MIDDLE RIO GRANDE WATERSHED BASED MUNICIPAL SEPARATE STORM SEWER (MS4) PERMIT

FINAL
2023-2024 ANNUAL REPORT

July 1, 2023 – June 30, 2024

Date: November 26, 2024

Development Services Department
3200 Civic Center Circle NE
Rio Rancho, NM 87144

NPDES GENERAL PERMIT NO. NMR04A000
ADMINISTRATIVE CONTINUANCE

City *of* Rio Rancho

3200 Civic Center Circle NE
Rio Rancho, New Mexico 87144
(505) 981-5005 • FAX (505) 981-0986

November 26, 2024

U.S. EPA, Region 6
Water Quality Protection Division
Operations Support Services (6WQ-O)
1445 Ross Avenue
Dallas, Texas 75202-2733

Subject: 2023-2024 Annual Report, National Pollution Discharge Elimination System Municipal Separate Storm Sewer (NPDES) Permit No. NMR04A001

To whom it may concern:

In accordance with Part III.B of the referenced NPDES permit, the City of Rio Rancho is pleased to submit the 2023-2024 Annual Report for your review and comment. The annual report summarizes activities conducted from July 1, 2023 to June 30, 2024, such as program compliance and progress, public outreach and education, as well as future infrastructure improvements.

As outlined in the NPDES permit, City of Rio Rancho has provided public notice and made available for public review a draft copy of the annual report prior to submitting to your office. The comment period closed November 24, 2024. The City of Rio Rancho did not receive comments from individuals or organizations during the 45-day comment period.

Should you need additional information or have questions regarding the annual report, please do not hesitate to contact me at (505) 891-5045, or via email at xpettes@rrnm.gov.

Respectfully,

Xavier Pettes
NPDES Project Manager
Engineering Division
Development Services Department

Attachment (1)

Cc: David Serrano, P.E., Development Services / Deputy Director

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ANNUAL REPORT REQUIREMENTS

The permittees shall submit an annual report to be submitted by no later than December 1st. See suggested form at http://epa.gov/region6/water/npdes/sw/ms4/index.htm. The report shall cover the previous year from July 1st to June 30rd and include the below separate sections. Additionally, the year one (1) and year four (4) annual report shall include submittal of a complete SWMP revision.

At least forty five (45) days prior to submission of each Annual Report, the permittee must provide public notice of and make available for public review and comment a draft copy of the Annual Report. All public input must be considered in preparation of the final Annual Reports and any changes to the SWMP.

Note: A complete copy of the signed Annual Report should be maintained on site.

1. **SWMP(s) Status of Implementation**: shall include the status of compliance with all schedules established under this permit and the status of actions required in Parts I, III, and VI.

2. **SWMP Revisions**: shall include revisions, if necessary, to the assessments of controls or BMPs reported in the permit application (or NOI for coverage under this permit) under **40 CFR §122.26(d)(2)(v)*** and **§122.34(d)(1)(I)[i]**** are to be included, as well as a cumulative list of all SWMP revisions during the permit term.

3. **Performance Assessment**: shall include:

    a. an assessment of performance in terms of measurable goals, including, but not limited to, a description of the number and nature of enforcement actions and inspections, public education and public involvement efforts;

    b. a summary of the data, including monitoring data, that is accumulated throughout the monitoring year (July 1 to June 30); actual values of representative monitoring results shall be included, if results are above minimum quantification level (MQL); and

    c. identification of water quality improvements or degradation.

4. **Annual Report Responsibilities for Cooperative Programs**: preparation of a system-wide report with cooperative programs may be coordinated among cooperating MS4s and then used as part of individual Annual Reports. The report of a cooperative program element shall indicate which, if any, permittee(s) have failed to provide the required information on the portions of the MS4 for which they are responsible to the cooperation permittees.

    a. joint responsibility for reports covering cooperative programs elements shall be limited to participation in preparation of the overview for the entire system and inclusion of the identity of any permittee who failed to provide input to the annual report.

    b. individual permittees shall be individually responsible for content of the report relating to the portions of the MS4 for which they are responsible and for failure to provide information for the system-wide annual report no later than July 31st of each year.

5. **Public Review and Comment**: a brief summary of any issues raised by the public on the draft Annual Report, along with permittee's responses to the public comments.

6. **Signature on Certification of Annual Reports:** the annual report shall be signed and certified, in accordance with Part IV.H and include a statement or resolution that the permittee's governing body or agency (or delegated representative) has reviewed or been apprised of the content of the Annual Report. Annual report shall be due no later than December 1st of each year. A complete copy of the signed Annual Report should be maintained on site.

***40 CFR §122.26(d)(2)(v)**

(v) *Assessment of controls.* Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water.

****40 CFR §122.34(d)(1)(I)[i]**

(d)(1) In your permit application (either a notice of intent for coverage under a general permit or an individual permit application), you must identify and submit to your NPDES permitting authority the following information:

(i) The best management practices (BMPs) that you or another entity will implement for each of the storm water minimum control measures at paragraphs **(b)(1)** through **(b)(6)** of this section;

(b)(1)

(b) Minimum control measures—(1) Public education and outreach on storm water impacts.

(i) You must implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff.

(ii) Guidance: You may use storm water educational materials provided by your State, Tribe, EPA, environmental, public interest or trade organizations, or other MS4s. The public education program should inform individuals and households about the steps they can take to reduce storm water pollution, such as ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil or household hazardous wastes. EPA recommends that the program inform individuals and groups how to become involved in local stream and beach restoration activities as well as activities that are coordinated by youth service and conservation corps or other citizen groups. EPA recommends that the public education program be tailored, using a mix of locally appropriate strategies, to target specific audiences and communities. Examples of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service announcements, implementing educational programs targeted at school age children, and conducting community-based projects such as storm drain stenciling, and watershed and beach cleanups. In addition, EPA recommends that some of the materials or outreach programs be directed toward targeted groups of commercial, industrial, and institutional entities likely to have significant storm water impacts. For example, providing information to restaurants on the impact of grease clogging storm drains and to garages on the impact of oil discharges. You are encouraged to tailor your outreach program to address the viewpoints and concerns of all communities, particularly minority and disadvantaged communities, as well as any special concerns relating to children.

(b)(6)

(6) Pollution prevention/good housekeeping for municipal operations.

(i) You must develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials that are available from EPA, your State, Tribe, or other organizations, your program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

(ii) Guidance: EPA recommends that, at a minimum, you consider the following in developing your program: maintenance activities, maintenance schedules, and long-term inspection procedures for structural and nonstructural storm water controls to reduce floatables and other pollutants discharged

from your separate storm sewers; controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas operated by you, and waste transfer stations; procedures for properly disposing of waste removed from the separate storm sewers and areas listed above (such as dredge spoil, accumulated sediments, floatables, and other debris); and ways to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices. Operation and maintenance should be an integral component of all storm water management programs. This measure is intended to improve the efficiency of these programs and require new programs where necessary. Properly developed and implemented operation and maintenance programs reduce the risk of water quality problems.

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MIDDLE RIO GRANDE WATERSHED BASED MUNICIPAL SEPARATE STORM SEWER (MS4) PERMIT

Final 2023-2024 ANNUAL REPORT

July 1, 2023 – June 30, 2024

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Section 1	Municipal Separate Storm Sewer System (MS4) Annual Report
	1.1 Final 2023-2024 MS4 Annual Report

Annual Report Format

National Pollutant Discharge Elimination System Stormwater Program
MS4 Annual Report Form

Check box if you are submitting an individual Annual Report with cooperative program elements ☒

Check box if you are submitting an individual Annual Report with individual program elements ☐

Check box if this is a new name, address, etc. ☐

1. MS4(s) Information

City of Rio Rancho
Name of MS4

Xavier | Pettes | NPDES Project Manager
Name of Contact Person (First) (Last) (Title)

(505) 891-5045 | xpettes@rrnm.gov
Telephone (including area code) E-mail

3200 Civic Center Circle NE, Suite 130
Mailing Address

Rio Rancho | New Mexico | 87144
City State ZIP code

What size population does your MS4(s) serve? 104,046 NPDES number NMR04A007

What is the reporting period for this report? (mm/dd/yyyy) From 07/01/2023 to 06/30/2024

2. Water Quality Priorities

A. Does your MS4(s) discharge to waters listed as impaired on a state 303(d) list? ☒ Yes ☐ No

B. If yes, identify each impaired water, the impairment, whether a TMDL has been approved by EPA for each, and whether the TMDL assigns a wasteload allocation to your MS4(s). Use a new line for each impairment, and attach additional pages as necessary.

Impaired Water	Impairment	Approved TMDL		TMDL assigns WLA to MS4	
Rio Grande NM-2105.1_00	E. coli	☒ Yes	☐ No	☒ Yes	☐ No
Rio Grande NM-2105.1_00	PCB in Fish Tissue	☐ Yes	☒ No	☐ Yes	☒ No
Rio Grande NM-2105.1_00	PCB in Water Column	☐ Yes	☒ No	☐ Yes	☒ No
Rio Grande NM-2105.1_00	Gross Alpha	☐ Yes	☒ No	☐ Yes	☒ No

2. B. Continued

Impaired Water	Impairment	Approved TMDL		TMDL assigns WLA to MS4	
Rio Grande NM-2105.1_00	Mercury in Fish Tissue	☐ Yes	☒ No	☐ Yes	☒ No
		☐ Yes	☐ No	☐ Yes	☐ No
		☐ Yes	☐ No	☐ Yes	☐ No
		☐ Yes	☐ No	☐ Yes	☐ No

C. What specific sources contributing to the impairment(s) are you targeting in your stormwater program?

Pet waste, Construction Waste, Illicit Discharge, Household Hazardous Waste, Septic & Sanitary Sewer System, General St

D. Do you discharge to any high-quality waters (e.g., Tier 2, Tier 3, outstanding natural resource waters, or other state or federal designation)? ☐ Yes ☒ No

E. Are you implementing additional specific provisions to ensure their continued integrity? ☐ Yes ☒ No

3. Public Education and Public Participation

A. Is your public education program targeting specific pollutants and sources of those pollutants? ☒ Yes ☐ No

B. If yes, what are the specific sources and/or pollutants addressed by your public education program?

General SWP, Construction Waste, Pet Waste, Household Hazardous Waste, Illicit Discharge and Animal Sources

C. Note specific successful outcome(s) (e.g., quantified reduction in fertilizer use; NOT tasks, events, publications) fully or partially attributable to your public education program during this reporting period.

See Attached - Section 6. Middle Rio Grande Stormwater Quality Outcomes Report FY 2023-2024

D. Do you have an advisory committee or other body comprised of the public and other stakeholders that provides regular input on your stormwater program? ☒ Yes ☐ No

4. Construction

A. Do you have an ordinance or other regulatory mechanism stipulating:

Erosion and sediment control requirements? ☒ Yes ☐ No

Other construction waste control requirements? ☒ Yes ☐ No

Requirement to submit construction plans for review? ☒ Yes ☐ No

MS4 enforcement authority? ☒ Yes ☐ No

B. Do you have written procedures for:

Reviewing construction plans? ☒ Yes ☐ No

Performing inspections? ☒ Yes ☐ No

Responding to violations? ☒ Yes ☐ No

C. Identify the number of active construction sites ≥ 1 acre in operation in your jurisdiction at any time during the reporting period. 130

D. How many of the sites identified in 4.C did you inspect during this reporting period? 130

E. Describe, on average, the frequency with which your program conducts construction site inspections.

Private and public construction project/activities are inspected bi-weekly.

F. Do you prioritize certain construction sites for more frequent inspections? ☒ Yes ☐ No

If Yes, based on what criteria? Activities near or adjacent to watercourse

G. Identify which of the following types of enforcement actions you used during the reporting period for construction activities, indicate the number of actions, or note those for which you do not have authority:

☒ Yes	Notice of violation	5	No Authority	☐
☒ Yes	Administrative fines	0	No Authority	☐
☐ Yes	Stop Work Orders		No Authority	☒
☐ Yes	Civil penalties		No Authority	☒
☐ Yes	Criminal actions		No Authority	☒
☐ Yes	Administrative orders		No Authority	☒
☐ Yes	Other	N/A		

H. Do you use an electronic tool (e.g., GIS, data base, spreadsheet) to track the locations, inspection results, and enforcement actions of active construction sites in your jurisdiction? ☒ Yes ☐ No

I. What are the 3 most common types of violations documented during this reporting period?

CGP/Municipal Code violations: 1) Inadequate perimeter control prior to earth disturbing activities; 2) Construction and [

J. How often do municipal employees receive training on the construction program? As needed and/or for new hi

5. Illicit Discharge Elimination

A. Have you completed a map of all outfalls and receiving waters of your storm sewer system? ☒ Yes ☐ No

B. Have you completed a map of all storm drain pipes and other conveyances in the storm sewer system? ☒ Yes ☐ No

C. Identify the number of outfalls in your storm sewer system. 7

D. Do you have documented procedures, including frequency, for screening outfalls? ☒ Yes ☐ No

E. Of the outfalls identified in 5.C, how many were screened for dry weather discharges during this reporting period?

7

F. Of the outfalls identified in 5.C, how many have been screened for dry weather discharges at any time since you obtained MS4 permit coverage? 7

G. What is your frequency for screening outfalls for illicit discharges? Describe any variation based on size/type.

Spills near storm drains or outfalls are investigated immediately. Dry Weather Outfall Screening is conducted annually.

H. Do you have an ordinance or other regulatory mechanism that effectively prohibits illicit discharges? ☒ Yes ☐ No

I. Do you have an ordinance or other regulatory mechanism that provides authority for you to take enforcement action and/or recover costs for addressing illicit discharges? ☒ Yes ☐ No

J. During this reporting period, how many illicit discharges/illegal connections have you discovered? 3

K. Of those illicit discharges/illegal connections that have been discovered or reported, how many have been eliminated? 3

L. How often do municipal employees receive training on the illicit discharge program? As needed and/or for nev

6. Stormwater Management for Municipal Operations

A. Have stormwater pollution prevention plans (or an equivalent plan) been developed for:

All public parks, ball fields, other recreational facilities and other open spaces	☒ Yes	☐ No
All municipal construction activities, including those disturbing less than 1 acre	☒ Yes	☐ No
All municipal turf grass/landscape management activities	☒ Yes	☐ No
All municipal vehicle fueling, operation and maintenance activities	☒ Yes	☐ No
All municipal maintenance yards	☒ Yes	☐ No
All municipal waste handling and disposal areas	☒ Yes	☐ No

Other None

B. Are stormwater inspections conducted at these facilities? ☒ Yes ☐ No

C. If Yes, at what frequency are inspections conducted? Quarterly

D. List activities for which operating procedures or management practices specific to stormwater management have been developed (e.g., road repairs, catch basin cleaning).

Construction Site Stormwater Inspection, Dry Weather Discharges Screening, Locating Illicit Discharges, Spill Response a

E. Do you prioritize certain municipal activities and/or facilities for more frequent inspection? ☒ Yes ☐ No

F. If Yes, which activities and/or facilities receive most frequent inspections? Activities near or adjacent to watercourse

G. Do all municipal employees and contractors overseeing planning and implementation of stormwater-related activities receive comprehensive training on stormwater management? ☒ Yes ☐ No

H. If yes, do you also provide regular updates and refreshers? ☒ Yes ☐ No

I. If so, how frequently and/or under what circumstances? As needed and/or for new hires

7. Long-term (Post-Construction) Stormwater Measures

A. Do you have an ordinance or other regulatory mechanism to require:

Site plan reviews for stormwater/water quality of all new and re-development projects?	☒ Yes	☐ No
Long-term operation and maintenance of stormwater management controls?	☒ Yes	☐ No
Retrofitting to incorporate long-term stormwater management controls?	☒ Yes	☐ No

B. If you have retrofit requirements, what are the circumstances/criteria?

Typically retrofit are conducted in the field

C What are your criteria for determining which new/re-development stormwater plans you will review (e.g., all projects, projects disturbing greater than one acre, etc.)?

All construction project/activities cumulatively disturbing one or more acres within the MS4 jurisdiction

D. Do you require water quality or quantity design standards or performance standards, either directly or by reference to a state or other standard, be met for new development and re-development? ☒ Yes ☐ No

E. Do these performance or design standards require that pre-development hydrology be met for:

Flow volumes	☒ Yes	☐ No
Peak discharge rates	☒ Yes	☐ No
Discharge frequency	☒ Yes	☐ No
Flow duration	☒ Yes	☐ No

F. Please provide the URL/reference where all post-construction stormwater management standards can be found.

https://www.codepublishing.com/NM/RioRancho/#!/RioRancho150/RioRancho153.html#153

G. How many development and redevelopment project plans were reviewed during the reporting period to assess impacts to water quality and receiving stream protection? 85

H. How many of the plans identified in 7.G were approved? 85

I. How many privately owned permanent stormwater management practices/facilities were inspected during the reporting period? 0

J. How many of the practices/facilities identified in I were found to have inadequate maintenance? 0

K. How long do you give operators to remedy any operation and maintenance deficiencies identified during inspections? 90 days

L. Do you have authority to take enforcement action for failure to properly operate and maintain stormwater practices/facilities? ☒ Yes ☐ No

M. How many formal enforcement actions (i.e., more than a verbal or written warning) were taken for failure to adequately operate and/or maintain stormwater management practices? 5

N. Do you use an electronic tool (e.g., GIS, database, spreadsheet) to track post-construction BMPs, inspections and maintenance? ☐ Yes ☒ No

O. Do all municipal departments and/or staff (as relevant) have access to this tracking system? ☐ Yes ☒ No

P. How often do municipal employees receive training on the post-construction program? As needed

8. Program Resources

A. What was the annual expenditure to implement MS4 permit requirements this reporting period? 100,000.00

B. What is next year's budget for implementing the requirements of your MS4 NPDES permit? 100,000.00

C. This year what is/are your source(s) of funding for the stormwater program, and annual revenue (amount or percentage) derived from each?

Source:	General Fund	Amount $		OR %	100
Source:		Amount $		OR %	
Source:		Amount $		OR %	

D. How many FTEs does your municipality devote to the stormwater program (specifically for implementing the stormwater program; not municipal employees with other primary responsibilities)? 1

E. Do you share program implementation responsibilities with any other entities? ☒ Yes ☐ No

Entity	Activity/Task/Responsibility	Your Oversight/Accountability Mechanism
Various	Stormwater Quality Team (SWQT)	Signed Joint Agreement
Various	Technical Advisory Group (TAG)	Signed Joint Agreement
Various	Compliance Monitoring Coop. (CMC)	Signed Joint Agreement

9. Evaluating/Measuring Progress

A. What indicators do you use to evaluate the overall effectiveness of your stormwater management program, how long have you been tracking them, and at what frequency? These are not measurable goals for individual management practices or tasks, but large-scale or long-term metrics for the overall program, such as macroinvertebrate community indices, measures of effective impervious cover in the watershed, indicators of in-stream hydrologic stability, etc.

Indicator	**Began Tracking (year)**	**Frequency**	**Number of Locations**
Example: E. coli	2003	Weekly April–September	20
Various (EPA approved analyte list)	2016	Qualifying Event (up to 7)	2
Various (EPA approved analyte list)	2014	Wet Season, annually	8
Please refer to the attached Annual			
Report or AMAFCA web site for			
additional information			

B. What environmental quality trends have you documented over the duration of your stormwater program? Reports or summaries can be attached electronically, or provide the URL to where they may be found on the Web.

Data collected by the Compliance Monitoring Cooperative has been shared with NMED.

10. Additional Information

Please attach any additional information on the performance of your MS4 program, including information required in Parts I.C and III.B. If providing clarification to any of the questions on this form, please provide the question number (e.g., 2C) in your response.

Certification Statement and Signature

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.

☒ Yes ☐ No

Federal regulations require this application to be signed as follows: **For a municipal, State, Federal, or other public facility**: by either a principal executive or ranking elected official.

Signature DAVID SERRANO Digitally signed by DAVID SERRANO Date: 2024.11.25 16:17:11 -07'00'

David Serrano, P.E., Deputy Director

Name of Certifying Official, Title

25/2024

Date (mm/dd/yyyy)

Section 2	Special Conditions
	2.1 FY2023 Infrastructure and Capital Improvement Plan

FY24 Adopted Budget

Adopted Version - 7/27/2023

Est. Start Date	07/01/2021
Est. Completion Date	06/30/2025
Department	Public Works
Type	Capital Improvement
Project Number	PW2142

Description

The final design and preliminary estimate for the city's eight (8) Municipal Separate Storm Sewer System (MS4) direct outfalls to the Rio Grande was completed in 2021. A prioritized project list was developed to address future water quality features to be constructed. This phase is to construct the FY23 phase in this design.

FY2022: River's Edge 1-8 General Conditions plus Rivers Edge 1-5 improvements

FY2023: River's Edge 1-8 General Conditions plus Rivers Edge 6 improvements

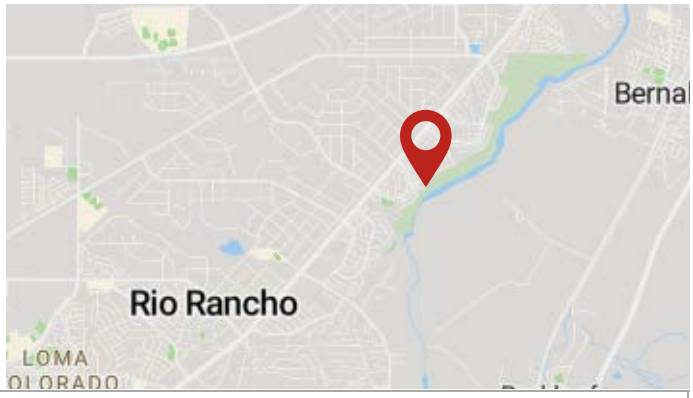
FY2024: River's Edge 1-8 General Conditions plus Rivers Edge 7 improvements

FY2025: River's Edge 1-8 General Conditions plus Rivers Edge 8 improvements

Details

Council District	City Wide Benefit
Category	Drainage
Drainage Subtype	New Infrastructure
Growth/Non-growth	Non-growth

Location



Benefit to Community

The City of Rio Rancho is a permittee of the Middle Rio Grande Sub-Watershed National Pollutant Discharge Elimination System (NPDES) permit number NMR04A000. This pemit may authorize stormwater discharges to the Rio Grande (water of the U.S.) from MS4s with specific requirements outlined in the permit. The City (consultant) developed an Illicit Discharge Detection Program (IDDE) in compliance with Part I.D.5.e(i)-(viii) of the NPDES permit. As part of the IDDE the City (consultant) identified eight (8) direct MS4 discharges to the Rio Grande at high priority based on location and identified the need to provide water quality features to mitigate illicit discharges from adjacent

City of Rio Rancho, New Mexico

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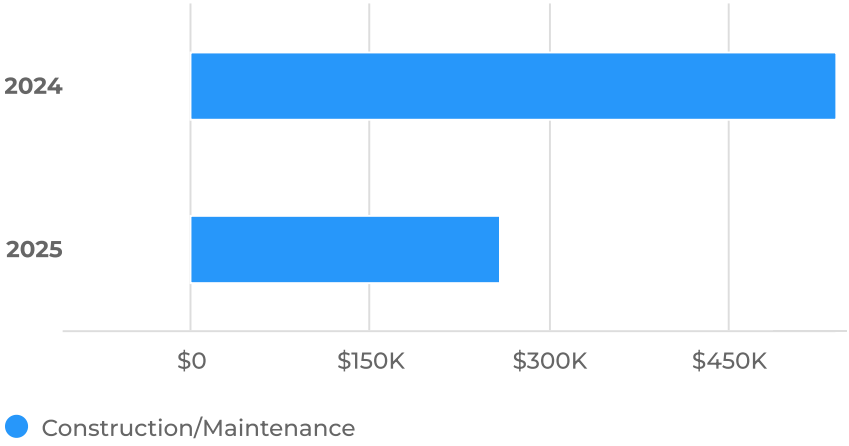
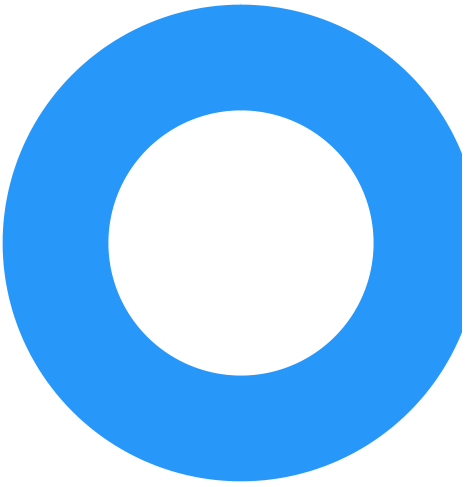
FY2024 Budget	Total Budget (all years)	Project Total
$538,655	$796.755K	$796.755K

Capital Cost by Year (Proposed)



Capital Cost for Budgeted Years (Proposed)



TOTAL	$

City of Rio Rancho, New Mexico

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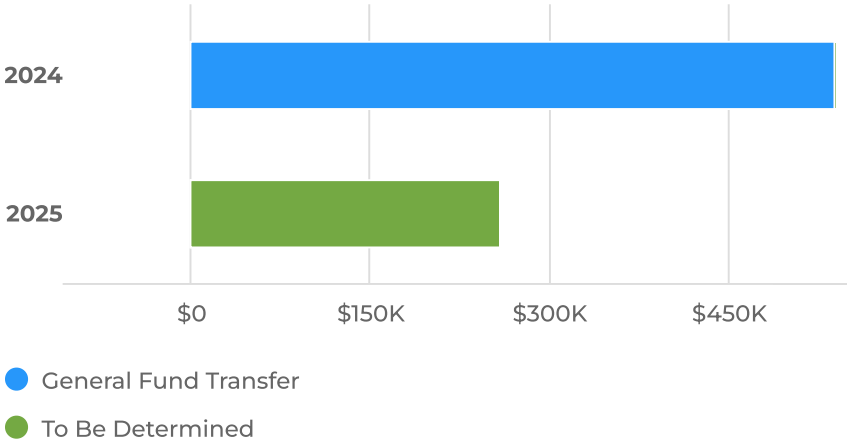
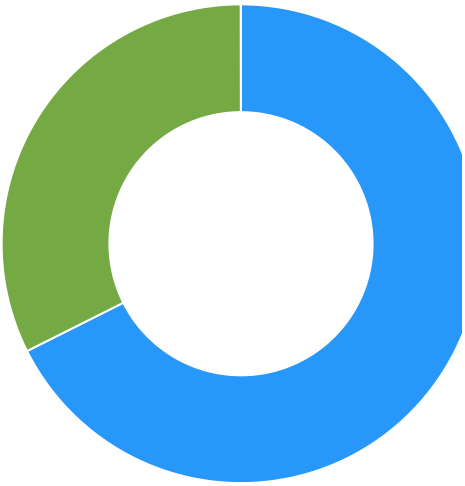
Funding Sources by Year (Proposed)



Funding Sources for Budgeted Years (Proposed)



TOTAL $

Spreadsheet Breakdown >

City of Rio Rancho, New Mexico

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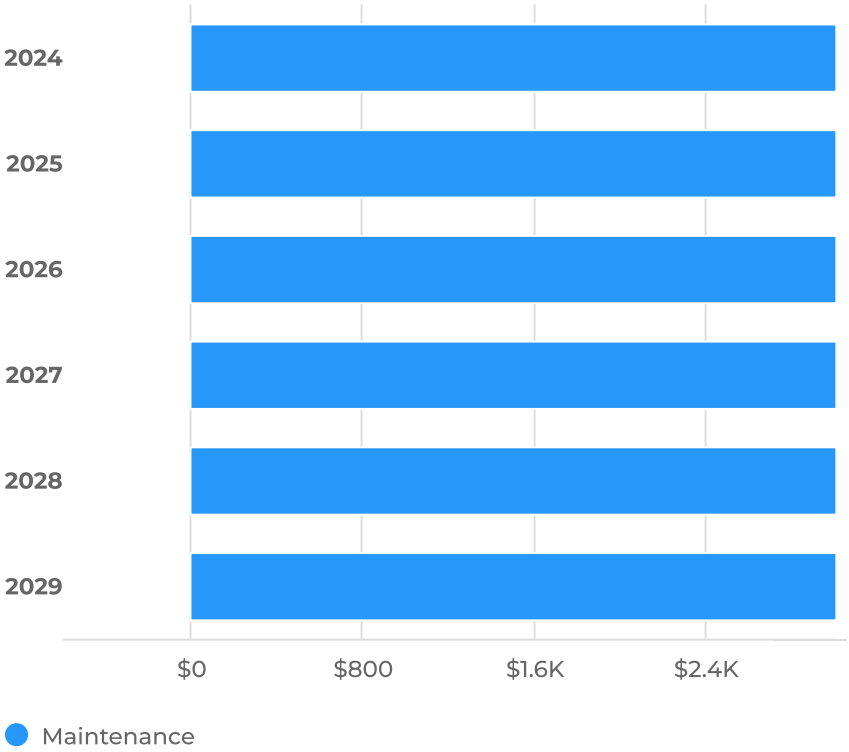
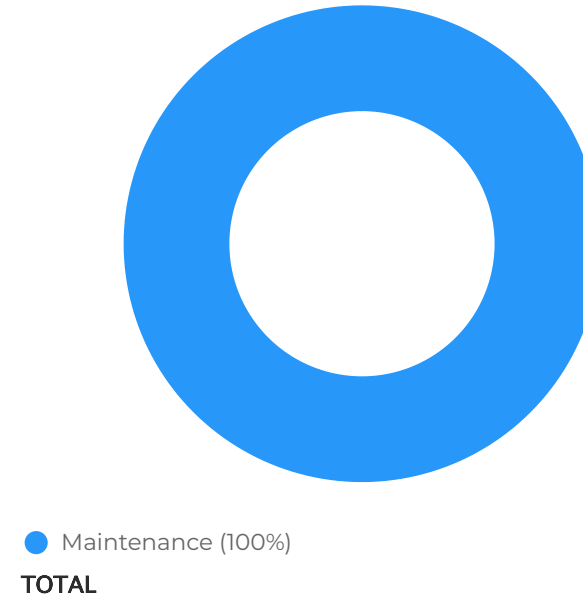
Operational Costs by Year (Proposed)



Operational Costs for Budgeted Years (Proposed)



Spreadsheet Breakdown >

City of Rio Rancho, New Mexico

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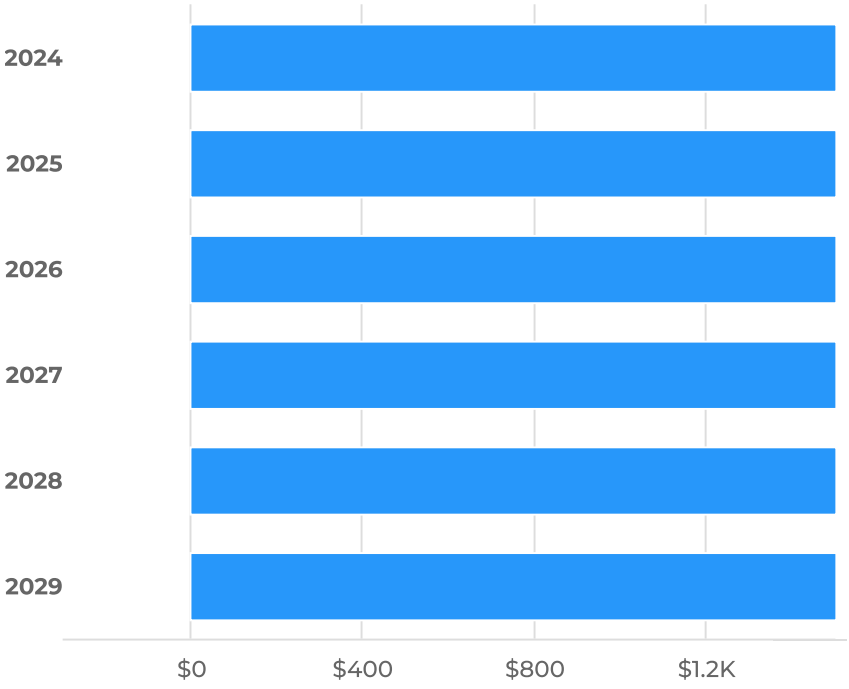
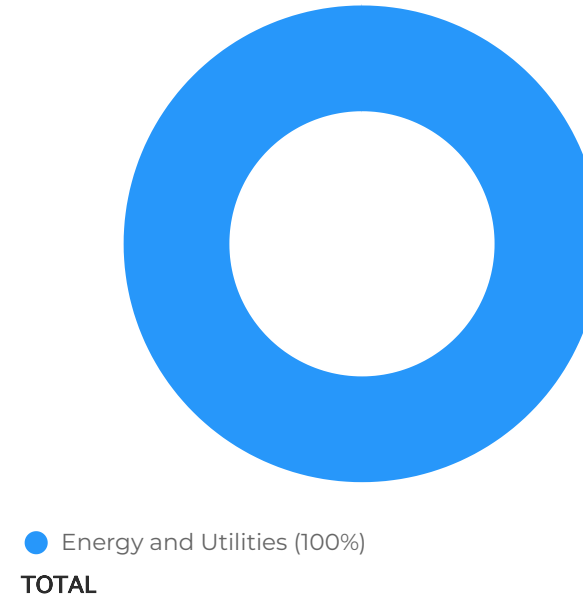
Cost Savings by Year (Proposed)



Cost Savings for Budgeted Years (Proposed)



Spreadsheet Breakdown >

Section 3	Stormwater Management Program Status of Implementation
	3.1 City of Rio Rancho MS4 Stormwater Management Program

NOI Section	ID	Permit Activity Description	Measurable Goal	Status of Implementation and Performance Assessment Permit Year July 2015 to June 2016 (Permit Year 1)	Status of Implementation and Performance Assessment Permit Year July 2016 to June 2017 (Permit Year 2)	Status of Implementation and Performance Assessment Permit Year July 2017 to June 2018 (Permit Year 3)	Status of Implementation and Performance Assessment Permit Year July 2018 to June 2019 (Permit Year 4)	Permit Required Implementation Schedule	Cooperative Implementation Schedule	Cooperative Permit Required Implementation Schedule (Months)	Responsible Personnel
	3	**Part I.C - Special Conditions**									
	4	**Compliance with Water Quality Standards – Dissolved Oxygen & Part I.C.1.d and Endangered Species Act (ESA) Requirements - Dissolved Oxygen Strategy - Part I.C.3.a**									
Not Included in NOI	5	According to the requirements in Part I.C.1.d and Part I.C.3.a.(ii), certain permittees shall revise the May 1, 2012 Strategy to continue taking measures to address concerns regarding discharges to the Rio Grande by implementing controls to eliminate conditions that cause or contribute to exceedances of applicable dissolved oxygen water quality standards in waters of the United States. The permittee shall, as part of this revised strategy, complete the following activities [activities are listed in sections below]. Activities listed are a combination of permit activities in Part I.C.1.d - Special Conditions, Compliance with Water Quality Standards, Phase I Dissolved Oxygen Program & Part I.C.3.a - Dissolved Oxygen Strategy in Receiving Waters of the Rio Grande.	**Not Applicable**								
Not Included in NOI	6	Part I.C.1.d.(i) Identify (or continue identifying) structural elements, natural or man-made topographical and geographical formations, MS4 operations activities, or oxygen demanding pollutants contributing to reduced dissolved oxygen in the receiving waters of the Rio Grande. Both dry and wet weather discharges shall be addressed. Assessment may be made using available data or collecting additional data;	**Not Applicable**								
Not Included in NOI	7	Part I.C.1.d.(ii) Continue implementing controls, and updating/revising as necessary, to eliminate structural elements or the discharge of pollutants at levels that cause or contribute to exceedances of applicable water quality standards for dissolved oxygen in waters of the United States;	**Not Applicable**								
Not Included in NOI	8	Part I.C.1.d.(iii) Continue sampling for DO and temperature in the North Diversion Channel (NDC) Embayment until the data indicate the discharge does not exceed applicable DO water quality standards in waters of the United States. This coincides with the requirements in Part I.C.3.a.(ii).(a), the revised strategy shall include: A. A Monitoring Plan describing all procedures necessary to continue conducting continuous monitoring of DO and temperature in the NDC Embayment and at 1 location in the Rio Grande downstream of the mouth of the NDC within the action area (e.g., Central Bridge). B. A Quality Assurance and Quality Control (QA/QC) Plan describing all standard operating procedures, quality assurance and quality control plans, maintenance and implementation schedules that will assure timely and accurate collection and reporting of water temperature, DO, oxygen saturation, and flow. The QA/QC plan should include all procedures for estimating oxygen data when any oxygen monitoring equipment fail.	**Not Applicable**								

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Not Included in NOI	9	(iv) Submit a revised strategy to FWS for consultation and EPA for approval within a year of the effective date of the permit and progress reports with the subsequent Annual Reports. Progress reports to include: (a) Summary of data. (b) Activities undertaken to identify MS4 discharge contribution to exceedances of applicable dissolved oxygen water quality standards in waters of the United States. Including summary of findings of the assessment required in Part I.C.1.d.(i). (c) Conclusions drawn, including support for any determinations. (d) Activities undertaken to eliminate MS4 discharge contribution to exceedances of applicable dissolved oxygen water quality standards in waters of the United States. (e) Account of stakeholder involvement. in addition, to meet Part I.C.3.a.(ii).(b) requirements, an annual incidental take report must be submitted as well as all data collected (including provisional oxygen and water temperature data, and associated metadata), transferred, stored, summarized, and evaluated shall be included in the Annual Report.	**Not Applicable**								
Not Included in NOI	10	According to the requirements in Part I.C.3.a.(ii), the permittees shall ensure that actions to reduce pollutants or remedial activities selected for the NDC Embayment and its watershed are implemented such that there is a reduction in frequency and magnitude of all low oxygen stormwater discharge events that occur in the Embayment or downstream in the MRG as indicated in Table 1.c. Actions to meet the year 3 measurable goals must be taken within 2 years from the effective date of the permit. Actions to meet the year 5 measurable goals must be taken within 4 years from the effective date of the permit.	**Not Applicable**								
Not Included in NOI	11	According to the requirements in Part I.C.3.b, the permittees (COA and AMAFCA) shall provide: A. An Annual Incidental Take Report to EPA and the Service that includes the following information: beginning and end date of any qualifying stormwater events, DO values and water temperature in the NDC Embayment, DO values and water temperature at a downstream monitoring station in the MRG, flow rate in the NDC, mean daily flow rate in the MRG, evaluation of oxygen and temperature data as either anoxic or hypoxic using Table 2 of the BO, and estimate the number of silvery minnows taken based on Appendix A of the BO. Electronic copy of The Annual Incidental Take Report should be provided with the Annual Report required under Part III.B no later than December 1 for the proceeding calendar year.	**Not Applicable**								

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Not Included in NOI	12	According to the requirements in Part I.C.3.b, the permittees (COA and AMAFCA) shall provide: B. A summary of data and findings with each Annual Report to EPA and the FWS. All data collected (including provisional oxygen and water temperature data, and associated metadata), transferred, stored, summarized, and evaluated shall be included in the Annual Report. If additional data is requested by EPA or the FWS, the COA and AMAFCA shall provide such information within two weeks upon request. The revised strategy required under Part I.C.3.a.(ii),the Annual Incidental Take Reports required under Part I.C.3.a.(ii).(b).A, and Annual Reports required under Part III.B can be submitted to FWS via e-mail nmesfo@fws.gov and Joel lusk@fws.gov, or by mail to the New Mexico Ecological Services field office, 2105 Osuna Road NE, Albuquerque, New Mexico 87113.		Not Applicable							

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	13	**Compliance with Water Quality Standards – PCBs - Part I.C.1.e**									
Not Included in NOI	14	According to the requirements in Part I.C.1.e, the permittee shall address concerns regarding PCBs in channel drainage areas specified in Part I.C.1.e.(vi) by developing or continue updating/revising and implementing a strategy to identify and eliminate controllable sources of PCBs that cause or contribute to exceedances of applicable water quality standards in waters of the United States.	**Not Applicable**								
Not Included in NOI	15	The progress reports shall include: (i) Summary of data. (ii) Findings regarding controllable sources of PCBs in the channel drainages area specified in Part I.C.1.e.(vi) that cause or contribute to exceedances of applicable water quality standards in waters of the US via the discharge of municipal stormwater. (iii) Conclusions drawn, including supporting information for any determinations. (iv) Activities undertaken to eliminate controllable sources of PCBs in the drainage areas specified in Part I.C.1.e.(vi) that cause or contribute to exceedances of applicable water quality standards in waters of the US via the discharge of municipal stormwater including proposed activities that extend beyond the 5 year permit term. (v) Account of stakeholder involvement in the process. (vi) Channel Drainage Areas: The PCB strategy required in Part I.C.1.e is only applicable to: COA and AMAFCA Areas: San Jose Drain & North Diversion Channel Bernalillo Co. Areas: Adobe Acres Drain, Alameda Outfall Channel, Paseo del Norte Outfall Channel, & Sanchez Farm Drainage Area.	**Not Applicable**								
Not Included in NOI	16	A cooperative strategy to address PCBs in the COA, AMAFCA and Bernalillo County's drainage areas may be developed between Bernalillo County, AMAFCA, and the COA. If a cooperative strategy is developed, the cooperative strategy shall be submitted to EPA within 3 years from the effective date of the permit and submit a progress report with the fourth and with subsequent Annual Reports, Note: COA and AMAFCA must continue implementing the existing PCB strategy until a new Cooperative PCB Strategy is submitted to EPA.	**Not Applicable**								

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	17	**Compliance with Water Quality Standards – Temperature - Part I.C.1.f**									
Not Included in NOI	18	According to the requirements in Part I.C.1.f, the permittees must continue assessing the potential effect of stormwater discharges in the Rio Grande by collecting and evaluating additional data. If the data indicates there is a potential of stormwater discharges contributing to exceedances of applicable temperature water quality standards in waters of the United States, within thirty (30) days such as findings, the permittees must develop and implement a strategy to eliminate conditions that cause or contribute to these exceedances.	**Not Applicable**								
Not Included in NOI	19	The strategy must include: (i) Identify structural controls, post construction design standards, or pollutants contributing to raised temperatures in the receiving waters of the Rio Grande. Both dry and wet weather discharges shall be addressed. Assessment may be made using available data or collecting additional data; (ii) Develop and implement controls to eliminate structural controls, post construction design standards, or the discharge of pollutants at levels that cause or contribute to exceedances of applicable water quality standards for temperature in waters of the United States; and	**Not Applicable**								
Not Included in NOI	20	(iii) Provide a progress report with the first and with subsequent Annual Reports. The progress reports shall include: (a) Summary of data. (b) Activities undertaken to identify MS4 discharge contribution to exceedances of applicable temperature water quality standards in waters of the United States. (c) Conclusions drawn, including supporting information for any determinations. (d) Activities undertaken to reduce MS4 discharge contribution to exceedances of applicable temperature water quality standards in waters of the United States. (e) Accounting of stakeholder involvement.	**Not Applicable**								

