NOTICE OF INTENT

National Pollutant Discharge Elimination System Stormwater Program
MS4 Notice of Intent Format

Check box if you are submitting an individual NOI with one or more cooperative program elements. ☐

Check box if you are submitting an individual NOI with individual program elements only. ☒

Check box if your municipality or organization was previously covered under a MS4 permit. ☒

Please indicate the permittee class type: (Note: The definition of the permittee class type is located in Table 1 of Part I.B.1.)

☐ A (Phase I) ☒ B (Phase II) ☐ C (New Phase II) ☐ D (MS4s within Indian Lands)

I. MS4(s) Information

A. General Information

Department of the Air Force, Kirtland Air Force Base, 377th MSG/CEIE

Name of MS4

Andria	Cuevas	Water Quality Pro
Name of Contact Person (First)	(Last)	(Title)

505-846-2522	andria.cuevas.1@us.af.mil
Telephone (including area code)	Email

2050 Wyoming Blvd. SE, Bldg. 20685

Mailing Address

Kirtland AFB	NM	87117-5663
City	State	ZIP code

What size population does your MS4(s) serve? 20,000

The operator is: ☒ Federal ☐ State ☐ Tribal ☐ other public (check one)

B. In what urbanized area (UA), the MS4 is located in:

Farmington UA ☐
Santa Fe UA ☐
Albuquerque UA ☒
Los Lunas UA ☐
Las Cruces UA ☐
El Paso UA ☐

C. If not located in an UA, the MS4 is located in:

Core Municipality
Indian Reservation/Pueblo
County(ies)
Cluster

D. Is this a Phase I MS4? ☐ Yes ☒ No

Is this a Non-traditional MS4? ☒ Yes ☐ No

If so, Check one: ☐ Dept. of Transportation ☐ Flood Control Authority ☐ University

Other - Specify: Military Installtion

What is the Latitude and longitude of the approximate center of the MS4?

Latitude: 35.06N Longitude: 106.5W

II. Eligibility Determination

A. Receiving Water(s) Information

Does the MS4 discharge to any waters for which an TMDL applicable to discharges from the MS4 has been approved? (See Part I.A.5.f) ☒ Yes ☐ No ☐ NA

The receiving water(s) are:	*State or Tribal Segment ID*	*Approved TMDL*	*TMDL assigns WLA to MS4*
Tijeras Arroyo	NA	☐ Yes ☒ No	☐ Yes ☒ No
Rio Grande River	20.6.4.105	☒ Yes ☐ No	☒ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No

Is the MS4 (or a group of MS4s) seeking an alternative sub-measureable goal for TMDL controls under Part I.C.2.b.(i).(c).B? ☐ Yes ☒ No ☐ NA

If so, the MS4 or a group of MS4s must submit a preliminary proposal with the NOI to EPA and NMED (see Part I.B.2.k, Section B.2 in Appendix B and Part III.D.4). This proposal should include, but is not limited to, the elements included in Appendix B under Section B.2 of the permit

I. MS4 Information

Kirtland Air Force Base (KAFB) is a Federal Facility located in central New Mexico, southeast of and adjacent to the City of Albuquerque. The base is roughly 53,000 acres, and is entirely located within Bernalillo County at the approximate latitude of 35.06°N and longitude of 106.5°W. KAFB has over 20,000 employees on base, including over 4,000 military, 3,500 civil service, and 12,500 contractors. There are approximately 100 mission partners, to include tenants, research laboratories, three Major Commands, Reserve, and National Guard components. KAFB is a Phase II MS4 and classified as a Class B Permittee.

II. Eligibility Determination

A. Receiving Water(s) Information

All storm water from KAFB eventually flows into the Rio Grande River (approximately four miles west of the KAFB industrialized area). Drainage from the base primarily flows into Tijeras Arroyo or enters the City of Albuquerque's storm sewer system. Tijeras Arroyo is classified under 20.6.4.97 NMAC with water quality standards specified in 20.6.4.900 NMAC.

The New Mexico Environment Department (NMED) Surface Water Quality Bureau (SWQB) has established a TMDL for the Middle Rio Grande watershed. The NMED SWQB has established a waste load allocation for E. Coli for KAFB. KAFB's TMDL waste load allocation is a function of the total waste load allocation for the watershed based on the installation area.

KAFB meets the eligibility requirements under the general permit Part I.A.5.f and Part I.C.2.b(ii)(b) by including the following within the SWMP:

- Identification of potential significant sources
- The development and implementation of targeted BMPs for control of bacteria
- Compliance with activities and schedules presented in Table 1.a of Part I.C.2.(iii).

B. KAFB is not fully nor partially located on Indian Country lands.

C. KAFB complies with the National Historic Preservation Act (NHPS): Criterion A; See Section 2.4.2 of the KAFB SWMP.

III. Preliminary Description of the Proposed Stormwater Program

Section 5 and Section 7 of the KAFB SWMP outline best management practices (BMPs) or storm water controls that will be implemented and the measurable goals for each of the minimum control measures specified in Part I.D.5 of the permit. Responsibility for implementing and coordinating the SWMP falls on the KAFB Water Quality Program Manager.

IV. Proposed Monitoring Program

KAFB has chosen to preform individual monitoring. This option requires KAFB to sample upstream and downstream of the MS4 jurisdictional area. Section 6 of the KAFB SWMP outlines the monitoring program.

V. Public Participation

This section to be completed after public comment period is over.

VI. Location Map

See location maps in Section 2 of the KAFB SWMP.

VII. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information 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.

Printed Name: Tom D. Miller, Col., USAF

Signature: _____ Date: _____

Kirtland Air Force Base

Bernalillo County, New Mexico

Storm Water Management Plan

EPA Region 6,
NPDES Permit NMR04A000MRG,
Middle Rio Grande Watershed MS4
Expiration Date: 22 March 2020

In compliance with Section 1.D.6.a of this Permit, installation personnel completed an annual review of the SWMP as follows:

Date	Individual	Office	Remarks

CERTIFICATION

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

Responsible Official Certification

_____ Date: _____

Tom D. Miller, Col., USAF
377th AWB, Commander

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Abbreviations and Acronyms

AFI	Air Force Instruction
AST	aboveground storage tank
BMP	Best Management Practice
BMC	Base Maintenance Contract
CGP	Construction General Permit
CES	Civil Engineering Squadron
CFR	Code of Federal Regulations
COR	Contracting Officer Representative
E. Coli	Escherichia Coli
EISA	Energy Independence and Security Act
EMS	Environmental Management System
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESOH	Environmental, Safety, and Occupational Health
GI	Green Infrastructure
HazMat	Hazardous Materials
KAFB	Kirtland AFB
KFH	Kirtland Family Housing
LEED	Leadership in Energy and Environmental Design
LID	Low Impact Design
IA	Impervious Area
IAW	in accordance with
MCM	minimum control measures
MRG	Middle Rio Grande
MS4	Municipal Separate Storm Sewer System
MSGP	Multi-sector General Permit
MOR	Memorandum of Record
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMED	New Mexico Environmental Department
NOI	Notice of Intent
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
OWS	Oil/Water Separator
QA/QC	Quality Assurance/ Quality Control
RCRA	Resource Conservation and Recovery Act
SPCC	Spill Prevention Control and Countermeasure
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
TMDL	Total Maximum Daily Load
UEC	Unit Environmental Coordinators

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Section 1 Introduction

1.1 Purpose

This Storm Water Management Plan (SWMP) was developed for Kirtland Air Force Base (KAFB) in Bernalillo County, New Mexico. The SWMP meets the requirements of the Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) Permit NMR04A000MRG, hereafter the Permit (Appendix A).

EPA's Municipal Separate Storm Sewer System (MS4) program addresses pollution from storm water runoff conveyed by a MS4 and discharged into rivers and streams. Common pollutants include oil and grease from roadways, pesticides from lawns, sediment from construction sites, and trash and other inappropriately disposed of waste materials.

In 1990, the EPA established Phase I of the NPDES program that required operators of "medium" and "large" MS4s, generally those entities serving populations of 100,000 or greater, to implement a storm water management program as a means to control discharges from their storm sewer systems. The Storm Water Phase II Rule extended coverage of the NPDES storm water program to certain "small" MS4s.

The Permit is designed to more effectively address watershed issues while incorporating cooperative programs. The Middle Rio Grande (MRG) Watershed was chosen as a pilot project due to the various water quality impairments, suspected upstream pollutant contributions, opportunities to establish cooperation between the various stakeholders, and the similar hydrological and topographical features that exist throughout the watershed.

This SWMP addresses the MS4-related activities under the jurisdiction of KAFB. This SWMP covers general municipal-type operations associated with base operations. In 2003, Kirtland Family Housing (KFH) was leased to Hunt Housing LLC as part of military housing privatization efforts (KAFB 2003). KFH executes portions of the SWMP for its jurisdiction (LoA 2015a). Additionally, Department of Energy facilities located at KAFB are managed by the Department of Energy under a separate SWMP (LoA 2015b; Figure 2-1). KAFB plans to self-perform each of the program elements.

1.2 SWMP Components

Refer to the Table of Contents for the SWMP format. The objective of the SWMP is to develop, document, and implement a program compliant with the Permit that ensures storm water discharges from the facility do not contribute pollutants to the receiving water to the maximum extent possible. The hierarchy of compliance elements contained in this SWMP is as follows:

1.2.1 Minimum Control Measure

The minimum control measures (MCMs) are broad areas of practice specified by the EPA that must be addressed as part of the facility's SWMP. Each control measure targets an area

where increased awareness and improved coordination will reduce contamination of storm water. Section 5 describes the seven applicable MCMs.

