

**U.S. AIR FORCE STORM WATER POLLUTION PREVENTION  
PLAN**

Buckley Air Force Base



1 September 2015



# STORM WATER POLLUTION PREVENTION PLAN FOR BUCKLEY AIR FORCE BASE COLORADO

## **About This Plan**

This installation-specific Environmental Management Plan (EMP) is based on the U.S. Air Force's (AF) standardized Storm Water Pollution Prevention Plan (SWPPP) template. This plan is not an exhaustive inventory of all storm water requirements and practices. Where applicable, external resources, including Air Force Instructions (AFIs); AF Playbooks; federal, state, local, and country specific Final Governing Standards (FGS) or Overseas Baseline Guidance Documents (OEBGD); and permit requirements, as applicable, are referenced.

Each section of this SWPPP begins with standardized, AF-wide "common text" language that addresses AF, Department of Defense (DoD), and federal requirements, including the EPA General Permit. This common text language is restricted from editing to ensure that it remains standard throughout all plans. The common text language is maintained and updated by the designated Office of Primary Responsibility (OPR) with assistance from the Office of Collateral Responsibility (OCR), as appropriate. Immediately following the AF-wide common text sections, are Installation sections. The Installation sections contain installation-specific content to address state, local, and installation-specific requirements. Installation sections are unrestricted and are maintained and updated by installation or Installation Support Team (IST) personnel.

This document is optimized to be accessed and viewed electronically. The eDASH website at <https://cs1.eis.af.mil/sites/edash/> is the primary communication tool for AF EMPs.

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**CERTIFICATION**

This section contains the certification, signed by the appropriate Responsible Official. Insert scanned document in to this section, or insert the statement prescribed by the regulator below.

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.

Responsible Official Certification

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

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_



# STORM WATER POLLUTION PREVENTION PLAN FOR BUCKLEY AIR FORCE BASE COLORADO

## **1.0 OVERVIEW AND SCOPE**

This SWPPP specifies how installation personnel prevent discharges to storm water of potential pollution from industrial operations. It contains procedures intended to minimize the risk of industrial storm water pollution in drainage areas located within the installation's boundaries.

The SWPPP describes installation:

- Identification and evaluation of activities and potential storm water pollution sources
- Identification and implementation of storm water Best Management Practices (BMPs)
- Pollution reduction measures and procedures
- Monitoring and inspection procedures

The installation Storm Water Pollution Prevention Team (SWPPT) is responsible for developing, implementing, and managing the SWPPP.

### ***Installation Supplement – Overview and Scope***

Buckley AFB is located on approximately 3,200 acres near the City of Aurora, Arapahoe County, Colorado. A vicinity map showing the base and surrounding area is provided as Figure 1. The 460 Space Wing (460 SW) is the host for Buckley AFB. The 460 SW's mission is to provide combatant commanders with superior global surveillance, worldwide missile warning, homeland defense and expeditionary forces. The 460 Mission Support Group (460 MSG) provides quality of life, human resources, force protection, infrastructure and environmental stewardship to support the 460 SW, its customers, and base operational missions. The 140 Wing Colorado Air National Guard (140 WG COANG) operates and maintains the Buckley AFB airfield. The Colorado Army National Guard's (COARNG) Army Aviation Support Facility (AASF) maintains aircraft, supports airlift detachment and other mission related activities. Several other Department of Defense organizations operate on Buckley AFB, but do not perform regulated industrial activities exposed to stormwater and are not included in this plan.



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### Outfall and Receiving Water Description

Surface water drainage on Buckley AFB is identified by four major drainage basins: Sand Creek Drainage Basin, Murphy Creek Drainage Basin, Granby Ditch Drainage Basin and East Toll Gate Creek Drainage Basin. Figure 2 shows the Buckley AFB boundary, outfalls, general stormwater flow direction, and receiving waters. Appendix C contains detailed site maps for Buckley AFB as required by the MSGP and additional details on regulated industrial facilities, potential pollutant sources, and controls. The information contained in Appendix C is considered confidential business information as defined in Appendix A of the 2015 MSGP and Title 40 Code of Federal Regulations (CFR) Part 2.

Stormwater runoff leaving Buckley AFB flows into named and unnamed tributaries to Sand Creek, which generally flows to the northwest and discharges into the South Platte River about 12 miles downstream from Buckley AFB. Drainage from the eastern portion of the Base flows into Murphy Creek. Murphy Creek is located east of the Base and flows to the northwest until it joins Sand Creek. Drainage from the northeastern and northern portion of the Base flows to Sand Creek. Drainage from the northwestern portion of the Base flows into the City of Aurora storm sewer system via an open channel ditch and Granby Ditch. Drainage on the western and southwestern portion of the Base flows directly to East Toll Gate Creek. The East Toll Gate Creek Drainage Basin and Sand Creek Drainage Basin contain the industrial facilities and activities covered by the MSGP and this SWPPP.

East Toll Gate Creek is identified as impaired for selenium in the State of Colorado 303(d) listing of impaired waterways, but a total maximum daily load (TMDL) has not been established to date. According to the State of Colorado's 303(d) list for 2012 presented on the EPA's website, [http://iaspub.epa.gov/tmdl\\_waters10/attains\\_waterbody.control?p\\_au\\_id=COSPUS16c\\_0601&p\\_list\\_id=COSPUS16c\\_0601&p\\_cycle=2012](http://iaspub.epa.gov/tmdl_waters10/attains_waterbody.control?p_au_id=COSPUS16c_0601&p_list_id=COSPUS16c_0601&p_cycle=2012), East Toll Gate Creek is impaired for selenium, including the section of East Toll Gate Creek present on Buckley AFB. According to the above site, a TMDL for this waterway needs to be developed in the future.

Sand Creek is also identified as an impaired waterway by the State of Colorado, but a TMDL has not been established to date. Sand Creek is impaired for selenium and Escherichia Coli (E. Coli) according to the State of Colorado 303(d) list for 2012 presented on the EPA's website: [http://ofmpub.epa.gov/waters10/attains\\_waterbody.control?p\\_au\\_id=COSPUS16a\\_00&p\\_list\\_id=COSPUS16a\\_00&p\\_cycle=2012](http://ofmpub.epa.gov/waters10/attains_waterbody.control?p_au_id=COSPUS16a_00&p_list_id=COSPUS16a_00&p_cycle=2012). Sand Creek receives stormwater discharge from several areas on Buckley AFB, including industrial activities discharging through Outfall 5.

Wetlands at Buckley AFB are mostly associated with East Toll Gate Creek and Williams Lake. Williams Lake is the only surface water body located on the Base. This lake, which is man-made, is located on the eastern side of the Base and was previously used by Base personnel for recreational purposes. Williams Lake is no longer being filled and the installation plans to remove the dam structure in the future. There are numerous outfalls identified to carry stormwater runoff flows from the drainage basins described above off of Buckley AFB; however, only the East Toll Gate Creek Drainage Basin and Sand Creek Drainage Basin are associated with industrial stormwater drainage areas of the Base.

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**Figure 2**  
**Buckley AFB Site Map**

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Regulated industrial activities exposed to stormwater are performed in the following four sub-drainage basins on Buckley AFB:

### East Toll Gate Creek Drainage Basin - Sub-Drainage Basin 1 and Outfalls 1A, 1B, 1C, 1D, and 1E

Sub-Drainage Basin 1 is located on the southwest portion of Buckley AFB and is a subbasin of the East Toll Gate Creek Drainage Basin. Regulated industrial activities exposed to stormwater occurring in this drainage basin include aircraft refueler parking, aircraft and ground support equipment storage, aircraft deicing, as well as portions of the runway and taxiways. Stormwater flow is conveyed to East Toll Gate Creek by both sheet flow and through Outfalls 1A, 1B, 1C, 1D and 1E. Outfalls 1A through 1E are pipe end sections that discharge to earthen ditches prior to discharging from the installation or into East Toll Gate Creek. Potential pollutants generated from regulated industrial activities include petroleum, oils, and lubricants (POLs) from vehicles, refueling trucks, Aerospace Ground Equipment (AGE), and aircraft. Helicopter washing is accomplished in this drainage basin, but all wash waters are diverted to the sanitary sewer system. Other potential pollutants co-mingling with stormwater include propylene glycol from aircraft deicing on the East Deicing Pad, and potassium acetate from runway and taxiway deicing. Outfalls 1A, 1B, 1C, and 1D are substantially similar as each conveys a portion of the runway and taxiway area of Buckley AFB.

### East Toll Gate Creek Drainage Basin - Sub-Drainage Basin 2 and Outfall 2

Sub-Drainage Basin 2 is located on the western side of Buckley AFB and is also a subbasin in the East Toll Gate Creek major drainage basin. Regulated industrial activities exposed to stormwater occurring in this subbasin include the main aircraft tarmac; aircraft maintenance; equipment storage; equipment maintenance and storage; aircraft refueler parking; fuel storage; the northern portion of the East Deicing Pad; and portions of the runway and taxiways. This subbasin drains through Outfall 2 that consists of a natural drainage channel located 1,500 feet south of the East A-Basin Avenue and Eldora Drive intersection. Stormwater is conveyed to the channel through a 48 inch diameter reinforced concrete culvert at the Base boundary under the perimeter security road and fence. Stormwater flow is conveyed to East Toll Gate Creek by channel flow. Potential pollutants generated from regulated activities include POLs from vehicles and refueling trucks, support equipment, or aircraft. Other potential pollutants co-mingling with stormwater include propylene glycol from aircraft deicing, and potassium acetate from runway and taxiway deicing. Aircraft shelters in this drainage basin are equipped with high expansion foam for fire suppression.

