

**U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 8
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
STATEMENT OF BASIS**

PERMITTEE:	United States Department of the Air Force (DoAF)
FACILITY NAME AND ADDRESS:	Peterson Space Force Base (PSFB) Municipal Separate Storm Sewer System (MS4) 580 Goodfellow Street PSFB, CO 80914
PERMIT NUMBER:	COR-042006
RESPONSIBLE OFFICIAL:	Sam C. Johnson, Colonel Commander, 21 st Space Wing
FACILITY CONTACT:	Robert Tomlinson, Chief Environmental Quality 580 Goodfellow Street, Building 1324 PSFB, CO 80914 719-556-6100 robert.tomlinson@spaceforce.mil
PERMIT TYPE:	Federal Facility, Municipal Separate Storm Sewer Systems, Permit Renewal
FACILITY LOCATION:	580 Goodfellow Street, Building 1324 PSFB, CO 80914 Latitude, Longitude: 38.8236° N, 104.6950° W
DISCHARGE LOCATION(S):	Multiple outfalls to: East Fork of Sand Creek, a tributary of Fountain Creek
RECEIVING WATERS:	East Fork of Sand Creek, a tributary of Fountain Creek

1. INTRODUCTION

This statement of basis (SoB) is for the issuance of a NPDES permit (the Permit) to the United States Department of Air Force (DoAF), for Peterson Space Force Base's (PSFB's) municipal separate storm sewer system (MS4). The Permit establishes discharge limitations for any discharge of municipal stormwater from PSFB. The SoB explains the nature of the discharges, and the EPA's

decisions for limiting the pollutants in the stormwater, as well as the regulatory and technical basis for these decisions.

The EPA Region 8 is the permitting authority for Colorado federal facilities and provides implementation of federal and state environmental laws within Colorado.

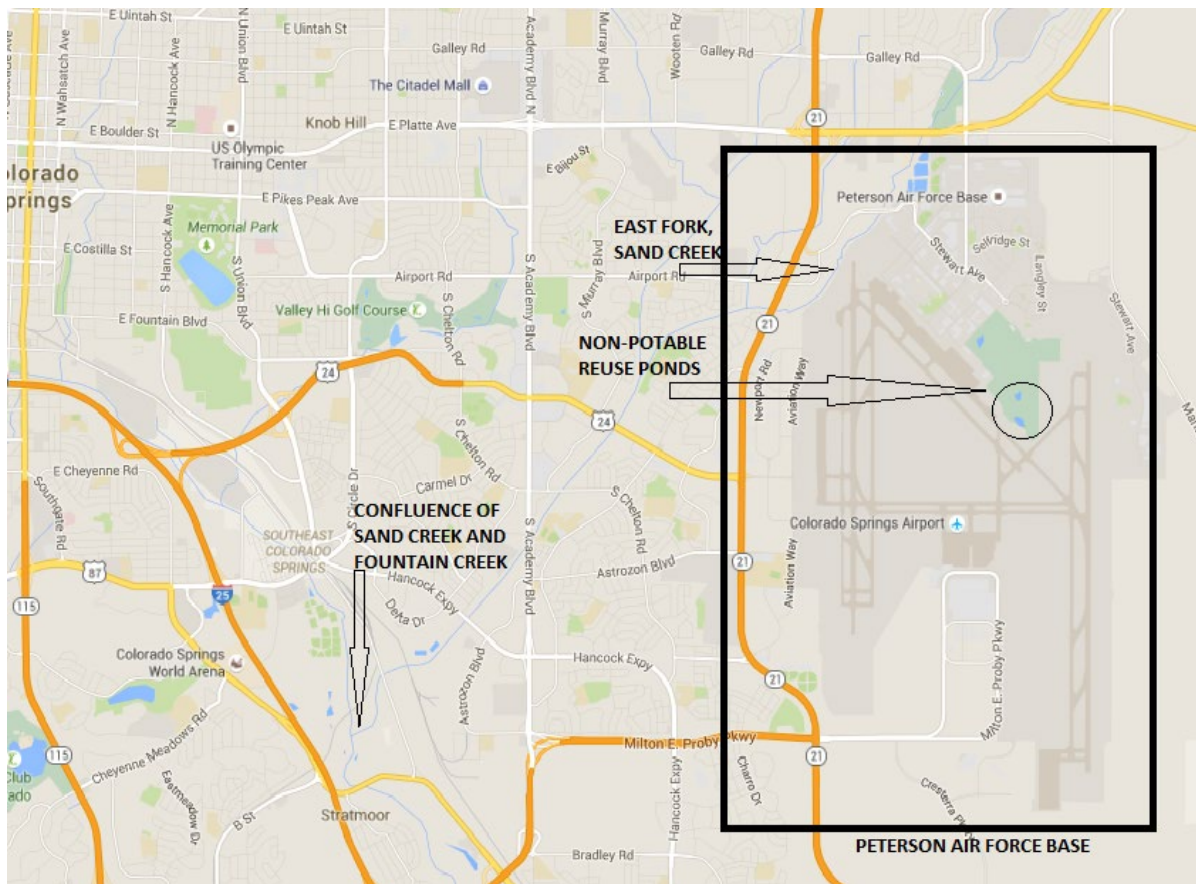
2. FACILITY BACKGROUND INFORMATION

2.1. Facility Overview

PSFB is a United States Space Force Base. PSFB is the headquarters for the 21st Space Wing (“the Wing”). This organization is the Space Force’s only organization providing missile warning and space control to unified commanders and combat forces worldwide. The Wing provides missile warning and space situational awareness data to U.S. Strategic Command and North American Aerospace Defense Command through a network of ground-based radars and optics operated by geographically separated units around the world. The 21st Space Wing supports 53 mission partners, including North American Aerospace Defense Command, U.S. Northern Command, Air Force Space Command, Space and Missile Defense Command/Army Strategic Command, and the 302nd Airlift Wing (Reserve) as well as dozens of others from other major commands. Air Force Space Command, created Sept. 1, 1982, was added as a major command headquartered at PSFB. Thousands of Airmen, as well as Soldiers, Sailors, Marines, Coast Guardsmen, civil servants and contractors, pass through the gates every day, and the Wing is also responsible for providing services to more than several thousand retirees and dependents.

PSFB is approximately 1,295 acres and is located approximately four miles east of the city of Colorado Springs in El Paso County, Colorado (Figure 1). The facility supports a community of approximately 12,000 people including base residents, employees, and contractors. The facility supports numerous activities, which include but are not limited to engineering planning and support, a heating (boiler) plant, water storage, wastewater treatment, vehicle maintenance, airfield support and maintenance, grounds and road maintenance, office buildings, a golf course, and contract housing. PSFB also maintains an agreement for joint operations at the Colorado Springs municipal airport.

Figure 1 – PSFB Map



PSFB is located approximately 4 miles east of the City of Colorado Springs. The PSFB MS4 discharges to both the East Fork of Sand Creek (a tributary of Fountain Creek) and to a pair of non-potable water re-use ponds.

