occur at the ADACG as needed, but is not managed by Fort Carson. Runway deicing is managed through Colorado Springs Municipal Airport as are responsibilities relating to deicing pollution prevention.

### **Management of Runoff**

Deicing does not currently occur at BAAF; therefore, controls to manage the runoff of stormwater commingled with deicing materials are not necessary. This section will be updated as appropriate if the use changes.

Aircraft deicing may occur at the ADACG as needed, but is not managed by Fort Carson. Runway and aircraft deicing is managed through Colorado Springs Municipal Airport as are responsibilities relating to deicing pollution prevention.

### **Deicing Season**

Deicing does not occur at BAAF, and is not administered through Fort Carson for the ADACG facility as previously discussed in this SWPPP. As such, requirements relating to deicing such as the definition of the deicing season and corresponding increased inspection frequencies are not applicable. The ADACG Environmental Coordinator tracks the quantities of deicer applied by the Colorado Springs Municipal Airport used on aircraft associated with ADACG operations.

### **Vehicle and Equipment Wash Water**

Discharges of vehicle and equipment wash water are not authorized by the Permit for Sector S.

Vehicles and equipment associated with BAAF will either be washed at the Fort Carson central wash facility (GSE or regular vehicles) or at the wash areas at BAAF (aircraft and equipment that cannot be brought to the central vehicle wash facility). The central wash facility and the BAAF wash areas both contain wash

water and divert it to the sanitary sewer system, preventing any release of wash water into the storm drain system. The industrial sewer system ultimately discharges to the WWTP, which is permitted under NPDES Permit Number CO0021181.

Washing of aircraft and equipment will not be done at the ADACG, although some GSE will be serviced at the site, and undercarriages of vehicles may need washing before loading on to aircraft. The limited washing occurs over a wash rack that drains to an oil water separator. The oil water separator discharges to the City of Colorado Springs sanitary sewer.

### **3.2.3 Sector N Specific Non-Numeric Effluent Limits**

The following controls are implemented at the Sector N sites to comply with sector specific requirements. The 3 Sector N facilities are considered scrap and waste recycling facilities (non-source separated, non-liquid recyclable materials). Fort Carson does not have waste recycling facilities (liquid recyclable materials) or recycling facilities (source-separated materials), and accordingly those requirements have not been included in this SWPPP.

Routine inspections monitor for potential pollutants at the Sector N sites, and support the control measures discussed below by monitoring for their proper implementation and for potential improvements.

#### **Inbound Recyclable and Waste Material Control Program**

Administrative controls are implemented at the Sector N sites to control the materials that are brought on site.

Controls at DLADS include the logging and monitoring of items brought on-site and the initial storage of inbound materials indoors. Typically, auto parts are flushed of any liquids prior to on-site storage.

The Ammunition Residue Yard is surrounded with an eight foot fence with a locking gate. Fort Carson units cannot transfer spent ammunition at the facility without supervision by site personnel. Personnel are trained annually as to what is accepted at the site. A daily site walk is conducted to identify non-allowed items. Material transfers are supervised by staff.

The Recycle Center, regardless of current or proposed location, is open to post personnel for material drop-off 24 hours a day with the exception of the ammo storage. Inbound material controls include signage utilized at the entrance to identify accepted materials, and throughout the facility to identify proper staging areas. A daily site walk is conducted to identify non-allowed items. Staff is present during business hours to aid customers with their recycling needs and to direct them to the appropriate location on-site.

#### **Scrap and Waste Material Stockpiles and Storage (Outdoor)**

Exposure of material stockpiles and storage is minimized whenever practicable to prevent contact with stormwater runoff and reduce pollutants.

Outdoor storage will be covered with tarps, tents, or temporary sheds when practicable. Scrap and waste stockpiles will be covered with permanent covers (i.e., roll-off dumpster covers) or semi-permanent covers. Semi-permanent covers may include plastic or canvas tarps tied sufficiently to prevent wind uplift or lean-to type structures. Covering materials and waste may not be feasible due to the constant turnover of materials, use of receptacles, and changing site conditions. Temporary BMPs may be placed around the

material if covers are not feasible. This may include rock socks, silt fencing, temporary berms, or other similar controls.

A portion of the outdoor storage area at the current Recycle Center drains into an engineered infiltration trench, which provides water quality treatment prior to the release off-site. This feature is discussed further in the Management of Runoff Section of this SWPPP.

### **Stockpiling of Turnings Exposed to Cutting Fluids (Outdoor Storage)**

This industrial activity does not occur at the Sector N facilities; therefore, these requirements are not applicable.

### **Scrap and Waste Material Stockpiles and Storage (Covered or Indoor Storage)**

Stormwater contact of residual liquids and particulate matter from materials stored indoors or under cover is minimized whenever practicable to reduce pollutants. Good housekeeping measures previously described in this SWPPP are the primary control for this potential pollutant. Wash water from indoor areas as well as indoor floor drains would discharge to the sanitary sewer system and not to the storm sewer system; however, indoor floor washing is not a typical practice at these facilities.

### **Scrap and Recyclable Waste Processing Areas**

Scrap and recyclable wastes are not processed at DLADS or the Ammunition Residue Yard.

The current Recycle Center utilizes a brass deformer to deform used ammo shells prior to transport off-site. The deformer and the recyclable materials are located indoors, and are not exposed to stormwater.

### **Scrap Lead-Acid Battery Program**

Lead-acid batteries are not accepted at any of the Sector N facilities.

Occasionally, batteries may be unintentionally received at the current or proposed Recycle Center. When this occurs, the batteries will be stored indoors and on a battery spill tray to contain any spills and/or leaks. As batteries are collected, they will either be transferred to the Fort Carson Hazardous Waste Storage Facility where all hazardous and non-hazardous wastes and items are stored, or the logistics readiness center as part of the Fort Carson battery exchange program.

### **Spill Prevention and Response Procedures**

Spill prevention and response measures at Fort Carson are directed by the Fort Carson SPCCP, as previously discussed in this SWPPP. This includes provisions for tank alarms, secondary containment of liquids and grading/berming at fueling areas.

### **Supplier Notification Program**

Suppliers of scrap metals are notified as to what is accepted at each Sector N facility. This notification may consist of signage, personal communications, memorandums, formal or informal training, or other effective means as appropriate.

### **3.2.4 Sector T Specific Non-Numeric Effluent Limits**

Control measures applicable to the WWTP required by the Permit part 8.T.4.1 are discussed in Section 3.1 of this SWPPP. In particular, the industrial treatment areas of the plant are contained in an enclosed system that drains to the treatment system and prevents contacted stormwater from entering the stormwater system. The employee training requirements of 8.T.4.2 are covered by the employee training discussed in Section 4.5 of this SWPPP.

### **Wastewater and Wash Water Requirements**

Wastewater and wash water (from the central vehicle wash facility) treated by the WWTP is covered under NPDES Permit Number CO0021181.

### **3.3 *Numeric Effluent Limitations Based on Effluent Limitations Guidelines***

Two sectors at Fort Carson are potentially subject to numeric effluent limitations: Sectors K and S.

Discharges from hazardous waste landfills are subject to numeric effluent limitations for Sector K. The two Sector K facilities at Fort Carson are not hazardous waste landfills, and are accordingly not subject to effluent limitations. Range 121 ODU is considered a treatment unit, and the Hazardous Waste Storage Facility is a storage facility as the name implies. Additional facility descriptions are included in Section 1 of this SWPPP.

Deicing operations including airfield pavement deicing and aircraft deicing do not occur at BAAF or the PCMS clamshell. Fort Carson will certify annually on the annual report that pavement deicers containing urea are not used. Deicing operations at the ADACG facility are the responsibility of Colorado Springs Municipal Airport, as described in Section 1.5.2. As such, requirements relating to deicing such as the effluent limitations are not applicable.

### **3.4 *Water Quality-based Effluent Limitations and Water Quality Standards***

Fort Carson expects that implementation of the control measures discussed in this SWPPP will control discharges as necessary to meet applicable water quality standards. If at any time Fort Carson becomes aware, or EPA determines, that discharges do not meet applicable water quality standards, corrective actions will be implemented.