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	21	**Discharges to Impaired Waters With Approved TMDLs - Part I.C.2.b.(i) and TABLE 1.a - TMDL Bacteria Program- Part I.C.2.b.(iii)**									
Not Included in NOI	22	According to the requirements in Part I.C.2.b.(i), if the permittee discharges to an impaired water body with an approved TMDL (see MS4 Permit, Appendix B), where stormwater has the potential to cause or contribute to the impairment, the permittee shall include in the SWMP controls targeting the pollutant(s) of concern along with any additional or modified controls required in the TMDL and this section. As stated in the Permit, Appendix B, a bacteria TMDL for the Middle Rio Grande was approved by the New Mexico Water Quality Control Commission on April 13,2010, and by EPA on June 30, 2010. The new TMDL modifies: 1) the indicator parameter for bacteria from fecal coliform to E. coli, and 2) the way the WLAs are assigned The SWMP and required annual reports must include information on implementing any focused controls required to reduce the pollutant(s) of concern as described below:	CORR's measurable goals for compliance with the Permit activities are described in the sections below.					See specific Permit activity schedules below.			Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
Not Included in NOI	23	(a) Targeted Controls: The SWMP submitted with the first annual report must include a detailed description of all targeted controls to be implemented, such as identifying areas of focused effort or implementing additional BMPs that will be implemented to reduce the pollutant(s) of concern in the impaired waters. As required in Part I.C.2.b.(i).(e),the permittee shall include focused BMPs addressing the five areas below: A. Sanitary Sewer Systems (improve sanitary sewers; fix lift stations; identify and implement O&M procedures; improve violation reporting; and prevent overflows); B. On-site Sewage Facilities (address failing systems and inadequate maintenance of On-Site Sewage Facilities); C. Illicit Discharges and Dumping (effort to reduce waste sources of bacteria; for ex., septic systems, grease traps, and grit traps); D. Animal Sources (management programs to identify and target sources such as zoos, pet waste, and horse stables); E. Residential Education (bacteria from residential sites; fats, oils, and grease clogging sanitary sewer lines and resulting overflows; decorative ponds; and pet waste).	• CORR will include the MRGSWQT Outcomes Report in each Annual Report which will summarize the activities or planned activities where educational materials are distributed. • CORR will address the Illicit Discharge and Dumping through its IDDE Program, refer to the SWMP - Table 6: Illicit Discharges and Improper Disposal - for additional information. • The Utility Operations Section will continue coordination with the NPDES Project Manager; informing CORR and SSCAFCA of any sewer overflows that impact CORR/SSCAFCA facilities.					Address targeted controls in SWMP. Progress report submitted with each Annual Report (Due Dec. 1).			Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division and Utility Operation Division

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Not Included in NOI	24	(b) Measurable Goals: For each targeted control, the SWMP must include a measurable goal and an implementation schedule describing BMPs to be implemented during each year of the permit term. The value of the measurable goal must be based on one of the options presented in Part (No Suggestions).(i).(c) related to the WLA. Where the impairment is for bacteria, the permittee must, at minimum comply with the activities and schedules described in Table 1.a of Part I.C.2.b.(iii).	• CORR will address the Illicit Discharge and Dumping through its IDDE Program, refer to the SWMP - Table 6: Illicit Discharges and Improper Disposal - for additional information. This IDDE program includes illicit discharge monitoring by CORR staff and contractors, internal coordination of information provided by the public and tracking and documentation procedures. • CORR will continue to participate in MRGSWQT "Scoop the Poop" public information campaign. • CORR will include the MRGSWQT Outcomes Report in each Annual Report which will summarize the activities or planned activities related to targeting pet waste sources and residential education targeting bacteria sources.					Address measurable goals of targeted controls in SWMP. Progress report submitted with each Annual Report (Due Dec. 1).			Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division and MRGSWQT
Not Included in NOI	25	According to the requirements in Part I.C.2.b.(i).(f), the permittee shall monitor or assess progress in achieving measurable goals and determining the effectiveness of BMPs, and shall include documentation of this monitoring or assessment in the SWMP and annual reports. In addition, the SWMP must include methods to be used. This program element may be coordinated with the monitoring required in Part III.A. The permittee may use the following methods either individually or in conjunction to evaluate progress towards the measurable goal and improvements in water quality as follows: A. Evaluating Program Implementation Measures or B. Assessing Improvements in Water Quality Progress towards achieving the measurable goal shall be reported in the annual report. Annual reports shall report the measurable goal and the year(s) during the permit term that the MS4 conducted additional sampling or other assessment activities.	• CORR will include the MRGSWQT Outcomes Report in each Annual Report which will track the number of educational outreach opportunities conducted and list the number of people reached through the educational outreach program. • CORR will conduct stormwater monitoring in accordance with Table 10, Wet Weather Monitoring Program, Part III.A.1. The goals and plan for this program are described in the Wet Weather Monitoring Program portion of this SWMP.					Address monitoring and assessment of measurable goals of targeted controls in SWMP. Progress report submitted with each Annual Report (Due Dec. 1).			Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division and MRGSWQT

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Not Included in NOI	26	If, by the end of the 3rd year from the effective date of the permit, the permittee observes no progress toward the measurable goal either from program implementation or water quality assessments, the permittee shall identify alternative focused BMPs that address new or increased efforts towards the measurable goal. As appropriate, the MS4 may develop a new approach to identify the most significant sources of the pollutant(s) of concern and shall develop alternative focused BMPs (this may also include information that identifies issues beyond the MS4's control). These revised BMPs must be included in the SWMP and subsequent annual reports. Where the permittee originally used a measurable goal based on an aggregated WLA, the permittee may combine or share efforts with other MS4s discharging to the same impaired stream segment to determine an alternative sub-measurable goal for the pollutant(s) of concern for their respective MS4s, as described in Part I.C.2.b.(i).(c).B above. Permittees must document the proposed schedule for the development and subsequent adoption of alternative measurable goals for the pollutant(s) of concern for their respective MS4s and associated assessment of progress in meeting those individual goals.	CoRR, in cooperation with the TAG, MRGSQT, and CMC has observed progress towards E. coli controls and measurable goals, as demonstrated by the fact that the impairment for E. coli has been removed from the NMED 303 (d) list for 2 of the 3 assessment segments along the river within the Middle Rio Grande corridor. CoRR will continue to annually assess and evaluate the program and progress in achieving the measurable goals listed above.			• CoRR and the Middle Rio Grande MS4 permittees have made significant progress during this Permit term related to E. coli controls and measurable goals. In addition to 6 of the 7 Permit required samples collected by the CMC from the runoff for qualifying storm events, the MRGSQT has funded an additional year of dry weather E.coli data collection by college students in the BEMP program to better understand the baseline concentration of E. coli before storm events. The MRGSQT also funded a graduate student's master's thesis that studied the variability of E. coli concentrations in a water column compared to the juxtaposed sediment. A Watershed Protection Plan will continue to be an option as funding becomes available and AMAFCA will continue the discussion of the possibility of a High Flow Suspension for Recreational uses of river water. In FY 2018, the COA began a Microbial Source Tracking (MST) study; sample collection is underway for this project.		If required, end of the third year from the effective date of the permit. Dec. 22, 2017			Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
Not Included in NOI	27	From Table 1.a, Identify potential significant sources of the pollutant of concern entering your MS4.	• AMAFCA, with its co-permittees from the 2012 MS4 Phase I Permit, have completed several studies related to identifying potential significant sources of the pollutant of concern entering the MRG Watershed MS4 area. The results of these studies will be used to guide the overall program plan and goals.	Fully Implemented: 2016 Weston Solutions, INC provides an evaluation of potential wet weather bacteria sources with the urbanized City of Rio Rancho. See SWMP Appendix F - Potential Bacteria Source Map.				16 months (cooperative) from effective date of MS4 Permit April 22, 2016	**April 22, 2016**	**16**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division and TAG
Not Included in NOI	28	From Table 1.a, Develop (or modify an existing program- for prior permittees under NMS000101) and implement a public education program to reduce the discharge of bacteria in municipal stormwater contributed by (if applicable) by pets, recreational and exhibition livestock, and zoos.	• CORR will contribute and participate in the MRGSWQT. • CORR will include the MRGSWQT Outcomes Report in each Annual Report which will summarize the activities or planned activities related to targeting pet waste sources and residential education targeting bacteria sources.	Fully Implemented: See Attached Section 4 - MRG SQT Outcomes Report FY 2015-16	Fully Implemented See Attached Section 4 - MRG SQT Outcomes Report FY 2016-17	Fully Implemented - Continuing to implement existing program, updating as necessary.	Fully Implemented - Continuing to implement existing program, updating as necessary.	16 months (cooperative) from effective date of MS4 Permit April 22, 2016	**April 22, 2016**	**16**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
Not Included in NOI	29	From Table 1.a, Develop (or modify an existing program- for prior permittees under NMS000101) and implement a program to reduce the discharge of bacteria in municipal stormwater contributed by areas within your MS4 served by on-site wastewater treatment systems.	• CORR will continue membership and involvement in the cooperative MRGSWQT which will conduct educational and public outreach as well as facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related to screening and notification of illicit discharges.	In Progress: Completed by Weston Solutions, Inc. August 12, 2015 CoRR, Task Order 3 - Providing assistance with modifying or revising existing elements in the IDDE program.				18 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
Not Included in NOI	30	From Table 1.a, Review results to date from the Illicit Discharge Detection and Elimination program (see Part I.D.5.e) and modify as necessary to prioritize the detection and elimination of discharges contributing bacteria to the MS4.	• CORR addresses this Permit activity in the IDDE Program, refer to the SWMP - Table 6: Illicit Discharges and Improper Disposal - for additional information.	Given data collected, trends have not been identified.				18 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division

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Not Included in NOI	31	From Table 1.a, Develop (or modify an existing program- for prior permittees under NMS000101) and implement a program to reduce the discharge of bacteria in municipal stormwater contributed by other significant source identified in the Illicit Discharge Detection and Elimination program (see Part I.D.5.e).	• CORR will review its IDDE Program results annually and identify illicit discharges that contributed bacteria to the MS4. • CORR will develop strategies to address IDDEs found to contribute bacteria. The development and implementation of strategies will depend on the results. These strategies will be reported in subsequent Annual Reports.		In Progress: Completed by Weston Solutions, Inc. August 12, 2015 CoRR, Task Order 3 - Providing assistance with modifying or revising existing elements in the IDDE program.			16 months (if alone) or 20 months (cooperative) from effective date of MS4 Permit April. 22, 2016 or August 22, 2016	**August 22, 2016**	**20**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
Not Included in NOI	32	Include in the Annual Reports progress on program implementation and reducing the bacteria and updates their measurable goals as necessary. As required in Part I.C.2.b.(i).(d), the annual report must include an analysis of how the selected BMPs have been effective in contributing to achieving the measurable goal and shall include graphic representation of pollutant trends, along with computations of annual percent reductions achieved from the baseline loads and comparisons with the target loads.	• CORR will include the MRGSWQT Outcomes Report in each Annual Report. • Strategies developed to address IDDEs found to contribute bacteria to the MS4 will be reported in subsequent Annual Reports. • CORR will report annually on compliance monitoring to monitor and test for E. coli. This reporting will be done in accordance with Part III.A (Wet Weather Monitoring Program) of the MS4 Permit. This will include graphical representation of E. coli trends.	Dry Weather Visual Screening was conducted at seven (7) direct outfalls (High Priority) on Feb. 10, 2016. No discharges observed during screening. See IDDE Program Binder or Annual Report.	Dry Weather Visual Screening was conducted at seven (7) direct outfalls (High Priority) on Jun. 16, 2017. No discharges observed during screening. See Annual Report: Performance Assessment - MS4 Dry Weather Discharge Screening Report..	Dry Weather Visual Screening was conducted at seven (7) direct outfalls (High Priority) on August 18, 2017. No discharges observed during screening. See Annual Report: Performance Assessment - MS4 Dry Weather Discharge Screening Report.	Dry Weather Visual Screening was conducted at seven (7) direct outfalls (High Priority) on Jun. 13, 2019. No discharges observed during screening. See Annual Report: Performance Assessment - MS4 Dry Weather Discharge Screening Report.	Annual Report (due Dec. 1)	**Update as necessary**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division and MRGSWQT

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	33	**Discharges to Impaired Waters Without Approved TMDLs - Part I.C.2.b.(ii)**									
Not Included in NOI	34	According to the requirements in Part I.C.2.b.(ii), if the permittee discharges directly into an impaired water body without an approved TMDL, the permittee shall perform the following activities (described in sections below).	• Impairment for Dissolved Oxygen is addressed in the Endangered Species Act (ESA) section - Part I.C.3. Phase 1 permittee requirement only. • Impairment for PCBs is addressed in Compliance with Water Quality Standards - PCBs - Part I.C.1.e. Phase 1 permittee requirement only. • Impairment for Temperature is addressed in Compliance with Water Quality Standards - Temperature - Part I.C.1.f. Phase 1 permittee requirement only. • Compliance monitoring (Part III.A) includes Gross Alpha testing. Future assessment related to the impairment will be based on results of those samples.								Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division, MCM, and TAG
Not Included in NOI	35	The permittee shall: A. Determine whether the MS4 may be a source of the pollutant(s) of concern by referring to the CWA §303(d) list and then determining if discharges from the MS4 would be likely to contain the pollutant(s) of concern at levels of concern. The evaluation of CWA §303(d) list parameters should be carried out based on an analysis of existing data (e.g., IDDE Program) conducted within the permittees jurisdiction. B. Ensure that the SWMP includes focused BMPs, and corresponding measurable goals, that the permittee will implement, to reduce, the discharge of pollutant(s) of concern that contribute to the impairment of the water body. Only applicable if the permittee determines that the MS4 may discharge the pollutant(s) of concern to an impaired water body without a TMDL. The SWMP submitted with the first annual report must include a detailed description of proposed controls to be implemented along with measurable goals. C. Amend the SWMP to include any BMPs to address the pollutant(s) of concern.	• Refer to other SWMP sections for: - Dissolved Oxygen is addressed in the Endangered Species Act (ESA) section - Part I.C.3. - PCBs are addressed in Compliance with Water Quality Standards - PCBs - Part I.C.1.e. - Temperature is addressed in Compliance with Water Quality Standards - Temperature - Part I.C.1.f. • Compliance monitoring (Part III.A) includes Gross Alpha testing. Future assessment and strategies related to these impairments will be based on results of the stormwater samples.								

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	36	**Endangered Species Act (ESA) Requirements - Sediment Pollutant Load Reduction Strategy - Part I.C.3.b**									
Not Included in NOI	37	According to the requirements in Part I.C.3.b, the permittee must develop, implement, and evaluate a sediment pollutant load reduction strategy to assess and reduce pollutant loads associated with sediment (e.g., metals, etc. adsorbed to or traveling with sediment, as opposed to clean sediment) into the receiving waters of the Rio Grande. The strategy must include the following elements (see sections below):	CORR's measurable goals for compliance with the Permit activities are described in the sections below.					See specific Permit activity schedules below.			
Not Included in NOI	38	(i) Sediment Assessment: The permittee must identify and investigate areas within its jurisdiction that may be contributing excessive levels (e.g., levels that may contribute to exceedance of applicable Water Quality Standards) of pollutants in sediments to the receiving waters of the Rio Grande as a result of stormwater discharges. The permittee must identify structural elements, natural or man-made topo-graphical and geographical formations, MS4 operations activities, and areas indicated as potential sources of sediments and pollutants in the receiving waters of the Rio Grande. At the time of assessment, the permittee shall record any observed erosion of soil or sediment along ephemeral channels, arroyos, or stream banks, noting the scouring or sedimentation in streams. The assessment should be made using available data from federal, state, or local studies supplemented as necessary with collection of additional data. The permittee must describe, in the first annual report, all standard operating procedures, quality assurance plans to assure that accurate data are collected, summarized, evaluated and reported.	• CORR's O&M activities, which include sediment removal, will be scheduled, tracked, and evaluated for the Sediment Assessment requirement for this Permit activity. • CORR will document its procedure for sediment removal, scheduling, and tracking related to using this information for the Sediment Assessment.					No Permit required schedule. Progress Report for the entire Sediment Pollutant Load Reductions Strategy to be submitted with the fifth Annual Report. Dec. 1, 2019			Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
Not Included in NOI	39	(ii) Estimate Baseline Loading: Based on the results of the sediment pollutants assessment required in Part I.C.3.b.(i) above, the permittee must provide estimates of baseline total sediment loading and relative potential for contamination of those sediments by urban activities for drainage areas, sub-watersheds, Impervious Areas (IAs), and/or Directly Connected Impervious Area (DCIAs) draining directly to a surface waterbody or other feature used to convey waters of the United States. Sediment loads may be provided for targeted areas in the entire Middle Rio Grande Watershed using an individual or cooperative approach. Any data available and/or preliminary numeric modeling results may be used in estimating loads.	• CORR will utilize the data collected in the Sediment Assessment for estimating baseline sediment loading to its facilities.					No Permit required schedule. Interim reporting on progress required annually. Progress Report for the entire Sediment Pollutant Load Reductions Strategy to be submitted with the fifth Annual Report. Dec. 1, 2019			

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Not Included in NOI	40	(iii) Targeted Controls: Include a detailed description of all proposed targeted controls and BMPs that will be implemented to reduce sediment pollutant loads, calculated in Part I.C.3.b.(ii) above, during the next ten (10) years of permit issuance. For each targeted control, the permittee must include interim measurable goals (e.g., interim sediment pollutant load reductions) and an implementation and maintenance schedule, including interim milestones, for each control measure, and as appropriate, the months and years in which the MS4 will undertake the required actions. Any data available and/or preliminary numeric modeling results may be used in establishing the targeted controls, BMPs, and interim measurable goals. The permittee must prioritize pollutant load reduction efforts and target areas (e. g. drainage areas, sub watersheds, IAs, DCIAs) that generate the highest annual average pollutant loads.	• After analyzing the Sediment Assessment findings, CORR will improve this program and program tracking to meet the Permit activity requirements. • CORR will begin adding a detailed description and photo for each facility (each existing targeted control) to its tracking spreadsheet or program procedure.					No Permit required schedule. Interim reporting on progress required annually. Progress Report for the entire Sediment Pollutant Load Reductions Strategy to be submitted with the fifth Annual Report. Dec. 1, 2019			
Not Included in NOI	41	(iv) Monitoring and Interim Reporting: The permittee shall monitor or assess progress in achieving interim measurable goals and determining the effectiveness of BMPs, and shall include documentation of this monitoring or assessment in the SWMP and annual reports. In addition, the SWMP must include methods to be used. This program element may be coordinated with the monitoring required in Part III.A.	• CORR will include in each Annual Report a progress update for this program.					Update as necessary for SWMP and report on progress with each Annual Report.			
Not Included in NOI	42	(v) Progress Evaluation and Reporting: The permittee must assess the overall success of the Sediment Pollutant Load Reduction Strategy and document both direct and indirect measurements of program effectiveness in a Progress Report to be submitted with the fifth Annual Report. Data must be analyzed, interpreted, and reported so that results can be applied to such purposes as documenting effectiveness of the BMPs and compliance with the ESA requirements specified in Part I.C.3.b. The Progress Report must include: (a) A list of species likely to be within the action area: (b) Type and number of structural BMPs installed; (e) Evaluation of pollutant source reduction effects; (d) Any recommendation based on program evaluation; (e) Description of how the interim sediment load reduction goals established in Part I.C.3.b.(iii) were achieved; and (f) Future planning activities needed to achieve increase of sediment load reduction required in Part I.C.3.d.(iii).	• CORR will complete and provide to EPA with the fifth Annual Report, due Dec. 1, 2019, a Progress Report on the Sediment Pollutant Load Reduction Strategy. This Progress report will meet the Permit requirements.					Progress Report to be submitted with the fifth Annual Report Dec. 1, 2019			

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Not Included in NOI	43	(vi) Critical Habitat: Verify that the installation of stormwater BMPs will not occur in or adversely affect currently listed endangered or threatened species critical habitat by reviewing the activities and locations of stormwater BMP installation within the location of critical habitat of currently listed endangered or threatened species at the FWS website http://criticalhabitat.fws.gov/crithab/.	• CORR will continue its practice of coordination with the USFWS and USACE, as required, related to CORR's facility construction projects.					No Permit required schedule. Ongoing requirement of the MS4 Permit.			

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	44	**Part I.D.5 - Stormwater Management Plan (SWMP) Control Measures**									
	45	**TABLE 2: Construction Site Stormwater Runoff Control - Part I.D.5.a**									
See NOI Sections Below	46	5.a.(i) The permittee shall develop, revise, implement, and enforce a program to reduce pollutants in any stormwater runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. Permittees previously covered under permit NMS000101 or NMR040000 must continue existing programs, updating as necessary, to comply with the requirements of this permit. (Note: Highway Departments and Flood Control Authorities may only apply the construction site stormwater management program to the permittees own construction projects)	• Coordinate CSSRCP requirements (as detailed in Program and in sections below)	Continuing to implement existing stormwater program, updating as necessary.							Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
1.1	47	Development of an ordinance or other regulatory mechanism as required in Part I.D.5.a.(ii)(a)	CORR will continue to work with the MS4 Technical Advisory Group (TAG) and other agencies to discuss and help develop and/or enhance existing regulatory mechanisms.	Full Implemented: CORR Municipal Code 153.35(F)(2)(d).				N/A	**June 22, 2016**	**18**	Program Lead: Development Services Engineering Division Manager Implementation: Development Services Department
1.2	48	Develop requirements and procedures as required in Part I.D.a(ii).(b) through Part I.D.a(ii).(h). These Permit sections include requirements for CORR to implement and enforce requirements for construction site operators to 1) implement appropriate erosion and sediment control BMPs - Part I.D.a(ii).(b) and 2) control waste at the construction site that may cause adverse impacts to water quality - Part I.D.a(ii).(c). Permit sections also include requirements to develop procedures for site plan review which incorporate consideration of potential water quality impacts - Part I.D.a.(ii).(d); receipt and consideration of information submitted by the public - Part I.D.a.(ii).(e); site inspection (during construction) and enforcement of control measures - Part I.D.a.(ii).(f); to educate and train permittee personnel and developers, construction site operators, contractors and supporting personnel - Part I.D.a.(ii).(g); and for keeping records of and tracking all regulated construction activities within the MS4 - Part I.D.a.(ii).(h).	• Review site plans and the SWPPPs for CORR-owned projects disturbing at least one acre in order to consider potential water quality impacts and ensure consistency with federal, state and local sediment and erosion control requirements. Ensure SWPPPs for projects are developed by qualified individuals. • Conduct pre-construction meetings on CORR-owned construction projects disturbing at least one acre prior to beginning earth-disturbing activities in order to discuss the SWPPP, NOI and BMPs. • CORR will post a contact phone number at all required construction sites. • In a cooperative effort with SSCAFCA, the DSD ENG reviews private development that has a direct connection to CORR facilities for projects disturbing at least one acre. Review includes stormwater conveyance, water quality and erosion control. • CORR will maintain records of all CORR-owned construction projects disturbing at least one acre within its rights-of-way.	Fully Implemented - Continuing to implement existing program, updating as necessary.					**June 22, 2016**	**18**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division

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1.3	49	Annually conduct site inspections of 100 percent of all construction projects cumulatively disturbing one (1) or more acres as required in Part I.D.a.(iii)	• CORR will complete the inspections for 100% of the active construction sites under contract by CORR which disturb at least one acre. • CORR will develop a SWPPP inspection form and will track all MS4 inspections using a tracking spreadsheet. • CORR will maintain copies of the completed MS4 inspection forms. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande.	Fully Implemented - Continuing to implement existing program, updating as necessary.					**December 22, 2016**	**24**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
1.4	50	Coordinate with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/activities within the permit area as required in Part I.D.a.(iv). Planning documents include, but are not limited to: comprehensive or master plans, subdivision ordinances, general land use plan, zoning code, transportation master plan, specific area plans, such as sector plan, site area plans, corridor plans, or unified development ordinances.	• CORR will continue regular coordination amongst engineering staff and to verify that BMPs are in place to control erosion during construction on CORR-owned projects.	In Progress - Continuing to coordinate and implement existing program, updating as necessary.	In Progress - Continuing to coordinate and implement existing program, updating as necessary.	Fully Implemented: Weston Solutions, Inc. provided draft stormwater quality ordinance to NAIOP on 3/21/2018. Planning & Zoning Board - Approves the Ordinance amending the Rio Rancho Code of Ordinances Title XV Land Usage, Chapter 153 Erosion Control; Storm Drainage Sections 153.01 – 153.38		10 months from effective date of MS4 Permit Oct. 22, 2015	**February 22, 2016**	**14**	
1.5	51	Evaluation of GI/LID/Sustainable practices in site plan reviews as required in Part I.D.a.(v). The site plan review must include an evaluation of opportunities for use of GI/LID/ Sustainable practices and when the opportunity exists, encourage project proponents to incorporate such practices into the site design to mimic the pre-development hydrology of the previously undeveloped site. For purposes of this permit, pre-development hydrology shall be met according to Part I.D.5.b of this permit (consistent with any limitations on that capture). Include a reporting requirement of the number of plans that had opportunities to implement these practices and how many incorporated these practices.	• CORR will annually report the number of plans that were reviewed within CORR's right-of-ways that had opportunities to implement GI/LID/Sustainable practices and how many incorporated these practices.	In Progress - Continuing to coordinate and implement existing program, updating as necessary.	In - Process - Task Order - MS4 Watershed Based Permit Rio Rancho Ordinance Modification. Notice to Proceed issued to Weston Solutions, Inc. on March 16, 2017	Fully Implemented: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted. See Section 153.35(F)(2)(e) Stormwater Quality Design (SQD).		14 months (cooperative) from effective date of MS4 Permit February 22, 2016	**February 22, 2016**	**14**	N/A
Not Included in NOI	52	Update the SWMP document and annual report as required in Part I.D.5.a.(vi) and in Part I.D.5.a.(vii)	• Annually evaluate and revise the CSSRCP, as necessary, to ensure that CORR's Program meets the MS4 Permit requirements. • Include in each annual report a summary of the number and frequency of site reviews and inspection activities that are conducted annually and cumulatively during the permit term.	See Annual Report, Section 4. Construction.	See Annual Report, Section 4. Construction.	See Annual Report, Section 4. Construction.	See Annual Report, Section 4. Construction, and SWMP Section 5.3 CGP Compliance Inspection List	Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
1.6	53	Enhance the program to include the elements in Part I.D.5.a.(viii) through part I.D.5.a.(x). These include: (viii) Use of stormwater educational materials; (ix) Develop or update existing construction handbooks; and (x) construction inspections may be carried out in conjunction with other inspections and use a screening prioritization process.	• CORR will include the MRGSWQT Outcomes Report in each Annual Report which will summarize the activities where educational materials were dispersed and shared with the public. • CORR will continue to attend and participate in the TAG to exchange information with other MS4s regarding potential program enhancements.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. Performance assessment can be found in the (Jul. 2015-Jun. 2016) Annual Report	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. Performance assessment can be found in the (Jul. 2016-Jun. 2017) Annual Report.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. Performance assessment can be found in the (Jul. 2017-Jun. 2018) Annual Report.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. Performance assessment can be found in the (Jul. 2018-Jun. 2019) Annual Report.	Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division

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	54	**TABLE 3: Post-Construction Stormwater Management in New Development and Redevelopment- Part I.D.5.b**									
See NOI Sections Below	55	Part I.D.5.b.(i) The permittee must develop, revise, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the MS4. The program must ensure that controls are in place that would prevent or minimize water quality impacts. Permittees previously covered under NMS000101 or NMR040000 must continue existing programs, updating as necessary, to comply with the requirements of this permit. (Note: Highway Departments and Flood Control Authorities may only apply the post-construction stormwater management program to the permittees own construction projects).	Track and enforce CORR Development Manual and federal USEPA NOI procedures for new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the MS4.	Continuing to implement existing program, updating as necessary.				See specific Permit activity schedules below.			Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.1	56	Development of strategies as required in Part I.D.5.b.(ii).(a). Strategies which include a combination of structural and/or non-structural best management practices (BMPs) to control pollutants in stormwater runoff.	• CORR will continue to include both structural and non-structural BMPs to control pollutants in stormwater runoff from CORR owned facilities.	In Progress - Continuing to implement existing program, updating as necessary.	In - Progress - Task Order - MS4 Watershed Based Permit Rio Rancho Ordinance Modification. Notice to Proceed issued to Weston Solutions, Inc. on May 5, 2017.	Fully Implemented: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted. See Section 153.35(F)(2)(e). EPA publication number 832-R-14077 is included in the definition of Stormwater Quality Design Storm/Event.		10 months from effective date of MS4 Permit Oct. 22, 2015	**February 22, 2016**	**14**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.2	57	Development of an ordinance or other regulatory mechanism as required in Part I.D.5.b.(ii)(b)	• CORR will continue to work with the MS4 Technical Advisory Group (TAG) and other agencies to discuss and help develop regulatory mechanisms.		In - Progress - Task Order - MS4 Watershed Based Permit Rio Rancho Ordinance Modification. Notice to Proceed issued to Weston Solutions, Inc. on May 5, 2017.	Fully Implemented: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted. See Section 153.21(B)(2)(f).		24 months (cooperative) from effective date of MS4 Permit Dec. 22, 2016	**December 22, 2017**	**36**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.3	58	Implementation and enforcement, via the ordinance or other regulatory mechanism of site design standards as required in Part I.D.5.b.(ii).(b).	• CORR will develop strategies to administratively or contractually address post-construction peak flow runoff from new development and redevelopment projects within CORR's jurisdiction and/or right of ways to the extent allowable under State, Tribal, or local law.			Fully Implemented: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted. See Section 153.37 Enforcement.		36 months (cooperative) from effective date of MS4 Permit Dec. 22, 2017	**December 22, 2018**	**48**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.4	59	Ensure appropriate implementation of post-construction structural controls as required in Part I.D.5.b.(ii).(c) and Part I.D.5.b.(ii).(d).	• Ensure post-construction program requirements are constantly reviewed as appropriate to incorporate improvements in control techniques.		In - Progress - Task Order - MS4 Watershed Based Permit Rio Rancho Ordinance Modification. Notice to Proceed issued to Weston Solutions, Inc. on May 5, 2017.	Fully Implemented: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted. See Section 153.21 Stormwater Quality Protection.		10 months from effective date of MS4 Permit Oct. 22, 2015	**June 22, 2017**	**30**	

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2.5	60	Develop procedures as required in Part I.D.5.b.(ii). (e) - for educational program for project developers; Part I.D.5.b.(ii). (f) - for site inspections and enforcement for long-term operation, maintenance, and repair of BMPs; Part I.D.5.b.(ii). (g) - for control of discharge related to pesticides, herbicides, and fertilizer; and Part I.D.5.b.(ii). (h) - for review and update of the post-construction program.	• CORR will include the MRGSWQT Outcomes Report in each Annual Report which will summarize, if applicable, the activities where educational materials were dispersed and shared with project developers.	All elements of the Proposed Plan have been implemented. See MRGSWQT Outcomes Report.				18 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.6	61	Coordinate internally with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/ activities within the permit area as required in Part I.D.5.b.(iii) related to developed hydrology mimicking pre-development hydrology.	• CORR will coordinate internally on studies and projects for MS4 Permit compliance with developed hydrology mimicking pre-development hydrology. CORR will abide by the NM OSE rule and plan/design its facilities to drain within 96 hours per the OSE requirements.	Fully Implemented: CORR requires all construction projects to adhere to the following design standard: CORR Development Manual, Vol. II, Storm Drainage Release Rate - The maximum discharge from developed property in the event of a 100 year 6 hour storm shall be the amount of the historic or pre-developed runoff in all watersheds in the City of Rio Rancho.				10 months from effective date of MS4 Permit Oct. 22, 2015	**December 22, 2015**	**12**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.7	62	As required in Part I.D.5.b.(iv), the permittee must assess all existing codes, ordinances, planning documents and other applicable regulations, for impediments to the use of GI/LID/Sustainable practices.	• CORR will assess existing codes, ordinances, planning documents and other applicable regulations for impediments to the use of GI/LID/Sustainable practices that CORR has jurisdiction over		In Progress - Reviewing existing Chapter 153 ordinance.	Fully Implemented: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted. Chapter 153 promotes and encourages the use of GI/LID for water conservation in landscaping and in the treatment of stormwater prior to discharge to the WOTUS.		2 years from effective date of MS4 Permit Dec. 22, 2016	**December 22, 2016**	**24**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.8	63	As required in Part I.D.5.b.(iv), develop and submit a report of the assessment findings on GI/LID/Sustainable practices.	• CORR will develop and submit a report of the assessment findings on GI/LID/Sustainable practices. This will be completed in by March 2017 and submitted to the EPA with the Annual Report, due Dec. 1, 2017.					27 months (cooperative) from effective date of MS4 Permit March 22, 2017	**March 22, 2017**	**27**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.9	64	Estimation of the number of acres of IA and DCIA as required in Part I.D.5.b.(vi).	• CORR will estimate the IA and DCIA within regulated jurisdiction and/or right of way. This will be done annually as part of the Annual Report preparation. This will be a cooperative effort with other Middle Rio Grande MS4s.		In Progress - Working with Records and GIS Department	IA and DCIA boundary map created on July 27, 2017. City Boundary 66,438 acres, Urbanized Area Boundary 23,636 acres, Impervious Surface 5, 224 acres.		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division

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2.10	65	Inventory and priority ranking as required in Part I.D.5.b.(vii) for MS4-owned property and infrastructure (including public right-of-way) that may have the potential to be retrofitted with control measures designed to control the frequency, volume, and peak intensity of stormwater discharges to and from its MS4.	• CORR will continue to meet with agencies within its jurisdiction to discuss the areas requiring drainage and water quality retrofitting within the Middle Rio Grande Watershed, project priorities, and multi-agency funding contributions. • CORR will utilize the Project Schedule to prioritize water quality projects and water quality retrofit projects. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande. • CORR will evaluate the existing BMPs within its most urbanized watershed, the Montoya's Arroyo watershed, based on their effectiveness and capacity. These studies will provide the basis for determining where additional BMPs may be required within this watershed.			In-Progress - RFP process, site vest(s), design review.	Fully Implemented: Completed July 2, 2019 Engineering Design Analysis Report City of Rio Rancho MS4 Outfalls. Completed August 29, 2019 MS4 Outfall Improvements - engineering drawings, specifications, and probable cost.	42 months (cooperative) from effective date of MS4 Permit June 22, 2018	**June 22, 2018**	**42**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.11	66	Incorporate watershed protection elements into regular planning or policy documents as required in Part I.D.5.b.(viii). As applicable to each permittee's MS4 jurisdiction, policy and/or planning documents must include the following: (a) A description of master planning and project planning procedures to control the discharge of pollutants to and from the MS4. (b) Minimize the amount of impervious surfaces (roads, parking lots, roofs, etc.) within each watershed, by controlling the unnecessary creation, extension and widening of impervious parking lots, roads and associated development. (c) Identify environmentally and ecologically sensitive areas that provide water quality benefits and serve critical watershed functions within the MS4 and ensure requirements to preserve, protect, create and/or restore these areas are developed and implemented during the plan and design phases of projects in these identified areas.	• CORR will participate in meetings for project planning of infrastructure retrofitting either on a watershed wide or regional scale. • For projects led by CORR, watershed protection elements will be incorporated into Drainage Management Plans, as appropriate, in order to identify watersheds which potentially can be retrofitted with regional water quality facilities.		In Progress - Reviewing existing Chapter 153 ordinance.	Fully Implemented: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted.		10 months from effective date of MS4 Permit Oct. 22, 2015	**June 22, 2017**	**30**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division

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2.11	67	Continuation of incorporate watershed protection elements into regular planning or policy documents as required in Part I.D.5.b.(viii). (d) Implement stormwater management practices that minimize water quality impacts to streams, including disconnecting direct discharges to surface waters from impervious surfaces such as parking lots. (e) Implement stormwater management practices that protect and enhance groundwater recharge as allowed under the applicable water rights laws. (f) Seek to avoid or prevent hydromodification of streams and other water bodies caused by development, including roads, highways, and bridges. (g) Develop and implement policies to protect native soils, prevent topsoil stripping, and prevent compaction of soils. (h) The program must be specifically tailored to address local community needs (e.g. protection to drinking water sources, reduction of water quality impacts) and must be designed to attempt to maintain pre-development runoff conditions.	• CORR will develop a written procedure that includes applicable watershed protection elements in Part I.D.5.b.(viii).(g) as required in the MS4 Permit and as applicable to CORR. • CORR will continue to contribute and participate in the MRGSWQT, which supports programs tailored to address local community needs and are designed to attempt to maintain pre-development runoff conditions.		In Progress - Reviewing existing Chapter 153 ordinance.	Fully Implemented: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted.		10 months from effective date of MS4 Permit Oct. 22, 2015	**June 22, 2017**	**30**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
Not Included in NOI	68	Update the SWMP document and annual report as required in Part I.D.5.b.(ix) and Part I.D.5.b.(x). The following information must be included in each annual report: (a) Include a summary and analysis of all maintenance, inspections and enforcement, and the number and frequency of inspections performed annually. (b) A cumulative listing of the annual modifications made to the Post-Construction Stormwater Management Program, and (c) According to the schedule presented in Table 3, the permittee must: A. Report the number of MS4-owned properties and infrastructure that have been retrofitted with control measures designed to control the frequency, volume, and peak intensity of stormwater discharges. B. As required in Part I.D.5.b.(vi), report the tabulated results for IA and DCIA and its estimation methodology.	• CORR will continue to track all maintenance activity related to maintenance of all CORR owned water quality structures. A summary of the information will be included in each annual report. • CORR will include a cumulative list of retrofitted CORR facilities in each annual report. • CORR will continue to provide MRG permittees with information to support their IA and DCIA reporting requirements to EPA.					Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		
2.12	69	Enhance the program to include the elements in Part I.D.5.b.(xi) and Part I.D.5.a.(xii). These include: (xi) Use of stormwater educational materials; (xii) Develop or update existing construction handbooks; and (x) participate in watershed planning efforts to aid with BMP selection and planning.	• CORR will include the MRGSWQT Outcomes Report in each Annual Report which will summarize the activities where educational materials were dispersed and shared with the public. • CORR will continue to contribute and participate in the MRGSWQT, which supports post-construction programs. • CORR will participate in any meetings regarding watershed planning efforts. CORR will continue to produce and publish the CORR ICIP annually. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report.				Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering and MRGSWQT

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	70	**TABLE 4: Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations - Part I.D.5.c**									
3.1	71	Develop or update the Pollution Prevention/Good House Keeping program to include the elements in Part I.D.5.c.(i). Elements include: employee training program to incorporate pollution prevention and good housekeeping, including a tracking procedure (Part I.D.5.c.(i).(a)); O&M activities, schedules, and long term inspections procedures for structural and non-structural stormwater controls (Part I.D.5.c.(i).(b)); Controls for reducing or eliminating the discharge of pollutants from City owned facilities (Part I.D.5.c.(i).(c)) Procedures for properly disposing of waste removed from CORR facilities (sediment, floatables, and other debris) (Part I.D.5.c.(i).(d)); and procedures to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices (Part I.D.5.c.(i).(e)).	• The City will then develop/enhance the training programs targeting requirements of Part I.D.D.c.(i) including a tracking procedure that ensures employee turnover is considered. • The City will develop a pollution prevention and good housekeeping annual workshop/training for municipal employees responsible for operations and maintenance of the pertinent City facilities.	In Progress - Facility Evaluation(s)	In Progress - Facility Evaluation(s)	In - Process - Consultant Notice to proceed: October 10, 2017 - SWPPP for Streets and Right of Way Facilities May 23, 2018 - SWPPP for Building and Fleet Maintenance February 12, 2019 - SWPPP for Parks, Recreation and Community Services Maintenance Yard	Fully Implemented on August 1, 2018 - SWPPP for Streets and Right of Way Facilities Fully Implemented on September 27, 2018 - SWPPP for Building and Fleet Maintenance Fully Implemented on June 3, 2019 - SWPPP for Parks, Recreation and Community Services Maintenance Yard	18 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	
3.2	72	Enhance the program to include the elements in Part I.D.5.c.(ii). These include: (a) Develop or update the existing list of all stormwater quality facilities by drainage basin, including location and description;			In Progress - Facility Evaluation(s)	Fully Implemented -		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	
3.2	73	(b) Develop or modify existing operational manual for de-icing activities addressing alternate materials and methods to control impacts to stormwater quality;			In Progress - Facility Evaluation(s)	Reactive Snow Removal Program - The City does not perform snow and ice removal for residential streets.		30 months (cooperative) from effective date of MS4 Permit	**June 22, 2017**	**30**	
3.2	74	(c) Develop or modify existing program to control pollution in stormwater runoff from equipment and vehicle maintenance yard;	1) Develop SWPPP scope of work. 2) Secure funding. 3) Issue notice to proceed. 4) Implement SWPPP recommendations.		In Progress - Facility Evaluation(s)	Fully Implemented - See Section 2 - PPGH Municipal Operations, Appendix F		30 months (cooperative) from effective date of MS4 Permit	**June 22, 2017**	**30**	
3.2	75	(d) Develop or modify existing street sweeping program. Assess possible benefits from changing frequency or timing of sweeping activities or utilizing different equipment for sweeping activities;			In Progress - Facility Evaluation(s)	Reactive Street Sweeping Program - Road sweeping consists of sweeping paved roads as conditions permit. The City attempts to sweep all residential roads at least once every two years.		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	
3.2	76	(e) A description of procedures used by permittees to target roadway areas most likely to contribute pollutants to and from the MS4 (i.e., runoff discharges directly to sensitive receiving water, roadway receives majority of de-icing material, roadway receives excess litter, roadway receives greater loads of oil and grease);			In Progress - Facility Evaluation(s)	Fully Implemented -		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	
3.2	77	(f) Develop or revise existing standard operating procedures for collection of used motor vehicle fluids (at a minimum oil and antifreeze) and toxics (including paint, solvents, fertilizers, pesticides, herbicides...) used in permittee operations;	1) Develop SWPPP scope of work. 2) Secure funding. 3) Issue notice to proceed. 4) Implement SWPPP recommendations.		In Progress - Facility Evaluation(s)	Fully Implemented - See Section 2 - PPGH Municipal Operations, Appendix F		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	

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3.2	78	(g) Standard operating procedure for disposal of accumulated sediments, floatables, and debris;			In Progress - Facility Evaluation(s)	Fully Implemented -		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	
3.2	79	(h) litter source control program, include targeted public awareness campaign;			In Progress - Facility Evaluation(s)	Fully Implemented - See Section 4 - MRG SWQ Outcomes Report		30 months (cooperative) from effective date of MS4 Permit	**June 22, 2017**	**30**	
3.2	80	(i) Develop or review and revise, as necessary, the criteria, procedures and schedule to evaluate existing flood control devices, structures and drainage ways to assess the potential of retrofitting to provide additional pollutant removal from stormwater. Implement routine review to ensure new and/or innovative practices are implemented where applicable.			In Progress - Facility Evaluation(s)	In-Progress - See Section 2: Stormwater Outfall RFP		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	
3.2	81	j) Enhance inspection and maintenance programs by coordinating with maintenance personnel to ensure that a target number of structures per basin are inspected and maintained per quarter;			In Progress - Facility Evaluation(s)	Fully Implemented -		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	
3.2	82	(k) Enhance the existing program to control the discharge of floatables and trash from the MS4 by implementing source control of floatables in industrial and commercial areas;			In Progress - Facility Evaluation(s)	Fully Implemented -		30 months (cooperative) from effective date of MS4 Permit	**June 22, 2017**	**30**	
3.2	83	(l) Include in each annual report, a cumulative summary of retrofit evaluations conducted during the permit term on existing flood control devices, structures and drainage ways to benefit water quality. Update the SWMP to include a schedule (with priorities) for identified retrofit projects;			In Progress - Facility Evaluation(s)	Fully Implemented -		30 months (cooperative) from effective date of MS4 Permit Oct. 22, 2015 or June 22, 2017	**June 22, 2017**	**30**	
3.2	84	(m) Flood management projects: review and revise, as necessary, technical criteria guidance documents and program for the assessment of water quality impacts and incorporation of water quality controls into future flood control projects. The criteria guidance document must include the following elements: A. Describe how new flood control projects are assessed for water quality impacts. B. Provide citations and descriptions of design standards that ensure water quality controls are incorporated in future flood control projects. C. Include method for permittees to update standards with new and/or innovative practices. D. Describe master planning and project planning procedures and design review procedures.	.		In Progress - Facility Evaluation(s)	Fully Implemented -		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	
3.2	85	(n) Develop procedures to control the discharge of pollutants related to the storage and application of pesticides, herbicides, and fertilizers applied, by the permittee's employees or contractors, to public right-of-ways, parks, and other municipal property. The permittee must provide an updated description of the data monitoring system for all permittee departments utilizing pesticides, herbicides and fertilizers.	1) Develop SWPPP scope of work. 2) Secure funding. 3) Issue notice to proceed. 4) Implement SWPPP recommendations.		In Progress - Facility Evaluation(s)	Fully Implemented - See Section 2 - PPGH Municipal Operations, Appendix F		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	