### East Toll Gate Creek Drainage Basin - Sub-Drainage Basin 3 and Outfall 3

Sub-Drainage Basin 3 is located on the northwestern corner of Buckley AFB and is also part of the East Toll Gate Creek major drainage basin. Regulated industrial activities exposed to stormwater occurring in this subbasin include vehicle maintenance and washing. The outfall consists of stormwater flow from a detention pond located approximately 850 feet west of Telluride Street and approximately 450 feet south of East Steamboat Avenue. Stormwater from the pond flows over a concrete slab at the Buckley AFB boundary into Granby Ditch. Granby Ditch is part of the City of Aurora's stormwater drainage system eventually joining East Toll Gate Creek. Granby Ditch is a natural drainage channel which has been enlarged and rip rapped over its entire length. Potential pollutants generated from regulated industrial activities include POLs from ground support vehicle maintenance and outdoor storage.

### Sand Creek Drainage Basin - Sub-Drainage Basin 5 and Outfall 5

Sub-Drainage Basin 5 is located on the northern edge of Buckley AFB in the Sand Creek major

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drainage basin. Regulated industrial activities exposed to stormwater in this subbasin include a material storage yard. The material storage yard is an auxiliary storage area that is primarily used to store inert material such as pallets; however, on occasion lead-acid batteries, tires, used oil and scrap metal from various base operations are stored at this facility. All liquid materials at this site are stored on secondary containment structures and accumulated stormwater is inspected before being released. Stormwater from this area of the base discharges through Outfall 5 into an unnamed tributary of Sand Creek.

**2.0 INSTALLATION PROFILE**

<b>Scope of Plan</b>	Buckley Air Force Base
<b>Facility Operator</b>	460 Space Wing (460 SW) Address: 510 S. Aspen Street City, State, Zip Code: Buckley Air Force Base, CO 80011 Telephone Number: 720-847-7245
<b>Office of Primary Responsibility (OPR)</b>	460 Civil Engineer Squadron Installation Management Flight, Environmental Element (460 CES/CEI) has overall responsibility for implementing SWPPP and is the lead organization for monitoring compliance with applicable federal, state, and local storm water regulations
<b>Responsible Official/Legally Responsible Person</b>	460 Space Wing Commander Office Symbol: 460 SW/CC Name: John W. Wagner, Colonel, USAF Telephone Number: 720-847-4601
<b>Water Quality Program Manager (SWPPP Contact)</b>	Name: Ms. Celiann M. Gonzalez Title: Chief, Environmental Element Telephone Number: 720-847-7245 Email address: celiann.gonzalez_juarbe@us.af.mil
<b>Permitting Authority</b>	Federal Environmental Protection Agency (EPA) EPA Region 8 is primary
<b>Permit Type</b>	General
<b>Permit Number/Permit Tracking Number</b>	COR05F000 Permit Tracking Number not yet assigned
<b>Permit Expiration Date</b>	4 June 2020
<b>SIC Code(s)</b>	4581 for Regulated Industrial Activities
<b>NAICS Code(s)</b>	488119
<b>General Location Map</b>	Figure 1 Buckley AFB General Location Map
<b>Site Map</b>	Figure 2 Buckley AFB Site Map
<b>Applicable Federal and AF regulatory references</b>	Clean Water Act EPA 2015 Multi-Sector General Permit For Storm water Discharges Associated With Industrial Activity AFI 32-1067
<b>Applicable State and local regulatory references</b>	Not Applicable, EPA Region 8 is the CWA regulatory authority for Federal Facilities in Colorado

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## **3.0 ENVIRONMENTAL MANAGEMENT SYSTEM**

The AF environmental program adheres to the Environmental Management System (EMS) framework and its Plan, Do, Check, Act cycle for ensuring mission success. Executive Order 13693, U.S. Department of Defense Instruction (DODI) 4715.17, AFI 32-7001, and international standard, ISO 14001:2004, provide guidance on how environmental programs should be established, implemented, and maintained to operate under the EMS framework.

The storm water program employs EMS-based processes to achieve compliance with all legal obligations and current policy drivers, effectively managing associated risks, and installing a culture of continuous improvement. The SWPPP serves as an administrative operational control that defines compliance-related activities and processes.

## **4.0 GENERAL ROLES AND RESPONSIBILITIES**

The SWPPP requires the full involvement of all organizations and personnel on the installation, including contractors and other Department of Defense organizations performing regulated industrial activities. The major roles/organizations involved in supporting the SWPPP at a typical installation include:

- Installation Commander
- Base Civil Engineer
- Environmental Element Chief
- Water Quality Program Manager
- Storm Water Pollution Prevention Team (identified below)
- Installation Personnel
- Air Force Civil Engineer Center (AFCEC)
- Unit Environmental Coordinator (UEC, see AFI 32-7001)

SWPP Team members are identified by name or title, along with their individual responsibilities, in the Installation Supplement below.

Additional organizational and personnel roles and responsibilities are described throughout this SWPPP and in referenced documents. Detailed information about typical SWPPP responsibilities is available in the Water Quality Playbook and AFI 32-1067. Additional installation-specific roles and responsibilities are documented in the BMPs below.

### ***Installation Supplement – General Roles and Responsibilities***

The Buckley AFB SWPPT is responsible for developing, implementing, maintaining, and revising this SWPPP to ensure stormwater pollution is minimized and MSGP requirements are met. The SWPPT reports to the Environmental, Safety and Occupational Health Council (ESOHC), the Buckley AFB executive steering group for environmental, safety, and occupational health matters. The SWPPT will update the ESOHC concerning this SWPPP and stormwater pollution prevention efforts as appropriate. The following Buckley AFB staff comprise the SWPPT.

460 CES/CEIEQ

Title: Water Quality Program Manager and Support Contractor

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Responsibilities: Serve as the SWPP Leadership Team. The Water Quality Manager and Support Contractor have the primary responsibility for maintenance and administration of the SWPPP. The Water Quality Program Manager or Support Contractor will perform visual inspections and participate in routine facility inspections.

460 CES/CEIEQ

Title: Chief, Environmental Element

Responsibilities: Advocates for and approves environmental projects/activities required to implement this SWPPP.

460 CES/CEO

Title: Heavy Equipment

Responsibilities: Advise the SWPPT of changes to industrial operations including stormwater conveyance system maintenance projects and maintain non-airfield structural BMPs on the installation.

460 CES/CEPD

Title: Program Development

Responsibilities: Represent planning and development organization on base in regards to SWPPP development and implementation. Advise the SWPPT of upcoming facility and infrastructure projects that may include potential stormwater pollutants and identify planned structural stormwater BMPs for future development.

460 LRS/LVS

Title: Transportation Environmental Manager

Responsibilities: Represent fuel management, vehicle maintenance and vehicle operation organizations in regards to SWPPP development and implementation. Advise the SWPPT of changes in vehicle maintenance and operations.

140 WG COANG

Title: 140 Wing Environmental Manager

Responsibilities: Represent Colorado Air National Guard units operating on Buckley AFB including aircraft maintenance, vehicle maintenance, and airfield snow and ice control organizations in regards to SWPPP development and implementation. Advise the SWPPT of changes to industrial operations related to aircraft maintenance and operations, including deicing operations and aircraft/equipment washing.

COARNG

Title: Army Aviation Support Facility (AASF) Environmental Manager

Responsibilities: Represents Army helicopter maintenance organizations in regards to SWPPP development and implementation. Advise the SWPPT of changes to industrial operations related to helicopter maintenance and operations, including washing.

460 SW/JA

Title: Judge Advocate Office

Responsibilities: Provide as-needed legal support to the SWPPT.

460 SW/PA

Title: Public Affairs Office

Responsibilities: Provide as-needed public outreach support to the SWPPT.

The SWPPT will meet as needed to review SWPPP implementation within each organization and determine if any SWPPP or BMP changes are required within each organization. The SWPPT

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Leader will determine the meeting format. The SWPPT Leader may choose to conduct meetings with individual SWPPT members to coincide with other SWPPP activities, such as quarterly facility inspections or annual report generation. Records of SWPPT meetings, as required, will be maintained in Appendix N.

### **Stormwater Pollution Prevention Plan Maintenance and Updates**

This SWPPP is a “living” document and will be periodically reviewed and updated. This SWPPP will be reviewed at least annually, but more frequent reviews maybe required if operational changes or inspection results dictate. This SWPPP will be updated whenever one of the following activities occur:

- There is a change in design, construction, operation, or maintenance at Buckley AFB which has a significant effort on stormwater discharge, or potential for discharge, of pollutants from Buckley AFB.
- There is an unauthorized release or discharge discovered.
- Visual assessments indicate obvious signs of stormwater pollution (e.g., color, odor, floating solids, settled solids, suspended solids, foam).
- Inspection, monitoring, or investigation by Buckley AFB personnel, local, State or Federal officials, determines that this SWPPP is ineffective in eliminating or significantly minimizing pollutants. If any of the facility investigations indicates that a SWPPP modification is required, the SWPPP must be updated within 14 calendar days of completion of the corrective action.
- The EPA Director notifies Buckley AFB in writing that the SWPPP does not meet one of more of the minimum requirements of the 2015 MSGP. Changes required by the EPA Director must be incorporated into the SWPPP and implemented within 30 days of receipt of the notification.