The Permit also contains "Special Conditions" that require additional controls for storm water discharges. Sections 3 and 4 describe the special conditions.

Applicable Best Management Practices (BMPs), measurable goals, and metrics have been developed to ensure compliance with the MCMs and special condition requirements.

1.2.2 Best Management Practice

The BMPs are reasonable, feasible and achievable practices designed to meet the MCMs to the maximum extent possible. For each BMP, a measurable goal(s) and expected implementation date(s) were selected to evaluate implementation of the BMP. Section 7 describes the BMPs, goals and expected implementation dates.

1.2.3 Measurable Goal

A measurable goal includes a description of what specific actions will be taken to achieve the objective of the BMP, and a metric by which the objective will be evaluated. The metric is generally qualitative to facilitate evaluation. If the evaluation suggests additional and/or improved controls are necessary, the facility shall modify the BMPs.

1.2.4 Expected Implementation Date

For each MCM, the Permit provides an expected implementation date. Certain goals may comply with "ongoing" criteria and thus have no specific date. Deviations from the expected implementation date should be noted in the Annual Report.

Section 2 Site Description

2.1 Kirtland AFB Background

KAFB is located in central New Mexico, southeast of and adjacent to the City of Albuquerque (Figure 2-1). The base is roughly 53,000 acres, and is entirely located within Bernalillo County at the approximate latitude of 35.06°N and longitude of 106.5°W. KAFB has over 20,000 employees on base, including over 4,000 military, 3,500 civil service, and 12,500 contractors. There are approximately 100 mission partners, to include tenants, research laboratories, three Major Commands, Reserve, and National Guard components.

Prior to 1928, the area of KAFB was undeveloped rangeland. In 1928, Albuquerque's first municipal airport was constructed. In the 1930s, the municipal airport was used for transient fueling and maintenance stops for the military. The Albuquerque Army Air Base was constructed in 1941 for bomber combat crew training, and in 1942, the airfield was renamed Kirtland Field. In 1947, Kirtland Field was re-designated Kirtland AFB. Over the years, ongoing training, research, and testing has, and continues, to occur at KAFB.

The topography and vegetation of the area subject to the Permit is primarily flat, paved, and developed areas. The primary regional surface hydrology feature on KAFB is the Tijeras Arroyo, which ultimately discharges into the Rio Grande. Surface water across KAFB is conveyed largely by roadways, storm water structures, and ephemeral streams draining towards Tijeras Arroyo or into the interconnected City of Albuquerque storm drain system. In many cases sheet flow and runoff from across the base may pond, evaporate, or infiltrate prior to reaching a distinct surface water body. Storm drainage that enters the City of Albuquerque storm drain system ultimately discharges to the Rio Grande.

2.2 Kirtland AFB NPDES Permit Coverage

KAFB (Figure 2-2) qualifies as a small MS4 under 40 Code of Federal Regulations (CFR) 122.32(a)(1). The designation as a small MS4 classifies KAFB as a Class B Permittee under the Permit. A copy of the Notice of Intent (NOI) is provided in Appendix B.

Industrial activities on KAFB fall under the NPDES Multi-sector General Permit (MSGP). An Industrial Storm Water Pollution Prevention Plan (SWPPP) (KAFB 2015c) was developed and regulates the applicable permit sectors: Sector K (hazardous waste treatment, storage, or disposal facilities), Sector L (landfills and land application sites), Sector P (land transportation), and Sector S (air transportation facilities). The MSGP #XXXX expires (insert date). A copy of the NOI is provided in Appendix B.

KAFB also maintains a NPDES Construction General Permit (CGP). The CGP regulates storm water management associated with ongoing construction projects. The CGP #NMR120000 expires 16 Feb 2017. A copy of the NOI is provided in Appendix B.