3. WATER QUALITY CONSIDERATIONS

3.1. Description of Receiving Waters

Stormwater discharged from PSFB drains into two different areas. The majority of municipal stormwater runoff at PSFB drains into a series of non-potable re-use ponds which are immediately adjacent to the Colorado Springs Airport. These ponds are designed not to discharge as that would compromise the integrity and use of the airport. The ponds accept runoff from industrial operations, office buildings, the golf course, and contract housing. The ponds are used as a non-potable water source with a primary water reuse source being golf course irrigation. A drainage divide at PSFB segregates stormwater runoff generated in the northern and western portions of the base into the East Fork of Sand Creek. The primary outfall which discharges to the East Fork of Sand Creek receives stormwater runoff from office operations, industrial operations, the northern portion of the airfield, and bulk petroleum storage areas associated with airfield operations. Municipal runoff from PSFB

which drains to the East Fork of Sand Creek ultimately discharges to Fountain Creek approximately five miles after leaving the PSFB.

3.2. Receiving Waters Water Quality Standards

Water quality standards approved by the Colorado Department of Public Health and Environment (CDPHE) for the receiving waters from this facility are attributed to the following water body segment, COARFO04e (specifically COARF004e_A and COARF004e_C):

COARF004 Designated uses: Aquatic Life Warm 2, Recreation E, Water Supply, Agriculture

Table 1 – Impaired Waters that receive runoff from the PSFB MS4

1. Listed portion: COARFO04e_A

All tributaries to Fountain Creek, including tributaries and wetlands, from the point immediately below the confluence with Monument Creek to University Blvd (Co47) near Pueblo except for Little Fountain Creek, Sand Creek(s) (near Wigwam and Colorado Springs), and specific listings in segments 5 and 6.

<i>Affected Use</i>	<i>Analyte</i>	<i>Category/List</i>	<i>Priority</i>
Reactional Use	E.coli	5. 303(d) list	H

2. Listed portion: COARFO04e_C

Sand Creek (near Colorado Springs), including all tributaries and wetlands.

<i>Affected Use</i>	<i>Analyte</i>	<i>Category/List</i>	<i>Priority</i>
Water Supply Use	Sulfate	3b. – 303(d) list	NA
Aquatic Life Use	Selenium (dissolved)	5. – 303(d) list	H

Water Quality Impairments:

The receiving water designated as COARFO04 has impairments listed in the Colorado Section 303(d) List of Impaired Waters and Monitoring and Evaluation List (Colorado Control Regulation #93). These impairments include an impairment for *E. coli* which applies to all tributaries to Fountain Creek and an impairment for sulfate and selenium (dissolved) specifically for Sand Creek, a tributary of Fountain Creek. See Table 1 above.

At the time of this Permit issuance, a Total Maximum Daily Load (TMDL) to address these water quality impairments has not been developed. If there is a TMDL issued for this water which includes a wasteload allocation or specific control measure for municipal stormwater point source discharges, it will be included in the Permit upon reissuance. This Permit may also be reopened and modified prior its expiration date to include wasteload allocations or specific control measures prescribed in a TMDL.

4. PERMIT HISTORY

PSFB is considered a non-traditional Phase II small MS4. The facility was originally covered under EPA's Small MS4 General Permit under the certification number COR04201F. On April 30, 2009, PSFB was issued an individual permit (COR042001) which replaced the certification under the general permit. PSFB was issued a second iteration of this individual permit on December 2, 2015 which was effective January 1, 2016 and expired on December 31, 2020. PSFB submitted a timely and complete permit application on June 17, 2020 so the permit was administratively continued. This proposed Permit will be the second iteration of the facility's individual permit.

5. MAJOR CHANGES FROM PREVIOUS PERMIT

- The Phase II stormwater rule was challenged in petitions for review filed by environmental groups, municipal organizations, and industry groups, resulting in a partial remand of the rule. *Environmental Defense Center v. U.S. Environmental Protection Agency*, 344 F.3d. 832 (9th Cir. 2003) (EDC). The court remanded the Phase II rule's provisions for small MS4 general permits because they lacked procedures for permitting authority review and public notice and the opportunity to request a hearing on Notices of Intent (NOIs) for authorization to discharge under a general permit. In response to the court's remand, EPA revised its Phase II stormwater rules for Phase II permits in 2016 (i.e., Remand Rule). One of the new requirements is that all Phase II MS4 permits have "clear, specific and measurable" conditions. Therefore, all terms and conditions have changed to be "clear, specific and measurable" to comply with the Remand Rule. Additionally, the standard for reducing pollutants to the "maximum extent practicable" (MEP) has been revised (as required by the Remand Rule) to be determined by the permitting authority (EPA) rather than determined by the permittee (DoAF) in this Permit.
- Additionally, EPA added nutrient management terms and conditions to the Permit. In October 2017, the Water Quality Control Commission made changes to Colorado's nutrient management control regulations (Colorado Regulations 85 and 31.17). In response to changing regulations and water quality, both the State of Colorado and EPA have added nutrient provisions to all re-issued Phase II MS4 permits.
- PSFB shall sample quarterly for per- and polyfluoroalkyl substances (PFAS) using CWA wastewater analytical method 1633 at Outfalls 1, 2, 3, 4, 5 and Manholes JP040 & JP041. This is because PFAS substances have historically been used at PSFB (see Section 8.1 of the SoB), and such monitoring is consistent with EPA's December 5, 2022 memo, "Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs."
- In addition, a PFAS Discharge Reduction best management practice (BMP) has been added. The Permittee must make an effort to prevent the discharge of any PFAS-containing compounds (including Aqueous Film-Forming Foam (AFFF)) to receiving waters. The Permittee should consider the use and storage of alternatives to PFAS-containing compounds for firefighting activities. For any activity where AFFF is used, including emergency firefighting and training activities, the Permittee must immediately clean up the AFFF as best as possible, including diversions and other measures that prevent discharges to receiving

waters. The Permittee must also report the use of AFFF, and any discharges of AFFF, to EPA at the address in section 6.1 within 14 days following the event.

6. FINAL PERMIT LIMITATIONS

6.1. Technology Based Limitations

NPDES permit coverage for these discharges is required in accordance with the 1987 Amendments to the Clean Water Act (CWA) and final EPA regulations for Phase II stormwater discharges (64 FR 68722, December 8, 1999). The 1987 Water Quality Act (WQA) amended the Clean Water Act (CWA) by adding section 402(p) which requires that NPDES permits be issued for various categories of stormwater discharges. Section 402(p)(2) requires permits for the following five categories of stormwater discharges:

- 6.1.1. Discharges permitted prior to February 4, 1987;
- 6.1.2. Discharges associated with industrial activity;
- 6.1.3. Discharges from large municipal separate storm sewer systems (MS4s) (systems serving a population of 250,000 or more);
- 6.1.4. Discharges from medium MS4s (systems serving a population of 100,000 or more, but less than 250,000); and
- 6.1.5. Discharges judged by the permitting authority to be significant sources of pollutants or which contribute to a violation of a water quality standard.

The five categories listed above are generally referred to as Phase I of the stormwater program. In Colorado, Phase I MS4 permits have been issued by CDPHE to the cities of Denver, Lakewood, Aurora, Colorado Springs, and the highway system operated by the Colorado Department of Transportation within those cities. In Colorado, NPDES permitting authority for Federal Facilities has not been delegated to CDPHE. Therefore, EPA maintains NPDES primacy for those facilities.

Phase II stormwater regulations were promulgated by EPA on December 8, 1999 (64 FR 68722). These regulations set forth the additional categories of discharges to be permitted and the requirements of the program. The additional stormwater discharges to be permitted include:

- 6.1.6. Small MS4s (PABF is considered a small Phase II MS4) as defined by 40 CFR 122.26(b)(16);
- 6.1.7. Small construction sites (i.e., sites which disturb one to five acres); and
- 6.1.8. Industrial facilities owned or operated by small municipalities which were temporarily exempted from the Phase I requirements in accordance with the provisions of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991.

