Recertification Notice of Intent (NOI)

Regulated Small Municipal Separate Storm Sewer Systems (MS4's) General Permit ARR040000

You must complete, certify, and sign this Recertification Notice of Intent (NOI) form and return it along with the updated Stormwater Management Program (SWMP) to the Department in order to continue permit coverage under the General Permit ARR040000. You must submit this form <u>no later than July 1, 2019</u>, Please keep a copy of this form for your records once completed and signed.

Permittee Name	Permit Tracking Number	AFIN
Little Rock Air Force Base	ARR040034	88-00858

If any changes or additions need to be made to the information shown below, please update the new information in the corrections section below and/or attach documentation.

	Current Information in ADEQ's database	Corrections/Additions, If Needed
Small MS4 Physical Address	528 Thomas Avenue	
County	Pulaski	
Urbanized/Core Areas	Little Rock	
Receiving Stream	Cypress Branch, Jacks Bayou, Bayou Meto	
Ultimate Receiving Stream	Arkansas River	
	Ronnie Lynn Shaw, Environmental Compliance	W. Samuel Adams,
Contact Person & Title	Chief	Environmental Program Manager
Telephone Number	(501) 987-7700	(501) 987-6809
Cognizant Official & Title	Lt. Col. Daniel C. Werner, Commander	Lt Col Michael D. Stefanovic, Command
Responsible Official & Title	Col. Gerald A. Donohue, Commander, 19th Airlift Wing	

Are the mailing and invoice addresses the same?

Yes or No* *If "No," please provide invoice address:

Additional Comments:

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

I certify that I have read and will comply with all the requirements of the Regulated Small Municipal Separate Storm Sewer Systems (MS4's) General Permit ARR040000.

Responsible Official Name:	GERALD A. DONOHUE, Colonel, USAF
Responsible Official Title:	Commander, 19th Airlift Wing
Responsible Official Signature:	<u> </u>
Dater	3 Muy G

Return the NOI form to the address below or send it electronically to: <u>water.nermit.application@adeq.state.ar.us</u> or via ePortal at the following web address: <u>https://eportal.adeq.state.ar.us/</u>

NPDES Permits Section, Office of Water Quality Arkansas Department of Environmental Quality 5301 Northshore Drive North Little Rock, AR 72118-5317

Little Rock Air Force Base Stormwater Management Plan

NPDES Permit ARR040034 AFIN 88-00858

Stormwater Office 501-987-6809



Review Date: 05/31/2018

Prepared by:

Oneida Total Integrated Enterprises 1030 Central Parkway South San Antonio TX 78232

HDR 9781 South Meridian Blvd, Suite 400 Englewood CO 80112

Final SWMP Date: September 2015

Page intentionally left blank

Table of Contents

1.0.	. Representatives of the Stormwater Program		
2.0.	.0. Installation Setting		3
	2.1.	Installation Overview	3
	2.2.	Installation Location	3
	2.3.	Climate	4
	2.4.	Surface Water Hydrology	4
3.0.	Stor	mwater Management Plan Overview	7
4.0.	4.0. Minimum Control Measures for Stormwater Management		9
	4.1.	General Overview and Objectives	9
	4.2.	Applicability	9
	4.3.	Regulatory Requirements	. 10
	4.4.	Policy and Enforcement	. 10
	4.5.	Future Permit Cycle Approach (BMPs)	. 10
5.0.	MC	M 1 - Public Education and Outreach	. 11
	5.1.	MCM 1 General Overview and Objectives	. 11
	5.2.	MCM 1 Applicability	. 11
	5.3.	MCM 1 Regulatory Requirements	. 11
	5.4.	MCM 1 Policy and Enforcement	. 11
	5.5.	MCM 1 Future Permit Cycle Approach (BMPs)	. 12
6.0.	MC	M 2 - Public Involvement/Participation	.15
	6.1.	MCM 2 General Overview and Objectives	. 15
	6.2.	MCM 2 Applicability	. 15
	6.3.	MCM 2 Regulatory Requirements	. 15
	6.4.	MCM 2 Policy and Enforcement	. 16
	6.5.	MCM 2 Future Permit Cycle Approach (BMPs)	. 16
7.0.	MC	M 3 -Illicit Discharge Detection and Elimination	. 21
	7.1.	MCM 3 General Overview and Objectives	. 21
		7.1.1. Supporting Programs	. 21
		7.1.2. Storm Sewer System Map	. 23
		7.1.3. Allowable Non-Stormwater Discharges	. 24
	7.0	7.1.4. Illicit Discharge Detection and Elimination Plan	. 25
	7.2.	MCM 3 Applicability	. 25
	7.3.	MCM 3 Regulatory Requirements	. 26
	7.4.	MCM 3 Policy and Enforcement	. 26
	7.5.	Future Permit Cycle Approach (BMPs)	. 26

8.0.	MCN	A 4 - Construction Site Stormwater Runoff Control	. 29
	8.1.	MCM 4 General Overview and Objectives	. 29
		8.1.1. Construction Site Stormwater Program	. 29
		8.1.2. Stormwater Pollution Prevention Plan Requirements and Procedures	. 30
	8.2.	MCM 4 Applicability	. 32
	8.3.	MCM 4 Regulatory Requirements	. 32
	8.4.	MCM 4 Policy and Enforcement	. 32
	8.5.	MCM 4 Future Permit Cycle Approach (BMPs)	. 33
9.0.	MCN	A 5 - Post-Construction Runoff Control	. 37
	9.1.	MCM 5 General Overview and Objectives	. 37
		9.1.1. Long-Term Strategic Planning	. 37
		9.1.2. Long-term Operation and Maintenance	. 37
		9.1.3. Low Impact Development	. 38
	9.2.	MCM 5 Applicability	. 38
	9.3.	MCM 5 Regulatory Requirements	. 38
		9.3.1. Applicable DOD Requirements	. 38
	0.4	9.3.2. Annual Reporting	. 39
	9.4.	MCM-5 Policy and Enforcement	. 39
	9.5.	MCM 5 Future Permit Cycle Approach (BMPs)	. 39
10.0.	MCN	A 6 - Pollution Prevention/Good Housekeeping	. 43
	10.1.	MCM 6 General Overview and Objectives	. 43
		10.1.1. Supporting Environmental Programs	. 43
		10.1.2. Training	. 45
	10.2.	MCM 6 Applicability	. 46
	10.3.	MCM 6 Regulatory Requirements	. 46
	10.4.	MCM 6 Policy and Enforcement	. 46
	10.5.	MCM 6 Future Permit Cycle Approach (BMPs)	. 46
11.0.	Revi	ewing and Updating the SWMP	. 49
12.0.	Discl	harges to Impaired Waters Without a TMDL	.51
13.0.	Mon	itoring	. 53
14.0.	Repo	orting and Record Requirements	. 55
	14.1.	Recordkeeping	. 55
	14.2.	Reporting	. 56

Tables

Table 1-1: Table of Organization, Personnel Responsible for Stormwater Related Activities
Table 2-1: LRAFB Stormwater Outfall Coordinates and Receiving Waters
Table 2-2: Bayou Meto Watershed in Pulaski County – 2008 303(d) list
Table 2-3: Bayou Meto Watershed in Pulaski County – Draft 2014 303(d) list
Table 5-1: BMP 1A: Prepare and Distribute Stormwater Pamphlets to Military Family Housing12
Table 5-2: BMP 1B: Stormwater Posters in Key Public Locations
Table 5-3: BMP 1C: Articles Published in Base Newspaper
Table 5-3: BMP 1D: Training for Internal Landscaping and Construction Personnel
Table 5-4. BMP 1E: Evaluate the Success of Public Education and Outreach
Table 6-1: BMP 2A: Stormwater Management Team Annual Meetings
Table 6-2: BMP 2B: Provide a Public Hotline to Report Stormwater Violations. 17
Table 6-3: BMP 2C: Earth Day Celebration. 17
Table 7-1: BMP 3A: Review and Update Storm Sewer System Map27
Table 7-2: BMP 3B: Illicit Discharge Detection and Elimination Plan. 27
Table 8-1: BMP 4A: Preconstruction SWPPP Review and Control. 33
Table 8-2: BMP 4B: Construction Site Inspections
Table 8-3: BMP 4C: Enforcement in Areas of Noncompliance. 34
Table 9-1: BMP 5A: Ensure Contract Language has been included for Post Construction BMPs in the
Design Requirements in Scope of Work
Table 10-1: BMP 6A: Municipal Operations and Maintenance. 47
Table 10-2: BMP 6B: Training and O&M Documentation. 47
Table 10-3: BMP 6C: Evaluate the Success of Pollution Prevention/Good Housekeeping. 48

Figures

Figure 2-1: General Site Location Map.	59
Figure 2-2: LRAFB General Hydrology Map	60
Figure 2-3: Bayou Meto Watershed in Pulaski County – 2012 303(3) list	61
Figure 2-4: Outfall 001 Site Map	62
Figure 2-5: Outfall 002 and 004 Site Map.	63
Figure 2-6: Outfall 003 Site Map	64

Appendices

Appendix A: Forms

Acronyms and Abbreviations

ACS	Air Force Community Services
ADEQ	Arkansas Department of Environmental Quality
AFFF	Aqueous Film Forming Foam
AFI	Air Force Instruction
AMC	Air Mobility Command
AW	Airlift Wing
BMP	Best Management Practice
BOD	Biochemical Oxygen Demand
BX	Base Exchange
19 CES/CE	Civil Engineering
19 CES/CEF	Fire Protection Flight
19 CES/CEI	Installation Management Flight
19 CES/CEIE	Environmental Compliance
19 CES/CEIH	Housing Management
19 CES/CEIOU	Water and Fuel Systems Maintenance
19 CES/CENMP	Construction Management
19 CES/CEO	Operations Flight
19 CES/CEOE	Operations Engineering
19 CES/CEOES	Service Contracts
19 CES/CEOH	Construction Management, Environmental, Heavy Repair
CERCLA	Comprehensive Environmental Response, Compensation, and Liability
Act	
CFR	Code of Federal Regulation
CGP	Construction General Permit
COD	Chemical Oxygen Demand
CWA	Clean Water Act
DOD	Department of Defense
EISA	Energy Independence and Security Act
EMS	Environmental Management System
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPAS	Environmental Performance Assessment Systems
EQCC	Environmental Quality Control Committee
ERW	Extraordinary Resource Water
ESW	Ecologically Sensitive Waterbody
FMWR	Family Morale Welfare and Recreation
GIS	Geographical Information System

HUC	Hydraulic Unit Code
ICE	Interactive Customer Evaluation
ICP	Integrated Contingency Plan
IDDE	Illicit Discharge Detection and Elimination
LID	Low Impact Development
LRAFB	Little Rock Air Force Base
MCM	Minimum Control Measure
MS4	Municipal Separate Storm Sewer Systems
MSGP	Multi-Sector General Permit
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NSW	Natural and Scenic Waterway
O&M	Operations and Maintenance
POC	Point of Contact
POL	Petroleum, Oil, and Lubricants
RCRA	Resource Conservation and Recovery Act
SIC	Standard Industrial Classification
SSO	Sanitary Sewer Overflow
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
USACE	U.S. Army Corps of Engineers

1.0. REPRESENTATIVES OF THE STORMWATER PROGRAM

A Stormwater Management Team has been established for assistance in developing, revising, and ensuring compliance with the Municipal Separate Storm Sewer Systems (MS4) and this Stormwater Management Plan (SWMP). The Little Rock Air Force Base (LRAFB) stormwater manager depends on Environmental Coordinators from each group to contribute and enforce the SWMP along with the facility managers as required. The Environmental Coordinators from specific groups are listed in Table 1-1.

Title	Individual Responsibilities
SWMP Program Manager	Ensures implementation and fulfillment of the SWMP's minimum control measures and goals; updates/modifies the SWMP and its goals as needed; and submits the annual MS4 report by June 1st.
SWPPP Program Manager	Ensures implementation and maintenance of Stormwater Pollution Prevention Plan (SWPPP); identifies potential sources of pollution that could affect stormwater; develops, documents, and implements improved management practices; updates plan as needed.
Foreman, Water & Fuel System Utilities	Maintenance and repair of drains and piping.
Fire Chief	Operation of sluice gates; ensures prevention of fire suppressant foams from entering stormwater system.
Roads/Pavement and Repair Manager	Road maintenance, streambed, and drop inlet cleaning; sweeping.
Construction Management Chief	Ensures implementation/maintenance of construction best management practices.
Unit Managers	Reports stormwater issues to SWMP Program Manager.
Spill Response Team Leader	Arranges spill response training; oversees spill response procedures.
Environmental Management Systems Coordinator	Raises awareness regarding illegal dumping.
Natural Resources Manager	Ensures non-structural best management practices protect waterways through floodplain and wetland buffers.
Cross Functional Environmental Quality Subcommittee	Addresses stormwater issues that are beyond the responsibility of the SWMP manager.
Environmental, Safety and Occupational Health Council	Works with the SWMP Manager to ensure consistency with other environmental management plans (e.g., Pollution Prevention Management Plan, Integrated Contingency Plan, and Hazardous Waste Programs).
Hazardous Waste Coordinator	Works with the SWMP Manager to identify any cross-connections.

Table 1 1, Table of Organization, Darconnal Bachancible for Starmwat	or Dolotod Activition
Table 1-1. Table of Organization, Fersonnel Responsible for Stornwar	er Relateu Activities

LRAFB has assigned their Stormwater Program Manager as the primarily responsible person for the SWMP and oversight of the associated minimum control measures (MCMs). The stormwater management program is staffed with full-time personnel from the Installation Management (19 Combat Engineering Squadron (CES)/CEI) Environmental Compliance Team (19 CES/CEIE).

Page intentionally left blank

2.0. INSTALLATION SETTING

2.1. INSTALLATION OVERVIEW

Construction of LRAFB began in 1953, and the Base was dedicated and opened to air traffic on 1 August 1955. Originally operated under the Strategic Air Command, the LRAFB served as a facility for reconnaissance aircraft, medium jet bombers, and aerial refueling aircraft. The LRAFB has since been operated under the Tactical Air Command (1970–1974), the Military Airlift Command, re-designated Air Mobility Command (AMC; 1974–1993), Air Combat Command (October 1993–March 1997), and the Air Education and Training Command (April 1997–October 2008). From October 2008 until the present, LRAFB has operated under AMC. The 19th Airlift Wing (19 AW) is currently the host unit at LRAFB, assigned to the AMC 21st Expeditionary Mobility Task Force. The wing provides the Department of Defense (DOD) the largest C-130 Hercules transport fleet in the world, supplying humanitarian airlift relief to victims of disasters and airdropping supplies and troops into the heart of contingency operations in hostile areas. Tenants include the 314 AW, the 189 AW (Arkansas Air National Guard), and a variety of other associate units that include the 96th Aerial Port Squadron, the 29th Weapons Squadron, the 34th Combat Training Squadron, and the Air Force Office of Special Investigations Detachment 427. It is home to C-130E, C-130H, and C-130J aircraft, as well as to the C-130 Center of Excellence. The LRAFB provides C-130 aircrew training for all DOD branches, the Coast Guard, and many allied nations. Industrial operations at LRAFB are primarily associated with aircraft, vehicle, and facility operations and maintenance.