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3.3	86	Develop or update a list and a map of industrial facilities owned or operated by the permittee as required in Part I.D.5.c.(iii).		Fully Implemented: GIS map complete.				18 months (cooperative) from effective date of MS4 Permit	**June 22, 2016**	**18**	
Not Included in NOI	87	Update the SWMP document and annual report as required in I.D.5.c.(iv) and Part I.D.5.c.(v). The permittee must include in the SWMP a description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.c.(i) throughout Part I.D.5.c.(iii) and its corresponding measurable goal. The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report.		In Progress - Facility Evaluation(s)	In Progress - Facility Evaluation(s)	October 10, 2017 - SWPPP for Streets and Right of Way Facilities May 23, 2018 - SWPPP for Building and Fleet Maintenance February 12, 2019 - SWPPP for Parks, Recreation and Community Services Maintenance Yard	Fully Implemented on August 1, 2018 - SWPPP for Streets and Right of Way Facilities Fully Implemented on September 27, 2018 - SWPPP for Building and Fleet Maintenance Fully Implemented on June 3, 2019 - SWPPP for Parks, Recreation and Community Services Maintenance Yard	Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		

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	88	**TABLE 5: Industrial and High Risk Runoff - Part I.D.5.d**									
4	89	As described in Part I.D.5.d, the permittees shall: (i) control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by stormwater discharges associated with industrial activity and the quality of stormwater discharged from sites of industrial activity as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi). If no such industrial activities are in a permittees jurisdiction, that permittee may certify that this program element does not apply.	**Not Applicable**								

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	90	**TABLE 6: Illicit Discharges and Improper Disposal - Part I.D.5.e**									
See NOI Sections Below	91	As described in Part I.D.5.e.(i), the permittee shall develop, revise, implement, and enforce a program to detect and eliminate illicit discharges (as defined at 40 CFR 122.26(b)(2)) entering the MS4. Permittees previously covered under NMS000101 or NMR040000 must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit. The permittee must (see required items listed below):	• The CORR NPDES Project Manager will continue to review, revise, and implement the Illicit Discharge Detection and Elimination Program requirements. • CORR will update their current written procedure for this program element. • CORR is pursuing developing a cooperative program elements for this program.	Continuing to implement existing program, updating as necessary.				See specific Permit activity schedules below.			Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
5.1	92	Mapping as required in Part I.D.5.e.(i).(a). Develop, if not already completed, a storm sewer system map, showing the names and locations of all outfalls as well as the names and locations of all waters of the United States that receive discharge from those outfalls. Identify all discharges points into major drainage channels draining more than twenty (20) percent of the MS4 area;	• CORR will continue to keep this maintenance map up-to-date for CORR facilities and other MS4 permittee facilities, as information is provided. Cooperation with other MS4s will continue related to this map.	Fully Implemented - See SWMP Appendix E and G.				14 months (cooperative) from effective date of MS4 Permit February 22, 2016	**February 22, 2016**	**14**	Program Lead: NDPES Project Manager Implementation: Development Services Department Engineering, Recorder and GIS Section, and Consultant
5.2	93	Ordinance (or other control method) as required in Part I.D.5 .e.(i)(b).	• As necessary, draft amendments to existing ordinance prohibiting non-stormwater discharges into the MS4.		In Progress - Reviewing existing Chapter 153 ordinance.	Fully Implemented: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted. See Section 153.30		10 months from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
5.3	94	Develop and implement a IDDE plan as required in Part I.D.5.e.(i).(c). The permittee must include the following elements in the plan: A. Procedures for locating priority areas likely to have illicit discharges including field test for selected pollutant indicators (ammonia, boron, chlorine, color, conductivity, detergents, E. coli, enterococci, total coliform, fluoride, hardness, pH, potassium, conductivity, surfactants), and visually screening outfalls during dry weather; B. Procedures for enforcement, including enforcement escalation procedures for recalcitrant or repeat offenders; C. Procedures for removing the source of the discharge; D. Procedures for program evaluation and assessment; and E. Procedures for coordination with adjacent municipalities and/or state, tribal, or federal regulatory agencies to address situations where investigations indicate the illicit discharge originates outside the MS4 jurisdiction.	• CORR will continue implementing the existing IDDE program. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related to the IDDE program. • CORR will begin developing a written procedure for this program element. • CORR is pursuing developing a cooperative program for this program element with permittees located within CORR's jurisdiction.	In Progress: Completed by Weston Solutions, Inc. August 12, 2015 CoRR, Task Order 3 - Providing assistance with modifying or revising existing elements in the IDDE program.	In Progress - Reviewing existing Chapter 153 ordinance.	Fully Implemented: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted. See Section 153.30		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
5.4	95	Develop an education program as required in Part I.D.5.e.(i).(d). Develop an education program to promote, publicize, and facilitate public reporting of illicit connections or discharges, and distribution of outreach materials. The permittee shall inform public employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of waste.	• CORR will continue its involvement with and financial support of BEMP and RiverXchange through the MRGSWQT. • CORR will work with the MRGSWQT to inform the general public of the hazards associated with illegal discharges and improper disposal of waste. • The MRGSWQT Outcomes Report will be submitted in the Annual Report. • CORR will continue an in-house training program for its administrative, engineering and field employees regarding illegal discharges and improper disposal of waste.	The Middle Rio Grande Stormwater Quality Team has published outreach material "Keep the Rio Grand - Reduce Stormwater Pollution at Home!" CORR				18 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division and MRGSWQT

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5.5	96	Establish a hotline as required in Part I.D.5.e.(i).(e).	• CORR will continue to respond to the information received from this application integral to the IDDE program.	Fully Implemented: Report Rio Rancho App/Website has a NEW report type "Environmental Concern" which tracks Illicit Discharge of Waste, Surface Sewage/Failed Septic Systems and Water Waste.				18 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	Program Lead: NPDES Project Manager Implementation: Information Technologies / Public Works Records & GIS
5.6	97	Investigate suspected significant/severe illicit discharges as required in Part I.D.5.e.(i).(f). Investigate suspected significant/severe illicit discharges within forty-eight (48) hours of detection and all other discharges as soon as practicable; elimination of such discharges as expeditiously as possible; and, requirement of immediate cessation of illicit discharges upon confirmation of responsible parties. Illicit Discharge is defined in 40 CFR 122.26(b)(2)as "Illicit discharge means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities."	• CORR will continue its policy of investigation of suspected significant/severe illicit discharges within 48 hours of detection and all other discharges as soon as practicable. • CORR will continue investigation and documentation of all applicable illicit discharge complaints (using IDDE Incident Report Form) received through the Report Rio Rancho website/app, as well as other complaints received directly by CORR staff through e-mail, phone, or observation. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related to investigation of illicit discharges. • CORR will develop a written procedure for this program element and develop an electronic field form for gathering applicable information regarding reported IDDE.	Fully Implemented:		Fully Implemented/Revised: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted. See Section 153.32		18 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering
5.7	98	Review complaint records and develop a targeted source reduction program as required in Part I.D.5.e.(i).(g). Review complaint records for the last permit term and develop a targeted source reduction program for those illicit discharge /improper disposal incidents that have occurred more than twice in two (2) or more years from different locations.	• CORR will continue its policy of reviewing complaint records. This will include a focus on illicit discharges contributing bacteria to the MS4. • Annually, CORR will reevaluate its targeted source reduction program. Potential future targets will be determined and cooperative efforts for targeted source reduction programs with MRGSWQT members will be considered. • CORR will continue adding illicit discharge complaint records for the permit term to the CORR GIS database to help identify sources and trends. • CORR continue developing a cooperative for this program element.	Given data collected, trends have not been identified.				1 year (cooperative) from effective date of MS4 Permit Dec. 22, 2015	**December 22, 2015**	**12**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering

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Not Included in NOI	99	As required in Part I.D.5.e.(ii), the permittee shall address the following categories of non-stormwater discharges or flows (e.g., illicit discharges) only if they are identified as significant contributors of pollutants to the MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(90)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water. Note: Discharges or flows from fire fighting activities are excluded from the effective prohibitions against non-stormwater and need only be addressed where they are identified a significant sources of pollutants to water of the United States).	• The CORR NPDES Project Manager will review this list annually to check that the categories of authorized non-stormwater discharges are still not considered significant contributors of pollutants to the MS4.	No significant contributors or pollutants to the MS4 found.				No specific implementation schedule, CORR will review annually.			
5.8	100	As required in Part I.D.5.e.(iii), the permittee must screen the entire jurisdiction at least once every five (5) years and high priority areas at least once every year. High priority areas include any area where there is ongoing evidence of illicit discharges or dumping, or where there are citizen complaints on more than five (5) separate events within twelve (12) months. The permittee must: (a) Include in its SWMP document a description of the means, methods, quality assurance and controls protocols, and schedule for successfully implementing the required screening, field monitoring, laboratory analysis, investigations, and analysis evaluation of data collected. (b) Comply with the dry weather screening program established in Table 6 and the monitoring requirements specified in Part III.A.2. (c) If applicable, implement the priority ranking system developed in previous permit term.	• CORR will develop screening procedures, protocols and plan in years 1-3 for the Permit (Dec. 22, 2014 through Dec. 22, 2017). This may be done as a cooperative program. • CORR will implement the IDDE required screening activities for a minimum of 30% of the MS4 by the end of year 4 for this Permit (Dec. 22, 2018). • CORR will complete the IDDE required screening activities for 70% the of the MS4 system by the end of year 5 for this Permit (Dec. 22, 2019). • CORR will continue membership and involvement in the cooperative MRGSWQT which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related to screening for illicit discharges. • CORR is pursuing developing a cooperative for this program element, including implementing the priority ranking system.					Cooperative program - High Priority - screen 1x per year. -Years 1 -3: develop procedures as required in Part I.D.5.e.(i).(c). -Year 4: screen 30% of the MS4 area. -Year 5: screen 70% of the MS4 area.	**See Measurable Goal Schedule**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering

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5.9	101	Develop, update, and implement a Waste Collection Program as required in Part I.D.5.e.(iv).	• CORR will work with Sandoval County to increase the number of Household Hazardous Waste collection days hosted. • CORR will continue working with Sandoval County and SSCAFCA on watershed clean-up events		Fully Implemented: City of Rio Rancho/Sandoval County Recycling Center opened in 2011	**CITY OF RIO RANCHO/ SANDOVAL COUNTY RECYCLING CENTER CLOSURE:** The City of Rio Rancho and Sandoval County joint recycling center located off Iris Road closed on June 23, 2018. The facility officially opened on 2011 in response to citizen input. However, Rio Rancho residents are now being offered more extensive and convenient trash and recycling pickup services directly at their homes through Waste Management that create operating efficiencies and reduce the need for an alternate recycling facility. For more information about Waste Management's services for the City of Rio Rancho, please visit home.wm.com/RIO-rancho.	**NEW! WASTE MANAGEMENT'S AT YOUR DOOR SPECIAL COLLECTION SERVICE.** A three step system to collect electronics, paint, motor oil, pool chemicals, batteries, and other household hazardous waste. Waste Management provides residential services as well: Bulk item collection, Free Glass Drop-off, Yard Waste, and Free Monthly Landfill Access	30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering, Parks and Rec, KRRB, and Waste Management Services.
5.10	102	Develop, update and implement a Spill Prevention and Response program to prevent, contain, and respond to spills that may discharge into the MS4 as required in Part I.D.5.e.(v). The Spill Prevention and Response program shall include: (a) Where discharge of material resulting from a spill is necessary to prevent loss of life, personal injury, or severe property damage, the permittee(s) shall take, or ensure the party responsible for the spill takes, all reasonable steps to control or prevent any adverse effects to human health or the environment: and (b) The spill response program may include a combination of spill response actions by the permittee (and/or another public or private entity), and legal requirements for private entities within the permittees municipal jurisdiction.	• CORR will continue to cooperate with overlapping jurisdictions for spill response. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) and the MRGSWQT which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related to spill prevention and response.	Fully Implemented: All-Hazard Emergency Operations Plan, Annex Q - Hazardous Materials. CORR Fire Prevention Division conducts annual inspections.	Fully Implemented: All-Hazard Emergency Operations Plan, Annex Q - Hazardous Materials. CORR Fire Prevention Division conducts annual inspections.	Fully Implemented: All-Hazard Emergency Operations Plan, Annex Q - Hazardous Materials. CORR Fire Prevention Division conducts annual inspections.	Fully Implemented: Stormwater Pollution Prevention Plans (SWPPP) are implemented for all major municipal operations (fleet and building maintenance, streets and right-of-way maintenance, and parks, recreation and community services). SWPPP's contain a Spill Response Plan specific to each facility.	18 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering
Not Included in NOI	103	Update the SWMP document and annual report as required in Part I.D.5.e.(iii), Part I.D.5.e.(vi), and Part I.D.5.e.(vii). A description of the means, methods, quality assurance and controls protocols, and schedule for successfully implementing the required screening, field monitoring, laboratory analysis, investigations, and analysis evaluation of data collected.	• As part of the Annual Report process each year, the NPDES Project Manager will review the program requirements listed in Part I.D.5.e, for the above-mentioned SWMP elements, and develop a strategy, if applicable, to implement any new program requirements. • CORR will include a review of the screening completed and the data collected will be included in the Annual Report.					Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering

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5.11	104	Enhance the program to include requirements in Part I.D.5.e.(ix). The permittee may: (a) Divide the jurisdiction into assessment areas where monitoring at fewer locations still provides sufficient information; (b) Downgrade high priority areas after the area has been screened at least once and there are citizen complaints on no more than 5 separate events within a 12 month period; (c) Rely on a cooperative program with other MS4s for detection and elimination of illicit discharges and illegal dumping; (d) If cooperative program, required detection program frequencies may be based on the combined jurisdictional area rather than individual jurisdictional areas to reduce total number of screening locations; (e) After screening a non-high priority area once, adopt an "in response to complaints only" IDDE for that area (no more than 2 separate events within a 12 month period); (f) Enhance the program to utilize methodologies consistent with those described in "Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments."	• CORR will document enhancements made with enhancement activities in the SWMP and Annual Report.					Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering
	105	**TABLE 7: Control of Floatables Discharges - Part I.D.5.f**									
6.1	106	As required in Part I.D.5.f.(i), the permittee must develop, update, and implement a program to address and control floatables in discharges into the MS4. The floatables control program shall include source controls and, where necessary, structural controls. Permittees previously covered under NMS000101 or NMR040000 must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit. The permittee shall develop or update a schedule to implement as required in Part I.D.5.f.(i).(a).	• The CORR NPDES Project Manager will continue to review, revise, and implement a program to address and control floatables in discharges into the MS4. CORR will develop a written procedure for this program element. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related control of floatables discharges. • CORR will continue utilizing the manual trash collection contracts. • CORR will continue cooperative watershed clean-up events with the City of Rio Rancho. • CORR is pursuing developing a cooperative program for this program element.	The majority of City ponds have existing water quality outlet structures that collect floatables.				18 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering
6.2	107	Estimate the annual volume of floatables and trash removed from each control facility and characterize the floatable type as required in Part I.D.5.f.(i).(b).	• CORR will include in each annual report an estimate of the annual volume of floatables and trash removed from each control facility and characterize the floatable type. • CORR will continue to improve SROW staff tracking methods, allowing CORR to better and more easily determine the volume of floatables and sediment removed from each CORR facility.		Fully Implemented: IDDE Program includes a Trash Survey Form. Estimated volume of floatables and trash removal are calculated annually.			10 months from effective date of MS4 Permit Oct. 22, 2015	**June 22, 2017**	**30**	Program Lead: Streets and Right-of -Way Manager Implementation: Public Works Department
Not Included in NOI	108	Update the SWMP document and annual report as required in Part I.D.5.f.(ii) and Part I.D.5.f.(iii).	• As part of the Annual Report process each year, the NPDES Project Manager will review the program requirements listed in Part I.D.5.f, for the above-mentioned SWMP elements, and assess the overall success of the program and document the program effectiveness in the Annual Report.	In Progress - Completed by Weston Solutions, Inc. December 18, 2015 CoRR, Task Order 3 - Providing assistance with developing, implementing, and enforcing a program to address and control floatables in the MS4. Given data collected, trends have not been identified				Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering

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	109	**TABLE 8: Public Education and Outreach on Stormwater Impacts - Part I.D.5.g**									
7.1	110	Develop, revise, implement, and maintain an education and outreach program as required in Part I.D.5.g.(i) and Part I.D.5.g.(ii). This comprehensive stormwater program should educate the community, employees, businesses, and the general public of hazards associated with the illegal discharges and improper disposal of waste and about the impact that stormwater discharges on local waterways, as well as the steps that the public can take to reduce pollutants in stormwater.	• CORR will contribute and participate in the MRGSWQT. • The MRGSWQT Outcomes Report will be submitted in the Annual Report. • CORR will continue to conduct education and outreach presentations to the community specific to CORR facilities and water quality.	MRGQST members continue develop, revise, implement, and maintain education and outreach programs.				14 months (cooperative) from effective date of MS4 Permit February 22, 2016	**February 22, 2016**	**14**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering, KRRB, and MRGSWQT
7.2	111	Update the SWMP document and annual report as required in Part I.D.5.g.(iii) and Part I.D.5.g.(iv). (iii) The permittee must include the following information in the SWMP document: (a) A description of a program to promote, publicize, facilitate public reporting of the presence of illicit discharges or water quality associated with discharges from MS4s; (b) A description of the education activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; & (c) A description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.g.(i) and Part I.D.5.g.(ii) and its corresponding measurable goal. (iv) The permittee must assess the overall success of the program, and document both direct and indirect measurements of program effectiveness in the Annual Report.	• As part of the Annual Report process each year, the NPDES Project Manager will review the program requirements listed in Part I.D.5.g, for the above-mentioned SWMP elements, and assess the overall success of the program and document direct and indirect measurements of the program effectiveness in the Annual Report.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report.				Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering

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7.2	112	Enhance the program to include requirements in Part I.D.5.g.(v) through Part I.D.5.g.(viii). (v) Where necessary to comply with the MS4 Permit, the permittee should develop a program or modify/revise an existing education and outreach program to: (a) Promote, publicize, and facilitate the use of GI/LID/Sustainability practices; and (b) Include an integrated public education program regarding litter reduction, reduction in pesticide/herbicide use, recycling, and disposal (including yard waste, hazardous waste materials, and used motor vehicle fluids), and GI/ LID/ Sustainable practices (as allowed by the NM OSE). (vi) The permittee may collaborate or partner with other MS4 operators to maximize the program and cost effectiveness of the required outreach. (vii) The education and outreach program may use citizen hotlines as a low-cost strategy to engage the public in illicit discharge surveillance. (viii) The permittee may use stormwater educational materials provided by the State, Tribe, EPA, environmental, public interest or trade organizations, or other MS4s. The permittee may also integrate the education and outreach program with existing education and outreach programs in the MRG area.	• If enhancement activities are implemented, CORR will annually document progress made with these program enhancement activities.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report.				Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division and MCM Members, KRRB,

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	113	**TABLE 9: Public Involvement and Participation - Part I.D.5.h**									
8.1	114	Develop (or update), implement, and maintain a public involvement and participation plan as required in Part I.D.5.h.(ii). This plan should provide opportunities for participation in the review, modification and implementation of the SWMP; develop and implement a process by which public comments to the plan are received and reviewed by the person(s) responsible for the SWMP; and make the SWMP available to the public and to the operator of any MS4 or Tribal authority receiving discharges from the MS4.	• Post the draft SWMP, any SWMP amendments or modifications, and draft Annual Reports to CORRs NPDES Stormwater Program www.rrnm.gov/index.aspx?nid=2184 website with an explanation of the public comment period and instruction on how to submit comments. The posted documents will show redline and strikethrough of text additions and deletions and/or provide explanations for substantial changes. • A 30-day comment period will be allotted for SWMP document public review. • A 45-day comment period will be allotted for Annual Report document public review as required in Part III.B of the MS4 Permit. • Notice to the public will be done using CORRs NPDES Stormwater Program website.	Full Implemented: NOI, SWMP, Annual Report(s) are available to the public and to other operators via City of Rio Rancho Stormwater Webpage: https://rrnm.gov/2184/NPDES-Stormwater-Program				10 months from effective date of MS4 Permit Oct. 22, 2015	**December 22, 2015**	**12**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division
8.1	115	As required in Part I.D.5.h.(iii), the Public Involvement and Participation Plan shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination. The permittee must include the following elements in the plan: (a) A detailed description of the general plan for informing the public of involvement and participation opportunities, including types of activities; target audiences; how interested parties may access the SWMP; and how the public was involved in development of the SWMP; (b) The development and implementation of at least one (1) assessment of public behavioral change following a public education and/or participation event; (c) A process to solicit involvement by environmental groups, environmental justice communities, civic organizations or other neighborhoods /organizations interested in water quality-related issues; and (d) An evaluation of opportunities to utilize volunteers for stormwater pollution prevention activities and awareness throughout the area.	• CORR will contribute and participate in the MRGSWQT, which participates in public events and solicit public participation and feedback by way of surveys. • In targeted areas, CORR will continue to it's "Scoop the Poop" public outreach campaign.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. Performance assessment can be found in the (Jul. 2015-Jun. 2016) Annual Report.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. Performance assessment can be found in the (Jul. 2016-Jun. 2017) Annual Report.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. Performance assessment can be found in the (Jul. 2017-Jun. 2018) Annual Report.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. Performance assessment can be found in the (Jul. 2018-Jun. 2018) Annual Report.	1 year (cooperative) from effective date of MS4 Permit Dec. 22, 2015	**December 22, 2015**	**12**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering and MRGSWQT
8.2	116	Comply with State, Tribal, and local notice requirements when implementing a Public Involvement and Participation Program as required in Part I.D.5.h.(iv). Reporting notification requirements also in Part III.D.4.	• CORR will provide hard copies of relative MS4 compliance reporting documents to the NMED, Pueblos of Sandia and Isleta as required here and in Part III.D.4 of the MS4 Permit. • CORR will continue to post the SWMP and Annual Reports on CORRs NPDES Stormwater Program www.rrnm.gov/index.aspx?nid=2184 website.	Fully Implemented: CORR has provided NOI hard copy to NMED, Pueblo of Sandia, and Pueblo of Isleta. USEPA R6 via email. CORR NOI is posted on CORRs Stormwater Program website.	Fully Implemented: CORR has provided NOI hard copy to NMED, Pueblo of Sandia, and Pueblo of Isleta. USEPA R6 via email. CORR NOI is posted on CORRs Stormwater Program website.	Fully Implemented: CORR has provided NOI hard copy to NMED, Pueblo of Sandia, and Pueblo of Isleta. USEPA R6 via email. CORR NOI is posted on CORRs Stormwater Program website.	Fully Implemented: CORR has provided NOI hard copy to NMED, Pueblo of Sandia, and Pueblo of Isleta. USEPA R6 via email. CORR NOI is posted on CORRs Stormwater Program website.	10 months from effective date of MS4 Permit Oct. 22, 2015	**February 22, 2016**	**14**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division

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8.3	117	Include elements as required in Part I.D.5.h.(v). The public participation process must reach out to all economic and ethnic groups. Opportunities for members of the public to participate in program development and implementation include serving as citizen representatives on a local stormwater management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other preexisting programs, or participating in volunteer monitoring efforts.	• CORR will continue to include (along with the cooperative MRGSWQT) water quality information for the public at events, including public meetings. Where neighborhoods include Spanish-speaking residents, CORR may have Spanish-translations available of public meeting announcements and data sheets. The educational videos on the MRGSWQT website (www.keeptheriograndе.org) all have Spanish subtitles. By attending a variety of events, at widespread locations throughout the area, and by using the leading area newspaper (Albuquerque Journal) to advertise events, The MRGSWQT ensures that a wide-range of economic and ethnic groups are reached.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. See (Jul. 2015-Jun. 2016) Annual Report	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. See (Jul. 2016-Jun. 2017) Annual Report	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. See (Jul. 2017-Jun. 2018) Annual Report	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. See (Jul. 2018-Jun. 2019) Annual Report	18 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division and MRGSWQT
8.4	118	Update the SWMP document and annual report as required in Part I.D.5.h.(vi), Part I.D.5.h.(vii), and Part I.D.5.h.(viii). The permittee must provide public accessibility of the SWMP and Annual Reports online via the Internet and during normal business hours at the MS4 operator's main office for public inspection and copying consistent with any applicable federal, state, tribal, or local open records requirements. Upon a showing of significant public interest, the MS4 operator is encouraged to hold a public meeting (or include in the agenda of in a regularly scheduled city council meeting, etc.) on the NOI, SWMP, and Annual Reports.	• As part of the Annual Report process each year, the Deputy Development Services Director and Engineering Division Manager will review the program requirements listed in Part I.D.5.h, for the above-mentioned SWMP elements, and assess the overall success of the program and document the program effectiveness in the Annual Report. • CORR will provide public accessibility of the SWMP document and most recent Annual Report online via the Internet (www.rrnm.gov/index.aspx?NID=2184) and during normal business hours at the CORR office. CORR is located at 3200 Civic Center Circle NE, Rio Rancho, NM 87144. The phone number is 505-891-5045.	Fully Implemented: CoRR SWMP and Annual Reports are publicly accessible online via internet and during normal business hours at Rio Rancho City Hall.	Fully Implemented: CoRR SWMP and Annual Reports are publicly accessible online via internet and during normal business hours at Rio Rancho City Hall.	Fully Implemented: CoRR SWMP and Annual Reports are publicly accessible online via internet and during normal business hours at Rio Rancho City Hall.	Fully Implemented: CoRR SWMP and Annual Reports are publicly accessible online via internet and during normal business hours at Rio Rancho City Hall.	Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division
8.5	119	Enhance the program to include requirements in Part I.D.5.h.(ix).	• CORR will annually document progress made with these program enhancement activities. CORR and the MRGSWQT will continue to review, update, and enhance public involvement and participation programs.	MRGQST has continued its educational partnerships with BEMP and RiverXchange. Total budget spent on both programs = $14,692.50. See (Jul. 2015-Jun. 2016) Annual Report.				Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division

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	120	**Part III - Monitoring, Assessment and Reporting Requirements**									
	121	**TABLE 10: Wet Weather Monitoring Program - Part III.A.1**									
See NOI Sections Below	122	According to the requirements in Part III.A.1., The permittee must develop, in consultation with NMED and EPA (and affected Tribes if monitoring locations would be located on Tribal lands), and implement a comprehensive monitoring and assessment program. The permittees shall conduct wet weather monitoring to gather information on the response of receiving waters to wet weather discharges from the MS4 during both wet season (July 1 through October 31) and dry Season (November 1 through June 30). Wet Weather Monitoring shall be conducted at outfalls, internal sampling stations, and/or in-stream monitoring locations at each water of the US that runs in each entity or entities' jurisdiction(s).	The program details and measurable goals are described below. The monitoring program will be conducted according to the approved Cooperative Monitoring Plan (submitted to EPA on June 20, 2016).					See specific Permit activity schedules below.			Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division and MCM Members
IV	123	Part III.A.3.1.b. Option B: Cooperative Monitoring Program Develop a cooperative wet weather monitoring program with other permittees in the Middle Rio Grande Watershed. The program will monitor waters coming into the watershed (upstream) and leaving the watershed (downstream). The program must include sampling for TSS, TDS, COD, BOD5, DO, oil and grease, E. coli, pH, total nitrogen, nitrate plus nitrite, dissolved phosphorus, total ammonia plus organic nitrogen, total phosphorus, PCBs and Gross alpha. Monitoring of temperature shall be also conducted at outfalls and/or Rio Grande monitoring locations. Permittees must include additional parameters from monitoring conducted under permits NMS000101, NMR040000 or/and NMR040001 whose mean values are at or above a WQS. The monitoring program must sample the pollutants for a minimum of 7 storm events per location during the permit term with at least 3 events in the wet season and 2 events in the dry season.	• The monitoring program will follow the permit requirements for parameters tested (TSS, TDS, COD, BOD_5, DO, oil and grease, E. coli, pH, total kjeldahl nitrogen, nitrate plus nitrite, dissolved phosphorus, total ammonia plus organic nitrogen, total phosphorus, PCBs, Gross alpha, and temperature). In addition, parameters from stormwater monitoring conducted under permits NMS000101, whose mean values are at or above a WQS, will also be tested. • The monitoring program will be conducted according to the approved Cooperative Monitoring Plan (submitted to EPA on June 20, 2016).					Monitoring program will sample the pollutants for a minimum of 7 storm events per location during the permit term with at least 3 events in the wet season and 2 events in the dry season.			Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division and MCM Members
IV	124	As required in Part III.A.1. and Table 10, the permittees shall submit wet weather monitoring preference Option A or Option B to EPA (i.e., individual monitoring program vs. cooperative monitoring program) with NOI submittals.	Operation B - Cooperative Monitoring Program preference was submitted the CORR NOI on June 19, 2015. See SWMP					N/A	**June 22, 2015**	**6**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division

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Not Included in NOI	125	Submit a detailed description of the monitoring scheme to EPA and NMED for approval. The monitoring scheme should include: a list of pollutants; a description of monitoring sites with an explanation of why those sites were selected; and a detailed map of all proposed monitoring sites. In addition, as required in Part III.A.1.h, the monitoring program must include a contingency plan for collecting additional monitoring data within the MS4 or at additional appropriate instream locations should monitoring results indicate that MS4 discharges may be contributing to instream exceedances of WQS. The purpose of this additional monitoring effort would be to identify sources of elevated pollutant loadings so they could be addressed by the SWMP.	• The monitoring program will be conducted according to the approved proposed monitoring scheme for Compliance Monitoring (submitted to EPA on December 18, 2015).	Fully Implemented: Proposed Monitoring Plan submitted on Dec. 18, 2015. See (Jul. 2015-Jun. 2016) Annual Report.				1 year (cooperative) from effective date of MS4 Permit Dec. 22, 2015	**December 22, 2015**	**12**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division and MCM Members
Not Included in NOI	126	Submit certification that all wet weather monitoring sites are operational and begin sampling.	• CORR, with its cooperative partners (still to be determined), will submit certification to EPA that all wet weather compliance monitoring sites are operational and will begin sampling, according to the Permit requirements.	Fully Implemented - Wet Weather Monitoring Program is operational and ready for sampling. See (Jul. 2015-Jun. 2016) Annual Report.				14 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division and MCM Members
Not Included in NOI	127	As required in Part III.A.1.e, update SWMP document and submit annual reports. The results of the Wet Weather Monitoring must be provided in each annual report.	• As part of the Annual Report process each year, the NPDES Project Manager will review the program requirements listed in Part III.A.1, for the above-mentioned SWMP elements, and assess the overall success of the program and document the program effectiveness in the Annual Report. • The Wet Weather Monitoring results obtained from July 1st to June 30th will be submitted in each Annual Report on Discharge Monitoring Report (DMR) forms as required in Part III.D.1.	EPA Form 3320-1 DMR submitted with (Jul. 2015-Jun. 2016) Annual Report. No sample collected. Sampling plan for the Middle Rio Grande Collaborative Monitoring Group was not approved by EPA until 06/22/16. No storm events occurred between 06/22/2016 and 06/30/2016.	CMC Wet Season, Wet Weather Stormwater Monitoring Data Verification, Analysis Results Database, and Reporting FY 2017 Wet Season (July 1 to October 31, 2016) - March 6, 2017 - Memo - 393 pages.	CMC Wet Season, Wet Weather Stormwater Monitoring Data Verification, Analysis Results Database, and Reporting FY 2018 Wet Season (July 1 , 2017 to October 31, 2017) - February 20, 2018. See 255 page Memorandum in Annual Report.	CMC Dry Season, Wet Weather Stormwater Monitoring Data Verification, Analysis Results Database, and reporting FY 2019 Dry Season (November 1, 2018 to June to June 30, 2019) Task Memo.	Update as necessary for SWMP and annually for Annual Report	**Annually**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division

NOI Section	ID	Permit Activity Description	Measurable Goal	Status of Implementation and Performance Assessment Permit Year July 2015 to June 2016 (Permit Year 1)	Status of Implementation and Performance Assessment Permit Year July 2016 to June 2017 (Permit Year 2)	Status of Implementation and Performance Assessment Permit Year July 2017 to June 2018 (Permit Year 3)	Status of Implementation and Performance Assessment Permit Year July 2018 to June 2019 (Permit Year 4)	Permit Required Implementation Schedule	Cooperative Implementation Schedule	Cooperative Permit Required Implementation Schedule (Months)	Responsible Personnel
	128	**Dry Weather Discharge Screening of MS4 - Part III.A.2**									
Not Included in NOI	129	According to the requirements in Part III.A.2., Each permittee shall identify, investigate, and address areas within its jurisdiction that may be contributing excessive levels of pollutants to the Municipal Separate Storm Sewer System as a result of dry weather discharges (i.e., discharges from separate storm sewers that occur without the direct influence of runoff from storm events, e.g. illicit discharges, allowable non-stormwater, groundwater infiltration, etc.). Due to the arid and semi-arid conditions of the area, the dry weather discharges screening program may be carried out during both wet season (July I through October 31) and dry season (November 1 through June 30). Results of the assessment shall be provided in each annual report.	The program details and measurable goals are described below and in Table 6 - Illicit Discharge and Improper Disposal.	Results are provided in each annual report.				See specific Permit activity schedules below.	**Screen the entire jurisdiction at least once (1) every five (5) years and high priority areas at least once (1) a year. ***High priority areas include areas where there are ongoing evidence of ID, or where there are citizen complaints on more that five (5) separate events within twelve (12) months***		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division
Not Included in NOI	130	This program may be coordinated with the illicit discharge detection and elimination program required in Part I.D.5.e. The dry weather screening program shall be described in the SWMP and comply with the schedules contained in Part I.D.5.e.(iii). The permittee shall: a) Include sufficient screening points to adequately assess pollutant levels from all areas of the MS4. b) Screen for, at a minimum, BOD_5, sediment or a parameter addressing sediment (e.g., TSS or turbidity), E. coli, Oil and Grease, nutrients, any pollutant that has been identified as cause of impairment of a waterbody receiving discharges from that portion of the MS4, including temperature. c) Specify the sampling and non-sampling techniques to be issued for initial screening and follow-up purposes. d) Perform monitoring only when an antecedent dry period of at least 72 hours after a rain event greater than 0.1 inch in magnitude is satisfied. Monitoring methodology shall consist of collecting a minimum of 4 grab samples spaced at a minimum interval of 15 minutes each.	• Visual screening results will be included in CORR's Annual Report when provided. • CORR will continue with the existing Dry Weather Screening program while working cooperatively to develop illicit discharge screening procedures and plan, as required in part I.D.5.e.(iii). • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related to screening for illicit discharges.	Dry Weather Visual Screening was conducted at seven (7) direct outfalls (High Priority) on Feb. 10, 2016. No discharges observed during screening. See IDDE Program Binder or Annual Report.	Dry Weather Visual Screening was conducted at seven (7) direct outfalls (High Priority) on Jun. 16, 2017. No discharges observed during screening. See Annual Report: Performance Assessment - MS4 Dry Weather Discharge Screening Report..	Dry Weather Visual Screening was conducted at seven (7) direct outfalls (High Priority) on August 18, 2017. No discharges observed during screening. See Annual Report: Performance Assessment - MS4 Dry Weather Discharge Screening Report.	Dry Weather Visual Screening was conducted at seven (7) direct outfalls (High Priority) on Jun. 13, 2019. No discharges observed during screening. See Annual Report: Performance Assessment - MS4 Dry Weather Discharge Screening Report.	Cooperative Program -as required in part I.D.5.e.(iii) -Years 1 -3: develop procedures as required in Part I.D.5.e.(i).(c). -Year 4: screen 30% of the MS4 area. -Year 5: screen 70% of the MS4 area.			Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division

NOI Section	ID	Permit Activity Description	Measurable Goal	Status of Implementation and Performance Assessment Permit Year July 2015 to June 2016 (Permit Year 1)	Status of Implementation and Performance Assessment Permit Year July 2016 to June 2017 (Permit Year 2)	Status of Implementation and Performance Assessment Permit Year July 2017 to June 2018 (Permit Year 3)	Status of Implementation and Performance Assessment Permit Year July 2018 to June 2019 (Permit Year 4)	Permit Required Implementation Schedule	Cooperative Implementation Schedule	Cooperative Permit Required Implementation Schedule (Months)	Responsible Personnel
	131	**Floatables Monitoring - Part III.A.3**									
Not Included in NOI	132	According to the requirements in Part III.A.3., The permittees shall establish locations for monitoring/assessing floatable material in discharges to and/or from their MS4. A cooperative monitoring program may be established in partnership with other MS4s to monitor and assess floatable material in discharges to and/or from a joint jurisdictional area or watershed basis. Floatable material shall be monitored at least twice per year at priority locations and at minimum of one (1) stations (Class B Permittee). The amount of collected material shall be estimated in cubic yards. a) Identify one (1) station to monitor and assess floatable material type.	• CORR will continue to monitor floatable material and estimate the amount collected at least twice per year at a minimum of 1 station. • All floatable material will be taken to a local landfill for disposal.		Arrowhead Ridge Pond - Trash Assessment Cascades at High Resort Pond(s) - Trash Assessment(s) Monterrey Pond(s) - Trash Assessments 19th Ave Pond - Trash Assessment		Eastlake Pond - Trash Assessment	Update as necessary for SWMP and annually for Annual Report	**Monitor at least (1) station at least twice per year at priority locations.**		
	133	**Industrial and High Risk Runoff Monitoring - Part III.A.4**									
4	134	The permittees shall monitor stormwater discharges from Type 1 and 2 industrial facilities which discharge to the MS4 provided such facilities are located in their jurisdiction. (Note: if no such facilities are in the permittees jurisdiction, the permittee must certify that this program element does not apply).	**Not Applicable**								

Section 4	Stormwater Management Program Revisions
	4.1 NPDES Permit No. NMR04A000 Administrative Continuance – Duty to Reapply

Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority
2600 Prospect N.E., Albuquerque, NM 87107
Phone: (505) 884-2215 Fax: (505) 884-0214
Website: www.amafca.org

October 15, 2019

Mr. Robert Houston
Chief, Special Projects Section
U.S. Environmental Protection Agency, Region 6
1201 Elm Street, Suite 500
Dallas, Texas 75270

RE: NPDES Permit No. NMR04A000 Administrative Continuance – Duty to Re-Apply

Dear Mr. Houston:

This correspondence serves as a written notification that the members copied below of the Middle Rio Grande Technical Advisory Group (TAG) will continue to operate and discharge into the Rio Grande under the coverage and the conditions set forth in NPDES Permit No. NMR04A000 (Permit), after December 19, 2019, based on Permit language in Part IV:V and required notification in Part IV:C.

On June 27, 2019 the Middle Rio Grande TAG MS4 permittees met with and were informed by EPA Region 6 staff Brent Larson & Maria Martinez that the Permit, which expires on December 19, 2019, would likely go into administrative continuance. As EPA staff explained during the meeting, EPA is not required to issue a public notice related to the administrative continuance and the current permittees do not need to complete any actions or submit renewal applications to have continued coverage under the current Permit.

This guidance from EPA was confirmed in the Permit, in Part IV:V. CONTINUATION OF THE EXPIRED GENERAL PERMIT. *If this Permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with the Administrative Procedures Act and remain in force and effect. Any permittee who was granted permit coverage prior to the expiration date will automatically remain covered by the continued Permit until the earlier of:*

1. *Reissuance or replacement of this Permit, at which time the permittee must comply with the Notice of Intent conditions of the new permit to maintain authorization to discharge; or*
2. *Issuance of an individual permit for your discharges; or*
3. *A formal permit decision by the permitting authority not to reissue this general Permit, at which time the permittee must seek coverage under an alternative general permit or an individual permit.*

Closer review of the Permit noted the language in Part IV:C: DUTY TO REAPPLY. *If the permittee wishes to continue an activity regulated by this Permit after the Permit expiration date, the permittee must apply for and obtain a new permit. The application shall be submitted at least 180 days prior to expiration of this permit. The EPA may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Continuation of expiring permits shall be governed by regulations promulgated at 40 CFR § 122.6 and any subsequent amendments.* It is unclear from the Permit language in Part IV: C, if this section applies to permits that are administratively continued.

This letter is to inform EPA that, based on the provided guidance from EPA and the MS4 Permit language in Part IV:V, members of the Middle Rio Grande TAG will continue to operate with coverage under the current MS4 Permit when the Permit is administratively continued on December 19, 2019. If these assumptions are incorrect or if an application is required for continued coverage under MS4 Permit NMR04A000, please let us know as soon as possible.

We appreciate your attention to this matter. Please contact me if you have any questions.

Sincerely,
Middle Rio Grande TAG

Patrick Chavez, PE
AMAFCA Storm Water Quality Engineer and TAG Member

TAG Members Included and Copied:

Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA)
City of Rio Rancho
Sandia National Labs (operated by NTESS for US DOE)
Bernalillo County
Kirtland Air Force Base
Village of Los Ranchos
Eastern Sandoval County Arroyo Flood Control Authority (ESCACA)
Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA)
City of Albuquerque
Village of Corrales
Sandoval County
Town of Bernalillo
New Mexico Department of Transportation (NMDOT)
University of New Mexico

Section 5	Performance Assessment
	5.1 Illicit Discharge Incident Reporting 5.2 Construction General Permit Compliance Inspection List 5.3 Keep Rio Rancho Beautiful Litter and Recycling Activities 5.4 MS4 Outfall Improvements Project (estimated completion December 2024) 5.5 CMC Monitoring FY2024 Wet Weather Memorandum

RioRancho
City of Vision

May 10, 2024

Certified No. 7020 0640 0001 2445 2667

Nancy Williams
Environmental Specialist
U.S. Environmental Protection Agency
1201 Elm Street, Suite 500
Dallas, Texas 75270-2102

Re: NPDES Permit # NM0027987
Sanitary System Overflow – Lift Station #20, 7059 Westphalia Blvd NE - Rio Rancho, NM

Dear Ms. Williams:

At approximately 7:20 a.m. on Friday, May 3, 2024, the Operation Systems Manager received a call that there was system overflow at Lift station #20 located at 7059 Westphalia Blvd. NE. Upon arrival and investigation, it was found that there was a failed power component at the lift station control panel. The power failure caused the pumps at lift station to shutdown which caused the manhole just east of the lift station to overflow. The estimated volume of 10,000 gallons flowed from manhole onto the nearby landscape. The flow was contained so it did not reach an arroyo or the Rio Grande River. The Collections department and ICS department were called out to troubleshoot system failure and repair the failed power component. All areas were cleaned by operations and collections staff as required. Lime was also used on the affected area.

If you have any questions or concerns, please feel welcome to contact me at 505-604-8769.

Sincerely,

Dennis Gonzales
Operations Manager, Jacobs

ED/ab

cc: Jim Chiasson, CORR
Anthony Loston, USEPA
Jason Herman, NMED
Jason Martinez, NMED
Dave Gatterman, SSCAFCA
Andy Edmondson, SSCAFCA
Xavier Pettis, CORR

RioRancho
City of Vision

July 3, 2024

Nancy Williams
Environmental Specialist
U.S. Environmental Protection Agency
1201 Elm Street, Suite 500
Dallas, Texas 75270-2102

Re: NPDES Permit # NM0027987
Sanitary System Overflow – Lift Station #22, 528 and Obregon - Rio Rancho, NM

Dear Ms. Williams:

At approximately 10:40 p.m. on Saturday, June 29, 2024, the Operation Systems Manager received a call that there was a spill at Lift Station #22 located at NM 528 and Obregon Road. Upon arrival and investigation, it was determined that the junction box controlling the pumps was under water due to heavy rainfall in the area. This caused the pumps to shut down. At this point, the Collections Department and Maintenance Department were called out to troubleshoot system and restore power to the pumps. The estimated volume was 3,000 gallons and flow did reach the Lomitas Negras arroyo just north of the lift station. The area was disinfected with lime.