Fort Carson is an existing discharger to an impaired water without an established TMDL. Monitoring requirements addressing this are discussed in Section 4 of this SWPPP.

## **SECTION 4: SCHEDULES AND PROCEDURES**

This section discusses the schedules and procedures relating to the control measures discussed in Section 3 of this SWPPP, facility inspections, and the various types of monitoring required by the Permit. Required documentation relating to maintenance records, inspection results, and corrective actions are maintained by the Stormwater Program in their tracker spreadsheet that is kept on the internal sharepoint. This information is available upon request.

### **4.1 Good Housekeeping**

Pickup and disposal of non-hazardous waste material is conducted by contract managed by Fort Carson Directorate of Public Works. Typically pickups are done three times per week; however, actual pickups may be more or less frequent based on the quantities generated/disposed. There are no regular recyclable or waste material pickups at DLADS, the Recycle Center, or the Ammunition Residue Yard, and frequency is determined by the quantities generated/disposed. Non-hazardous waste at Range 121 ODU is removed by unit personnel due to the small quantities generated, and hazardous wastes are removed per SOP 75-1, Demolition Range Operations, included as Attachment 10 of the RCRA Subpart X Permit.

Any hazardous waste generated at a Fort Carson industrial site is taken to the Hazardous Waste Storage Facility for ultimate transportation and disposal. Waste can be held at this location for at most 90 days before transport to the final disposal location.

Hazardous waste is not generated at the ADACG or the motor pool facility near the Colorado Springs Municipal Airport. Hazardous material inventories will be tracked by the ADACG or Motor Pool Environmental Coordinator as appropriate, and materials are ordered on an as-needed basis. Any excess inventory is to be returned, or disposed of as waste through the Hazardous Waste Storage Facility. No excess inventory will be stored outside.

Aboveground storage tanks will be inspected for leaks on a daily basis, and personnel are required to complete recordkeeping forms upon completion of the inspections. Drums and other containers with the potential for leaks will be inspected weekly at a minimum.

### **4.2 Maintenance**

Military personnel are required to adhere to TMs for industrial equipment spill avoidance, maintenance activities, and maintenance schedules. TMs can be found at <https://www.logsa.army.mil>. These procedures are applicable to Sector P and S sites. Stormwater catch basin valves are inspected at least once per quarter, and potentially more frequently based on use and weather. Maintenance is conducted as necessary if determined by inspections.

ADACG personnel maintain the sand/oil interceptor by pumping out the oil at a frequency determined by use and number of deployments/redeployments. It is inspected at least twice per year.

Civilian personnel at other industrial sites at Fort Carson and PCMS follow the preventative maintenance program, which includes timely inspection and maintenance of stormwater management devices, as well as inspecting, testing, maintaining and repairing facility equipment and systems to avoid breakdowns or failures that may result in discharges of pollutants to surface waters. Maintenance activities are typically not performed at the Ammunition Residue Yard, though vehicles stored on site are inspected weekly.

Fort Carson Landfill 4 is located underneath portions of the DLADS paved parking lot and certain buildings. The remedy on this landfill is complete, and the completion report has been accepted by the CDHPE. Landfill 4 is currently in the long term monitoring phase, which includes monitoring, inspection, and maintenance. As part of the long term monitoring, the asphalt surface above the landfill is inspected by the Fort Carson Installation Restoration Program (IRP) for cracks or deformities and for any ponded water (outfalls and receiving waters are also inspected as part of this plan, see Section 5 of this SWPPP for details). Cracks or deformities in the pavement are addressed by repairs or re-sealing of the asphalt surface.

In the event of asphalt re-sealing, additional temporary BMPs (such as straw wattles, or similar) will be placed at the outfalls to ensure pavement or pavement sealing materials do not leave the site and enter the receiving water. These temporary BMPs will be left in place until the sealant has dried, as verified by inspection. Temporary BMPs and any accumulated material shall be properly disposed of upon removal. Specific BMP maintenance schedules and procedures at DLADS are described below:

- Straw wattles – Maintenance includes removal of wattles and any accumulated sediment, and replacement with new wattles. Inspections occur weekly and maintenance is completed within 1 week as needed.
- Asphalt surface – Annual inspections look for cracks and deformities in the surface; repairs are conducted within 1 month of discovery as needed. Street sweeping may also be utilized at paved areas to control sediment and debris.
- Drip pans/sorbent pads – Weekly inspections determine the need for emptying of pans and disposal of pads which are replaced as needed.

Recycle Center personnel perform maintenance as needed on the brass deformer (located indoors) as the device is used once per month or less. The infiltration trench is inspected at least quarterly, and the maintenance is conducted as necessary if determined by inspections.

Maintenance at the WWTP is conducted according to the procedures and schedules identified in the Sewage Treatment Plant Operation and Maintenance Plan. This Plan describes the origination, responsibilities, and processes that will be applied to manage the operation, maintenance, and repair of the WWTP and ancillary systems. It specifies daily, weekly, monthly, quarterly, semi-annual, and annual maintenance for the equipment, systems, and buildings that make up the WWTP. Fort Carson Support Services is responsible for implementing maintenance at the WWTP. The Sewage Treatment Plant Operation and Maintenance Plan is available upon request.

### **4.3 Spill Prevention and Response Procedures**

Spill prevention and response procedures are included in the Fort Carson and Pinon Canyon SPCCP, and the Peterson AFB ICP. The respective documents are kept on-site, and are available for review consistent with Part 5.4 of the Permit.

The SPCCPs and ICP include procedures for preventing spills such as control measures for material handling and storage, and the procedures for preventing spills that can contaminate stormwater. The SPCCP specifies cleanup equipment, procedures, and spill logs to be utilized in the event of spills.

#### **4.4 Erosion and Sediment Control**

Polymers or other chemical treatments are not utilized for erosion and sediment control. This section will be updated to include the polymers/chemicals if they are used in the future.

#### **4.5 Employee Training**

Training is required for all personnel who work in areas where industrial materials or activities are exposed to stormwater, and for all personnel who are responsible for implementing activities identified in this SWPPP. Various types of training are given to personnel, depending on their particular roles and responsibilities.

All personnel that work at Sector P sites are required to take annual training on used oil and spent solvent management, fueling procedures, general good housekeeping practices, proper painting procedures, and used battery management. ECAT provides this general environmental awareness training to the units at various times throughout the year as described below:

Hazardous Waste Awareness training is given annually to personnel who could potentially handle hazardous materials or waste, and includes stormwater topics described in this SWPPP. This training is conducted by the ECAT.

In addition, certain personnel are required to take a 40 hour environmental protection officer (EPO) training course. The EPO training is a comprehensive class intended to educate personnel on proper waste disposal, pollution prevention, sustainability goals, and environmental compliance. Stormwater topics covered include an overview of the Fort Carson Stormwater Program and its role in pollution prevention, general SWPPP awareness, applicable stormwater regulations on post, and guidance on particular facilities that are permitted under the MSGP. Specific topics covered include the proper use of control measures required by the Permit (spill response procedures, maintenance requirements, material management practices, etc.), physical BMPs, good housekeeping BMPs, and other pollution prevention practices.

The EPO course is held at least six times per year, unless specific situations dictate a variation. The course is tentatively offered eight times in 2015. The training schedule and full curriculum of the training course is included in Appendix D. Unit EPOs are responsible for training and providing guidance to their subordinates on general environmental awareness topics that are covered in the course.

Personnel responsible for specific duties related to the SWPPP (for example, maintenance of a particular BMP) may receive additional, informal training from a Stormwater Pollution Prevention Team member to ensure proper training and task execution.

Training records are tracked internally and can be provided upon request.

#### **4.6 Inspections**

This section describes the various types of inspections applicable to the industrial facilities managed by Fort Carson, including routine facility inspections and quarterly visual assessments. Regular

undocumented “walk through” type inspections also occur at the industrial sites by shop personnel. Personnel correct minor deficiencies noted during their day-to-day activities (e.g., place a drip pan in the correct location) and notify their supervisor of any issues that require follow-up.