2.2. INSTALLATION LOCATION

LRAFB occupies 6,128 acres in central Arkansas. LRAFB is located within Pulaski County, approximately 17 miles northeast of downtown Little Rock. Figure 2-1 shows the general location of LRAFB and its proximity to Little Rock, Arkansas, while Figure 2-2 depicts the general layout of the LRAFB. The Base is adjacent to the northwest side of the city of Jacksonville with approximately 6,000 active military and civilian personnel stationed at LRAFB. The immediate vicinity of LRAFB is largely rural. There is a significant amount of low-density residential development near the Base, as well as some agricultural and industrial activity.

LRAFB lies in the headwaters of the Bayou Meto Watershed in the Hydrologic Unit Code (HUC) 08020402 and is in the Arkansas Department of Environmental Quality (ADEQ) Planning Segment 3B (ADEQ, 2004). The Base occupies 6,128 acres (9.6 miles²) of the 651,386 acres (1,002 miles²) in the Bayou Meto Watershed, which roughly equates to one percent of the total watershed area (Figure 2-3).

2.3. CLIMATE

Pulaski County lies in a humid subtropic zone, and the climate consists of hot, humid summers and mild winters, usually without snow according to historical records from 1974 to 2012. Over the course of a year, the temperature typically varies from 30°F to 92°F and is rarely below 17°F or above 100°F. Over the entire year, the most common forms of precipitation are thunderstorms or light to moderate rainstorms. The average annual precipitation is 51 inches per year, which includes an average annual snowfall of 5 inches per year.

According to the National Oceanic and Atmospheric Administration's Hydrometeorological Design Studies Center's Precipitation Frequency Data Server, the 2-year 24-hour event produced 4.13 inches of precipitation. The 10-year and 100-year 24 hour events produced 5.81 and 8.84 inches of precipitation, respectively.

2.4. SURFACE WATER HYDROLOGY

Drainage is controlled by open drainage courses and underground storm drains, and flows into three secondary streams: the Cypress Branch to the west, Jack's Bayou on the east, and the Rocky Branch on the south (Figure 2-2). This SWMP addresses each of the 14 outfalls.

Descriptions of the outfalls and the streams into which they drain are shown in Table 2-1.

Outfall	Latitude/ Longitude (Northing/Easting) (Deg., Min., Sec.)	Receiving Waters
001	34 54 30/-92 10 40	Cypress Branch to Bayou Meto to Arkansas River
002	34 55 06/-92 06 58	Unnamed tributary to Jack's Bayou to Bayou Two Prairie to Bayou Meto to Arkansas River
003	34 53 18/-92 06 36	Unnamed levee to Bayou Two Prairie to Meto Bayou to Arkansas River
004	34 55 30/-92 06 58	Unnamed tributary to Jack's Bayou to Bayou Two Prairie to Bayou Meto to Arkansas River
005	34 54 33/-92 05 54	Drainage ditch adjacent to Old Highway 67 to unnamed levee to Jack's Bayou to Bayou Two Prairie to Arkansas River
006A	34 53 25/-92 08 05	Unnamed tributary to Bayou Meto to Arkansas River
006B	34 53 20/-92 08 42	Unnamed tributary to Bayou Meto to Arkansas River
006C	34 53 10/-92 08 42	Unnamed tributary to Bayou Meto to Arkansas River
006D	34 53 00/-92 08 42	Unnamed tributary to Bayou Meto to Arkansas River
006E	34 52 55/-92 09 02	Unnamed tributary to Bayou Meto to Arkansas River
006F	34 52 55/-92 09 17	Unnamed tributary to Bayou Meto to Arkansas River
006G	34 52 56/-92 09 17	Unnamed tributary to Bayou Meto to Arkansas River
006H	34 52 56/-92 09 57	Unnamed tributary to Bayou Meto to Arkansas River
0061	34 53 21/-92 10 11	Unnamed tributary to Bayou Meto to Arkansas River

Table 2-1: LRAFB Stormwater Outfall Coordinates and Receiving Waters

Cypress Branch

The Cypress Branch drains westward from the northwestern portion of the installation into Bayou Meto through Industrial Outfall 001 near the extreme northwest corner of the Base boundary. Stormwater is discharged through four, 6-foot diameter, reinforced concrete pipes. A 15-foot-wide concrete bridge that is part of the Base's perimeter road covers the four adjacent pipes. The stream channel is 25 to 30 feet wide at the upstream side of the concrete bridge, with the stream width varying from 10 to 20 feet within the channel.

Jack's Bayou

Three unnamed streams on the northeastern side of the Base drain into Jack's Bayou through Industrial Outfall 002, Industrial Outfall 004, and Non-Industrial Outfall 005. Outfall 002 is located along the eastern boundary of the Base, roughly 600 feet east from the southeast comer of the alert aircraft parking ramp (a.k.a. Christmas Tree). Stormwater is discharged through two 4-foot-diameter reinforced concrete pipes. A 10-foot-wide concrete bridge that is part of the Base's perimeter road covers the two adjacent pipes. The trapezoidal stream channel is lined with concrete and extends on both sides of the discharge pipes (i.e., east and west sides of the concrete bridge). As stormwater leaves the Base, it passes under Maddox Road into an unnamed tributary of Jack's Bayou. An automated sluice gate that is operated by the LRAFB Fire Department is located approximately 200 feet upstream (west) of the outfall. Outfall 004 is located along the northeastern boundary of the Base, roughly 3,000 feet northeast of the alert apron. Stormwater is conveyed to the outfall through a 15-foot-wide, unlined drainage ditch. The outfall is composed of three reinforced concrete arch pipes with a span of 58 inches and a rise of 36 inches. These pipes pass under Maddox Road. Stormwater is discharged on the east side of Maddox Road into an unnamed tributary of Jack's Bayou. Outfall 005 is a non-industrial outfall near the corner of E. Maddox Road and North 1st Street.

Unnamed Tributaries to Lost Creek, Kellogg Creek, and Rocky Branch

Industrial Outfall 003 is located along the southern boundary of the Base, roughly 500 feet east of the intersection of Vandenberg Boulevard and Interstate 67-167. The outfall discharges stormwater to a swampy area located between the southern boundary of the Base and the south side of Vandenberg Boulevard and eventually drains the Bayou Two Prairie stream. Stormwater effluent samples are collected at a spillway and weir configuration located on the north side of Vandenberg Boulevard. The spillway starts at the downstream side of four 4-foot-diameter reinforced concrete pipes that lie under the Base perimeter road. The trapezoidal, concrete-lined channel is roughly 30 feet wide and extends approximately 100 feet from the outlet of the four concrete pipes to the inlet of the weir. Stormwater enters the trapezoidal, concrete-lined weir through a 16-inch-square trap (or inlet) set at the base of the 4-foot-high front wall. The weir reduces to three 4 x 5-foot concrete box culverts that pass under Vandenberg Boulevard. The box culverts discharge to an unlined channel in a wooded area.

Non Industrial Outfalls 006A through 006I discharge through unnamed secondary streams that drain the Military Housing Areas and office complexes. These discharge flow into the Bayou Meto, which eventually joins the Arkansas River approximately 100 miles to the southeast of the Base.

The Environmental Protection Agency (EPA) My Waters Mapper

(http://watersgeo.epa.gov/mwm/) was used to identify the receiving waters for LRAFB that are listed as impaired waterways from the 303(d) listings. Stormwater discharged through Industrial Outfall 001 and Non-Industrial Outfalls 006(series) are conveyed through tributaries to Bayou Meto Reach 907, which eventually reaches the Arkansas River. Stormwater discharged from Industrial Outfalls 002, 003, and 004 and Non-Industrial Outfall 005 are conveyed through tributaries into Bayou Two Prairie Reach 006, to Bayou Meto Reach 007, and eventually to the Arkansas River.

Figure 2-2 shows the general location of LRAFB within the Bayou Meto Watershed, including the reaches within the Bayou Meto Watershed that are listed in the approved 2008 EPA, Arkansas 303(d) list. Figures 2-4 through 2-7 depict the location of each outfall within the delineated watershed. Table 2-2 provides a list of the 2008 303(d) impaired reaches that receive surface water from LRAFB.

Stream	HUC	Reach	Miles	Source	Impairment	Priority	TMDL
Bayou Meto	8020402	907	12.3	UN	DO, Pb	L	No
Bayou Two Prairie*	8020402	006	44.7	UN	DO	L	No
HUC = Hydrologic Unit Code UN = Unknown		TMDL = To DO = Disso	otal Maximum Da olved Oxygen	aily Load P	'b = Lead	L = Low	

Table 2-2: Bayou Meto Watershed in Pulaski County – 2008 303(d) list.

In reviewing the proposed 2012 and 2014 Draft Arkansas's 303(d) list, the Bayou Meto Reach 907 is only impaired for dissolved oxygen and Reach 006 of Bayou Two Prairie is no longer included in the 2014 proposed 303(d) listing. Many segments of Bayou Meto and Bayou Two Prairie are listed because of low dissolved oxygen concentrations. ADEQ believes this is a naturally occurring condition throughout the delta's ecoregion during the critical season when flows are diminished and water temperatures are elevated. Table 2-3 provides a list of the Draft 2014 303(d) impaired reaches that receive surface water from LRAFB.

Stream	HUC	Reach	Miles	Source	Impairment	Priority	TMDL
Bayou Meto	8020402	907	12.3	UN	DO	L	No
HUC = Hydrologic Unit Code UN = Unknown		TMDL = Total Maximum Daily Load DO = Dissolved Oxygen			L = Low		

3.0. STORMWATER MANAGEMENT PLAN OVERVIEW

The mission of LRAFB's SWMP is to develop, implement, and enforce a plan that reduces the discharge of pollutants from LRAFB's regulated Small MS4 to the maximum extent practicable by protecting water quality, and to fulfill the appropriate water quality requirements of the Arkansas Clean Water Law. This SWMP includes Best Management Practices (BMPs), which correlate to Part 3 of Little Rock AFB's MS4 Permit ARR040034, AFIN: 88-00858. This document provides the LRAFB Stormwater Program guidance by addressing the regulatory requirements for managing stormwater runoff and allowable non-stormwater discharge. Since stormwater affects many aspects of daily activities at LRAFB, the Stormwater Program coordinates with several interrelated programs under the 19 CES/CEI to achieve this common goal.

By following this SWMP, LRAFB will strive to meet the intention of the state permit within the allowable guidelines established by the DOD. With each reissuance of the MS4 Permit, LRAFB must comply with new or revised standards as soon as practicable. As stated in Section 3.4 of the General Permit, LRAFB must review the SWMP and submit annual reports documenting LRAFB's stormwater activities, any proposed changes to the SWMP, and any proposed changes to the measurable goals.

Sustainable solutions such as implementation of green infrastructure, stormwater BMPs, and conventional source reduction techniques play significant roles in a successful stormwater management program. By using these techniques, LRAFB is aligned with and complying with the following federal regulations:

- 1) Code of Federal Regulations (CFR) 122, 123, and 124 National Pollutant Discharge Elimination System;
- 2) Energy Independence and Security Act of 2007 (EISA 2007), Section 438;
- 3) Unified Federal Policy for a Watershed Approach to Federal Land and Resource Management (Federal Register, Vol. 65, No. 202, October 18, 2000);
- 4) Executive Order (EO) 11988, Floodplain Management, May 1977.

Page intentionally left blank

4.0. MINIMUM CONTROL MEASURES FOR STORMWATER MANAGEMENT

MCM is the term used by the EPA and the State of Arkansas to describe the six MS4 program elements designed to improve water quality under the state's MS4 Phase II Program. Below is a list of the state's MCMs that will be addressed in detail in Section 5.0.

- MCM 1 Public Education and Outreach on Stormwater Impacts
- MCM 2 Public Involvement/Participation
- MCM 3 Illicit Discharge Detection and Elimination
- MCM 4 Construction Site Stormwater Runoff Control
- MCM 5 Post-Construction Stormwater Management in New Development and Redevelopment
- MCM 6 Pollution Prevention/Good Housekeeping for Municipal Operation

BMPs involve effective management procedures, treatment controls, operating procedures, and practices to control site runoff, spills and leaks, waste disposal, and drainage. BMPs should be implemented using measurable goals that provide specific procedures and timeframes that guides the program over the course of the permit cycle, and a means to track the relative success of the BMP and the control measure as a whole. BMPs will be updated as appropriate to comply with permit changes or when the specific BMP is not functioning as designed. The Stormwater Program Manager within 19 CES/CEIE is the responsible party for the BMPs listed in this SWMP. The Stormwater Program Manager can be reached at (501) 987-6809.

Each of the six MCMs will utilize the same format to describe LRAFB's implementation strategy for the respective measure. The following structure will be used for each MCM.

4.1. GENERAL OVERVIEW AND OBJECTIVES

The overview and objectives section describes and explains the MCM. The description includes typical items the MCM may include and how they relate to stormwater pollution prevention. Relevant programs are summarized with a discussion of the accomplishments and areas for improvement. Many of the DoD programs provide collateral benefit toward achievement of the stormwater goals of the MS4 Permit.

4.2. APPLICABILITY

The LRAFB municipality supports diverse groups of people (military, contractor, civilian, etc.) and various types of activities. Accordingly, control measures may be, in part or in whole, applicable to these various groups and activities. This section discusses the applicability of the permit requirements and the MCM's components regarding particular target-groups or activities.

4.3. **REGULATORY REQUIREMENTS**

LRAFB's MS4 Permit prescribes the requirements for this SWMP. This section discusses regulatory requirements specific to the MCM.

