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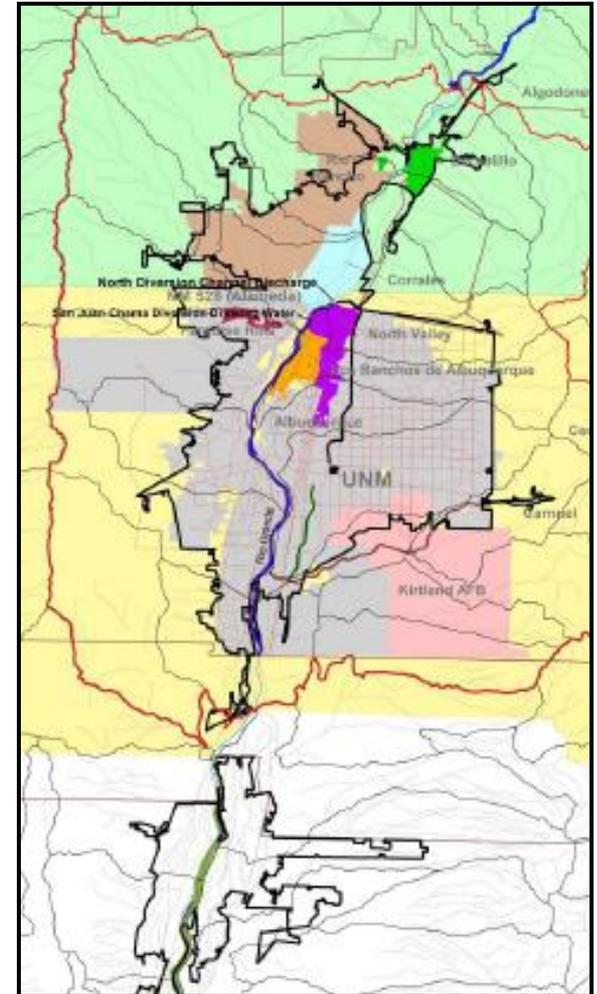
# Overview of U.S. EPA Municipal Separate Storm Sewer System (MS4) NPDES Permit No. NMR04A000