Inspection results are documented using the inspection forms contained in Appendix D of this SWPPP. Completed inspection reports are retained through an internal sharepoint site and are available upon request. Routine facility inspection reports are not required to be submitted to EPA unless specifically requested; however, findings must be summarized in the Annual Report.

#### **4.6.1 Routine Facility Inspections**

Routine facility inspections will include investigation of facility areas where industrial materials or activities are or potentially could be in contact with stormwater, outfalls, and downstream areas (if appropriate), as further described in the subsequent sections. Inspections will be conducted through site walk, visual observations, and conversations with site personnel.

The following is the required documentation for inspection areas common to all industrial sites at Fort Carson.

##### **1. Persons responsible for inspection**

Inspections will be performed by a member of the Pollution Prevention Team and any qualified personnel as appropriate. Qualified personnel are those who possess the knowledge and skills to assess conditions and activities that could impact stormwater quality at the facility, and who can also evaluate the effectiveness of control measures.

Typically, Sector P and S inspections will be conducted by the ECAT Team with the exceptions of PCMS. These inspections will be conducted by the PCMS Environmental Team Lead. Sector N, K, and T inspections will be conducted by the Stormwater Technician and/or the Stormwater Team Consultants. Inspections may be conducted by any member of the Pollution Prevention Team in the event of scheduling conflicts or as other needs arise.

Inspectors will consider the results of visual and analytical monitoring for the past year when planning and conducting inspections.

##### **2. Schedules for conducting inspections**

Routine facility inspections will be conducted quarterly as described below:

- Q1: January – March,
- Q2: April – June,
- Q3: July – September,
- Q4: October – December.

At least one of the routine inspections in each calendar year will be conducted while a stormwater discharge is occurring.

Informal inspections such as daily site walks or spot checks may also occur as necessary to further evaluate site conditions. Increased inspection frequency will be considered and potentially

implemented based on the type of industrial activity and corresponding potential for pollution, and inspection results.

**3. Areas where industrial materials or activities are exposed to stormwater (i.e., areas to be inspected)**

Outdoor areas of the industrial facilities are the primary locations where industrial materials or activities are exposed to stormwater, though some indoor locations may need to be evaluated if there is a potential for pollutants to contribute to stormwater. Areas where materials or activities may be exposed to stormwater include but are not limited to storage areas for vehicles/equipment awaiting maintenance, vehicle/equipment maintenance areas, vehicle/equipment cleaning areas, fueling areas, tanks/drums/other containers, material storage areas, waste storage areas, loading/unloading areas, and entrances/exits where potential pollutants may be tracked or blown off-site.

**4. Areas identified as potential pollutant sources (i.e., areas to be inspected)**

Industrial activities and the associated potential pollutants are summarized below, but are detailed in Section 2 of this SWPPP. The areas discussed below generally correspond to the areas identified in item 3 above. Please see Section 2 for a complete and comprehensive listing of particular pollutants associated with the activities described below.

Areas identified as potential pollutant sources include storage areas (including storage of equipment, vehicles, parts, POLs, scrap metal, waste, scrap wood/wood chips/pallets, used antifreeze, flammable materials, used oil, tire, etc.), fueling tanks, mobile fuel tankers, fueling areas, maintenance areas, storage for vehicles and equipment awaiting maintenance, wash racks, and shop floor drains.

**5. Areas where spills and leaks have occurred in the past 3 years.**

The significant spills that have occurred in the past three years are documented in the spill database and are annotated on site maps (Appendix C). Information is provided upon request.

**6. Inspection information for discharge points.**

Outfall locations are shown on site maps and the outfall table, included in Appendix C.

Safety considerations for outfall/discharge inspection include awareness of slick surfaces, inclement weather, biological hazards (e.g., snakes and spiders), and traffic hazards.

**7. Control measures used to comply with the effluent limits contained in this permit**

Control measures listed in Section 3.1 of this SWPPP—including minimized exposure, good housekeeping, maintenance, spill prevention and response, erosion and sediment controls, management of runoff, salt piles, and dust generation—are utilized to comply with the non-numeric effluent limits of the Permit.

For the purposes of this section, inspection items related to these control measures include a visual observation of areas identified in items 3 and 4 above for general orderliness and cleanliness of the site, an assessment of the potential pollutants on site and how they are prevented from contributing to stormwater discharges, interviews with personnel regarding procedures for maintenance and other industrial activities, and inspection of any physical control

measures that may be implemented for pollution prevention such as drip pans, spill kits, wattles, stormwater catch basin valves, or others.

Sector specific control measures are discussed in item 8 below.

## 8. Other site-specific inspection objectives

Site specific inspection requirements and objectives are summarized below:

- Sector P: Inspect storage areas for vehicles/equipment awaiting maintenance, fueling areas, indoor and outdoor vehicle/equipment maintenance areas, material storage areas, vehicle/equipment cleaning areas and loading/unloading areas. Particular control measures to inspect include the use of drip pans, spill kits, stormwater catch basin valves, liquid storage tank integrity, and signs of spills or leaks from vehicles/equipment.
- Sector S: Deicing does not occur at BAAF, and is not administered through Fort Carson for the ADACG facility as previously discussed in this SWPPP. As such, requirements relating to deicing, such as the definition of the deicing season and corresponding increased inspection frequencies, are not applicable.
- Sector N: Inspect at a minimum all areas where waste is generated, received, stored, treated, or disposed and areas that are exposed to either precipitation or stormwater runoff. Inspect vehicle/equipment storage areas, and fueling areas (if present). Particular control measures to inspect for include the use of drip pans, spill kits, and signs of spills or leaks from vehicles/equipment.

Inspect the perimeter outfall controls (i.e., straw wattles) at DLADS facility.

Inspect the infiltration trench at the Recycle Center.

- Sector K: Inspect the trench and berm system surrounding the ODU facility for structural integrity and signs of degradation.
- Sector T: Inspect all areas of industrial treatment as described in Section 1.5.5.

### 4.6.2 Quarterly Visual Assessment of Stormwater Discharges

Visual assessments of stormwater discharges will be conducted by collecting a stormwater runoff sample and evaluating for visual indicators of stormwater pollution. Samples may be collected by hand or by stormwater collection sampler. Fort Carson is utilizing the substantially identical outfall exception for quarterly visual assessments at the Sector P motor pools, as documented and justified at the end of this section.

The following is the required documentation for inspection areas common to all industrial sites at Fort Carson.

#### 1. Persons responsible for assessments.

Visual assessments with the exception of PCMS will be conducted by the Stormwater Technician or Stormwater Program Manager. PCMS assessments will be conducted by the PCMS Environmental Team Lead.

Assessments may be conducted by any member of the Pollution Prevention Team in the event of scheduling conflicts or as other needs arise.

## 2. Schedules for conducting assessments.

Visual assessments will be conducted quarterly as described below:

- Q1: January – March,
- Q2: April – June,
- Q3: July – September,
- Q4: October – December.

Samples will be collected within the first 30 minutes of an actual discharge from a storm event. If it is not possible to collect the sample within the first 30 minutes of discharge, the sample must be collected as soon as practicable after the first 30 minutes, and documentation of the reason for delay must be made. In the case of snowmelt, samples must be taken during a period with a measurable discharge from the site. Samples will be collected from discharges that occur at least 72 hours from the previous discharge.

Fort Carson is claiming substantially identical outfall for the Sector P groups (quarterly visual assessments), the BAAF facility (quarterly visual assessments), and the DLADS facility (quarterly benchmark monitoring and quarterly visual assessments). Required documentation for the Sector P and BAAF facilities is included at the end of this section. Required documentation for the DLADS facility is included in the Sector N Monitoring Section.

One visual assessment per motor pool grouping will be completed each quarter. The outfall assessed within each group will rotate quarterly to ensure representative samples are collected of the entire grouping. The outfall table is included in Appendix C of this SWPPP.