4.4. POLICY AND ENFORCEMENT

Regulatory mechanisms and enforcement procedures are fundamentally different for an Air Force installation like LRAFB as compared to a typical municipality; consequently, the implementation of related MS4 Permit requirements is executed differently. LRAFB is governed through the USAF Commander and falls under the directive of the U.S. Air Force chain of command, ultimately receiving direction from the Joint Chiefs of Staff in Washington, D.C. This governing regime is fundamentally different from a city council and mayor of a typical city; therefore, LRAFB does not have the capability or the need to enact or enforce local ordinances. Unlike typical municipalities however, the U.S. Air Force abides by Air Force Instructions (AFIs), policies, orders, acts, and other requirements that have been developed to encourage and sustain environmental stewardship in the federal government and DOD. Examples of these regulations and policies include EO 11988, and the EISA 2007 Section 438. Many of these requirements directly and indirectly relate to stormwater management, providing similar levels of regulation and enforcement capabilities as compared to local ordinances or enforcement mechanisms associated with a typical municipality.

4.5. FUTURE PERMIT CYCLE APPROACH (BMPS)

This section describes proposed BMPs and measurable goals. Section 3.1.1.2 of the permit notes that the base should identify the months and years in which personnel will undertake required actions. Generally, many of the BMPs are ongoing. For those BMPs that are not ongoing, LRAFB strives to complete each BMP annually, but at least once per permit term as required by the permit. The actual month and year in which the BMP is completed is annotated in the annual report. LRAFB is required to evaluate the proposed BMP(s) each year to determine their effectiveness and validity towards meeting the goals of the permit. If a BMP is not working effectively, other BMPs may be requested in writing to the state at any time during the permit. These are typically included in the annual report. The current permit cycle objectives are to build on the success of the existing program resources and accomplishments, and to strengthen the areas identified for improvement. The following chapters describe the six MCMs in detail.

5.0. MCM 1 - PUBLIC EDUCATION AND OUTREACH

5.1. MCM 1 GENERAL OVERVIEW AND OBJECTIVES

The goal of MCM 1 is to implement a public education program to distribute educational materials to residents, students, contractors, business owners, and onsite civilian and military personnel (collectively referred to as "target audiences"). These educational materials or outreach activities will include steps the target audiences can take to reduce stormwater pollutants.

MCM 1 should include more than one mechanism and target at least five different stormwater themes or messages before August 1st, 2019. At a minimum, at least one theme or message should target landscaping and construction contractors working at LRAFB. The stormwater public education and outreach program should reach at least 50 percent of personnel working and/or living at LRAFB over the course of this permit.

5.2. MCM 1 APPLICABILITY

Educational components and other activities are tailored differently to the various target audiences to ensure optimum efficiency. The various target audiences on Base have the potential to affect stormwater quality differently, and accordingly public education and outreach efforts target specific groups. Outreach strategies may include printed brochures, newspaper articles, and workshops. Public involvement/participation, MCM 2, has educational components that are also discussed in this section to consolidate the educational activity performed by the program. All groups on Base can affect stormwater quality, and as such, public education and outreach is applicable Base-wide. The target audiences, their target pollutant sources, and their particular education and outreach strategy are in the BMP matrices in Sections 5.5 and 6.5.

5.3. MCM 1 REGULATORY REQUIREMENTS

Section 3.2.1 of the ARR040000 discusses the public education and outreach requirements for this SWMP. The permit requirements are being met through existing, established programs and will be further supplemented with new BMPs outlined in this SWMP. The annual report shall identify each mechanism used, including:

- 1) Each stormwater theme;
- 2) Audience targeted; and
- 3) Estimate of how many people were reached by each mechanism.

5.4. MCM 1 POLICY AND ENFORCEMENT

There is no applicable policy or enforcement relating to public education and outreach.

5.5. MCM 1 FUTURE PERMIT CYCLE APPROACH (BMPS)

LRAFB's Stormwater Program has the following BMPs and goals to meet the intent of the Public Education and Outreach MCM 1. These are presented in tables below:

Table 5-1: BMP 1A: Prepare and Distribute Stormwater Pamphlets to Military Family Housing.

Target Audiences: New arrivals to Military Family Housing
Target Pollutants: Vehicle repair and restrict aquatic pesticide uses
Responsibility for BMP:
19 CES/CEIHH
Housing Management Office
528 Thomas Ave
Little Rock AFB, AR 72099
501-987-6040
BMP Description: Prepare and distribute pamphlets that teach the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff. These pamphlets are included in the welcome packets from Hunt Pinnacle, the leasers who assumed the ownership of Family Housing.
BMP Justifications: This BMP targets 100% of new residents and satisfies a program goal to educate individuals and households about the steps they can take to reduce stormwater pollution by giving examples of how to become involved in the Stormwater Program. The Housing Office is the entry point for each person who chooses to live on the installation. Guidance in this document prohibits working on vehicles in housing areas and makes provisions for housekeeping.
Measurable Goals/ (Implementation Timeline):
1) Review and update pamphlets (As needed, but at least once during the permit term).

- 2) Distribute pamphlets to Capital Asset Management and Hunt Building Company Ltd (As needed).
- 3) Track the number of pamphlets distributed (Annually).

Table 5-2: BMP 1B: Stormwater Posters in Key Public Locations.

Target Audiences: Base Wide Personnel

Target Pollutants: Floatables pollutants, pesticides and herbicides and illicit discharge.

Responsibility for BMP:

19 CES/CEIE 528 Thomas Ave Little Rock AFB, AR 72099

501-987-6809

BMP Description: These posters will teach and reinforce stormwater management principles to a target audience of individuals, industrial workers, and commercial employees. Posters will be installed at various public places, i.e., commissary, BX, Walters Community Center, etc.

BMP Justifications: It is expected that a wide audience of active duty military who work and live on Base as well as their dependents will view these stormwater posters. The FY 2008 Economic Impact Analysis Report counted 5,846 active duty employees, which equals approximately 44% of the total employees on LRAFB. Approximately 24% of the active duty employees live on Base. The 5,496 active duty dependents will also be exposed to this material. Approximately 1,366 civilians work on the Base, with at least 211 employees working at the Base Exchange (BX) and commissary, where posters will be exhibited. In addition, 33,971 retired employees who live in the surrounding community and constitute a wider audience than Base residents and employees alone, also access these facilities. They will have an opportunity to view the stormwater posters, thus satisfying an outreach goal of overall public education.

Measurable Goals/ (Implementation Timeline):

- 1) Post a minimum of 3 Posters in key locations such as the commissary, BX, and Walters Community Center (at least once during the permit term).
- 2) Conduct a minimum of one survey from people visiting one or more of these sites to access their reaction and response to the poster (at least once during the permit term).

Table 5-3: BMP 1C: Articles Published in Base Newspaper.

Target Audiences: Base Wide Personnel Target Pollutants: Floatables pollutants and erosion and runoff control of source pollutants **Responsibility for BMP:** 19 CES/CEIE 528 Thomas Ave Little Rock AFB, AR 72099 501-987-6809 **BMP Description:** Publish articles or graphics to depict the need for proper control of stormwater, illicit discharge, handling of waste, and/or herbicides/pesticides. BMP Justifications: The rationale for choosing this BMP is that it is estimated that at least 80% of the 14,392 Base personnel read the Base newspaper. It is the responsibility of the Stormwater Program Manager to write and submit articles pertaining to stormwater. Measurable Goals/ (Implementation Timeline): Publish 1 or more articles or graphics to depict ways to prevent stormwater pollution (at least once during 1) the permit term). Provide an email address or phone number to solicit viewers' opinions on stormwater controls and/or to 2) report a violation (Annually).

3) Document the number of viewer responses (Annually).

Table 5-4: BMP 1D: Training for Internal Landscaping and Construction Personnel.

Target Audiences: Landscaping and Construction Management Personnel **Target Pollutants:** Erosion and runoff control of source pollutants

Responsibility for BMP:

19 CES/CEIE 528 Thomas Ave Little Rock AFB, AR 72099 501-987-6809

BMP Description: Conduct training for internal construction and landscaping personnel to describe regulatory requirements relating to stormwater that pertain to their activities, and to address proper inspection and maintenance of construction site erosion control and LID BMPs.

BMP Justifications: The permit requires that at least one theme or message for this MCM address landscaping and construction contractors.

Measurable Goals/ (Implementation Timeline):

- 1) Develop construction and LID training presentations (during the permit term).
- 2) Conduct construction and LID training for internal landscaping and construction management personnel (at least once during the permit term).
- 3) Document the training to include when and where the training took place, what was covered and who attended (at least once during the permit term).

Table 5-5. BMP 1E: Evaluate the Success of Public Education and Outreach.

Target Audiences: Stormwater Program

Target Pollutants: NA

Responsibility for BMP: 19 CES/CEIE 528 Thomas Ave Little Rock AFB, AR 72099 501-987-6809

BMP Description: As part of the permit requirements, LRAFB must evaluate the success of each MCM. The success of the Public Education and Outreach Measure will be measured through the continued implementation of BMPs 1A through 1C and their goals.

BMP Justifications: Permit Requirement

Measurable Goals/ (Implementation Timeline):

- 1) In BMP 1A, were pamphlets distributed as described in Goals? (As part of the annual report)
- 2) In BMP 1B, were 3 stormwater related posters and one survey conducted as described in Goals? (As part of the annual report)
- 3) In BMP 1C, was 1 article published and a hotline setup and operated as described in Goals? (As part of the annual report)
- 4) In BMP 1D, was training for landscaping and construction personnel accomplished as described in Goals? (As part of the annual report)
- 4) Rate each of your program elements with a letter grade A through F (Annually).

6.0. MCM 2 - PUBLIC INVOLVEMENT/PARTICIPATION

6.1. MCM 2 GENERAL OVERVIEW AND OBJECTIVES

The goal of this MCM is to implement a public involvement and participation program that complies with state and local public notice requirements by involving employees, on-site contractors, and individuals using LRAFB in the development and oversight of the SWMP, policies, and procedures. The public involvement and participation requirements are addressed with procedures in the section below.

LRAFB is engaged with public involvement activities to encourage active participation in the development and implementation of this SWMP and stormwater improvements at LRAFB. MCM 1 and MCM 2 are complementary to each other due to the similarity of education/outreach and involvement/participation. The target audiences for MCM 2 are the same audiences identified in MCM 1. These target audiences promote simplicity and consistency within the program's efforts. An overlap of the two MCMs allows educational outreach events to be used as opportunities to involve and engage the public in the Stormwater Program.

Over time, it has been found that the annual Cross Functional Environmental Quality Subcommittee Meetings and annual Environmental Management System Meetings serve the very same purpose for the same audience. During these meetings stormwater related issues are discussed such as the SWMP and SWPPP. Members' contributions into these documents and enforcement of these rules are key to meeting these permit requirements. This team is composed of personnel from Table 1-1.

Stream clean-ups, trash pick-up events, and storm drain stenciling events are a few examples of activities that are generally performed throughout the year. Similar activities are planned for this permit cycle.

The LRAFB Facebook page, the Environmental Office webpage, the local newspaper, and the installation marquee are examples of how information is commonly conveyed to the general public.

6.2. MCM 2 APPLICABILITY

Like MCM 1, public involvement and participation is applicable to all audiences on Base to some degree. Various target audiences have the potential to affect stormwater quality differently, and therefore are addressed differently as indicated in the BMP matrix found in Section 6.5. All groups discussed in this Plan are encouraged to participate in stormwater activities and programs.

6.3. MCM 2 REGULATORY REQUIREMENTS

The public involvement/participation requirements for this SWMP are discussed in Section 3.2.2 of the LRAFB MS4 Permit. These permit requirements are being met through existing established programs and supplemented with new requirements outlined in this SWMP.

At a minimum, under the Public Involvement/Participation MCM:

- 1) At least five public involvement activities shall be planned over the permit term.
- 2) The annual report shall identify each public involvement/participation activity conducted, including a brief description of activity that includes an estimate of how many people participated.

6.4. MCM 2 POLICY AND ENFORCEMENT

There is no applicable policy or enforcement relating to Public Involvement/Participation. Public involvement and participation is voluntary.

6.5. MCM 2 FUTURE PERMIT CYCLE APPROACH (BMPS)

LRAFB's Stormwater Program has developed the following BMPs and goals to meet the intent of the Public Involvement/Participation MCM. To fulfill this requirement, LRAFB must conduct a minimum of 5 public involvement activities over the permit term.

Table 6-1: BMP 2A: Stormwater Management Team Annual Meetings.

Target Audiences: The Upper Management and Unit Environmental Coordinators, which enforce stormwater principles throughout the LRAFB organization. Target Pollutants: Involvement and coordination of environmental managers towards a unified goal to reduce pollutants at LRAFB **Responsibility for BMP:** 19 CES/CEIE 528 Thomas Ave Little Rock AFB, AR 72099 501-987-6809 BMP Description: The Stormwater Program Manager conducts an annual meeting with unit managers to discuss any stormwater related problems or success. This group provides active involvement in the development and submittal of the Notice of Intent (NOI) and SWMP. The minutes from these meetings document stormwater issues, which are routed through upper management for their briefing and assessment. BMP Justifications: This goal and performance standard is to produce and distribute meeting minutes that document SWPPP measures out to a larger audience under each of these managers. The goal of meeting is to involve employees across the Base and to gain insight from other units concerning stormwater issues. Measurable Goals/ (Implementation Timeline): Conduct an annual meeting of Upper Management and Unit Environmental Coordinators (Annually). 1) 2) Discuss the effectiveness of the SWMP and determine if changes are required (Annually). Discuss the need for any improvements or changes to the existing BMPs (Annually). 3)

4) Document meeting minutes and distribute accordingly (Annually).

Table 6-2: BMP 2B: Provide a Public Hotline to Report Stormwater Violations.

Target Audiences: Base Wide Personnel

Target Pollutants: Any violation of the ARR040000 such as littering, track-out from construction projects, illegal dumping, or spills.

Responsibility for BMP:

19 CES/CEIE 528 Thomas Ave Little Rock AFB, AR 72099 501-987-6809

BMP Description: Provide a centralized phone number or email address that provides the general public a way to quickly notify the Stormwater Program Manager where violations may be occurring on LRAFB. It is the responsibility of the Compliance Section to follow up on each of the public concern reports.

BMP Justifications: Provides the general public a voice in tracking down and having stormwater violations corrected. Provides an increased level of awareness around LRAFB to supplement 19 CES/CEI's self reporting. By quickly responding to the public concerns and completing a corrective action, the public will recognize that stormwater is a concern that LRAFB takes seriously.

Measurable Goals/ (Implementation Timeline):

- 1) Respond to 100% of all call-in concerns (Annually).
- 2) Determine if a violation has occurred and begin remedial action if justified (Annually).
- 3) Track the number of complaints received on an annual basis (Annually).