The 1987 CWA amendments clarified the fact that industrial storm water discharges are subject to the best available technology (BAT)/best conventional technology (BCT) requirements of the CWA,

and applicable water quality standards. For MS4s, the CWA specifies a new technology related level of control for pollutants in the discharges control to the maximum extent practicable (MEP). However, the CWA is silent on the issue of compliance with water quality standards for MS4 discharges. In September 1999, the Ninth Circuit Court addressed this issue and ruled that water quality standards compliance by MS4s is discretionary on the part of the permitting authority (*Defenders of Wildlife v. Browner*, No. 9871080).

The technology-based limits for this Permit are largely based on the implementation of a Stormwater Management Plan (SWMP) which addresses six minimum measures. The SWMP and additional measures included in this Permit are the means through which DoAF complies with the CWA's requirement to control pollutants in the discharges to the MEP and how EPA discretion addresses compliance with the water quality related provisions of the CWA. The EPA considers MEP to be an iterative process in which an initial SWMP is proposed and then periodically upgraded as new best management practices (BMPs) are developed or new information becomes available concerning the effectiveness of existing BMPs (64 FR 68754). The Phase II regulations at 40 CFR §122.34 require the following six minimum pollution control measures to be included in the SWMP:

6.1.9. Public Education and Outreach on Storm Water Impacts;

6.1.10. Public Involvement/Participation;

6.1.11. Illicit Discharge Detection and Elimination;

6.1.12. Construction Site Storm Water Runoff Control;

6.1.13. Post-Construction Storm Water Management in New Development and Redevelopment;
and

6.1.14. Pollution Prevention/Good Housekeeping for Municipal Operations.

The regulations specify required elements for each minimum measure and include guidance which provides additional information recommended for an adequate program. The Permit includes a number of additional requirements for each minimum measure which were derived from the recommendations of the regulations, recommendations from the State of Colorado, and from inspection/audit findings by EPA inspectors which could affect the implementation of an effective stormwater program.

The technology-based limits and a rationale for these limits are in Part 2 of the Permit.

Limitations on Permit Coverage

In Part 1.4 of the Permit, there are limitations on the types of discharges that are covered under this Permit. Parts 1.4.3 and 1.4.4 are provided to note that stormwater discharges from regulated construction activities and stormwater discharges from regulated industrial activities are not authorized under this Permit. These types of activities need to be authorized under a separate permit.

Part 1.4 of the Permit also defines several types of non-stormwater discharges which are authorized under this Permit unless the Permittee determines they are significant contributors of pollutants. If

the Permittee identifies any of the categories as a significant contributor of pollutants, the Permittee must include the category as an illicit discharge.

7. MONITORING REQUIREMENTS

7.1. Monitoring

The Phase II stormwater regulations at 40 CFR §122.34(d)(1) require that small MS4s evaluate program compliance, the appropriateness of the BMPs in their SWMPs and progress towards meeting their measurable goals. Monitoring and assessment activities are included as part of each of the minimum measures of the Permit.

7.2. Per- and Polyfluoroalkyl Substances (PFAS)

PSFB shall be required to sample per- and polyfluoroalkyl substances (PFAS) using CWA wastewater analytical method 1633. This is because PFAS substances have historically been used at PSFB (see Section 8.1 of the SoB), and such monitoring is consistent with EPA's December 5, 2022 memo, "Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs." This data will allow EPA to evaluate any needed controls in future permits to meet the state of Colorado's narrative standard prohibiting toxics, as describes in the state of Colorado's PFAS Policy 20-1. Therefore, PSFB will be required to monitor semi-annually (twice yearly) for PFAS pollutant identification. See Section 8.1 for more details.

In addition, a PFAS Discharge Reduction best management practice (BMP) has been added. The Permittee must make an effort to prevent the discharge of any PFAS-containing compounds (including Aqueous Film-Forming Foam, or AFFF) to receiving waters. The Permittee should consider the use and storage of alternatives to PFAS containing compounds for firefighting activities. For any activity where AFFF is used, including emergency firefighting and training activities, the Permittee must immediately clean up the AFFF as best as possible, including diversions and other measures that prevent discharges to receiving waters. The Permittee must also report the use of AFFF, and any discharges of AFFF, to EPA at the address in section 7.1 within 14 days following the event.

8. PFAS MONITORING AND DISCHARGE REDUCTION BMP

8.1 Per- and Polyfluoroalkyl Substances (PFAS)

Figure 2 – Location of Aqueous Film-Forming Foam (AFFF) Historic Use/Investigation Sites