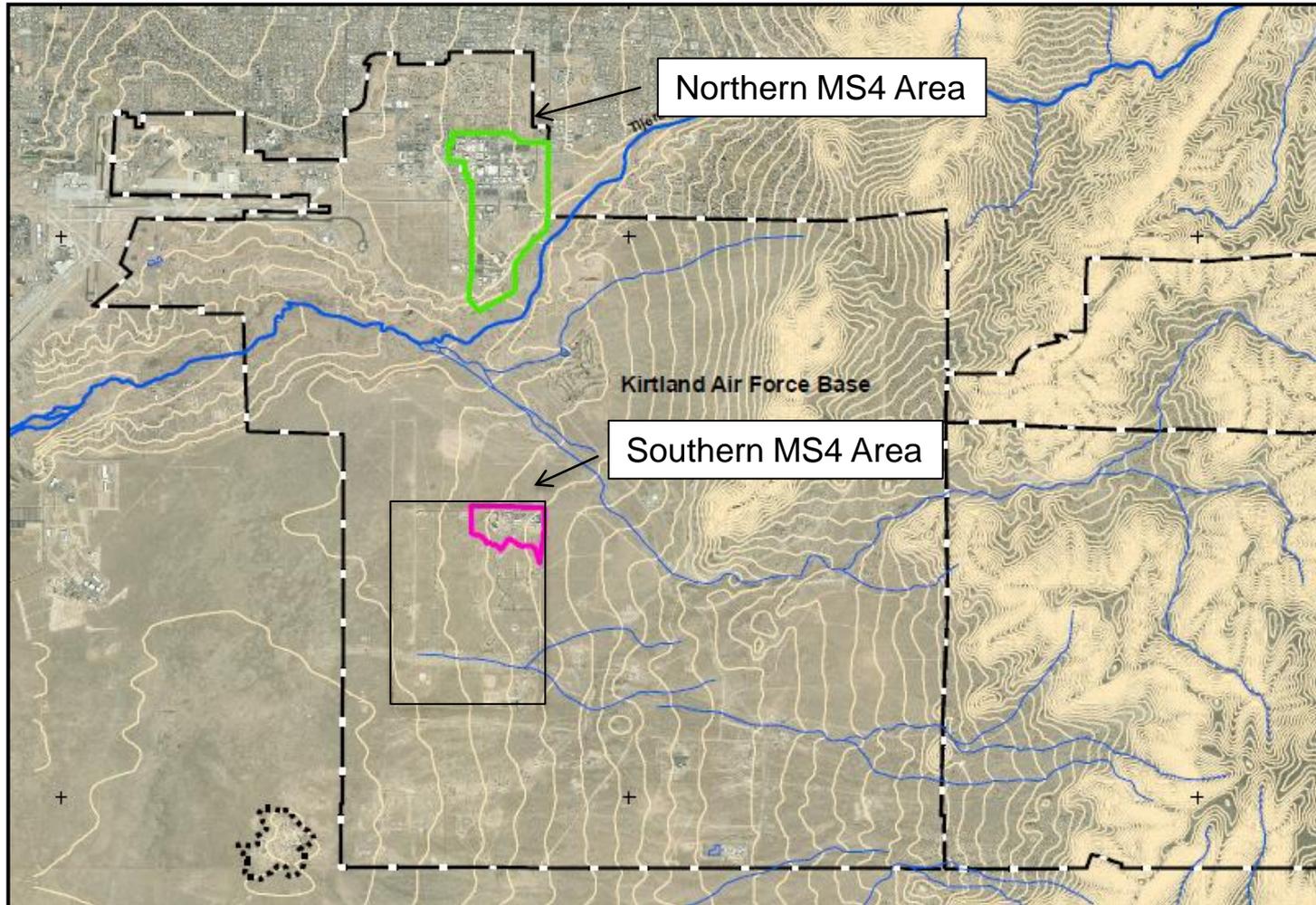
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# What is the MS4 Permit?

- An MS4 is any system of stormwater conveyances (channels, storm drains, roads with drainage systems, curbs, gutters, ditches...) that discharge to a water of the U.S.
- The Permit establishes requirements to reduce pollution carried by stormwater run-off and restore portions of the Middle Rio Grande.
  - MS4 Permit applies to the Albuquerque Urbanized Area (based on 2010 census)
- DOE/Sandia is a permittee, joining KAFB, City of Albuquerque, Bernalillo County, and other entities
- The MS4 permit is issued and enforced by EPA
  - MS4 Permit requirements are in addition to existing industrial and construction stormwater permits