If you have any questions or concerns, please feel welcome to contact me at 505-604-8769.

Sincerely,

Dennis Gonzales
Operations Manager, Jacobs

ED/ab

cc: Jim Chiasson, CORR
Anthony Loston, USEPA
Jason Herman, NMED
Jason Martinez, NMED
Dave Gatterman, SSCAFCA
Andy Edmondson, SSCAFCA
Xavier Pettis, CORR

RioRancho
City of Vision

July 11, 2023

Certified No. 7022 3330 0001 2343 7219

Nancy Williams
Environmental Specialist
U.S. Environmental Protection Agency
1201 Elm Street, Suite 500
Dallas, Texas 75270-2102

Re: NPDES Permit # NM0027987
Sanitary System Overflow – Lift Station #15, 1385 HWY 528 - Rio Rancho, NM

Dear Ms. Williams:

At approximately 09:07 p.m. on Thursday, July 6, 2023, the Collections system manager received a call that Lift Station #15 located at 1385 HWY 528 was overflowing due to a pump failure. Upon arrival and investigation, it was determined that the VFD had failed due to a Buck Booster power failure. This caused the pumps to shut down. At this point, the Maintenance Department was called out to troubleshoot the system and restore power to the lift station. The estimated volume was 10,000 gallons. Flow did reach the Venada arroyo just west of the lift station but did not reach the Rio Grande River. The Collections Department cleaned and spread Lime on the affected area.

If you have any questions or concerns, please feel welcome to contact me at 505-604-8769.

Sincerely,

Dennis Gonzales
Operations Manager, Jacobs

ED/ab

cc: Jim Chiasson, CORR
Anthony Loston, USEPA
Jason Herman, NMED
Jason Martinez, NMED
Dave Gatterman, SSCAFCA
Andy Edmondson, SSCAFCA
Xavier Pettis, CORR

USEPA 2022 Construction General Permit (CGP) - July 1, 2023-June 30, 2024

Notice of Intent (NOI), Notice of Termination (NOT) and Low Erosivity Waiver (LEW)

#	ISSUER	REGULATED ENTITY NAME	PROGRAM ID	PROGRAM	COVERAGE TYPE	PROGRAM AREA	ACTION TYPE	ACTION STATUS	COVERAGE STATUS	CERTIFIED DATE	EFFECTIVE DATE
1	EPA	Lomas Encantadas 1E Phases 1 and 2	NMR1005IB	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	7/11/2023	4/10/2023
2	EPA	Lomas Encantadas Unit 2A Phase I and II	NMR1003NQ	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	7/11/2023	3/2/2021
3	EPA	Lomas Encantadas 1F	NMR1005IC	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	7/11/2023	4/10/2023
4	EPA	Northern Meadows Tract j-1	NMR1005I5	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	7/11/2023	4/7/2023
5	EPA	Siesta Hills II - Baltic Park Subdivision	NMR1005I6	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	7/11/2023	4/7/2023
6	EPA	Roadrunner Storage	NMR1005RT	NPDES	General Permit	Construction Stormwater	New	Approved	Terminated	7/17/2023	7/31/2023
7	EPA	VISTA GRANDE SUBDIVISION	NMR10058C	NPDES	General Permit	Construction Stormwater	Change	Approved	Terminated	7/19/2023	11/30/2022
8	EPA	Discount Tire NMA-13 Bernalillo	NMR1005S4	NPDES	General Permit	Construction Stormwater	New	Approved	Active	7/21/2023	8/4/2023
9	EPA	Discount Tire NMA-13 Bernalillo	NMR1005SS	NPDES	General Permit	Construction Stormwater	New	Approved	Active	7/31/2023	8/14/2023
10	EPA	Roadrunner Storage Staging Soils	NMR1005TH	NPDES	General Permit	Construction Stormwater	New	Approved	Terminated	8/9/2023	8/23/2023
11	EPA	Pinetree Road Reconstruction	NMR1005JY	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	8/14/2023	4/26/2023
12	EPA	Lower Ivory Channel Improvements	NMR10056A	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	8/14/2023	11/3/2022
13	EPA	Olive Tree Compounding Pharmacy	NMR1005U1	NPDES	General Permit	Construction Stormwater	New	Approved	Active	8/14/2023	8/28/2023
14	EPA	Olive Tree Compounding Pharmacy	NMR1005U2	NPDES	General Permit	Construction Stormwater	New	Approved	Active	8/14/2023	8/28/2023
15	EPA	Paseo 550 Apartments	NMR1003MI	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	8/23/2023	2/17/2021
16	EPA	Enchanted Hills Blvd Reconstruction	NMR1005UU	NPDES	General Permit	Construction Stormwater	New	Approved	Active	8/24/2023	9/7/2023
17	EPA	D2 Residential Hybrid Mill and Inlay	NMR1005UV	NPDES	General Permit	Construction Stormwater	New	Approved	Active	8/24/2023	9/7/2023
18	EPA	Mountain View Middle School - Site Improvements	NMR1005V8	NPDES	General Permit	Construction Stormwater	New	Approved	Terminated	8/31/2023	9/14/2023
19	EPA	SSCAFCA High Range Detention Pond	NMR1005VJ	NPDES	General Permit	Construction Stormwater	New	Approved	Active	9/6/2023	9/20/2023
20	EPA	Enchanted Hills Blvd Reconstruction	NMR1005VL	NPDES	General Permit	Construction Stormwater	New	Approved	Active	9/6/2023	9/20/2023
21	EPA	District 2 Residential Hybrid Mill and Inlay	NMR1005VM	NPDES	General Permit	Construction Stormwater	New	Approved	Terminated	9/6/2023	9/20/2023

USEPA 2022 Construction General Permit (CGP) - July 1, 2023-June 30, 2024

Notice of Intent (NOI), Notice of Termination (NOT) and Low Erosivity Waiver (LEW)

#	ISSUER	REGULATED ENTITY NAME	PROGRAM ID	PROGRAM	COVERAGE TYPE	PROGRAM AREA	ACTION TYPE	ACTION STATUS	COVERAGE STATUS	CERTIFIED DATE	EFFECTIVE DATE
22	EPA	Mountain Hawk West Phase 1A	NMR1005VT	NPDES	General Permit	Construction Stormwater	New	Approved	Terminated	9/8/2023	9/22/2023
23	EPA	Mister Car wash	NMR1005BR	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	9/15/2023	1/17/2023
24	EPA	Mister Carwash	NMR1005AQ	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	9/18/2023	1/3/2023
25	EPA	Lomas Encantadas 1G	NMR1005WF	NPDES	General Permit	Construction Stormwater	New	Approved	Active	9/19/2023	10/3/2023
26	EPA	Mountain View Middle School - Site Improvements	NMR1005WX	NPDES	General Permit	Construction Stormwater	New	Approved	Terminated	9/25/2023	10/9/2023
27	EPA	CJ & WN Transmission	NMR1005B8	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	10/10/2023	1/10/2023
28	EPA	High Range Pond Excavation	NMR10054P	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	10/10/2023	10/14/2022
29	EPA	Broadmoor Heights	NMR1001UB	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	10/16/2023	1/25/2019
30	EPA	Felician Villa Phase 1	NMR1005YO	NPDES	General Permit	Construction Stormwater	New	Approved	Active	10/17/2023	10/31/2023
31	EPA	Felician Villa Phase 1	NMR1005YP	NPDES	General Permit	Construction Stormwater	New	Approved	Active	10/17/2023	10/31/2023
32	EPA	Paseo del Volcan and Broadmoor Int Improvements	NMR1005Z6	NPDES	Low Erosivity Waiver	Construction Stormwater	New	Approved	Expired	10/24/2023	10/24/2023
33	EPA	VISTA MONTEBELLA OESTE	NMR1005ZA	NPDES	General Permit	Construction Stormwater	New	Approved	Active	10/24/2023	11/7/2023
34	EPA	Paseo del Volcan and Broadmoor Intersection Improvements	NMR1005ZB	NPDES	Low Erosivity Waiver	Construction Stormwater	New	Approved	Expired	10/24/2023	10/24/2023
35	EPA	High Range Pond	NMR1005ZG	NPDES	General Permit	Construction Stormwater	New	Approved	Active	10/25/2023	11/8/2023
36	EPA	Mountain Hawk West Phase 1A	NMR1005VT	NPDES	General Permit	Construction Stormwater	Change	Approved	Terminated	11/1/2023	9/22/2023
37	EPA	Siesta Hills II - Baltic Park Subdivision	NMR1005HH	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	11/1/2023	3/31/2023
38	EPA	LOS DIAMANTES	NMR100602	NPDES	General Permit	Construction Stormwater	New	Approved	Active	11/1/2023	11/15/2023
39	EPA	CARRIAGE COVE	NMR100604	NPDES	General Permit	Construction Stormwater	New	Approved	Active	11/2/2023	11/16/2023
40	EPA	TIERRA DEL ORO PHASE 3	NMR100609	NPDES	General Permit	Construction Stormwater	New	Approved	Active	11/3/2023	11/17/2023
41	EPA	VCG Concrete Plant 1	NMR10060G	NPDES	General Permit	Construction Stormwater	New	Approved	Active	11/6/2023	11/20/2023
42	EPA	Siesta Hills II - Baltic Park Subdivision	NMR1005HH	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	11/9/2023	3/31/2023

USEPA 2022 Construction General Permit (CGP) - July 1, 2023-June 30, 2024

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#	ISSUER	REGULATED ENTITY NAME	PROGRAM ID	PROGRAM	COVERAGE TYPE	PROGRAM AREA	ACTION TYPE	ACTION STATUS	COVERAGE STATUS	CERTIFIED DATE	EFFECTIVE DATE
43	EPA	Quantum Road Reconstruction	NMR10061A	NPDES	General Permit	Construction Stormwater	New	Approved	Active	11/14/2023	11/28/2023
44	EPA	D6 Residential Hybrid Mill and Inlay - Pyrite Drive	NMR10061B	NPDES	General Permit	Construction Stormwater	New	Approved	Active	11/14/2023	11/28/2023
45	EPA	High Range 5 Subdivision - Phase I	NMR10061F	NPDES	General Permit	Construction Stormwater	New	Approved	Active	11/15/2023	11/29/2023
46	EPA	Lomas Encantadas Unit 2A Phase I and II	NMR1003NN	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	11/15/2023	3/2/2021
47	EPA	District 6 - Residential Hybrid Mill and Inlay (Pyrite Dr.)	NMR10061P	NPDES	General Permit	Construction Stormwater	New	Approved	Terminated	11/17/2023	12/1/2023
48	EPA	Quantum Road Reconstruction	NMR10061Q	NPDES	General Permit	Construction Stormwater	New	Approved	Active	11/17/2023	12/1/2023
49	EPA	High Range 5 Subdivision - Phase I	NMR100627	NPDES	General Permit	Construction Stormwater	New	Approved	Active	11/29/2023	12/13/2023
50	EPA	Phase 2 Melon Ridge Subdivision	NMR10062J	NPDES	General Permit	Construction Stormwater	New	Approved	Active	12/1/2023	12/15/2023
51	EPA	TAG	NMR10062Q	NPDES	General Permit	Construction Stormwater	New	Approved	Active	12/5/2023	12/19/2023
52	EPA	Encino North Solar Project	NMR10058I	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	12/7/2023	12/2/2022
53	EPA	Vista Entrada	NMR1004UH	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	12/8/2023	6/17/2022
54	EPA	509-609 2nd Street NE Residences	NMR10063R	NPDES	General Permit	Construction Stormwater	New	Approved	Active	12/15/2023	12/29/2023
55	EPA	Northern Industrial	NMR1004R0	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	12/19/2023	5/23/2022
56	EPA	PW2249 Northern Boulevard Waterline Replacement	NMR10063Z	NPDES	General Permit	Construction Stormwater	New	Approved	Active	12/20/2023	1/3/2024
57	EPA	Scottish Isle	NMR100646	NPDES	General Permit	Construction Stormwater	New	Approved	Active	12/21/2023	1/4/2024
58	EPA	BLAKES 65	NMR10064B	NPDES	General Permit	Construction Stormwater	New	Approved	Terminated	12/27/2023	1/10/2024
59	EPA	Phase 2 Melon Ridge Subdivision	NMR10064R	NPDES	General Permit	Construction Stormwater	New	Approved	Active	1/4/2024	1/18/2024
60	EPA	Mariposa Estates	NMR1003PI	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	1/9/2024	3/18/2021
61	EPA	VISTA ENTRADA III	NMR1004BE	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	1/9/2024	11/17/2021
62	EPA	Northern Blvd. Reconstruction	NMR10065H	NPDES	General Permit	Construction Stormwater	New	Approved	Active	1/12/2024	1/26/2024
63	EPA	Rio Rancho Sports Complex North	NMR1004PC	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	1/12/2024	5/6/2022

USEPA 2022 Construction General Permit (CGP) - July 1, 2023-June 30, 2024

Notice of Intent (NOI), Notice of Termination (NOT) and Low Erosivity Waiver (LEW)

#	ISSUER	REGULATED ENTITY NAME	PROGRAM ID	PROGRAM	COVERAGE TYPE	PROGRAM AREA	ACTION TYPE	ACTION STATUS	COVERAGE STATUS	CERTIFIED DATE	EFFECTIVE DATE
64	EPA	Pinetree Road Reconstruction	NMR1005LM	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	1/12/2024	5/11/2023
65	EPA	King Boulevard Expansion Project	NMR1005AF	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	1/12/2024	12/29/2022
66	EPA	Riverside Drive Reconstruction and Waterline Replacement	NMR10053X	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	1/12/2024	10/3/2022
67	EPA	MARKET STREET #921	NMR10065P	NPDES	General Permit	Construction Stormwater	New	Approved	Active	1/15/2024	1/29/2024
68	EPA	CORR Well 13R Equipping and Site Improvements	NMR10065Q	NPDES	General Permit	Construction Stormwater	New	Approved	Active	1/15/2024	1/29/2024
69	EPA	Katrina Ltd Phase II	NMR10065S	NPDES	General Permit	Construction Stormwater	New	Approved	Active	1/16/2024	1/30/2024
70	EPA	Phase 2 Melon Ridge Subdivision	NMR10066E	NPDES	General Permit	Construction Stormwater	New	Approved	Active	1/23/2024	2/6/2024
71	EPA	Stallion Channel Access Segment Project	NMR10066O	NPDES	Low Erosivity Waiver	Construction Stormwater	New	Approved	Expired	1/24/2024	1/24/2024
72	EPA	Mountain Hawk West Phase 1A	NMR1005VT	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	1/25/2024	9/22/2023
73	EPA	TAG	NMR10067D	NPDES	General Permit	Construction Stormwater	New	Approved	Active	1/30/2024	2/13/2024
74	EPA	Encino North Solar Project	NMR10059Y	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	1/30/2024	12/23/2022
75	EPA	RRPS CTE (SKILLED TRADES FACILITY)	NMR10067K	NPDES	General Permit	Construction Stormwater	New	Approved	Active	2/1/2024	2/15/2024
76	EPA	Sandoval County Solid Waste Regional Center	NMR100681	NPDES	General Permit	Construction Stormwater	New	Approved	Active	2/6/2024	2/20/2024
77	EPA	JLM LIVING RR TRAILSIDE, LLC	NMR10068B	NPDES	General Permit	Construction Stormwater	New	Approved	Active	2/12/2024	2/26/2024
78	EPA	Mountain Hawk Phase I	NMR10036V	NPDES	General Permit	Construction Stormwater	Change	Approved	Terminated	2/13/2024	8/19/2020
79	EPA	Los Diamantes Subdivision	NMR100441	NPDES	General Permit	Construction Stormwater	Change	Approved	Terminated	2/13/2024	8/12/2021
80	EPA	Lazo Road Construction Project	NMR10068L	NPDES	Low Erosivity Waiver	Construction Stormwater	New	Approved	Expired	2/16/2024	2/16/2024
81	EPA	Paseo del Volcan and Broadmoor Intersection Improvements	NMR1005ZB	NPDES	Low Erosivity Waiver	Construction Stormwater	Change	Approved	Expired	2/16/2024	10/24/2023
82	EPA	Paseo del Volcan and Broadmoor Int Improvements	NMR1005Z6	NPDES	Low Erosivity Waiver	Construction Stormwater	Change	Approved	Expired	2/16/2024	10/24/2023
83	EPA	JLM LIVING RR TRAILSIDE	NMR10068P	NPDES	General Permit	Construction Stormwater	New	Approved	Active	2/20/2024	3/5/2024
84	EPA	Lazo Road Improvements	NMR10068W	NPDES	Low Erosivity Waiver	Construction Stormwater	New	Approved	Expired	2/21/2024	2/21/2024

USEPA 2022 Construction General Permit (CGP) - July 1, 2023-June 30, 2024

Notice of Intent (NOI), Notice of Termination (NOT) and Low Erosivity Waiver (LEW)

#	ISSUER	REGULATED ENTITY NAME	PROGRAM ID	PROGRAM	COVERAGE TYPE	PROGRAM AREA	ACTION TYPE	ACTION STATUS	COVERAGE STATUS	CERTIFIED DATE	EFFECTIVE DATE
85	EPA	Scottish Isle	NMR100695	NPDES	General Permit	Construction Stormwater	New	Approved	Active	2/23/2024	3/8/2024
86	EPA	TAG	NMR10062Q	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	2/23/2024	12/19/2023
87	EPA	City of Rio Rancho Road Reconstruction	NMR1005NT	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	3/4/2024	6/6/2023
88	EPA	Montreal Subdivision	NMR1006AL	NPDES	General Permit	Construction Stormwater	New	Approved	Active	3/12/2024	3/26/2024
89	EPA	VISTA GRANDE SUBDIVISION	NMR10058C	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	3/14/2024	11/30/2022
90	EPA	Montreal Subdivision	NMR1006B1	NPDES	General Permit	Construction Stormwater	New	Approved	Active	3/15/2024	3/29/2024
91	EPA	Spring Road Reconstruction Project	NMR1005NZ	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	3/18/2024	6/7/2023
92	EPA	D5 Residential hybrid Mill and Inlay	NMR1006B8	NPDES	General Permit	Construction Stormwater	New	Approved	Active	3/19/2024	4/2/2024
93	EPA	District 6 - Residential Hybrid Mill and Inlay (Pyrite Dr.)	NMR10061P	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	3/21/2024	12/1/2023
94	EPA	District 1 Residential Hybrid Mill and Inlay Project	NMR1005OO	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	3/21/2024	6/21/2023
95	EPA	District 2 Residential Hybrid Mill and Inlay	NMR1005VM	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	3/21/2024	9/20/2023
96	EPA	District 5 Residential Hybrid Mill and Inlay	NMR1006BG	NPDES	General Permit	Construction Stormwater	New	Approved	Active	3/21/2024	4/4/2024
97	EPA	Unit 11 SFR Lots	NMR1005QN	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	3/29/2024	7/14/2023
98	EPA	Unser Widening	NMR1006C0	NPDES	General Permit	Construction Stormwater	New	Approved	Active	4/1/2024	4/15/2024
99	EPA	Cielo Azul Subdivision	NMR1005OU	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	4/12/2024	6/26/2023
100	EPA	VISTA MONTEBELLA OESTE	NMR1005ZA	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	4/15/2024	11/7/2023
101	EPA	SEASONS AT MONARCH	NMR1004ND	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	4/15/2024	4/15/2022
102	EPA	BROADMOOR HEIGHTS UNIT 3	NMR1004OW	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	4/15/2024	4/29/2022
103	EPA	TIERRA DEL NORTE	NMR1006DR	NPDES	General Permit	Construction Stormwater	New	Approved	Active	4/16/2024	4/30/2024
104	EPA	Grande Blvd	NMR1006DW	NPDES	Low Erosivity Waiver	Construction Stormwater	New	Approved	Expired	4/18/2024	4/18/2024
105	EPA	Mountain View Middle School - Site Improvements	NMR1005V8	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	4/24/2024	9/14/2023

USEPA 2022 Construction General Permit (CGP) - July 1, 2023-June 30, 2024

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#	ISSUER	REGULATED ENTITY NAME	PROGRAM ID	PROGRAM	COVERAGE TYPE	PROGRAM AREA	ACTION TYPE	ACTION STATUS	COVERAGE STATUS	CERTIFIED DATE	EFFECTIVE DATE
106	EPA	Mister Car Wash Montoya	NMR1006EM	NPDES	General Permit	Construction Stormwater	New	Approved	Active	4/29/2024	5/13/2024
107	EPA	FLEET ESTATES	NMR1004RV	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	5/1/2024	5/31/2022
108	EPA	D4 Residential Hybrid Mill and Inlay	NMR1006F5	NPDES	Low Erosivity Waiver	Construction Stormwater	New	Approved	Expired	5/6/2024	5/6/2024
109	EPA	The Block at Enchanted Hills	NMR100572	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	5/6/2024	11/17/2022
110	EPA	The Block at Enchanted Hills	NMR10055F	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	5/6/2024	10/24/2022
111	EPA	VISTA GRANDE SUBDIVISION	NMR10059K	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	5/7/2024	12/19/2022
112	EPA	Suez Estates/Abrazo Lots	NMR100367	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	5/10/2024	8/10/2020
113	EPA	Los Diamantes Subdivision	NMR100441	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	5/13/2024	8/12/2021
114	EPA	Mountain Hawk Phase I	NMR10036V	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	5/13/2024	8/19/2020
115	EPA	Mountain View Middle School - Site Improvements	NMR1005WX	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	5/14/2024	10/9/2023
116	EPA	VISTA GRANDE SUBDIVISON PHASE 2	NMR1006G7	NPDES	General Permit	Construction Stormwater	New	Approved	Active	5/15/2024	5/29/2024
117	EPA	Stonegate Phase I	NMR1005MU	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	5/15/2024	5/29/2023
118	EPA	VISTA GRANDE SUBDIVISON PHASE 2	NMR1006GF	NPDES	General Permit	Construction Stormwater	New	Approved	Active	5/16/2024	5/30/2024
119	EPA	GARCIA RESIDENCE	NMR1006GJ	NPDES	General Permit	Construction Stormwater	New	Approved	Active	5/17/2024	5/31/2024
120	EPA	Hawk Site Units 23 (Phase 1), 27, 28 (Phase 1)	NMR10020D	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	5/20/2024	4/3/2019
121	EPA	TIERRA DEL NORTE SUBDIVISION	NMR1004NL	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	5/21/2024	4/19/2022
122	EPA	STONEGATE SUBDIVISION PHASE 1 & 2	NMR1004IS	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	5/29/2024	2/14/2022
123	EPA	Unit 7 - SFR Lots	NMR1005QM	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	6/6/2024	7/14/2023
124	EPA	STONE MOUNTAIN SUBDIVISION	NMR1006I8	NPDES	General Permit	Construction Stormwater	New	Approved	Active	6/7/2024	6/21/2024
125	EPA	Sunset Channel Improvements	NMR1006IA	NPDES	General Permit	Construction Stormwater	New	Approved	Active	6/10/2024	6/24/2024
126	EPA	STONE MOUNTAIN SUBDIVISION	NMR1006IM	NPDES	General Permit	Construction Stormwater	New	Approved	Active	6/13/2024	6/27/2024

USEPA 2022 Construction General Permit (CGP) - July 1, 2023-June 30, 2024

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#	ISSUER	REGULATED ENTITY NAME	PROGRAM ID	PROGRAM	COVERAGE TYPE	PROGRAM AREA	ACTION TYPE	ACTION STATUS	COVERAGE STATUS	CERTIFIED DATE	EFFECTIVE DATE
127	EPA	Roadrunner Storage	NMR1005RT	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	6/24/2024	7/31/2023
128	EPA	Roadrunner Storage Staging Soils	NMR1005TH	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	6/24/2024	8/23/2023
129	EPA	District 1 Residential Hybrid Mill and Inlay Unit 3	NMR1006JB	NPDES	General Permit	Construction Stormwater	New	Approved	Active	6/25/2024	7/9/2024
130	EPA	Roadrunner Storage Staging Area Stabilization	NMR1006JQ	NPDES	Low Erosivity Waiver	Construction Stormwater	New	Approved	Active	6/28/2024	6/28/2024

Keep Rio Rancho Beautiful

Litter Control and Recycling Activities

Date	Activity Name	Location of Area Cleaned: Roadside, Waterway, Green Space, Mainstreet, Community-wide (Green Space = parks, natural areas, hiking areas, etc)	# of Miles Cleaned	Lbs of Trash Collected (to Landfill)	Lbs of Recycling Diverted	Lbs of Glass Diverted	Lbs of Electronics Diverted	Lbs of Compost Diverted	Lbs of Cigarette Butts Diverted	Lbs of Additional Waste Diverted	Detail Additional Waste Diverted	Entity which Diverted Waste
9.16.23	Fall Community Cleanup	various streets and open spaces within the city	10	36240	0	0	0	0	0	0		
10.21.23	Adopt A Spot Mariposa Community	Unswer Blvd - Mariposa Parkway	4	110	0	0	0	0	0	0		
3.9.24	BS Troop 417 Cleanup	Progress Blvd	2	10	0	0	0	0	0	0		
4.16/4.17.24	HP Earth Day(s) cleanup	Open area and roads around City Center	3	1400	0	0	0	0	0	0		
5.4.24	Great American Cleanup	Multiple Roadways	20	5440	0	0	0	0	0	0		
7.01.23 - 7.01-24	Illegal Dumpsites KRRB	Multiple open spaces/ roadways	30	62060	0	0	0	0	0	0		
7.01.23-7.01.24	RR City hall Recycling	Rio Rancho City Hall		0	7545	0	0	0	0	0		
	WM At Your Door Service	Mulitiple Residences/ residential waste		0	21704.46	0	9643.33	0	0	23206.91	Residential Hazardous Waste Waste Management	
	WM Free Landfill days Monthly	NA		10641.49	0	435 cubic yds	0	0	0	0	Waste Mangement	
12/23 - 2/24	Filled Terracycle boxes	Estherbone Library		0	0	0	100	0	0	0	Terracycle boxes filled by residents Terracycle	

Total Number of Miles Cleaned	Total Single Stream Diverted	Total Glass Diverted	Total Electronics Diverted	Total Compost Diverted	Total Cigarettes Diverted	Total Additional Waste Diverted		
39	0	0	0	0	0	0		
Total Waste Collected (lbs)								
43200								
Total Waste to Landfill (lbs)	**Total Waste Diverted from the Landfill (lbs)**							
43200	0							

Litter Control and Recycling Infrastructure

# of Trash Receptacles	# of Recycling Receptacles	# of Cigarette Ash Receptacles	# of Pet Waste Receptacles	# of Sharps Disposal Receptacles	# of Additional Receptacles	Detail Additional Receptacles
	42	0	0	0	18	Terracycle boxes distributed to schools and libraries
Total # of Receptacles						
60						

Illegal Dumping

# of Illegal Dumping Sites Reported	# of Illegal Dumping Sites Cleared	# of Tires Collected
169	169	30

The 2023 Mayor's Rally in the Desert in Rio Rancho, New Mexico, was a cleanup day to address illegal dumping in the desert. The event was held on September 16, 2023, and participants were encouraged to bring trucks, trailers, rakes, and shovels to help remove trash from the desert and into landfills.

10 Miles Cleaned
26,240 Pounds of Trash Collected

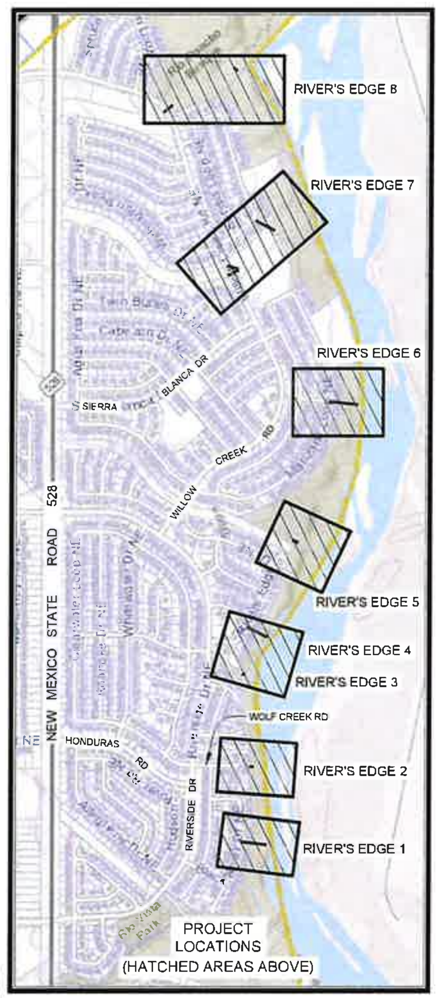
MS4 OUTFALL IMPROVEMENTS

CITY OF RIO RANCHO

CORR Project: PW 1957

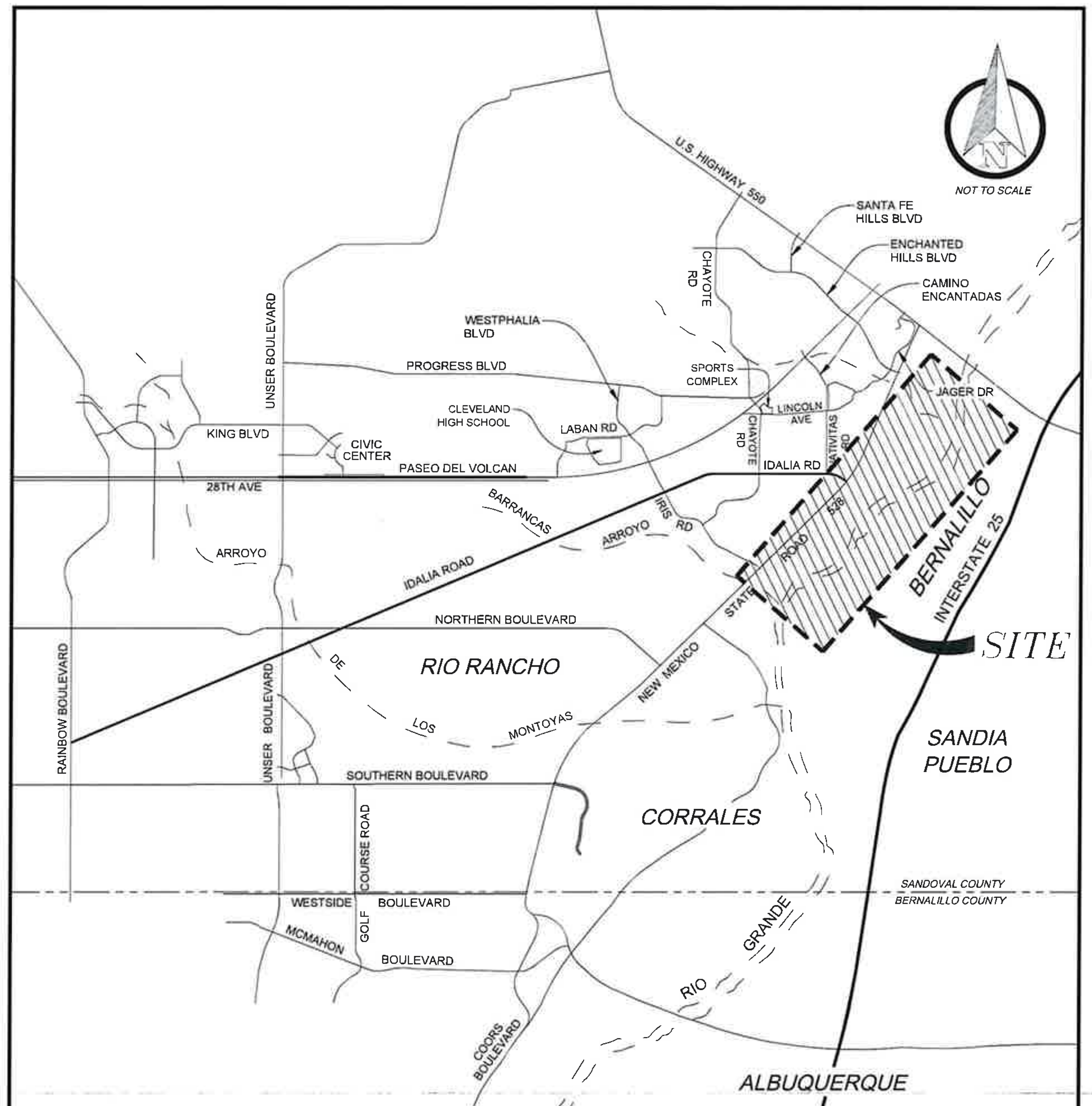
SANDOVAL COUNTY, NEW MEXICO

AUGUST 29, 2019



VICINITY MAP

(CORR ZONE MAP - Pg.93, Pg.94, Pg.106, Pg.107)



LOCATION MAP

APPROVALS

CITY OF RIO RANCHO

DEPARTMENT OF PUBLIC WORKS ______ DATE ______

DEPARTMENT OF UTILITIES ______ DATE ______

INDEX OF SHEETS

	SHEET NO.	SHEET TITLE
1	P1	COVER SHEET
2	P2	GENERAL NOTES
3	P3	ABREVIATIONS
4	D1	OVERALL MS4 SITE LOCATIONS
5	D2	INLET IMPROVEMENT PLANS RE1, RE2, RE4, RE5 & RE7
6	D3	INLET IMPROVEMENT DETAILS
7	D4	INLET IMPROVEMENT DETAILS
8	D5	MANHOLE IMPROVEMENTS RE3 & RE6
9	D6	MANHOLE IMPROVEMENT DETAILS
10	D7	CHANNEL IMPROVEMENTS RE5
11	D8	CHANNEL IMPROVEMENT DETAILS RE5
12	D9	CHANNEL IMPROVEMENT DETAILS RE5
13	D10	CHANNEL IMPROVEMENTS RE7
14	D11	CHANNEL IMPROVEMENT DETAILS RE7
15	D12	CHANNEL IMPROVEMENTS RE8
16	D13	CHANNEL IMPROVEMENT DETAILS RE8

DBS&A
Daniel B. Stephens & Associates, Inc.

RioRancho City of Vision

REVISIONS (OR CHANGE NOTICES)

NO.	DESCRIPTION	DATE	BY
1		-	-
2		-	-
3		-	-
4		-	-
5		-	-
6		-	-
7		-	-

Designed By: HUITT-ZOLLARS
Huitt-Zollars, Inc. Rio Rancho
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For: CITY OF RIO RANCHO

COVER SHEET

MS4 OUTFALL IMPROVEMENTS

ROBERT DEMEULE III NEW MEXICO 16014 PROFESSIONAL ENGINEER

PROJECT NO. DB19.1136

DESIGNED BY: KLS

DRAWN BY: VKL

CHECKED BY: RJD

DATE: AUGUST 29, 2019

DPW CHK:

SHEET: 1 OF 16

P1

GENERAL NOTES

1. All construction shall be performed in accordance with 1) the project construction plans, 2) the project specifications, 3) the current edition of the City of Rio Rancho standard details, 4) the current edition of the NMDOT Standard Specifications for Highway and Bridge Construction, and 5) the New Mexico Standard Specifications for Public Works Construction and details, as prepared by the New Mexico Chapter, American Public Works Association and addendum. In the case of conflicting specifications, the City of Rio Rancho will determine which specification governs.
2. The Contractor agrees to assume the sole and complete responsibility for the job site conditions during the course of construction of the project, including safety of all persons and property. This requirement shall apply continuously and not be limited to normal working hours, and the Contractor shall defend, indemnify and hold the City and Engineer harmless from any and all liability, real or alleged, in connection with the performance of the work on this project, except for liability arising from the sole negligence of the City or Engineer.
3. No modifications to these plans shall be made without the written consent of the City, Engineer, and all approval signatories. The Engineer shall not be responsible for construction methods or techniques or for the prosecution of the work as shown on these plans. The Engineer shall not be held responsible for the acts or omissions of the Contractor, Subcontractors, or other persons performing any work, as shown in the project Contract Documents.
4. A Right-of-Way Use Permit and Traffic Control Plan (TCP) are required for all work performed within the public Right-of-Way. Provisions contained within Chapter 86 of the City of Rio Rancho Municipal Code shall govern. All construction signing, barricading, and channelization devices shall conform to the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). The Contractor is responsible for the setup and maintenance of all traffic control devices. Any modifications to the approved traffic control plan must by approved by the City prior to any changes being implemented. A Traffic Control Supervisor must be available for the duration of the project 24 hours a day and seven days a week. Access to residents and businesses must be maintained at all times.
5. The Contractor shall designate at least one emergency contact person, and shall provide telephone numbers where this person can be contacted at any time. This information shall be provided to the City's Project Manager.
6. The Contractor is responsible for obtaining all necessary permits from all jurisdictional authorities before the start of construction.
7. All work on this project shall be performed in accordance with applicable federal, state, and local laws, rules and regulations concerning construction safety, health, and environmental protection.
8. Existing site improvements which are damaged or displaced by the Contractor shall be removed and replaced by the Contractor at the Contractor's own expense. The work shall be approved by the City before construction of the repairs. Repairs must be accepted by the City before final payment.
9. The Contractor shall only utilize the designated staging areas for storage of all equipment and materials. The City assumes no responsibility or liability for the Contractor's equipment and material in the staging area. Security shall be the sole responsibility of the Contractor. If no staging area is designated on these plans, an offsite staging area shall be provided by the Contractor at the Contractor's expense, or the Contractor may negotiate with the City to use an onsite area.
10. Unless otherwise noted, all roadway stationing is along the centerline of the roadway right-of-way.
11. Unless otherwise noted, stationing of channels and/or pipes in drainage easements is along the centerline of the channel/pipe.
12. The Contractor shall be responsible for determining, in advance of their construction operations, if overhead utility lines, support structures, poles, guys, etc., are an obstruction to construction operations. If any obstruction is evident, the Contractor shall be responsible for coordinating with the appropriate utility owner to remove or support the utility obstruction. All costs for these requirements are incidental to the Contract.
13. Facilities which are not specifically located with actual vertical and horizontal controls on the construction documents, are shown approximate and in accordance with the best available information provided by various owners of the facilities, and supplemented by visual surface information where appropriate. Accuracy, location, and completeness of this information is the sole responsibility of the Contractor and should be verified, by any means necessary, before the initiation of construction. Should a conflict exist, the Contractor shall notify the City, Engineer, and the City's Project Manager immediately.
14. It is mandatory that a preconstruction meeting be held before commencing construction. The Contractor is responsible for contacting the City's Project Manager to determine the time and location of the preconstruction meeting.
15. At the preconstruction meeting, the Contractor shall submit a detailed construction schedule to the City's Project Manager. The schedule will be updated on a monthly basis and submitted with the monthly invoice.
16. Any work performed without the approval of the City of Rio Rancho and/or all work and materials not in conformance with the specifications is subject to removal and replacement at the Contractor's expense.
17. The Contractor shall contact NM 811 at 1-800-321-2537 for utility spots in accordance with applicable state law.
18. The Contractor shall confine their work to within the construction limits and/or public right-of-way to preserve existing vegetation, landscaping, and private property. Approval of these plans does not give or imply any permission to trespass or work on private property. Permission must be granted in writing by the Owner of that property.
19. It is the sole responsibility of the Contractor to keep the job site free from trash on a daily basis, and all materials will be neatly organized. Trash and/or non-used materials shall not be buried onsite.
20. The Contractor shall park equipment and vehicles so as not to interfere with normal activities of residents, other Contractors, or Emergency Services.
21. The Contractor will provide construction staking utilizing approved construction plans, the appropriate Right-of-Way maps, recorded plats, and City of Rio Rancho standard details. Each revision to the plans shall be recorded in the plan revision block. Plans shall include a location map with legal description(s) and location grid.
22. The Contractor shall maintain an up-to-date and accurate set of Working Record Drawings, redlined drawings, in accordance with the City or Rio Rancho's Development Process Manual (DPM) Chapter II.7. These Working Record Drawings shall reflect all approved changes to the original plans throughout the construction process. At the completion of construction, the Contractor shall submit the Working Record Drawings as outlined in the City or Rio Rancho's DPM Chapter II.7. Also, the Contractor shall ensure that all submittals, permitting, and construction activities are in accordance with the City or Rio Rancho's DPM and applicable ordinances. All costs for these requirements are incidental to the Contract.
23. No work shall be performed in a floodplain without written authorization from the City's Floodplain Manager.
24. Any work performed in a drainage way, channel, arroyo, or floodplain must be protected by the means identified in the Temporary Erosion Control and Sediment plans accepted by the City.
25. Vibration monitoring will be at the Contractor's discretion and incidental to the Contract.

SOILS

1. Unless otherwise specified subgrade soils and structural fill materials shall be compacted to the following percentages of the ASTM D-1557 maximum density.

MATERIALS	PERCENT (%) COMPACTION
STRUCTURAL FILL IN THE BUILDING AREA	95
SUB BASE FOR SLAB SUPPORT	95
MISCELLANEOUS BACKFILL BELOW STRUCTURAL FILL OR ROAD	95
MISCELLANEOUS BACKFILL BELOW UNPAVED, NON-BUILDING AREAS	90
ROAD SUB GRADE	95
SIDEWALK SUB GRADE	95
CURB AND GUTTER SUBGRADE	95
ARROYOS	90

ROADWAY GENERAL NOTES

1. No paving construction activities shall be started until all underground utilities within the roadway are completed, tested, and approved. All water valve boxes and electrical, telephone, television, and sewer manholes in the construction area shall be adjusted to finished grade.
2. All signs, barricades, channelization devices, pavement markings, sign frames and erection of such devices shall conform to the requirements of the "Manual on Uniform Traffic Control Devices for streets and highways" (MUTCD), current edition.
3. All street striping altered or destroyed during construction shall be replaced by the Contractor to match the original conditions (i.e. type, spacing) at the location prior to construction, or as shown in this plan set.
4. Street grades shall be restored by the Contractor to the existing grades unless otherwise directed by the City of Rio Rancho. Smooth transitions shall be made between existing pavement which remains in place and pavement which is replaced. When abutting new pavement to existing, saw cut back existing pavement to a neat, straight line as required to remove any broken or cracked pavement. Refer to standard drawing PS-02.
5. The location of all valves and manholes must be referenced at all times by the Contractor during construction and made accessible daily upon completion of all paving activities.