## 3. Specific assessment activities.

Samples will be collected in a clean, colorless glass or plastic container, and examined in a well-lit area. They will be examined for color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other indicators of pollution. Documentation will be completed using inspection forms included in Appendix D of this SWPPP, and will include sample location, date, time, personnel performing assessment, nature of discharge, sample condition, and suspected source of observed contamination (if applicable).

Whenever the visual assessment shows evidence of stormwater pollution, corrective action procedures required by the Permit must be initiated.

Note that if an event triggering a corrective action (e.g., visual assessment results indicate stormwater pollution) occurs at an outfall identified as “substantially identical,” the corresponding review/assessment must include all outfalls identified as substantially identical. Any necessary changes to control measures that affect these other outfalls must also be made before the next storm event if possible, or as soon as practicable following that storm event. Corrective actions are discussed in more detail in Section 7 of this SWPPP.

### Substantially identical discharge point (outfall) exception – Sector P

Fort Carson is claiming substantially identical outfalls for the purposes of quarterly visual assessments at the Sector P sites at Fort Carson. The facilities were grouped based on location, common drainage patterns (i.e., grouped motor pools drain to the same location), and similar industrial activities. Required justification follows:

- The locations of each of the substantially identical outfall points are identified on the outfall table and on the site map, included in Appendix C.
- General industrial activities conducted in the drainage areas of each discharge point are similar and include vehicle and equipment maintenance; minor vehicle and equipment cleaning; vehicle and equipment fueling; loading and unloading of materials; material storage; fuel and POL storage; and combat and non-combat vehicle parking. Industrial activities are discussed in more detail in Section 1 of this SWPPP.
- Control measures implemented in the drainage areas of each discharge point are discussed in more detail in Section 3 of this SWPPP. The control measures include minimized exposure, good housekeeping, preventative maintenance, spill prevention and response procedures, and training.
- Exposed materials likely stored outdoors primarily include military materials, equipment, and vehicles. Exposed materials are described in more detail in Sections 1 and 2 of this SWPPP.
- The estimate of the runoff coefficient of the drainage areas is high (above 65%) due to the abundance of pavement covering the sites.
- The outfalls are expected to discharge substantially identical effluents due to the similarity of the industrial activities and outdoor storage items. The motor pool sites grouped together are not only similar in function, but are also similar in layout, design, land cover, and size.

#### **Substantially identical discharge point (outfall) exception – BAAF**

Fort Carson is claiming substantially identical outfalls for the purposes of quarterly visual assessments for the BAAF outfalls. Required justification follows:

- The locations of each of the substantially identical outfall points are identified on the outfall table and on the site map, included in Appendix C.
- General industrial activities conducted in the drainage areas of each discharge point are similar and include outdoor parking, loading, and interim storage of helicopters and equipment as well as fueling. Industrial activities are discussed in more detail in Section 1 of this SWPPP.
- Control measures implemented in the drainage areas of each discharge point are discussed in more detail in Section 3 of this SWPPP. The control measures include minimized exposure, good housekeeping, preventative maintenance, spill prevention and response procedures, and training.
- Exposed materials likely stored outdoors primarily include helicopters, equipment, and vehicles. Exposed materials are described in more detail in Sections 1 and 2 of this SWPPP.
- The estimate of the runoff coefficient of the drainage areas is high (above 65%) due to the abundance of pavement covering the sites.
- The outfalls are expected to discharge substantially identical effluents due to the similarity of

the industrial activities throughout the facility.

### **4.6.3 Exception to Routine Facility Inspection and Quarterly Visual Assessments for Inactive and Unstaffed Sites**

Motor pools may be inactive and unstaffed while the units assigned to them are deployed. In this circumstance, equipment is mobilized or stored, and industrial materials or activities are not exposed to stormwater. Quarterly visual assessments will not be conducted at the inactive and unstaffed sites, but will be conducted at another motor pool within the respective grouping. In the unlikely event that all units are deployed from a particular grouping, appropriate documentation will be made and assessments will resume upon the units' return.

Routine inspections will still take place at inactive and unstaffed sites to verify materials are not stored outdoors and exposed to stormwater. The inspection forms will still be completed for these areas as a means of recordkeeping.

Inactive and unstaffed site records and appropriate certifications are included in Appendix D of this SWPPP.

## **4.7 Monitoring**

The checked boxes below indicate the types of monitoring applicable to the Fort Carson industrial facilities:

- Quarterly benchmark monitoring (Sector K and N facilities)
- Effluent limitations guidelines monitoring
- State- or tribal-specific monitoring
- Impaired waters monitoring
- Other monitoring required by EPA

Quarterly benchmark monitoring is required for Sector S facilities that use more than 100,000 gallons of pure glycols in glycol-based deicing fluids and/or 100 tons or more of urea on an average annual basis. Effluent limitations guidelines monitoring is required for Sector S facilities that have runoff containing urea from airfield pavement deicing at existing and new primary airports. The Sector S facilities at Fort Carson do not conduct deicing activities as previously discussed and, therefore, are not subject to the quarterly benchmark or effluent limitations guidelines monitoring. The ADACG Environmental Coordinator tracks the quantities of deicer applied by the Colorado Springs Municipal Airport used on aircraft associated with ADACG operations.

Monitoring procedures are consistent for all types and facility samplings, and are described below:

- Collect samples in a pre-cleaned stormwater sampler container mounted at the designated outfall.
- Collect samples from a measurable storm event that follows the preceding measurable storm event by at least 72 hours.
- Collect samples within the first 30 minutes of a discharge associated with the storm event.

- Pour samples into the appropriate pre-cleaned containers provided by the contracted laboratory, and place on ice immediately.
- Ship samples in an iced cooler in accordance with laboratory and Department of Transportation procedures.
- Analyze samples consistent with 40 CFR Part 136 analytical methods and using test procedures with quantitation limits at or below benchmark values or effluent limits as appropriate.
- Document the date and duration (in hours) of the rainfall event, rainfall total (in inches), for the event, and the time (in days) since the previous measurable event, as well as conditions in the field during the time of the sampling.

Benchmark monitoring concentrations dependent on water hardness were selected from the hardness range of 250+ mg/L. This value was selected based on hardness sampling data from the previous permit term.

#### **4.7.1 Impaired Waters Monitoring**

Industrial sites at Fort Carson and near the Colorado Springs Municipal Airport discharge to an impaired water body, as identified by the CDPHE. The stream segment identified as “all tributaries to Fountain Creek which are not on National Forest or Air Force Academy Land” is impaired for E. coli.

Monitoring will be conducted **once per year** at all monitored outfalls except for those identified as substantially identical. Substantially identical outfalls have been identified for Fort Carson Sector P facilities, BAAF, and DLADS as justified in Sections 4.6.2 and 4.7.2 of this SWPPP. The facilities are summarized below:

- Fort Carson Sector P Groups (substantially identical)
- BAAF (substantially identical)
- DLADS(substantially identical)
- Recycle Center
- Ammunition Residue Yard
- Range 121 ODU
- Hazardous Waste Storage Facility
- Fort Carson WWTP
- ADACG at Colorado Springs Municipal Airport
- Space Command Motor Pool at Colorado Springs Municipal Airport

If the E. coli is not detected and not expected to be present in the stormwater discharges, or is detected but determined that the presence is caused solely by natural background sources, monitoring may be discontinued per 6.2.4.1 of the Permit. Supporting documentation will be included in Appendix D of this SWPPP.

### 4.7.2 Sector N Monitoring

Quarterly benchmark monitoring is required for Sector N facilities at Fort Carson. Benchmark monitoring data are intended to assess the effectiveness of control measures and assist in determining when additional measures may be necessary. A benchmark exceedance is not a permit violation; however, if corrective action is required as a result of a benchmark exceedance, failure to conduct required corrective action is a permit violation.

Samples will be collected once per quarter beginning in the first full quarter following September 2, 2015, as described below:

- October – December 2015,
- January – March 2016,
- April – June 2016, and
- July – September 2016.