Table 6-3: BMP 2C: Earth Day Celebration.

Target Audiences: Arnold Elementary School (on LRAFB) and Tolleson Elementary School (outside of Base perimeter), alternating years between the two schools. Other schools are periodically picked around Earth Day, such as the Cabot High School.

Target Pollutants: Sediment

Responsibility for BMP:

19 CES/CEIE 528 Thomas Ave Little Rock AFB, AR 72099 501-987-6809

BMP Description: Celebration of Earth Day at public schools with stormwater demonstrations. ADEQ and/or other federal agencies such as Natural Resources Conservation Service (NRCS) will be invited to set up a stormwater demonstration to teach about erosion and/or fate and transport for school-aged children by showing how trees benefit our environment.

BMP Justifications: These types of displays hold the attention of school-aged children and can dramatically demonstrate the importance of stormwater BMPs and the consequences if BMPs are not followed.

Measurable Goals/ (Implementation Timeline):

- 1) Conduct one or more stormwater demonstrations at a public school (at least once during the permit term).
- 2) Report the number of students in attendance (at least once during the permit term).
- Conduct an informal survey from school age children of what they learned to determine if the message presented was understood (at least once during the permit term).

Table 6-4: BMP 2D Arbor Day Celebration.

Target Audiences: Military and Non Military Personnel Target Pollutants: The importance of trees to control erosion

Responsibility for BMP:

19 CES/CEIE 528 Thomas Ave Little Rock AFB, AR 72099

501-987-6809

BMP Description: Provide a booth or presentation to educate and/or encourage public involvement and participation with possible distribution of seedlings.

BMP Justifications: This celebration presents opportunities to interact with the community by inviting experts such as horticulturalists, scientists, or biologists to speak on the importance of planting and maintaining trees and how they help control stormwater runoff.

Measurable Goals/ (Implementation Timeline):

- 1) Conduct one or more stormwater demonstrations during the celebration (at least once during the permit term).
- 2) Report the approximate number of people in attendance (at least once during the permit term).
- 3) Conduct an informal survey from people of what they learned or thought of the program to determine if the message presented was understood and accepted (at least once during the permit term).
- 4) Arbor Day is celebrated annually. An article describing the event and presentation goes into the Base paper each year (at least once during the permit term).

Table 6-5: BMP 2E: Storm Drain Labeling and/or River Walks.

Target Audiences: Base-wide with a focus in residential areas and non-regulated watersheds Target Pollutants: The labels and river walks are intended to notify and deter the public from dumping any non-stormwater related materials into the storm drain or waterways. **Responsibility for BMP:** 19 CES/CEIE 528 Thomas Ave Little Rock AFB, AR 72099 501-987-6809 BMP Description: Conduct a river walk that involves the community in picking up trash along the waterways to minimize floatable pollutants and to educate the community on illicit discharges and dumping. Combined with this effort, storm drains with missing labeling can be reapplied. BMP Justifications: Public involvement activities and events raise stormwater awareness. This BMP solicits military and non-military personnel to be active participants in removing floatable pollutants. Every time residents in the 1,000 rental homes walk through their neighborhood or go to their stations, the metal markers or trash in their waterways are reminders to not accept illicit discharging or dumping of trash and other floatable pollutants in storm drains and waterways. Participants can also be reminded of the anonymous reporting hot line. Measurable Goals/ (Implementation Timeline): conduct one or more of the following: Recruitment of individuals and/or groups to assist with "River Walks" to pickup trash and debris that 1) have blown into the waterway over time or through illicit dumping. Document the number of people that were able to assist in this effort and the areas that were addressed (at least once during the permit term).

2) Recruitment of individuals and/or groups to assist with labeling of storm drains to discourage illicit discharge and dumping of non-stormwater related materials into the storm drain system and open waterways. Document the number of new drains and the number of replacements (at least once during the permit term).

Table 6-6: BMP 2F: Evaluate the Success of Public Involvement/Participation.

Target Audiences: Stormwater Program

Target Pollutants: NA

Responsibility for BMP:

19 CES/CEIE 528 Thomas Ave Little Rock AFB, AR 72099

501-987-6809

BMP Description: As part of the permit requirements, LRAFB must evaluate the success of each MCM. The success of the Public Education and Outreach Measure will be measured through the continued implementation of BMPs 2A through 2E and their goals.

BMP Justifications: Permit Requirement

Measurable Goals/ (Implementation Timeline):

- 1) In BMP 2A, was the annual meeting conducted and effectiveness of the SWMP and its goals discussed? (As part of the annual report).
- 2) In BMP 2B, was a public hotline setup and 100% of the calls addressed? (As part of the annual report)
- 3) In BMP 2C, were stormwater demonstrations with informal surveys conducted for Earth Day this year? (As part of the annual report)
- 4) In BMP 2D, were stormwater demonstrations with informal surveys conducted for Arbor Day this year? (As part of the annual report)
- 5) In BMP 2E, were river walks or trash pickups organized and storm drains labeled? (As part of the annual report)
- 6) Rate each of the program elements with a letter grade A through F (Annually).

Page intentionally left blank

7.0. MCM 3 -ILLICIT DISCHARGE DETECTION AND ELIMINATION

7.1. MCM 3 GENERAL OVERVIEW AND OBJECTIVES

The goal of MCM 3 is to develop, implement, and enforce a program to detect and eliminate illicit discharges within LRAFB's small MS4. The state defines an illicit discharge as any discharge to the MS4 that is not composed entirely of stormwater with the exception of discharges pursuant to a National Pollutant Discharge Elimination System (NPDES) permit(s) and discharges resulting from emergency fire-fighting activities and the acceptable non-industrial discharges as listed in Section 7.1.3.

The stormwater illicit discharge detection and elimination (IDDE) program shall include a dryweather screening of all stormwater outfalls located in LRAFB's MS4 over the permit term. Those outfalls draining undeveloped watersheds do not need to be screened for illicit discharges. The storm sewer system map shall be updated annually as needed for changes occurring in the urbanized area boundaries at the time of permit coverage.

Because of the strict environmental policies and regulations on a military installation, LRAFB has many existing programs that provide direct and indirect assistance to the detection and elimination of illicit discharges and provide general support to the Stormwater Program. By implementing the proposed BMPs and goals, a fully functional program has been put in place to detect and eliminate illicit discharges.

LRAFB had a chemical oxygen demand (COD) exceedance in May 2012, as a result of a propylene glycol release. To address the cause of this release and as a Corrective Action Plan, slides were immediately added to the annual Oil Handler's Training material that address in greater detail the environmental effects of spills of toxics, such as deicer and fire suppression foam. Emphasis has been placed on teaching that "biodegradable" does not mean that a substance can be released in the stormwater or sanitary sewer.

7.1.1. Supporting Programs

There are several programs within the 19 CES that support this MCM, either indirectly or directly. These programs and procedures are listed in the subsections below.

Construction Permits and Procedures

Construction activities equal to or greater than one acre in size are required to be permitted under Arkansas's ARR15000 Stormwater Discharge Associated with Construction Activities. Discharges associated with these permitted construction sites are not considered illicit discharges by definition, providing they are implemented in accordance with the individual construction site SWPPP. The 19 CES/CEIE will conduct site inspections of the construction site to verify the SWPPP is being followed and that the appropriate BMPs are being utilized. The construction of permanent BMPs and Low Impact Development (LID) structures will also be inspected at this time to ensure they are built per the design specifications.

As part of this permit process, the contractor must submit the design drawings and a SWPPP to the 19 CES/CEIE for approval prior to construction. Civil Engineering (19 CES/CEN) shall review these designs to ensure cross connections between sanitary/industrial lines are not inadvertently connected to a storm sewer line and vice versa. These individual connections shall be verified at the completion of the project using closed circuit video or equivalent of the lines.

Wastewater Program

Operations Engineering (19 CES/CEOE) is responsible for responding to sanitary sewer overflows (SSOs) and other industrial sewer requirements at LRAFB, including Military Family Housing. Operations Engineering has established protocols for the reporting and response to emergency sewer line response procedures, inspection procedures, and yearly inspections and reporting. LRAFB discharges their sanitary and industrial waste water to the Jacksonville Wastewater Commission for treatment prior to discharge.

Spill Prevention and Response Plan

LRAFB follows their site specific Integrated Contingency Plan (ICP), which is referred to as the "One Plan." This document was updated in December of 2012. The current version of this document can be located on Little Rock's eDASH Shared Document Site under Spill Response (and One Plan). The One Plan has been designed to meet the requirements of 40 CFR Part 112 by providing training and awareness for staff regarding spill prevention, structural control measures for potential spills, and response procedures for reacting to a spill. All spills are investigated immediately upon report.

A report form is filled out for each spill, and they are kept in a Releases/Spill Book on the Stormwater Program Manager's desk. Data including spill date, substance, quantity, and location are recorded for each spill. Trends are tracked, as required by the EPA. These numbers are presented in Oil Handler Training.

Spills of any quantity are now reported and there is training for "first responders" to prevent contaminants from reaching stormwater. Materials are located in convenient places for clean-up of even the smallest releases. There are portable spill kits located at various locations along the Flightline. A performance standard for spills is whether the annual samples taken at Outfalls 1 through 4 pass or fail the total suspended solids (TSS) and pH tests. These results are reported in the Industrial General Report ARR000001 at the end of January each year.

Firefighting Foam Testing Procedures

In support of the One Plan, a Firefighting Foam Testing Procedures and Spill Cleanup of High Expansion Foam (HEF)/Aqueous Film Forming Foam (AFFF) Release Standard Operating Procedure was updated in 2014. The current version of this document can be located on Little Rocks eDASH Shared Document Site under Spill Response. This plan provides procedures for testing the HEF and AFFF firefighting equipment to ensure its operation. Included in this

instruction are the procedures for capturing the foam after it has been used, neutralizing and metering into the sanitary sewer with the permission of the Jacksonville Waste Water Utility

To further protect stormwater from fire foam releases, a draft "Grab and Go" set of instructions for each of 12 hangars/buildings has been produced that will give site-specific directions to facility managers, the Fire Department, utility craftsmen, and the Spill Response Team to follow if an accidental or maintenance related foam spill occurs.

Base Maintenance

The 19th Civil Engineering Squadron (19 CES) plans, constructs, maintains, and repairs military property including buildings, roads, utilities, and grounds. 19 CES provides environmental and natural resource management services, and performs preventive maintenance management, master planning, utility operations (including drinking water, wastewater and stormwater), municipal services (custodial, solid waste, refuse removal, snow removal, and ground maintenance), and pest management.

LRAFB has mechanisms in place to track and clean up illegal dump sites. Community members who observe a potential illicit discharge or illegal dump can call the Environmental Office directly to report it. These sites are restored and tracked by 19 CES/CEI.

Illegal dumping of construction materials is another serious concern to the Base because of the quantity of construction. A presentation is given to group leaders at Cross Functional Environmental Quality annual meeting to educate and encourage Base personnel to comply with and report any illegal dumping.

7.1.2. Storm Sewer System Map

A storm sewer system map was created for LRAFB as a goal during a previous permit cycle. This storm sewer map shall be utilized in the IDDE site survey to locate priority areas and to cross check outlets observed in the field. This map includes outfalls, receiving waters of the state, NPDES monitoring points, watershed boundaries, wash racks, sub-watersheds, stormwater infrastructure (to include catch basins, pipes, ditches and stormwater facilities), streams, wetlands, and lakes. The map was developed using existing Base data created from construction designs, as-built drawings, field surveys and existing Geographical Information System (GIS) data. Figures 2-4 through 2-7 depict LRAFB watershed maps that include the storm sewer information. These maps and GIS layers are continually updated as the data become available. At a minimum, the storm sewer map shall be reviewed annually and updated as discussed in BMP 3A.

In 2011, a utility inventory and stormwater data were added to the GIS system that included a line feature for pipes with diameter and a point feature for inlets. In 2012, hydraulic structures were also inventoried.

A camera study of the sewer lines has revealed where sanitary and storm sewer lines were inadvertently combined. Projects to separate and replace this piping has been initiated and programmed. The Water and Fuels Maintenance (19 CES/CEOIU) is responsible for maintaining drainage systems and correcting inflow and infiltration deficiencies.

7.1.3. Allowable Non-Stormwater Discharges

Certain categories of typical non-stormwater discharges are allowed under LRAFB's MS4 Permit, as determined by ADEQ, unless they become a significant source of pollution. Continual evaluations of these discharges will determine if they can remain as allowable non-stormwater discharges.

The following categories of non-stormwater discharges or flows have been identified as not having a significant contribution of pollutants to LRAFB's MS4 and are considered allowable non-stormwater discharges:

- Water line flushing;
- Landscape irrigation;
- Diverted stream flows;
- Rising ground waters;
- Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20));
- Uncontaminated pumped ground water;
- Discharges from potable water sources;
- Foundation drains;
- Air conditioning condensation;
- Irrigation water;
- Springs;
- Water from crawl space pumps, footing drains;
- Lawn watering;
- Individual residential car washing;
- Flows from riparian habitats;
- Wetlands;
- Dechlorinated swimming pool discharges;
- Street wash water;
- Discharges or flows from emergency firefighting activities;
- Charity car washes that discharge into a suitable vegetated buffer zone or industrial sewer line.

7.1.4. Illicit Discharge Detection and Elimination Plan

An effective IDDE program has several components. The first component will prioritize the areas where there is a potential for illicit discharge to occur. Once these areas have been identified, field screening shall be conducted during dry weather conditions to find outfalls that should be dry under the existing conditions. Discharge pipes and ditches that are found to be flowing shall be field tested to determine if typical pollutants are present. If pollutants are suspected, then the field inspectors shall follow the discharge to determine its source. Once an illicit source has been determined, 19 CES/CEIE shall contact appropriate personnel to either correct or remove the source.

Prioritizing Areas

Prioritizing areas for field screening shall be accomplished by detailing procedures to systematically prioritize areas, outlets, and outfalls of the highest likelihood for having illicit discharges. Prioritizing criteria shall include, but are not limited to, outlets draining to sensitive water bodies, infrastructure age, and areas reported to have obvious physical indicators such as staining, abnormal vegetation (either excessive or lack of), and/or discharge points flowing during dry periods that would not normally produce runoff.

Field Screening

Field screening shall be conducted from discharges found during the dry weather screening. Field personnel shall look for waterways where there are indications of excessive vegetation growth or areas where vegetation has been stunted or gone altogether. These areas can indicate excessive nutrient loading and/or excessive contaminants or sediment deposition. Signs of foam, oil sheens, and/or sanitary products are signs of cross connections or sewer lines that have been damaged.