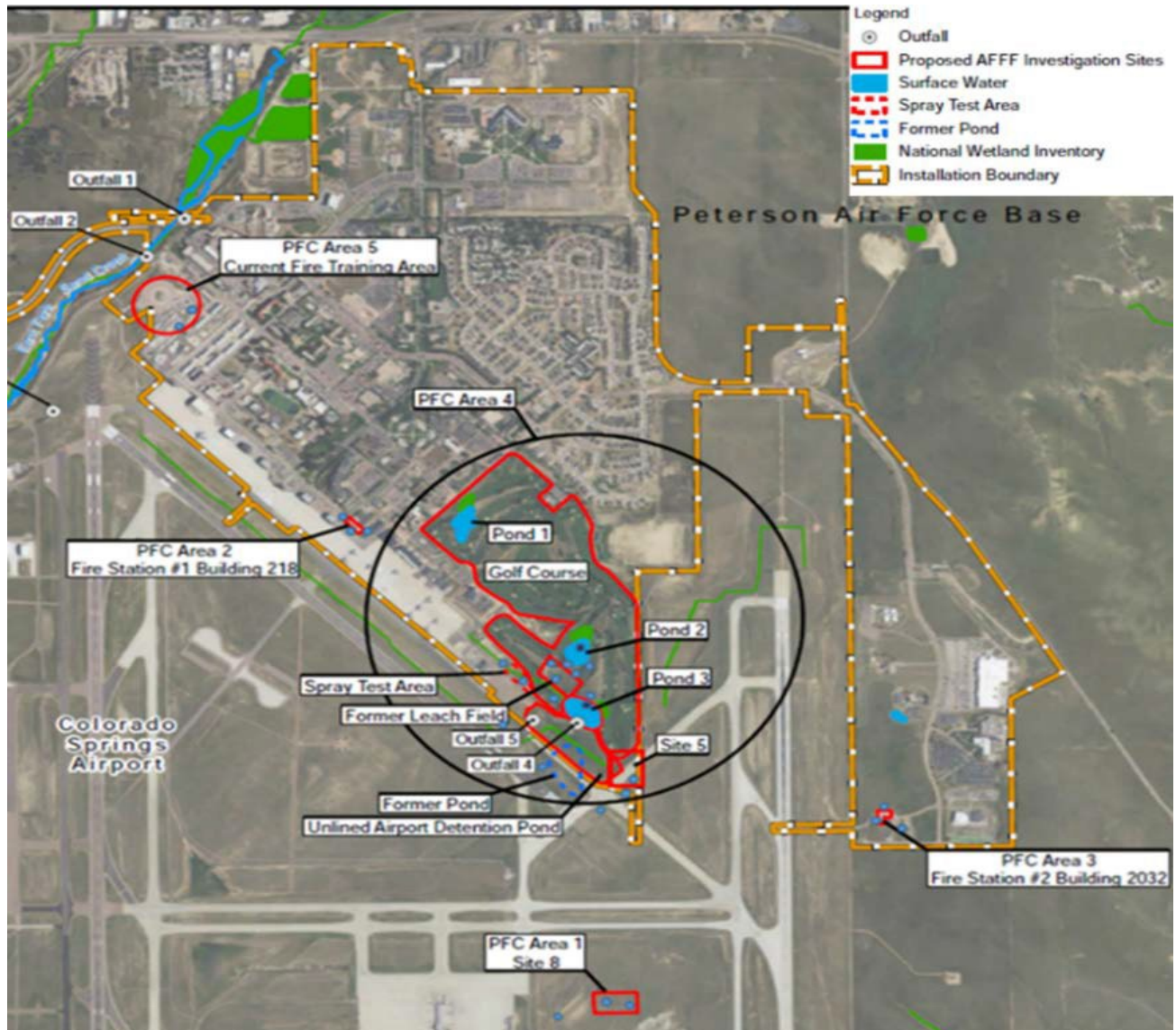
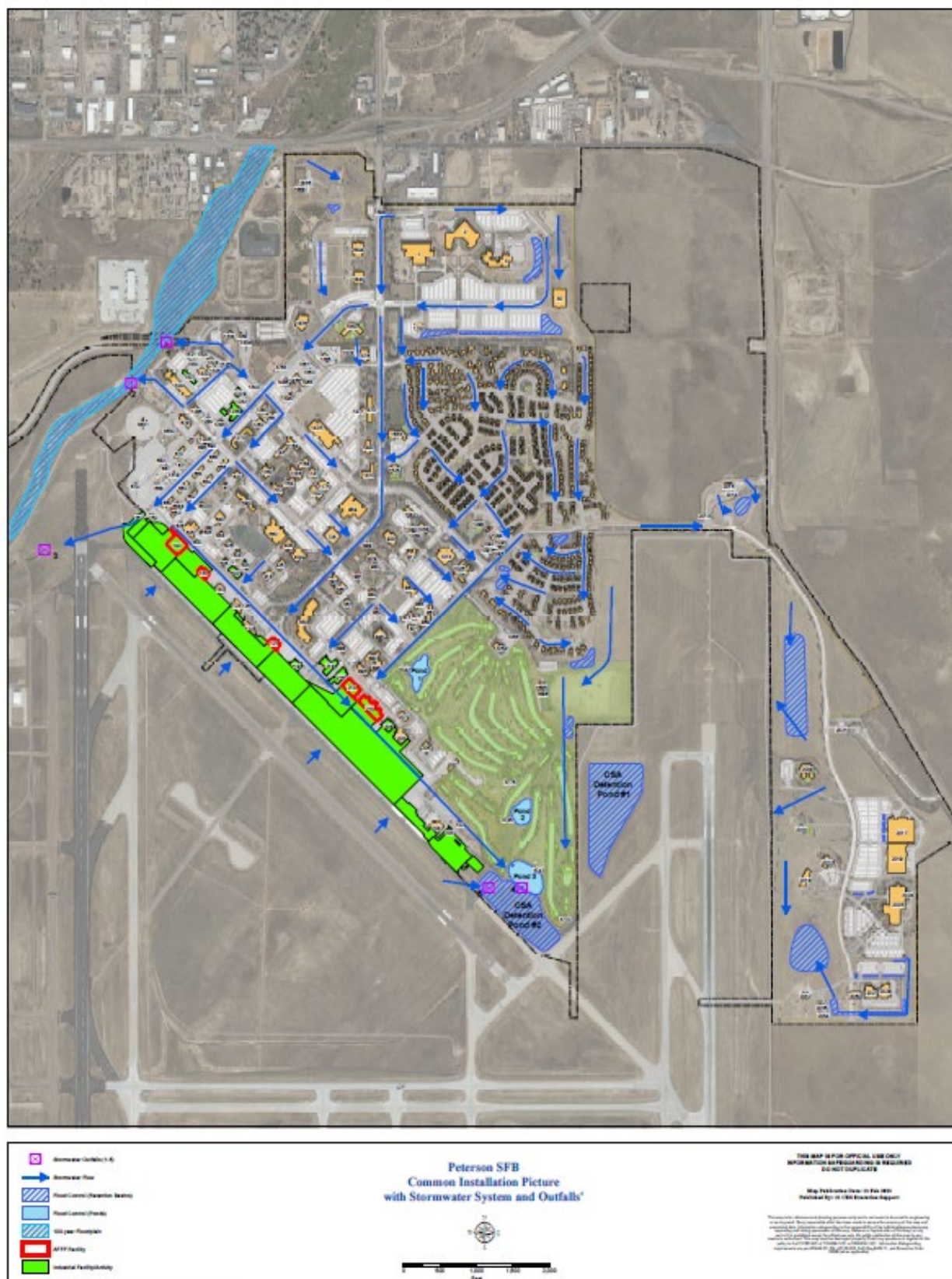


Figure 3 – Overview of Stormwater System and Outfalls w/AFFF Facilities



AFFF Descriptions from the Scientific Investigation (SI):

AFFF Area 1: Otherwise known as “Site 8,” AFFF Area 1 is a former fire training area (FTA) that was active from 1977 until late 1991/early 1992. Now on Colorado Springs Airport (COS) property south of PSFB, Site 8 is well vegetated and maintained by COS. All structures associated with the FTA have been removed but included a collection pit, an oil/water separator (OWS), and associated piping. Water/liquids collected in the pit drained to the OWS, and water was ultimately allowed to discharge to the ground surface to a drainage area east of the site. The original size of the pit is unknown and is now filled with soil and covered with grass. Although there is no information available concerning AFFF use at Site 8, it may have been used during fire training events given the time period the FTA was in use. The original SI Report stated that none of the analytes were detected above screening values (which were then 70 ppt for Perfluorooctanoic acid (PFOA) and Perfluorooctane sulfonic acid (PFOS). However, groundwater was found above current (2022) health advisory levels for PFOS (0.16 ppt).

AFFF Area 2:

Building 218

Fire Station #1 (Building 218) - until recently, time and distance tests were conducted periodically at the fire station to certify the performance of the pump and spray system on the trucks. AFFF spray testing at Fire Station #1 was primarily conducted on the concrete on the aircraft apron side of the building. Surface runoff was directed into the PSFB storm water system, which ultimately discharged to Pond #3. During freezing weather, however, spray testing was conducted over the adjacent volleyball court to avoid icing the concrete ramp. The volleyball court has a sand surface and a soil subsurface and AFFF released during spray testing would percolate into the ground in this area. The volume of AFFF released during previous spray testing at the volleyball court is unknown. Spray testing of AFFF has now been discontinued at PSFB.

Former Building 117

Former Building 117 was the original fire station at PSFB and was slightly southwest of Building 218. Spray testing conducted when Fire Station #1 was at Building 117 was usually performed on the apron west of the former leach field. However, spray testing was also occasionally conducted on the apron adjacent to Building 117.

Groundwater was found above current (2022) health advisory levels for PFOA (0.12 ppt) and PFOS (0.058 ppt) in the SI report. Groundwater flows to the southwest at Fire Station #1 and impacted groundwater may be flowing off base. Since both the on- and off-base population within a 4-mile radius of AFFF Area 2 rely on drinking water provided in part by local wells, there is the potential for a complete groundwater pathway for human receptors.