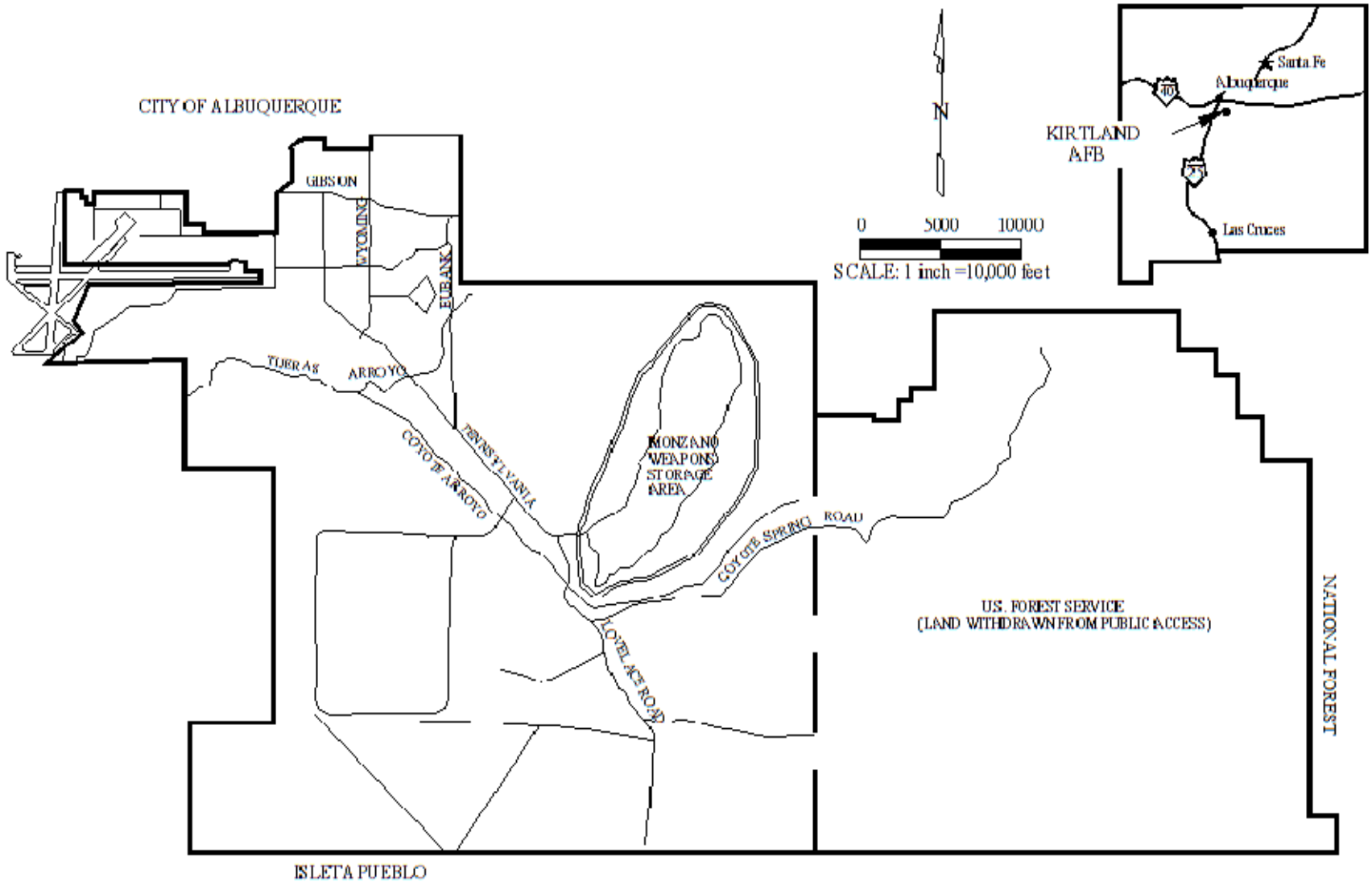

Figure 2-1. Kirtland AFB Location Map

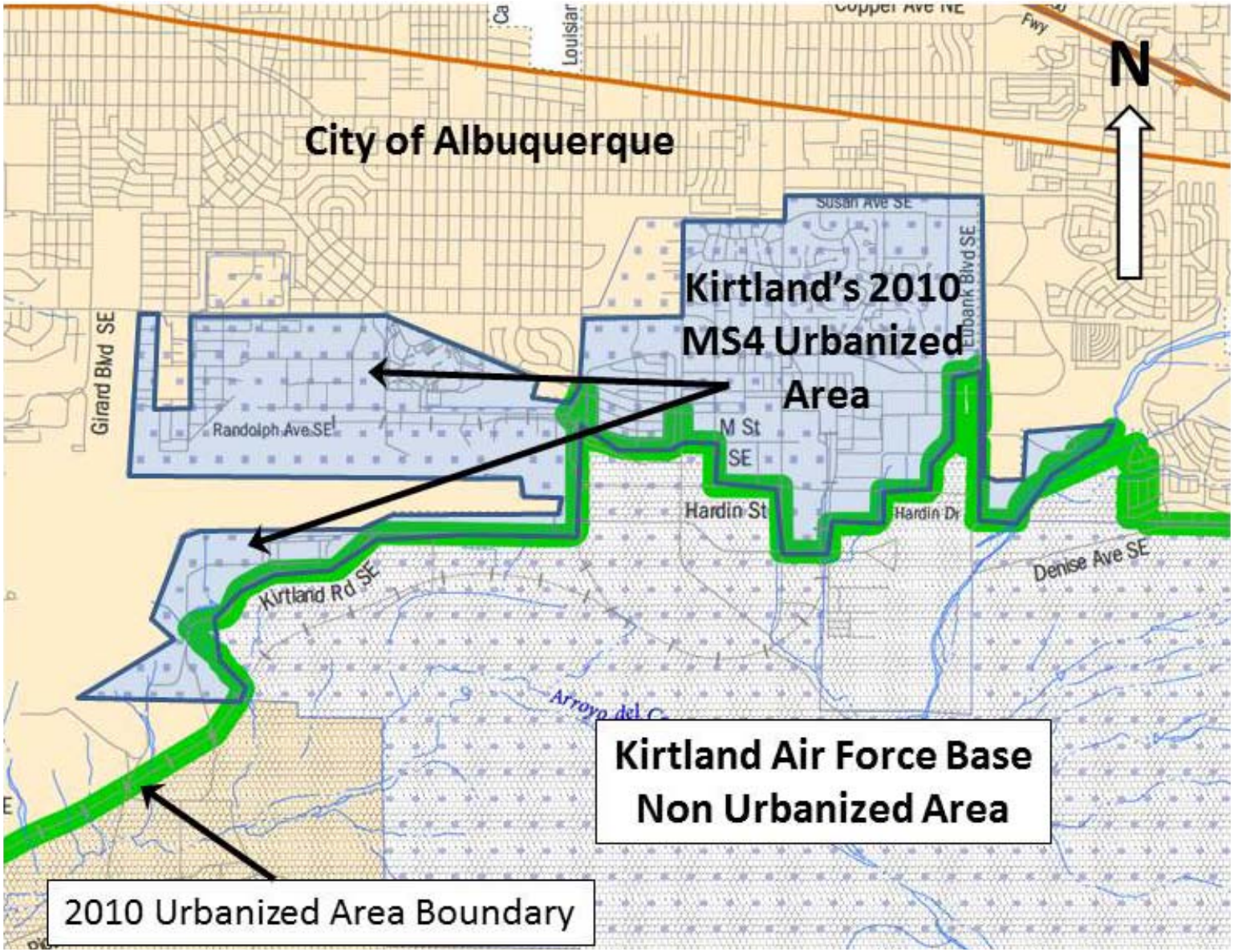

Figure 2-2. Kirtland AFB MS4 Area (Within City of Albuquerque Urbanized Area)

2.3 Authorized Non-Storm Water Discharges

Several non-storm water discharges are authorized under the Permit, Section 1.A.4 and Section 1.D.5.e.ii. These discharges are classified as non-illicit discharges under the Illicit Discharge Detection and Improper Disposal MCM. None of these non-storm water discharges are expected to be significant contributors of pollutants. Guidance concerning illicit discharge prevention is located in Appendix D.

2.4 Permit Eligibility Provisions

2.4.1 Endangered Species Act Provisions

Per the Permit, the SWMP must address impacts of storm water discharge on federally listed endangered or threatened species and/or critical habitats. The U.S. Fish and Wildlife Service list of endangered and threatened species (USFWS, 2014) for Bernalillo County, New Mexico includes one species identified at KAFB:

Mexican Spotted Owl: this species may migrate through KAFB at certain times of the year, however, these species are not known to utilize KAFB for extended periods of time and no documented critical habitat areas exist within the base boundaries.

Rio Grande Silvery Minnow, New Mexico Meadow Jumping Mouse, Southwestern Willow Flycatcher, Sprague's Pipit, and Yellow-billed Cuckoo: these species are not known to occur on KAFB nor are there any documented critical habitats within the base boundaries.

The KAFB National Environmental Policy Act (NEPA) process and Integrated Natural Resources Management Plan (KAFB 2012c) evaluate the potential impacts base activities may have on federally endangered or threatened species and critical habitats. Of the 53,000 acres under jurisdiction, 1,980 acres are "Improved" lands generally located on the northern portion of the installation (Figure 2-2). No federally endangered or threatened species nor critical habitats have been identified in these areas.

Based on this information and the ongoing Natural Resources Management Program, KAFB meets the Endangered Species Act (ESA) Eligibility Provisions of the Permit under Criterion A: no endangered or threatened species or critical habitat occur in the proximity to the MS4 or points where authorized discharges reach waters of the U.S.

2.4.2 National Historic Preservation Act Provisions

Under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, KAFB must assess any potential effects on historic properties (36 CFR 800). Section 110 required KAFB to complete an inventory of historic properties located within its jurisdiction (36 CFR 60, 63, 78, 79, and 800). KAFB has identified over 600 archaeological resources, including 200 significant historic facilities. If an action associated with the Permit inadvertently discovers a historic resource, KAFB will consult with the New Mexico State Historic Preservation Office to determine the best mitigation practices necessary.

Additionally, the Kirtland AFB NEPA process evaluates construction projects, structural BMPs, and municipal-type activities for potential impacts to historic properties. Appropriate

measures are documented through the NEPA process to ensure protection of historic resources. Any ground disturbing activity requires work clearance (AF 103) prior to commencement. The Integrated Cultural Resources Management Plan (KAFB 2012b) identifies additional protective measures to preserve historic resources.

Based on this information and the ongoing Cultural Resources Management Program, KAFB meets the NHPA Eligibility Provisions of the Permit under Criterion A: storm water discharges, allowable non-storm water discharges, and discharge-related activities do not effect a property that is listed or is eligible for listing on the National Register of Historic Places as maintained by the Secretary of the Interior.

Section 3
Endangered Species Act Requirements

The Permit identifies two strategies to ensure storm water discharges are not likely to jeopardize currently listed endangered or threatened species, nor affect critical habitats.

3.1 Dissolved Oxygen Strategy

The Permit requires that KAFB identify activities that reduce dissolved oxygen in the receiving waters. Controls shall be implemented, updated and revised, as necessary, to eliminate discharge of pollutants at levels that cause or contribute to exceedances of applicable water quality standards for dissolved oxygen. Specific goals for the dissolved oxygen strategy are included in Table 7-1. A Dissolved Oxygen Strategy is located in Appendix C.

3.2 Sediment Pollutant Load Reduction Strategy

The Permit requires Kirtland AFB to develop, implement, and evaluate a strategy to assess and reduce pollutant sediment loads in the receiving waters. The strategy includes the following: a sediment assessment, estimated baseline loading, targeted controls, monitoring and interim reporting, and progress evaluation and reporting.

Kirtland AFB shall identify and investigate areas that may be contributing excessive levels of pollutants in sediments to the receiving waters of the Rio Grande as a result of storm water discharges. The assessment will identify structural elements; natural or man-made topographical or geographical formations; and MS4 operations, activities, and areas as potential sources of sediment pollutants.

Baseline sediment loading estimates shall be made based on the results of the sediment assessment. Estimates shall be made for baseline total sediment loading and relative potential for contamination of those sediments by urban activities for drainage areas, sub-watersheds, impervious areas, and/or directly connected impervious areas draining directly to a surface water body.

Targeted controls and BMPs will be implemented to reduce sediment loads during the next 10 years of permit issuance. Controls and BMPs shall prioritize efforts and target areas that generate the highest annual average pollutant loads. Measurable goals shall be established once targeted controls and BMPs are developed to monitor their progress.

Monitoring may be coordinated with other requirements discussed in Section 6. Specific goals for the sediment pollutant load reduction strategy are included in Table 7-2. The sediment reduction strategy shall be assessed in a progress report submitted with the fifth annual report as described in Section 8.5. A more detailed Sediment Reduction Strategy is located in Appendix C.

Section 4 Impaired Waters Requirements

Section 303(d) of the Clean Water Act requires states to develop Total Maximum Daily Load (TMDL) management plans for water bodies determined to be water quality limited or impaired. A TMDL documents the amount of a pollutant a water body can assimilate without violating a state's or a Tribe's water quality standard. A TMDL is established for the MRG Watershed, and addresses Escherichia Coli (E. Coli) for KAFB receiving waters (the Rio Grande Isleta Pueblo Bend to Alameda Bridge).

Controls required by the TMDL include the development of a bacteria reduction plan, the development of or participation in a bacteria monitoring program, and annual reporting requirements. Specific requirements of the bacteria reduction plan are included in the Water Quality Control Commission approved TMDL (WQCC 2010) for the MRG Watershed. As stated in this TMDL, the plan shall include the following:

- Consideration of ordinances or other regulatory mechanisms to require bacteria pollution control, as well as enforcement procedures for non-compliance
- An evaluation of the existing SWMP in relation to TMDL loads
- An evaluation to identify potential significant sources of bacteria entering the MS4
- Development/modification and implementation of a program to reduce the discharge of bacteria in municipal storm water
- Implementation of a public education program designed to reduce the discharge of bacteria in municipal storm water from domestic/recreational sources
- Investigation and implementation of BMPs that prevent additional storm water bacteria pollution associated with new development and re-development
- Modifications to the dry weather field screening and illicit discharge detection and improper disposal provisions of the SWMP to consider storm water sampling and other measures intended to specifically identify bacterial pollution sources and high priority areas for bacteria reductions
- Periodic evaluation of the effectiveness of the bacteria reduction plan to ensure progress toward attainment of water quality standards
- An implementation schedule leading to modification.