Field screening can also be supplemented with field test kits for pH, chlorine, nitrate/nitrites phosphates, dissolved oxygen, turbidity, and temperature.

Removing the Illicit Discharge

Once an illicit source has been located, 19 CES/CEIE personnel shall follow the discharge upstream to determine the source of the discharge. Depending on the perceived source of the discharge, the responsible party of the source shall be contacted to discuss a corrective action for the source and determine how that action will be accomplished and within what timeframe. This plan shall be finalized in writing and logged. 19 CES/CEIE shall follow up within the corrective action time frame to ensure the illicit discharge has been corrected. If it has not been corrected, then 19 CES/CEIE shall elevate the violation to the next appropriate level.

7.2. MCM 3 APPLICABILITY

Everyone on Base has the potential to create an illicit discharge. The procedures referenced in the following sections address responsibilities for various entities.

7.3. MCM 3 REGULATORY REQUIREMENTS

The IDDE requirements for this SWMP are discussed in Section 3.2.3 of the MS4 Permit. These permit requirements are being met through existing established programs and supplemented with new BMPs outlined below. LRAFB must inform downstream neighboring MS4s and ADEQ in their annual report of illicit discharges.

The annual report shall document the following:

- 1) Number of outfalls dry-weather screened;
- 2) Number of dry-weather flows identified;
- 3) Number of illicit discharges identified;
- 4) Number of illicit discharges eliminated;
- 5) Provide schedules for elimination of illicit connections that have been identified but have yet to be eliminated; and
- 6) Summary of any storm sewer system mapping updates.

7.4. MCM 3 POLICY AND ENFORCEMENT

In compliance with the Clean Water Act, LRAFB will not discharge a pollutant from a point source into navigable waters, unless a permit was obtained. As a non-traditional MS4, LRAFB cannot pass "ordinances" like a traditional MS4; therefore, LRAFB's legal authority consists of policies and standards. This document serves as the procedure stating that illicit discharge and dumping is not permitted at LRAFB. All tenants of Air Force facilities must immediately report spills or releases of hazardous substances, and are responsible for paying (or reimbursing) costs associated with cleanup. All personnel must report noncompliance and spills through the appropriate channels. LRAFB routinely inspects facilities though institutionalized controls and existing military programs and procedures. These procedures and inspections are accountable to the chain of command.

7.5. FUTURE PERMIT CYCLE APPROACH (BMPS)

LRAFB's Stormwater Program has the following BMPs and goals to meet the intent of the Illicit Discharge MCM. These are presented below:

Table 7-1: BMP 3A: Review and Update Storm Sewer System Map.

Target Audiences: Base-wide watersheds.

Target Pollutants: These updated maps provide a valuable resource for location of BMP implementation in the event of a release and to backtrack suspected illicit discharges.

Responsibility for BMP:

19 CES/CEIE 528 Thomas Ave Little Rock AFB, AR 72099 501-987-6809

BMP Description: Review existing storm sewer map and update the GIS layers regularly. Once updated, a current copy of the map(s) shall be included with the SWMP.

BMP Justifications: Having an accurate and up to date storm sewer map will aid in quickly locating down gradient discharge points for the placement of BMPs such as oil booms in the event of a release. This map can also be used to back track illicit discharges during field screening.

Measurable Goals/ (Implementation Timeline):

- 1) Review and update Storm Sewer System Map as conditions change (Prior to annual report).
- 2) Incorporate as-built drawing of storm sewer lines as new facilities are brought on-line (Within 30 days of receipt of As-Built Drawings)

Table 7-2: BMP 3B: Illicit Discharge Detection and Elimination Plan.

Target Audiences: Watersheds within the MS4 that drain developed areas.

Target Pollutants: Cross connection; petroleum, oil, lubricants (POL); sediment and discharge during a nonstormwater period.

Responsibility for BMP:

19 CES/CEIE 528 Thomas Ave Little Rock AFB, AR 72099 501-987-6809

501-987-6809

BMP Description: Continue to develop and implement the IDDE program to detect and eliminate illegal and/or improper connections to storm drainage system by evaluating source areas and conducting field screening to locate and eliminate illicit discharges. After the detection of an illicit discharge site, appropriate work orders and/or enforcement procedures will be implemented as appropriate to correct the action.

BMP Justifications: To reduce illicit discharges

Measurable Goals/ (Implementation Timeline):

- 1) Prioritize areas for dry weather screening, such as areas with older sanitary sewer lines, areas without as-builts, older industrialized areas (To be completed by 2015 Annual Report).
- 2) Perform dry weather screening of major waterways within the prioritized areas (Annually in conjunction with outfall inspections conducted as a requirement of the Industrial Stormwater Permit ARR000001).
- 3) Perform tracing activities of all illicit discharges such as following the water source, reviewing the storm sewer map(s), and/or smoke testing (Perform within 5 days of identifying any illicit discharge).
- 4) Conduct the necessary steps to have the illicit discharge corrected/removed elevate up the chain of command if compliance is not achieved per written plan for rectifying the discharge (Ongoing).
- 5) Maintain records of illicit discharges identified and corrective actions taken (Ongoing).
Table 7-3: BMP 3C: Review of Non-Stormwater Discharges and Flows.

Target Audiences: Base Wide Target Pollutants: Non-Stormwater Discharges

Responsibility for BMP:

19 CES/CEIE 528 Thomas Ave Little Rock AFB, AR 72099 501-987-6809

BMP Description: LRAFB will continue to evaluate whether any of the allowable non-stormwater discharges become a significant contributor of pollutants to the stormwater system: i.e., groundwater, landscape irrigation, potable water sources, incidental non-stormwater sources, and/or other sources that may arise.

BMP Justifications: To ensure non-stormwater discharges do not become a significant source of pollution

Measurable Goals/ (Implementation Timeline):

- 1) Review non-stormwater discharge sources as they become available to determine if they may be prone to becoming a significant source of pollution to the LRAFB MS4 (Ongoing).
- Review impacts from incidental non-stormwater sources to determine if additional BMPs should be implemented such as dechlorination and/or if the source should be removed from the allowable nonstormwater discharge table (Ongoing).
- 3) Update the list of allowable discharges in this SWMP in the event they are found to be a significant source of pollutants (Prior to annual report).

Table 7-4: BMP 3D: Evaluate the Success of the IDDE Program.

Target Audiences: Stormwater Program

Target Pollutants: NA

Responsibility for BMP:

19 CES/CEIE

528 Thomas Ave

Little Rock AFB, AR 72099

501-987-6809

BMP Description: As part of the permit requirements, LRAFB must evaluate the success of each MCM. The success of the Illicit Discharge Detection and Evaluation MCM will be measured through the continued implementation of BMP 3A-3C and their goals.

BMP Justifications: Permit Requirement

- 1) In BMP 3A, was the stormwater map reviewed and updated with As-Builds? (As part of the annual report).
- 2) In BMP 3B, were areas prioritized for dry weather screening? (As part of the annual report)
- 3) In BMP 3B, was a dry weather screening conducted and illicit discharged corrected? (As part of the annual report)
- 4) In BMP 3C, were non-stormwater discharges reviewed to determine if they have become a source of pollutants? (As part of the annual report)
- 5) Rate each program element with a letter grade A through F (Annually).

8.0. MCM 4 - CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

8.1. MCM 4 GENERAL OVERVIEW AND OBJECTIVES

The goal of this MCM is to develop, implement, and enforce a program to reduce pollutants in stormwater runoff from within LRAFB's MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from a construction activity disturbing less than one acre shall be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.

As a non-traditional MS4, LRAFB cannot pass "ordinances" like a traditional MS4; therefore, LRAFB's legal authority consists of policies and standards. This document serves as the procedure stating that construction sites are required to utilize and maintain erosion and sediment controls BMPs that are at least as stringent while not conflicting with the criteria set forth in the current ADEQ NPDES General Stormwater Permit for Construction Activities.

The construction site stormwater control program shall include pre-construction site plan reviews (reviews of construction site SWPPP) of 100 percent of projects from construction activities that result in a land disturbance of greater than or equal to one acre. These applicable sites shall be inspected at random intervals, but with a frequency of no less than one per month to ensure compliance.

The land disturbance process associated with construction inherently carries risk of polluting stormwater as exposed, unprotected soil is susceptible to erosion. Proper planning for site controls, successful installation, proper maintenance, and inspections are required to ensure effectiveness and continued performance.

To support this MCM, a "No Tolerance" policy for track out of sediment leaving a construction site has been established for all construction sites at the Base. Construction sites producing sediment from their track out shall be notified to conduct street sweeping activities within 24 hours of notification.

8.1.1. Construction Site Stormwater Program

The 19 CES/CEIE is responsible for implementation of MCM 4 utilizing 19 CES/CENMP and field staff inspectors. As a minimum, trained staff shall review 100% of the construction SWPPPs from all sites in excess of 1 acre. Construction shall be submitted for review by the 19 CES/CEIE and 19 CES/CENMP and approved prior to the contractor submitting the NOI to the state.

The 19 CES/CEIE shall perform random site inspections of active construction areas on a frequency of no less than one per month to ensure compliance. The finding of the inspections shall be documented in their log and available for review upon request. Noncompliance with the

stormwater regulations shall be documented and made available to the project manager within 48 hours of the inspection. If the violation is not addressed, the violation shall be elevated to the contracting officer. In cases where site conditions are an ultimate threat, the 19 CES/CEIE shall immediately request a stop work order be put in place until site conditions are brought back into compliance.

Public Input

Several mechanisms are in place to encourage public involvement by providing the opportunity to voice concerns regarding the construction site's pollution prevention performance, including the LRAFB Facebook page and the 19 CES/CEI reporting hotline. Facebook is a web-based social media platform that allows users to communicate with LRAFB and post questions and/or concerns. The 19 CES/CEI hotline is a tip-line that directs concerns or complaints directly to the 19 CES/CEI office. Contact information for the hotline is available on the Stormwater Program website.

These various feedback avenues provide opportunities for the public involvement in stormwater pollution prevention and for the identification of potential problems to the Stormwater Program.

8.1.2. Stormwater Pollution Prevention Plan Requirements and Procedures

Construction sites greater than one acre (or a project of less than one acre that is part of a larger common plan greater than one acre) are required to obtain a permit under ARR150000 Construction General Permit (CGP) from the ADEQ. This state requirement supports LRAFB's MS4 requirements under MCM 4 for erosion and sediment control. The primary requirement of the CGP is to minimize the discharge of stormwater pollutants from construction activities. The development and implementation of a SWPPP incorporates site-specific controls to best minimize the soil exposure, soil erosion, and the discharge of pollutants.

The LRAFB Environmental Office communicates requirements and expectations by reviewing and commenting on SWPPPs through a required kickoff meeting. This allows LRAFB to ensure compliance with the state's CGP requirements and provide input to site specific BMPs by strengthening controls, if necessary, prior to the commencement of work. A standardized construction SWPPP pre meeting checklist ensures applicable topics are covered.

Contractors shall perform visual inspections that include all areas of the site disturbed by construction activity, including areas used for storage of materials that are exposed to precipitation. This shall be on a frequency of at least once every 7 calendar days or at least once every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater, measured with an on-site rain gauge.

Inspectors must:

- Look for potential pollutants entering the stormwater conveyance system;
- Ensure that erosion and sedimentation control measures are operating properly;

- Determine whether erosion control measures are effective at discharge location in preventing significant impacts to waters of the state;
- Inspect concrete washout areas;
- Control construction waste;
- Look for secondary containment of fuels and chemical pollutants.

Prohibited discharges:

- Wastewater from washout of concrete, unless managed by an appropriate control;
- Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials;
- Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
- Soaps or solvents used in vehicle and equipment washing.

Erosion and sediment controls shall:

- Control stormwater volume and velocity within the site to minimize soil erosion;
- Control stormwater discharges, including both peak flow rates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and stream bank erosion;
- Minimize the amount of soil exposed during construction activity;
- Minimize the disturbance of steep slopes;
- Minimize sediment discharges from the site. The design, installation and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site;
- Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, unless infeasible;
- Minimize soil compaction and, unless infeasible, preserve topsoil.

Temporary BMPs shall remain in place until permanent erosion control measures are installed and vegetation is re-established. The site will only be consider stabilized once the restored vegetation areas have reached an 80% crown cover before temporary measures such as silt fences and straw wattles may be removed. Prior to the contractor applying for the Notice of Termination (NOT) with the state, the 19 CES/CEIE shall be contacted to inspect the contract requirements and if applicable, issue a punch list of actions items that must be completed before they concur that project objectives have been achieved. Once these items have been addressed, the contractor can then file for their NOT.

8.2. MCM 4 APPLICABILITY

The construction site stormwater runoff controls discussed in MCM 4 of this SWMP are applicable to individuals involved in a construction activity that disturbs one acre or more, or from activity disturbing less than one acre if it is part of a larger common plan of development or sale that would disturb one acre or more.

8.3. MCM 4 REGULATORY REQUIREMENTS

The construction site runoff control requirements for this SWMP are discussed in Section 3.2.4 of the LRAFB MS4 Permit. These permit requirements are being met through existing established programs but are supplemented with new requirements outlined in this SWMP.

The annual report shall document the following:

- 1) Number of applicable sites in the MS4's jurisdiction,
- 2) Number of pre-construction site plan reviews performed,
- 3) Number and frequency of site inspections,
- 4) Number of violation letters issued,
- 5) Number of enforcement actions taken and
- 6) Number of complaints received and number followed up on.

8.4. MCM 4 POLICY AND ENFORCEMENT

AFI 32-1067, Water and Fuel Systems, prescribes procedures and practices to eliminate or minimize stormwater pollution resulting from Air Force construction activities. All Air Force construction projects must use stormwater BMPs and pollution-prevention measures consistent with the scope and extent of the activities taking place at the construction site to achieve compliance with applicable local, state, or federal stormwater construction permitting regulations.

Engineering Technical Letter (ETL) 14-1, Construction and Operation and Maintenance Guidance for Storm Water Systems, establishes the Air Force's mandatory requirements for soil and erosion control at construction sites. It also requires the implementation of BMPs (see paragraph 10.3) and pollution-prevention measures at these sites.

This ETL can be used to fulfill requirements of EPA or state Phase II Stormwater Regulations 40 CFR 122.34(b)(4)(ii)(A), (B), and (C) "Construction site stormwater runoff control," and can be cited for this purpose by any Base that is an operator of a regulated small MS4.