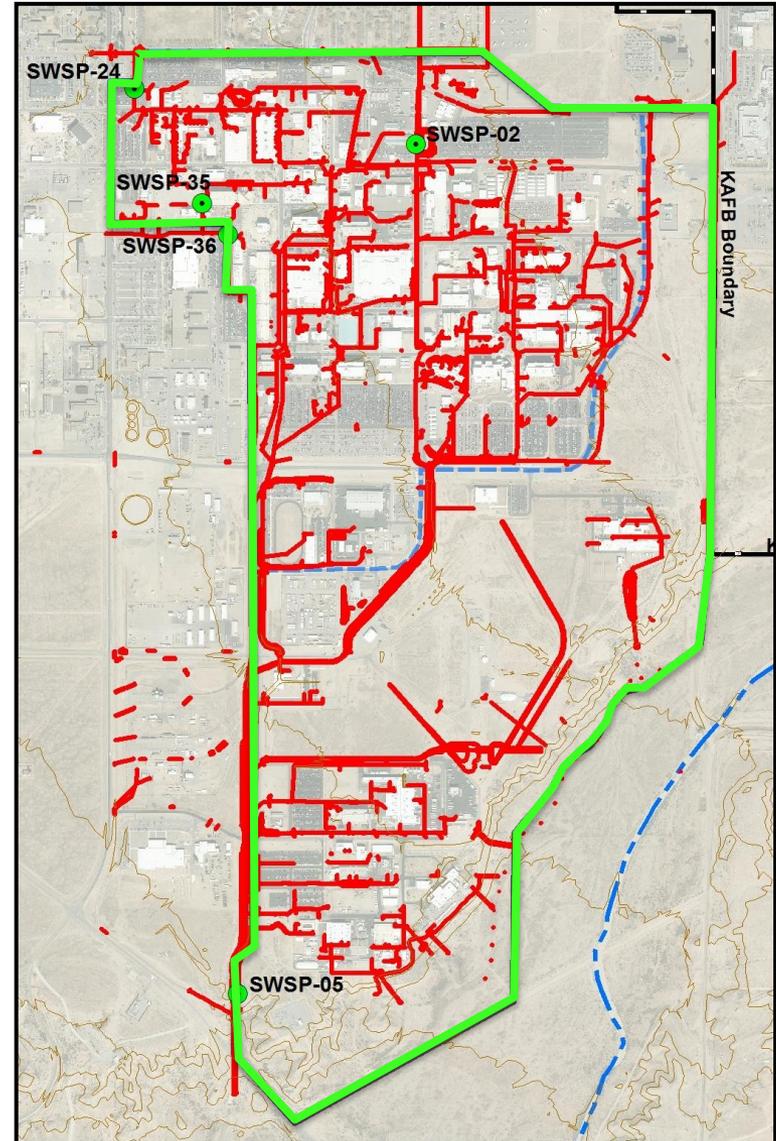


# MS4 Areas at SNL



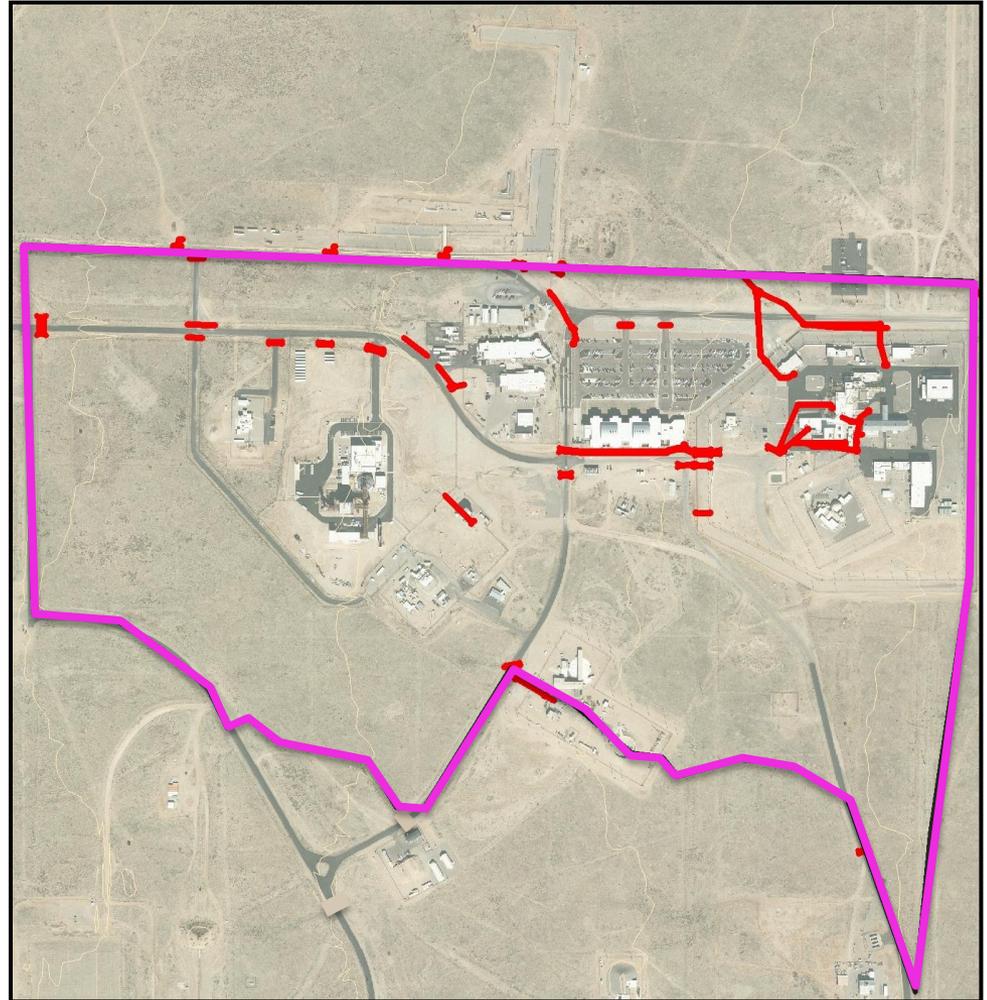
# Northern SNL MS4

- 1.16 square miles
  - 1.05 sq-mi drains directly to Tijeras Arroyo
  - 0.11 sq-mi drains to KAFB MS4



# Southern SNL MS4

- 0.16 square miles
- Unlined swales and culverts under roads



# What Does the Permit Require?

- Control Measure Programs
  - Construction Site Stormwater Runoff Control
  - Post-Construction Stormwater Management in New Development and Redevelopment
  - Pollution Prevention / Good Housekeeping
  - Illicit Discharge Detection and Elimination
  - Control of Floatable Discharges
  - Public Education and Outreach
  - Public Involvement and Participation
- Water Quality Monitoring
- Annual Reporting
- Annual Program Review and Improvement

# Control Measure Programs

## Construction Site Runoff

- Maintain compliance with Construction General Permit (CGP)
- Erosion and sediment controls
- Pollution prevention measures
- Routine inspections



## Post-Construction Runoff

- Compliance with Energy Independence and Security Act (EISA) Section 438 to maintain pre-development hydrology
  - Minimize soil compaction and impermeable surfaces
  - Example: Detention basins infiltrate stormwater and slow discharges



# Control Measure Programs (cont)

## Pollution Prevention & Good Housekeeping

- Maintain compliance with the Multi-Sector General Permit (MSGP)
- Waste Management and Pollution Prevention Programs
- Provide training to personnel



## Illicit Discharge Detection and Elimination

- Corporate policies to report and respond to environmental releases
- Screen the entire SNL MS4

# Control Measure Programs (cont)

## Control of Floatables

- Waste Management and Pollution Prevention Programs
- Keep stormdrain system, drains/inlets clean



## Education and Outreach

- Training for personnel
- Demonstrations to students using educational models
- "Stormwater - Keep It Clean" campaign, which includes posters, newsletters, and informational brochures.



# Public Involvement and Participation Program

**Purpose:** Encourage public involvement and provide opportunities for participation in review, modification and implementation of the SNL Stormwater Management Program (SWMP) Plan

- Provide the Notices of Intent (NOIs), SWMP Plans, and Annual Reports for public review and comment
- Address public comments and submit responses to EPA
- Participate in semi-annual DOE/DoD public meetings



# Monitoring Program



- Monitor all stormwater inflows and outflows to/from MS4 jurisdiction
- Inflows will be monitored at stormwater sampling point SWSP-02.
- Outflows to Tijeras Arroyo will be monitored at SWSP-05.
- Outflows to the KAFB MS4 will be monitored at SWSP-24, 35, and 36.