The monitoring program should be designed to establish the effectiveness of the selected BMPs and demonstrate progress toward achieving the loads of the TMDL and eventual attainment of water quality standards. The program should include the following:

- A detailed description of the goals, monitoring, and sampling/analytical methods
- A list and map of the selected TMDL monitoring sites
- The frequency of data collection to occur at each station or site

- The parameters to be measured, as appropriate for and relevant to the TMDL
- A Quality Assurance Project Plan that complies with EPA requirements.

The requirements for bacteria reduction and monitoring are met through existing storm water programs and goals established for the upcoming permit cycle. In Section 7, the goals associated with these requirements evaluate the existing and planned procedures and identify the components, if any, that are not included to reduce duplicated efforts.

KAFB has chosen Permit Option 2 to assess the improvements in water quality. This involves using available data for sediment and assessment units of waterbodies from other reliable sources, or by proposing and justifying a different approach such as collecting additional in-stream or outfall monitoring data, etc. Data may be acquired from New Mexico Environmental Department (NMED), local river authorities, partnerships, and/or local efforts as appropriate. This monitoring may be in conjunction with the other required monitoring of this permit.

Activities on KAFB that potentially contribute fecal coliform to storm water discharges include: domestic animals, operation of septic tanks and sanitary sewer system breaks. However, the majority of the installation consists of undeveloped land. KAFB has no mechanism to control nor manage background fecal coliform loads attributed to wildlife or natural background sources. KAFB maintains that fecal coliform detections in storm water discharges are largely attributable to non-operational sources.

Targeted controls required by the Permit are integrated into the SWMP. The sanitary sewer system connects to the City of Albuquerque Treatment Facility. In-ground septic tanks are managed under the base maintenance contract (BMC) (KAFB 2013b) and addressed in Section 5.4. Requirements relating to residential education efforts, in particular the education of residents on bacteria and pet wastes are addressed in Section 7.

Section 4.4.1 of the TMDL states that compliance by the Phase II MS4 municipalities within the terms of their individual MS4 permits will fulfill any obligations they have toward implementing the TMDL waste load allocations. The impaired waters goals are shown in Table 7-3. A Bacteria Reduction Plan is located in Appendix C.

Section 5 Minimum Control Measures

The Permit requires that the SWMP address all applicable MCMs. These MCMs should reduce pollutants discharged to storm water from municipal-type operations. Note: the Permit's Industrial and High Risk Runoff MCM only applies to the City of Albuquerque.

5.1 Construction Site Runoff Control - MCM 1

This MCM regulates construction site activities and the management of associated storm water runoff. Per the Permit, KAFB will support appropriate storm water management at construction sites through project reviews, project tracking, contractor education, and compliance with the CGP.

Project reviews prior to construction will determine if CGP coverage is applicable. Site-specific SWPPPs, disturbance area, and project design are reviewed to ensure that proper erosion and sediment controls have been considered.

Project tracking monitored through the installation NEPA process (AF 813) and work orders (AF 332) evaluate construction projects for potential environmental impacts and require mitigation measures where necessary.

Contractors must provide educational training certification to ensure compliance with their requirements and the CGP. Training for inspectors and contractors include: Environmental Management Systems (EMS) training, Environmental, Safety, and Occupational Health (ESOH-TN) training website, and the Air Force Institute of Technology training webinars and courses. Additional education efforts are discussed in Section 5.6.

The CGP requires site operators to implement appropriate structural and non-structural erosion, sediment, and waste control BMPs. KAFB monitors compliance through monthly site inspections of all active areas conducted by the Water Quality Program Manager. CGP inspections use an approved form and visual survey to evaluate installation and maintenance of established BMPs. Records are retained with the site-specific SWPPPs.

If deficiencies in the SWPPP, BMPs or operations are identified, the contracting officer representative (COR) will be notified. A corrective action report will be elevated to the wing commander unless corrected before the next inspection. Increased surveillance may result depending on the magnitude of the deficiency. For repeat offenses, the COR may penalize the contractor for liquidated damages under Federal Acquisition Regulations to include withholding project funds, punitive fees, and negative performance evaluations.

Public comments are facilitated by posting signs with applicable contact information as noted in the NOI at the construction site. Information submitted by the public will be documented in a memorandum of record (MOR) and kept with the project file. Additional contact options are discussed in Section 5.7.

Implementation of the CGP requirements contribute to compliance with this Permit for construction site runoff controls. Permit requirements not addressed by these existing

programs shall be implemented in the upcoming permit term. These specific goals and their expected implementation dates are discussed in Table 7-4.

5.2 Post-Construction Runoff Control – MCM 2

The post-construction runoff control addresses storm water discharges from new development and redeveloped areas. KAFB has established policies requiring the implementation and maintenance of post-construction runoff controls.

The KAFB Installation Development Plan (KAFB 2015a) establishes project-siting criteria and directs long-term development goals. The plan emphasizes land use compatibility through area development plans, prioritizing demolition and redevelopment of vacant properties over open space encroachment, and consolidating future development and infrastructure for greater efficiency. The NEPA process further evaluates project-siting compliance with environmental policy and requirements.

The Air Force Sustainable Design and Development Policy Memorandum dated July 2007, states that all MILCON construction projects shall be capable of achieving Leadership in Energy and Environmental Design (LEED) Silver Certification. Similarly, Section 438 of the Energy Independence and Security Act (EISA) requires preservation of pre-development site hydrology. The Unified Facilities Criteria (DoD 2014) specifies various BMPs and Low Impact Design (LID) features to meet these requirements.

KAFB personnel review project designs to ensure adequate post-construction runoff controls are incorporated. If necessary, contractors receive feedback when the designs are not adequate. Final Stabilization as required by the CGP is the responsibility of the contractor and monitored by the Water Quality Program Manager. Construction sites are inspected before project closeout to ensure post-construction runoff controls are constructed and function as designed. Projects not meeting design criteria as identified on the "punch-list" are not accepted and must be corrected by contractor. Upon satisfactory completion, permanent features are added to the AF Real Property Inventory (AF 1354).

The BMC, KFH and Dept. of Energy inspect and maintain the respective post-construction control measures once accepted by KAFB. BMC tasks are explained in Section 5.3.

The established policy, implementation, and maintenance of the post-construction runoff controls comply with the Permit requirements. Permit requirements not addressed by these existing programs shall be implemented in the upcoming permit term. These specific goals and their expected implementation dates are discussed in Table 7-5.

5.3 Pollution Prevention/Good Housekeeping – MCM 3

KAFB complies with the pollution prevention/good housekeeping control measure through the BMCs, compliance with the MSGP and CGP, and supporting educational components. Maintenance schedules and inspections procedures are detailed in the BMC.

Daily street sweeping occurs on established routes and schedules per the BMC. Provisions are in place to allow for non-scheduled street cleaning if needed due to a spill, release, or atypical sediment accumulation event. All roads are inspected for repair/replacement on a

revolving 5 year schedule. Annual Traffic Engineering Reports (KAFB 2013a) highlight deficiencies and track roadway repairs. Routine inspections are conducted in conjunction with street sweeping operations to assess road integrity or identify compliance deficiencies (i.e. litter, oil spills, potholes, etc). Clean-up or repairs are conducted under the BMC.

Snow and ice removal is conducted through plowing and gravel application on roadways as warranted. De-icing chemicals are not routinely used and must be approved before application as identified in the KAFB Snow and Ice Removal Plan (KAFB 2013d). De-icing on aircraft is conducted IAW established technical orders and the MSGP.

Vehicle and equipment maintenance not covered under a MSGP sector are contracted to an off-installation facility. Regulated activities that may potentially release a contaminant are encouraged to be conducted indoors.

Municipal waste is collected weekly and disposed at the City of Albuquerque's Cerro-Colorado Landfill. The Integrated Solid Waste Management Plan (KAFB 2006b) identifies procedures for managing municipal waste and diversion/recovering of recyclable material. Hazardous waste is regulated and disposed of IAW the Hazardous Waste Management Plan (KAFB 2014b).

Used fats, grease an oils are recycled through contracted service. The Spill Prevention Control and Countermeasure (SPCC) Plan regulates all storage tanks. Operators inspect and maintain the tanks IAW procedures established by the SPCC. Guidance memorandums are included in Appendix D.

Ditches, culverts and storm drains are periodically inspected by the BMC to ensure free water flows at all times. Repairs are conducted under the BMC and elevated to the utilities division if significant damage is discovered. Collected waste is disposed of appropriately pending waste characterization through the Integrated Solid Waste Management Plan.

Standard Operating Procedures are established for used oils and toxics per the Resource Conservation and Recovery Act (RCRA) permit and Hazardous Waste Management Plan. KAFB uses an authorized Green Procurement Program to procure environmentally friendly products. When possible, used products are recycled to minimize subsequent environmental impacts from disposal. The HazMat Pharmacy tracks all hazardous materials (HazMat) from procurement through disposal using the web-based EESOH-MIS tracking system; the system authorizes purchases, monitors the quantities and expiration of materials issued, and retains safety data sheets and waste characterization for disposal.

Pesticide and similar chemicals are regulated at KAFB as HazMat. Chemical applications are conducted per the Pest Management Plan (KAFB 2012c) which details the type, quantity and frequency of application for approved chemicals. Substantial updates must be approved by the New Mexico Fish and Wildlife Commission before implementation. All applicators must be certified by the State of New Mexico to conduct operations. The contractor may only store the minimum quantity of chemicals for operations; stockpiling is not permitted.

Flood control is not currently practiced on the installation due to the limited amount of storm events. The BMC covers maintenance for the few existing diversion or retention structures. Under Executive Order 11988 (FEMA 1977), KAFB must avoid, where possible, modification or development of flood plains.