Established inspection procedures and schedules assist in identifying site deficiencies. In the event of a site deficiency, the specific issues (as identified through inspection or public complaint) will be compiled in an email along with the requirement to correct the deficiency and will be sent to the Construction Site Point of Contact (POC) through the Environmental Office.

Page 32

The complaint will escalate up the chain of command if the initial email does not resolve the deficiency.

The initial email notification procedure has been successful in the past as construction site operators have generally been responsive to the Stormwater Program's requests. The escalation procedures are in place to ensure compliance in the unlikely situation that the operator is unresponsive. Complaints to the higher levels of the chain of command are detrimental to the construction site contractor, and may influence their ability to conduct work at LRAFB in the future. Should the escalation procedures remain unsuccessful in resolving the deficiency, the Environmental Office will submit work order(s) to have the site controls put in place to correct the deficiency and meet the permitted requirements.

8.5. MCM 4 FUTURE PERMIT CYCLE APPROACH (BMPS)

LRAFB's Stormwater Program has the following BMPs and goals to meet the intent of the Construction Site Stormwater Runoff Control Minimum Control Measure. These are presented in table below:

Table 8-1: BMP 4A: Preconstruction SWPPP Review and Control.	
Target Audiences: Construction site personnel and construction project managers	
Target Pollutants: Fuels, oils, source contaminants, sedimentation, sanitary and concrete washouts.	
Responsibility for BMP:	
19 CES/CEIE	
528Thomas Ave	
Little Rock AFB, AR 72099	
501-987-6809	
BMP Description : Preconstruction controls include a SWPPP review and a preconstruction meeting with contractors prior to ground disturbance.	
BMP Justifications: This Stormwater briefing supports the public outreach and training goals for controlling construction site runoff by informing construction managers of their minimum BMP and inspection requirements. By reviewing plans prior to construction, buffer zones can be verified, possible cross connections corrected, proposed post-construction BMPs approved, and LID requirements enforced.	
Measurable Goals/ (Implementation Timeline):	
 Complete 100% of the SWPPP reviews for construction projects greater than one acre (or a project of less than one acre if it is a part of a larger common plan that is greater than one acre in total) to ensure compliance with SWPPP conditions and other applicable requirements (Ongoing). 	

2) Ensure Post Development BMPs have been considered, including LID requirements (Ongoing).

Table 8-2: BMP 4B: Construction Site Inspections.

Target Audiences: Construction site personnel and construction project managers Target Pollutants: Fuels, oils, source contaminants, good housekeeping, and sedimentation.

Responsibility for BMP:

19 CES/CEIE 528Thomas Ave Little Rock AFB, AR 72099 501-987-6809

BMP Description: Sites shall be prioritized and inspected based on site conditions such as exposed soil, slopes, buffers, and/or sensitive areas. Sites that have multiple infractions and/or public call-ins shall have increased inspection frequencies until corrected.

BMP Justifications: By prioritizing and inspecting the sites, sites with elevated risk will receive more frequent inspections and scrutiny. As a minimum, all sites shall be inspected on a monthly frequency

Measurable Goals/ (Implementation Timeline):

- 1) Prioritize sites for inspection (Ongoing).
- 2) Inspect construction sites on a monthly basis for waste control, erosion, and sediment control BMPs, for compliance with site specific SWPPP (Ongoing).
- Inspect construction sites based on public complaints within 7 days of receipt of complaint in conjunction 3) with BMP 4C (Ongoing).
- 4) Maintain and track inspection records (Ongoing).

Table 8-3: BMP 4C: Enforcement in Areas of Noncompliance.

Target Audiences: Construction site personnel and construction project managers

Target Pollutants: Fuels, oils, source contaminants, in maintenance areas.

Responsibility for BMP:

19 CES/CEIE 528Thomas Ave Little Rock AFB, AR 72099 501-987-6809

BMP Description: Noncompliant sites will be tracked to ensure resolution through verbal and written communications and/or contract enforcements as described in Section 8.4 of this SWMP

BMP Justifications: Chronic noncompliance sites will be tracked more frequently to ensure BMPs and selfinspections meet LRAFB MCMs.

- 1) Track noncompliant sites from inspections and flag for follow-up actions as appropriate (Ongoing).
- 2) Maintain records of enforcement actions taken (Ongoing).
- 3) Issue noncompliance notifications and escalate when appropriate actions are not conducted (Ongoing).

Table 8-4: BMP 4D: Evaluate the Success of the Construction Site Stormwater Runoff Control Program.

Target Audiences: Stormwater Program

Target Pollutants: NA

Responsibility for BMP:

19 CES/CEIE 528Thomas Ave Little Rock AFB, AR 72099

501-987-6809

BMP Description: As part of the permit requirements, LRAFB must evaluate the success of each MCM. The success of the Construction Site Stormwater Runoff Control Measure will be measured through the continued implementation of BMPs 4A through 4C and their goals.

BMP Justifications: Permit Requirement

- 1) In BMP 4A, were 100% of the SWPPP reviewed and kickoff meetings conducted? (As part of the annual report)
- 2) In BMP 4B, were sites prioritized, inspected, and tracked on a monthly basis? (As part of the annual report)
- 3) In BMP 4C, were non-compliance issues recorded and compliance issues corrected? (As part of the annual report)
- 4) Rate each program element with a letter grade A through F (Annually).

Page intentionally left blank

9.0. MCM 5 - POST-CONSTRUCTION RUNOFF CONTROL

9.1. MCM 5 GENERAL OVERVIEW AND OBJECTIVES

The goal of this MCM is to develop and implement a program that addresses the quality of longterm stormwater runoff from new development and redevelopment projects discharging into LRAFB's regulated MS4. This MCM shall ensure that controls are in place that have been designed and implemented to prevent or minimize surface water quality impacts using an appropriate series of structural and/or non-structural BMPs. As stated in MCM 4, all construction sites in excess of one acre, including those that are 5 acres or more, shall have their construction SWPPP reviewed and approved by 19 CES/CEIE prior to land disturbance. As part of this review, 19 CES/CEIE shall review these plans for post-construction runoff controls that shall include long-term structural BMPs to ensure that the minimum required controls per ADEQ NPDES General Stormwater Permit stormwater management have been designed for implementation. This MCM shall ensure that long-term operation and maintenance (O&M) plans are also developed and implemented for these BMPs to ensure they continue to function as designed and that water quality goals are met.

As previously discussed under MCM 4, LRAFB is subject to federal executive orders and policies requiring Low Impact Development. To implement these requirements, LRAFB shall include these requirements in their in-house designs and as a minimum requirement in the contracting language for outside contractor's scope of work.

9.1.1. Long-Term Strategic Planning

The Comprehensive Master Plan at LRAFB governs the development and serves as a guide to the future growth of the facility. AFI 32-7062 directs the development of a master plan and requires master plans to incorporate sustainable concepts standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain open space, provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation. This AFI encourages development of higher density urban areas and minimization of the percentage of impervious area after development while increasing the direct connectivity to pervious areas. EO 11988 supports this AFI, as it requires federal facilities to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative.

9.1.2. Long-term Operation and Maintenance

Long-term O&M activities are critical to the effective implementation of LID and similar BMPs. LRAFB long-term O&M is conducted by 19 CES/CEI. This includes maintenance of LRAFB's waterways and grounds. Other support teams include Construction Management, Environmental, Heavy Repair (19 CES/CEOH) and Housing Management (19 CES/CEIH). Operations and testing of the sluice gates is performed by the Fire Protection Flight (19 CES/CEF). If maintenance is required, the CEF will issue a work request to the Operation Flight (19 CES/CEO). BMPs such as vegetated swales, bio-retention cells, sand filters, filter strips, infiltration basins and infiltration trenches shall also be maintained and in operating condition as designed.

9.1.3. Low Impact Development

EISA 2007 states that "the sponsor of any development or redevelopment project that exceeds 5,000 square feet to use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property regarding the temperature, rate, volume, and duration of flow." The implementation of EISA 2007 is achieved with LID structural and non-structural BMPs, which are discussed in more detail in subsequent sections. The EPA Fact Sheet for Technical Guidance on Section 438 of EISA 2007 gives guidance pertaining to the implementation of predevelopment hydrology. The DOD Memorandum "Implementation of Section 438 of EISA07" instructs implementation of stormwater management using LID. This DOD memorandum also requires LRAFB to implement LID procedures early in the planning stages of development and design.

By implementing these DOD requirements, LRAFB's procedures are at least as stringent as the criteria of this ADEQ NPDES General Stormwater Permit for Construction Activities

BMPs designed for sediment reduction shall have the goal of reducing the TSS by at least 80% in the discharges that exceed the predevelopment levels.

9.2. MCM 5 APPLICABILITY

This MCM is applicable for all of the post-construction runoff control measures that are applicable from new and redevelopment, projects that disturb one acre or more, including projects less than one acre that are part of a larger common plan.

9.3. MCM 5 REGULATORY REQUIREMENTS

The post-construction stormwater control requirements are discussed in Section 3.2.5 of the LRAFB General Permit. These permit requirements are being met through existing established programs and are supplemented with new requirements outlined in this SWMP.

9.3.1. Applicable DOD Requirements

Several policies serve as the regulatory framework for the post-construction runoff control requirements of this section. These policies include:

- Section 438 of EISA 2007;
- EPA Fact Sheet for Technical Guidance on Section 438 of EISA 2007;

- DOD Memorandum on the Implementation of Section 438 of EISA 2007;
- Department of the Air Force Memorandum on Low Impact Development (LID);
- DOD Strategic Sustainability Performance Plan.

9.3.2. Annual Reporting

The MS4 annual reports shall document the following:

- 1) Number of applicable sites requiring post-construction controls;
- 2) Number of pre-construction site plan reviews performed;
- 3) Number of inspections performed to ensure BMPs were installed as defined in preconstruction designs;
- 4) Compliance rates with MS4 requirements;
- 5) Number of long-term O&M plans developed and agreements in place;
- 6) Information on the efforts of LID (included in the Annual Report covering the 4th year of the permit).

9.4. MCM-5 POLICY AND ENFORCEMENT

LRAFB is governed through the USAF Commander and falls under the directive of the U.S. Air Force chain of command, ultimately receiving direction from the Joint Chiefs of Staff in Washington, D.C. This governing regime is fundamentally different from a city council and mayor of a typical city; therefore, LRAFB does not have the capability or the need to enact or enforce local ordinances. Unlike typical municipalities however, the U.S. Air Force abides by AFIs, policies, orders, acts, and other requirements that have been developed to encourage and sustain environmental stewardship in the federal government and DOD.

9.5. MCM 5 FUTURE PERMIT CYCLE APPROACH (BMPS)

LRAFB's Stormwater Program has the following BMPs and goals to meet the intent of the Post-Construction Runoff Control MCM. These goals are directed toward new and redevelopment project areas. The BMPs and goals are presented below:

Table 9-1: BMP 5A: Ensure Contract Language has been included for Post Construction BMPs in the Design Requirements in Scope of Work.

Target Audiences: Project Designers, Project Managers and Construction Contractors **Target Pollutants:** Sediment reduction and restoring pre-construction runoff conditions.

Responsibility for BMP:

19 CES/CEIE 528Thomas Ave Little Rock AFB, AR 72099 501-987-6809

BMP Description: Implementation of contract language to be included in all scopes of work with land disturbance greater than or equal to 5,000 square feet. This contract language shall state the requirements for LID and post-construction BMPs.

BMP Justifications: This ensures that LRAFB personnel and bidding contractors are aware of DOD's requirements for post-construction BMPs and have budgeted appropriately to include the proper design and installation for these BMP requirements.

Measurable Goals/ (Implementation Timeline):

- 1) Draft contract language to include in all scopes of work in excess of 5,000 square feet (2015).
- 2) Present draft contract language to legal and contracting for input of draft language (Fall 2015).
- 3) Ensure contract language is included in scopes of work in excess of 5,000 square feet (2016).

Table 9-2: BMP 5B: Pre Construction Review of Design Plans.

Target Audiences: Construction site personnel and construction project managers

Target Pollutants: Sediment reduction and restoring pre-construction runoff conditions.

Responsibility for BMP:

19 CES/CEIE

528Thomas Ave Little Rock AFB, AR 72099

501-987-6809

BMP Description: Prior to pre-construction solicitations, a review of the project designs shall be completed to ensure post-construction controls have been included to meet state and DOD minimum requirements.

BMP Justifications: This review allows the 19 CES/CEIE one last chance to ensure post-construction stormwater controls have been properly budgeted and designed. Buffer zones can be verified, and post-construction BMPs approved, and LID design requirements checked.

- 1) Complete reviews of 100% of the pre-construction plans greater than one acre (or a project of less than one acre in a larger common plan that is greater than one acre in total) to ensure mechanisms are in place for proper design of post-construction BMPs to meet state and federal requirements and that they are properly placed within the impacted site boundaries (Ongoing).
- 2) Inspect the construction of the post-development BMPs to ensure they have been built to design specifications (Ongoing). Goal 2 shall be conducted in conjunction with BMP 4B.

Table 9-3: BMP 5C: Long-Term Operation and Maintenance of Best Management Practices.

Target Audiences: Environmental, Fire Protection Flight and Base Operations

Target Pollutants: Source contaminants and sediment.

Responsibility for BMP:

Installation Management and Fire Protection Flight

19 CES/CEI/CEF

528Thomas Ave

Little Rock AFB, AR 72099

501-987-7698/3656

BMP Description: Long-term O&M is currently achieved by reacting to potential problems via a 19 CES/CEI work order as they are identified. The goals associated with this BMP aim to add routine components to the O&M, creating a more proactive program.

BMP Justifications: Long-term O&M ensures permanent BMPs are operational as designed

Measurable Goals/ (Implementation Timeline):

- 1) Inventory post-construction BMPs and maintain inventory on a spreadsheet and/or database tied to stormwater GIS data table (2015).
- 2) Update post-construction BMP tracking tool (as a database or map) to include new post-construction BMPs as they are added (Ongoing).
- 3) Develop inspection schedule for post-construction BMPs identified in Goals 1 and 2. Conduct and document inspections (Annually beginning in 2016).
- 4) Perform required maintenance on post-construction BMPs (Based on Goal 3's schedule or as needed whichever comes first).
- 5) Exercise each of the sluice gates remotely and manually at the gate (Annually).
- 6) Track required maintenance that has been performed on post-construction BMPs (2016 and beyond).

Table 9-4: BMP 5D: Long-Term Institutionalization and Planning.