The SWPPP must be certified and signed by the Installation Commander or Duly Authorized Representative of this individual.

### **5.0 TRAINING**

The installation implements storm water training programs to ensure that base personnel, contractors, and visitors are aware of their roles in the program and the importance of their participation to its success. DoDI 4715.10, *Environmental Education, Training, and Career Development*, implements policy and provides the procedures for environmental education, training, and career development programs for DoD personnel. The installation ensures that appropriate personnel complete required education, training, and certification necessary to perform their jobs. Priority is given to the use of AF-approved education/training sources such as AFIT training courses and official AF-approved computer-based training resources (e.g., ESOH-TN, ADLS, ArcNet, etc.) to meet training needs.

Specific training requirements are outlined in Employee Training Control Measure in Section 7 below. Training records are maintained IAW the Recordkeeping and Reporting section of this plan.

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## *Installation Supplement – Training*

Buckley AFB implements a comprehensive environmental training program for installation personnel to avoid pollution through preventive measures and, in the event of a pollutant release, to react according to ensure the safety of personnel and protection of the environment. The following training programs have been implemented at Buckley AFB and support the overall stormwater management program:

- Industrial Stormwater Pollution Prevention Training is provided at least once per year to all personnel associated with implementing this SWPPP, including members of the SWPPT and employees working in industrial areas who are responsible for implementing stormwater BMPs. The Industrial Stormwater Pollution Prevention Training includes the overall goals of the Buckley AFB industrial stormwater program, the components of this SWPPP, and stormwater controls. The training is provided by the Buckley AFB Water Quality Manager, the 140 WG COANG Environmental Manager, and the COARNG Environmental Branch who maintain training attendance rosters. The current Industrial Stormwater Pollution Prevention Training materials and attendance records are included as Appendix F of this SWPPP.
- Hazardous Waste Management Training is provided to all Buckley AFB personnel whose job entails working with hazardous waste or who are exposed to hazardous wastes as required by EPA, Occupational Safety and Health Administration (OSHA) and Colorado regulations. The hazardous waste training program is dependent on employee responsibilities, but generally includes the following topics:
  - Identification of hazardous waste,
  - Accumulation point management,
  - Container use, marking and labeling, and on-site transportation,
  - Waste turn-in procedures,
  - Manifesting and transportation of hazardous waste, and
  - Personnel safety and health and fire safety.

This training supports the overall stormwater program by providing proper hazardous material management, storage, and spill response procedures. The Buckley AFB Hazardous Waste Management Plan specifies who must receive hazardous waste training. Hazardous Waste Management Training is provided at least once per year by the Buckley AFB Hazardous Waste Manager, who also maintains the attendance roster and current training materials.

- Spill Prevention, Control and Countermeasures Training is provided to appropriate oil handling and spill response personnel as specified in the plan. This training supports the industrial stormwater program by clearly defining spill prevention and response procedures to minimize potential stormwater and water quality impacts associated with a spill on Buckley AFB. The Buckley AFB Spill Manager maintains current training materials and attendance rosters for spill prevention and response training. This training is provided at least annually to spill response personnel.

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## **6.0 RECORDKEEPING AND REPORTING**

The installation implements measures to ensure compliance with applicable permit recordkeeping and reporting requirements. Records are stored and maintained IAW Air Force Manual 33-363, *Management of Records*, and records are archived and disposed IAW the Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). The installation complies with all permit reporting requirements.

The installation maintains the following inspection, monitoring, and certification records with the SWPPP. Overseas installations may have different requirements than the list below. When possible, a link to the electronic version of the record is made available in the references section of this plan.

- Copy of the Notice of Intent (NOI)
- Copy of the acknowledgement letter containing the permit tracking number;
- Copy of the permit
- Description and dates of any significant spills, leaks, or other releases. Note: the installation maintains this information in EASI, and a link is available in the references section of this SWPPP
- Employee training records
- Documentation of maintenance and repairs of control measures
- Inspection reports
- Documentation of deviations from the schedule for monitoring or assessments and the reason for the deviation
- Documentation of corrective actions taken
- Documentation of benchmark exceedances and how they were responded to
- Documentation to support determination that pollutants of concern are not expected to be present above natural background levels if water is discharged directly to impaired waters

Additional state, local, or host nation recordkeeping and reporting requirements are described in the Installation Supplement, as necessary.

### ***Installation Supplement – Recordkeeping and Reporting***

The following recordkeeping and reporting procedures have been established at Buckley AFB to meet the requirements of the 2015 MSGP.

- Appendix A shows the Buckley AFB SWPP Team and contact information.
- Appendix B contains the significant spills list and significant spill location map for Buckley AFB. This appendix will be updated as required throughout the permit if significant spills occur on Buckley AFB. Significant spills are defined as spills that exceed a Reportable Quantity established by Federal and State of Colorado regulations which require regulatory notification.
- Appendix C contains detailed site maps of Buckley AFB as well as additional information on individual industrial operations and facilities.
- Appendix D contains a copy of the 2015 MSGP.
- Appendix E contains a copy of the Buckley AFB NOI; information utilized to complete the NOI; Acknowledgement Letter containing the permit tracking number; and delegation letters for duly authorized representatives.
- Appendix F contains the Industrial Stormwater Pollution Prevention Training materials and training rosters.

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- Appendix G contains the Safety Data Sheets (SDS) and estimate of monthly usage for aircraft and airfield deicing chemicals as required for Sector S Air Transportation facilities.
- Appendix H contains Stormwater Sampling Results and Quarterly Visual Monitoring Reports. These reports must be certified and signed by a duly authorized representative. These reports must be retained with the SWPPP for at least 3 years from the date that permit coverage expires or is terminated. Reports are not required to be submitted to the EPA unless otherwise requested
- Appendix I contains copies of Discharge Monitoring Reports (DMRs) submitted to EPA.
- Appendix J contains Routine Facility Inspection Reports. These reports must be certified and signed by duly authorized representative. These reports must be retained for at least 3 years from the date that permit coverage expires or is terminated. Reports are not required to be submitted to the EPA unless otherwise requested. However, findings from facility inspection reports must be summarized in the annual report submitted to the EPA.
- Appendix K contains completed Corrective Actions Reports. These reports must be certified and signed by a duly authorized representative. These reports must be retained for at least 3 years from the date that permit coverage expires or is terminated. Reports are not required to be submitted to the EPA unless otherwise requested. However, corrective action details must be summarized in the annual report submitted to the EPA.
- Appendix L contains copies of submitted Annual Reports. These reports must contain the results or a summary of the past year's routine facility inspections and quarterly visual assessments performed at Buckley AFB; summaries of corrective actions taken, or the status of corrective actions in progress at the time of the Annual Report generation; and any incidents of noncompliance observed or, if there is no noncompliance, a certification stating the facility is in compliance with this permit. Annual Reports must be submitted electronically to the EPA by 30 January of each year of permit coverage. A blank copy of the Annual Report form required by EPA is included in Appendix L.
- Appendix M contains records pertaining to non-stormwater discharge certification from previous investigations as well as additional investigations completed during this permit term, if required.
- Appendix N contains copies of SWPP Team meeting minutes.
- Appendix O contains documentation of Endangered Species Act and Critical Habitat Protection evaluation completed as part of the Buckley AFB NOI submittal.

As required by the 2015 MSGP, the SWPPP and all updates to the SWPPP must be in accordance with good engineering practices and to industry standards by a qualified person. The SWPPP and all reports required by the 2015 MSGP, must be certified and signed by a duly authorized representative. All reports and records required by the MSGP must be retained for at least 3 years from the date that permit coverage expires or is terminated. The SWPPP, all reports, forms, and documents required by the MSGP will include the following certification statement:

“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.”

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**7.0 PROCEDURES - STORM WATER POLLUTION PREVENTION PLAN**

***7.1 Potential Pollution Sources***

Areas at the installation where industrial materials or activities are exposed to storm water are described in the Installation Supplement below.

*Installation Supplement – Potential Pollution Sources*

Buckley AFB is primarily engaged in airport and aircraft maintenance operations which are regulated industrial activities under the NPDES stormwater program and covered by Sector S, Air Transportation of the 2015 MSGP. Air transportation related activities covered by Sector S include vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling and lubrication), equipment cleaning operations and deicing operations. Table 1 provides a summary of industrial activities on Buckley AFB, potential pollutant sources, and summary of control measures. Appendix C contains additional CBI for each MSGP regulated industrial facility and activity on Buckley AFB. Appendix C include facility site maps that depict potential pollutant sources exposed to stormwater, flow direction, and facility specific controls.