KAFB maintains SWPPPs required by the MSGP that define the activities, identify potential pollutant sources, and provide site-specific control measures. CGP SWPPs are discussed in Section 5.1. Educational components are discussed in Section 5.6.

The BMC, MSGP and CGP requirements, and supporting educational components comply with the requirements for pollution prevention/good housekeeping runoff controls. Permit requirements not addressed by these existing programs shall be implemented in the upcoming permit term. These specific goals and their expected implementation dates are discussed in Table 7-6.

5.4 Illicit Discharges and Improper Disposal – MCM 4

This MCM establishes a program to detect, reduce, and/or eliminate illicit discharges to the storm water system. Kirtland AFB addresses illicit discharges and improper disposal through established procedures. Waste collection programs are discussed in Section 5.3. Educational components are discussed in Section 5.6. Authorized non-storm water discharges are listed in the Permit, Section 1.A.4 and Section 1.A.5.e.

Documentation, upgrades, and maintenance of the sewer system has created preventative controls and the identification/removal of illicit discharges. 377 CES maintains documentation that includes the storm sewer records, OWS system management, and septic system management. In 2008, the storm sewer system was surveyed, and all cross-connections were corrected (KAFB 2008). The BMC maintains OWS units as identified in the Multiservice OWS Guidance (DoD 2010) and septic systems according to the Septic Tank Management Plan (KAFB 2013c).

The BMC retains documentation which includes the OWS inventory, septic tank inventory, maintenance/inspection records, and sampling/cleanout procedures. The NEPA process identifies potential issues during reviews. Additionally, CES personnel assist with construction design reviews to ensure that potential cross-connections are avoided. If a cross-connection is identified during construction or operation, a work order (AF 332) is submitted to correct the illicit connection. The installation maintains a storm sewer map which is available at the installation, but is not authorized for public release.

40 CFR 112 specifically requires a SPCC Plan (KAFB 2012d) to prevent and/or control, contain, and respond to spills. The plan identifies appropriate response actions and regulates any "oil" container over 55 gallons and mobile equipment staging areas. The SPCC is reviewed annually and re-certified every five years.

KAFB enforces illicit discharge prevention through this SWMP, the MSGP and CGP, SPCC Plan and its RCRA permit. All personnel and residents are required to notify the KAFB Environmental Office if illicit discharges are detected. Per the Permit, quarterly and annual inspections monitor for potential illicit discharges in high priority areas and the MSGP sectors. Unit Environmental Coordinators (UECs) monitor operations and may report illicit discharges through the EMS. KAFB investigates reports of discharges as notified by the public through the base operator (505-846-0011) or web-page (http://www.kirtland.af.mil).

If an illicit discharge is detected, a corrective action report, which includes source identification, is generated and elevated to the wing commander for action. For KFH, violators receive a Notice of Violation (NOV); repeat offenders will be evicted from their

homes. If a contractor or individual intentionally discharges illicitly, the Office of Special Investigation will investigate the incident, and the findings will be elevated to the wing commander for disciplinary action.

If a non-jurisdictional illicit discharge is detected, KAFB will coordinate with the appropriate municipal, state, tribal, or federal agency. Coordination efforts will begin the day following the illicit discharge detection. A MOR documenting the corrective action and agency agreement will be retained by the 377th Judge Advocte. If the agency fails to comply with the agreement, KAFB will notify EPA and the NMED for enforcement assistance.

KAFB maintains existing procedures, addresses illicit discharges, and controls spills for compliance with the Permit. Permit requirements not addressed by these existing programs shall be implemented in the upcoming permit term. These specific goals and their expected implementation dates are discussed in Table 7-7.

5.5 Control of Floatable Discharges – MCM 5

This MCM establishes a program to detect, reduce, and/or eliminate floatable discharges to the storm water system. KAFB has established maintenance schedules and inspection procedures to reduce floatables, trash, and other pollutants in storm water discharges.

Illegal dumping will be addressed according to the procedures identified in Section 5.4. KAFB maintains strict protocol on the installation and prohibits illegal dumping; installation clean-up days are conducted annually at the installation commander's discretion. Security Forces personnel monitor the KAFB perimeter and notify CES personnel if illegal dumping is discovered. KAFB does not operate a municipal waste landfill on the installation.

Existing procedures and monitoring for floatable discharges comply with the Permit conditions. Permit requirements not addressed by these existing programs shall be implemented in the upcoming permit term. These specific goals and their expected implementation dates are discussed in Table 7-8.

5.6 Public Education and Outreach – MCM 6

The public education and outreach MCM educates personnel on the impacts of pollutants entering storm water. KAFB uses varied media, established programs, and cooperative opportunities to educate specific groups about target pollutants to include POLs from vehicles, pesticides and herbicides, fecal coliform, and spilled material/illicit discharges.

To heighten storm water awareness, pollution prevention decals were placed on storm water drop inlets. Environmental awareness articles are emailed semi-annually to KAFB personnel. Additionally, the KAFB Environmental Policy is briefed monthly at "Newcomer's Orientation" required for all new members (see Appendix D). KFH maintains pollution prevention materials on the website (http://www.kirtlandfamilyhousing.com).

KAFB assess education incorporated in employee training annually or by program area using the Management Inspection and Compliance Tool (MICT), ESON-TN and ADLS. All employees and contractors must complete a one-time Environmental Awareness course

through ESOH-TN. UECs document training for each organization to include routine, job-specific and product-specific trainings.

UECs complete quarterly management inspections reported through the EMS. Internal audits are completed annually while the AF Inspector General conducts external audits every two years. The Bio-Environmental Engineer, Safety Office, and Occupational Health monitor training programs in various areas to ensure employees properly handle materials, keep accurate records, and know emergency response procedures.

The storm water education program complies with the Permit regarding the public education and outreach control measure. Permit requirements not addressed by these existing programs shall be implemented in the upcoming permit term. These specific goals and their expected implementation dates are discussed in Table 7-9.

5.7 Public Involvement and Participation – MCM 7

The public participation MCM allows stakeholders to participate in the development and implementation of the storm water program. KAFB includes stakeholders in development of the SWMP, EMS reporting, and maintains an open line of communication.

Target audiences include KFH, UECs, CORs, and employees/contractors. KAFB informs employees about participation opportunities (e.g. volunteer events, conservation activities, etc.) through email. Additionally, KAFB sponsors routine clean-up days, bulk item collection, hazardous waste collection, and prescription drug turn-ins. Public comments or inquires may be sent to the Environmental Office (2050 Wyoming Blvd. SE, Bldg. 20685, Kirtland AFB, NM 87117) or reported through the installation web-page (http://www.kirtland.af.mil).

KAFB conducts quarterly functional meetings through the EMS, which serves as a forum to highlight environmental issues. This functional group approves action plans to monitor and mitigate environmental impacts where practical. Priority topics are raised to senior leadership during the semi-annual ESOH Council.

The NOI/SWMP were advertised for a 30-day public review period beginning 16 February 2015 at the <insert location> and on the KAFB web-page. The public notice was published in the Albuquerque Journal (see Appendix B). Public comments will be incorporated in the SWMP, as needed.

KAFB will post annual reports for a 30-day public review period prior to submission to the EPA. Public notices will be published in the Albuquerque Journal and the KAFB web-page. KAFB will review public comments and revise the SWMP, as appropriate. The SWMP is available on the KAFB web-page and in the Environmental office (M-F, 0730-1630).

In Permit Year 4, KAFB will include a questionnaire on the web-page for leadership, UECs, employees and residents input. The questionnaire will assess changes in public behavior or awareness. KAFB will include the results in the Year 4 annual report and revised SWMP. .

The public involvement efforts meet the Permit requirements. Permit requirements not addressed by these existing programs shall be implemented in the upcoming permit term. These specific goals and their expected implementation dates are discussed in Table 7-10.

Section 6 Monitoring

The monitoring program is comprised of three types of monitoring: wet weather discharge screening, dry weather discharge screening, and floatable contaminant monitoring. The results must be included in the annual reports. Monitoring goals are included in Table 7-11.

Sampling must be conducted at a minimum of eight events (8) per location during the permit term with at least four (4) events in the wet season and two (2) events in the dry season. Seasonal monitoring periods are the Wet Season: 1 June - 30 September and Dry Season: 1 October - 31 May. Monitoring methodology will consist of collecting a minimum of four grab samples spaced at a minimum interval of 15 minutes each (or a flow weighted automatic composite). Individual grab samples will be combined into a single composite sample at the laboratory for each monitoring location.

6.1 Wet Weather Monitoring

Wet weather monitoring gathers information on the response from the receiving waters to wet weather discharges. KAFB has chosen to preform individual monitoring (Option A); KAFB must sample upstream and downstream of the MS4 jurisdictional area (Figure 6-1). The following parameters must be sampled: TSS, TDS, COD, BOD_5, DO, oil and grease, E.coli, pH, total kjeldahl nitrogen, nitrate plus nitrite, dissolved phosphorus, ammonia plus organic nitrogen, phosphorus, PCBs and gross alpha. DO, pH, conductivity, and temperature must be analyzed in the field within 15 minutes of sample collection.

Sampling must be conducted when the predicted (or actual) rainfall of a storm event is greater than 0.25 inches, with a prior dry period of at least 48 hours following a rainfall event of 0.1 inches or more. Samples collected during the dry season may be collected after a discernible increase in flow at the tributary inlet independent of a rainfall or dry period.