EROSION CONTROL/ENVIRONMENTAL PROTECTION/STORM WATER POLLUTION PREVENTION PLAN

1. The Contractor shall be responsible for fulfilling all necessary National Pollutant Discharge Elimination System (NPDES) requirements including, but not limited to, obtaining an NPDES permit before construction, filling out the Notice of Intent (NOI) application, and filling out the Notice of Termination (NOT) application. The Contractor shall also be responsible for the implementation of and inspection reports for the Storm Water Pollution Prevention Plan (SWPPP). The Contractor shall submit the SWPPP with the proposed construction staging area and temporary sanitary facilities clearly shown. Any check dams, silt fences, or other Best Management Practices (BMP) that are required in the approved SWPPP shall be included in and are incidental to the SWPPP bid amount.
2. The Contractor is required to keep a current copy of the SWPPP at the construction site or at an easily accessible location so that it can be made available at the time of an onsite inspection or upon request by the EPA, a state, tribal, or local agency approving storm water management plans; the operator of a storm sewer system receiving discharges from the site; or representatives of the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS).
3. The Contractor shall conform to all City, County, State and Federal dust and erosion control regulations. The Contractor shall prepare and obtain any necessary dust or erosion control permits from the regulatory agencies.
4. The Contractor shall either promptly remove any material excavated within the public Right-of-Way or install BMPs according to NPDES requirements to prevent discharge of excavated material within the public Right-of-Way during a rain or wind event. All costs for these requirements are incidental to the Contract.
5. The Contractor shall implement the approved SWPPP and ensure that no soil erodes from the site into public Right-of-Way or onto private property.
6. The Contractor shall mitigate erosion of temporary or permanent dirt swales by installing BMPs identified in the approved SWPPP in the swales perpendicular to the direction of flow, and at intervals as specified in the SWPPP.
7. Construction areas shall be watered for dust control in compliance with government ordinances. The Contractor shall be responsible for locating and supplying water as required. Watering, as required for construction and dust control, shall be considered incidental to construction and no measurement or payment shall be made therefore.
8. Any areas disturbed by construction and not covered by landscaping or an impervious surface shall be re-vegetated with native grass seeding. When construction activities cease and earth disturbing activities will not resume within 14 days, stabilization measures must be initiated. Unless indicated otherwise on these plans or on the landscaping plan, native grass seeding shall be in accordance with Section 1012 of the New Mexico Standard Specifications for Public Works Construction, APWA NM Chapter, current edition.
9. All waste products from the construction site, including items designated for removal, construction waste, construction equipment waste products (oil, gas, tires, etc.) garbage, grubbing, excess cut material, vegetative debris, etc. shall be appropriately disposed of offsite at no additional cost to the City. It shall be the Contractor's responsibility to obtain permits required to haul or dispose of waste products. It shall be the Contractor's responsibility to ensure that the waste disposal site complies with government regulations regarding the environment, endangered species, and archaeological resources.
10. The Contractor shall be responsible for the cleanup and reporting of spills of hazardous materials associated with the construction site. Hazardous materials include gasoline, diesel fuel, motor oil, solvents, chemicals, paints, etc. which may be a threat to the environment. The Contractor shall report the discovery of past or present spills to the New Mexico Environment Department Emergency Response Team at (505) 827-9329.
11. The Contractor shall comply with all applicable regulations concerning surface and underground water. Contact with surface water by construction equipment and personnel shall be minimized. Equipment maintenance and refueling operations shall be performed in an environmentally safe manner in compliance with government regulations.
12. Where storm inlets are susceptible to inflow of silt or debris from construction activities, protection shall be provided on their upstream side utilizing BMPs according to NPDES requirements. All costs for these requirements are incidental to the Contract.
13. Storm Water Pollution Prevention Plans (SWPPP) and accompanying Federal EPA Administrative Procedures shall meet the City of Rio Rancho guidelines and procedures outlined in the current addition of the New Mexico State Highway and Transportation Department Storm Water Management Guidelines for Construction and Industrial Activities Manual.
14. The Contractor shall provide adequate means for cleaning trucks and/or other equipment of mud before entering public streets. It is the Contractor's responsibility to clean streets and take whatever measures are necessary to ensure that all roads are maintained in a clean, mud and dust-free condition at all times.
15. No work may begin in a an arroyo or other drainage way until authorization has been provided by the U.S. Army Corp. of Engineers and the City of Rio Rancho Flood Plain Manager.

ADA GENERAL NOTES

1. These drawings provide guidance for compliance with the current public right of way accessibility guidelines (PROWAG). These standards shall apply to all new and altered sidewalks.
2. Surfaces shall be stable, firm, and slip resistant. Sidewalk and curb ramp surfaces shall provide consistent slopes within each section.
3. All street striping altered or destroyed during construction shall be replaced by the Contractor to All broom finishes shall be perpendicular to the direction of pedestrian travel.
4. A vertical change of 1/4 inch (6mm) or less is allowed, if between 1/4 inch and 1/2 inch (6mm and 13mm), then it needs to be beveled 2:1. Changes greater than 1/2 inch shall be ramped.
5. Openings or cracks in sidewalk surfaces shall not exceed 1/2 inch (13mm). Elongated openings should be placed so that the long dimension is perpendicular or diagonal to the dominant direction of travel.
6. The least possible curb ramp slope shall be used. Curb ramps running slope shall not exceed 12:1. Where existing terrain is steep, curb ramps shall not exceed 15 feet in length.
7. Provide a flush transition between curb ramps, sidewalks, gutter, and edge of pavement, free of drainage lip, abrupt grade changes, drop-offs, or any surface irregularities. A 5% (20:1) or flatter transition taper shall be provided from the street to the gutter for curb ramps locations (this may require special treatment of the edge of OGFC) when diagonal (not in line with crosswalks) curb ramps are necessary. A 2% (50:1) transition or "lower landing" shall be provided. The gutter running slope (flow line) shall not exceed 2% measured along the bottom of the curb ramp.
8. Curb ramps shall be located to provide the most direct route of travel across the traffic lanes.
9. Two directional (in line with the crosswalks) curb ramps per corner are used in order to provide short and direct crossings for the user.
10. Sign posts, utility poles, fire hydrants, traffic signals standards, light poles, pull boxes, meters, valves, etc., shall not be located in the curb ramp including side flares and landings.
11. In order to better accommodate conditions in the field, the contractor shall obtain final approval of curb ramp locations from the project manager and the city manager and the city traffic engineer. When necessitated by existing physical conditions. Alternate curb ramps must be submitted to the project manager for approval by the city traffic engineer.
12. Landings shall be a minimum of 48" x 48". Slopes shall not exceed 2% (50:1) in all directions.
13. Detectable warnings are required at all street intersections, signalized driveways, commercial driveways 30' wide or greater, and marked mid-block crosswalks.
14. Concrete Procedural note: Before scheduling delivery of concrete, contractor shall meet with City Inspector/PM to ensure the concrete formwork is constructed to dimensions and grades shown on plans and meets PROWAG, 2011 Technical Design Criteria. Calibrate 24" electronic digital level with Contractor's electronic digital level prior to verifying measurements. Verify measurements meet requirements or require correction of all discrepancies before scheduling of concrete to ensure the finished concrete will meet PROWAG. When all measurements meet requirements then the inspector shall permit concrete pour. Repeat the procedure after concrete pour to ensure the curb ramp meets PROWAG compliance. Final acceptance of a curb ramp does not occur until the final inspection of the project. This procedure shall be considered incidental to the installation of the ADA curb ramps.
15. The contractor shall submit a proposed work plan for pedestrian improvements to the project engineer for review and approval prior to initiating this work. This plan shall include the method proposed to maintain pedestrian access to businesses, schools, hospitals, buildings, etc. throughout the pedestrian improvements construction in particular. The contractor, at minimum, shall maintain a 48" clear path for pedestrians so as to meet ADA accessibility requirements. All temporary pedestrian facilities implemented during construction shall comply with ADA standards.
16. Sidewalk and curb ramp cross slope is recommended to be constructed for a cross slope of 1.5% typical, but shall not exceed 2.0% cross slope on the pedestrian access route.

City of Rio Rancho — City of Vision

NO.	DESCRIPTION	DATE	BY
7			
6			
5			
4			
3			
2			
1			

REVISIONS (OR CHANGE NOTICES)

Designed By: HUITT-ZOLLARS, Inc.
Huitt-Zollars, Inc.
3500 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For: CITY OF RIO RANCHO

GENERAL NOTES

MS4 OUTFALL IMPROVEMENTS

ROBERT DEMEULE III — NEW MEXICO — 16014 — 9/30/19 — PROFESSIONAL ENGINEER

PROJECT NO. DB19.1135
DESIGNED BY: KLS
DRAWN BY: VKL
CHECKED BY: RJD
DATE: AUGUST 29, 2019
DPW CHK:
SHEET: 2 OF 16
P2

811 Know what's below. Call before you dig. TWO WORKING DAYS BEFORE YOU DIG CALL 811 OR 260-1990

DBS&A — Daniel B. Stephens & Associates, Inc.

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Last Saved by VKL on 8/29/2019 8:51:47 AM by VKL

GENERAL

- CENTERLINE
- RIGHT-OF-WAY
- ② BLOCK NUMBER
- 2 LOT NUMBER
- LOT LINE
- (A / R2) DETAIL/SHEET REFERENCE
- (A / R2) SECTION/SHEET REFERENCE
- MATCHLINE SEE SHEET G4 — MATCH LINE/SHEET REFERENCE

GRADING & DRAINAGE

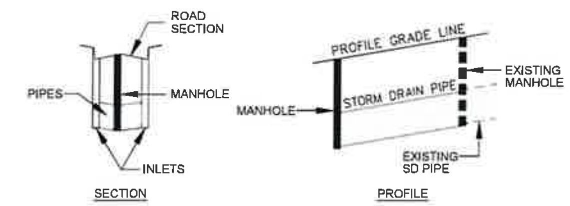
- EXISTING (INDEX) CONTOUR
- EXISTING (INTERMEDIATE) CONTOUR
- FINISHED (INDEX) CONTOUR
- FINISHED (INTERMEDIATE) CONTOUR
- FLOW DIRECTION ARROW
- TOP OF 4:1 SLOPE (UNLESS NOTED OTHERWISE)
- TOE OF SLOPE
- CONCRETE CURB & GUTTER
- F.F. 5574.9 F.P. 5574.4 — BUILDING PAD AND ELEVATION INFORMATION
- D/W — LIMITS OF ACCEPTABLE DRIVEWAY LOCATION
- 83.7 FINISHED (SPOT) ELEVATION
- TBC 19.2 TOP, BACK OF CURB (SPOT) ELEVATION
- SIGHT TRIANGLE — STREET INTERSECTION CLEAR SIGHT TRIANGLE
- GRADING LIMIT
- WATERBLOCK (HIGH POINT)

ROADS

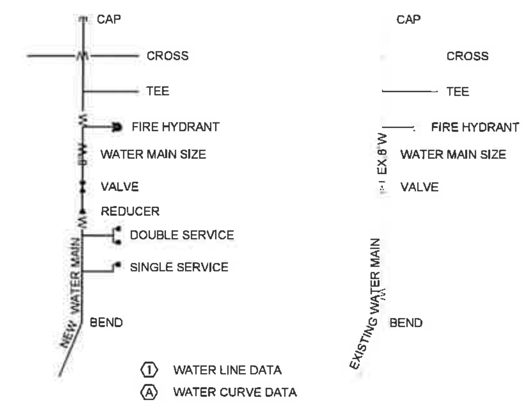
- CONCRETE SIDEWALK
- CONCRETE CURB & GUTTER
- EXISTING CURB AND GUTTER
- ② CONSTRUCTION NOTE(S)
- R2 INDICATES ROAD SHEET NUMBER
- NEW STREET LIGHT (LUMINAIRE)
- EXISTING STREET LIGHT (LUMINAIRE)
- STOP SIGN (R1-1)
- NORMAL CROWN
- NOT NORMAL CROWN

STORM DRAIN

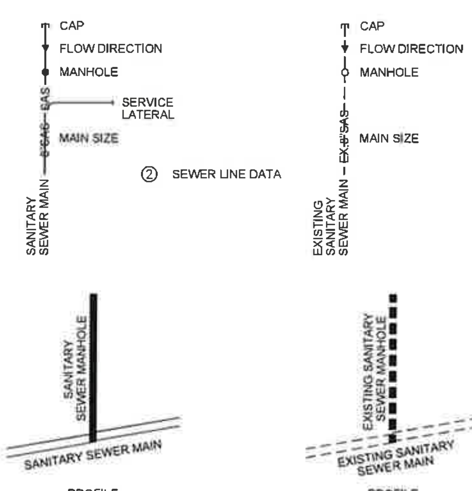
- EXISTING STORM DRAIN INLET, PIPE, AND MANHOLE
- NEW STORM DRAIN INLET, PIPE, AND MANHOLE
- ② STORM DRAIN LINE DATA



WATER



SANITARY SEWER



ABBREVIATIONS

AP	ANALYSIS POINT
@	AT
BC	BEGIN CURVE
BCR	BEGIN CURB RETURN
BK	BOOK
BLDG	BUILDING
BM	BENCH MARK
BOP	BEGINNING OF PROJECT
BVC	BEGIN VERTICAL CURVE
BW	BASE OF WALL
CATV	CABLE TV LINE
CB	CATCH BASIN
CF	CURB FACE
CG	CURB AND GUTTER
CIP	CAST IRON PIPE
CL	CHAIN LINK
℄	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
CONC	CONCRETE
CORR	CITY OF RIO RANCHO
CY	CUBIC YARDS
DE, DUE	DRAINAGE UTILITY EASEMENT
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
Δ	DELTA
E	ELECTRIC
EA	EACH
EB	ELECTRIC BOX
EC	END CURVE
ECR	END CURB RETURN
EL, ELEV	ELEVATION
EOP	END OF PROJECT
EP	EDGE OF PAVEMENT
ESMT	EASEMENT
EVC	END VERTICAL CURVE
EW	EACH WAY
EX, EXIST	EXISTING
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FM	FORCE MAIN
FOC	FACE OF CURB
FP	FINISHED PAD
G	GAS
GM	GAS METER
GV	GATE VALVE
HORIZ	HORIZONTAL
INT	INTERSECTION
INV	INVERT
INV EL	INVERT ELEVATION
LF	LINEAR FEET
LP	LIGHT POLE
LT	LEFT
MH	MANHOLE
NG	NATURAL GROUND
OC	ON CENTER
PB	PULL BOX
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PG	PAGE
PGL	PROFILE GRADE LINE PER TYPICAL SECTION
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE PIPE
PVMT	PAVEMENT
R, RAD	RADIUS
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
REF	REFERENCE
RT	RIGHT
R/W, ROW	RIGHT-OF-WAY
S	SLOPE
SAS	SANITARY SEWER LINE
SD	STORM DRAIN
SF	SQUARE FEET
STA	STATION
STD	STANDARD
SW	SIDEWALK
SY	SQUARE YARDS
T	TANGENT
TA	TOP OF ASPHALT
TAC	TOP OF ASPHALT CURB
TBC	TOP BACK OF CURB
TC	TOP OF CONCRETE
TEL	TELEPHONE LINE, RISER OR BOX
TP	TOP OF PIPE
TRANS	TRANSVERSE
TW	TOP OF WALL
TYP	TYPICAL
UE	UNDERGROUND ELECTRICAL LINE
UT	UNDERGROUND TELEPHONE LINE
VC	VERTICAL CURVE
VERT	VERTICAL
VPI	VERTICAL POINT OF INTERSECTION
W, WL	WATERLINE
WM	WATER METER
WSEL	WATER SURFACE ELEVATION
WV	WATER VALVE

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Rio Rancho City of Vision

NO.	DESCRIPTION	DATE	BY
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REVISIONS (OR CHANGE NOTICES)

Designed By: HUITT-ZOLLARS Huitt-Zollars, Inc. Rio Rancho 333 Rio Rancho Drive NE, Suite 101 Rio Rancho, New Mexico 87124 Phone (505) 892-5141 Fax (505) 892-3259

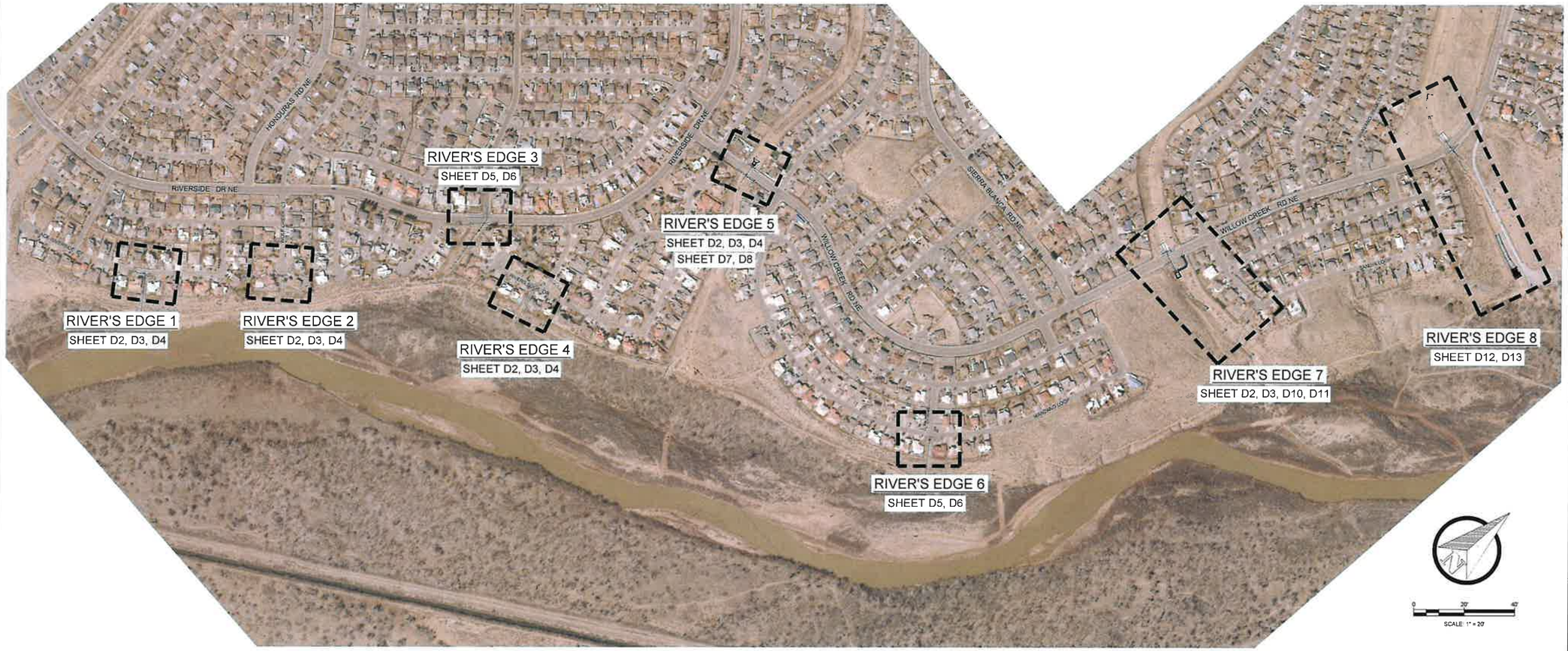
Designed For: CITY OF RIO RANCHO

MS4 OUTFALL IMPROVEMENTS

ABBREVIATIONS

ROBERT DEMEULE III NEW MEXICO 16014 PROFESSIONAL ENGINEER

PROJECT NO. DB19.1136
DESIGNED BY: KLS
DRAWN BY: VKL
CHECKED BY: RJD
DATE: AUGUST 29, 2019
DPW CHK:
SHEET: 3 OF 16
P3



OVERALL PLAN

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Rio Rancho
City of Vision

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REVISIONS (OR CHANGE NOTICES)

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HUITT-ZOLLARS
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Designed For
CITY OF RIO RANCHO

OVERALL MS4 SITE LOCATIONS

MS4 OUTFALL IMPROVEMENTS

ROBERT DEMEULE III
NEW MEXICO
16014
PROFESSIONAL ENGINEER
9/29/19

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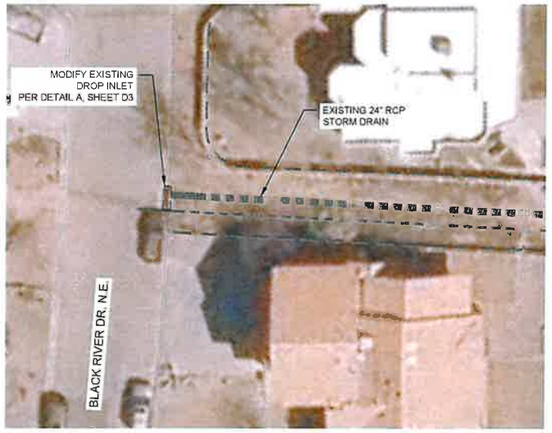
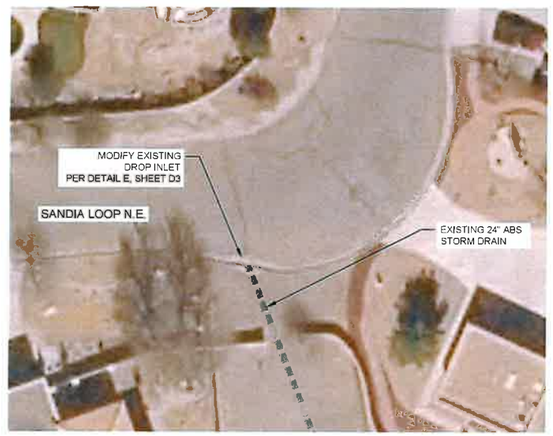
Daniel B. Stephens & Associates, Inc.

PROJECT NO. DB19.1136
DESIGNED BY: KLS
DRAWN BY: VKL
CHECKED BY: RJD
DATE: AUGUST 29, 2019
DPW CHK:
SHEET: 4 OF 16
D1



RIVER'S EDGE 1 - PLAN

RIVER'S EDGE 2 - PLAN

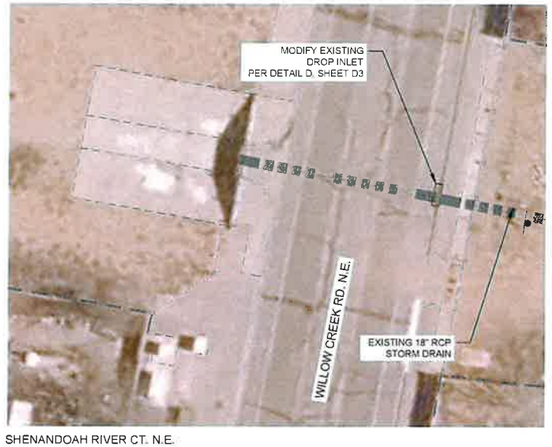


RIVER'S EDGE 7 - PLAN

SILVER CREEK DR. N.E.

RIVER'S EDGE 4 - PLAN

AGUA FRIA DR. N.E.



SHENANDOAH RIVER CT. N.E.

RIVER'S EDGE 5 - PLAN

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REVISIONS (OR CHANGE NOTICES)

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Designed For: CITY OF RIO RANCHO

INLET IMPROVEMENT PLANS
RE1, RE2, RE4, RE5 & RE7

CITY OR RIO RANCHO
CITY OF RIO RANCHO MS4

ROBERT DEMEULE III
NEW MEXICO
16014
PROFESSIONAL ENGINEER
8/30/19

PROJECT NO. R311015.01
DESIGNED BY: KLS
DRAWN BY: VKL
CHECKED BY: RJD
DATE: AUGUST 29, 2019
DPW CHK:
SHEET: 5 OF 16
D2

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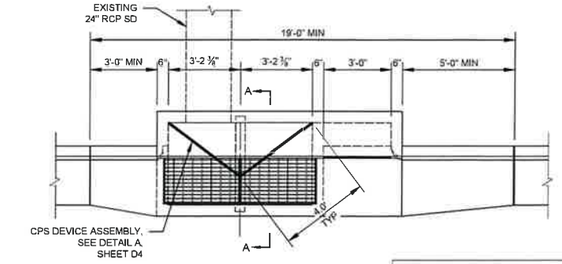
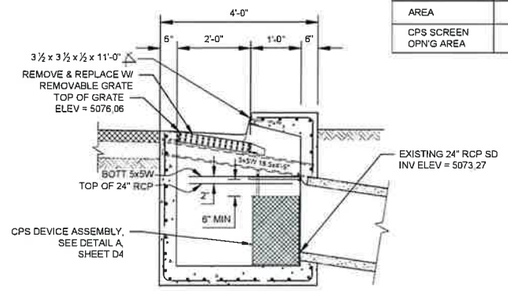
Daniel B. Stephens & Associates, Inc.



PLAN VIEW

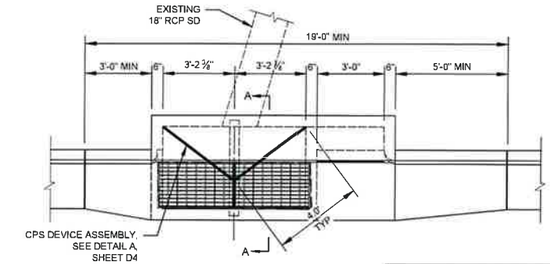
INLET AREA INFORMATION	
EXISTING PIPE	24"
AREA	3.14 FT SQ
CPS SCREEN OPN'G AREA	4 FT SQ



SECTION A-A

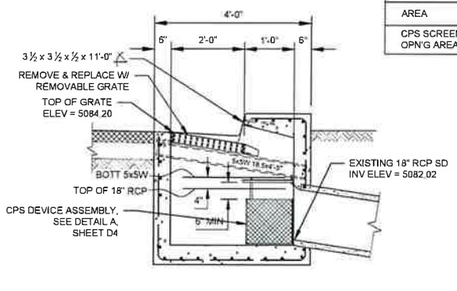
RIVER'S EDGE 1
MODIFIED DOUBLE TYPE "C" INLET WITH SCREEN SYSTEM (A)

N.T.S.



PLAN VIEW

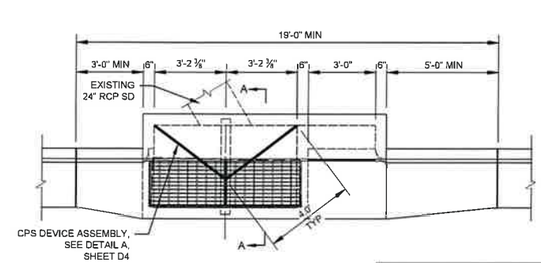
INLET AREA INFORMATION	
EXISTING PIPE	18"
AREA	1.8 FT SQ
CPS SCREEN OPN'G AREA	4 FT SQ



SECTION A-A

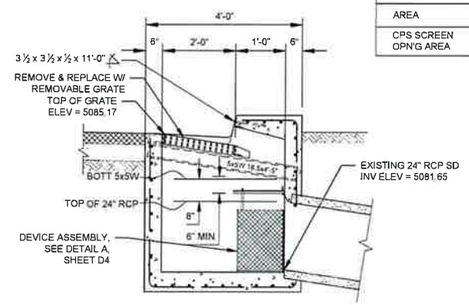
RIVER'S EDGE 2
MODIFIED DOUBLE TYPE "C" INLET WITH SCREEN SYSTEM (B)

N.T.S.



PLAN VIEW

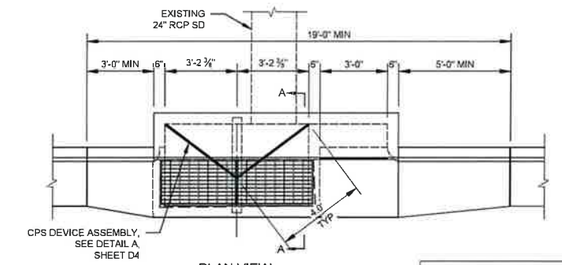
INLET AREA INFORMATION	
EXISTING PIPE	24"
AREA	3.14 FT SQ
CPS SCREEN OPN'G AREA	4 FT SQ



SECTION A-A

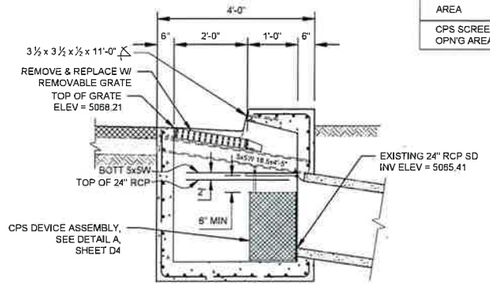
RIVER'S EDGE 7
MODIFIED DOUBLE TYPE "C" INLET WITH SCREEN SYSTEM (E)

N.T.S.



PLAN VIEW

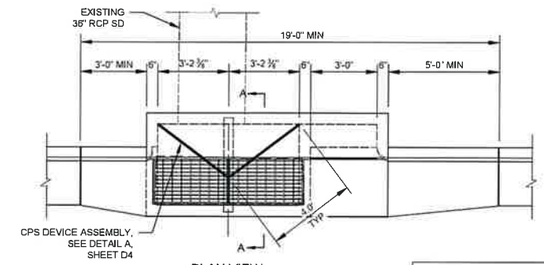
INLET AREA INFORMATION	
EXISTING PIPE	24"
AREA	3.14 FT SQ
CPS SCREEN OPN'G AREA	4 FT SQ



SECTION A-A

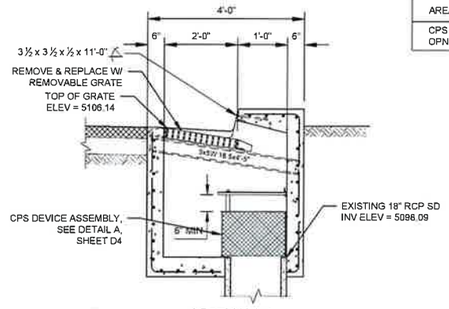
RIVER'S EDGE 4
MODIFIED DOUBLE TYPE "C" INLET WITH SCREEN SYSTEM (C)

N.T.S.



PLAN VIEW

INLET AREA INFORMATION	
EXISTING PIPE	18"
AREA	1.8 FT SQ
CPS SCREEN OPN'G AREA	4 FT SQ



SECTION A-A

RIVER'S EDGE 5
MODIFIED DOUBLE TYPE "C" INLET WITH SCREEN SYSTEM (D)

N.T.S.

NO.	DESCRIPTION	DATE	BY
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2	-	-	-
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Designed By: HUITT-ZOLLARS, Rio Rancho
Huitt-Zollars, Inc. 333 Rio Rancho Drive NE, Suite 101 Rio Rancho, New Mexico 87124 Phone (505) 892-5141 Fax (505) 892-3259
Designed For: CITY OF RIO RANCHO

INLET IMPROVEMENT DETAILS

CITY OR RIO RANCHO
CITY OF RIO RANCHO MS4

ROBERT DEMEULE III
NEW MEXICO
16014
PROFESSIONAL ENGINEER

811 TWO WORKING DAYS BEFORE YOU DIG CALL 811 OR 260-1990

PROJECT NO. R311015.01
DESIGNED BY: KLS
DRAWN BY: VKL
CHECKED BY: RJD
DATE: AUGUST 29, 2019
DPW CHK:
SHEET: 5 OF 16
D3

DBS&A
Daniel B. Stephens & Associates, Inc.

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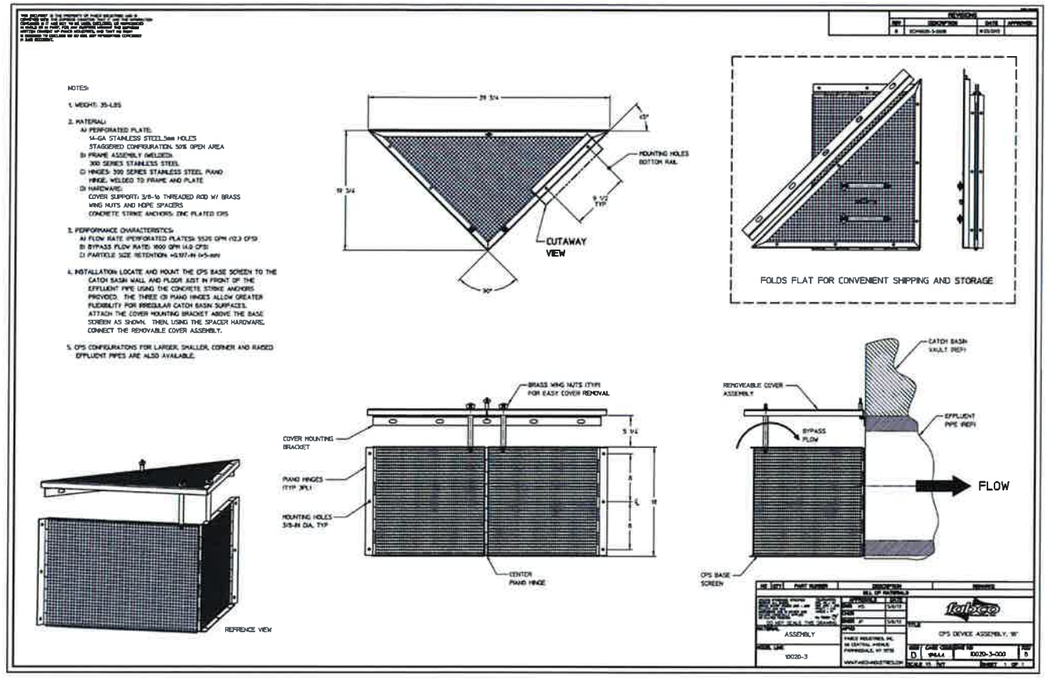

CONNECTOR PIPE SCREEN DEVICE (CPS) ASSEMBLY, 18" (A)

N.T.S.

NO.	DESCRIPTION	DATE	BY
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REVISIONS (OR CHANGE NOTICES)

Designed By
HUITT-ZOLLARS
Huitt-Zollars, Inc
3320 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed for
CITY OF RIO RANCHO

INLET IMPROVEMENT DETAILS

CITY OR RIO RANCHO
CITY OF RIO RANCHO MS4

ROBERT DEMEULE III
NEW MEXICO
16014
PROFESSIONAL ENGINEER

PROJECT NO. R311015.01
DESIGNED BY:KLS
DRAWN BY: VKL
CHECKED BY: RJD
DATE:AUGUST 29, 2019
DPW CHK:
SHEET: 7 OF 16
D4

nm811 Know what's below. Call before you dig. TWO WORKING DAYS BEFORE YOU DIG CALL 811 OR 260-1990

DBS&A
Daniel B. Stephens & Associates, Inc.

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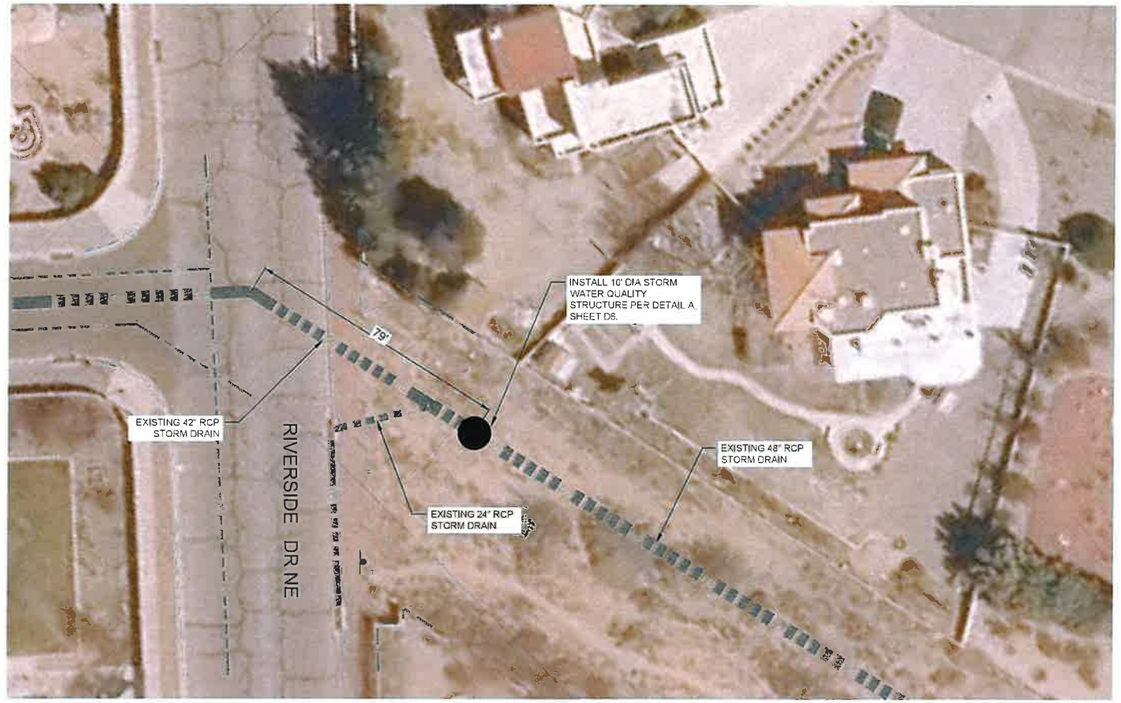

RIVER'S EDGE 3

RIVER'S EDGE 6

0 20' 40'
SCALE: 1" = 20'

NO.	DESCRIPTION	DATE	BY
1	-	-	-
2	-	-	-
3	-	-	-
4	-	-	-
5	-	-	-
6	-	-	-
7	-	-	-

REVISIONS (OR CHANGE NOTICES)

Rio Rancho City of Vision

Designed By
HUITT-ZOLLARS
Huitt-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For
CITY OF RIO RANCHO

MANHOLE IMPROVEMENTS
RE3 & RE6

CITY OR RIO RANCHO
CITY OF RIO RANCHO MS4

ROBERT DEMEULE III
NEW MEXICO
16014
PROFESSIONAL ENGINEER

811 811
Know what's below. Call before you dig.
TWO WORKING DAYS BEFORE YOU DIG CALL 811 OR 260-1990

DBS&A
Daniel B. Stephens & Associates, Inc.

PROJECT NO. R311015.01
DESIGNED BY: KLS
DRAWN BY: VKL
CHECKED BY: RJD
DATE: AUGUST 29, 2019
DPW CHK:
SHEET: 8 OF 16
D5

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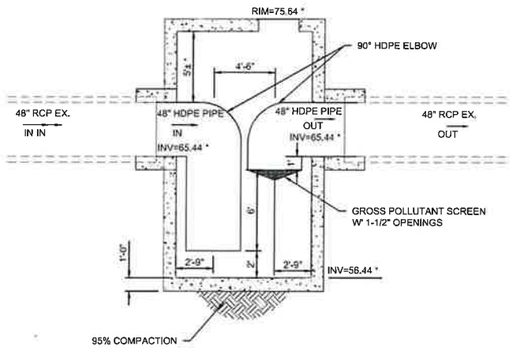
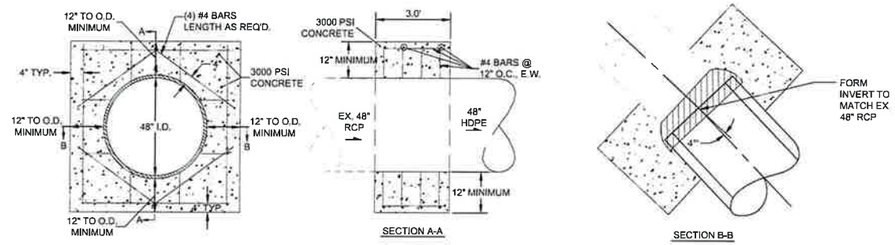
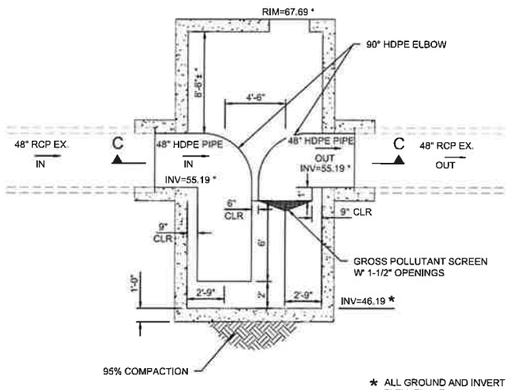


* ALL GROUND AND INVERT ELEVATION TO BE VERIFIED IN FIELD. CONTRACTOR TO CONTACT THE ENGINEER OF ANY DISCREPANCIES.

RIVER'S EDGE 3
10' DIA SD MODIFIED TO BE A STORM WATER QUALITY CONTROL STRUCTURE (A)
N.T.S.

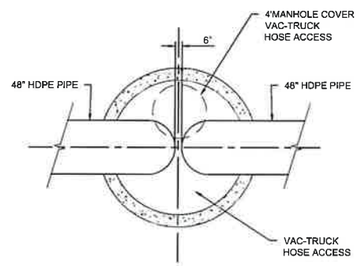


CONCRETE COLLAR CONNECTION 48" RCP TO 48" HDPE (C)
N.T.S.



* ALL GROUND AND INVERT ELEVATION TO BE VERIFIED IN FIELD. CONTRACTOR TO CONTACT THE ENGINEER OF ANY DISCREPANCIES.

RIVER'S EDGE 6
10' DIA SD MODIFIED TO BE A STORM WATER QUALITY CONTROL STRUCTURE (B)
N.T.S.



SECTION C - C (D)
N.T.S.

NO.	DESCRIPTION	DATE	BY
7	-	-	-
6	-	-	-
5	-	-	-
4	-	-	-
3	-	-	-
2	-	-	-
1	-	-	-

REVISIONS (OR CHANGE NOTICES)

Rio Rancho City of Vision

Designed By
HUITT-ZOLLARS, INC.
Rio Rancho
333 Rio Rancho Drive NE, Suite 101
Albuquerque, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-0259
Drawing For

CITY OF RIO RANCHO

MANHOLE IMPROVEMENT DETAILS
RE3 & RE6
CITY OR RIO RANCHO
CITY OF RIO RANCHO MS4

ROBERT DEMEULE III
NEW MEXICO
16014
PROFESSIONAL ENGINEER

811 nm811 Know what's below. Call before you dig. TWO WORKING DAYS BEFORE YOU END CALL 811 OR 260-1990

DBS&A
Daniel B. Stephens & Associates, Inc.