Target Audiences: Construction site personnel and project managers

Target Pollutants: Fuels, oils, source contaminants in maintenance areas.

Responsibility for BMP:

Planning (19 CES/CEOER) and Design Team Leads (19 CES/CENMP)

528Thomas Ave

Little Rock AFB, AR 72099

501-987-6380/7697

BMP Description: Long-term planning is achieved by coordinating with the planning department to ensure postconstruction requirements are included in the master plan and in contract language.

BMP Justifications: Long-term planning ensures structural and non-structural post-construction BMPs will be institutionalized in the planning philosophy and future project designs at LRAFB

- 1) Continue coordination with planning department to ensure the incorporation of post-construction requirements in the upcoming master plan (Ongoing).
- 2) Continue to ensure that contract language is up to date to reflect current stormwater BMP requirements (Ongoing).

Table 9-5: BMP 5E: Evaluate the Success of Post-Construction Runoff Control.

Target Audiences: Stormwater Program

Target Pollutants: Stormwater

Responsibility for BMP:

19 CES/CEIE 528Thomas Ave Little Rock AFB, AR 72099

501-987-6809

BMP Description: As part of the permit requirements, LRAFB must evaluate the success of each MCM. The success of the Post-Construction Runoff Control Measure will be measured through the continued implementation of BMPs 5A through 5D and their goals.

BMP Justifications: Permit Requirement

Measurable Goals/ (Implementation Timeline):

- 1) In BMP 5A, have post-construction BMP requirements been implemented in upcoming scope of work prior to going to bid? (pass or fail)
- 2) In BMP 5B, were 100% of the proposed construction sites in excess of 5,000 square feet reviewed for compliance with permanent BMP requirements? (Ongoing)
- In BMP 5C, has an inventory of permanent BMPs been completed with a proposed schedule for O&M? (Ongoing)
- 4) In BMP 5C, have BMP inspections and O&M been performed and documented? (Ongoing)
- 5) Rate each program element with a letter grade A through F (Annually).

Page 42

10.0. MCM 6 - POLLUTION PREVENTION/GOOD HOUSEKEEPING

10.1. MCM 6 GENERAL OVERVIEW AND OBJECTIVES

As required by the MS4 Permit, the SWMP shall develop and implement an O&M program that includes a training component for all employees whose day-to-day work activities have the potential to impact stormwater quality for the ultimate goal of preventing or reducing pollutant runoff from municipal operations. The Pollution Prevention/Good Housekeeping MCM addresses potential pollutants from streets, parking lots, open spaces, maintenance and storage yards, and other typical municipal operations.

Municipal operations, as it relates to water quality, are not achieved by one dedicated department or program at LRAFB. Municipal operations are achieved by many programs, with the environmental staff orchestrating and reporting on activities Base-wide. LRAFB has several existing programs in place that aid in the achievement of MS4 Permit requirements. In addition to the municipal operations and maintenance activities, military inspections and controls, and training, are all working towards this common goal. These are discussed in the following sections.

10.1.1. Supporting Environmental Programs

LRAFB is its own entity unlike a typical small MS4, due to the internal AFIs, policies, and oversight programs by which the Base is bound. The Air Force is committed to environmental stewardship and minimizing environmental compliance risk. The Air Force has numerous established inspection and oversight programs that contribute to the overall environmental compliance at LRAFB. Various programs that provide both direct and indirect assistance to the pollution prevention/good housekeeping efforts in support of the Stormwater Program include various types of waste controls (solid, hazardous, and recyclable wastes), spill prevention and response procedures, Industrial Stormwater Pollution Prevention Plan, and O&M staff contributions. This section discusses these supporting programs in the context of pollution prevention/good housekeeping.

Multi Sector General Permit

Additional to the MS4 Permit, LRAFB is regulated by the Industrial Stormwater Permit, ARR000001. This permit regulates LRAFB industrial activities under Standard Industrial Classification (SIC) Code S-1 for Air Transportation. Specific monitoring requirements are associated with this permit and are carried out by LRAFB. This Industrial SWPPP is available through LRAFB eDASH websites. Annual inspections for all municipal facilities not covered under the industrial stormwater permit are required for municipal facilities performing maintenance activities on mechanical equipment; facilities with fueling stations; facilities involved in waste storage, transfer or recycling; facilities with material stockpiles; and facilities storing fertilizers or pesticides.

Environmental Performance Assessment Systems (EPAS)

The EPAS program performs external and internal multi-media assessments that assist Air Force commanders in attaining, sustaining, and monitoring compliance with federal, state, and local environmental laws and regulations, as well as DOD and Air Force compliance and performance requirements.

Environmental Management System (EMS):

The EMS is the part of the overall management system that integrates environmental concerns and issues in the organization's management processes. EMS addresses organizational structure, planning activities, responsibilities, practices, procedures, processes, and resources for developing, implementing, achieving, reviewing, and maintaining environmental policy. Due to the Air Force's commitment to implementation of EMS at all installations, installations are subject to additional second party inspections (performed by Air Force employees that do not work at LRAFB), which provide an additional layer of controls.

Base Operations and Maintenance

19 CES/CEI plans for, constructs, maintains, and repairs military property, including buildings, roads, utilities, and grounds. 19 CES/CEI provides environmental and natural resource management services, and performs preventive maintenance management, master planning, utility operations (including drinking water, wastewater and stormwater), municipal services (custodial, solid waste, refuse removal, snow removal, and ground maintenance), and pest management.

Roadways are maintained by 19 CES/CEOHP which includes both paved and unimproved road systems. Rip rap and cold-milled asphalt have been used to repair the perimeter road where traffic has formed ruts and drainage rills. Repairs of the road systems are completed as necessary.

Grounds maintenance is conducted through an annual contract managed through Service Contract (19 CES/CEOES). Prior to any mowing operations, grounds personnel perform a visual inspection and collect trash and other floatable debris from LRAFB common areas on a rotating daily basis. A private contractor collects solid waste from LRAFB and transfers it to an off-site facility for proper disposal. There are no operational landfills within LRAFB's MS4.

The Storm Drain System is managed by 19 CES/CEOH. Each quarter they conduct inspections and cleaning operations of storm drains, drop inlets, and outfalls. Stormwater drainage lines are flushed as needed to facilitate drainage by the Water and Fuel Systems Maintenance (19 CES/CEOIU) team. If a problem is observed, a track camera is run through the line to locate obstacles. Once properly identified and located either 19 CES/CEOIU or 19 CES/CEOH conducts the required maintenance procedures. Under the Industrial Stormwater Permit, the Stormwater Program Manager also inspects Outfalls 001 through 004 quarterly. If additional

actions are required, a work order is processed through 19 CES/CEOH. Street and parking lot sweeping are conducted on a weekly basis as part of a recurring work plan.

Hazardous Materials

Hazardous waste accumulation points are collection points to temporarily dispose of hazardous waste prior to disposal off-site at an approved facility under the hazardous waste program. Hazardous materials storages locations have also been established Base-wide to store materials safely, without being in contact with stormwater in Conex boxes, flammable resistant storage cabinets, and/or inside warehouses/maintenance areas. There is no active, CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) or RCRA (Resource Conservation and Recovery Act) sites present at LRAFB. Personnel are routinely trained on the proper use of storage areas and accumulation points.

Integrated Contingency Plan

LRAFB maintains an ICP, referred to as the "One Plan," that meets the requirements of 40 CFR Part 112. The establishment and implementation of this plan supports pollution prevention/good housekeeping by providing training and awareness for staff regarding preventing spills, structural control measures for potential spill materials and their containers, and response procedures for reacting to a spill. Spill kits have been placed where spills are likely to occur. Site personnel have been trained on the use of these kits, providing a quick response to control the spill and possible impacts to the environment. Standard operating procedures are in place for the containment and collection of spilled materials and the proper disposal of the items and the contents utilized from the spill kits. Drip pans are placed under vehicles when a vehicle leak has been found in order to contain and minimize pollutants from entering the storm drain system.

Floodplain Management

EO 11988 requires federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. In accomplishing this objective, the DOD shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by floodplains.

10.1.2. Training

As with any military installation, training and defined procedures are essential. Personnel involved in the above programs receive training from several sources as a requirement of their job. Individual programs conduct many training opportunities throughout the year, which are tracked through the individual programs. Many are required training courses whereas others are voluntary. These training and education programs are continually updated to reflect the needs of

the Base. The Stormwater Program is committed to supporting these training needs in an effort to educate personnel in ways to support these MCMs and help improve water quality at LRAFB.

10.2. MCM 6 APPLICABILITY

Municipal operations are conducted primarily by 19 CES/CEI. However, some good housekeeping practices are appropriate for all target audiences, including the public as discussed in MCM 1 and MCM 2.

10.3. MCM 6 REGULATORY REQUIREMENTS

LRAFB's MS4 Permit prescribes the requirements for the SWMP. This section discusses the regulatory requirements specific to the MCMs discussed in Section 3.2.6 of the MS4 Permit. These permit requirements are already being met through existing established programs but are supplemented with new requirements outlined in this SWMP. As a regulatory requirement the annual report shall document the following:

- 1) Summary of employee training program(s) implemented with number of employees that attended;
- 2) Summary of activities and procedures implemented for the O&M program;
- 3) Summary of efforts to reduce nutrient pollutants and chemicals that deplete oxygen levels in surface water.

10.4. MCM 6 POLICY AND ENFORCEMENT

There is no applicable policy or enforcement relating to pollution prevention/good housekeeping.

10.5. MCM 6 FUTURE PERMIT CYCLE APPROACH (BMPS)

LRAFB's Stormwater Program has the following BMPs and goals to meet the intent of the Pollution Prevention/Good Housekeeping MCM. These goals are directed toward new and redevelopment project areas. The BMPs and goals are presented below:

Table 10-1: BMP 6A: Municipal Operations and Maintenance.

Target Audiences: Base Operations Personnel

Target Pollutants: Fuels, oils, source contaminants in maintenance areas, floatable pollutants.

Responsibility for BMP:

Base Installation Management

528Thomas Ave

Little Rock AFB, AR 72099

501-987-7698

BMP Description: Verification that O&M procedures are scheduled and good housekeeping procedures are in place to minimize pollution from municipal and industrial operations that discharge into LRAFB MS4.

BMP Justifications: Proper O&M and good housekeeping procedures, effectively maintain BMPs in working condition while pollutants sources are minimized before they reach surface waterways.

Measurable Goals/ (Implementation Timeline):

- 1) Verify O&M schedules for BMPs are being followed. Request corrections if deficiencies are found (Ongoing).
- Verify controls are in place for reducing or eliminating the discharge of pollutants from roads, municipal parking areas, maintenance and storage yards, waste transfer stations, motor pools, and outdoor storage locations. Request corrections if deficiencies are found (Ongoing).
- 3) Verify ICP is in place and is being followed. Request corrections if deficiencies are found (Ongoing)
- 4) Verify procedures are in place for the disposal of dredged material, accumulated sediments, floatables, and other debris. Request corrections if deficiencies are found (Ongoing)
- 5) Verify procedures are in place for floodplain encroachment under EO 11988.

Table 10-2: BMP 6B: Training and O&M Documentation.

Target Audiences: Base Operations Personnel

Target Pollutants: Stormwater

Responsibility for BMP:

Base Installation Management

528Thomas Ave

Little Rock AFB, AR 72099

501-987-7698

BMP Description: Verification that stormwater pollution prevention training is conducted and O&M documentation is complete.

BMP Justifications: Training and O&M activities are required to be tracked.

- 1) Document that employees whose day-to-day work activities have the potential to impact stormwater quality have taken the Stormwater Pollution Prevention training (Prior to annual report).
- 2) Request documentation of O&M activities from the various 19 CES/CEI teams for documentation in the annual report (Prior to annual report).

Table 10-3: BMP 6C: Evaluate the Success of Pollution Prevention/Good Housekeeping.

Target Audiences: Stormwater Program

Target Pollutants: NA

Responsibility for BMP:

19 CES/CEIE 528Thomas Ave Little Rock AFB, AR 72099

501-987-6809

BMP Description: LRAFB must evaluate the success of each MCM as part of the permit requirements. The success of the Pollution Prevention/Good Housekeeping MCM will be measured by the implementation of the BMPs listed above, and through observable changes in the maintenance requests made on Base.

BMP Justifications: Permit requirement

- 1) Discuss the effectiveness (pros and cons) of Pollution Prevention/Good Housekeeping programs with the representatives of the Stormwater Management Program team (Twice per year prior to annual report).
- 2) Have programs in BMC 6A been verified? (Prior to annual report)
- 3) Has training and O&M been conducted as stated in BMC 6B been verified? (Prior to annual report)
- 4) Rate each program element with a letter grade A through F (Annually).

11.0. REVIEWING AND UPDATING THE SWMP

The SWMP shall be reviewed in conjunction with preparation of the annual report. In doing this, each of the MCMs should be reviewed with their associated goals. Only those portions of the SWMP specifically required as permit conditions shall be subject to ADEQ modification requirements. Addition of components, controls, or requirements by LRAFB for the replacement of an ineffective or infeasible BMP as a required component of the SWMP with an alternate BMP to achieve the same goals of the original BMP, shall be considered minor changes to the SWMP and not a modification to the permit. If it is determined that improvements need to be made to the SWMP, the following procedures are required:

- 1) Changes to the SWMP by adding (but not subtracting or replacing) components, controls, or requirements may be made at any time upon written notification and approval by ADEQ.
- 2) Changes replacing an ineffective or infeasible BMP specifically identified in the SWMP with an alternate BMP may be also be requested in writing with:
 - a. An analysis of why the BMP is ineffective or infeasible (including cost prohibitive),
 - b. Expectations on the effectiveness of the replacement BMP, and
 - c. An analysis of why the replacement BMP is expected to achieve the goals of the BMP to be replaced.

ADEQ may require changes to the SWMP to address impacts on receiving water quality from LRAFB or if more stringent requirements are put in place to comply with new federal statutory or regulatory requirements to comply with the goals of the Clean Water Act. Changes requested by ADEQ will be made in writing, stating the development schedule periods, and offer an opportunity to propose alternative program change to meet the objective of the requested modification. All change requests or notifications must be made in writing and signed in accordance with Part 5.7 of this ARR040000 permit.