6.2 Dry Weather Monitoring

The intent of dry weather monitoring is to address excessive levels of pollutants without the direct influence from storm events. The following parameters must be sampled: BOD_5, TSS or turbidity, E.coli, TPH/oil, nutrients, and other pollutants that cause impairment.

Sampling must be conducted at sufficient screening points to adequately assess pollutant levels from the MS4. Monitoring must be conducted only when a dry period of at least 72 hours has occurred after a rain event greater than 0.1 inches.

6.3 Floatable Monitoring

Floatable monitoring assesses the floatable material in discharges from the MS4. Floatable material will be documented by type and amount of material (in cubic yards), and removed twice per year at six locations. KAFB will pursue illicit discharge, including floatable debris, per the processes identified in Section 5.4 and 5.5.

Section 7
Summary of Best Management Practices, Measurable Goals, and Evaluation Metrics

Section 7 summarizes the BMPs that KAFB will implement as specified by the Permit. BMPs and measurable goals are based on appropriate measures and existing programs. EPA will be notified if modifications are required and changes included in the Annual Report.

Several BMPs identified in this SWMP were implemented through established programs or previous permits. In such cases, the implemented date is displayed with a note that the BMP is ongoing. The BMPs are grouped by the requirement or goal.

Table 7-1: Dissolved Oxygen Strategy Goals

BMP Number	General BMP	BMP Description	Measurable Goal	Expected Implementation Date
DO-1.a	**Investigate Contributors to Reduced Dissolved Oxygen in Receiving Waters**	Inventory and investigate structural controls to determine their potential effect on dissolved oxygen in receiving waters.	Document inventory and investigation results then propose BMPs, as needed.	[1 year from permit effective date].
DO-1.b		Inventory and investigate natural or man-made topographical and geological formations to determine their potential effect on dissolved oxygen in receiving waters.	Document inventory and investigation results then propose BMPs, as needed.	[1 year from permit effective date].
DO-1.c		Review MS4 operations for potential effect on dissolved oxygen in receiving waters.	Document inventory and investigation results then propose BMPs, as needed.	[1 year from permit effective date].
DO-1.d		Review chemicals and materials used through standard procedures to determine if any items effect dissolved oxygen.	Document review results and determine feasibility of alternative products if applicable.	[1 year from permit effective date].

Table 7-2: Sediment Pollutant Load Reduction Strategy Goals

BMP Number	General BMP	BMP Description	Measurable Goal	Expected Implementation Date
SED-1.a	**Sediment Assessment**	Develop sediment assessment plan that includes standard operating and QA procedures.	Develop sediment assessment plan.	[1 year from permit effective date].
SED-1.b		Conduct sediment assessment per developed plan.	Conduct sediment assessment.	[1 year from permit effective date].
SED-2.a	**Estimate Baseline Sediment Loading**	Establish areas for baseline sediment loading estimation and complete estimate.	Document areas and method for which baseline sediment loading is to be estimated.	[1 year from permit effective date].
SED-2.b		Estimate baseline sediment loading and relative potential for contamination of sediments utilizing results from assessment.	Document baseline sediment loading estimate.	[1 year from permit effective date].
SED-3.a	**Targeted Controls and BMPs for Sediment Pollutant Load Reduction**	Develop targeted controls and BMPs for sediment pollutant load reduction based on results of the sediment assessment and estimate of baseline sediment loading; putting a priority on areas that are expected to generate the highest annual average pollutant loads.	Develop and document targeted controls and BMPs, and update this SWMP as appropriate.	Develop and document targeted controls and BMPs [3 years from permit effective date]. Implement controls 5-10 years from permit effective date.
SED-3.b		Conduct interim monitoring and evaluate BMPs.	Conduct annual monitoring and evaluations.	[3 years from permit effective date] and ongoing as appropriate.
SED-4.a	**Progress Evaluation**	Assess the overall success of the sediment pollutant load reduction strategy by analyzing and interpreting data collected over the course of the implementation. This assessment should include assessment of both direct and indirect measures of success.	Document and report on the strategy's assessment in this SWMP and in the annual report as appropriate.	[5 years from permit effective date].

Table 7-3: Impaired Waters Requirements Goals

BMP Number	General BMP	BMP Description	Measurable Goal	Expected Implementation Date
IW-1.a	**TMDL Required Control Measure**	Conduct evaluation to determine what components of the TMDL required Bacteria Reduction Plan are being met with current or planned programs to determine gaps in TMDL implementation requirement.	Document currently established or planned Bacteria Reduction Plan requirements in stand-alone document for TMDL compliance.	[6 months from permit effective date].
IW-1.b		Conduct evaluation to determine what components of the TMDL required Bacteria Monitoring Program are being met with current or planned programs to determine gaps in TMDL implementation requirement.	Document currently established or planned Bacteria Monitoring Program requirements in stand alone document for TMDL compliance.	[6 months from permit effective date]
IW-2.a	**Sanitary Sewer System Evaluation**	Review maintenance reports, sanitary sewer infrastructure, and other sources for improvement areas.	Identify and correct areas in the sanitary sewer system.	Document improvement areas [3 years from permit effective date]. Implement improvements [5-10 years from permit effective date].
IW-2.b		Evaluate sanitary sewer lift stations for inadequacies and system overflow controls.	Document inadequacies (if any) and prioritize for repair.	[1 year from permit effective date].
IW-3.a	**Illicit Discharges**	Reduce waste sources of bacteria through proper disposal and illicit discharge prevention.	BMC to monitor and improve disposal procedures	Implemented 01 January 2013 and ongoing.
IW-4.a	**Residential and Animal Source Evaluation**	Expand existing management programs to identify and target animal sources and residential discharges.	KFH to monitor and maintain pet scoop stations and report issues.	Implemented 01 January 2003 and ongoing.

Table 7-4: Construction Site Runoff Control Goals

BMP Number	General BMP	BMP Description	Measurable Goal	Expected Implementation Date
MCM 1-1.a	**Construction Project Review**	Conduct reviews of new construction projects to evaluate CGP requirements, site BMPs, and provide comments.	Document all construction project reviews and comments.	Implemented 15 September 2003 and ongoing.
MCM 1-1.b		Review 103s, 332s, 813s and Environmental Assessments affecting storm water and provide comments.	Document reviews and comments issued on 103s, 332s, 813s and Environmental Assessments.	Implemented 1 October 2009 and ongoing.
MCM 1-2.a	**Track Construction Projects**	Maintain inventory of active construction sites and previously closed construction sites.	Continue current tracking procedures.	Implemented 15 September 2003 and ongoing.
MCM 1-2.b		Create a FY project listing on an annual basis to ensure all projects with land disturbance have been evaluated.	Annually review CE project listing.	Implemented 3 February 2010 and ongoing.
MCM 1-3.a	**National Pollutant Discharge Elimination System – Storm Water Construction General Permit, Compliance and Enforcement**	For projects requiring CGP coverage, personnel shall assess and document that contractors develop the required SWPPP, NOI, and NOT.	Verify development of appropriate documentation for installation projects subject to CGP.	Implemented 15 September 2003 and ongoing.
MCM 1-3.b		Conduct monthly inspections of all active CGP sites to ensure compliance with site-specific SWPPP.	Conduct and document monthly construction site inspections.	Implemented 15 September 2003 and ongoing
MCM 1-3.c		Identify deficiencies noted during site inspections. Communicate deficiencies to COR for appropriate corrective action, and document inspection reports.	Document deficiencies identified in inspections. Retain a copy of communication to COR and corrective actions.	Implemented 15 September 2003 and ongoing.
MCM 1-4.a	**Construction Project Contractor Education**	Place CGP awareness boards at all active, permitted construction sites.	Document boards in monthly inspection for internal records.	Implemented 29 June 2010 and ongoing.
MCM 1-4.b		Require CGP compliance training prior to start of project activities.	Record number of contractor personnel completing training.	Implemented 1 December 2010 and ongoing.

Table 7-5: Post-Construction Runoff Control Goals

BMP Number	General BMP	BMP Description	Measurable Goal	Expected Implementation Date
MCM 2-1.a	**Post-Construction Storm Water Management Planning**	Review 813s and project designs to ensure Section 438 of EISA and sustainable practices are integrated into construction designs.	Track and document 813s and design reviews.	Implemented February 2010 and ongoing.
MCM 2-1.b		Annually review UFCs, AFIs, Installation Development Plan and regulations for changes in requirements concerning sustainable design. Incorporate watershed protection elements during scheduled document review/revision.	Document policy revisions and BMPs changes in annual report, if necessary.	Implemented 1 February 2010 and ongoing. Revise policy documents during review cycle 5 years from permit effective date.
MCM 2-1.c		Ensure timely establishment of the 70% pre-existing vegetative cover for final stabilization.	Annually inspect final stabilization and SWPPPs	Implemented 01 June 2007 and ongoing.
MCM 2-2.a	**Existing Site Post-Construction Storm Water Controls**	Estimate the acreage of impervious area.	Document impervious area estimates and methods.	Implemented 01 July 2015 and ongoing.
MCM 2-2.b		Inventory and prioritize Kirtland AFB assets that can be retrofitted with control measures to minimize the frequency, volume, and peak intensity of storm water discharges.	Develop inventory and prioritization of assets for modernization.	[1 year from permit effective date]. Implement controls 5-10 years from permit effective date.
MCM 2-3.a		Coordinate with BMC to ensure structural BMPs are inspected, maintained, and repaired. Coordinate with KFH Grounds Maintenance for operation and maintenance of the KFH area structural storm water BMPs.	Coordinate with BMC and KFH and document BMP inspection, maintenance, and repair.	Implemented 17 March 2009 and ongoing.
MCM 2-3.b		Require contractors to submit as-built plans to CE within 90 days of project acceptance.	Annually review contracts during contract award.	Implemented 01 January 2009 and ongoing.
MCM 2-4.a	**Post-Construction Management Review**	Review and revise post-construction management process to incorporate improvements in control techniques. Consider water quality monitoring results in review.	Annually review and incorporate lessons learned from existing projects.	Implemented 3 January 2011 and ongoing.

