

### Update for the MRG Watershed-Based MS4 Stormwater Permit March 2021

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NPDES Permitting in New Mexico

National Pollutant Discharge Elimination System (NPDES) Permitting

- Municipal Separate Storm Sewer System (MS4) Permit (2014)
- Construction General Permit (CGP) (2017)
- Multi-sector General Permit (MSGP) (2021)
- Individual Permits (wastewater treatment facilities, large industrial discharges, etc.)



- National Academy of Sciences/National Research Council commissioned by USEPA in 2006
- Urban Stormwater Management in the United States issued in 2009; problems cited in the report:
  - Information on BMP longevity and performance
  - Varying requirements on monitoring
  - Lack of resources to regulate
  - Land use/water quality functions decoupled
  - Financial support to implement regs



- New Mexico is one of three states that does not have primacy of the NPDES program.
- USEPA Region 6 issues all NPDES permits and conducts all NPDESrelated enforcement in New Mexico.



 The New Mexico watershed-based permit for the Middle Rio Grande MS4s (NMR04A000) was issued in December 2014 and expired in December 2019.

In administrative continuance

#### **Cooperative Permittees**

- Cities/towns/villages, counties, and flood control authorities/NMDOT occupy same geographical area.
- Function as a watershed and not distinct political entities
- Eligible entities under this Permit:

Class A Permittees:	Class B Permittees:	Class C Permittees:
<ul> <li>City of Albuquerque</li> <li>Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA)</li> <li>University of New Mexico (UNM)</li> <li>New Mexico Department of Transportation (NMDOT), District 3</li> </ul>	<ul> <li>Bernalillo County</li> <li>Sandoval County</li> <li>Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA)</li> <li>City of Rio Rancho</li> <li>Village of Corrales</li> <li>Los Ranchos de Albuquerque</li> <li>Kirtland Air Force Base (KAFB)</li> <li>Town of Bernalillo</li> <li>State Fair Grounds/Expo</li> </ul>	<ul> <li>Eastern Sandoval County Arroyo Flood Control Authority</li> <li>Sandia Labs and the Department of Energy (DOE)</li> </ul>



#### MRG Watershed-based MS4 Permit







### Collaboration is Key Information Exchange

### Exchange of information between entities the Technical Advisory Group (TAG)

- An agreement where the participating entities cooperate and exchange information
- Unified communication with EPA/NMED
- Fourteen signatories to the TAG
- TAG started meeting in early 2014 and have met monthly or bi-monthly since the permit was issued.



#### General Permit Requirements:

- Special Conditions
  - Compliance with water quality standards
  - Discharges to impaired waters with and without TMDLs
  - Additional PCB assessment and study requirement for COA, AMAFCA, and Bernalillo County
  - ESA requirements for addressing dissolved oxygen and sediment pollutant loads
- Stormwater Management Program (SWMP)
  - Control Measures
- Monitoring and Assessment

#### SWMP Control Measures:

- Construction site stormwater runoff control
- Post-construction stormwater management in new development and redevelopment
- Pollution prevention/good housekeeping
- Industrial and high risk runoff (COA and AMAFCA only)
- Illicit discharges and improper disposal
- Control of floatables discharges
- Public education and outreach
- Public involvement and participation

### Cooperative Stormwater Quality Monitoring

- The Technical Advisory Group (TAG) creating a working group to study the time and cost savings to develop a regional stormwater monitoring plan.
- 12 MS4s are currently members of the Compliance Monitoring Cooperative (CMC).
- The CMC worked with NMED and EPA to develop the wet weather monitoring plan.





#### Wet weather monitoring

- Bernalillo County, COA, and AMAFCA are all members of the CMC
- The CMC collected 7 of the 7 required samples per location for the permit term
- Sampling in Administrative Continuance in 2021







 Stormwater samples for compliance are collected in-stream, not from distinct outfalls





### MRG MS4 Permit

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#### Impairments in the MRG

- E. coli
- Dissolved oxygen
- Temperature
- PCBs
- Gross Alpha
- Total Maximum Daily Load (TMDL) in the MRG for E. coli
  - A TMDL establishes the maximum amount of a pollutant allowed in a waterbody; used as a tool for restoring water quality

Based on NMED 2020-2022 303d/305b Integrated Report

# MRG Watershed-Based Permit Monitoring: E. coli

### Sources for E. coli in the Rio Grande



2005 Microbial Source Tracking Assessment



### MRG Watershed-Based Permit Monitoring: E. coli



# Microbial source tracking (MST) study by COA and DBS&A



# MRG Watershed-Based Permit Monitoring: E. coli

USGS 08330000. **Rio Grande at Albuquerque Barelas Pumping Station** USGS 350403106393210 Rio Grande Below Bridge Blvc USGS 350135106402210 Rio Grande Below Rio Bravo Southside Water USGS 350049106402510 **Reclamation Plant** Rio Grande Above Tijeras Arroyo USGS 350028106404610 Tijeras Arroyo Rio Grande Below Tijeras Arroyo Confluenc USGS 08330830 Rio Grande at Valle de Oro ISGS 08330875 **Rio Grande at Isleta Lakes** 