In the event that samples cannot be collected due to limited rainfall associated with Fort Carson’s semi-arid climate or when freezing conditions exist that prevent runoff from occurring for extended periods, required monitoring events may be distributed during seasons when precipitation occurs, or when snowmelt results in a measurable discharge. The required number of samples will still be collected, and appropriate reporting (e.g., filing “no data” code for the regular reporting period) will be conducted.

At a minimum four quarterly benchmark samples will be collected at each outfall, and result data will be evaluated to determine if the average of the four monitoring values for any parameter exceeds the benchmark concentration. If the average for any parameter does not exceed the benchmark, the monitoring requirements for that parameter will be considered fulfilled for each outfall. If the average does exceed the benchmark, Fort Carson will either make the necessary modifications, and continue quarterly monitoring until the average does not exceed the benchmark, or make a determination that no further pollutant reductions are technologically available and economically practicable and achievable in light of best industry practices, in which case continued annual sampling will occur.

If at any time an exceedance of the four quarter average is mathematically certain, control measures will be reviewed, and any required corrective action will be immediately performed.

Sample locations and parameters for the benchmark monitoring are shown in the table below:

Facility	Parameter	Benchmark Monitoring Concentration <sup>1</sup> (milligrams per liter)
DLADS Recycle Center Ammunition Residue Yard	Chemical Oxygen Demand (COD)	120
	TSS	100
	Aluminum Total Recoverable	0.75
	Total Copper	0.0332
	Total Recoverable Iron	1.0
	Total Lead	0.262
	Total Zinc	0.26

<sup>1</sup> – Hardness dependent benchmark monitoring concentrations were selected from the 250+ mg/L hardness range based on previous sampling results

See Section 4.7.1 for impaired waters monitoring requirements.

### **Substantially identical discharge point (outfall) exception**

Fort Carson is claiming substantially identical outfall for the DLADS facility for quarterly benchmark monitoring and quarterly visual assessments. Required documentation follows:

- Location of each of the substantially identical discharge points is shown on the site map (Appendix C).
- General industrial activities conducted in the drainage areas of each discharge point are similar and include material and recyclable material storage and loading/unloading. Industrial activities are discussed in more detail in Section 1 of this SWPPP.
- Control measures implemented in the drainage areas of each discharge point include but are not limited to minimize exposure, good housekeeping, preventative maintenance, spill prevention and response procedures, training, and perimeter control BMPs at some outfalls. Control measures are described in more detail in Section 3 of this SWPPP.
- Exposed materials located in the drainage areas of each discharge point will vary constantly based on the types of materials stored outdoors. Typical materials may include scrap metal, tires, scrap wood/wood chips/pallets, and other recycle/reissue materials. Exposed materials are described in more detail in Sections 1 and 2 of this SWPPP.
- The estimate of the runoff coefficient of the drainage areas is high (above 65%) due to the abundance of pavement and gravel covering the site.
- The outfalls are expected to discharge substantially identical effluents since the main industrial activities (recyclable material storage and vehicle storage) are conducted site wide at the DLADS. Throughout the site, stormwater will contact similar storage items.

Note that if an event triggering a corrective action (e.g., visual assessment results indicate stormwater pollution or annual benchmark exceedance) occurs at an outfall identified as “substantially identical,” the corresponding review/assessment must include all outfalls identified as substantially identical. Any necessary changes to control measures that affect these other outfalls must also be made before the next storm event if possible, or as soon as practicable following that storm event. Corrective actions are discussed in more detail in Section 7 of this SWPPP.

### **4.7.3 Sector K Monitoring**

Quarterly benchmark monitoring is required for the Sector K facilities at Fort Carson. Effluent limitations monitoring is not required as neither facility is a hazardous waste landfill as previously discussed in this report. See Sections 1.5.4 and 3.3 for more information.

Benchmark monitoring data are intended to assess the effectiveness of control measures and assist in determining when additional measures may be necessary. A benchmark exceedance is not a permit violation; however, if corrective action is required as a result of a benchmark exceedance, failure to conduct required corrective action is a permit violation.

Quarterly benchmark monitoring samples will be collected once per quarter beginning in the first full quarter following September 2, 2015, as described below:

- October – December 2015,
- January – March 2016,
- April – June 2016, and
- July – September 2016.

In the event that samples cannot be collected due to limited rainfall associated with Fort Carson’s semi-arid climate or when freezing conditions exist that prevent runoff from occurring for extended periods, required monitoring events may be distributed during seasons when precipitation occurs, or when snowmelt results in a measurable discharge. The required number of samples will still be collected, and appropriate reporting (e.g., filing “no data” code for the regular reporting period) will be conducted.

At a minimum four quarterly benchmark samples will be collected at the outfall and result data will be evaluated to determine if the average of the four monitoring values for any parameter exceeding the benchmark concentration. If the average for any parameter does not exceed the benchmark, the monitoring requirements for that parameter will be considered fulfilled for the site. If the average does exceed the benchmark, Fort Carson will either make the necessary modifications and continue quarterly monitoring until the average does not exceed the benchmark, or make a determination that no further pollutant reductions are technologically available and economically practicable and achievable in light of best industry practices, in which case continued annual sampling will occur.

If at any time an exceedance of the four quarter average is mathematically certain, control measures will be reviewed, and any required corrective action will be immediately performed.

Sample parameters for Sector K are summarized below:

Facility	Parameter	Benchmark Monitoring Concentration <sup>1</sup> (milligrams per liter unless otherwise noted)
Range 121 ODU Hazardous Waste Storage Facility	Ammonia	2.14
	Total Magnesium	0.064
	COD	120
	Total Arsenic	0.15
	Total Cadmium	0.0053
	Total Cyanide	0.022
	Total Lead	0.262
	Total Mercury	0.0014
	Total Selenium	0.005
	Total Silver	0.0183

1 – Hardness dependent benchmark monitoring concentrations were selected from the 250+ mg/L hardness range based on previous sampling results

See Section 4.7.1 for impaired waters monitoring requirements.

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## **SECTION 5: DOCUMENTATION TO SUPPORT ELIGIBILITY CONSIDERATIONS UNDER OTHER FEDERAL LAWS**

The following section documents the eligibility considerations regarding endangered species and historic preservation. In addition to these Permit required eligibility considerations, this SWPPP was required to undergo a National Environmental Policy Act (NEPA) review at Fort Carson. The documentation regarding this NEPA review has also been included in this section for reference.

### **5.1 *Documentation Regarding Endangered Species.***

Threatened and Endangered Species (T&E) on Fort Carson and PCMS are managed by the Fort Carson Wildlife Program Office. A combination of surveys from the office identified T&E species for several areas throughout the Cantonment Area as well as downrange. These surveys are available upon request. The Fort Carson Wildlife Program Office evaluated the eligibility criteria of the Permit, the action area, and the T&E Species and habitat at Fort Carson.

There is no evidence to suggest that stormwater discharges from the permitted facilities would have the potential to cause adverse effects to T&E species downstream of the action area. Fort Carson falls under Criterion A: "No federally-listed threatened or endangered species or their designated critical habitats are likely to occur in the "action area" as defined in Appendix A of the Permit. The Criterion Selection Worksheet is included in Appendix D of this SWPPP.

For detailed information regarding T&E species or other species at Fort Carson please contact the Wildlife Program Office at 719-524-5393. The endangered species impact is screened during the NEPA review process, which is in place for all projects being implemented on the installation.

### **5.2 *Documentation Regarding Historic Properties***

Cultural resources are managed by Fort Carson's Cultural Resources Management Program (719-526-4484 or 719-503-6136). The Turkey Creek Rock Art District on Fort Carson is the only official National Register District managed by the Program. This district resides in the Turkey Creek Watershed and therefore is not affected by the permitted facilities associated with this SWPPP. Fort Carson also manages the Turkey Creek Ranch Historic District and the Wastewater Treatment Plant Incinerator Complex which are both eligible for inclusion on the National Register of Historic Places (NRHP) but are not officially listed. Neither of these historic properties are likely to be affected by the permitted facilities associated with this SWPPP as well. Areas of cultural significance are located within the greater PCMS facility; however, they are not located near the PCMS cantonment area where the permitted facilities are located. Cultural resource information and related Programmatic Agreements are available online at <http://www.carson.army.mil/DPW/nepa.html>.