AFFF Area 3: Fire Station #2 is in the eastern section of the base. The fire station began operations in 1996 and until recently, time and distance tests were conducted periodically on the west side of the building along the airport access road. The total volume of AFFF released during previous spray testing at this location is unknown. Spray testing of AFFF has now been discontinued at PSFB, and no AFFF has been used at Area 3 for over 20 years. Surface soil was found above screening levels (2,400 ppt) and groundwater was found above current (2022) health advisory levels for PFOA (0.023 ppt) and PFOS (0.028 ppt) in the SI report.

AFFF Area 4: Three sites in the southern portion of PSFB and identified as known or suspected AFFF release sites include the golf course/leach field (WP006), Detention Pond #3, and Site 5 (FT002). Due to their proximity, these sites have been grouped as AFFF Area 4.

Golf Course/Leach Field (WP006) The PSFB golf course in the south-central portion of PSFB was built in 1977. Prior to construction of the golf course, a leach field occupied a portion of this area and was active from 1956 to 1978. Irrigation water used at the golf course and industrial discharges to the leach field may have contained AFFF impacted water.

The leach field was part of an industrial waste drainage system and consisted of a settling tank, an OWS, and a gravel envelope leach field. Effluent from the leach field infiltrated the subsurface overburden, primarily migrating downward until encountering bedrock and/or the uppermost water-bearing zone. At that point, the effluent would mix with groundwater, which flows to the southwest. In 1978, industrial discharges from PSFB were connected to the sanitary sewer line and the leach field was decommissioned.

AFFF released from hangars at PSFB from 1970 until 1978 would have ultimately discharged to the leach field. Subsequently, the PSFB golf course was constructed over the leach field. From 1979 to present day, the PSFB golf course has used water from Pond #3 and two other ponds on the course for irrigation (Pond #1 and #2). Pond #3 receives surface water runoff from the industrialized/developed portions of the base and may have received AFFF-impacted water during previous releases during spray testing.

Detention Pond #3:

Pond #3 was constructed in 1979 as an unlined detention pond; in early 2002, the pond was upgraded and a butyl rubber liner installed. The pond is in the southern portion of PSFB between Taxiway B and the golf course and receives surface/storm water runoff from the central and western portions of the base and all industrialized areas on base. Recently discovered 1997 photographs show AFFF on the surface of the pond and a cleanup effort in progress. Although no other information is available, it appears an unknown quantity of AFFF was released to the unlined pond. Prior to the construction of Pond #3, there was another pond approximately 850 feet to the south (based on the 1961 USGS Elsmere Topographic Quadrangle map) that received surface runoff from the same areas that currently discharge to Pond #3, as shown on Figure 6 in Appendix A. Untreated water from Pond #3 is used to fill Ponds 1 and 2 and to irrigate the adjacent golf course. When Pond #3 reaches its maximum capacity, overflow is routed to the adjacent unlined detention pond and allowed to infiltrate into the ground surface. The total volume of AFFF released at this location is unknown.

Site 5 (FT002):

Site 5, also known as FTA-1, is a former FTA near the intersections of Taxiways B and F and immediately south of the golf course. The FTA was active from the 1960s through 1977 and consisted of a shallow unlined burn pit. Originally at the same elevation as the golf course, the area has been filled during construction of Taxiway F and is now part of the COS. The FTA included a shallow unlined burn pit where JP-4, waste oils, and solvents were used for training fires. During construction of the PSFB golf course, soil excavated from the former FTA was placed in Landfill 3, approximately 1 mile south-southwest of the site. The excavated material placed in Landfill 3 was

subsequently excavated in 1989 during COS expansion and placed in a landfill south of Runway 17R/35L.

Based on the findings in the SI, PFAS releases at the sites included:

- likely discharge of PFAS-impacted wastewater to the leach field,
- irrigation at the golf course using PFAS-impacted surface water from Detention Pond #3,
- historical discharge of PFAS-impacted storm water to the original unlined Pond #3,
- discharge of PFAS-impacted storm water from existing Detention Pond #3 to unlined COS
- detention pond, and
- use of AFFF during training exercises at Site 5 (a former FTA).

PFAS concentrations in soil and sediment were below screening levels at all AFFF Area 4 sites. However, PFOA/PFOS concentrations in groundwater samples collected from five wells exceeded the EPA health advisory at estimated combined concentrations ranging from 0.079 µg/L to 0.98 µg/L. At least one well associated with each site at Area 4 has been impacted by PFAS at concentrations above the EPA health advisory indicating releases have likely occurred at each site. Groundwater flows to the southwest at AFFF Area 4 and impacted groundwater may be flowing off base. Since both the on- and off-base population within a 4-mile radius of Area 4 relies on drinking water provided in part by local wells, there is the potential for a complete groundwater pathway for human receptors.

Combined PFOA/PFOS concentrations in surface water samples collected from Pond #2 on the golf course and nearby Detention Pond #3 also exceeded the EPA health advisory at concentrations of 0.826 µg/L and 0.73 µg/L respectively. A potential human exposure pathway exists for golfers and golf course maintenance personnel exposed to surface water in Pond #2. Although Pond #3 is fenced, preventing exposure to golfers, a potential exposure pathway exists for base maintenance workers exposed to surface water at the pond. It is also likely that golf course Pond #1 has been impacted by PFAS; however, the pond was not sampled.

AFFF Area 5:

The current FTA is in the northwestern portion of the facility near the intersection of Ent Avenue and Goodfellow Street. The FTA is bordered by grassy areas associated with the airfield to the west and northwest and by paved developed areas to the east and southeast. The FTA has been in use since 1989 and includes a burn pit, a dual high-density polyethylene (HDPE) liner, and a mock aircraft. Firefighting foams were used frequently in the past when flammable fuels were ignited for training; however, current fire training activities use water (AFFF has not been used since 2018). Water generated from training activities was pumped into an enclosed holding tank on the southern side of the training area. The holding tank previously had an OWS associated with it, but the OWS has been removed. The holding tank was occasionally drained into the sanitary sewer system, but such events were rare. A portion of the water would be sent to the sanitary sewer when the tank would get to capacity and more training was to occur. Approximately 10,000 to 20,000 gallons of water would be discharged during each event.

There were no releases of AFFF reported during the PA because the burn pit was lined and it was

assumed that AFFF used during training was contained. The CDPHE, however, requested that the FTA be included in the SI process to confirm that previous use of AFFF had not resulted in releases to the environment.

Subsequent to sampling conducted during the SI, PSFB independently sampled three locations around the FTA; a leak detection well, an existing FTA well (outside the liner), and a firefighting solution holding tank at the FTA (Recker, November 2016). The leak detection well is a sump between the primary and secondary containment liners, the FTA well was installed during a 1997 investigation to assess the integrity of the liner system (Blanche, February 1998), and the holding tank was part of the fire suppression system used during training activities. PFAS were detected in each of the samples collected. Detections of PFOA at 7.4 µg/L and PFOS at 81 µg/L in the FTA well outside the liner confirm that AFFF releases have occurred at the FTA. These releases were apparently the result of overspray as the integrity of the secondary liner was shown to be intact during the 1997 investigation as well as during a second dye test conducted by PSFB in 2016 (PSFB, November 2016).