PROJECT NO.	R311015.01
DESIGNED BY:	KLS
DRAWN BY:	VKL
CHECKED BY:	RJD
DATE:	AUGUST 29, 2019
DPW CHK:	
SHEET:	9 OF 16
	D6

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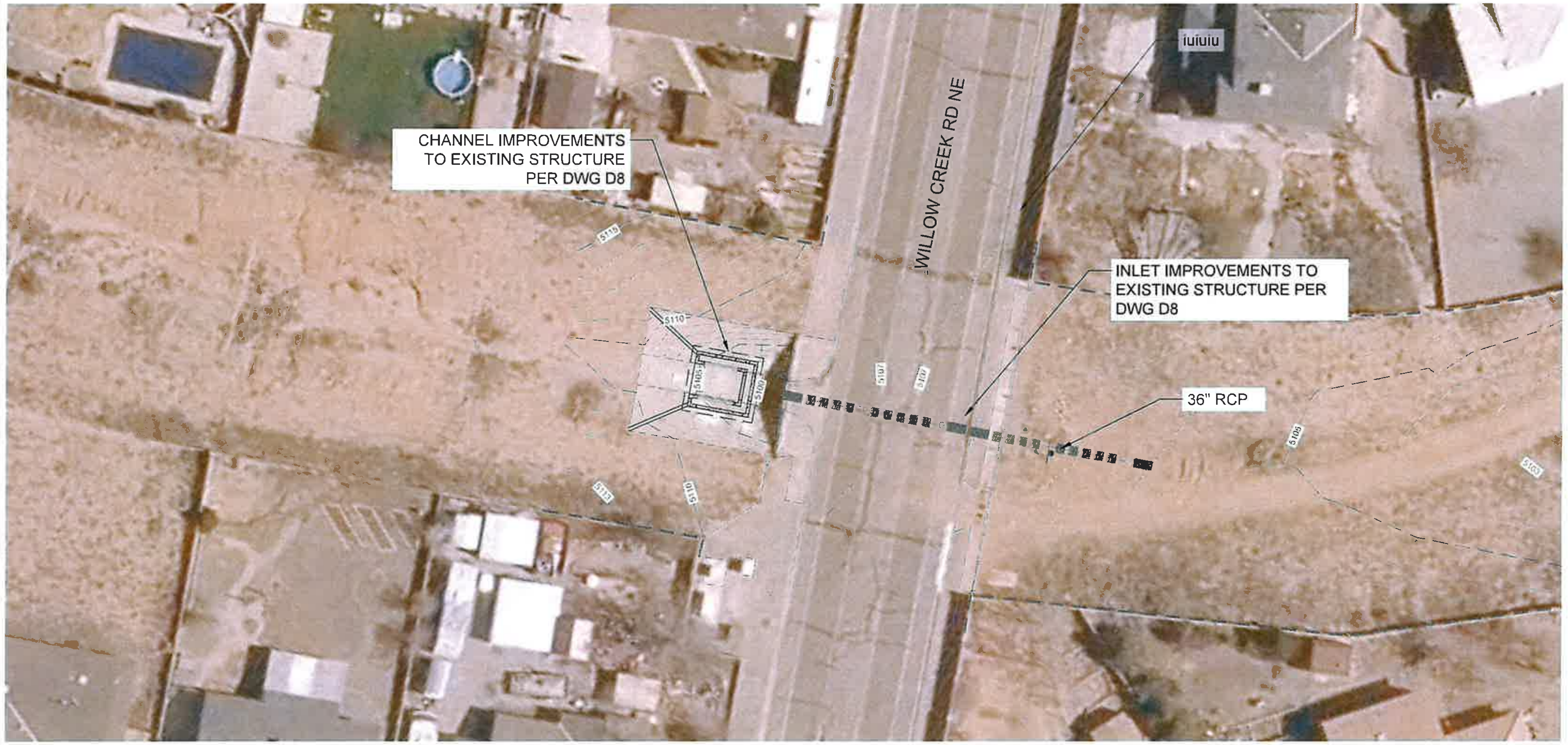
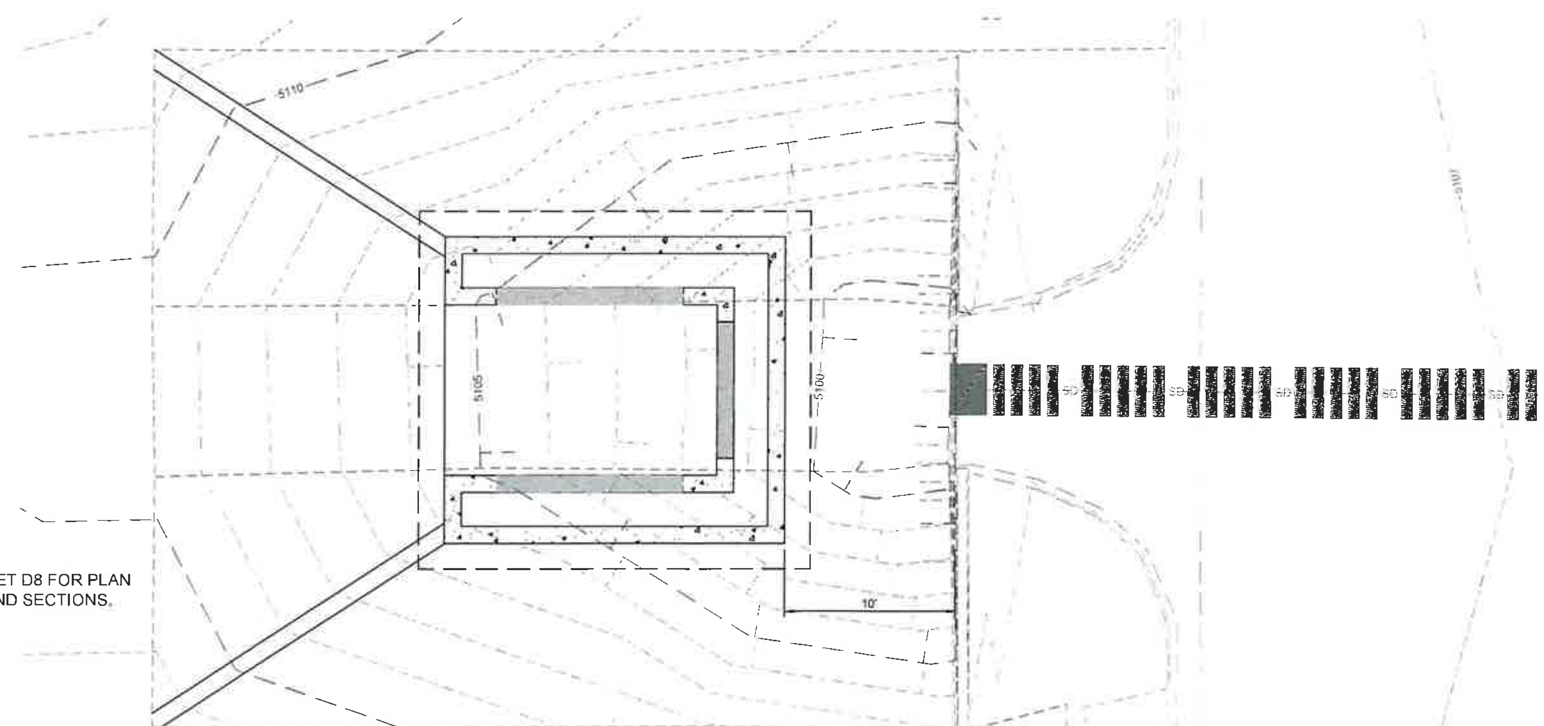


0 20' 40'
SCALE: 1" = 20'

RIVER'S EDGE 5



0 5' 10'
SCALE: 1" = 5'

NOTE:
REFER TO SHEET D8 FOR PLAN DIMENSIONS AND SECTIONS.

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RioRancho City of Vision

NO.	DESCRIPTION	DATE	BY
7	-	-	-
6	-	-	-
5	-	-	-
4	-	-	-
3	-	-	-
2	-	-	-
1	-	-	-

REVISIONS (OR CHANGE NOTICES)

Designed By
HUITT-ZOLLARS Rio Rancho
Huitt-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For
CITY OF RIO RANCHO

CHANNEL IMPROVEMENTS
RE5

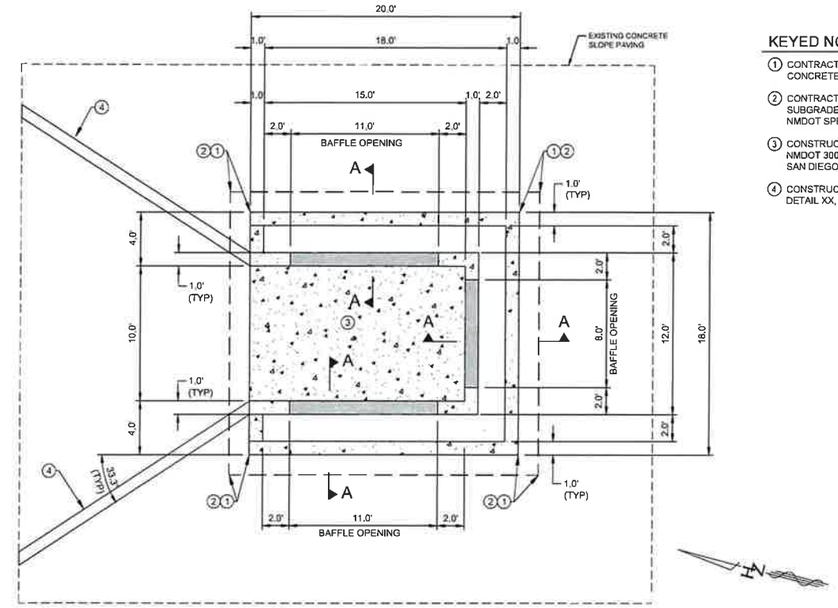
CITY OR RIO RANCHO
CITY OF RIO RANCHO MS4

ROBERT DEMEULE III
NEW MEXICO
16014
PROFESSIONAL ENGINEER
9/20/19

nm811 Know what's below. Call before you dig. TWO WORKING DAYS BEFORE YOU DIG CALL 811 OR 260-1990

DBS&A
Daniel B. Stephens & Associates, Inc.

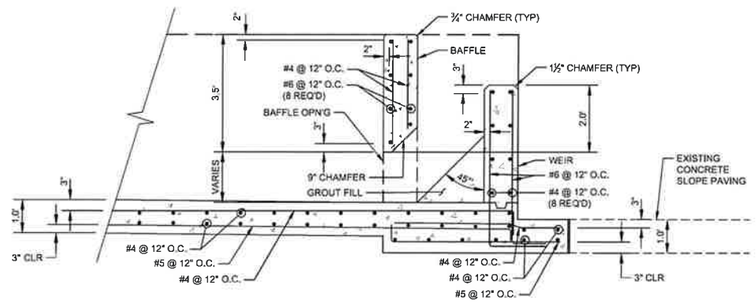
PROJECT NO. R311015.01
DESIGNED BY: KLS
DRAWN BY: VKL
CHECKED BY: RJD
DATE: AUGUST 29, 2019
DPW CHK:
SHEET: 10 OF 16
D7



KEYED NOTES

1. CONTRACTOR TO SAW CUT AND REMOVE EXISTING CONCRETE SLOPE PAVING.
2. CONTRACTOR TO OVER-EXCAVATE AND BACKFILL SUBGRADE WITH A-1-A MATERIAL, 6' DEPTH, PER NMDOT SPECIFICATION.
3. CONSTRUCT SEDIMENT STRUCTURE WITH CLASS A NMDOT 3000 PSI STRUCTURAL CONCRETE, TINTED SAN DIEGO BUFF.
4. CONSTRUCT 5' HIGH, 20.5' ± LONG, WING WALLS PER DETAIL XX, SHEET XX.

PLAN
SCALE: 1"=5'



SECTION A-A
SCALE: 1"=2'

DBS&A
Daniel B. Stephens & Associates, Inc.

NO.	DESCRIPTION	DATE	BY
1	-	-	-
2	-	-	-
3	-	-	-
4	-	-	-
5	-	-	-
6	-	-	-
7	-	-	-

REVISIONS (OR CHANGE NOTICES)

Rio Rancho City of Vision

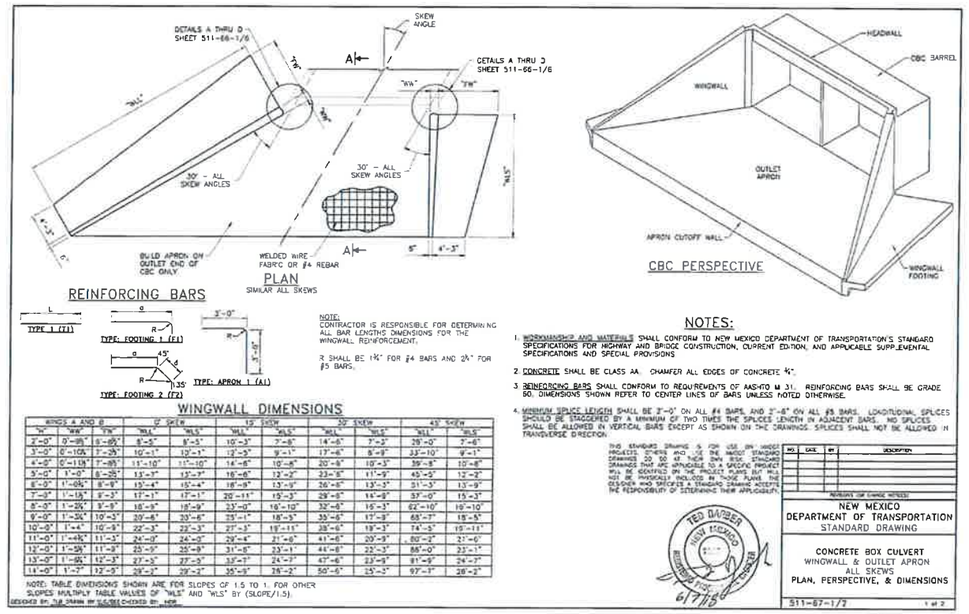
Designed By
HUITT-ZOLLARS
Huitt-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For
CITY OF RIO RANCHO

CHANNEL IMPROVEMENT DETAILS
RE5
CITY OR RIO RANCHO
CITY OF RIO RANCHO MS4

ROBERT DEMEULE III
NEW MEXICO
16014
PROFESSIONAL ENGINEER

PROJECT NO.	R311015.01
DESIGNED BY:	KLS
DRAWN BY:	VKL
CHECKED BY:	RJD
DATE:	AUGUST 29, 2019
DPW CHK:	
SHEET:	11 OF 16
	D8



REINFORCING BARS

NOTE:
CONTRACTOR IS RESPONSIBLE FOR DETERMINING ALL BAR LENGTHS DIMENSIONS FOR THE WINGWALL REINFORCEMENT.

R SHALL BE 1¾" FOR #4 BARS AND 2¾" FOR #5 BARS.

WINGWALL DIMENSIONS

WINGS A AND B			0° SKEW		15° SKEW		30° SKEW		45° SKEW	
"H"	"WA"	"TW"	"WLL"	"WLS"	"WLL"	"WLS"	"WLL"	"WLS"	"WLL"	"WLS"
2'-0"	0'-8⅞"	5'-8⅝"	8'-5"	8'-5"	10'-3"	7'-8"	14'-6"	7'-2"	28'-0"	3'-6"
3'-0"	0'-10⅞"	7'-2⅝"	10'-1"	12'-1"	12'-3"	9'-1"	17'-6"	8'-9"	33'-10"	9'-1"
4'-0"	0'-11⅜"	7'-8⅝"	11'-10"	11'-10"	14'-6"	10'-8"	20'-9"	10'-3"	39'-8"	10'-8"
5'-0"	1'-0"	8'-2⅝"	13'-7"	13'-7"	16'-6"	12'-2"	23'-5"	11'-9"	45'-5"	12'-2"
6'-0"	1'-0⅜"	8'-8"	15'-4"	15'-4"	18'-9"	13'-9"	26'-5"	13'-3"	51'-3"	13'-9"
7'-0"	1'-1⅜"	9'-3"	17'-1"	17'-1"	20'-11"	15'-3"	29'-5"	14'-9"	57'-0"	15'-3"
8'-0"	1'-2⅝"	9'-9"	18'-9"	18'-9"	23'-0"	16'-10"	32'-6"	16'-3"	62'-10"	16'-10"
9'-0"	1'-3⅝"	10'-3"	20'-6"	20'-6"	25'-1"	18'-3"	35'-6"	17'-8"	68'-7"	18'-5"
10'-0"	1'-4"	10'-9"	22'-3"	22'-3"	27'-3"	19'-11"	38'-6"	19'-3"	74'-5"	19'-11"
11'-0"	1'-4⅝"	11'-3"	24'-0"	24'-0"	29'-4"	21'-6"	41'-6"	20'-9"	80'-2"	21'-6"
12'-0"	1'-5⅜"	11'-8"	25'-9"	25'-9"	31'-5"	23'-1"	44'-6"	22'-3"	86'-0"	23'-1"
13'-0"	1'-6⅝"	12'-3"	27'-5"	27'-5"	33'-7"	24'-7"	47'-6"	23'-9"	91'-9"	24'-7"
14'-0"	1'-7"	12'-9"	29'-2"	29'-2"	35'-9"	26'-2"	50'-6"	25'-2"	97'-7"	26'-2"

NOTE: TABLE DIMENSIONS SHOWN ARE FOR SLOPES OF 1.5 TO 1. FOR OTHER SLOPES MULTIPLY TABLE VALUES OF "WLS" AND "WLL" BY (SLOPE/1.5).

DESIGNED BY: TLB DRAWN BY: KLS/DES CHECKED BY: MDR

NOTES:

1. WORKMANSHIP AND MATERIALS SHALL CONFORM TO NEW MEXICO DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, CURRENT EDITION, AND APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS
2. CONCRETE SHALL BE CLASS AA. CHAMFER ALL EDGES OF CONCRETE ¾".
3. REINFORCING BARS SHALL CONFORM TO REQUIREMENTS OF AASHTO M 31. REINFORCING BARS SHALL BE GRADE 60. DIMENSIONS SHOWN REFER TO CENTER LINES OF BARS UNLESS NOTED OTHERWISE.
4. MINIMUM SPLICE LENGTH SHALL BE 2'-0" ON ALL #4 BARS, AND 2'-6" ON ALL #5 BARS. LONGITUDINAL SPLICES SHOULD BE STAGGERED BY A MINIMUM OF TWO TIMES THE SPLICE LENGTH IN ADJACENT BARS. NO SPLICES SHALL BE ALLOWED IN VERTICAL BARS EXCEPT AS SHOWN ON THE DRAWINGS. SPLICES SHALL NOT BE ALLOWED IN TRANSVERSE DIRECTION.

THIS STANDARD DRAWING IS FOR USE ON MOST PROJECTS. OTHERS WHO USE THE MOST STANDARD DRAWINGS DO SO AT THEIR OWN RISK. STANDARD DRAWINGS THAT ARE APPLICABLE TO A SPECIFIC PROJECT WILL BE IDENTIFIED ON THE PROJECT PLANS BUT WILL NOT BE PHYSICALLY INCLUDED IN THOSE PLANS. THE DESIGNER WHO SPECIFIES A STANDARD DRAWING ACCEPTS THE RESPONSIBILITY OF DETERMINING THEIR APPLICABILITY.

NO.	DATE	BY	DESCRIPTION

REVISIONS (OR CHANGE NOTICES)

TED BARBER NEW MEXICO 12021 REGISTERED ENGINEER 6/7/19

NEW MEXICO DEPARTMENT OF TRANSPORTATION
STANDARD DRAWING

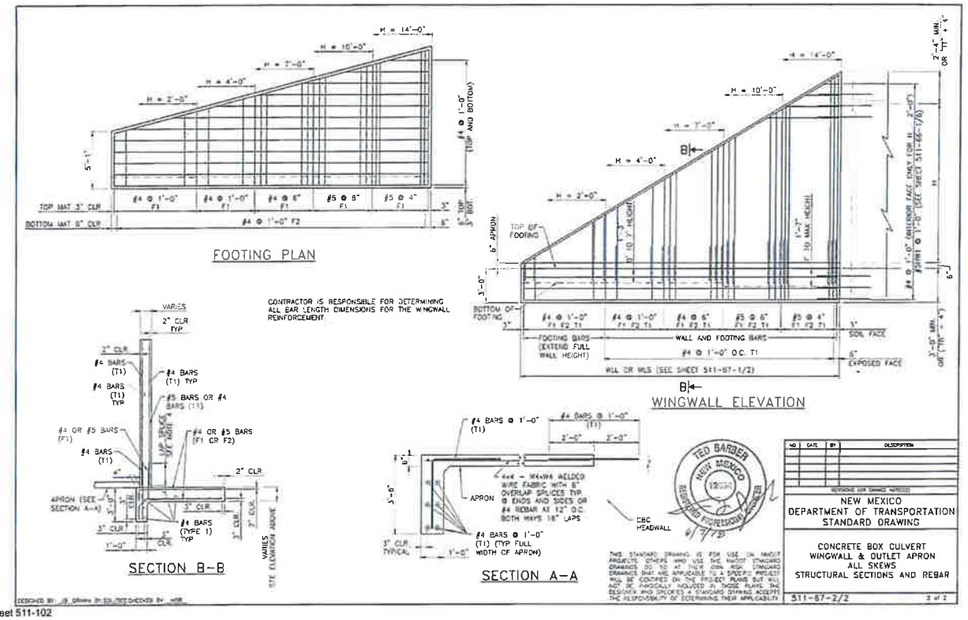
CONCRETE BOX CULVERT
WINGWALL & OUTLET APRON
ALL SKEWS
PLAN, PERSPECTIVE, & DIMENSIONS

511-67-1/2 — 1 of 2

Sheet 511-101

CONCRETE BOX CULVERT WINGWALL DETAILS (A)

NTS



NO.	DATE	BY	DESCRIPTION

REVISIONS (OR CHANGE NOTICES)

NEW MEXICO DEPARTMENT OF TRANSPORTATION
STANDARD DRAWING

CONCRETE BOX CULVERT
WINGWALL & OUTLET APRON
ALL SKEWS
STRUCTURAL SECTIONS AND REBAR

511-67-2/2 — 2 of 2

Sheet 511-102

CONCRETE BOX CULVERT WINGWALL DETAILS (B)

NTS

NO.	DATE	BY	DESCRIPTION
7	-	-	-
6	-	-	-
5	-	-	-
4	-	-	-
3	-	-	-
2	-	-	-
1	-	-	-

REVISIONS (OR CHANGE NOTICES)

Designed By: HUITT-ZOLLARS, Inc. Huitt-Zollars Rio Rancho, 333 Rio Rancho Drive NE, Suite 101, Rio Rancho, New Mexico 87124, Phone (505) 892-5141, Fax (505) 892-3259

Designed For: CITY OF RIO RANCHO

CHANNEL IMPROVEMENT DETAILS
RE5
CITY OR RIO RANCHO
CITY OF RIO RANCHO MS4

ROBERT DEMEULE III NEW MEXICO 16014 PROFESSIONAL ENGINEER 2/28/19

PROJECT NO. R311015.01
DESIGNED BY: KLS
DRAWN BY: VKL
CHECKED BY: RJD
DATE: AUGUST 29, 2019
DPW CHK:
SHEET: 12 OF 16
D9

811 TWO WORKING DAYS BEFORE YOU DIG CALL 811 OR 260-1990

DBS&A Daniel B. Stephens & Associates, Inc.

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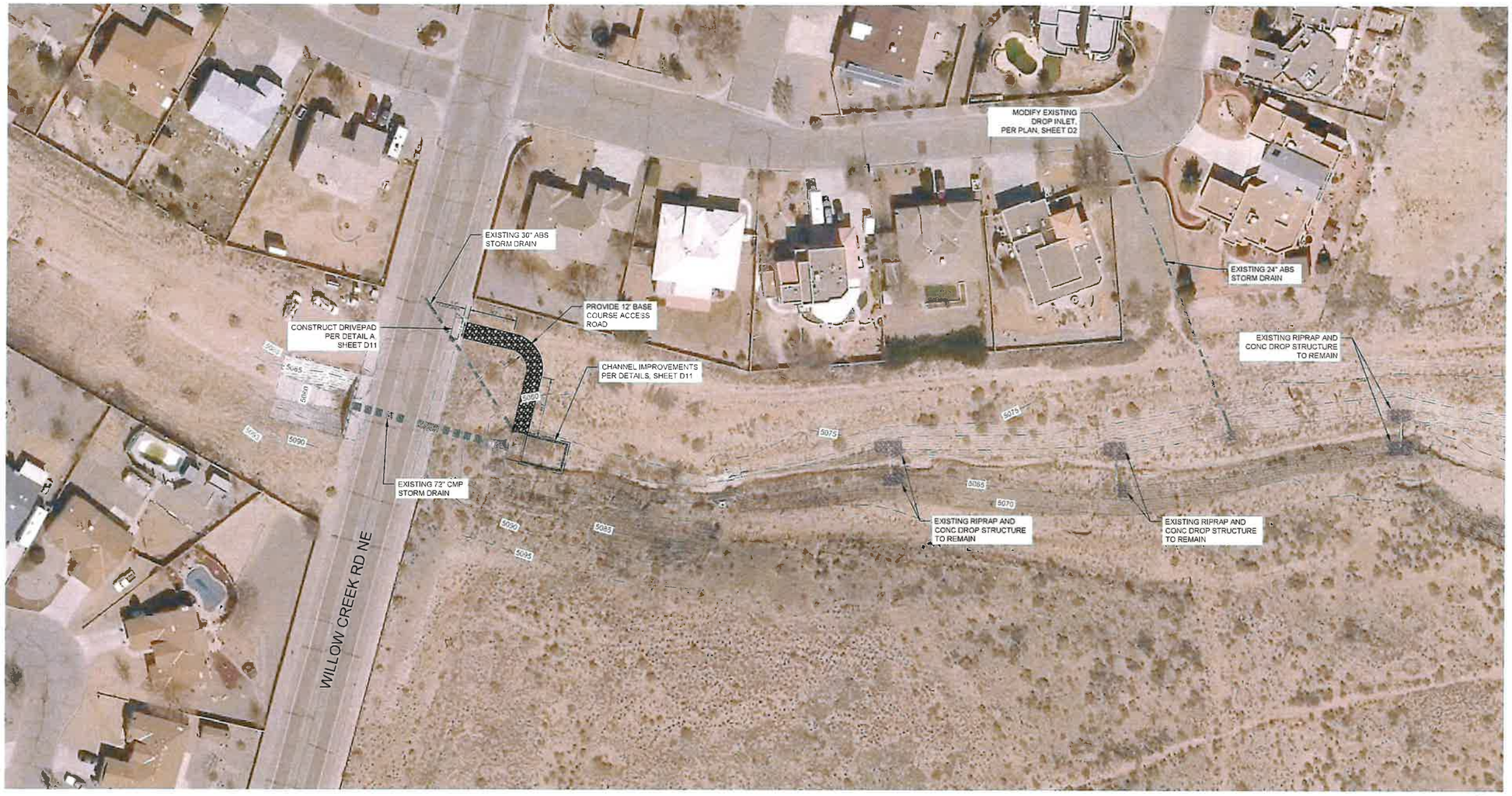

0 40' 80'
SCALE: 1" = 40'

RIVER'S EDGE 7

811 Know what's below. Call before you dig. TWO WORKING DAYS BEFORE YOU DIG CALL 811 OR 260-1990

DBS&A Daniel B. Stephens & Associates, Inc.

RR Rio Rancho City of Vision

NO.	DESCRIPTION	DATE	BY
7	-	-	-
6	-	-	-
5	-	-	-
4	-	-	-
3	-	-	-
2	-	-	-
1	-	-	-

REVISIONS (OR CHANGE NOTICES)

Designed By: HUITT-ZOLLARS, Inc. Rio Rancho, Drive NE, Suite 101 Rio Rancho, New Mexico 87124 Phone (505) 892-5141 Fax (505) 892-2359

Designed For: CITY OF RIO RANCHO

CHANNEL IMPROVEMENTS RE7

CITY OR RIO RANCHO
CITY OF RIO RANCHO MS4

ROBERT DEMEULE III NEW MEXICO 16014 9/6/19 PROFESSIONAL ENGINEER

PROJECT NO.	R311015.01
DESIGNED BY:	KLS
DRAWN BY:	VKL
CHECKED BY:	RJD
DATE	AUGUST 29, 2019
DPW CHK:	
SHEET:	13 OF 16
	D10

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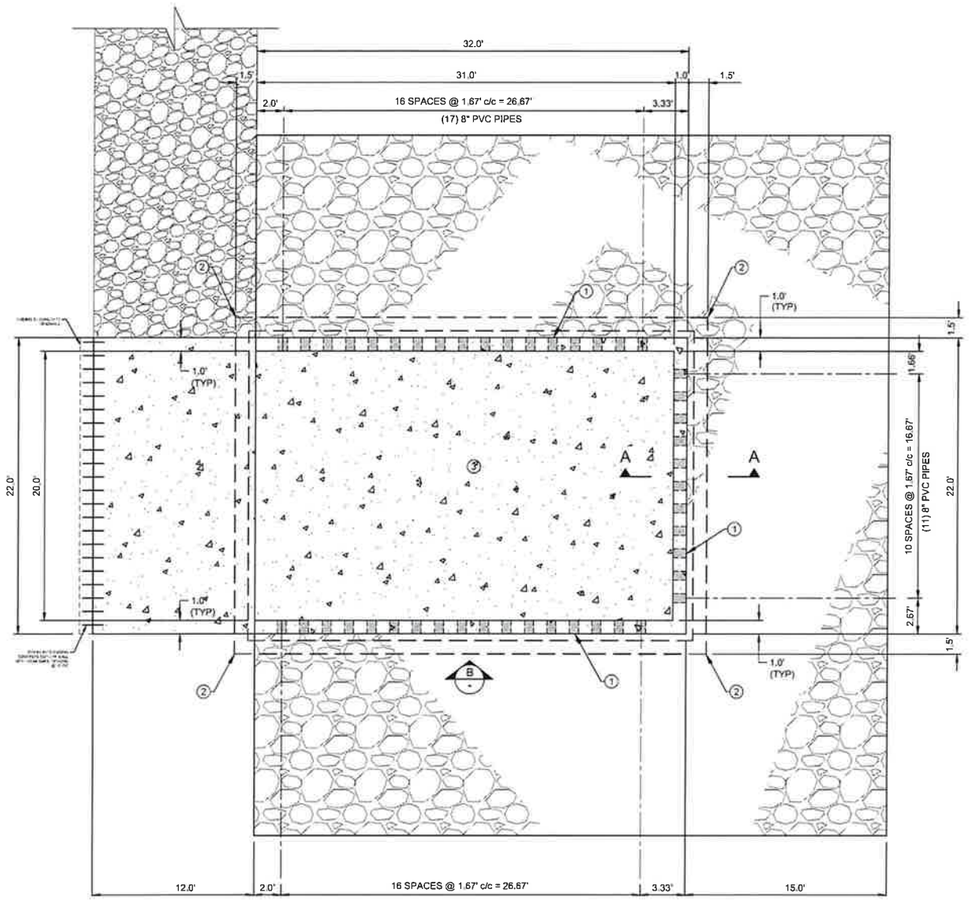
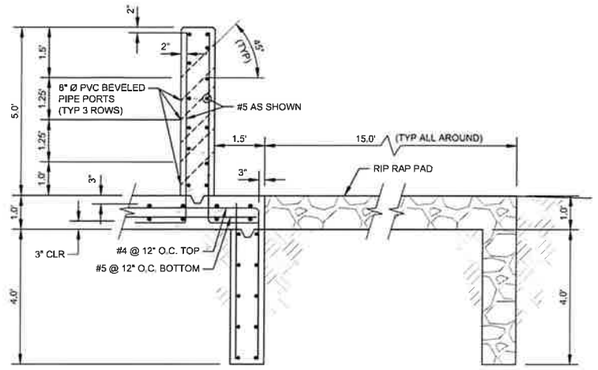


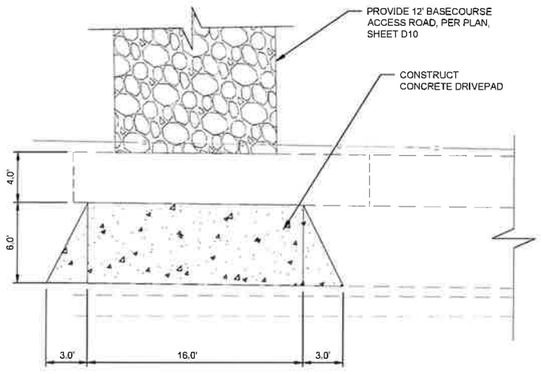
PLAN

SCALE: 1"=5'



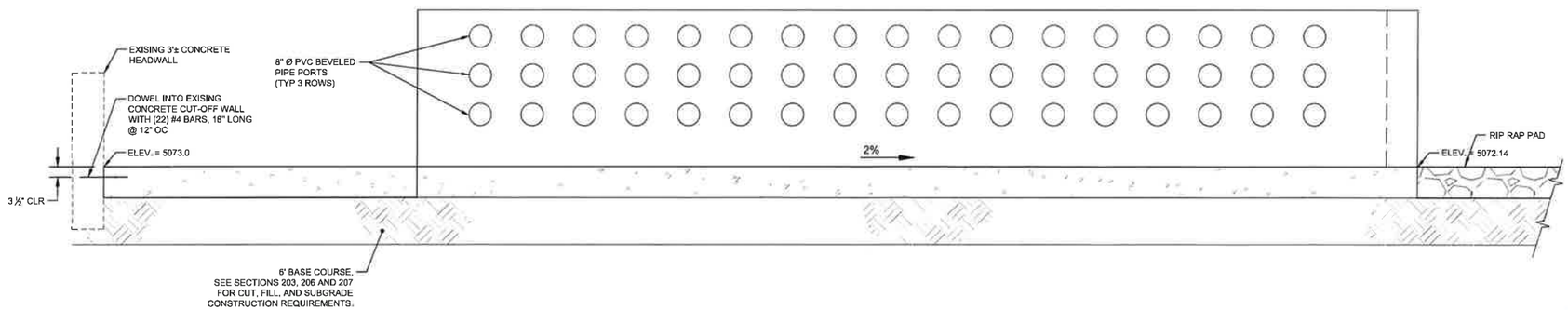
SECTION A - A

SCALE: 1"=2'



DETAIL A - DRIVEPAD

SCALE: 1"=5'



ELEVATION B

SCALE: 1"=2'

KEYED NOTES

1. CONSTRUCT BAFFLE WALL WITH C-900 PVC, FLUSH WITH FINISHED CONCRETE.
2. CONTRACTOR TO OVER-EXCAVATE AND BACKFILL SUBGRADE WITH A-1-A MATERIAL, 6' DEPTH, PER NMDOT SPECIFICATION.
3. CONSTRUCT SEDIMENT STRUCTURE WITH CLASS A NMDOT 3000 PSI STRUCTURAL CONCRETE, TINTED SAN DIEGO BUFF.

NO.	DESCRIPTION	DATE	BY
1	-	-	-
2	-	-	-
3	-	-	-
4	-	-	-
5	-	-	-
6	-	-	-
7	-	-	-

REVISIONS (OR CHANGE NOTICES)

RioRancho City of Vision

Designed By: HUITT-ZOLLARS, Inc., Huitt-Zollars, Rio Rancho, 333 Rio Rancho Drive NE, Suite 101, Rio Rancho, New Mexico 87124, Phone (505) 892-5141, Fax (505) 892-3259

Designed For: CITY OF RIO RANCHO

CHANNEL IMPROVEMENT DETAILS

RE7

CITY OR RIO RANCHO

CITY OF RIO RANCHO MS4

ROBERT DEMEULE III, NEW MEXICO, 16014, PROFESSIONAL ENGINEER

811 Know what's below. Call before you dig. TWO WORKING DAYS BEFORE YOU DIG CALL 811 OR 260-1990

PROJECT NO. R311015.01

DESIGNED BY: KLS

DRAWN BY: VKL

CHECKED BY: RJD

DATE: AUGUST 29, 2019

DPW CHK:

SHEET: 14 OF 16

D11

DBS&A Daniel B. Stephens & Associates, Inc.

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Last Saved 8/27/2019 8:13:00 AM (all)

SCALE: 1" = 40'

RIVER'S EDGE 8

nm811 Know what's below. Call before you dig. TWO WORKING DAYS BEFORE YOU DIG CALL 811 OR 260-1990

DBS&A Daniel B. Stephens & Associates, Inc.

NO.	DESCRIPTION	DATE	BY
1	-	-	-
2	-	-	-
3	-	-	-
4	-	-	-
5	-	-	-
6	-	-	-
7	-	-	-

REVISIONS (OR CHANGE NOTICES)

Rio Rancho City of Vision

Designed By: HUITT-ZOLLARS, Inc. Huitt-Zollars Rio Rancho 333 Rio Rancho Drive NE, Suite 101 Rio Rancho, New Mexico 87124 Phone (505) 892-5141 Fax (505) 892-3259

Designed For: CITY OF RIO RANCHO

CHANNEL IMPROVEMENTS
RE8
CITY OR RIO RANCHO
CITY OF RIO RANCHO MS4

ROBERT DEMEULE III NEW MEXICO 18014 9/30/19 PROFESSIONAL ENGINEER

PROJECT NO. R311015.01
DESIGNED BY: KLS
DRAWN BY: VKL
CHECKED BY: RJD
DATE: AUGUST 29, 2019
DPW CHK:
SHEET: 15 OF 16
D12

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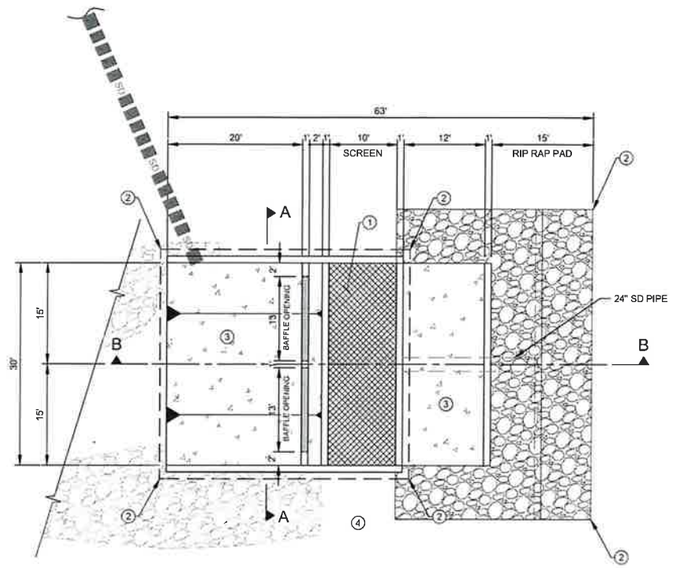
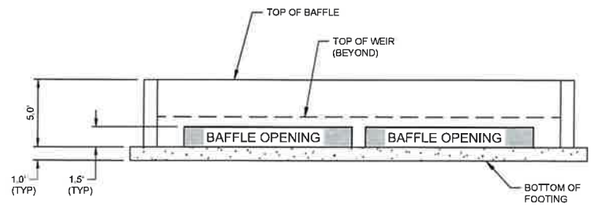


PLAN

SCALE: 1"=10'

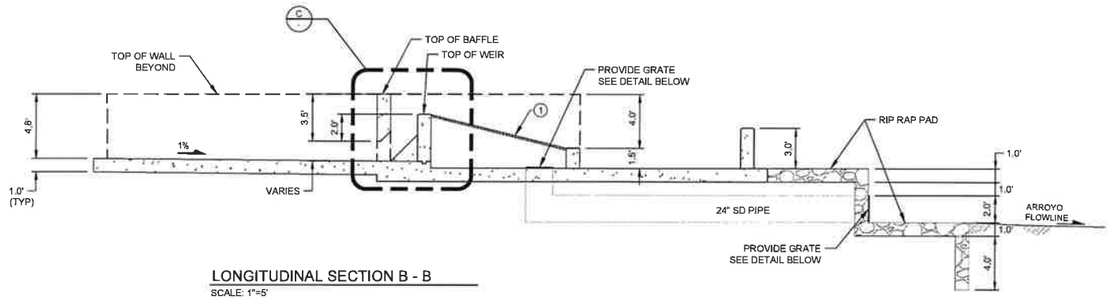


SECTION A - A

SCALE: 1"=5'

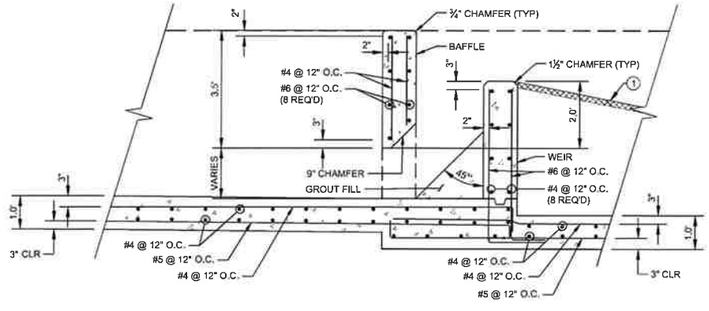
KEYED NOTES

1. INSTALL WEDGE-WIRE "COANDA" SCREEN PER MANUFACTURERS DETAILS. PROVIDE COMPLETE SCREEN, CIP.
2. CONTRACTOR TO OVER-EXCAVATE AND BACKFILL SUBGRADE WITH A-1-A MATERIAL, 6' DEPTH, PER NMDOT SPECIFICATION.
3. CONSTRUCT SEDIMENT STRUCTURE WITH CLASS A NMDOT 3000 PSI STRUCTURAL CONCRETE, TINTED SAN DIEGO BUFF.
4. CONTRACTOR TO REMOVE AND DISPOSE OF ALL CONCRETE, TIRE BALES, RIP RAP, AND DEBRIS AS NECESSARY TO COMPLETE PROJECT. REMOVALS ARE INCIDENTAL TO CONSTRUCTION.



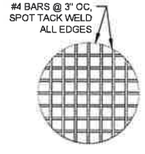
LONGITUDINAL SECTION B - B

SCALE: 1"=5'



DETAIL C

SCALE: 1"=2'



GRATE DETAIL

NTS

CHANNEL IMPROVEMENT DETAILS

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REVISIONS (OR CHANGE NOTICES)

Rio Rancho City of Vision

Designed By
HUITT-ZOLLARS
Huitt-Zollars, Inc.
333 Rio Rancho Drive NE, Suite 101
Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

Designed For
CITY OF RIO RANCHO

CHANNEL IMPROVEMENT DETAILS
RE8
CITY OR RIO RANCHO
CITY OF RIO RANCHO MS4

ROBERT DEMEULE III
NEW MEXICO
16014
PROFESSIONAL ENGINEER

811 Know what's below. Call before you dig. TWO WORKING DAYS BEFORE YOU DIG CALL 811 OR 260-1990

DBS&A
Daniel B. Stephens & Associates, Inc.

PROJECT NO. R311015.01
DESIGNED BY: KLS
DRAWN BY: VKL
CHECKED BY: RJD
DATE: AUGUST 29, 2019
DPW CHK:
SHEET: 16 OF 16
D13

Bohannan Huston

Engineering
Spatial Data
Advanced Technologies

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MEMORANDUM

DATE: December 29, 2022

TO: Patrick Chavez, PE, AMAFCA

FROM: Sarah Ganley, PE, ENV-SP
Savannah Maynard
Emma Adams, EI

SUBJECT: **CMC Wet Season, Wet Weather Stormwater Monitoring Data Verification, Analysis Results Database, and Reporting Memo FY 2023 Wet Season (July 1, 2022 to October 31, 2022)**

Notification of In-Stream Water Quality Exceedances

For downstream notification purposes, the following parameters for in-stream samples taken in the Rio Grande for the FY 2023 wet season had results that exceeded applicable water quality standards (WQSs) for one or more samples: E. coli, polychlorinated biphenyls (PCBs), and gross alpha, adjusted. Table 1 summarizes the samples with exceedances and the applicable WQS that was exceeded. Additional details on the sampling results are provided in this memo.

Table 1: Parameters Detected Above Applicable Water Quality Standards CMC FY 2023 Wet Season Monitoring

Sampling Date Location	Parameters, Applicable Water Quality Standard (WQS), and Results Exceeding Applicable WQS		
	E. coli	**PCBs**	**Gross Alpha, Adjusted**
	WQS: 88 MPN (CFU/100 mL) Pueblo of Isleta Primary Contact Ceremonial & Recreational	**WQS: 0.00017 ug/L** Pueblo of Isleta Human Health Criteria (based on fish consumption only)	**WQS: 15 pCi/L** Pueblo of Isleta and NM Domestic Water Supply & Livestock Watering Designated Uses
10/5/2022 Rio Grande North Angostura Diversion Dam Pre-Storm Sample – E. coli Only	135 MPN (CFU/100mL)	No Exceedance	No Exceedance

Table 1 (continued).

Sampling Date Location	Parameters, Applicable Water Quality Standard (WQS), and Results Exceeding Applicable WQS		
	E. coli	**PCBs**	**Gross Alpha, Adjusted**
	WQS: 88 MPN (CFU/100 mL) Pueblo of Isleta Primary Contact Ceremonial & Recreational	**WQS: 0.00017 ug/L** Pueblo of Isleta Human Health Criteria (based on fish consumption only)	**WQS: 15 pCi/L** Pueblo of Isleta and NM Domestic Water Supply & Livestock Watering Designated Uses
10/5/2022 Rio Grande at Alameda Bridge E. coli Only	No Exceedance	Not Tested	Not Tested
10/6/2022 Rio Grande South Isleta Diversion Dam	No Exceedance	0.0011 ug/L	22.98 pCi/L

Overview of Stormwater Monitoring Activity

Bohannan Huston, Inc. (BHI) has been tasked to perform water quality services for the Compliance Monitoring Cooperative (CMC) Stormwater Data Verification, Database, and Reporting for the Wet Weather Stormwater Quality Monitoring Program for Fiscal Year (FY) 2023 (July 1, 2022 to June 30, 2023). The scope of work for this task includes data verification of the stormwater laboratory analysis results, compiling the analysis results into a database, and calculating the E. coli loading to compare with the Waste Load Allocation (WLA) for the qualifying storm events. The stormwater compliance monitoring is conducted separately by Daniel B. Stephens & Associates, Inc. (DBS&A) and is not a part of this task. This task is being conducted to assist the CMC members with their comprehensive monitoring and assessment program for compliance under the 2014 Middle Rio Grande (MRG) Watershed Based Municipal Separate Storm Sewer System (MS4) Permit, NPDES Permit No. NMR04A000 ("WSB MS4 Permit").