Fort Carson falls under Criterion A as the activities associated with this SWPPP have no potential to have an adverse effect on historic properties.

Cultural Resources are managed by Fort Carson's Cultural Resources Program (719-526-3806). The Turkey Creek Rock Art District on Fort Carson is the only official National Register District managed by the Cultural Resources Program. This district resides in the Turkey Creek Watershed and therefore is not affected by the permitted facilities associated with this SWPPP. Areas of cultural significance are located within the greater PCMS facility; however, they are not located near the PCMS cantonment area where the permitted facilities are located. Cultural resource information and related documents are available online at <http://www.carson.army.mil/DPW/nepa.html>.

Fort Carson falls under Criterion A as the activities associated with this SWPPP have no potential to have an effect on historic properties.

### **5.3 Documentation Regarding NEPA Review**

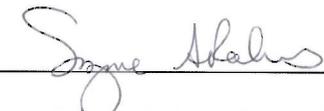
A cross-disciplinary NEPA review was conducted on this SWPPP prior to its finalization. Comments from this review are included in Appendix D.L.

## SECTION 6: SWPPP CERTIFICATION

### 6.1 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 gathered and evaluated the information contained herein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained 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.

Name: SUZANNE A. ROHRS Title: STORMWATER PROGRAM MANAGER

Signature:  Date: 17 AUGUST 2015

### 6.2 Delegation of Signature Authority

Signature authority for all reports and associated information requested by the EPA for stormwater permits, with the exception of the permit applications themselves has been delegated by the Garrison Commander to the following duty positions: Chief of Environmental Division, Chief of Compliance Branch, and Stormwater Program Manager. The memorandum is in effect until superseded or rescinded. Supporting documentation is included in Appendix D.

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## SECTION 7: SWPPP MODIFICATIONS

### 7.1 *Corrective Actions*

Modifications to this SWPPP are required to provide for the continued protection from stormwater pollution in light of changes that may occur within the facility, or indicators of poor control measure performance. The need for modifications and corrective actions may be identified through routine facility (or informal) inspection, monitoring, other means, or through direction from the EPA that triggering conditions have occurred.

Certain conditions require SWPPP review and revision as appropriate so the effluent limits are met and pollutant discharges are minimized. The SWPPP review and revision may include sources of pollution, spill and leak procedures, non-stormwater discharges, and the selection, design, installation, and implementation of control measures.

The following conditions require a **SWPPP review and revision**:

- Unauthorized release or discharge such as spill, leak, or discharge of non-stormwater not authorized by the Permit (or another NPDES permit) to a water of the U.S.;
- A discharge violates a numeric effluent limit (not currently applicable);
- Control measures are not stringent enough for the discharge to meet applicable water quality standards or the non-numeric effluent limits of the Permit;
- A required control measure was never installed, was installed incorrectly, or not in accordance with permit requirements, or is not being properly operated or maintained;
- Whenever a visual assessment shows evidence of stormwater pollution (e.g., color, odor, floating solids, settled solids, suspended solids, or foam).

Other conditions require a review of the SWPPP to determine if modifications are necessary to meet the effluent limits of the Permit. Items to be reviewed and potentially modified include sources of pollution, spill and leak procedures, non-stormwater discharges, and the selection, design, installation, and implementation of control measures.

The following conditions require a **SWPPP review to determine if modifications are necessary**:

- Construction or a change in design, operation, or maintenance at the facility that significantly changes the nature of pollutants discharged from the facility or significantly increases the quantity of pollutants discharged;
- Average of four quarterly sampling results exceeds an applicable benchmark. If less than four benchmark samples have been taken, but the results are such that an exceedance of the four quarter average is mathematically certain, this is considered a benchmark exceedance, triggering review. Upon review of the control measures, complete one of the following two steps:
  - Make the necessary modifications and continue quarterly monitoring until four additional quarters have been completed for which the average does not exceed the benchmark; or
  - Make a determination that no further pollutant reductions are technologically available and economically practicable and achievable in light of best industry practice to meet the

technology-based effluent limits or are necessary to meet the water-quality-based effluent limitations in Parts 2.1 and 2.2 of the Permit, in which case monitoring must continue once per year. Documentation must also be included for rationale for concluding that no further pollutant reductions are achievable and all records related to the documentation must be retained in this SWPPP.

## **7.2 Corrective Action Timeframes**

If a corrective action is needed, all necessary steps must be taken immediately to minimize or prevent the discharge of pollutants until a permanent solution is installed and made operational. This includes the cleanup of any contaminated surface so material will not discharge in subsequent events.

Additional actions necessary should occur before the next storm if possible and within 14 calendar days from the time of discovery of the corrective action conditions. Documentation must be made if it is infeasible to complete the corrective action within 14 calendar days, and the schedule for work must be identified. The work must occur as soon as practicable after the 14 day timeframe, but no longer than 45 days after discovery. EPA notification is required if the completion of corrective action will take longer than 45 days, and must include rationale for an extension and a completion date.

SWPPP modifications required as a result of corrective actions to controls or procedures documented in the SWPPP must occur within 14 calendar days of completing corrective action work.

## **7.3 Corrective Action Documentation**

The required documentation for corrective actions is maintained in the Stormwater Program's tracker spreadsheet that is kept on the internal sharepoint. The tracker maintains records of maintenance, inspections, corrective actions, and non-stormwater discharge investigations in addition to corrective actions. This tracker is available upon request. . Amendments to the SWPPP are tracked in the Amendment Log, included in Appendix D of this SWPPP.

## **SECTION 8: SWPPP APPENDICES**

Attach the following documentation to the SWPPP:

Appendix A – MSGP

Appendix B – Notice of Intent Form and EPA Authorization

Appendix C – Confidential or Restricted Information

Appendix D – Additional MSGP Documentation

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## Appendix A – MSGP

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Available online at [http://water.epa.gov/polwaste/npdes/stormwater/upload/msgp2015\\_finalpermit.pdf](http://water.epa.gov/polwaste/npdes/stormwater/upload/msgp2015_finalpermit.pdf).

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## Appendix B – Notice of Intent Form and EPA Authorization

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## Appendix C – Confidential or Restricted Information

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## Appendix D – Additional MSGP Documentation

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## Additional MSGP Documentation

**For:**

Fort Carson

Evans St., Bldg 1219

Fort Carson, CO 80913

719-526-1697 TEL

*Placeholder for Facility Permit Tracking Number*

## Contents

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A. Employee Training .....	D-5
B. Maintenance .....	D-9
C. Routine Facility Inspection Reports .....	D-11
D. Quarterly Visual Assessment Reports .....	D-17
E. Monitoring results .....	D-21
F. Deviations from assessment or monitoring schedule .....	D-23
G. Corrective Action Documentation .....	D-25
H. Benchmark Exceedances .....	D-27
I. Impaired Waters Monitoring: Documentation of Natural Background Sources or Non-Presence of Impairment Pollutant .....	D-29
J. Active/Inactive status change.....	D-31
K. SWPPP Amendment Log.....	D-33
L. Additional Documentation to Support Eligibility Considerations Under Other Federal Laws....	D-35
M. Miscellaneous Documentation .....	D-39

## A. Employee Training

Training records are tracked internally and can be provided upon request.

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as a placeholder for Training cd.