**Table 1  
Summary of Industrial Facilities, Activities and Potential Pollutant Source Exposed to Runoff**

<b>Industrial Activity</b>	<b>Potential Pollutants</b>	<b>Summary of Controls (See Appendix C for specific locations and details)</b>
Aircraft, Vehicle and Equipment Fueling	Oil & grease Diesel Gasoline Aviation Fuel Antifreeze Hydraulic Fluids Transmission Fluid Batteries	Fueling operations are conducted on an impervious surface Spill kits are kept on-site in close proximity to potential spill areas Personnel are trained in proper fueling procedures and spill clean up methods Any spill will be cleaned-up immediately using dry clean up methods
Aircraft, Vehicle and Equipment Washing	Oil & grease Diesel Gasoline Aviation Fuel Antifreeze Hydraulic Fluids Transmission Fluid Batteries Surfactants	Washing operations are conducted indoors and wash waters are sent to wastewater conveyance and disposal system
Aircraft and Pavement Deicing	Propylene glycol Pavement deicers (complex chlorides, sodium chloride)	Personnel are trained in proper material management and application methods prior to applying chemical deicers Physical and mechanical methods are utilized to the maximum extent possible prior to chemical usage Deicing chemicals from airfield surfaces are diverted to grassy swales prior to discharge Deicing fluids from aircraft deicing operations are diverted to containment tank

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**Table 1 (Continued)**  
**Summary of Industrial Facilities, Activities and Potential Pollutant Source Exposed to  
Runoff**

<b>Industrial Activity</b>	<b>Potential Pollutants</b>	<b>Summary of Controls (See Appendix C for specific locations and details)</b>
Aircraft, Vehicle and Equipment Maintenance	Oil & grease Diesel Gasoline Aviation Fuel Antifreeze Solvents Used oil Reclaimable Fuel Hydraulic Fluids Transmission Fluid Batteries	Good housekeeping Maintenance operations are conducted on an impervious surfaces Hazardous materials and waste appropriately stored on secondary containment as required Maintenance performed indoors as much as possible Drip pans/trays used during maintenance activities Spill kits are kept on-site in close proximity to potential spill areas Personnel are trained in proper maintenance procedures and spill clean up methods Any spill will be cleaned-up immediately using dry clean up methods

Several facilities on Buckley AFB perform aircraft and airfield related support activities that are not exposed to stormwater, as such they are not included in this SWPPP. Appendix C contains additional details on these facilities that perform air transportation related activities that are not exposed to stormwater. Other activities on Buckley AFB, such as the Army Air Force Exchange Service (AAFES) fueling station and car wash, involve vehicle maintenance and fueling activities that are commercial in nature for installation personnel and do not directly support air transportation activities. Commercial activities that do not directly support air transportation or flight line activities are not regulated industrial operations under the 2015 MSGP and are not included in this SWPPP. While these municipal activities are not specifically regulated under this permit and SWPPP, stormwater protection at these facilities is addressed under different components of the Buckley AFB stormwater program.

**Evaluation of Unauthorized Non-Stormwater Discharges**

Over the past 6 years, Buckley AFB personnel completed annual dry weather screening of all stormwater outfalls and stormwater control ponds were observed for the presence of non-stormwater discharges. Appendix M contains dry weather screening reports including dates and results of evaluations. No dry weather flow was observed during these visual assessments.

Additionally, Buckley AFB has completed several studies of the base’s sanitary and storm sewer systems. Though these assessments were not directly related to determining if sanitary or other wastewater sources were being inadvertently cross-connected to the stormwater system, limited investigation by smoke and dye testing of select drains was accomplished to determine discharge location. No cross-connections were identified as part of these evaluations and locations that were evaluated appropriately discharged to the sanitary sewer system.

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### Allowable Non-Stormwater Discharges

The 2015 MSGP allows discharges from certain non-stormwater sources, but these non-stormwater discharges must be identified. The following non-stormwater discharges are allowable under the 2015 MSGP:

- Discharges from fire-fighting activities,
- Fire hydrant flushings,
- Potable water, including water line flushings,
- Uncontaminated air conditioning or compressor condensate,
- Irrigation drainage,
- Landscape watering, provided all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling,
- Pavement wash waters where no detergents are used and no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed),
- Routine external building washdown that does not use detergents or hazardous cleaning products,
- 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 or drains).

The following allowable non-stormwater discharges may occur at Buckley AFB:

- Fire-fighting activities may occur anywhere on the installation. No specific BMPs are implemented for this allowable non-stormwater discharge. Potential discharge origination location: Basewide
- Fire hydrants are flushed periodically as required for testing and water quality requirements. No specific BMPs are implemented for this allowable non-stormwater discharge. Potential discharge origination location: Basewide
- Air condition condensates drain onto parking areas and grassy areas at multiple locations throughout the base. No specific BMPs are implemented for this allowable non-stormwater discharge. Potential discharge origination location: Basewide
- Irrigation and landscape watering occurs throughout the installation. All pesticides, herbicides, and fertilizers are applied by trained and/or certified individuals according to manufacturer recommendations. Sprinkler heads are positioned to minimize runoff and overspray onto non-landscaped areas. No additional BMPs are implemented for this allowable stormwater discharge. Potential discharge origination location: Basewide

### Sampling Data Summary

Stormwater sampling for total suspended solids, iron and magnesium was conducted at three outfalls on Buckley AFB; however, this sampling ceased when it was determined that Buckley AFB did not perform Sector L industrial activities. No stormwater concerns were identified as

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part of this sampling and all results are within the expected range for this type of facility. Details pertaining to individual sampling events and sample results are shown in Appendix E as these results were used as supporting information for completing the NOI for Buckley AFB to obtain coverage under the 2015 MSGP.

### *7.2 Storm Water Control Measures*

The installation implements control measures to meet all applicable permit effluent limits. The categories of control measures include:

- Minimize exposure
- Good housekeeping
- Maintenance
- Spill prevention and response
- Erosion and sediment controls
- Management of runoff
- Salt piles
- MSGP sector-specific non-numeric effluent limits
- Employee training
- Non-storm water discharges
- Waste, garbage and floatable debris
- Dust generation and vehicle tracking of industrial materials

Installation control measures are further described in the Installation Supplement below, along with applicable additional state or local required categories measures.

### *Installation Supplement – Storm Water Control Measures*

#### **Good Housekeeping and Minimize Exposure**

Good housekeeping and minimize exposure control measures are applicable to all industrial areas on Buckley AFB. Numerous Department of Defense policies and procedures dictate good housekeeping and material management practices that are rigorously enforced at all levels of management. Generally, good housekeeping and minimize exposure practices involve maintaining orderly work areas, minimizing use of chemicals and controlling exposure of pollutant sources to stormwater. The following good housekeeping and minimize exposure measures are implemented at Buckley AFB.

- Aircraft, vehicle and equipment maintenance/repair activities are performed in work areas that are sheltered from precipitation to the maximum extent practical. Aircraft, vehicle, and equipment maintenance areas have containment structures that prevent migration of pollutants to areas susceptible to contacting stormwater.
- Outdoor maintenance activities that involve use of lubricants, hydraulic fluid, or fuels are performed over drip pans or spill pads.
- Hazardous materials, including lubricants, solvents, paints, fuels and hydraulic fluids are stored in containers or tanks that are kept closed when not in use. Containers or tanks containing hazardous materials are stored in areas protected from precipitation or in secondary containment structures. Stormwater that accumulates in secondary containment structures is visually examined to ensure no contamination is present prior to

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discharge. If contamination is observed the water collected in the secondary containment structure is collected and not discharged to the stormwater system.

- Industrial work areas are kept clean, and incidental discharges of fluids or granular solids in work areas are promptly cleaned up using dry methods, containerized and properly disposed of off-site.
- Disposal of any rinse/wash waters or industrial materials into the stormwater drain system is prohibited.
- Trash and solid wastes are placed in dumpsters or other authorized receptacles that are collected at regular intervals. Trash dumpsters on Buckley AFB are equipped with lids which are to remain closed at all time. Roll-off trash containers will be structurally sound to prevent leaks. Overflowing trash receptacles and loose trash and debris are not permitted on Buckley AFB.
- Work areas are regularly swept or vacuumed.
- All stored non-solid industrial materials (such as liquids and powders) that can be transported or dispersed via wind dissipation or contact with stormwater are contained.
- Hazardous material inventories are tracked by the base Hazardous Materials Pharmacy (HAZMART), and these materials are supplied to the industrial areas on an as-needed basis. Excess inventory of hazardous materials are not managed outside the HAZMART storage area. Any excess inventory is given back to the HAZMART or properly disposed of off-site.
- Aircraft, vehicle, and equipment washing operations are limited to designated wash racks on the base and wash waters are discharged to the sanitary sewer system.
- Overstacking and unstable and disorderly arrangements of material and waste containers are not allowed in industrial or material storage areas. Damaged containers are not used to store hazardous materials.
- Salt pile controls are in place and salt piles are located in a designated, covered salt storage structures.

Appendix C provides additional information pertaining to implementation of good housekeeping and minimize exposure BMPs at each industrial facility.

### **Maintenance**

Maintenance control measures include activities to inspect, maintain and/or repair equipment, including structural BMPs and the storm drainage system, to prevent or reduce pollution in the base stormwater discharges. The Water Quality Program Manager serves as the Maintenance coordinator for the base stormwater system. Vehicle, equipment, and secondary containment structures/devices (such as curbs and spill pallets) are regularly inspected by facility personnel to identify any items that require maintenance or replacement to prevent releases to storm drains. Aboveground and underground storage tanks at Buckley AFB are regularly inspected by the designated tank custodian.

Elements of the Maintenance Program include:

- Identification and inspection of all equipment and systems used outdoors that may spill or leak pollutants in accordance with existing Air Force inspection procedures contained in

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- technical orders and other environmental plans. Inspections are conducted regularly by facility personnel and maintenance/repair actions are initiated if required.
- Government vehicles utilized on the flight line are inspected and documented prior to use as required by Air Force and Army policy. Appropriate maintenance/repair actions are initiated for any deficiencies identified during this inspection.
  - Regular evaluations of identified equipment and systems to detect leaks or conditions that may result in the development of leaks. All identified equipment and systems have preventive maintenance requirements that are managed by the equipment owner. All equipment and systems throughout the base are being monitored on a regular basis, and visual evaluations are performed at least weekly.
  - Inspection of stormwater management devices, including oil water separators, catch basins, and permanent structural controls associated with industrial activities are accomplished at least semi-annually in conjunction with routine facility inspections. When inspection indicates maintenance is required, a work order will be initiated for cleaning to be accomplished. Catch basins will be cleaned when the depth of debris reaches two-thirds of the sump depth and keeping the debris surface at least six inches below the lowest outlet pipe when feasible based on design and construction of the catch basin. Some catch basins on Buckley AFB are not equipped with sumps and outlet pipe is located at the bottom of the catch basin. In these situations, cleaning will be accomplished to minimize pollutant discharges and ensure system functionality.