The WSB MS4 Permit entered Administrative Continuance in December 2019 when U.S. Environmental Protection Agency (EPA) Region 6 did not issue a new MS4 Permit before the current MS4 Permit's expiration date. The MRG Technical Advisory Group (TAG) sent EPA a letter dated October 15, 2019, acknowledging Administrative Continuance after the expiration date of the 5-year Permit term. Until a new MS4 Permit is issued, there are no compliance monitoring requirements for the CMC in the Rio Grande. As identified in the CMC Monitoring Plan, the WSB MS4 Permit required a minimum of seven (7) storm events be sampled at both the Rio Grande North and Rio Grande South locations (refer to Figure 1, page 4). All Permit required samples have been obtained by the CMC, as well as two (2) samples obtained in FY 2021, one

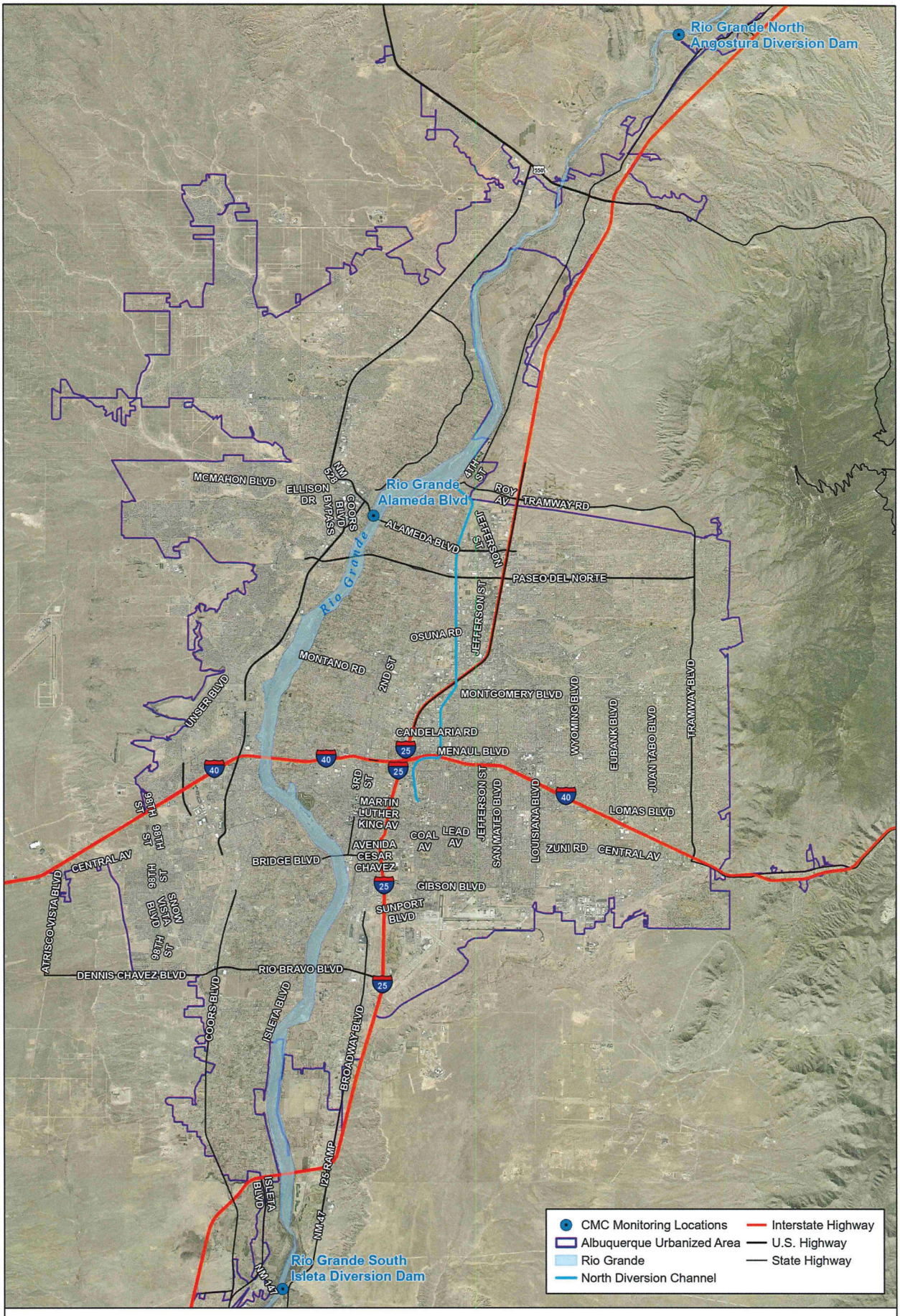
(1) sample obtained in FY 2022 wet season, and one (1) sample obtained in FY 2023 wet season during Administrative Continuance; all 11 CMC samples are summarized in Table 2 below.

Table 2: CMC Sample Summary
Compared to WSB MS4 Permit Requirements

No. of Storm Events Required to Sample	CMC-WSB MS4 Permit Required Samples per Season	FY (Date) Samples Obtained for CMC
1	#1 Wet Season	FY 2017 (8/10/2016)
2	#2 Wet Season	FY 2017 (9/12/2016)
3	#3 Wet Season	FY 2017 (9/21/2016)
4	#1 Dry Season	FY 2017 (11/21/2016)
5	#2 Dry Season	FY 2019 (3/13/2019)
6	Any Season	FY 2018 (Wet Season - 7/27/2017)
7	Any Season	FY 2018 (Wet Season - 9/27/2017)
Not Required	Wet Season	FY 2021 (10/28/2020)
Not Required	Dry Season	FY 2021 (4/28/2021)
Not Required	Wet Season	FY 2022 (9/1/2021)
Not Required	Wet Season	FY 2023 (10/5/2022)

During the WSB MS4 Permit Administrative Continuance, the CMC members chose to continue sampling within the Rio Grande to support their MS4 program needs and gather additional data in support of the future MS4 Permit compliance. This memo reports on the wet weather stormwater monitoring activity for the FY 2023 wet season (July 1, 2022 to October 31, 2022).

The CMC Excel database was updated with the FY 2023 wet season, wet weather monitoring data as results were received. The database contains sample location, sample date, analyses conducted, methods used, applicable surface WQSs, WSB MS4 Permit required Minimum Qualification Levels (MQL) and results.



AMAFCA

Bohannan Huston
www.bhinc.com
800.877.5332

CMC Monitoring

Figure 1
Monitoring Locations

P:\20230125\WR\Reports\Preliminary & Draft\Figures\APRXs\Figure1.aprx
Author: mcrooks

Summary of the CMC Sampling Plan

Sampling Parameters:

Samples from both the Rio Grande North and Rio Grande South monitoring locations were analyzed for the parameters defined in the EPA approved WSB MS4 CMC Monitoring Plan, May 5, 2016. The parameter list for both locations, which is intended to characterize stormwater discharges into the river, is as follows:

Total Suspended Solids (TSS)
Total Dissolved Solids (TDS)
Chemical Oxygen Demand (COD)
Biological Oxygen Demand – 5-day (BOD_5)
Dissolved Oxygen (DO)
Oil & grease (N-Hexane Extractable Material)
E. coli
pH
Total Kjeldahl Nitrogen (TKN)
Nitrate plus Nitrite
Dissolved Phosphorus
Ammonia plus Organic Nitrogen (Nitrogen, Ammonia and Nitrogen, Total)
Phosphorous (Total Phosphorous)
Polychlorinated Biphenyls (PCBs - Method 1668A)
Gross Alpha, adjusted
Tetrahydrofuran
Benzo(a)pyrene
Benzo(b)fluoranthene (3, 4 Benzofluoranthene)
Benzo(k)fluoranthene
Chrysene
Indeno (1 ,2,3-cd) Pyrene
Dieldrin
Pentachlorophenol
Benzidine
Benzo(a)anthracene
Dibenzofuran
Dibenzo(a, h)anthracene
Chromium VI (Hexavalent)
Copper – Dissolved
Lead – Dissolved
Bis (2-ethylhexyl) phthalate
Conductivity
Temperature

Hardness (as CaCO3) was added to the parameter list to allow dissolved metal results to be compared to the applicable WQSs. DO, pH, conductivity, and temperature are required by the WSB MS4 Permit to be analyzed in the field during sample collection, which was conducted by DBS&A, within 15 minutes of sample collection. All E. coli samples were submitted to the laboratory within eight (8) hours of collection in order to meet the specified hold time.

Sampling Locations:

The sampling locations are shown in Figure 1, page 4.

Rio Grande North – In-stream sampling within the Rio Grande was performed upstream of the Angostura Diversion Dam at the north end of the watershed. The location is upstream of all inputs from the Urban Area (UA) to the river and provides the background water conditions.

Rio Grande South – In-stream sampling within the Rio Grande was performed at the Isleta Bridge at the south end of the watershed. The location is downstream of all inputs from the UA to the river and provides the downstream water conditions. These locations have been accepted by EPA and the New Mexico Environment Department (NMED) to meet the WSB MS4 Permit requirements in Part III.A.

During this FY 2023 wet season, an E. coli sample was collected within the Rio Grande at Alameda Blvd. This is the location of the NMED defined stream segment divide (refer to Figure 6). This sample point was added after discussion with NMED in February 2017 regarding potential refinements to E. coli loading calculations.

Sample Collection:

As mentioned previously, sample collection for the CMC is being conducted by DBS&A (through a separate on-call contract). Since BHI was not involved in the sample collection, this task and memo do not address the details of the methodologies regarding sampling, determining if an event was a qualifying storm event, or determining the timing of the hydrograph at the Rio Grande Alameda and Rio Grande South locations.

DBS&A provided BHI their field notes and field sample data (temperature, DO, specific conductivity, and pH) for the FY 2023 wet season sampling. AMAFCA provided BHI the completed laboratory analysis reports from Hall Environmental Analysis Laboratory (HEAL) for this monitoring season.

Quality Assurance Project Plan (QAPP):

AMAFCA provided BHI with the Draft Quality Assurance Project Plan (QAPP) for the CMC dated June 14, 2016. DBS&A followed this QAPP during sample collection. BHI used this QAPP and the included standard operating procedures (SOPs) for the data verification and validation.

Monitoring Activity & Lab Analysis Summary

The list below provides a summary of the CMC comprehensive monitoring program activities completed for the FY 2023 wet season from July 2022 through October 2022. One (1) qualifying storm event was sampled and analyzed during the FY 2023 wet season.

- **October 5-6, 2022 – Qualifying Storm Event – Full Analysis of Samples.** Samples were collected at the Rio Grande North and Alameda Blvd locations beginning at 11:25 a.m. and 1:30 p.m., respectively. These samples were sent to the laboratory for an E. coli test. The CMC determined that the storm event beginning October 5 was a qualifying storm event. A Rio Grande South sample was collected beginning at 8:15 a.m. on October 6. The samples from the North (collected October 5) and South (collected October 6) locations were taken to HEAL for full parameter testing.

Stormwater Quality Database for CMC

As stated previously, there was one (1) qualifying storm event during the FY 2023 wet season, wet weather monitoring sampled by the CMC, which occurred October 5-6, 2022. DBS&A's field notes containing DO, pH, conductivity, and temperature measurements, as well as sampling comments have been received, and field results have been added to the database. Additionally, the HEAL reports for the corresponding time period have been received, added to the database, and are provided with this memo (Attachment 1). The laboratory reports attached to this memo have BHI added comments including the field parameter measurements and other relevant notes related to the laboratory report.

Database Data Entry:

The CMC Excel database was updated with the FY 2023 wet season, wet weather monitoring data. The database contains sample locations, sample date, analyses conducted, methods used, applicable surface water quality standards (WQS), WSB MS4 Permit required Minimum Quantification Levels (MQL), and analysis results. The database was updated under this Task to include the Rio Grande at Alameda sample location. Applicable surface WQSs found in New Mexico Administrative Code (NMAC) 20.6.4, as well as the Pueblo of Isleta WQSs, are entered in the Excel database for comparison purposes with testing results. There is an indicator in the database to show if the monitoring results exceed the applicable surface WQS. An exceedance is not a violation of the WSB MS4 Permit, as the Permit does not have numeric discharge limitations. These ">WQ Standard" flags simply and quickly show the CMC members where the results of the lab data exceed the applicable WQS.

Water quality data was entered into the database upon receipt of the lab reports. All data entered into the database is initially denoted with a "P" to indicate that it is provisional and has not been through the verification and validation process yet. Full parameter analyses of qualifying storm events for both Rio Grande North and Rio Grande South locations were entered respectively into the database. The E. coli only samples from the Rio Grande Alameda location were also entered into the database.

Data Verification and Validation:

The HEAL analysis reports were provided to BHI by AMAFCA. The lab reports also contain the Chain of Custody for the submitted samples. Field data was requested by and provided to BHI by DBS&A. Data verification and validation (V&V) was conducted by BHI on all field notes, lab reports, and Chain of Custody documents in accordance with the CMC WQS Operating Procedure (SOP) #2, which is part of the existing CMC QAPP, Draft June 14, 2016. These procedures are based on EPA Guidance for Environmental Data Verification and Validation (EPA, 2008).

As stated in the QAPP, the V&V process was completed by a different person than the one who entered the data into the database. The V&V process included use of the *Data Verification and Validation Worksheet* (provided in the QAPP). For this task, field data was verified first, confirming all field notes were complete. BHI handled field parameter questions directly with DBS&A. Chemical data verification began as soon as the lab reports were received, checking that all parameters were tested and looking for any obvious exceedances of WQS. Other steps listed on the *Data Verification and Validation Worksheet* were completed after all data from the laboratory was received and entered into the database. Sample blank results were reviewed to identify potential contamination during field processing or transport. Replica/duplicate samples were evaluated based on relative

percent difference (as described in more detail in the QAPP) to determine the variability of the samples.

All CMC FY 2023 wet season data met the appropriate QA/QC requirements. If there were any data that did not meet the appropriate QA/QC requirements, it would have been assigned an appropriate laboratory qualifier or validation codes. A summary of validation codes is provided in the QAPP.

Once the V&V process was completed, the worksheets were signed. Copies of the V&V worksheets are provided with this memo (Attachment 2). In the database, data that was checked during the V&V process was then changed from being denoted with a “P” for provisional to a “V” for verified, and laboratory qualifiers were added, as needed.

CMC FY 2023 Wet Season Assessment and Evaluation of Monitoring Results

The EPA approved WSB MS4 CMC Monitoring Plan, May 5, 2016, has 33 parameters to monitor at the Rio Grande North and Rio Grande South monitoring locations. Of these 33 parameters, 19 parameters were not detected in the FY 2023 wet season samples at either the Rio Grande North or South locations. Refer to Table 3 for a list of the parameters that were not detected.

Table 3: Parameters Not Detected
CMC FY 2023 Wet Season Monitoring

Parameters Not Detected	
Oil and Grease (N-Hexane Extractable Material)	Dieldrin
Nitrate plus Nitrite	Pentachlorophenol
Dissolved Phosphorous	Benzidine
Ammonia (mg/L as N)	Benzo(a)anthracene
Tetrahydrofuran	Dibenzofuran
Benzo(a)pyrene	Dibenzo(a,h)anthracene
Benzo(b)fluoranthene (3, 4 Benzofluoranthene)	Dissolved Lead
Benzo(k)fluoranthene	Chromium VI (Hexavalent)
Chrysene	Bis (2-ethyhexyl) Phthalate (other names: Di(2-ethylhexly)phthalate, DEHP)
Indeno (1,2,3-cd) Pyrene	

For the remaining 14 parameters on the CMC monitoring parameter list, only three (3) parameters (E. coli, PCBs, and gross alpha, adjusted) had exceedances of the applicable surface WQS found in New Mexico Administrative Code (NMAC) 20.6.4 and the Pueblo of Isleta WQS during the FY 2023 wet season. These exceedances are summarized on Table 1, pages 1-2, and discussed below in further detail.

E. coli:

The E. coli results collected during the FY 2023 wet season are summarized in Table 4.

Table 4: E. coli Results
CMC FY 2023 Wet Season Monitoring

Date – Rio Grande Location	E. coli Results MPN (CFU/100 mL)
October 5, 2022 – North	135
October 5, 2022 – Alameda	52
October 6, 2022 – South	<1

At the Rio Grande North location (upstream of the Albuquerque UA, at the Angostura Diversion Dam), one (1) sample was collected and tested for E. coli. This E. coli result exceeded Pueblo of Isleta and Pueblo of Sandia's primary contact-single sample WQS of 88 CFU/100 mL. This October 5 sample was below NMAC's primary contact-single sample WQS of 410 CFU/100 mL. At the Rio Grande South location (downstream of the MS4 UA), one (1) sample was collected and tested for E. coli. This sample did not exceed any WQSs. This E. coli lab result at the Rio Grande South location is the lowest value that the CMC has seen reported in the Rio Grande at this location. AMAFCA called HEAL to discuss this result and verify that the reported result was correct.

In addition, the CMC collected one (1) E. coli sample in the Rio Grande at Alameda Blvd. during the FY 2023 wet season. The Alameda Blvd. analysis point was based on discussions with NMED in February 2017 on collecting actual E. coli data at the stream segment divide verses using an area percentage (as defined in the TMDL) for E. coli loading calculations. The lab results showed that the sample had an acceptable E. coli concentration below the primary contact-single sample Pueblo of Isleta WQS (88 CFU/100 mL) and the primary contact-single sample NMAC WQS (410 CFU/100 mL).

As a reminder, in January 2017 the CMC members clarified with NMED that the units MPN/100 mL and CFU/100 mL are considered to be interchangeable for the purposes of this stormwater quality monitoring reporting. The New Mexico and Pueblo WQSs for E. coli are currently in units of CFU/100 mL while the lab reports are typically in units of MPN/100mL. The graph presented in this section uses units of CFU/100 mL to be consistent with the WQS units. Refer to Figure 2 for a graphical representation of E. coli results from October 2022.

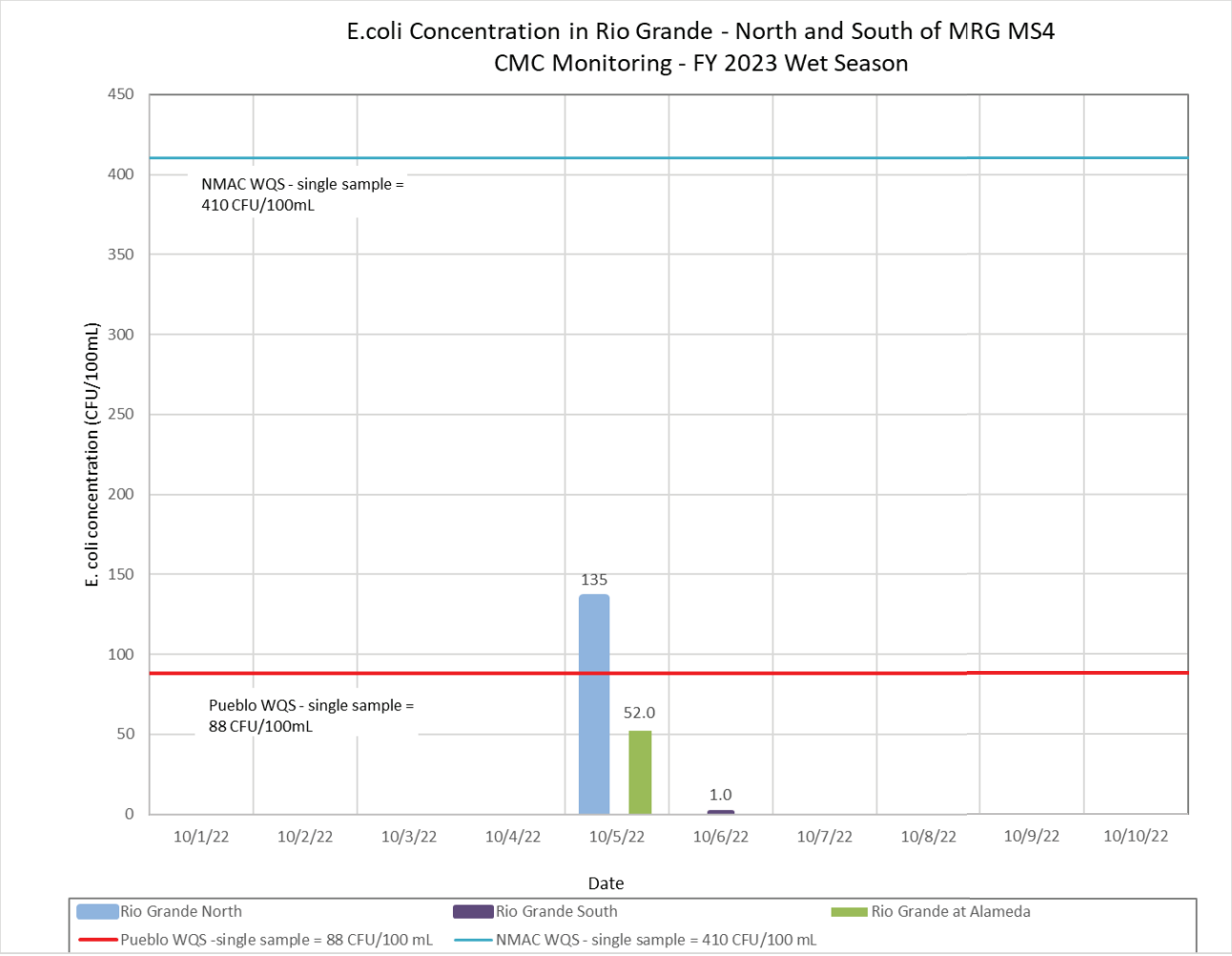


Figure 2: E. coli Results in Rio Grande
CMC Monitoring – FY 2023 Wet Season

PCBs:

There are multiple surface WQS values listed for PCBs in both the Pueblo of Isleta and the State of New Mexico standards for the various designated uses. The PCB results for samples collected from the Rio Grande during the FY 2023 wet season stormwater event were below the minimum quantification level (MQL) established in EPA standards for the MS4 NPDES Permit (Appendix F, 0.2 ug/L for PCBs). The PCB results for the Rio Grande North sample were also well below the New Mexico Surface WQSs and Pueblo of Isleta Surface WQSs for designated uses including drinking water (0.5 ug/L) and wildlife habitat, acute aquatic life, and chronic aquatic life (0.014 ug/L). However, the CMC sample from the Rio Grande South location was above the Pueblo of Isleta human health criteria (based on fish consumption only) WQS for surface waters. The human health-organism only criterion is based upon human consumption of fish and other aquatic life that bioaccumulate contaminants over time. The PCB results from 2016 through 2022 are shown in Figure 3 relative to several of the WQSs for PCBs.

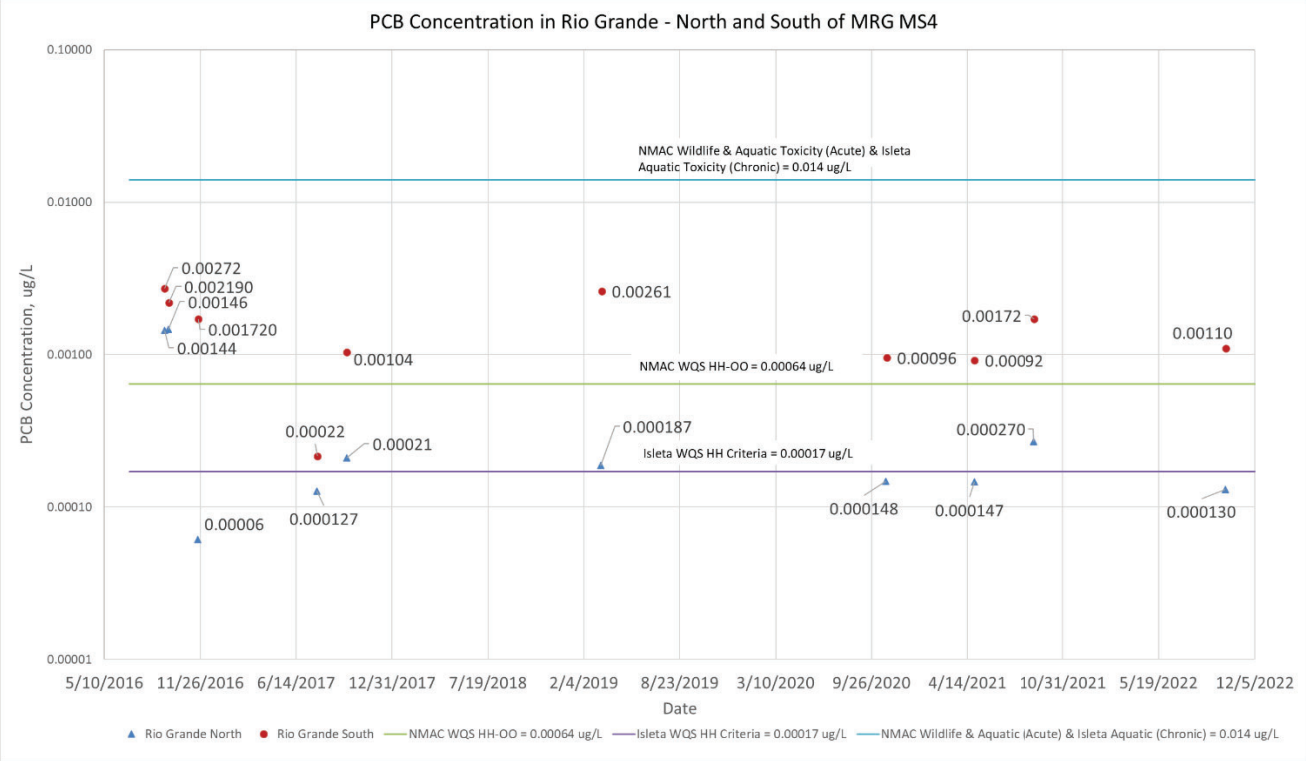


Figure 3: PCB Monitoring Results in Rio Grande
CMC Monitoring – 2016 - 2022

Gross Alpha, Adjusted:

The October 6, 2022, Rio Grande South sample result exceeded the New Mexico and Pueblo of Isleta WQS for gross alpha, adjusted. The WQS for gross alpha, adjusted is the same value for both the NMAC 20.6.4 Water Quality Criterion and Pueblo of Isleta; the WQS of 15 pCi/L ("pCi/L" means picocuries per liter) is a general standard for the Pueblo of Isleta, and for New Mexico it is based on Domestic Water Supply and Livestock Watering designated uses. In surface water, the gross alpha, adjusted analyses may be affected by a high content of suspended load, particularly where sediment sources may be derived from granitic terrain; gross alpha, adjusted results may reflect the radioactivity of the natural elements in the sediment more than the surface water.

The October 6, 2022, Rio Grande South gross alpha, adjusted analytical results are detailed below; the units are in pCi/L:

- Rio Grande South CMC sample result for gross alpha, adjusted = 22.98 pCi/L
- Gross alpha, adjusted WQS at the Rio Grande South location = 15 pCi/L (NMAC 20.6.4 Water Quality Criterion for livestock watering and domestic water supply designated uses and general standard for Pueblo of Isleta)

This is the third time since 2016 that the analytical results from a CMC sample have had an exceedance in gross alpha, adjusted. The prior exceedance was reported for the September 2, 2021, Rio Grande South sample. The CMC will continue to closely evaluate this parameter in future samples. If additional exceedances occur, the CMC will discuss the results further and may consult NMED for further guidance.

Dissolved Oxygen and Temperature:

Two (2) of the water quality parameters are specifically worth mentioning in this memo because they are listed in the WSB MS4 Permit, Part I.C.1 – Special Conditions: dissolved oxygen and temperature. These parameters did not have any surface water quality exceedances during the FY 2023 wet season sampling.

Dissolved oxygen is a water quality concern in the Rio Grande if it is below 5 mg/L. None of the samples taken from the Rio Grande during the FY 2023 wet season monitoring had dissolved oxygen values below 5 mg/L. This provides the MS4s with specific monitoring data showing that stormwater did not cause or contribute to exceedances of applicable dissolved oxygen water quality standards in the Rio Grande from any of the CMC samples from 2016 to 2022. Refer to Figure 4 for CMC dissolved oxygen results and comparison to applicable WQSs.

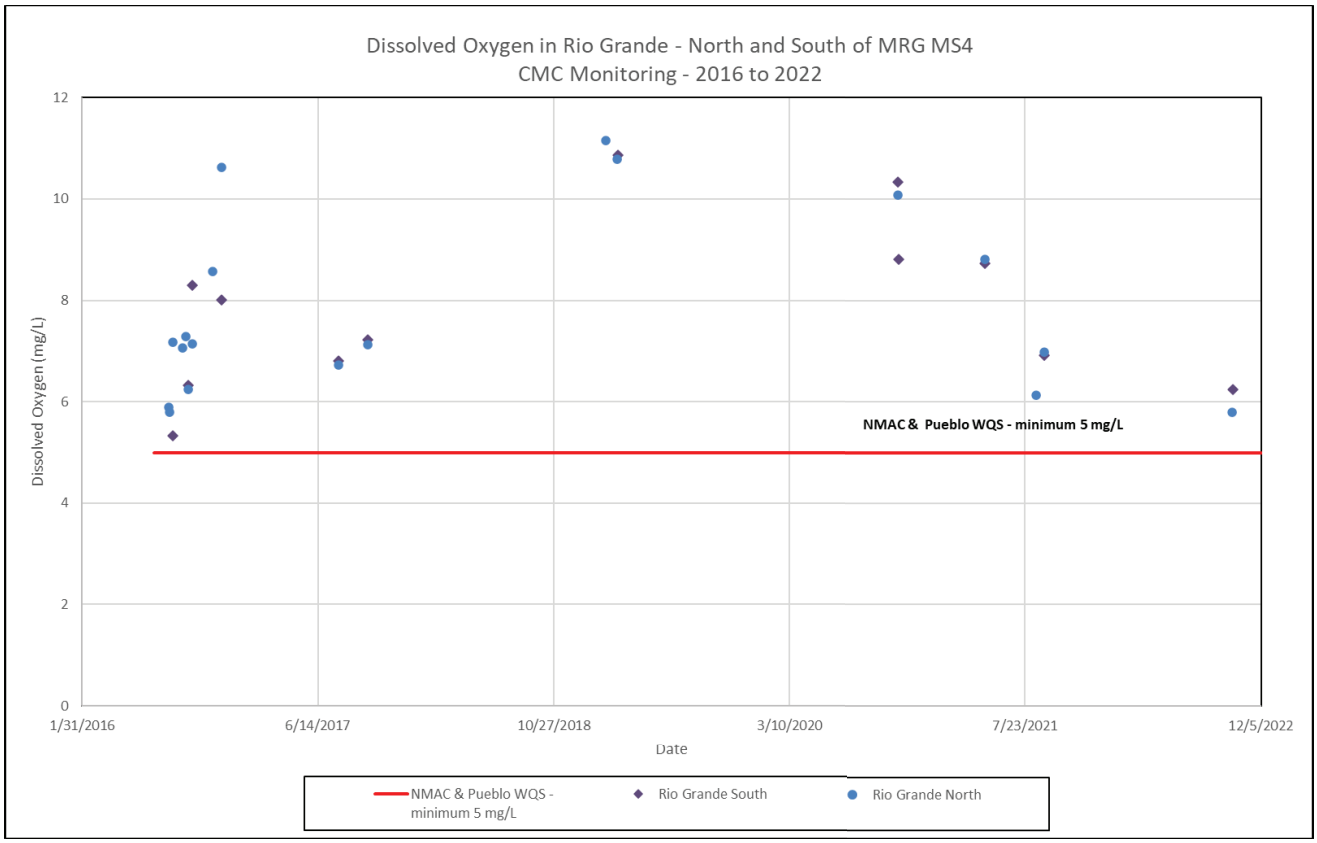


Figure 4: Dissolved Oxygen Results in the Rio Grande
CMC Monitoring – 2016 - 2022

Temperature is listed in the WSB MS4 Permit as a special condition (currently only applicable to the City of Albuquerque and AMAFCA). Past data submitted to EPA and NMED by the MS4 permittees have proven that stormwater discharges into the Rio Grande are not raising the Rio Grande temperature above the WQSs. The data collected during this FY 2023 wet season monitoring also supports this conclusion. All the temperature field readings taken in the Rio Grande during the CMC FY 2023 wet season were below 32.2°C (90°F), which is the WQS for the State of New Mexico and for the Isleta and Sandia Pueblos. Refer to Figure 5 for temperature results and comparison to applicable WQSs for all CMC samples taken upstream and downstream of the MRG MS4 area from 2016 to 2022.

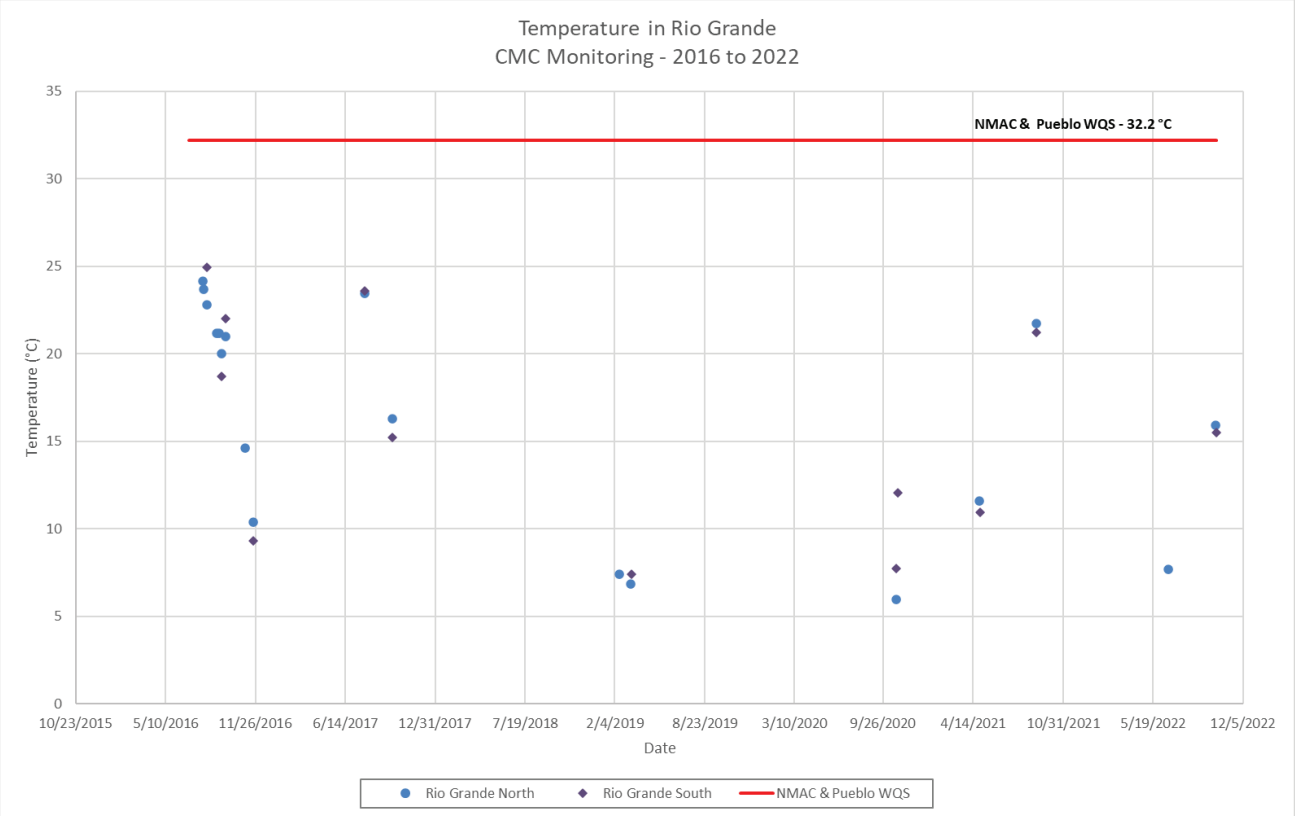


Figure 5: Temperature Monitoring Results in the Rio Grande
CMC Monitoring – 2016 - 2022

CMC FY 2023 Wet Season E. coli Loading Calculations and Waste Load Allocation (WLA)

Related to assessing the stormwater results, the E. coli loading was calculated and compared to the aggregate Total Maximum Daily Load (TMDL) Waste Load Allocation (WLA) for the CMC group. A TMDL is the maximum amount of a pollutant (E. coli in this case) that a water body (Rio Grande) can assimilate on a daily basis without violating applicable surface WQSs. The total TMDL for a stream segment consists of the multiple WLA for point sources, non-point sources, and natural sources, plus a margin of safety. The CMC MS4 allotted WLA was determined in the EPA Approved, Total Maximum Daily Load for the Middle Rio Grande Watershed, June 30, 2010, and subsequent communications with NMED. The WLA varies by flow condition in the Rio Grande and by stream segment.

E. coli loading calculations and comparison to the WLA follows the WSB MS4 Permit requirements in "Discharges to Water Quality Impaired Water Bodies with an Approved TMDL", Part I.C.2.b.(i).(c).B, Appendix B-Total Maximum Daily Loads (TMDLs) Tables of the WSB MS4 Permit, and the NMED guidance provided to the CMC. Attached to this memo is the WLA Calculation spreadsheet which steps through the E. coli loading calculations and assumptions comparing the calculated E. coli loading to the CMC aggregate WLA defined by NMED.

There are two (2) stream segments defined in the WSB MS4 Permit (Appendix B): Isleta Pueblo Boundary to Alameda Street Bridge (Stream Segment 2105_50) and Non-Pueblo Alameda Bridge to Angostura Diversion (Stream Segment 2105.1_00). These stream segments differ from NMED's current stream segments defined in the *2022-2024 State of New Mexico Clean Water Act Section 303(d)/Section 305(b) Integrated Report* (NMED, April 2022). NMED currently has four (4) stream segments instead of the two (2) WSB MS4 stream segments. These various stream segment designations are shown in Figure 6, page 16.

The *NMED 303(d)/305(b) 2020-2022 Integrated Report* tables show the most recent assessment results, and currently all segments of the Rio Grande (Isleta to Angostura Diversion) are impaired for E. coli and have a TMDL for E. coli.

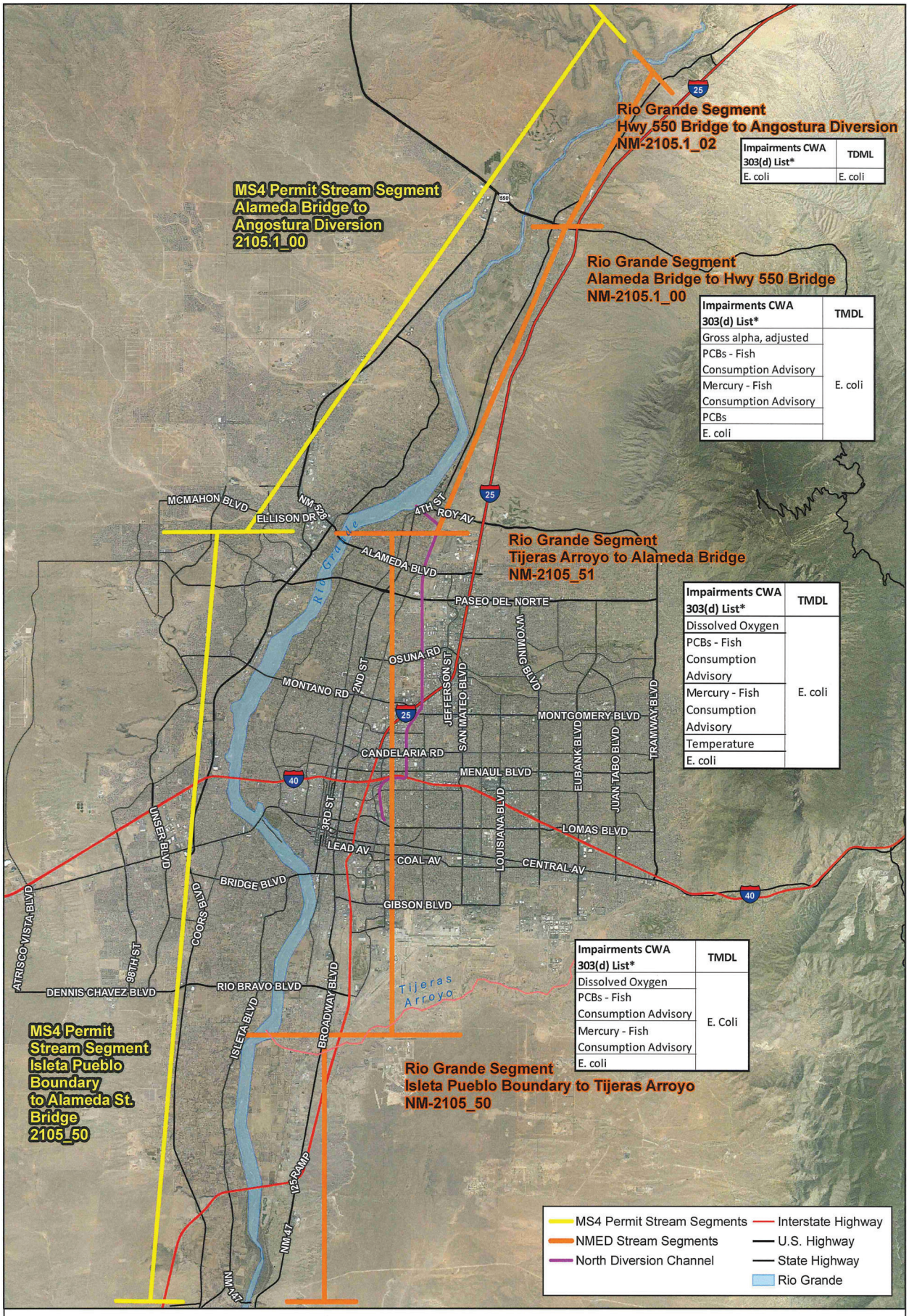
The E. coli daily loading associated with the CMC group and comparison to the NMED WLA was completed for the one (1) qualifying wet season storm event – October 5-6, 2022. For this event, the CMC obtained an E. coli sample in the Rio Grande at Alameda and used this to calculate the E. coli loading for the two (2) river segments. Refer to Table 5 for a summary of the WLA comparison results. A spreadsheet is attached to this memo that provides the detailed WLA calculations.

Table 5: Summary of CMC E. Coli Loading Compared to WLA for the CMC

Date / Stream Segment	Daily Mean Flow (cfs)	Flow Conditions (cfs) *range defined by NMED*	CMC Daily E. coli Loading (CFU/day)	NMED WLA for CMC for Stream Segment and Flow Conditions	Loading Compared to WLA Potential Exceedance or Acceptable
October 5-6, 2022 – Rio Grande North E. coli Concentration 10/5/2022 = 135 MPN (CFU/100 mL) Rio Grande at Alameda E. coli Concentration 10/5/2022 = 52 MPN (CFU/100 mL) Rio Grande South E. coli Concentration 10/6/2022 = <1 MPN (CFU/100 mL)					
Alameda to Angostura	146	Dry	0.00E+00	3.24E+10	WLA Acceptable
Isleta to Alameda	165	Dry	0.00E+00	1.57E+09	WLA Acceptable

As Table 5 illustrates, the calculated E. coli loading for the October 5-6, 2022 storm event for the northern segment (Alameda to Angostura) and the southern segment (Isleta to Almeda) of the Rio Grande was below the WLA for the CMC MS4s. This analysis used the mid-point E. coli sample result obtained in the Rio Grande at Alameda.

The WSB MS4 Permit implies that the WLA is a measurable goal for the MS4s related to E. coli. Based on extensive review of the EPA Approved, Total Maximum Daily Load (TMDL) for the Middle Rio Grande Watershed, June 30, 2010, this seems to be an unattainable goal for MS4s.



AMAFCA

Bohannan Huston
www.bhinc.com
800.877.5332

N

0 12,000 24,000 Feet
1 in = 12,500 ft

CMC Monitoring

Figure 6
Rio Grande Impairments & TMDL Information

* Final 2022-2024 State of NM Clean Water Act, Section 303(d)/Section 305(b) Integrated Report

P:\20230125\WR\Reports\Final\Figures\MXDs\Figure6-MS4_TMDLStreamSegments_2021_0416.mxd
Author: mcrooks

Page 40 of the 2010 TMDL Report states, “It is important to remember that the TMDL is a planning tool to be used to achieve water quality standards…Meeting the calculated TMDL may be a difficult objective.” The TMDL/WLA was calculated by NMED to meet the Pueblo (Sandia and Isleta) geometric mean maximum of 47 CFU/100 ml, which was done to be “protective of downstream waters” and “to provide an implicit margin of safety (MOS)”. A single grab sample E. coli result meeting this very low geometric means WQSs will be very difficult for the MS4s to obtain.