Combined PFOA/PFOS concentrations exceeded the EPA health advisory in three groundwater samples collected at the current FTA. PFOA/PFOS exceeded the EPA health advisory in a sample collected from an existing well just outside the fire pit liner at a combined concentration of 88.4 µg/L. Samples collected from two downgradient wells exceeded the EPA health advisory at estimated combined concentrations of 3.24 µg/L and 15 µg/L. Impacted groundwater is migrating from the FTA to the southeast and may be flowing off-base. Since both the on- and off-base population within a 4-mile radius of AFFF Area 2 relies on drinking water provided in part by local wells, there is the potential for a complete groundwater pathway for human receptors. All of the groundwater samples were found above current (2022) health advisory levels for PFOA and PFOS in the SI report.

Table 2 - PFAS Monitoring Requirements For: Outfalls 1, 2, 3, 4, 5 AND Manholes JP040 & JP041 (near Pond 3)^{c/}

Stormwater Discharge Characteristic	Frequency	Sample Type ^{a/}
Per- and polyfluoroalkyl substances (PFAS) µg/L ^{b/}	Quarterly ^{b/}	Grab ^{a/}

a/ See Definitions, Part 1, for definition of terms.

b/ The Permittee must monitor PFAS quarterly using Method 1633 and must report a PFAS monitoring result with its Annual Report for each year of permit coverage. Sampling will be required to begin one year after the effective date of this Permit. Sampling will be required to begin one year after the effective date of this Permit to allow PSFB to procure contract mechanisms.

c/ If the Permittee completes a Remedial Investigation (RI) under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in which PFAS sampling occurred, the Permittee may submit such sampling data in the Permittee's Annual Report. Such sampling data could be used to request a reduction in the number of PFAS sampling locations required under this

Permit. The information contained in any RI will not be used for any other purpose in this Permit other than requesting a reduction in the number of PFAS sampling locations. In addition to (or in lieu of) RI data, the Permittee may also request a reduction in sampling locations if 8 consecutive quarterly samples show non-detections of PFAS. A reduction in sampling locations may be approved by EPA and would not require additional public notice.

Table 3 - NPDES PFAS monitoring sites

1	Northeast of current AFFF Training area and current industrial buildings	Captures current and former AFFF training site, current industrial buildings (PFC Area 5 in SI Report)
2	North of current AFFF Training area and current industrial buildings	Captures current and former AFFF training site, current industrial buildings not captured by Outfall 1 (PFC Area 5 in SI Report)
3	Northwest of current AFFF Training area and current industrial buildings	Captures current and former AFFF training site, current industrial buildings not captured by Outfall 2 (PFC Area 5 in SI Report)
4	Southwest corner of exterior boundary of base.	Captures AOPI sites Building 218 & 177 (former fire station), golf course/WWTF leach field (PFC Area 2 & 4)
5	Southwest corner of exterior boundary of base.	Captures Fire Station #1 and Bldg 218 in Area 4
JP040	Western manhole discharging to Pond 3 (-104.696317, 38.812815)	Captures the stormwater of golf course/leach field in Area 4
JP041	Northern manhole discharging to Pond 3 (-104.693843, 38.81195)	Captures the stormwater of golf course/leach field in Area 4

a/ AOPI is the Final Site Inspection Report of Aqueous Film Forming Foam Areas at Peterson Air Force Base El Paso County, Colorado (2017).

8.2 Per- and Polyfluoroalkyl Substances (PFAS) Discharge Reduction BMP

The Permittee must make an effort to prevent the discharge of any PFAS-containing compounds (including AFFF) to receiving waters. The Permittee should consider the use and storage of alternatives to PFAS-containing compounds for firefighting activities. For any activity where AFFF is used and specific event in which, including emergency firefighting and training activities, the Permittee must immediately clean up the AFFF as best as possible, including diversions and other measures that prevent discharges to receiving waters. The Permittee must also report the use of AFFF, and any discharges of AFFF, to EPA at the address in section 6.1 of the Permit within 14 days following the event.

9. REPORTING REQUIREMENTS

9.1 Annual Report

40 CFR 122.34(d)(3) requires small MS4s to submit reports to the EPA. Annual reports are required to allow for regular evaluation of the MS4 program. See Part 5.2 of the Permit for specifics on annual reporting requirements.

10. ENDANGERED SPECIES CONSIDERATIONS

The Endangered Species Act (ESA) of 1973 requires all Federal Agencies to ensure, in consultation with the U.S. Fish and Wildlife Service (FWS), that any Federal action carried out by the Agency is not likely to jeopardize the continued existence of any endangered species or threatened species (together, “listed” species), or result in the adverse modification or destruction of habitat of such species that is designated by the FWS as critical (“critical habitat”). See 16 U.S.C. § 1536(a)(2), 50 CFR Part 402. When a Federal agency’s action “may affect” a protected species, that agency is required to consult with the FWS, depending upon the endangered species, threatened species, or designated critical habitat that may be affected by the action (50 CFR Part 402.14(a)).

The U.S. Fish and Wildlife Information for Planning and Conservation (IPaC) website program was accessed on March 22, 2024 to determine federally-listed Endangered, Threatened, Proposed and Candidate Species that may be present in the portion of El Paso County, Colorado near the PSFB (Table 4). EPA did an informal consultation with the Colorado FWS field office representative on March 15, 2024, and provided preliminary information and obtained assistance for the below species. Based upon this informal consultation, EPA determined that this permitting action has “no affect” for three listed species and “may affect, but is not likely to adversely affect” for three listed species.

Table 4 – Potentially Affected Species at this Location

Species	Scientific Name	Species Status	Designated Critical Habitat	Justification
Tri-Colored Bat	<i>Perimyotis subflavus</i>	Proposed Endangered	None	May affect, but is not likely to adversely affect. This is primarily a terrestrial species but is known to occur in El Paso country. During the winter, tricolored bats are often found in caves and abandoned mines, although in the southern United States, where caves are sparse, tricolored bats are often found roosting in road-associated culverts where they exhibit shorter torpor bouts and forage during warm nights. During the spring, summer, and fall, tricolored bats are found in forested habitats where they roost in trees, primarily among leaves of live or recently dead deciduous hardwood trees, but may also be found in Spanish moss, pine trees, and occasionally human structures.
Eastern Black Rail	<i>Laterallus jamaicensis ssp. jamaicensis</i>	Threatened	None	No affect. Presently, eastern black rails are reliably located within the Arkansas River Valley of Colorado which PSFB is not located within.

Species	Scientific Name	Species Status	Designated Critical Habitat	Justification
Piping Plover	<i>Charadrius melodus</i>	Threatened	None	<p>No affect.</p> <p>Based on the information provided in IPAC this species only needs to be considered in this area if the project includes water-related activities and/or use (e.g., water development project or water depletion activity) in the N. Platte, S. Platte, and Laramie River Basins which may affect listed species in Nebraska. This permitted activity does not discharge into either of these specified waterbodies and is not a water development project or water depletion activity.</p>
Greenback Cutthroat Trout	<i>Oncorhynchus clarkii stomias</i>	Threatened	None	<p>May affect, but is not likely to adversely affect.</p> <p>According to USFWS field office, species known to occur in Zimmerman Lake (Poudre River watershed), Bear Creek near Colorado Springs (south of US Air Force Academy), and Herman Gulch.</p>
Pallid Sturgeon	<i>Scaphirhynchus albus</i>	Endangered	None	<p>No affect.</p> <p>Based on the information provided in IPAC this species only needs to be considered in this area if the project includes water-related activities and/or use (e.g., water development project or water depletion activity) in the N. Platte, S. Platte, and Laramie River Basins which may affect listed species in Nebraska. This permitted activity does not discharge into either of these specified waterbodies and is not a water development project or water depletion activity.</p>
Monarch Butterfly	<i>Danaus plexippus</i>	Candidate	None	<p>The monarch butterfly is a candidate species. No consultation is required for this species but was identified in the area by the IPAC search and has been considered in this review).</p>
Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	Threatened	None	<p>May affect, but is not likely to adversely affect.</p> <p>Based on the IPAC information, this species is primarily found in wetlands, moist meadows associated with perennial stream terraces, floodplains, oxbows, alluvial banks, point bars, seasonally flooded river terraces, sub-irrigated or spring-fed abandoned stream channels and valleys, and lakeshores.</p>

10.1. Biological Evaluations and Conclusions

Biological evaluations of the potential effects of the final action on the seven listed species and their critical habitat are provided below. These biological evaluations are based on information obtained from the IPaC site and knowledge regarding the final action.