### **Spill Prevention and Response**

Buckley AFB has developed and implemented a *Comprehensive Emergency Management Plan* that details emergency response operations for the base including spill prevention and response procedures. Additionally, Buckley AFB has also developed both a *Spill Prevention Control and Countermeasure (SPCC) Plan* in accordance with 40 CFR part 112 and an *Oil Spill Contingency Plan*. The *Comprehensive Emergency Management Plan* provides detailed step-by-step descriptions for first responders to spills as well as training requirements for facility personnel and contractors who manage or handle hazardous materials and petroleum products. In addition, the *SPCC Plan* describes all necessary and appropriate oil spill response equipment and its location, and spill response equipment maintenance procedures. The *SPCC Plan* also includes inspection requirements for oil storage and handling areas, and requirements to report and address problems identified during inspections. The *SPCC Plan* provides specifications for training of personnel and contractors who handle hazardous materials and petroleum products in spill prevention and first response activities for spills and hazardous material emergencies. In accordance with the *Comprehensive Emergency Management Plan* and *SPCC Plan*, spills or other discharges of pollutants must be reported and entered into an internal electronic database for tracking purposes.

### **Sediment and Erosion Control**

Buckley AFB has relatively flat topography which allows sediment and erosion to be controlled by structural and vegetative practices. Soils in the developed areas of the installation are protected by pavements, facilities, and landscaping. Stormwater that falls in the developed areas of the installation is conveyed via a storm drainage system to the outfalls described in Section 2.0. Soils in the undeveloped areas of the installation are protected using vegetative stabilization. There are several areas in which riprap have been placed to protect underlying soils particularly in areas of channelized flow.

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Landscape and vegetative areas in the industrial areas of the installation are most susceptible to sedimentation, dust generation, and erosion. These areas are maintained by the ground maintenance contractor. The grounds maintenance contract statement of work includes specifications to repair damaged areas where erosion has occurred or may occur, for replacement and regrading of damaged soil or ground cover materials, and reseeding or replacement of plants, where applicable. The statement of work specifies the requirements for preventive maintenance for vegetated areas, including fertilizer application, soil aeration, and removal and/or replacement of plants and trees.

Regulated construction activities (construction activities that disturb one or more acres) performed on Buckley AFB require permit coverage under the Federal Construction General Permit. Operators of these construction sites are required to obtain permit coverage, develop a construction site SWPPP, install and maintain BMPs, and comply with all conditions of the Federal Construction General Permit. Buckley AFB quality assurance evaluators (QAEs) oversee construction activities, including oversight of the construction contractor's stormwater program. If deficiencies in the construction contractor's stormwater program are identified, requests for corrective actions are sent to the contractor.

### **Salt Piles**

Buckley AFB personnel perform pavement deicing of both airfield pavements and streets/parking lots to support airfield and aircraft operations. Airfield pavements are deiced primarily with liquid potassium acetate and these operations are discussed later in this SWPPP. Roadways, parking lots, and other portions of Buckley AFB are deiced using industry standard roadway salts. The salt pile for this operation is located in a designated, covered storage structure as shown in Appendix C. Personnel are trained in all equipment operation and implement good housekeeping practices while transferring materials to minimize exposure.

### **Management of Runoff**

The 2015 MSGP requires a description of stormwater management practices and permanent structural BMPs, other than those which control the generation or sources of pollutants. Stormwater runoff on Buckley AFB is primarily conveyed through a piping and an open channel flow network to the outfalls previously discussed. The primary structural BMPs associated with the Buckley AFB outfalls are discussed in the following paragraphs.

- Aerospace Data Facility (ADF) Pond - This detention pond is located on the northwest portion of the base and receives stormwater from Sub-drainage Basin 3 that includes industrial and non-industrial portions of the base including the ADF Complex. The pond outlet consists of stormwater flow from the ADF Pond located approximately 850 feet west of Telluride Street and approximately 450 feet south of East Steamboat Avenue. Stormwater from the pond flows over a concrete slab at the Buckley AFB boundary into Granby Ditch at Outfall 3.
- East Deicing Pad Containment System – The East Deicing Pad is used for aircraft deicing and is equipped with a containment system to collect spent aircraft deicing fluid. Prior to deicing operations, the diverter valve system is configured to divert deicing fluid into a 2,500-gallons underground storage tank (UST) rather than directly to the stormwater conveyance system. The diverter valve is returned to stormwater flow following deicing activities. Periodically, the collected deicing fluid is land applied.

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- Hazardous Waste and Material Storage Pond – Hazardous materials used and hazardous waste generated on Buckley AFB are managed centrally at two designated buildings. Operations within these buildings directly support air transportation activities, but no activities are exposed to stormwater and are not specifically required to be addressed in this SWPPP. While no industrial activities are exposed to stormwater, a lined, containment pond is connected to the floor drains within these facilities to contain any large spills that might occur within these facilities. Discharge from this pond is controlled by a valve that can be closed to contain a spill. Stormwater that accumulates in this pond discharges through the outlet structure to a drainage ditch and will ultimately leave the installation through Outfall 2.
- Industrial Area Pond – This detention pond is located near the Consolidated Fuels Complex. The pond is equipped with a concrete, v-notch weir outlet structure to control flow from the structure. Stormwater exiting this detention pond will flow approximately 0.9 miles before exiting the base at Outfall 2.
- North Base Detention Pond – This detention pond receives stormwater discharges from various open and closed channels that collect stormwater from a large portion of the undeveloped, northern flight line area and developed areas near the corner of Aspen Street and Crested Butte Avenue. Stormwater exiting this pond will flow into the ADF Pond discussed above before discharging through Outfall 3.
- AASF Tarmac Washing Facility – Helicopter washing is accomplished outdoors on the AASF Tarmac. Washing is accomplished at designated locations so that wash water is positively controlled and diverted to the sanitary sewer system. The designated helicopter wash location is equipped with a sump and automatic diversion valve system. The valve system is equipped with a flow switch that controls water discharges whenever washing operations are initiated. When washing operations are initiated, the valve is configured to discharge to the sanitary sewer system. Once washing operations cease, the valve diverts water to the stormwater conveyance system. The system is equipped with an indicator system so the operator can confirm proper wash water management prior to commencing washing operations.
- AASF Tarmac Refueler Parking Containment Systems – There are two mobile refueler storage areas associated with the AASF Tarmac. Each of the storage areas is equipped with containment sumps that provide secondary containment for the mobile refuelers. Stormwater that collects in the containment structures is inspected for visual signs of contamination. If visual inspections do not identify contamination, the water is pumped to grade.
- AASF Detention Pond – This detention pond is located near Building 1500 and receives stormwater discharges from Building 1500 and the AASF Tarmac. The pond is dual bay with a concrete discharge structure that controls flows leaving the pond. Stormwater leaving this structure flows into a drainage ditch near the Consolidate Fuels Complex.

### **Airport Fuel System and Fueling Areas**

Fueling operations are conducted at various locations on Buckley AFB. Aircraft fueling is conducted by mobile refueling trucks. Jet fuel is delivered via commercial tanker trucks and off-loaded to aboveground storage tanks. Fuel from the storage tanks is then transferred to the

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mobile aircraft refueling trucks as needed. During certain aircraft maintenance activities, fuel is off-loaded from the aircraft into storage bowsers or tanks.

Ground vehicles are fueled at the designated Military Service Station. This facility has two fuel pumps and four storage tanks. Standard operating procedures have been established for fuel transfers. Spill response equipment is available to clean up any minor spills. Larger spills from fuel transfers would flow into a trench drain which is connected to the storm sewer system. There is a control valve at the connection to the storm sewer system that can be closed to prevent the discharge of any spilled materials.

Personnel responsible for fueling operations are trained in proper fueling operations, spill prevention and spill response. Spill kits are available at all fueling locations. Drip pans and trays are utilized when appropriate to contain any leaks that may occur during fueling operations. Appendix C contains additional details on specific facilities in which fueling operations are performed and control measures that are implemented.

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

Aircraft, ground vehicles, and support equipment are required to be washed periodically as part of preventive maintenance programs to prevent corrosion, ensure proper equipment operation, and extend equipment life. All aircraft, ground vehicle and equipment cleaning activities are conducted in designated areas. The following paragraphs summarize washing areas and Appendix C contains additional details on specific washing area on Buckley AFB.

- All aircraft washing activities are conducted inside designated facilities. Wash water is collected by floor drains, conveyed to an oil/water separator and discharged to the sanitary sewer system.
- Most ground vehicles owned by the government are cleaned at the Vehicle Transportation Building. The wash facility is under cover and all wash waters are collected, conveyed to an oil/water separator and recycled or discharged to the sanitary sewer.
- Heavy equipment (snow plows, graders, sweepers) associated with airfield maintenance are stored and washed at a designated location. All washing activities are conducted indoors. Wash waters are collected in floor drains, conveyed to an oil/water separator and discharged to the sanitary sewer system.
- AGE cleaning is accomplished indoors at designated facility. All wash water is collected in floor drains, conveyed to an oil/water separator and discharged to the sanitary sewer.