# Reporting Requirements

- Annual Reports, Discharge Monitoring Reports (DMRs), and SWMP Plan Revisions
  - submit to EPA, NMED, and Pueblo of Isleta by December 1 each year
  - reporting period is July 1 through June 30
  - first Annual Report due December 1, 2016
  - 45 day public review and comment period starting ~ October 1, 2016
- Reports, data, and SWMP Plan revisions are available to the public through the LoboVault website and in hard copy at the UNM Library.
- Any comments received will be addressed and the reports modified as appropriate prior to submittal

# Information and Contacts

## UNM LoboVault Collection of Documents:

<https://repository.unm.edu/handle/1928/26737>

## To View Hard Copies in Person:

Monica Dorame  
Zimmerman Library  
Government Documents Collection  
(505) 277-7180  
[mdorame@unm.edu](mailto:mdorame@unm.edu)

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# The End



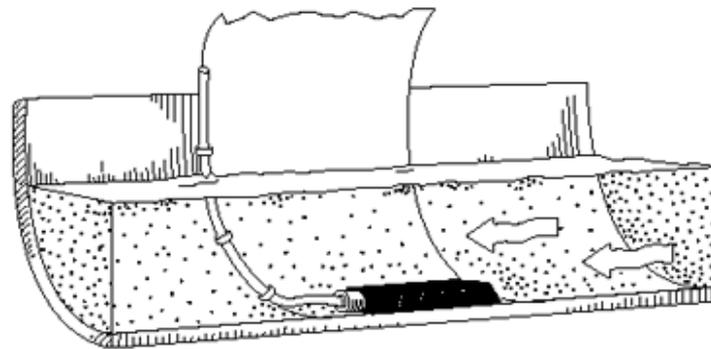
# WQ Constituents and Standards

Constituent	Unit	WQCC WQ Standard October 12, 2000	Isleta Pueblo WQ Standard March 18, 2002	Most Stringent Applicable WQ Standard
Temperature	°C	< 32.2	< 32.2	< 32.2
pH	--	6.6-9.0	6.0-9.0	6.6-9.0
DO	mg/L	>5	>5	>5
TSS	mg/L	--	--	--
TDS	mg/L	1,500 <sup>a</sup>	--	1,500 <sup>a</sup>
COD	mg/L	--	--	--
BOD <sub>5</sub>	mg/L	--	--	--
Oil and Grease	mg/L	--	10/15 <sup>d</sup>	10/15 <sup>d</sup>
E. coli	cfu/100mL	206/940 <sup>b</sup>	47/88 <sup>b</sup>	47/88 <sup>b</sup>
TKN	mg/L	varies <sup>c</sup>	varies <sup>c</sup>	varies <sup>c</sup>
Total Phosphorus	mg/L	--	--	--
PCBs	µg/L	0.00064	0.00074	0.00064
Gross Alpha	pCi/L	15	15	15

-- no established standard; <sup>a</sup> monthly average; <sup>b</sup> monthly geometric mean/single sample; <sup>c</sup> based on ammonia as nitrogen; no TKN standard listed; temperature and pH dependent; typical anticipated range is 2-6 mg/L, calculated as:  $N = ((0.0577/(1+10^{7.688-pH}))+(2.487/(1+10^{pH-7.688}))) * \text{MIN}(2.85, 1.45 * 10^{0.028 * (25-T)})$ ; <sup>d</sup> weekly average/single sample

# Monitoring Methods

- All MS4 monitoring stations are equipped with an automatic sampler. A sensor located in the storm channel or pipe detects flow and turns on the sampler pump. Four sub-samples are collected (one every 15 minutes) and composited into a single sample for analysis.



- A hand-held probe will be used to measure dissolved oxygen (DO), pH, temperature, and conductivity in the field.
- Flow metering will occur at SWSP-02 and SWSP-05 (accounts for 90% of the Northern SNL MS4).



# Total Maximum Daily Load

- The Rio Grande has been assigned a “Total Maximum Daily Load (TMDL)” for *E. coli*. This is the maximum amount of *E. coli* that the Rio Grande can receive over the course of a day.
- *E. coli* is a bacteria that lives in the intestines of mammals and birds. Domestic animal waste is a common source of *E. coli* in stormwater runoff in Albuquerque.
- SNL/NM will meet the TMDL for two reaches of the Rio Grande:
  - Pueblo of Isleta Boundary to Alameda Bridge (ID: NM-2105\_50)
  - Alameda Bridge to HWY 550 (ID: NM-2105.1\_00)