The final action is reissuance of this NPDES Permit. This is a continuation of existing operating conditions; no significant changes to habitat or discharge volumes or quality are planned or expected due to the reissuance of this Permit. Since this is a MS4 permit, there is no consumptive use, and no water depletions will result from this Permit. Permit limitations are protective of the immediate receiving water quality.

There is no critical habitat listed for the Tri-colored Bat, Eastern Black Rail, Piping Plover, Greenback Cutthroat Trout, Pallid Sturgeon, Monarch Butterfly, or Ute Ladies'- tresses within the action area. Except for the Pallid Sturgeon (which prefer deeper rivers with moderate to swift currents) and the Greenback Cutthroat Trout, the species listed are terrestrial species. EPA's determination for three affected species is "may affect, but is not likely to adversely affect" and "no affect" for other species (Table 4).

During public notice, a copy of the Permit and this Statement of Basis was sent to the FWS requesting concurrence with EPA's finding that reissuance of this NPDES Permit "may affect, but is not likely to adversely affect" the species listed above and "no effect" the species listed above.

11. NATIONAL HISTORIC PRESERVATION ACT REQUIREMENTS

Section 106 of the National Historic Preservation Act, 16 U.S.C. § 470(f) requires that federal agencies consider the effects of federal undertakings on historic properties. In its initial application for MS4 permit coverage in 2003, PSFB, working with State Historic Preservation Officers (SHPOs), certified that stormwater discharges and discharge-related activities from the PSFB MS4 would not affect a property that is listed or is eligible for listing on the National Register of Historic Places as maintained by the Secretary of the Interior. PSFB is required to evaluate the potential effects of every new construction project through a formal impact analysis. These analyses require that all new projects are designed and maintained such that properties listed or eligible for listing on the National Register of Historic Places are not affected.

During public notice of the Permit, Colorado's State Historic Preservation Office (SHPO) was notified as an interested party to ensure that historic properties are not negatively affected by the conditions of the Permit.

12. 401 CERTIFICATION CONDITIONS

Colorado is the Clean Water Act (CWA) Section 401 certifying authority for the Permit, and Colorado provided no conditions in their Section 401 certification to EPA on September 30, 2024.

13. MISCELLANEOUS

The effective date of the Permit is January 1, 2025 and the Permit expiration date is December 31, 2029. This NPDES Permit shall be effective for a fixed term not to exceed 5 years.

Permit written by: Amy Maybach, 8WD-CWW, 303-312-7014, September 2023

ADDENDUM:

AGENCY CONSULTATIONS

On May 13, 2024, the FWS concurred with EPA’s conclusion that the Permit reissuance “may affect but is not likely to adversely affect” listed species.

NEIGHBORING JURISDICTIONS

EPA conducted a neighboring jurisdiction analysis of water resources located downstream from the Facility and outside the boundaries of the State of Colorado, in accordance with 40 CFR § 121.13. On November 7, 2024, the EPA permit signatory made a negative “may affect” determination for the authorized discharges from the Facility in the neighboring jurisdiction of Kansas. The EPA documented the factors considered in this determination in the administrative record for this Permit.

PUBLIC NOTICE AND RESPONSE TO COMMENTS:

EPA received joint comments from the Department of Defense on April 26, 2024, for three DOD MS4 permits (Fort Carson, PSFB, and Air Force Academy). Below are the comments and response to comments:

Comment 1. Overall - Update permit references to Peterson Air Force Base, Peterson AFB, PAFB, to Peterson reflect the current name of Peterson Space Force Base, Peterson SFB, PSFB.

EPA Response: EPA made this name change to the Permit and Statement of Basis.

Comment 2. Paragraph 2.2.6.1 and 2.2.6.5: Maintaining a detailed list of all public outreach and education dates and 2.2.6.5 activities across the installation (2.2.6.1) is an onerous new administrative burden on its own, made more so by the new requirement for "up-to-date tracking" (2.2.6.5). Request removal of these provisions, to align with the Buckley SFB permit and to avoid this administrative drain on resources that exceeds its commensurate environmental benefit.

EPA Response: EPA has removed Part 2.2.6.4 (A description of the rationale for how public outreach is provided to the target audience(s) and Part 2.2.6.5 (Up-to-date tracking of the public education and outreach provided to the target audience(s)), and changed the language in Part 2.2.6.1 from “...list of dates and activities meeting....” to “...schedule for meeting the requirements....” to be consistent with the Buckley Space Force Base (SFB) permit.

Comment 3. Paragraph 2.3.5: Request changing the requirement from investigating illicit discharges within two business days of detection to five business days. This allows more flexibility for staff, while still being more stringent than the existing permit requirement. Investigating illicit discharges quickly is a priority for the installations, but having more time accommodates personnel absences due to leave as well as to fulfil other job responsibilities away from the permitted facility. This is of particular concern at Peterson SFB, where the Water PM is also the Water PM for Cheyenne Mountain Space Force Station (CMSFS) and divides their time each week between the two installations.

EPA Response: EPA considered this request and declined to change the response time in Part 2.3.5 from two business days to five business days due to resource constraints. The proposed language is consistent with other MS4 permits such as the Buckley SFB. The requirement in Part 2.3.5 is two business days so investigations would not be required during non-business days such as weekends. EPA has made no changes in response to this comment.

Comment 4. Paragraph 2.4.5 and subparts: This section is redundant to the Construction General Permit (CGP), which is up for reissuance during these MS4 permit terms. Recommend removing the subparts and changing 2.4.5 to read "Appropriate control measures must be selected, designed, installed, implemented, and maintained to minimize all potential pollutants, such as but not limited to sediment, construction site waste, trash, discarded building materials, concrete truck washout, chemicals, sanitary waste, and contaminated soils in discharges to the MS4. Specific control measures must be implemented as required by, and in compliance with, the EPA General Permit for Discharges from Construction Activities. Control measures are also required for non-stormwater discharges not covered under the EPA General Permit for Discharges from Construction Activities that may contribute pollutants to the MS4, including construction dewatering and wash water." This will ensure that should the CGP be updated, there are no issues of conflicting or inconsistent requirements that may needlessly increase the burdens of MS4 oversight and construction compliance.

EPA Response: EPA considered this request and declined to make the changes requested. The language is consistent with other MS4 permits such as the Buckley SFB. EPA has made no changes in response to this comment. The Permittee of the MS4 is required to have an oversight role related to construction project sites within the MS4. PSFB may or may not be considered an "federal operator" under EPA's General Permit for Discharges from Construction Activities (CGP) and therefore, may or may not be required to obtain their own CGP coverage for a particular construction project. This MS4 permit and the CGP are separate permits and are not required to be aligned as the roles and responsibilities are significantly different (i.e., oversight role vs. construction operator, respectively).