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

Lubricants, solvents, cleaners, high expansion foam (HEF), aqueous-film forming foam (AFFF), acids, and various vehicle and aircraft fluids are used extensively within the maintenance facilities at Buckley AFB. The following is a list of BMPs that have been implemented at these facilities to prevent stormwater pollution.

- Self-contained parts cleaners are available and serviced by a commercial contractor.
- The Department of Defense has established pollution prevention and green procurement program to substitute non-toxic or less toxic cleaners.

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- All containers of hazardous materials and wastes are maintained in good condition, stored either inside, under cover, and/or over secondary containment, and appropriately labeled with the container contents.
- Detailed chemical inventories and SDSs are available at each maintenance facility, and only authorized chemicals are allowed and issued to each facility by the central chemical pharmacy, or HAZMART.
- Dry clean up techniques are used within maintenance areas.
- Drip pans and other portable secondary containment devices are used for maintenance and repair activities where there is potential for fluid losses from vehicles, equipment, and/or aircraft.
- Floor drains in maintenance and wash areas are connected to sanitary sewer system.
- Spill pallets, CONEX cabinets, and storage lockers are used indoors and outdoors to store liquid products and liquid waste.

### **Aircraft Deicing Operations**

Deicing of Air Force aircraft is governed by Air Force wide and aircraft specific technical orders. These technical orders list approved deicing chemicals, physical removal methods, and application techniques that must be used at Buckley AFB. Buckley AFB uses propylene glycol based aircraft deicing fluid as an environmentally friendly substitute to ethylene glycol based deicing fluids. Aircraft deicing fluid is stored in aboveground storage tanks with secondary containment. The SDS for the deicing fluid used at Buckley AFB is provided in Appendix E of this SWPPP.

Aircraft deicing operations are conducted on the East Deicing Pad on an as-needed basis to meet mission requirements. Mobile deicing trucks are used to apply deicing fluid which is mixed at a 50/50 fluid to water ratio. Buckley AFB has implemented numerous source reduction BMPs to reduce the amount of aircraft deicing fluid used and potentially exposed to stormwater including: physical removal of accumulated snow prior to deicing, forced-air deicing, operator training, indoor parking when available and enclosed cab deicing trucks.

During deicing events, the runoff flow is diverted into a 2,500-gallon collection and holding UST which is emptied on an as-needed basis. After deicing activities occur, deicing crew personnel inspect the clarity of fluid in the UST and if no visual indication of deicing fluid is observed, the contents of the UST are pumped out and discharged on vegetated ground defined as a “land application”. The practice of land application prevents the deicing fluid from entering the stormwater drainage system. In addition to the collection system, monthly visual inspections are performed at the facility and records are maintained by the 140 WG COANG Environmental Manager. Deicing fluid that accumulates on pavement surfaces below the aircraft remains in place. Residual deicing fluid that accumulates on the pavement surface will biodegrade over time and may be transported via stormwater runoff to vegetative areas that surround the parking apron. Due to the small amount (less than 10,000 gallons) of deicing fluid used per year at Buckley AFB, managing runoff from deicing areas by diverting the runoff to vegetative swales/ponds was selected as an appropriate BMP. There is no dry weather discharge of aircraft deicing fluid from Buckley AFB.

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## **Airfield Deicing Operations**

Management of snow and ice on Air Force airfields is governed by Air Force Instruction (AFI) 32-1002 *Snow and Ice Control*. This AFI lists approved deicing chemicals, physical removal methods, and application techniques that must be used at Buckley AFB. Additionally, Buckley AFB has developed an installation specific Snow and Ice Control Plan that details specific airfield snow and ice control practices at Buckley AFB. Buckley AFB uses Cryotech's E-36 potassium acetate-based liquid runway deicer as an environmentally friendly substitute to urea-based airfield pavement deicers. E-36 Runway Deicing liquid is stored in aboveground storage tanks with secondary containment located near Building 1054. The SDS for the E-36 used at Buckley AFB is provided in Appendix E of this SWPPP.

Buckley AFB has implemented numerous source reduction BMPs to reduce the amount of airfield deicing chemical used and potentially exposed to stormwater including: physical removal of accumulated snow prior to deicing, operator training, equipment maintenance, and varying application rates based on conditions. Due to the small amount of airfield deicing chemical used per year at Buckley AFB, managing runoff from airfield pavement by diverting the runoff and deicing agent-impacted snow to vegetative swales was selected as an appropriate BMP. There is no dry weather discharge of airfield deicing chemical from Buckley AFB.

### ***7.3 Schedules and Procedures for Monitoring***

The installation implement procedures for conducting the following types of monitoring, as necessary:

- Benchmark monitoring
- Effluent limitations guidelines monitoring
- State or Tribal specific monitoring
- Impaired waters monitoring
- Other monitoring as required

At a minimum, procedures describe:

- Locations where samples are collected
- Pollutant parameters sampled
- Monitoring schedules
- Numeric limits, where applicable
- Sample collection and analysis

Monitoring procedures are documented in the installation supplement below.

### ***Installation Supplement – Schedules and Procedures for Monitoring***

The 2015 MSGP requires the implementation of various monitoring programs to review the facility's operations, stormwater program and controls, and compliance with the permit conditions. The following paragraphs discuss these monitoring requirements and implementation at Buckley AFB.

### **Impaired Waters Monitoring**

The waters receiving discharge from Buckley AFB are considered impaired for selenium and/or E.coli, with no established TMDL. Per Paragraph 6.2.4.1 of the 2015 MSGP, annual monitoring

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of outfalls is required to determine the presence of pollutants contributing to water quality impairments. Outfall 1D will initially be monitored as Outfalls 1A, 1B, 1C, and 1D are considered substantially similar outfalls. If required, annual impaired waters monitoring will be rotated to Outfalls 1A, 1B, and 1C. The annual impaired waters outfall monitoring is presented in Table 2.

**Table 2  
Impaired Waters Monitoring**

Outfall	Drainage Basin	Parameter(s)
1D - Substantially Similar to 1A, 1B, and 1C	East Toll Gate Creek	Selenium
IE	East Toll Gate Creek	Selenium
2	East Toll Gate Creek	Selenium
3	East Toll Gate Creek	Selenium
5	Sand Creek	Selenium E.coli

Impaired waters monitoring will be accomplished under the supervision of the SWPPT Leader using the following basic procedures:

- Obtain sampling kit from the analytical laboratory (bottles, cooler for shipping, preservatives, etc.)
- Collect grab sample at the final outfall according analytical method procedures
- Follow proper preservation techniques and ship to testing laboratory for analysis using 40 CFR Part 136 approved analytical methods performed by the selected analytical laboratory.
- Review analytical results, and
- Assess BMPs or processes for possible modification or corrective action if results indicate storm water may be contributing to the impairment of receiving waters

Monitoring must be performed within 30 minutes of the start and no later than one hour after runoff or snowmelt begins discharging from the facility. The monitoring will be performed during storm events with at least 0.1 inch of precipitation at least 72 hours after the previous precipitation event. Collected samples will be analyzed at a qualified laboratory using only 40 CFR Part 136 analytical methods. The results of the monitoring shall be included in Appendix H of this SWPPP.

Monitoring may be discontinued after monitoring results demonstrate that Buckley AFB is not discharging the pollutant causing the water quality impairment or the pollutants presence is caused solely by natural background sources. In either case, the decision to discontinue annual monitoring will be accompanied by the appropriate documentation and retained in Appendix H.

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## **Benchmark Monitoring**

In addition to quarterly visual monitoring, the 2015 MSGP requires certain industries and permittees to accomplish benchmark monitoring of stormwater discharges. Benchmark monitoring, unlike quarterly visual monitoring, requires chemical analysis of stormwater discharges for specific pollutants of concern. The permit establishes specific benchmark concentrations for specific pollutants, which are not enforceable limitations, but provide an indication of the effectiveness of a facility's stormwater program. If analytical results for a specific parameter exceed established benchmark values, the facility is not in violation of permit conditions, but the exceedance does indicate additional stormwater controls maybe needed to protect water quality. However, if corrective action is required as a result of a benchmark exceedance, failure to conduct required corrective action is a permit violation.

Paragraph 8.S.6, Sector S Air Transportation of the 2015 MSGP does contain benchmark values for biochemical oxygen demand, chemical oxygen demand, ammonia and pH; however, only air transportation facilities that use more than 100,000 gallons of aircraft deicing chemicals and/or 100 tons of urea are required to complete benchmark monitoring. Buckley AFB currently does not use more than 100,000 gallons of aircraft deicing fluid or more than 100 tons of urea, so benchmark monitoring is not required.

## **Monitoring Schedules and Logistics**

The schedule and logistics, including laboratory, SWPPT Member participant, and/or contractor support selection, for each type of monitoring discussed in this section will be established by the SWPPT throughout the course of the year and as weather dictates. All monitoring required on a quarterly basis will be performed according to the following basic schedule, provided adequate storm events occur:

- Quarter 1: 1 January through 31 March
- Quarter 2: 1 April through 30 June
- Quarter 3: 1 July through 30 September
- Quarter 4: 1 October through 31 December

All analytical monitoring results must be reported to EPA using their electronic NetDMR tool no later than 30 days after you have received the complete laboratory results for all monitoring outfalls for the reporting period.