Table 7-6: Pollution Prevention/Good Housekeeping Goals

BMP Name	General BMP	BMP Description	Measurable Goal	Expected Implementation Date
MCM 3-1.a	**Vehicle Maintenance/ Washing Controls**	Provide educational information regarding vehicle maintenance and washing to installation tenants and residents.	Provide educational material to tenant units and KFH.	Implemented 17 March 2008 and ongoing.
MCM 3-1.b		Provide guidance document addressing car washes to installation tenants and residents.	Annually review guidance document for car washes.	Implemented 28 March 2014 and ongoing.
MCM 3-2.a	**Response Procedures and Plans**	Maintain HazMat inventory and response procedures to address release of HazMat.	Annually review Hazardous Waste Management Plan.	Implemented 1 June 2007 and ongoing.
MCM 3-2.b		Conduct weekly inspections of IAPs per Hazardous Waste Management Plan.	Document weekly IAP inspections and record in binder.	Implemented 1 June 2007 and ongoing.
MCM 3-2.c		Maintain SPCC Plan to address oil spill response procedures.	Annually review SPCC Plan and re-certified every 5 years.	Implemented 1 June 2007 and ongoing.
MCM 3-2.d		Conduct annual inspections for impacts from industrial activities and operations.	Document routine inspections IAW the MSGP, SPCC Plan, and other program requirements.	Implemented 1 June 2007 and ongoing.
MCM 3-3.a	**Base Contracted Services**	Ensure contractor follows requirements found in BMC, in particular those relating to storm water pollution prevention/good housekeeping (for example street sweeping, roadway maintenance, OWS maintenance, proper de-icing procedures, vehicle maintenance, waste disposal, toxic and oil collections, pesticide/herbicide management, and other BMC activities).	Review contractor's annual BMC evaluation.	Implemented 1 June 2012 and ongoing.
MCM 3-3.b		Maintain dog feces collection stations situated throughout the installation.	Check stations weekly, empty stations and insert new bags.	Implemented 14 Sept. 2006 and ongoing.
MCM 3-3.c		Monitor waste diversion and recycling through the Solid Waste Program.	Annually document waste diversion and quantity recycled.	Implemented 1 June 2007 and ongoing
MCM 3-4.a	**Storm Water Infrastructure**	Inventory, inspect and upgrade storm water facilities by drainage basin.	Quarterly inventory and inspect selected storm water facilities.	Implemented 1 January 2010 and ongoing.

Table 7-7: Illicit Discharges and Improper Disposal Goals

BMP Number	General BMP	BMP Description	Measurable Goal	Expected Implementation Date
MCM 4-1.a	**Maintain Maps and Inventories**	Maintain sanitary and storm sewer maps (i.e. lines, points, attributes, etc.).	Annually update sanitary and storm sewer system maps.	Implemented 1 June 2007 and ongoing.
MCM 4-1.b		Maintain OWS and septic tank inventories. Routinely inspect systems.	Annually update and maintain sanitary sewer asset inventory.	Implemented 1 June 2007 and ongoing.
MCM 4-2.a	**Illicit Discharge and Improper Disposal Detection**	Review telephone complaints, inspection reports, staff knowledge, and other available records to develop source reduction strategies, if needed.	Review complaint records to prioritize inspection efforts.	Implemented 5 December 2007 and ongoing.
MCM 4-2.b		Screen high priority areas and the entire jurisdiction for illicit discharges.	Annually Screen high priority areas and screen the entire jurisdiction within 5 years.	Implemented 1 June 2007 and ongoing.
MCM 4-2.c		Investigate suspected or reported illicit discharges and develop corrective action.	Investigate suspected or reported discharges within **48 hours** and develop corrective action plan within one week.	Implemented 1 June 2007 and ongoing.
MCM 4-3.a	**Illicit Discharge Education and Outreach**	Maintain and replace storm drains and storm grate inlet illegal dumping labels.	Maintain and replace storm drain/grate labels, as necessary.	Implemented 19 December 2007and ongoing.
MCM 4-3.b		Maintain phone and web-based information services for reporting of pollution prevention issues.	Ensure systems are maintained and respond to inquiries within 5 business days.	Implemented 5 December 2007 and ongoing.
MCM 4-4.a	**Waste Discharge Design in Construction Projects**	Ensure construction or renovation projects connect to the proper collection system to avoid cross-connections.	Review project designs and identify appropriate collection system.	Implemented 1 June 2007 and ongoing.

Table 7-8: Control of Floatable Discharges Goals

BMP Number	General BMP	BMP Description	Measurable Goal	Expected Implementation Date
MCM 5-1.	**Identify Floatables and Trash**	Estimate annual volume and characterize types of Floatables and Trash removed from each sample location.	Inventory of Floatables and Trash	[3 months from permit effective date].
MCM 5-2.a	**Partner with Kirtland CE Grounds Keeping Department**	Ensure proper floatable and trash reduction training.	Validate maintenance staff training records.	[3 months from permit effective date].
MCM 5-2.b		Provide documents on grounds keeping practices that minimize floatables and trash accumulation.	Provide documents in readily available format.	[3 months from permit effective date].
MCM 5-3.a	**Partner with KFH Grounds Keeping Department**	KFH grounds keeping department to ensure floatable and trash reduction training	Validate maintenance staff training records.	[3 months from permit effective date].
MCM 5-3.b		Provide documents on grounds keeping practices that minimize floatable and trash accumulation.	Provide documents in readily available format.	[3 months from permit effective date].
MCM 5-4.a	**Employee Training and Education**	Monitor training through EMS. Consider employee turnover in training schedule.	Annually audit EMS training records during inspection.	Implemented 3 January 2011 and ongoing.
MCM 5-4.b		Track shop compliance through self-reported checklists and identify training gaps.	Annually validate complete checklist in MICT database	Implemented 5 January 2015 and ongoing.
MCM 5-4.c		Conduct monthly inspections of all active CGP sites to ensure compliance with site SWPPP.	Conduct and document monthly construction site inspections.	Implemented 15 September 2003 and ongoing

Table 7-9: Public Education and Outreach Goals

BMP Number	General BMP	BMP Description	Measurable Goal	Expected Implementation Date
MCM 6-1.a	**Partner with Kirtland CE Grounds Keeping Department**	Ensure proper pesticide and herbicide application and storage training.	Validate maintenance staff training records.	Implemented 1 June 2007 and ongoing.
MCM 6-1.b		Ensure proper OWS and septic system maintenance training.	Validate maintenance staff training records.	Implemented 1 June 2007 and ongoing.
MCM 6-1.c		Provide documents on grounds keeping practices that minimize pollutant discharges.	Provide documents in readily available format.	Implemented 17 March 2009 and ongoing.
MCM 6-2.a	**Partner with KFH Grounds Keeping Department**	KFH grounds keeping department to ensure proper pesticide and herbicide application and storage training.	Validate maintenance staff training records.	Implemented 1 June 2007 and ongoing.
MCM 6-2.b		KFH grounds keeping department to ensure proper septic system maintenance training.	Validate maintenance staff training records.	Implemented 1 June 2007 and ongoing.
MCM 6-2.c		Provide documents on grounds keeping practices that minimize pollutant discharges.	Provide documents in readily available format.	Implemented 17 March 2009 and ongoing.
MCM 6-3.a	**Employee Training and Education**	Monitor training through EMS. Consider employee turnover in training schedule.	Annually audit EMS training records during inspection.	Implemented 3 January 2011 and ongoing.
MCM 6-3.b		Provide educational materials, upon request, to contractors related to storm water management for construction projects.	Maintain and provide educational materials in readily available format.	Implemented 3 January 2011 and ongoing.
MCM 6-3.c		Publish announcements that increase awareness of storm water protection.	Annually publish two storm water announcements by email.	Implemented 5 March 2010 and ongoing.
MCM 6-3.d		Track shop compliance through self-reported checklists and identify training gaps.	Annually validate complete checklist in MICT database	Implemented 5 January 2015 and ongoing.
MCM 6-4.a	**Develop and Distribute Educational Materials to Base Residents**	KFH to provide pamphlets and/or materials in new resident induction packages.	Provide and update storm water education pamphlets.	Implemented 17 March 2007 and ongoing.
MCM 6-4.b		Display storm water-related materials on KFH web-page.	Place storm water-related materials on KFH web-page.	Implemented 13 March 2008 and ongoing.