Page intentionally left blank

12.0. DISCHARGES TO IMPAIRED WATERS WITHOUT A TMDL

Industrial stormwater is discharged from the LRAFB through four permitted outfalls: 001 (Watershed 5), 002 (Watershed 11), 003 (Watershed 1), and 004 (Watersheds 6 and 8). The EPA My Waters Mapper (http://watersgeo.epa.gov/mwm/) was used to identify the receiving waters for LRAFB. Stormwater discharged through Outfall 001 is conveyed through an unnamed tributary to Bayou Meto Reach 907, which eventually reaches the Arkansas River. Minor drainages also leave LRAFB from the Military Housing Area and office park discharging to the southwest through Thomas, Paradise, and Transvaal Lakes that also flow to the Bayou Meto Reach 907 via various tributaries. According to the 2008, 303(d) listing for impaired waterways, this reach is impaired for dissolved oxygen and lead.

Stormwater discharged from Outfalls 002 and 004 are conveyed through unnamed tributaries into Bayou Two Prairie Reach 006, to Bayou Meto Reach 007, and eventually to the Arkansas River. Stormwater discharged through Outfall 003 is also conveyed through unnamed tributaries and canals to Bayou Two Prairie Reach 006, to Bayou Meto Reach 007, and eventually to the Arkansas River. Bayou Two Prairie Reach 006, according to the 2008 303(d), listing for impaired waterways, is impaired for dissolved oxygen.

Many segments of Bayou Meto and Bayou Two Prairie were included in the 2008 303(d) list due to low dissolved oxygen concentrations. ADEQ believes this is a naturally occurring condition throughout the delta's ecoregion during the critical season when flows are diminished and water temperatures are elevated.

In reviewing the proposed 2014 Draft Arkansas's 303(d) list, the Bayou Meto Reach 907 has shown improvement and is recommended to be impaired only for dissolved oxygen. Reach 006 of Bayou Two Prairie is no longer included in the 2014 proposed 303(d) listing.

As an airport facility, LRAFB conducts deicing operations on their airplanes during periods of ice. During the 2013 deicing season, less than 28,000 gallons of propylene glycol were used, which is diluted with approximately 50% water prior to use. Procedures are in place (Technical Order (TO) 42C-1-2, Anti-Icing, Deicing, and Defrosting of Parked Aircraft, and TO 1C-130A-2-1CL-1 providing cold weather maintenance checklist and procedures for USAF series AC-130U and C-130 aircraft) to minimize discharge of deicing fluids to the stormwater.

The use of fertilizers and pesticides are controlled for LRAFB through the annual service contractors and entomology department. These teams are required to have annual training for the application and storage of the chemicals they use to maintain the facility. LRAFB has made significant efforts to prevent over-use of pesticides and fertilizers across the Base.

Programs are also in place in the dog park and at the equestrian center for personnel to remove and properly dispose of pet and livestock waste.

LRAFB does not discharge into an Extraordinary Resource Water (ERW), Natural and Scenic Waterway (NSW), or Ecologically Sensitive Waterbody (ESW).

Page intentionally left blank

13.0. MONITORING

LRAFB currently conducts benchmark effluent monitoring under their Multi-Sector General Permit (MSGP) industrial permit for industrial activities conducted under SIC Code S-1 for air transportation. As per the June 25th 2014 Notice of Coverage (LRAFB Industrial Stormwater General Permit, ARR000001 - AFIN 60-02327), sampling requirements have changed from the four (4) basic parameters (pH, TSS, COD, and Oil and Grease) in the 2009 permit to only two (2) basic parameters (pH and TSS) plus Ammonia under Sector S-1 in the 2014 permit.

Based on the 2008 and Draft 2014 303(d) listing, LRAFB discharges into impacted waterways without TMDLs or waste load allocations. Since the dissolved oxygen impairment is suspected to be impacted from natural conditions and no waste load allocations have been assigned, no additional monitoring is required for pollutants of concern.

If findings from the illicit discharge monitoring determine there are significant pollutants leaving the Base, a monitoring program may be implemented to assess the impacts to receiving waters resulting from stormwater and/or illicit discharges from the MS4. Screening level tests may utilize less expensive "field test kits" using test methods not approved by EPA under 40 CFR 136, provided that the manufacturer's published detection ranges are adequate for the illicit discharge detection purposes.

Page intentionally left blank

14.0. REPORTING AND RECORD REQUIREMENTS

LRAFB Stormwater Program has been successfully developing annual permit summary reports utilizing the state's annual report form. These reports include a self-assessment of the permit's compliance addressing each of the six MCMs, how they have been met, or how LRAFB is working through difficulties that might have been encountered. With the exception of this updated SWMP, there have not been proposed changes to LRAFB's SWMP. Several of the MCMs have goals that include recording and tracking information that is maintained in the stormwater office. All records are maintained for at least 3 years. These records are available during site inspections or through a written request.

LRAFB is operating as a single entity and does not rely on other adjoining municipalities to meet its MS4 requirements or obligations.

14.1. RECORDKEEPING

An important part of any municipal stormwater program is to document and track information on activities undertaken to comply with the permit requirements. Several sections of the MS4 Permit contain requirements pertaining to the recordkeeping and reporting requirements of LRAFB. Each of the minimum measures should integrate tracking. As part of this recordkeeping process, an annual report must be submitted to the state each year that summarizes the effectiveness of the stormwater program and MS4 compliance with the permit. Not all goals need submission to the state but should be available to the state or concerned party that requests this information. The annual report also provides an opportunity for the Base to submit proposed changes to the plan's BMPs and goals for the following reporting cycle. LRAFB submits an annual report utilizing the state's form with descriptions of goals achieved and a self- assessment of the compliance with the MS4 Permit by June 1st of each year.

As part of this requirement, LRAFB must develop and maintain a tracking system to monitor the progress of its various programs to document compliance with the permit. The tracking system should allow the Stormwater Program Manager to monitor each program's compliance, ensuring the overall compliance of the permit. An adequate tracking system will aid in the simplification of generating reports about the program's progress, not only to the state but also to the Base command for future planning and funding.

LRAFB shall retain records of all monitoring information, including calibration and maintenance records, a copy of the NPDES permit, and records of all data used to complete the application (NOI) for this permit for a period of at least three (3) years from the date of the sample, measurement, report or application, or for the term of this permit, whichever is longer. LRAFB shall submit any records to ADEQ upon request. LRAFB must retain the SWMP at a location accessible to the permitting authority. LRAFB shall make available all records, including the NOI and the description of the SWMP, available to the public if requested in writing.

14.2. REPORTING

Prior to submitting annual reports to ADEQ, the Stormwater Program Manager shall make a good faith effort to allow the Environmental Coordinators from each of the groups represented by the stormwater team an opportunity for involvement and input into the SWMP. LRAFB shall include a copy of the annual report in electronic format on the LRAFB eDASH websites for interested parties to review and comment.

LRAFB must submit their annual reports no later than March 31st of the following year (i.e., 2014 report would be due no later than March 31, 2015). Annual reports will be publicly available on ADEQ's website. The report must include:

- 1) The status of compliance with permit conditions, an assessment of the appropriateness of the identified BMPs, and the progress towards achieving the measurable goals for each of the MCMs in this SWMP;
- 2) Results of information collected and analyzed, if any, during the reporting period, including monitoring data used to assess the success of the program at reducing the discharge of pollutants to the maximum extent practicable;
- 3) A summary of the stormwater activities LRAFB plans to undertake during the next reporting cycle (including an implementation schedule);
- Proposed changes to the stormwater management program, including changes to any BMPs or any identified measurable goals that apply to the program elements;
- 5) Description and schedule for implementation of additional BMPs that may be necessary, based on monitoring results, to ensure compliance with applicable TMDLs and implementation plans.

Reports must be submitted with the appropriate ADEQ reporting forms. Forms can be downloaded in Microsoft Word or as a PDF from:

http://www2.adeq.state.ar.us/water/branch_permits/general_permits/stormwater/default.htm

Annual reports shall be submitted to ADEQ at the following address:

ADEQ Water Division, General Permits 5301 Northshore Drive North Little Rock, AR 72118

Or in electronic format (.pdf) at the following email address:

Water-permit-application@adeq.state.ar.us

Figures

Figure 2-1: General Site Location Map.	59
Figure 2-2: LRAFB General Hydrology Map	60
Figure 2-3: Bayou Meto Watershed in Pulaski County – 2012 303(3) list	61
Figure 2-4: Outfall 001 Site Map.	
Figure 2-5: Outfall 002 and 004 Site Map.	63
Figure 2-6: Outfall 003 Site Map.	64

Page intentionally left blank







Figure 2-2: LRAFB General Hydrology Map.
















Appendix A Forms

Page intentionally left blank

IDDE Data Collection Form

Outfall Location:	Date:	Time:			
TIME SINCE LAST RAIN: ≥ 72 hours <72 hours					
QUANTITY OF LAST RAIN: ≥ 0.1 inches < 0.1 inches					
INSPECTION TEAM:					
SITE DESCRIPTION:					
LOCATION (Narrative Description):					
STRUCTURE TYPE: OPEN CHANNEL MANHOLE OU	UTFALL	OTHER:			
DOMINANT WATERSHED LAND USES: INDUSTRIAL COMM	MERCIAL	RESIDENTIAL UNK	NOWN		
OTHER:					
FLOW ESTIMATION:					
WAS FLOW OBSERVED? NO YES IF YES, PLEASE	E ANSWER	a d. BELOW.			
a. WIDTH OF WATER SURFACE (feet):					
b. APPROXIMATE DEPTH OF WATER (feet):					
c. APPROXIMATE FLOW VELOCITY (feet per second):					
d. FLOW RATE (cubic feet per second) = $a x b x c =$					
VISUAL OBSERVATIONS:					
WAS A PHOTO TAKEN? NO YES (Photo Number:)			
ODOR: NONE MUSTY SEWAGE ROTTEN EGGS SC	OUR MILH	COTHER:			
COLOR: CLEAR RED YELLOW BROWN GREEN	GREY	OTHER:			
CLARITY: CLEAR CLOUDY OPAQUE					
FLOATABLES: NONE OILY SHEEN GARBAGE/SEWAGE	OTHER:				
DEPOSITS/STAINS: NONE SEDIMENTS OILY OTHER:					
VEGETATION CONDITION: NONE NORMAL EXCESSIVE G	GROWTH	INHIBITED GROWTH			
STRUCTURAL CONDITION : NORMAL CONCRETE CRACKING METAL CORROSION OTHER:					
BIOLOGICAL: MOSQUITO LARVAE: BACTERIA/ALGAE	E:O	THER:			
FIELD ANALYSIS:					
WATER TEMP: °F / °C CHLORINE (Tota	al):	mg/l			
pH: COPPER: mg/l PHENOL:	mg/l D	ETERGENTS:	mg/l		
WAS A LABORATORY SAMPLE COLLECTED? NO	Y	ES	U		
(If yes attach copy of chain-of-custody record)					
COMMENTS:					
DATE: (print name):					

Illicit Discharge Inspection Quarterly Summary Report

Ι	Location:Contact Name:				
F	Reporting Period: Jan –	March April – Jur	$ne \Box July - Sept \Box$	October – Dec	Yr.20
I.F	ield Activities				
1.	Describe field surveys	. Industrial Areas	Commercial Areas	Residential Areas	Other (describe)
Nui	mber of screening point	s			
Cha	annel Miles				
2. <i>List how many discharges were identified by the following methods</i> . Include only discharges that could have been prevented by BMPs. Do not include fluid releases associated with minor traffic accidents. a. During field surveys at defined screening					
poi	nts:		U. Cans nom.		
	identified by main	tenance crews	maint	tenance crews	
	identified by illicit	discharge inspectors	s <u>other</u>	agencies	
3	List the number of time	as the following mat	puoli puoliti prials wara idantifi	e d	
5.	Paint	es the jonowing mare	Concrete Cutt	ing Slurry/Washw	vaters
	Concrete		Vehicle Clear	ning Washwaters	
	Construction Debris		Building/Side	walk Washwaters	
	Medical Wastes		Other Washw	aters	
	Food Wastes		Sewage		
	Industrial Wastes (solv	vents, metals,	Automotive F	Fluids (antifreeze, u	used motor oil,
cor	rosives, cooling tower b	lowdown, etc.)	fuels)		
	Other (describe):				
II.	Follow-up Activities				
1.	Describe whether sour	rces of discharges we	ere identified.		
	Number of sourc	es that were identifie	ed		
Number of incidents when source of discharge was not identified					
2. Describe whether discharges were abated.					
Number of discharge incidents that were abated.					
Number of new discharge incidents where discharge is continuing, as of the end of the reporting period. (ATTACH INSPECTION PEPOPT)					
Number of continuing discharges that have already been reported in previous quarter(s)					
3 Describe enforcement activities conducted					
Verbal Notice Warning Notice					
Administrative Action					

MS4 SWMP Inspection Checklist			
1. Location (Bldg):	Activity:		
2. Date of Inspection:			
MS4 SWMP Best Managemen	t Practices Inspection Items		
Are there any signs or evidence of spilled substances on the ground?			
Describe the locations of the nearest stormwater drain(s).			
Are there any signs or evidence of spilled materials flowing into nearby stormwater drains?			
Are liquid products, fuels, oils, or other items stored outside that could release to stormwater?			
If items are stored outside, have provisions been put in place to control any drips, spills to prevent discharges?			
Spill and Overfill Response Supplies: Are sufficient items and materials on hand to properly respond to any spilled substance?			
Have all BMP's identified in Control Measures BMP Assessment of the MS4 SWMP been implemented?			
Is stormwater pollution prevention information posted in the area?			
Are operation/area personnel aware of stormwater pollution prevention techniques and actions that can be taken to prevent such?			
Visual Observations/ Notes:			

Operations and Maintenance

Program Development Tracking Form

Municipality:		
Contact Name:		
Date		

Stormwater Facility Operation and Maintenance Program Development:				
Existing Program Information (Permit Year)				
Stormwater		Existing Programs		
Facility Type (check if applicable)		Description of Corrective Maintenance Activities	Description of Preventative Maintenance Activities	
	Open Channels			
	Culverts			
	Detention Facilities			
	Drainage Swales			

Stormwater Facility Operation and Maintenance Program Development: Existing Program Information (Permit Year)			
Stormwater Existing Programs			
Facility Type (check if applicable)		Description of Corrective Maintenance Activities	Description of Preventative Maintenance Activities
	Infiltration Facilities		
	Other		
	Open Channels		
	Culverts		
	Detention Facilities		

Stormwater Facility Operation and Maintenance Program Development:				
Exis	Existing Program Information (Permit Year)			
Stormwater		Existing Programs		
Facility Type (check if applicable)		Description of Corrective Maintenance ActivitiesDescription of Preventative Maintenance Activities		
	Drainage Swales			
	Infiltration Facilities			
	Other			