## **7.4 Inspections**

The installation implements procedures for conducting the following types of inspections, as necessary:

- Routine facility inspections
- Quarterly visual assessment of storm water discharges
- Comprehensive site inspections

At a minimum, procedures include:

- Person(s) or position(s) responsible for inspection
- Schedules for conducting inspections
- Specific items to be covered by the inspection

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All other inspections are conducted IAW AFI 90-201, *Air Force Inspection System* and the Commander's Self Inspection Program. Inspection procedures are documented in the Installation Supplement below.

### *Installation Supplement – Inspections*

#### **Routine Facility Inspections**

In accordance with the 2015 MSGP, Buckley AFB must conduct quarterly routine facility inspections during normal operating hours. The quarterly facility inspections must be completed by qualified personnel from Buckley AFB or by a consultant hired by Buckley AFB, with at least one member of the inspection team comprised of a member of the SWPPT. Quarterly facility inspections will consider the results of visual and analytical monitoring for the previous year when planning and conducting inspections. Furthermore, at least one of the quarterly inspections must be accomplished during a period when stormwater discharge is occurring. Quarterly facility inspections will be accomplished based on a calendar year quarter.

The routine facility inspection team will assess the conditions at the facility to determine if any operational changes have occurred that may require implementation of storm water controls; assess the effectiveness of existing storm water controls; and identify maintenance requirements for established storm water controls. In accordance with the 2015 MSGP, the inspections must include all of the following areas:

- Areas where industrial materials are exposed to storm water;
- Areas identified in this SWPPP and potential pollutant sources;
- Areas where spills and leaks have occurred within the past 3 years;
- Control measures, and
- Discharge points.

During the inspection the team will examine or look out for the following:

- Industrial materials, residue or trash that may have or could come into contact with stormwater;
- Leaks or spills from industrial equipment, drums, tanks and other containers;
- Offsite tracking of industrial or waste materials, or sediment where vehicles enter or exit the site;
- Tracking or blowing of raw, final or waste materials from areas of no exposure to exposed areas; and
- Control measures needing replacement, maintenance or repair.

During those facility inspections taking place during a stormwater discharge, control measures will be observed to ensure they are functioning correctly. Discharge points will also be visually inspected. If discharge locations are inaccessible due to stormwater discharge, nearby downstream locations will be inspected instead.

Each routine facility inspection will be documented. Inspection summaries will contain all findings, including but not limited to, the following information:

## STORM WATER POLLUTION PREVENTION PLAN FOR BUCKLEY AIR FORCE BASE COLORADO

- The inspection date and time;
- The name(s) and signature(s) of the inspector(s);
- Weather information;
- All observations relating to the implementation of control measures, including:
  - A description of any discharges occurring at the time of the inspection;
  - Any previously unidentified discharges and/or pollutants from the site;
  - Any evidence of, or the potential for, pollutants entering the drainage system;
  - 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; and
  - Any control measures needing maintenance, repairs, or replacement.
- Any additional control measures needed to comply with the permit requirements; and
- Any incidents of noncompliance observed.

At the completion of each routine facility inspection, housekeeping or maintenance issues identified will be provided to the Buckley AFB Water Quality Program Manager for corrective action. The results of the routine facility inspection shall be included in Appendix J of this SWPPP.

Based on the results of the routine facility inspections, Buckley AFB must implement corrective actions and potentially modify this SWPPP as described in Section 7.3. If the inspection identifies BMPs that need to be modified or if additional BMPs are necessary, implementation must be completed before the next anticipated storm event (if practicable), but not more than 45 days after completion of the inspection.

### **Monthly Facility Inspections During Deicing Season**

In accordance with the 2015 MSGP, Paragraph 8.S.6, routine facility inspections will be performed monthly during deicing season. Deicing season is defined as October through April for Buckley AFB.

### **Quarterly Visual Assessment of Stormwater Discharge**

The 2015 MSGP requires all permitted facilities to perform quarterly visual monitoring of stormwater discharges associated with industrial activity from each outfall, or from a representative outfall for substantially similar outfalls. There are eight stormwater outfalls associated with industrial activities on Buckley AFB that must comply with quarterly visual monitoring requirements. Outfalls 1A, 1B, 1C, and 1D are considered substantially similar and quarterly visual monitoring will be accomplished at one of these outfalls on a rotating basis. Buckley AFB will rotate the monitored representative outfall on an annual basis.

The visual monitoring of industrial stormwater outfalls must be accomplished during day light hours, during normal facility working hours. The visual monitoring will include an examination for color, odor, clarity, presence of floating, suspended or settled solids, foam, oil sheen and other obvious indications of stormwater pollution. Figure 3 shows the visual monitoring report form that will be used to document the results of quarterly visual monitoring at Buckley AFB.

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Each quarterly monitoring event must be performed within 30 minutes of the start of and no later than one hour after runoff or snowmelt begins discharging from the facility. The monitoring will be performed during storm events with at least 0.1 inch of precipitation at least 72 hours after the previous precipitation event. If no qualifying storm events occur within a given quarter, a statement that no events occurred will be certified and maintained in Appendix H and the monitoring will be performed during the next qualifying storm event. All efforts will be made to collect the requisite four sets of samples annually from the designated outfalls.

<b>Stormwater Discharge Quarterly Visual Monitoring Reporting Form</b>	
Outfall #	
Date and Time of Sample Collection	
Date and Time of Visual Assessment	
Duration of Storm Event	
Rainfall measurement for storm	
Duration since previous measurable (>0.1 inches) storm event	
Estimate of total volume (in gallons) of discharge sample	
Color	
Odor	
Clarity	
Floating Solids	
Settled Solids	
Suspended Solids	
Foam	
Oil Sheen	
Other Pollution Indicators	
Probable Sources of Pollution, if any	
Maintenance Required (State Nature)	
Signature of Person Conducting Visual Stormwater Monitoring: _____	
<p>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.</p>	
Certifying Official    Signature: _____ Printed Name: _____	

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## **Figure 3 Outfall Monitoring Report Format**

### **Corrective Actions**

As required by the 2015 MSGP, the following conditions require implementation of Corrective Actions:

- An unauthorized release or discharge (e.g., spill, leak, or discharge of non-stormwater not authorized by this or another NPDES permit to a water of the U.S.
- A discharge violates a numeric effluent limit.
- Control measures are not stringent enough for the discharge to meet applicable water quality standards or the non-numeric effluent limits in this permit.
- A required control measure was never installed, was installed incorrectly, or not in accordance with Parts 2 and/or 8 of the MSGP, or is not being properly operated or maintained.
- A visual assessment shows evidence of stormwater pollution (e.g., color, odor, floating solids, settled solids, suspended solids, foam).

Any corrective actions, as identified during any facility investigation or monitoring activity, shall be immediately implemented to minimize or prevent the discharge of pollutants from Buckley AFB. Once a corrective action is identified, Buckley AFB shall take all reasonable steps to minimize or prevent the discharge of pollutants until a permanent solution is installed and made operational. In terms of the MSGP, immediately is defined as the same day the problem is identified. If a problem is identified at a time in the work day when it is too late to initiate corrective action, the initiation of corrective action shall begin on the following work day.

If additional changes are needed beyond those that can be immediately implemented, Buckley AFB will attempt to install a new or modified control and make it operational, or complete the repair, before the next storm event if possible, and within 14 calendar days from the time of discovery. If it is not feasible to complete the installation or repair within 14 calendar days, documentation will be generated to detail why the installation or repair could not be completed within the 14-day timeframe. The schedule for completing the work will be identified, and all work should be done as soon as practicable but no longer than 45 days after discovery. If implementation of the Corrective Action will exceed 45 days, Buckley AFB personnel must notify EPA Region 8 of the intention to exceed 45-days.

All corrective actions will be documented within 24 hours of discovering the issue. Records of all corrective actions will be retained in Appendix K. Corrective action records will include the following, at a minimum: identification and description of the condition triggering the need for corrective action: date, the immediate and subsequent corrective actions taken, and the dates when each corrective action was initiated and completed. Corrective action reports must be certified by a duly authorized individual. When corrective actions result in changes to any of the controls or procedures, this SWPPP will be updated within 14 calendar days.

### ***7.5 Documentation to Support Eligibility Considerations Under Other Laws***

Where applicable, the installation maintains documentation supporting determination of eligibility under other federal laws (Endangered and Threatened Species and Critical Habitat Protection, Historic Properties Preservation and/or NEPA) or host nation laws separately from this SWPPP. Such documentation is available through the References section or as appendices below.

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## *Installation Supplement – Documentation to Support Eligibility*

### **Documentation of Permit Eligibility Related to Endangered Species**

Paragraph 1.1.4.5 of the 2015 MSGP provides five possible criteria related to eligibility for coverage under the MSGP with respect to endangered species and critical habitat protection. Buckley AFB has selected Criterion A as the appropriate criteria in accordance with Paragraph 1.1.4.5 and procedures outlined in Appendix E of the 2015 MSGP. Appendix O contains additional documentation of permit eligibility related to endangered species and selection of Criterion A.

### **Documentation of Permit Eligibility Related to Historic Places**

Paragraph 1.1.4.6 of the 2015 MSGP provides four possible criteria related to eligibility for coverage under the MSGP with respect to historic property protection. No facilities on Buckley AFB are listed on the National Register Information System. However, six buildings are considered eligible for the list and treated as if they were listed. None of these facilities will be impacted by industrial stormwater discharges. Additionally, Buckley AFB does not plan to construct new stormwater controls to meet the effluent limitations required by the MSGP. Buckley AFB has an established Integrated Cultural Resources Management Plan (ICRMP) and future development activities on the installation will comply with this plan as well as historic property review requirements of the Construction General Permit for projects greater than 1 acre in size or part of a common plan of development that will cumulatively disturb more than 1 acre.