<u>Microbial Source Tracking and</u> <u>Escherichia coli Monitoring</u> study from USGS/BernCo, in collaboration with AMAFCA, COA, and NMDOT



#### **BEMP** Monitoring for E. coli

 Samples have historically been collected from east side of the Rio Grande

 In 2020, changing sampling locations to west side of the river to look at possible mixing effects



#### TMDL for nutrients in the Tijeras Arroyo

- Headwaters to Four Hills bridge segment
- Ciudad SWCD, Bernalillo County, COA, NMDOT are working on a Watershed-Based Plan

Received a 319 grant in fall 2019





## MRG Watershed-based MS4 Permit Control Measures

- Public Education and Outreach and Public Involvement and Participation
  - Develop, revise, implement, and maintain an education and outreach program.
    - COA, Bernalillo County, AMAFCA, and Ciudad SWCD are members of the Stormwater Quality Team, which address this requirement



### MRG Watershed-based MS4 Permit Public Outreach and Education

- Public Outreach Results in the Rio Grande Urban Area from the Stormwater Quality Team
  - Over 5,000 surveys collected by the Stormwater Quality Team since 2014 at local events

2020 MRG watershed-wide survey



MID RIO GRANDE

# MRG Watershed-based MS4 Permit Public Outreach and Education

#### **ALBUQUERQUE NEWS**

#### 'There is no poop fairy': Albuquerque residents asked to pick up after their dog

WATCH: Full interview with Patrick Chavez, Stormwater Engineer

fyle

'There is no poop fairy': Albuquerque residents asked
to pick up dog's poop
1 minute left



# MRG Watershed based MS4 Permit Public Outreach and Education

Do vou think a

FALRY

will wave a

Magic Wand?

#### there is no **POOP FAIRY!**

### SCOOP THE POOP

GRAB IT

BAG IT

TOSS IT IN THE TRASH

City of Albuquerque

W W W . C A B Q . G O V W W W . K E E P T H E R I O G R A N D . O R G

 About 300 distributed in 2021  Over 3400 signs distributed since 2016

> Why Scoop the Poop?

It's the law! You could be cited up to \$500.00 for failure to pick up after your dog or keep your dog on a leash (City of Albuquerque Ordinance 0-16-16)

Pet waste can spread diseases between pets and infect children and adults with disease causing bacteria and parasites

Left on the ground, dog poop may wash into arroyos or stormdrains and end up in the Rio Grande

22% of E. coli bacteria in the Rio Grande comes from dogs

You are responsible for cleaning up your pet's waste

**THERE IS NO POOP FAIRY!** 

### Green Stormwater Infrastructure/Low Impact Design

Watershed-wide efforts to increase green stormwater infrastructure/low impact design (GSI/LID) in the Middle Rio Grande

### Green Stormwater Infrastructure/Low Impact Design

GSI/LID Design Standards/Guidance in MRG

- Bernalillo County finalizing GSI/LID guidance manual in conjunction with the Technical Standards update
- City of Albuquerque included new GSI/LID design specifications in most recent <u>DPM update</u>
- NMDOT revised their <u>NPDES manual</u> to include design specifications for GSI/LID
- MRGSQT working towards consistent stormwater quality volume calculation in MRG
  - Waiting on additional guidance

### And LID Coalition

**Goal:** Increase the use of Green Stormwater Infrastructure and Low Impact Development (GSI/LID) practices.

**Vision:** To foster a public awareness of stormwater as an asset instead of a liability and to increase literacy around effective, arid-adapted GSI/LID strategies.





### mall Coalition

#### 

- What is GSI in an arid environment?
- Implementation of AridLID
- Review of standard construction

details





### ndLID Coalition

### AridLID Coalition 2-day Green Stormwater Infrastructure (GSI) Workshop, 2019

Day 2

- Triple Bottom Line
- Peak discharge attenuation calculation
- Implementation of standard construction details into study site with interdisciplinary groups





### 2021 Land & Water Summit

Water S

- 4-day Virtual Summit
  - Day 1- virtual GSI/LID sites in the MRG
  - Days 2-4: speakers covering diverse topics:
    - Positive Frameworks for Environmental Change/Science Communication
    - Urban Environmental Integration
    - Plants and Pollinators for a Changing Climate
  - First Arid LID GSI/LID competition and awards



- Annual report due December 1<sup>st</sup> each year and includes:
  - Status of SWMP implementation
  - Performance assessment as related to measurable goals set in SWMP
  - Summary of monitoring data
  - Annual expenditures



#### Permit Status

- Permit Expired in December 2019
- Permittees continue required compliance activities under administrative continuance
  - Letter sent to US EPA Region 6 from TAG confirming administrative continuance procedures
  - The CMC has agreed to continue stormwater sampling/monitoring even though no sampling is required under administrative continuance