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## B. Maintenance

### Instructions:

- Include in your records documentation of maintenance and repairs of control measures and industrial equipment (see Part 2.1.2.3 and 5.5), including:
  - the control measure/equipment maintained,
  - date(s) of regular maintenance,
  - date(s) of discovery of areas in need of repair/replacement, and for repairs, date(s) that the control measure/equipment was returned to full function, and
  - the justification for any extended maintenance/repair schedules and the notification to your EPA Region that you need an extension past 45 days to complete repairs/maintenance.
- As a reminder:
  - you are required to take all reasonable steps to prevent or minimize the discharge of pollutants until the final repair or replacement is implemented.
  - final repair/replacements of stormwater controls should be completed as soon as feasible but no later than 14 days, or if that is infeasible within 45 days.
  - if the completion of stormwater control repairs/replacement will exceed the 45 day timeframe, you may take the minimum additional time necessary to complete the maintenance, provided you notify the EPA Regional Office and document your rationale in your SWPPP.
- Provide information, as shown below, to document your maintenance activities for each control measure and industrial equipment. Repeat as necessary by copying and pasting the information below for additional control measures.

Note that maintenance documentation in this section is separate from required corrective action documentation. For any Part 4 corrective action triggering conditions, you must include documentation in section G of this Template.

**Control measure maintenance records are documented on the Stormwater Program's tracker spreadsheet that is kept on the internal sharepoint. This tracker is available upon request.**

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## C. Routine Facility Inspection Reports

The blank inspection form is included below. Completed inspection reports are kept on the internal sharepoint site.

### Instructions:

- Include in your records copies of all routine facility inspection reports completed for the facility.
- The sample inspection report is consistent with the requirements in Part 3.1.2 of the 2015 MSGP relating to routine facility inspections. Facilities subject to state industrial stormwater permits may also find this form useful. **If your permitting authority provides you with an inspection report, use that form.**

### Using the Sample Routine Facility Inspection Report

- This inspection report is designed to be customized according to the specific control measures and activities at your facility. For ease of use, you should take a copy of your site plan and number all of the stormwater control measures and areas of industrial activity that will be inspected. A brief description of the control measures and areas that were inspected should then be listed in the site-specific section of the inspection report.
- You can complete the items in the “General Information” section that will remain constant, such as the facility name, NPDES tracking number, and inspector (if you only use one inspector). Print out multiple copies of this customized inspection report to use during your inspections.
- When conducting the inspection, walk the site by following your site map and numbered control measures/areas of industrial activity to be inspected. Also note whether the “Areas of Industrial Materials or Activities exposed to stormwater” have been addressed (customize this list according to the conditions at your facility). Note any required corrective actions and the date and responsible person for the correction.

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	Structural Control Measure	Control Measure is Operating Effectively?	If No, In Need of Maintenance, Repair, or Replacement?	SWPPP Revision Required?*	Maintenance or Corrective Action Needed and Notes
7		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	<input type="checkbox"/> Yes <input type="checkbox"/> No	
8		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	<input type="checkbox"/> Yes <input type="checkbox"/> No	
9		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	<input type="checkbox"/> Yes <input type="checkbox"/> No	
10		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	<input type="checkbox"/> Yes <input type="checkbox"/> No	

**Areas of Industrial Materials or Activities Exposed to Stormwater**

Below are some general areas that should be assessed during routine inspections. Customize this list as needed for the specific types of industrial materials or activities at your facility that are potential pollutant sources. Identify if maintenance or corrective action is needed. If maintenance is needed, fill out section B of this template. If corrective action is needed, fill out section G of this template.

	Area/Activity	Inspected?	Controls Adequate (appropriate, effective and operating)?	SWPPP Revision Required?*	Maintenance or Corrective Action Needed and Notes
1	Material loading/unloading and storage areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	Equipment operations and maintenance areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	Fueling areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	Outdoor vehicle and equipment washing areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	Waste handling and disposal areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6	Erodible areas/construction	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
7	Non-stormwater/illicit connections	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
8	Salt storage piles or pile containing salt	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
9	Dust generation and vehicle tracking	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

	Area/Activity	Inspected?	Controls Adequate (appropriate, effective and operating)?	SWPPP Revision Required?*	Maintenance or Corrective Action Needed and Notes
10	Processing areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
11	Areas where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
12	Immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
13	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
14	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

**SWPPP Revision Explanation**

IF a SWPPP revision is necessary, explain why or why not in the space below. SWPPP revisions may not be necessary if a deficiency is minor and can be easily during the inspection or immediately after. Revisions may be necessary if a deficiency is major or due to a systemic flaw.  
\* SWPPP revisions needed must be made within 14 calendar days of completing corrective action work.

**Discharge Points**

At discharge points, describe any evidence of, or the potential for, pollutants entering the drainage system. Also describe observations regarding the physical condition of and around all outfalls, including any flow dissipation devices, and evidence of pollutants in discharges and/or the receiving water. Identify if any corrective action is needed.

**Non-Compliance**

Describe any incidents of non-compliance observed and not described above:

**Additional Control Measures**

Describe any additional control measures needed to comply with the permit requirements:

**Notes**

Use this space for any additional notes or observations from the inspection:

**INSPECTOR INFORMATION**

**Print name and title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**CERTIFICATION STATEMENT**  
**(Only to be signed by Signatory Authority)**

“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 gathered and evaluated 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.”

**Print name and title:** \_\_\_\_\_

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## D. Quarterly Visual Assessment Reports

The blank assessment form is included below. Completed assessment reports are kept on the internal sharepoint site.

**Instructions:**

- Include in your records copies of all quarterly visual assessment reports completed for the facility (Part 3.2.2). An example quarterly visual assessment report can be found on the following page.

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### MSGP Quarterly Visual Assessment Form

(Complete a separate form for each outfall you assess)

Name of Facility: \_\_\_\_\_ NPDES Tracking No. **Placeholder**  
Outfall Name: "Substantially Identical Discharge Point"?  Yes (identify substantially identical outfalls):  
 No  
Person(s)/Title(s) collecting sample: \_\_\_\_\_  
Person(s)/Title(s) examining sample: \_\_\_\_\_  
Date & Time Discharge Began: \_\_\_\_\_ Date & Time Sample Collected: \_\_\_\_\_ Date & Time Sample Examined: \_\_\_\_\_

Substitute Sample/Deviation from normal sample?  No  Yes (identify quarter/year when sample was originally scheduled to be collected): \_\_\_\_\_

Nature of Discharge:  Rainfall  Snowmelt

If rainfall: Rainfall Amount: \_\_\_\_\_ Previous Storm Ended > 72 hours Before Start of This Storm?  Yes  No\* (explain): \_\_\_\_\_

#### Pollutants Observed

Color  None  Other (describe): \_\_\_\_\_  
Odor  None  Musty  Sewage  Sulfur  Sour  Petroleum/Gas  
 Solvents  Other (describe): \_\_\_\_\_  
Clarity  Clear  Slightly Cloudy  Cloudy  Opaque  Other  
Floating Solids  No  Yes (describe): \_\_\_\_\_  
Settled Solids\*\*  No  Yes (describe): \_\_\_\_\_  
Suspended Solids  No  Yes (describe): \_\_\_\_\_  
Foam (gently shake sample)  No  Yes (describe): \_\_\_\_\_  
Oil Sheen  None  Flecks  Globs  Sheen  Slick  
 Other (describe): \_\_\_\_\_  
Other Obvious Indicators of Stormwater Pollution  No  Yes (describe): \_\_\_\_\_

\* The 72-hour interval can be waived when the previous storm did not yield a measurable discharge or if you are able to document (attach applicable documentation) that less than a 72-hour interval is representative of local storm events during the sampling period.

\*\* Observe for settled solids after allowing the sample to sit for approximately one-half hour.

Identify probably sources of any observed stormwater contamination. Also, include any additional comments, descriptions of pictures taken, and any corrective actions necessary below (attach additional sheets as necessary).

#### Certification Statement (Only to be signed by Signatory Authority)

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 gathered and evaluated 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.

A. Name: \_\_\_\_\_ B. Title: \_\_\_\_\_  
C. Signature: \_\_\_\_\_ D. Date Signed: \_\_\_\_\_

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## E. Monitoring results

All data is kept electronically and is available upon request.

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## **F. Deviations from assessment or monitoring schedule**

Deviations from the appropriate schedules are annotated in the quarterly visual assessment forms and on the DMRs for quarterly benchmark sampling.