## **8.0 REFERENCES**

### *Standard References*

*(Applicable to all AF Installations)*

- [Federal Water Pollution Control Act \(Clean Water Act\)](#)
- [AFI 32-1067, Water and Fuel Systems](#)
- [AFI 32-1002, Snow and Ice Control](#)
- [AFI 32-7001, Environmental Management](#)
- [AFI 90-201, Air force Inspections System](#)
- [Water Quality Program Management Playbook](#)
- [AFLOA Water Quality Legal and Other Requirements](#)
- [eDASH Water Quality Program Page](#)
- [eDASH Training Matrix](#)
- [ADLS](#)
- [EASI](#)
- [Water Enterprise Tracker](#)

### *Installation References*

- 2015 Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP), 4 June 2015

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## **9.0 ACRONYMS**

### *Standard Acronyms*

- [eDASH Acronym Library](#)
- [Water Quality Playbook Acronym Section](#)
- [U.S. EPA Terms and Acronyms](#)

## **10.0 DEFINITIONS**

### *Standard Definitions*

- [Water Quality Playbook Definition Section](#)

## **APPENDICES**

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**Appendix A: Storm Water Pollution Prevention Team**

**Storm Water Pollution Prevention Team Membership**

<b>Job Title</b>	<b>Organization</b>	<b>Responsibilities</b>	<b>Contact Information</b>
Water Quality Program Manager	460 CES/CEIEQ	Serve as the SWPP Leader. Has the primary responsibility for maintenance and administration of the SWPPP. Perform visual inspections and participate in routine facility inspections	
Water Quality Program Support Contractor	460 CES/CEIEQ	Serve as the SWPP Leader. Has the primary responsibility for maintenance and administration of the SWPPP. Perform visual inspections and participate in routine facility inspections	
Chief, Environmental Element	460 CES/CEIEQ	Advocates for and approves environmental projects/activities required to implement this SWPPP	
Heavy Equipment	460 CES/CEO	Advise the SWPPT of changes to industrial operations including stormwater conveyance system maintenance projects and maintain non-airfield structural BMPs on the installation.	
Program Development	460 CES/CEPD	Represent planning and development organization on base in regards to SWPPP development and implementation. Advise the SWPPT of upcoming facility and infrastructure projects that may include potential stormwater pollutants and identify planned structural stormwater BMPs for future development.	
Transportation Environmental Manager	460LRS/LVS	Represent fuel management, vehicle maintenance and vehicle operation organizations in regards to SWPPP development and implementation. Advise the SWPPT of changes in vehicle	

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		maintenance and operations	
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Job Title	Organization	Responsibilities	Contact Information
140 Wing Environmental Manager	140 WG COANG	Represent Colorado Air National Guard units operating on Buckley AFB including aircraft maintenance, vehicle maintenance, and airfield snow and ice control organizations in regards to SWPPP development and implementation. Advise the SWPPT of changes to industrial operations related to aircraft maintenance and operations, including deicing operations and aircraft/equipment washing	
Army Aviation Support Facility (AASF) Environmental Manager	COARNG	Represents Army helicopter maintenance organizations in regards to SWPPP development and implementation. Advise the SWPPT of changes to industrial operations related to helicopter maintenance and operations, including washing	
Judge Advocate Office	460 SW/JA	Provide as-needed legal support to the SWPPT	
Public Affairs Office	460 SW/PA		Provide as-needed public outreach support to the SWPPT.

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## ***Appendix B: Significant Spills***

This appendix will include significant spills that have occurred on Buckley AFB. Significant spills are defined as spills that exceed a Reportable Quantity established by Federal and State of Colorado regulations which require regulatory notification. As required by the MSGP, all significant spill sites must be included in routine facility inspections.

There have been no significant spills reported on Buckley AFB for the three years prior to submittal of the NOI.

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***Appendix C: Site Specific Industrial Activity, Site Maps, and Control Measures***

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***Appendix D: Multi-Sector General Permits for Stormwater Discharges Associated with  
Industrial Activities, 4 June 2015***

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***Appendix E: Notice of Intent, Acknowledgement Receipt, and Delegation Letters***

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***Appendix F: Industrial Stormwater Training Materials and Attendance Roster***

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***Appendix G: Aircraft Deicing Records***

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***Appendix H: Storm Water Sampling Results and Quarterly Visual Monitoring Reports***

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***Appendix I: Copies of Submitted Discharge Monitoring Reports***

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***Appendix J: Facility Inspection Reports***

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***Appendix K: Corrective Action Reports***

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***Appendix L: Annual Reports***

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***Appendix M: Non-stormwater Discharge Certification and Documentation***

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***Appendix N: Stormwater Pollution Prevention Team Meetings***

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**Appendix O: Endangered Species Act Documentation**



DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

20 July 2015

MEMORANDUM FOR RECORD

FROM: 460 CES/CEIE  
660 South Aspen Street (Stop 86)  
Buckley AFB CO 80011-9551

SUBJECT: USEPA Stormwater Program, 2015 Multi-Sector General Permit – Endangered and Threatened Species and Critical Habitat Protection

1. The U.S. Environmental Protection Agency's (USEPA's) National Pollution Discharge Elimination System (NPDES) 2015 Multi-Sector for Storm Water Discharges Associated with Industrial Activities, commonly referred to as the Multi-Sector General Permit (MSGP), authorizes allowable stormwater and non-stormwater discharges from areas with industrial activities as set forth within the permit. The 2015 MSGP contains eligibility restrictions, which an applicant must document that it satisfies, and therefore is eligible for coverage. One of the restrictions is Endangered and Threatened Species and Critical Habitat Protection (Part 1.1.4.5 of the 2015 MSGP). To be eligible for coverage under the 2015 MSGP, an applicant must demonstrate that its stormwater discharges and related activities are not likely to jeopardize the continued existence of any species that are federally-listed as endangered or threatened ("listed") under the Endangered Species Act (ESA) or result in the adverse modification or destruction of habitat that is federally-designated as critical under the ESA ("critical habitat"). The 2015 MSGP specifies the process that must be used to make this demonstration.

2. The 460th Civil Engineer Squadron Asset Management Flight (460 CES/CEIE) has completed the specified process regarding federally listed species and designated critical habitat and has determined that stormwater discharges, allowable non-stormwater discharge-related activities on Buckley Air Force Base (Buckley AFB) are not likely to adversely affect any federally listed species or designated critical habitat.

- a. Buckley AFB is located in Arapahoe County, Colorado. In July 2015, the U.S. Fish & Wildlife Service (USFWS) Electronic Environmental Conservation Online System (ECOS) was accessed and the Information, Planning, & Conservation tool (located at <http://ecic.fws.gov/ipac/>) was utilized for Arapahoe County, CO. The results from the project builder, when queried for "development" identified the following eight federally listed species under the ESA that are known to occur in Arapahoe County or downstream of Buckley AFB:
  - i. Interior least tern (*Sterna antillarum athalassos*),
  - ii. Mexican spotted owl (*Strix occidentalis lucida*),
  - iii. Pallid Sturgeon (*Scaphirhynchus albus*),
  - iv. Piping plover (*Charadrius melodus*),
  - v. Preble's meadow jumping mouse (*Zapus hudsonius preblei*),
  - vi. Ute ladies' tresses (*Spiranthes diluvialis*),
  - vii. Western Prairie Fringed Orchid (*Platanthera praeclara*), and
  - viii. Whooping crane (*Grus americana*).

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- b. According to the USFWS (July 2015) there is no critical habitat designated in or near the area of Buckley AFB.
- c. To date, no listed species have been found or are expected to be present on Buckley AFB.
- d. Buckley AFB has potentially suitable habitat for the Preble's meadow jumping mouse and Ute ladies'-tresses. Buckley AFB 460 CES/CEIE had performed surveys for these listed species.
- e. The black-footed ferret (*Mustela nigrapes*) a federally endangered listed species, was block cleared from surveys in Arapahoe County, Colorado, by the USFWS in September 2009.
- f. There are occasional sightings of bald eagles and is a winter visitor to Buckley AFB but does not nest on or near the Base. The eagle is not dependent upon wetland or riparian habitats either on Buckley AFB or in the vicinity. The bald eagle was delisted 9 August 2007, but is presently still protected under both the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

3. Based on the information above, the 460 CES/CEIE has determined that no federally-listed threatened or endangered species or their designated critical habitats are likely to occur on Buckley AFB and therefore stormwater discharges, allowable non-stormwater discharges, and stormwater discharge-related activities on Buckley AFB are not likely to adversely affect any federally listed species or designated critical habitat. Buckley AFB satisfies 2015 MSGP eligibility restrictions for the ESA under Criterion A.

4. Please contact me at (720) 847-9218, email [mark.laudenslager.1@us.af.mil](mailto:mark.laudenslager.1@us.af.mil), or Krystal Phillips, Fish and Wildlife Biologist, U.S. Fish and Wildlife Service, at (720) 847-6937, email [krystal.phillips.1@us.af.mil](mailto:krystal.phillips.1@us.af.mil) with any questions or concerns.

MARK S. LAUDENSLAGER, GS-13, DAF  
Chief, Asset Management Flight