Comment 5. Paragraph 2.4.6.1: DoD has concerns about the administrative burden of documenting official approval of construction Stormwater Pollution Prevention Plans (SWPPPs). Request the language be revised to read as follows to reflect that the MS4 does ensure SWPPP CGP compliance without requiring formal SWPPP approval and documentation from MS4 staff: "Initial SWPPP Review: The Permittee must review site plans and SWPPPs for **all** applicable construction activities prior to the start of construction activities. If they do not meet the requirements in EPA General Permit for Discharges from Construction Activities, the Permittee shall notify appropriate personnel that land disturbing activities may not be commenced at the site."

EPA Response: EPA considered this request and declined to make the changes requested. The language is consistent with other MS4 permits such as the Buckley SFB. Documenting SWPPP approval/disapproval is a necessary function to show the outcome of SWPPP review and can be accomplished in one or more ways in conjunction with SWPPP review, as determined most expedient by the Permittee. EPA has made no changes in response to this comment.

Comment 6. Paragraph 2.4.6.1.1 through 2.4.6.1.8 and subparts: These sections and sub-bullets are related to Comment #5 above and are through redundant to the Construction General Permit (CGP),

which is up for reissuance during these MS4 permit terms. Recommend deleting the sub-sections to 2.4.6.1 and relying on the proposed revisions to the language in 2.4.6.1 (Comment #5) regarding CGP compliance to ensure that should the CGP be updated, there are no issues of conflicting or inconsistent requirements that may needlessly increase the burdens of MS4 oversight and construction compliance.

EPA Response: EPA considered this request and declined to make the changes requested. The language is consistent with other MS4 permits such as the Buckley SFB. EPA has made no changes in response to this comment. The Permittee of the MS4 is required to have an oversight role related to construction project sites within the MS4. PSFB may or may not be considered an “federal operator” under EPA’s General Permit for Discharges from Construction Activities (CGP) and therefore, may or may not be required to obtain their own CGP coverage for a particular construction project. This MS4 permit and the CGP are separate permits and are not required to be aligned as the roles and responsibilities are significantly different (i.e., oversight role vs. construction operator, respectively).

Comment 7. Paragraph 2.4.6.3.1: Request revision from inspection every 45 days to quarterly inspections which is a more feasible timeline, particularly when many construction projects are occurring simultaneously. Presumably the 45-day timeframe is based on the Colorado Non-standard MS4 permit, but that permit allows for many exceptions to the 45-day timeframe, including for non-active construction sites in winter and to accommodate staff vacancies/absences. If a full change from 45 days to quarterly is not acceptable, request the addition of the reasonable exceptions language from the Colorado permit to allow for the same exceptions to the 45-day requirement.

EPA Response: As requested, EPA has added a new part (Part 2.4.6.3.1.1) from the Colorado Non-standard MS4 permit which states:

“Routine inspections do not apply to sites:

Individual Homes in a Residential Subdivision-Finished Home: Inspections are not required for a residential lot that has been conveyed to a homeowner (“a finished home”) when all of the following criteria have been met: 1) The lot has been sold to the homeowner(s) for private residential use, 2) The lot has less than one acre of disturbed area, 3) All construction activity associated with grading the lot and building the home is completed, 4) A certificate of occupancy (or equivalent) has been issued to the homeowner, 5) The Permittee has documented that the lot is subject to this exclusion and 6) The residential development site must have a Permittee-approved site plan and still be inspected by the Permittee if there are observations or reports of discharges of sediment from disturbed areas.

Individual Homes in a Residential Subdivision-Unfinished Home: Inspections are not required for a residential lot with an unfinished home when all of the following criteria have been met: 1) The lot has less than one acre of disturbed area, 2) The Permittee has documented that the lot is subject to this exclusion, and 3) The residential development site must have a Permittee-approved site plan and still be inspected by the Permittee if there are observations or reports of discharges of sediment from disturbed areas.

Winter Conditions: Inspections are not required at sites where construction activities are temporarily halted, snow cover exists over the entire site for an extended period and melting

conditions posing a risk of surface erosion do not exist. This exclusion is applicable only during the period where melting conditions do not exist. Other required minimum inspection frequencies remain applicable but do not include the days during which this exclusion applies. The following information must be documented for this exclusion: dates when snow cover occurred, date when construction activities ceased, and date melting conditions began.”

Comment 8. Paragraph 2.5: Request the addition of a sub-provision to this section identical to the one in the Buckley SFB permit language, to more clearly reflect that these requirements are only for contracts initiated after the permit effective date (as is also helpfully clarified in 2.5.11.1): "Compliance Schedule: Construction projects already planned prior to the permit effective date are not subject to the Post-Construction Stormwater Control Measure Design Standards in the Part 2.5.9. These projects must still comply with the requirements of the previous permit issued in 2015. Projects planned after the effective date of the permit have a grace period of two years to comply with Part 2.5.9 to accommodate personnel training."

EPA Response: EPA agrees with this request and added the following language to be consistent with the Buckley SFB permit:

To Section 2.5.1., EPA added “See 2.5.9.3 Compliance Schedules for existing projects.”

EPA added Part 2.5.9.3 “Compliance Schedule: Construction projects already planned prior to the Permit effective date are not subject to the Post-Construction Stormwater Control Measure Design Standards in Part 2.5.9. These projects must still comply with the requirements of the previous permit issued in 2016. Projects planned after the effective date of the Permit have a grace period of two years to comply with Part 2.5.9 to accommodate personnel training.”

Comment 9. Paragraph 2.5.8: Request modification of the language to make it clear that only newly installed control measures need to comply with the new permit, as the language currently reads it could be misinterpreted to mean that previously installed control measures also need to meet the new permit requirements. Suggested revising the first sentence to read: "Inspect at a minimum, annually, all Control Measures planned and installed during the permit term for the purpose of meeting the Control Measure Design Standards defined in Part 2.5.9 and New Development Planning Procedures for Specific Industrial Activities defined in Part 2.5.10 to ensure that they are being maintained in a manner which meets their intended design."

EPA Response: EPA agrees to revising for clarification that only newly installed control measures need to comply with the new permit requirements. EPA has changed Part 2.5.8 to “Inspect at a minimum, annually, all Control Measures planned and installed during the Permit term for the purpose of meeting the Control Measure Design Standards defined....”

Comment 10. Paragraph 2.6.11: Request removal of this provision as redundant to outreach and education requirements in 2.2.

EPA Response: EPA agrees with this request and has removed Part 2.6.11 regarding outreach to laboratory employees.

Comment 11. Paragraph 2.6.13: Request removal of this inspection protocol provision as redundant to inspection requirements throughout the permit and to avoid confusion. Inclusion of this language in 2.6 can be misinterpreted as requiring establishment of a new inspection protocol in addition to those already required elsewhere in the permit, which does not appear to be the intent.

EPA Response: EPA considered this request and declined to remove Part 2.6.13, as this is consistent with other permits such as the Buckley SFB. Rather, EPA suggests that the Permittee use existing inspection protocols established elsewhere in the Permit to avoid confusion. EPA has made no changes in response to this comment. Due to other changes, Part 2.6.13 of the draft Permit has become Part 2.6.12 of the final Permit.