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## G. Corrective Action Documentation

**Instructions:**

Within 24 hours of becoming aware of a condition identified in Parts 4.1 or 4.2 of the 2015 MSGP, document the existence of the condition and subsequent actions. Note that this information must be summarized in the annual report (as required in Part 7.5 of the 2015 MSGP).

Spills and leaks are reported through the spill hotline or by calling 911 and routing through the Fort Carson Fire Department. Spill and leak logs are kept with the spill database. Corrective action documentation for spills or leaks is completed using the Fort Carson Spill Reporting Form (Form FC Form 1200-E). In the event additional documentation is needed for other conditions triggering a corrective action, another form will be utilized.

Corrective actions are documented on the Stormwater Program's tracker spreadsheet that is kept on the internal sharepoint. This information is available upon request.

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## H. Benchmark Exceedances

**Instructions:**

Include in your records documentation of any four quarter average benchmark exceedances and how they were responded to, including either:

- (1) corrective action taken (Parts 4.2 and 6.2.1.2),
- (2) a finding that the exceedance was due to natural background pollutant levels (Part 6.2.1.2),
- (3) a determination from the EPA Regional Office that benchmark monitoring can be discontinued because the exceedance was due to run-on, or
- (4) a finding that no further pollutant reductions were technologically available and economically practicable and achievable in light of best industry practice consistent with Part 6.2.1.2 of the 2015 MSGP.

Date:

Pollutant Exceeded and Results:

Quarter 1 (Sample date:) Result:

Quarter 2 (Sample date:) Result:

Quarter 3 (Sample date:) Result:

Quarter 4 (Sample date:) Result:

Average Result:

Benchmark Value:

Document how benchmark exceedance(s) responded to:

Corrective action review completed (ensure documentation is included in section G of this Template)

Finding that the exceedance was due to natural background pollutant levels

Pollutant(s):

Attach data and/or studies that tie the presence of the pollutant causing the exceedance in your discharge to natural background sources in the watershed.

Determination from EPA Regional Office that benchmark monitoring can be discontinued because the exceedance was due to run-on

Pollutant(s):

Attach documentation from EPA Regional Office.

Finding that no further pollutant reductions are technologically available and economically practicable and achievable in light of best industry practice consistent with Part 6.2.1.2.

Pollutant(s):

Attach documentation supporting this finding.

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## I. Impaired Waters Monitoring: Documentation of Natural Background Sources or Non-Presence of Impairment Pollutant

**Instructions:**

This section applies only if your facility:

- Discharges directly to an impaired water without an EPA approved or established total maximum daily load (TMDL), and either your impaired waters monitoring results shows that the pollutant(s) for which the water is impaired is
  1. Not present and not expected to be present in your discharge, or
  2. Present, but you have determined its presence is caused solely by natural background sources. See Part 6.2.4.1 of the 2015 MSGP.

If # 1 applies to your facility, include here documentation that the impairment pollutant(s) was not detected in your discharge sample.

If # 2 applies to your facility, include the following documentation here:

- An explanation of why you believe that the presence of the pollutant(s) causing the impairment in your discharge is not related to the activities at your facility; and
- Data and/or studies that tie the presence of the pollutant(s) causing the impairment in your discharge to natural background sources in the watershed.

Note: You are reminded that the permit requires you to include a notification that you have met either condition # 1 or # 2 (above) in your monitoring report that you submit to EPA.

**Date:**

Check one of the boxes below and complete the additional documentation:

**#1 – Pollutant(s) for which the water is impaired is not present and not expected to be present in your discharge**

Attach documentation that the impairment pollutant(s) was not detected in your discharge sample(s).

**#2 – Pollutant(s) for which the water is impaired is present, but you have determined its presence is caused solely by natural background sources.**

Attach the following documentation:

- An explanation of why you believe that the presence of the pollutant(s) causing the impairment in your discharge is not related to the activities at your facility; and
- Data and/or studies that tie the presence of the pollutant(s) causing the impairment in your discharge to natural background sources in the watershed.

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## J. Active/Inactive status change

Site activity status will be documented on routine inspection forms (i.e. the form will be filled out noting that no activities/materials are stored outdoors). In the event that a quarterly visual sample cannot be obtained from a site or a substantially identical outfall due to inactivity, documentation will be retained below.

**Instructions:**

If your facility changes its status from active to inactive and unstaffed (or from inactive/unstaffed to active), include documentation in this section to support your claim.

Date:

New Facility Status:  Inactive and Unstaffed  Active

Reason for change in status:

This site is inactive and unstaffed, and has no industrial materials or activities exposed to stormwater, in accordance with the substantive requirements in 40 CFR 122.26(g)(4)(iii) as signed and certified in Section 7 below.

Facilities that no longer require coverage under the MSGP will be listed here for tracking purposes.

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## K. SWPPP Amendment Log

**Instructions:**

Include in your records:

- A log of the date and description of any amendments to your SWPPP.

Fill in the appropriate columns of this table for each amendment to your SWPPP. Copy and paste additional rows into the table as necessary.

Amend. No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			

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## L. Additional Documentation to Support Eligibility Considerations Under Other Federal Laws

For detailed information regarding T&E species or other species at Fort Carson please contact the Wildlife Program Office at 719-524-5393.

Cultural resources are managed by Fort Carson's Cultural Resources Management Program (719-526-4484 or 719-503-6136). Cultural resource information and related Programmatic Agreements are available online at <http://www.carson.army.mil/DPW/nepa.html>.

Comments received from the NEPA review are attached to this appendix for documentation.

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as a placeholder for Endangered Species documentation.

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## ***5.2 Documentation Regarding Historic Properties***

Cultural resources are managed by Fort Carson's Cultural Resources Management Program (719-526-4484 or 719-503-6136). The Turkey Creek Rock Art District on Fort Carson is the only official National Register District managed by the Program. This district resides in the Turkey Creek Watershed and therefore is not affected by the permitted facilities associated with this SWPPP. Fort Carson also manages the Turkey Creek Ranch Historic District and the Wastewater Treatment Plant Incinerator Complex which are both eligible for inclusion on the National Register of Historic Places (NRHP) but are not officially listed. Neither of these historic properties are likely to be affected by the permitted facilities associated with this SWPPP as well. Areas of cultural significance are located within the greater PCMS facility; however, they are not located near the PCMS cantonment area where the permitted facilities are located. Cultural resource information and related Programmatic Agreements are available online at <http://www.carson.army.mil/DPW/nepa.html>. Fort Carson falls under Criterion A as the activities associated with this SWPPP have no potential to have an adverse effect on historic properties.

## M. Miscellaneous Documentation

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REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
**US ARMY INSTALLATION MANAGEMENT COMMAND**  
**DIRECTORATE OF PUBLIC WORKS**  
**1626 EVANS STREET, BLDG 1219**  
**FORT CARSON, CO 80913-4143**

IMCR-PWE

MEMORANDUM FOR RECORD

SUBJECT: Annual Deicing Certification for Multi-Sector General Permit (MSGP)

1. Deicing operations for aircraft and runways do not occur at Butts Army Air Field (BAAF) or at the Pinon Canyon Maneuver Site (PCMS) Clamshell facility.
2. Colorado Springs Municipal Airport is responsible for deicing operations at the Arrival Departure Airfield Control Group and, accordingly, MSGP requirements related to deicing, including monitoring and increased inspections occurring during deicing season as discussed in Section 1.5.2 of the SWPPP.
3. To comply with the effluent limitation of Permit Section 8.S.8.1, airports must certify annually in the annual report that pavement deicers containing urea are not used, or meet the effluent limitation through stormwater monitoring.
4. Fort Carson meets the effluent limitation by not using deicers containing urea, as the deicing of aircraft and runways does not occur at the Sector S facilities managed by Fort Carson. This certification statement will be included in the annual report.
5. The DPW-ED POC is the undersigned at 719-526-1697.

"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 gathered and evaluated the information contained therein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained 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."

SUZANNE A. ROHRS  
Stormwater Program Manager