Table 7-10: Public Involvement and Participation Goals

BMP Number	General BMP	BMP Description	Measurable Goal	Expected Implementation Date
MCM 7-1.a	**Solicit Public Input on Storm Water Related Issues and Activities**	Post reports for public comment and solicit comments at public meetings, if necessary, concerning storm water topics.	Annually post reports for public comment. Incorporate comments in documents, as appropriate.	Implemented 31 March 2010 and ongoing.
MCM 7-1.b		Seek public input to assess public behavioral change.	Provide feedback questionnaires to assess public behavioral change.	[4 years from permit effective date].
MCM 7-2.a	**Involvement Opportunities**	Participate in MS4 Technical Advisory Group and outreach opportunities.	Attend regional storm water group meetings at least annually	Implemented 01 July 2013 and ongoing.
MCM 7-2.b		Partner with organizations to provide routine collection days for special items for recycling and not disposal.	Provide semi-annual collection days for bulk items, prescription drugs, and hazards waste items.	Implemented 13 March 2008 and ongoing.
MCM 7-2.c		Conduct CFT and ESOHC meetings.	Semi-annually hold both CFT and ESOHC meetings and track in EMS.	Implemented 3 January 2010 and ongoing.
MCM 7-3.a	**SWMP Accessibility**	Provide public accessibility of SWMP document and annual reports online and at the MS4 operator's main office.	Provide SWMP and annual reports online and at the MS4 operator's main office.	Implemented 22 March 2015 and ongoing.

Table 7-11: Monitoring Goals

BMP Number	General BMP	BMP Description	Measurable Goal	Expected Implementation Date
M-1.a	**Wet Weather Discharge Screening**	Develop a wet weather monitoring scheme to include; • A list of pollutants, • Description of monitoring sites, • Explanation why sites were selected, and • Detailed map of all proposed sites.	Developed description and submit to EPA and NMED for approval.	Implemented 22 March 2015 and ongoing
M-1.b		Establish operation of monitoring sites and begin wet weather sampling.	Conduct and document wet weather monitoring.	Implemented 22 March 2015 and ongoing.
M-2.a	**Dry Weather Discharge Screening**	Establish a dry weather monitoring program.	Conduct and document dry weather monitoring.	Implemented 22 March 2015 and ongoing.

Section 8 SWMP Implementation, Schedule, and Recordkeeping

8.1 SWMP Implementation

The KAFB Environmental Office has the primary responsibility for implementing the SWMP. This office will interact with other organizations to collect and verify information, provide input, and train personnel about storm water pollution prevention.

KAFB will independently implement the storm water requirements for this Permit. The CES, contracted operators and KFH implement and maintain various BMPs.

8.2 NOI Submittal

KAFB submitted its NOI for the Permit NMR04A000MRG on (PLACEHOLDER FOR DATE). KAFB received notification of coverage from EPA on (PLACEHOLDER FOR DATE). A copy of the NOI is included in Appendix B.

8.3 SWMP Implementation, Responsible Personnel, and Schedule

The Permit implementation dates are discussed in Section 7. The Water Quality Program Manager is the primary point of contact concerning the Permit. The Water Quality Program Manager coordinates and documents implementation of BMPs, measurable goals, and evaluation metrics through in-house or contracted services. The Installation Commander is the responsible party and signatory for the Permit requirements.

8.4 SWMP Review, Modification, or Update

The SWMP must be reviewed annually in conjunction with the annual report. The annual report should include an assessment of the following:

- SWMP implementation, progress in achieving measurable goals, and compliance with program elements and other permit conditions;
- SWMP effectiveness and any modifications, if necessary;
- The adequacy of staff, funding, and equipment needed to fully implement the SWMP. Staff man-hours for the current year and a projection for the upcoming year should be based on a 40 hour work-week.

8.4.1 Kirtland AFB Initiated Changes to SWMP

Based on KAFB's review of the SWMP, the following actions may occur:

- Changes or additions to any components, controls, or requirements of this SWMP (but not eliminating, replacing, or jeopardizing fulfillment). Written notifications of such changes will be made to EPA Region 6 at the time the change is made.
- Changes replacing or eliminating an ineffective or unfeasible component, control, or requirement of this SWMP may be requested in writing at any time to EPA Region 6 (if denied, EPA will send a letter explaining the denial and rationale). Change requests shall include the following:
    - A description of why the SWMP component is ineffective, unfeasible, or unnecessary to support compliance with the permit;
    - Expectations on the effectiveness of the proposed replacement component;
    - An analysis of how the proposed replacement component will achieve the goals of the component to be replaced.
- Changes resulting from schedules pertaining to the Permit conditions may be requested following completion of an interim task or final deadline.

Changes, requests, or notifications will be made in writing, and will be signed IAW the Permit Signatory Requirements.

8.4.2 EPA Required Changes to SWMP

Changes requested by EPA will be made in writing and may include:

- Controls to address impacts on receiving water quality caused, or contributed to discharges from the MS4;
- More stringent requirements necessary to comply with new State or Federal statutory or regulatory limits;
- Other conditions deemed necessary by the EPA to comply with the goals and requirements of the Clean Water Act; or
- Other changes if the EPA determines this SWMP does not meet permit requirements.

8.5 Reporting

8.5.1 Annual Reporting

KAFB shall submit annual reports detailing the status of the storm water program and this SWMP as required by the Permit. Reports shall be signed and submitted to EPA Region 6, NMED and Pueblo of Isleta no later than 01 December. The report shall cover the previous year from 01 July to 30 June. Additionally, the first and fourth annual reports shall include submittal of a complete SWMP revision. At least 30 days prior to submission of each Annual Report, KAFB will provide public notice, make the Annual Report available for public review, and incorporate public comments, as necessary.

All reports required by the Permit shall be signed and certified IAW Part IV.H. Additional reporting components may be required for participation in cooperative program elements. A template for the Annual Report is provided in Appendix A.

8.5.1.1 Annual Reporting for Endangered Species Act Requirements

Annual reporting for the ESA requirements includes reporting for the dissolved oxygen strategy and the sediment pollutant load reduction strategy.

With respect to the dissolved oxygen strategy, the SWMP submitted with the first and fourth annual report should include a description of controls implemented, proposed controls, and measurable goals for the dissolved oxygen strategy.

With respect to the sediment pollutant load reduction strategy, the SWMP submitted with the first annual report should include a description of the sediment assessment standard operating procedures and QA plans to assure that accurate data are collected, summarized, evaluated, and reported. With respect to the sediment pollutant load reduction strategy, a progress report shall be included in the Annual Report. The fifth annual report must contain an assessment of the overall success of the sediment strategy.

8.5.1.2 Annual Reporting for Impaired Waters Requirements

Reporting required by the Middle Rio Grande TMDL includes an implementation report for the bacteria reduction plan and monitoring program, actions taken that affect the MS4 storm water discharges to the water body segment that is the subject of the TMDL, and the status of applicable TMDL implementation schedule milestones.

Reporting required by the Permit includes an analysis of BMP effectiveness addressing the TMDL and pollutant reductions (in graphic representation), documentation of the monitoring methods to evaluate the measurable goals, and any BMP alterations.

8.5.2 Non-Annual Reporting

KAFB will notify EPA Region 6 of any known conditions that may result in temporary non-compliance with the Permit and the submitted SWMP. These conditions may include operational changes or unanticipated significant changes in activities.

8.6 Recordkeeping

The KAFB Environmental Office will retain all records associated with the SWMP, monitoring, implementation schedules, and compliance for at least 5 years after coverage under the Permit. Records will be kept on-site in a consolidated binder or electronic format.

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Section 9 References

Department of Defense (DoD)
2010. Multiservice Oil/Water Separator Guidance.

2014. Unified Facilities Criteria. Accessed on 1 July 2014 from <http://www.wbdg.org/references/pa_dod.php>

Environmental Protection Agency (EPA)
2007. Energy Independence and Security Act, Section 438.

2010. Resource Conservation and Recovery Act (RCRA) Permit

2012. Construction General Permit NMR120000

Federal Emergency Management Administration
1977. Executive Order 11988, Floodplain Management.

Kirtland Air Force Base (KAFB)
2003. Kirtland Family Housing Lease.

2006b. Integrated Solid Waste Management Plan.

2008. Cross-Connection Sanitary/Storm Sewer Survey

2012a. Economic Impact Statement.

2012b. Integrated Cultural Resources Management Plan.

2012c. Integrated Natural Resources Management Plan.

2012d. Pest Management Plan.

2012e. Spill Prevention Control and Countermeasure Plan.

2013a. Annual Traffic Engineering Report.

2013b. Base Maintenance Contract.

2013c. Septic Tank Management Plan.

2013d. Snow and Ice Removal Plan.

2014a. Comprehensive Emergency Response Plan.

2014b. Hazardous Waste Management Plan.

2014c. Storm Water Pollution Prevention Plan.

2015a. Installation Development Plan.

2015b. MS4 Permit NMR04A000MRG

2015c. Multi-Sector General Permit NMRXXXX

United States Air Force (USAF)
Civil Engineering Work Clearance Request. AF form 103.

Civil Engineering Work Request. AF form 332.

Environmental Impact Analysis Request. AF form 813.

Real Property Inventory Request. AF form 1354.

1994. Air Force Policy Directive 32-70: Environmental Quality

2007. Air Force Sustainable Design and Development Policy.

2014. Air Force Instructions 32-70 Series: Environmental Management.

U.S. Fish and Wildlife Service (USFWS)
2014. List of endangered and threatened species for Bernalillo County, New Mexico. Accessed on 1 July 2014 from <http://www.fws.gov/endangered>

Water Quality Control Commission (WQCC)
2010. Total Maximum Daily Load for the Middle Rio Grande Watershed.