The CMC members discussed the difficulty of using the WLA as a measurable goal with NMED on February 1, 2017. NMED explained that exceeding the WLA does not trigger enforcement. However, NMED strongly encouraged the MS4s to document what they are doing once they realize the WLA is potentially exceeded. The meeting on February 1, 2017, and the CMC discussion with NMED on February 16, 2017, demonstrate CMC members are working toward understanding the WLA. In addition, the CMC members began implementing a refinement to the sampling plan discussed with NMED by obtaining an E. coli sample in the Rio Grande at Alameda effective the FY 2018 wet season, as feasible. This demonstrates that the CMC is continuing to investigate the potential exceedances and make improvements to monitor E. coli in the Rio Grande.

Data Entry for Discharge Monitoring Reports

The WSB MS4 Permit entered Administrative Continuance in December 2019 when EPA Region 6 did not issue a new MS4 Permit before the current MS4 Permit’s expiration date. Until a new MS4 Permit is issued, there are no compliance monitoring requirements for the CMC in the Rio Grande. As identified in the CMC Monitoring Plan, the WSB MS4 Permit required a minimum of seven (7) storm events be sampled at both the Rio Grande North and Rio Grande South locations. All MS4 Permit required samples have been obtained by the CMC and verified stormwater quality data from these required events have been submitted to the EPA using electronic Discharge Monitoring Report (DMR) forms. Data from the DMRs are uploaded to a comprehensive nationwide database that contains discharge data for facilities and other point sources that discharge directly to receiving streams. For this Task, BHI has not completed any data entry related to the EPA DMRs for the FY 2023 wet season.

Conclusions and Planning

During the FY 2023 wet season (July 1 to October 31, 2022), one (1) qualifying stormwater sample was obtained by the CMC. Lab results were received, and this data has been entered into the CMC Excel database. The lab data entered is marked in the spreadsheet as “V” (verified), and data V&V has been completed (refer to Attachment 2).

To summarize, monitoring results and E. coli loading calculations for the FY 2023 wet season show that:

- The WSB MS4 Permit entered Administrative Continuance in December 2019 when U.S. Environmental Protection Agency (EPA) Region 6 did not issue a new MS4 Permit before the current MS4 Permit’s expiration date. Until a new MS4 Permit is issued, there are no compliance monitoring requirements for the CMC in the Rio Grande. All MS4 Permit required samples have been obtained by the CMC, as well several samples collected during Administrative Continuance, including the one (1) sample obtained in the FY 2023 wet season, as reported in this memo.

- For the FY 2023 wet season, 19 of the 33 parameters tested were not detected in any of the Rio Grande North or South samples.
- Several key parameters all met the applicable WQSs, as they have for all the CMC samples to date:
  - All dissolved oxygen results were greater than 5 mg/L (minimum WQS).
  - All temperature results were less than 32.2°C (maximum WQS).
- The PCB results were below the New Mexico Surface WQSs and Pueblo of Isleta Surface WQSs for designated uses including drinking water, wildlife habitat, acute aquatic life, and chronic aquatic life. However, the Rio Grande South CMC sample from October 6, 2022, was above the Pueblo of Isleta and New Mexico human health criteria (based on fish consumption only) WQSs for surface waters.
- The October 6, 2022, Rio Grande South sample result exceeded the New Mexico Surface WQSs and Pueblo of Isleta Surface WQSs (15 pCi/L) for gross alpha, adjusted. This is the third time since 2016 that the analytical results from a CMC sample have had an exceedance in gross alpha, adjusted. The CMC will continue to closely evaluate this parameter in future samples.
- The calculated E. coli loading for the October 5-6, 2022 storm event for the northern segment (Alameda to Angostura) and the southern segment (Isleta to Almeda) of the Rio Grande was below the WLA for the CMC MS4s. This analysis used the mid-point E. coli sample result obtained in the Rio Grande at Alameda.
  - The E. coli lab result for the Rio Grande South location is the lowest value that the CMC has seen reported in the Rio Grande at this location. AMAFCA called HEAL to discuss this result and verify that the reported result was correct.
  - Sources for the E. coli loading measured in the river are not solely attributable to the CMC MS4 members; the E. coli loading calculations serve to provide a reasonable estimate of the CMC contribution to the measured E. coli loading.

For planning purposes for the CMC members, the FY 2023 dry season CMC monitoring, if a sample is obtained, will be summarized by BHI for the CMC in a dry season memo.

SG/ab

Attachments:

Attachment 1 – DBS&A Field Data & Hall Environmental Analysis Laboratory Reports with BHI Notes for FY 2023 Wet Season

Attachment 2 – FY 2023 Wet Season Completed Data Verification and Validation (V&V) Forms

Spreadsheets Included Separately:

E. coli Loading and Comparison to Waste Load Allocation (WLA) Excel Spreadsheet

Excel CMC Spreadsheet with FY 2023 Wet Season Stormwater Quality Monitoring Results

Section 6	Annual Report Responsibilities for Cooperation Programs
	6.1 Middle Rio Grande Stormwater Quality Team Outcomes Report FY2023-2024 6.2 Middle Rio Grande Stormwater Quality Team Membership 6.3 Middle Rio Grande Municipal Separate Storm Sewer System Technical Advisory Group – Cooperative Monitoring Plan 6.4 Delegation of Authority for Date Entry into NetDMR System

Outcome Report

for Fiscal Year 2024

(July 1, 2023 to June 30, 2024)

Mid Rio Grande Stormwater Quality Team

Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) • City of Albuquerque • Bernalillo County • Town of Bernalillo • Village of Corrales • Ciudad Soil and Water Conservation District • Eastern Sandoval County Arroyo Flood Control Authority (ESCAFCA) • Village of Los Ranchos de Albuquerque • Department of Transportation (NMDOT) • City of Rio Rancho • Sandoval County • Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA)

PRESENTED BY

SUNNY505

Introduction

The outcomes report is designed to illustrate the collective successes of the Middle Rio Grande Stormwater Quality team. In fiscal year 2024, the Storm Team reached over 1,000,000 individuals in the Albuquerque Metro area through special events, educational efforts, as well as digital promotions through YouTube, ConnectedTV, Social Media Advertising, the KeepTheRioGrande.org website and more.

The Storm Team is a collaborative organization made of of the following: The Albuquerque Metropolitan Arroyo Flood Control Authority, the City of Albuquerque, Bernalillo County, the City of Rio Rancho, Ciudad Soil and Water Conservation District, the New Mexico Department of Transportation, the Southern Sandoval County Arroyo Flood Control Authority, the Town of Bernalillo, the Village of Corrales and the Village of Los Ranchos.

Mid Rio Grande Stormwater Quality Team

Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) • City of Albuquerque • Bernalillo County • Town of Bernalillo • Village of Corrales • Ciudad Soil and Water Conservation District • Eastern Sandoval County Arroyo Flood Control Authority (ESCAFCA) • Village of Los Ranchos de Albuquerque • Department of Transportation (NMDOT) • City of Rio Rancho • Sandoval County • Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA)

Table of Contents

SUPPORTING DOCUMENTS

2023_BEMPStormWaterQualityTeamData (1).xlsx need to link somewhere

Bernalillo County

Public Outreach and Education Tracking

FY2024: July 1, 2023 – June 30, 2024

Date	Location	Event Topic	Description of Education/Outreach Event Program/Materials	NRS Programs	Partner Organizations	Parti-cipants	Source for Participant Count
QI							
7/9/2023	25 Frost Rd.	HHW	HHW Collection Event	Stormwater Quality	Clean Harbors	58	sign in sheet
7/20/2023	Wilson & Co.	GSI/LID Standards Lunch & Learn	Lunch and a presentation about the new Bernalillo County Green Stormwater Infrastructure / Low Impact Development (GSI/LID) Standards for staff that work on Bernalillo County public and private development projects.	Stormwater / Review & Permitting		20	estimate
7/23/2023	Whispering Pines Community Center	HHW	HHW Collection Event	Stormwater Quality	Clean Harbors	17	sign in sheet
7/26/2023	GovDelivery news bulletin	Bulletin advertising 8/12/23 Passive Rainwater Harvesting Workshop	Natural Resources Services table in Bernalillo County tent. Provided information to educate County residents on stormwater quality, water conservation methods and incentive programs, and groundwater monitoring program.	Water Conservation, Stormwater Quality			GovDelivery subscribers
8/12/2023	Carlito Springs Open Space	Passive Rainwater Harvesting Workshop for Homeowners	Workshop for homeowners providing an overview of design, installation, and maintenance of residential-scale passive rainwater harvesting features, promoting Passive Rainwater Harvesting Field Guide	Stormwater Quality, Water Conservation	BernCo. Open Space	33	headcount at event
8/19/2023	Dennison Park	HHW	HHW Collection Event	Stormwater Quality	Clean Harbors	19	sign in sheet
8/23/2023	Virtual	GSI/LID Standards Lunch & Learn	Lunch and a presentation about the new Bernalillo County Green Stormwater Infrastructure / Low Impact Development (GSI/LID) Standards for staff that work on Bernalillo County public and private development projects.	Stormwater / Review & Permittin	Wilson & Co	54	Virtual meeting attendance count

8/28 & 8/30/2023	Smith Brasher Hall on CNM Campus	Rainwater Harvesting Workshop for ABC Tree Stewards	GSI Walk and Talk with ABC Tree Stewards at CNM Smith-Brasher Hall. Discussed GSI on site and how similar GSI/RWH features could be done at homes. Presentation promoted and content was drawn from Bernco Passive Water Harvesting Field Guide; attendees received free 55-gallon rain barrel.	Water Conservation, Stormwater Quality	ABC Tree Stewards, Tree New Mexico	20	headcount at event
8/31/2023	2023 StormCon, Dallas	GSI/LID Standards Lunch & Learn	Lunch and a presentation about the new Bernalillo County Green Stormwater Infrastructure / Low Impact Development (GSI/LID) Standards for staff that work on Bernalillo County public and private development projects.	Stormwater / Review & Permitting	BHI	50	estimage
9/1/2023	GovDelivery news bulletin	Bulletin advertising 9/16/23 L2L Graywater Workshop		Water Conservation			GovDelivery subscribers
9/5 – 9/15/2023	NM State Fair Grounds (300 San Pedro NE, Albuquerque, NM 87108)	Irrigation Efficiency Exhibit at the State Fair	Presented 6 display boards on irrigation efficiency and hands-on drip irrigation exhibit in collaboration with ABQ Master Gardeners	Water Conservation	ABQ Master Gardeners	20,000	Estimate of exhibit visitors provided by ABQ Master Gardeners
9/9/2023	McGrane Public Safety Complex	East Mountain Coalition of Neighborhoood Associations Fall meeting	Presented updates to the program and status of groundwater in EM	Groundwater		25	sign in sheet
9/10/2023	Fox Hills Property Owners Association Community Building	Presentation on Water Conservation Program for Fox Hills Property Owners Association	Overview of assistance provided to Bernalillo County residents including water efficiency consultations and water conservation incentive programs at request of Fox Hills Property Owners Association in East Mountains	Water Conservation		20	Headcount at event
9/16/202	Carlito Springs Open Space	L2L Graywater Workshop	Introduction to design, installation, and maintenance of laundry-to-landscape graywater systems, graywater regulations, and Bernalillo County's Graywater Incentive Program	Water Conservation		16	sign in sheet
9/21/2023	Los Vecinos	Vista Grande PROS Public Meeting	PROS outreach event- presented information on the Tijeras Creek Watershed Restoration Project	Stormwater	PROS	20	estimate
9/23/2023	108 Edelweiss (domestic household)	Annual neighborhood meeting	presented updates to the program and status of groundwater in EM, hydrogeological analysis of Heatherland Hills	Groundwater		30	Headcount at event

Q2							
10/1/2023	Corrales	Corrales harvest fest	Tabling event for Stormwater Quality Team; information about stormwater quality	Stormwater	Middle Rio Grande Stormwater Quality Team		
10/3/2023	Tijeras Creek Watershed Restoration Project	Urban Waters Tour of TCWRP	Presentation and walking tour of upcoming watershed restoration activities	Stormwater	Urban Waters, Ciudad SWCD, NMED	15	headcount at event
10/8/2023	Polk Middle School	HHW	HHW collection event	Stormwater	Clean Harbors	16	sign in sheet
10/19/2023	Fox Hills Neighborhood	Groundwater	Discussed Madera aquifer they source water from, among other water topics in the region	Groundwater		5	headcount at event
10/21/2023	Valle de Oro NWR	Passive Rainwater Harvesting at Home	Workshop on passive rainwater harvesting for homeowners at Build Your Backyard Refuge Day	Water Conservation, Stormwater Quality	ABQ Backyard Refuge Program	40	headcount at event
11/4/2023	Marble Open Space	Ribbon-cutting ceremony	Tabling event for Natural Resource Services	Water Conservation, Stormwater Quality	Open Space		sign in sheet
11/7/2023	East Central Ministries	Water-Smart Urban Gardens	Presentation for BernCo Urban Ag Program	Water Conservation	Open Space	10	headcount at event
11/14/2023	McGrane Public Safety Complex	Groundwater Focus Group	Focus group to discuss Hydrogeology initatives for FY2025–2030	Groundwater		6	sign in sheet
11/15/2023	NMDOT Outfall	Volunteer Cleanup	PDS organized cleanup of floatables – 1.72 tons	Stormwater	BernCo PDS	20	sign in sheet
11/15/2023	North Domingo Baca Multigenerational Center	Groundwater Focus Group	Focus group to discuss Hydrogeology initatives for FY2025–2030	Groundwater		15	sign in sheet + headcount
11/16/2023	McGrane Public Safety Complex	Groundwater Focus Group	Focus group to discuss Hydrogeology initatives for FY2025–2030	Groundwater		4	sign in sheet
Q3							
1/24/2024	Mountain View Community Center	Sustainability Project Public Meeting	Presented and solicited public input on proposed South Valley Street Tree and GSI Pilot Project	Water Conservation, Stormwater Quality	City of Albuquerque	16	sign in sheet
1/25/2024	Valle de Oro NWR	Valle de Oro Community Update Night	Tabled and solicited public input on proposed South Valley Street Tree and GSI Pilot Project	Water Conservation, Stormwater Quality			

1/30/2024	Westside Community Center	Sustainability Project Public Meeting	Presented and solicited public input on proposed South Valley Street Tree and GSI Pilot Project	Water Conservation, Stormwater Quality	City of Albuquerque	20	sign in sheet
2/1/2024	Los Padillas Community Center	Sustainability Project Public Meeting	Presented and solicited public input on proposed South Valley Street Tree and GSI Pilot Project	Water Conservation, Stormwater Quality	City of Albuquerque	17	sign in sheet
2/6/2024	Paradise Hills Community Center	Sustainability Project Public Meeting	Presented and solicited public input on proposed South Valley Street Tree and GSI Pilot Project	Water Conservation, Stormwater Quality	City of Albuquerque	15	sign in sheet
2/7/2024	Los Vecinos Community Center	Sustainability Project Public Meeting	Presented and solicited public input on proposed South Valley Street Tree and GSI Pilot Project	Water Conservation, Stormwater Quality	City of Albuquerque	38	sign in sheet
2/13/2024	Vista Grande Community Center	Groundwater impacts on gardening	East Mountain Gardeners Club meeting	Groundwater		25	sign in sheet from group
2/15/2024	El Nido Farm	Hands-On Rain Barrel and Passive Rainwater Harvesting Workshop for Tree Stewards	Hands-on workshop on how to install a rain barrel and passive rainwater harvesting features. NRS providing instruction for ABC Tree Steward's workshop.	Water Conservation, Stormwater Quality			sign in sheet
2/21/2024	Raymond G. Sanchez Community Center	Parks, Recreation, and Open Space Community Update Meeting	Presented and solicited public input on proposed South Valley Street Tree and GSI Pilot Project	Water Conservation, Stormwater Quality		unknown	
2/24/2024	El Nido Farm	Hands-On Rain Barrel and Passive Rainwater Harvesting Workshop for Tree Stewards	Hands-on workshop on how to install a rain barrel and passive rainwater harvesting features. NRS providing instruction for ABC Tree Steward's workshop.	Water Conservation, Stormwater Quality			
3/2/2024	113 Rio Bravo Blvd. SW (Rail Runner site)	HHW		Stormwater Quality	Clean Harbors		
3/6/2024	Gutierrez Hubbell House	Pajarito NA Meeting	South Valley Street Tree & GSI Project Presentation	Water Conservation, Stormwater Quality			

3/6–3/8/2024	Indian Pueblo Cultural Center	Land and Water Summit	Hybrid conference on protection of land and water resources in arid Southwest and GSI Project Tour. 2024 theme is “Catalyzing Change: Innovating and Adapting.”	Water Conservation, Stormwater Quality			
3/23/2024	Valle de Oro NWR	Build Your Backyard Refuge Day tabling	Presentation of table-top residential GSI model and passive rainwater harvesting field guide (handed out 50+ guides)	Water Conservation, Stormwater Quality			
3/30/2024	Rio Grande High School (Student Parking Lot) 2300 Arenal Rd SW	HHW		Stormwater Quality	Clean Harbors		
Q4							
4/17/2024	2400 Broadway – Land Management	PP/GH	Internal staff training with 20 Land Management field crew	Stormwater		20	sign in sheet
4/21/2024	Balloon Fiesta Park	Earth Day Festival	Passive rainwater harvesting workshop and tabling for Water Conservation and Stormwater Quality Programs	Water Conservation, Stormwater Quality	Arid LID Coalition		
4/27/2024	Raymond G Sanchez	HHW	HHW collection event	Stormwater Quality	Clean Harbors		
4/28/2024	Westside Community Center	South Valley Pride Day	Tabling for Water Conservation, Stormwater Quality, and Hydrogeology Programs at District 2 Community Event	Water Conservation, Stormwater Quality, Hydrogeology			
4/30/2024	Albuquerque Garden Center	Passive Rainwater Harvesting workshop	Workshop for Albuquerque Master Gardeners on design, installation, and maintenance of residential-scale passive rainwater harvesting features, promoting Passive Rainwater Harvesting Field Guide.	Water Conservation, Stormwater Quality			
5/1/2024	ABCWUA Mission	WaterSmart Academy GSI maintenance training	GSI maintenance training for landscape maintenance practitioners	Water Conservation, Stormwater Quality	ABCWUA	7	Headcount at event

5/4/2024	El Nido Farm	Hands-On Rain Barrel and Passive Rainwater Harvesting Installation Workshop for Tree Stewards & Rainwater Harvesting Ambassadors	Hands-on workshop on how to install a rain barrel and passive rainwater harvesting features. NRS providing instruction for ABC Tree Steward's workshop.	Water Conservation, Stormwater Quality	ABC Tree Stewards, Tree NM, Arid LID Coalition		
5/18/2024	Ben Greiner Field	HHW	HHW collection event	Stormwater Quality	Clean Harbors		
5/18/2024	East Central Ministries	Passive rainwater harvesting workshop	Workshop on design, installation, and maintenance of residential-scale passive rainwater harvesting features, promoting Passive Rainwater Harvesting Field Guide. Passive rainwater harvesting kits consisting of plants and mulch provided to participants. 10 am – 12 pm.	Water Conservation, Stormwater Quality	BernCo Open Space (Urban Ag Program), Arid LID Coalition		
6/1/2024	GHH	Flood Irrigation 101	Workshop coordinated by NRS and presented by MRGCD on efficient flood irrigation operations and infrastructure	Water Conservation	MRGCD		
6/8/2024	GHH	Drip Irrigation for Trees workshop	Workshop on how to efficiently irrigate trees with drip irrigation. Participants receive free tree drip irrigation kits.	Water Conservation	BernCo Open Space (Backyard Farming Series)		
6/15/2024	805 Barton Rd, Edgewood, NM (Route 66 Elementry School)	HHW	HHW collection event	Stormwater Quality	Clean Harbors		
6/15/2024	Gutierrez Hubbell House	Laundry-to-Landscape Graywater Systems workshop	Introduction to design, installation, and maintenance of laundry-to-landscape graywater systems, graywater regulations, and Bernalillo County's Graywater Incentive Program (10 am – 12 pm).	Water Conservation	BernCo Open Space (Backyard Farming Series & Urban Ag Program)		
6/15/2024	Carlito Springs Open Space	Carlito Springs Open Space Hydrogeology Walk and Talk	Carlito Springs Open Space Hydrogeology Walk and Talk – Discuss updates and history of the area. How a changing climate is affecting spring flow.	Groundwater	BernCo Open Space (Master Naturalist Program)	40	Headcount at event
6/25/2024	Carlito Springs Open Space	Carlito Springs Open Space Hydrogeology Walk and Talk	Carlito Springs Open Space Hydrogeology Walk and Talk – Discuss updates and history of the area. How a changing climate is affecting spring flow.	Groundwater	BernCo Open Space (Master Naturalist Program), East Mountain Gardners	15	Headcount at event
6/25/2024	25 Frost Rd.	HHW	HHW collection event	Stormwater Quality	Clean Harbors		


ONE ALBUQUERQUE
city of albuquerque

City of Albuquerque

Public Participation Numbers

The City of Albuquerque has provided the following in support of the MS4 permit in fiscal year 2024:

City of Albuquerque MS4 Training:

SWPPP Test: 250 employees

SPCC Test: 63 employees

COA Parks and Open Space

	Volunteers	*Trash (yards)*
Día del Rio	33	3.3
Make a Difference Day	14	1.1
Six Spring Cleanup Days	282	17
National River Clean-up Day	79	24.5
National Trails Day	76	0.5
Total	**484**	**46.4**

COA Solid Waste

Number of people who have dropped off material at Household Hazardous Waste	13,096
Total lbs dropped off at HHW center	541,139
Total lbs recycled at HHW center	429,454
Total lbs re-used at HHW Material Reuse Center	12,414
Number of people re-using materials	1,674
Parti cipants in HHW/DMD Collecti on Event	152
Total lbs collected at Collection Event	13,425

AMAFCA

Albuquerque Metropolitan Arroyo Flood Control Authority

Educational and training opportunities provided to adult college students in the watershed.

March 27, 2024

Guest Presenter UNM Landscape Architecture
Bear Arroyo Studio

April 16, 2024

What: Happy Hour celebrating the unanimous passage of the Complete Streets Ordinance
Where: Bow and Arrow Brewery, 608 McKnight Ave NW
When: TONIGHT 5:30–7:30pm

April 17, 2024

UNM SASLA & APA UNM is hosting a Lunch and Learn tomorrow from 12–1 pm in George Pearl Hall, Room 133. It will be Jon Pena, PE with NV5. He'll be discussing the importance of site drainage, collaboration and working across disciplines. This one is really oriented toward students and new professionals.

SUNDAY, April 21, 2024

What: Earth Day Festival
Where: Balloon Fiesta Park
When: Sunday April 21, 10am–4pm
Tickets: $5/person or you can volunteer for Arid LID and get in FREE!

Friday, April 26th, 2024

What: National Arbor Day Celebration
Where: Civic Plaza, Albuquerque
When: 9:30am–1pm
NOTE: Tree Giveaways at 10:30am!!!!

May 6th, 2024

Guest Reviewer UNM Landscape Architecture Studio Final Projects

New Mexico Department of Transportation

Public Meetings FY24

CN A302370

- Project Name: S-Curve Area Study
- Date: November 15, 2023 (1st Meeting)
- Date: April 24, 2024 (2nd Meeting)

A301890

- Project Name: Gibson Interchange Reconstruction Project
- Date: February 22, 2024

A302380

- Project Name: I-40 Bridges over Tijeras Arroyo
- Date: May 16, 2024

Southern Sandoval County Arroyo Flood Control Authority

2023-2024 SSCAFCA Sediment Removal (CY)

Facility ID	Faclity Name	Removed (2024)
BA_F0016	Campus Dam aka Upper SLO Dam	100
BL_F0013	Sunset Pond & Aldaba Storm Drain	80
BL_F0026	Montego court	10
BL_F0040	Athens Court	20
MO_F0078	Tierra De Corrales Pond	90
VE_F0010	Enchanted Hills Dam	3000
VE_F0013	Santiago Channel	50
BL_F0034	Spur Channel	70
CW_F0010	Upper Tree Farm Pond	250
VE_F0024	Encantado Channel North	2400
	Total CY Removed	**6070**

Trash and IDDE removal report:

During the 2024 reporting year, 663 30-gallon trash bags worth of trash were removed from SSCAFCA-owned or operated facilities. This volume is Higher than in previous years. Although the monsoon season has been limited resulting in less runoff to our facilities, there was an increase in the number of trash and debris from homeless individuals living in SSCAFCA arroyos.

Facility ID	Faclity Name	Estimated Bags Removed (30 Gallon)
BL_F0003	Gateway Pond	2
BL_F0004	Tract 17 Pond	75 [1]
BL_F0009	Trevino Channel (Golf Course to Nicklaus Park)	1
BL_F0015	Stallion Channel (powerline easement to Western Hills)	121 [1]
BL_F0022	West Nicklaus Channel (Fairway to Casper)	1
BL_F0023	Black Arroyo Water Quality Pond	14
BL_F0034	Spur Channel	24 [2]
BL_F0036	Lisbon Channel (Tarpoon to Southern)	1
BL_F0037	Lisbon Channel (Southern to Black Arroyo Trail Bridge)	216 [1]
BL_F0038	Black Arroyo Wildlife Park	1
CA_F0010	Calabacillas Arroyo Northern to Southern	1
MO_F0002	Sportsplex Dam	1
MO_F0037	Dulcelina Curtis Channel	1
MO_F0041	Sierra Norte Channel North Hills	2
MO_F0048	Cielo Norte Pond and Outfall Michelle Dr Pond	1
MO_F0057	Flat Iron Pond Northern Meadows	1
MO_F0058	Havasua Falls Pond Northern Meadows	1
MO_F0060	Sunny Meadows Pond	1
NM_F0003	Roskos Field Pond	5
RA_F0002	Rainbow Channel (Vancouver to Pecos Loop)	44 [3]
VE_F0010	Enchanted Hills Dam	144 [1]
VE_F0024	Encantado Channel North	5
	Total	**663**

[1] Trash removed by trailer load - 72 bags/trailer

[2] Matress and Box springs -12 bags for queen size box or mattress

[3] Misc. Household items - furniture, toys

SSCAFCA 2023-2024 Dog Waste Removals (LBS)

Date:	TFP A	Sportsplex	Lisbon	Black Arroyo Trail
7/5/2023	5	9	2	6
7/12/2023	5	10	1	7
7/19/2023	5	12	2	7
7/26/2023	7	10	1	4
8/2/2023	4	12	2	13
8/9/2023	4	9	1	6
8/16/2023	3	10	1	4
8/23/2023	3	9	1	8
8/30/2023	5	7	2	5
9/6/2023	9	12	2	8
9/13/2023	5	8	2	6
9/20/2023	8	10	1	3
9/27/2023	6	9	2	5
10/4/2023	5	11	1	7
10/11/2023	4	7	2	6
10/18/2023	7	12	1	3
10/25/2023	3	7	1	4
11/1/2023	3	11	2	8
11/8/2023	7	10	1	4
11/15/2023	6	8	2	5
11/22/2023	8	11	2	7
11/29/2023	5	9	4	7
12/6/2023	5	8	2	7
12/13/2023	3	5	3	6
12/20/2023	8	6	2	4
1/10/2024	14	16	5	10
1/17/2024	10	7	2	8
1/24/2024	5	7	2	6
1/31/2024	11	8	3	7
2/7/2024	5	6	1	7
2/14/2024	10	6	2	4
2/21/2024	10	9	2	7
2/28/2024	8	6	2	5
3/6/2024	5	12	1	9
3/13/2024	6	9	3	4
3/20/2024	8	6	2	7
3/27/2024	8	6	2	4
4/3/2024	11	9	2	8
4/10/2024	3	5	2	4
4/17/2024	4	6	2	5
4/24/2024	9	5	3	4
5/1/2024	12	10	2	9
5/8/2024	10	8	1	6

SSCAFCA 2023-2024 Dog Waste Removals (LBS)

Date:	TFP A	Sportsplex	Lisbon	Black Arroyo Trail
5/15/2024	4	5	1	5
5/22/2024	8	6	2	5
5/29/2024	3	6	1	4
6/5/2024	5	6	1	5
6/12/2024	6	9	1	5
6/19/2024	3	8	2	4
6/26/2024	8	10	2	7
Totals	**319**	**423**	**92**	**299**
Total Removed all Channels				**1133**

23-24 OUTREACH

July, 2023 - Arroyo Awareness Month

July 6, - Arroyo Awareness Month – Town of Bernalillo Council Meeting

July 11 – Arroyo Awareness Month – Ivory Channel Ribbon Cutting

July 13 – Arroyo Awareness Month – Mariposa Neighborhood Association Meeting

July 26 – Arroyo Awareness Month – Alegria Neighborhood Association Meeting

July 26 – Arroyo Awareness Month – Sandoval County Commission Meeting

August 30th – Sandoval County Master Gardner's Tour of Harvey Jones

September 14 – Community Center Field Trip to Harvey Jones

October 21 – Rio Rancho Fall Festival

November 7 – Field Trip for New Mexico Flood Plain Mangers to various facilities

December 13 – Cleveland High School Presentation

March 5 – Tour of the Harvey Jones for LWCS

May 10 – Interview with Environmental Journalist Nik Kowsar

May 8 – RRHS Presentation

May 16 – Lomitas Negras Field Trip for City of Santa Fe Parks and Rec

On-Going/Year Long- Social Media Posts

SSCAFCA Facility listing and tasks completed 2023–2024

Facility ID	Watershed	Faclity Name	Sediment Removal on Earthen Structures	Sediment Removal on Concrete Structures	Erosion Repair and Control	Structural/Concrete Repairs	Vegetation Removal/ Management	Manual Trash Removal	Access Control	Bank Restoration
BA_F0016	La Barranca	Campus Dam aka Upper SLO Dam	X		X	X	X	X	X	X
BL_F0013	Black Arroyo	Sunset Pond & Aldaba Storm Drain	X		X		X	X	X	X
BL_F0026	Black Arroyo	Montego court	X		X		X	X	X	X
BL_F0040	Black Arroyo	Athens Court	X				X	X		X
MO_F0017	Montoyas	Lomitas Negras Phase 1	X	X	X	X	X	X	X	X
MO_F0064	Montoyas	Tin Cup Pond	X		X		X	X	X	
MO_F0078	Montoyas	Tierra De Corrales Pond	X		X		X	X	X	
VE_F0010	Venada	Enchanted Hills Dam	X	X	X	X	X	X	X	X
VE_F0013	Venada	Santiago Channel	X	X	X	X	X	X	X	X
BL_F0034	Black Arroyo	Spur Channel		X	X	X	X	X	X	X
BL_F0035	Black Arroyo	Lisbon Channel (Tulip to Tarpon)	X	X	X	X	X	X	X	X
CW_F0010	Corrales	Upper Tree Farm Pond	X	X	X	X	X	X	X	X
MO_F0021	Montoyas	Lower MO water quality facility	X	X	X	X	X	X	X	X
VE_F0024	Venada	Encantado Channel North		X		X		X	X	X
BL_F0002	Black Arroyo	Sunset Channel	X		X		X	X	X	X
BL_F0003	Black Arroyo	Gateway Pond	X		X	X	X	X	X	X
BL_F0004	Black Arroyo	Tract 17 Pond	X		X	X	X	X	X	X
BL_F0006	Black Arroyo	Sugar Channel	X		X		X	X		X

X = activity authorized by LOP
Highligted = activity completed this reporting year

SSCAFCA Facility listing and tasks completed 2023–2024

Facility ID	Watershed	Faclity Name	Sediment Removal on Earthen Structures	Sediment Removal on Concrete Structures	Erosion Repair and Control	Structural/Concrete Repairs	Vegetation Removal/ Management	Manual Trash Removal	Access Control	Bank Restoration
BL_F0008	Black Arroyo	East Branch Cabezon Channel		X		X	X	X	X	
BL_F0009	Black Arroyo	Trevino Channel (Golf Course to Nicklaus Park)	X		X		X	X		X
BL_F0014	Black Arroyo	Ivory Channel	X	X		X	X	X		X
BL_F0014	Black Arroyo	Ivory Channel	X	X		X	X	X	X	X
BL_F0015	Black Arroyo	Stallion Channel (powerline easement to Western Hills)	X		X		X	X	X	
BL_F0020	Black Arroyo	West Nicklaus Channel (Bogie to Lema)	X		X		X	X		X
BL_F0020	Black Arroyo	West Nicklaus Channel (Bogie to Lema)	X		X		X	X		X
BL_F0022	Black Arroyo	West Nicklaus Channel (Fairway to Casper)	X		X		X	X		X
BL_F0022	Black Arroyo	West Nicklaus Channel (Fairway to Casper)	X		X		X	X		X
BL_F0023	Black Arroyo	Black Arroyo Water Quality Pond	X		X		X	X		
BL_F0029	Black Arroyo	Arkansas Channel	X		X	X	X	X	X	
BL_F0030	Black Arroyo	Rodeo Channel	X		X		X	X		X
BL_F0031	Black Arroyo	Pecos Channel	X		X		X	X		X
BL_F0031	Black Arroyo	Pecos Channel	X	X	X	X	X	X	X	X
BL_F0032	Black Arroyo	Baltic Channel	X		X		X	X		X
BL_F0033	Black Arroyo	Bali Channel	X		X		X	X		X
BL_F0036	Black Arroyo	Lisbon Channel (Tarpoon to Southern)	X		X		X	X	X	X
BL_F0037	Black Arroyo	Lisbon Channel (Southern to Black Arroyo Trail Bridge)	X		X		X	X	X	X

X = activity authorized by LOP
Highligted = activity completed this reporting year

SSCAFCA Facility listing and tasks completed 2023–2024

Facility ID	Watershed	Faclity Name	Sediment Removal on Earthen Structures	Sediment Removal on Concrete Structures	Erosion Repair and Control	Structural/Concrete Repairs	Vegetation Removal/ Management	Manual Trash Removal	Access Control	Bank Restoration
BL_F0038	Black Arroyo	Black Arroyo Wildlife Park			X		X	X	X	X
BL_F0039	Black Arroyo	Landing Trail Pond	X		X		X	X	X	X
CA_F0008	Callabacillas	Redwood Pond	X		X		X	X	X	X
CA_F0010	Calabacillas Arroyo	Calabacillas Arroyo Northern to Southern	X		X		X	X	X	X
CA_F0013	Callabacillas	Cholla Pond							X	
CO_F0002	Coronado	Bosque de Bernalillo Water Quality Facility	X		X		X	X	X	X
CO_F0005	Coronado	Joiner Pond Unit 20 Industrial Park		X	X	X	X	X	X	
CW_F0009	Corrales	Lower Tree Farm Pond	X		X		X	X	X	
CW_F0011	Corrales	Urban Pond - Stephanie Rd	X		X		X	X	X	
CW_F0013	Corrales	lower urban pond	X		X		X	X	X	
MO_F0002	Montoyas	Sportsplex Dam	X		X	X	X	X	X	
MO_F0010	Montoyas	Lomitas Negras Phase 2	X	X	X	X	X	X	X	X
MO_F0012	Montoyas	Harvey Jones Channel Corrales Rd to River	X	X	X	X	X	X	X	
MO_F0015	Montoyas	Corrales Heights Dam	X	X	X	X	X	X	X	X
MO_F0029	Montoyas	Lower MO Water Quality Facility to NM 528	X		X		X	X	X	X
MO_F0037	Montoyas	Dulcelina Curtis Channel		X		X	X	X	X	
MO_F0040	Montoyas	Harvey Jones Channel Inlet to Corrales Rd		X		X		X	X	X
MO_F0041	Montoyas	Sierra Norte Channel North Hills	X	X	X	X	X	X	X	X

X = activity authorized by LOP
Highligted = activity completed this reporting year

SSCAFCA Facility listing and tasks completed 2023–2024

Facility ID	Watershed	Faclity Name	Sediment Removal on Earthen Structures	Sediment Removal on Concrete Structures	Erosion Repair and Control	Structural/Concrete Repairs	Vegetation Removal/ Management	Manual Trash Removal	Access Control	Bank Restoration
MO_F0042	Montoyas	Acadia Court Pond	X		X	X	X	X	X	
MO_F0043	Montoyas	Loma Pinon Loop Pond	X		X	X	X	X	X	
MO_F0045	Montoyas	Sundt Pond	X		X		X	X	X	
MO_F0046	Montoyas	Pam's Pond	X		X		X	X	X	
MO_F0047	Montoyas	Pond 116	X		X		X	X	X	X
MO_F0048	Montoyas	Cielo Norte Pond and Outfall Michelle Dr Pond	X		X	X	X	X	X	X
MO_F0049	Montoyas	Wilpett Pond 1 Northern Meadows	X		X		X	X	X	
MO_F0050	Montoyas	Wilpett Pond 2 Northern Meadows	X		X	X	X	X	X	
MO_F0051	Montoyas	Wilpett Pond 3 Northern Meadows	X		X		X	X	X	
MO_F0052	Montoyas	Wilpett Pond 4 Northern Meadows	X		X		X	X	X	
MO_F0053	Montoyas	Wilpett Pond 5 Northern Meadows	X		X		X	X	X	
MO_F0055	Montoyas	Clear Creek Pond Northern Meadows	X		X	X	X	X	X	
MO_F0056	Montoyas	Desert Willow Pond Northern Meadows	X		X		X	X	X	
MO_F0057	Montoyas	Flat Iron Pond Northern Meadows	X		X		X	X	X	
MO_F0057	Montoyas	Flat Iron Pond Northern Meadows	X		X		X	X	X	
MO_F0058	Montoyas	Havasua Falls Pond Northern Meadows	X		X		X	X	X	
MO_F0058	Montoyas	Havasua Falls Pond Northern Meadows	X		X		X	X	X	
MO_F0060	Montoyas	Sunny Meadows Pond	X		X		X	X	X	

X = activity authorized by LOP
Highligted = activity completed this reporting year

SSCAFCA Facility listing and tasks completed 2023–2024

Facility ID	Watershed	Faclity Name	Sediment Removal on Earthen Structures	Sediment Removal on Concrete Structures	Erosion Repair and Control	Structural/Concrete Repairs	Vegetation Removal/ Management	Manual Trash Removal	Access Control	Bank Restoration
MO_F0060	Montoyas	Sunny Meadows Pond	X		X		X	X	X	
MO_F0062	Montoyas	King Blvd Pond Northern Meadows	X		X		X	X	X	
MO_F0063	Montoyas	Marlow Meadows Pond	X		X		X	X	X	X
MO_F0065	Montoyas	Paseo Vista Pond	X		X		X	X	X	
MO_F0068	Montoyas	Sierra Norte Park	X		X	X	X	X	X	X
MO_F0069	Montoyas	Zia Pond		X	X	X	X	X	X	
MO_F0071	Walter Road Pond	Walter Road Pond	X		X		X	X	X	
MO_F0072	Montoyas	26th Ave Pond	X		X		X	X	X	
MO_F0072	Montoyas	26th Ave Pond	X		X		X	X	X	X
MO_F0073	Montoyas	25th Ave Pond	X		X		X	X	X	
MO_F0074	Montoyas	Inca Pond	X		X		X	X	X	
MO_F0075	Montoyas	Serene Pond	X		X	X	X	X	X	
MO_F0076	Montoyas	Rio Oso Pond	X		X		X	X	X	
MO_F0079	Montoyas	Copperton Pond	X		X		X	X	X	
MO_F0080	Montoyas	Angel Pond	X		X		X	X	X	
MO_F0081	Montoyas	Jade Pond	X		X		X	X	X	
NM_F0003	NM 528	Roskos Field Pond	X	X	X	X	X	X		
RA_F0001	Rainbow	Rainbow Pond	X		X	X	X	X	X	X

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Highligted = activity completed this reporting year

SSCAFCA Facility listing and tasks completed 2023–2024

Facility ID	Watershed	Faclity Name	Sediment Removal on Earthen Structures	Sediment Removal on Concrete Structures	Erosion Repair and Control	Structural/Concrete Repairs	Vegetation Removal/ Management	Manual Trash Removal	Access Control	Bank Restoration
RA_F0001	Rainbow	Rainbow Pond	X		X	X	X	X	X	X
RA_F0002	Rainbow	Rainbow Channel (Vancouver to Pecos Loop)	X		X	X	X	X	X	X
VE_F0026	Venada	Santa Fe Hills Pond	X		X		X	X	X	
VE_F0027	Venada	Sprint Pond	X		X		X	X	X	

X = activity authorized by LOP
Highligted = activity completed this reporting year

Village of Corrales

The Village of Corrales has no municipal storm sewer system. To handle stormwater flows from development, engineered grading and drainage (G & D) plans are required prior to any residential construction that will disturb more than 1,000 square feet. Engineers may design berms, swales, retention ponds and other aspects to keep new impervious surface (roofed or paved) stormwater flows on the subject property and not running into streets or adjacent properties.

Within the Commercial zone, stormwater retention areas must be built into Site Development Plan drawings before those applications can be heard by the Planning and Zoning Commission.

In FY24, the Village saw 22 residential grading and drainage plans prior to issuing building permits. There were three Commercial Site Development Plans that incorporated drainage (primarily retention ponding) into their designs, as required by Village Code.

The Public Works Department installed an underground stormwater conveyance near Burlbaw Lane, which has an extreme slope throughout the entire neighborhood. Traditionally this has been a trouble area where stormwater would race down the properties and across Loma Larga, one of Corrales' main north/south corridors, temporarily closing the road. A new, deeper retention area that is part of the project will now keep the flows from flooding the road, ditch, and ultimately the Rio Grande.

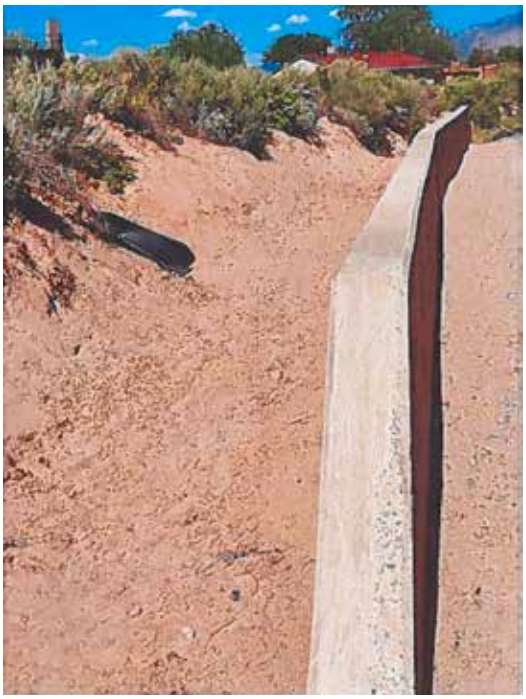
This fiscal year, the Corrales Bosque Advisory Commission in conjunction with the Corrales Fire Department continued their efforts to encourage dog waste pick-up along popular pedestrian areas into the Bosque and elsewhere in the Village. There are nine waste bag stations and trash receptacles located at Bosque access gates, Camino de la Tierra (entrance to popular Sand Dunes walking area) and at Quirks Lane. CBAC provided approximately 8500 dog poop bags in/near the Bosque, and an additional 500 bags at the other location, same as last fiscal. This will greatly reduce the amount of dog waste otherwise in danger of polluting the acequias, canals or Rio Grande.

The glass recycling area continues to operate. This fiscal, the Village recycled another 80.5 TONS of glass.

The Village is continuing the twice-a-year (spring and fall) community "Clean-Up" days, accepting nonhazardous and yard waste. Approximately 200 households per year participate. Our Code Enforcement Officer works with citizens throughout the year to have them remove trash, non-functional vehicles and other items that could leak fluids into the groundwater. There is no municipal water system; all structures are serviced by wells.

Every year during the Corrales Harvest Festival, which is attended by folks from throughout the metro, a Stormwater Team booth educates the public on the importance of keeping waste, oils, floatables and other items out of the river.

Burlbaw Lane retention project



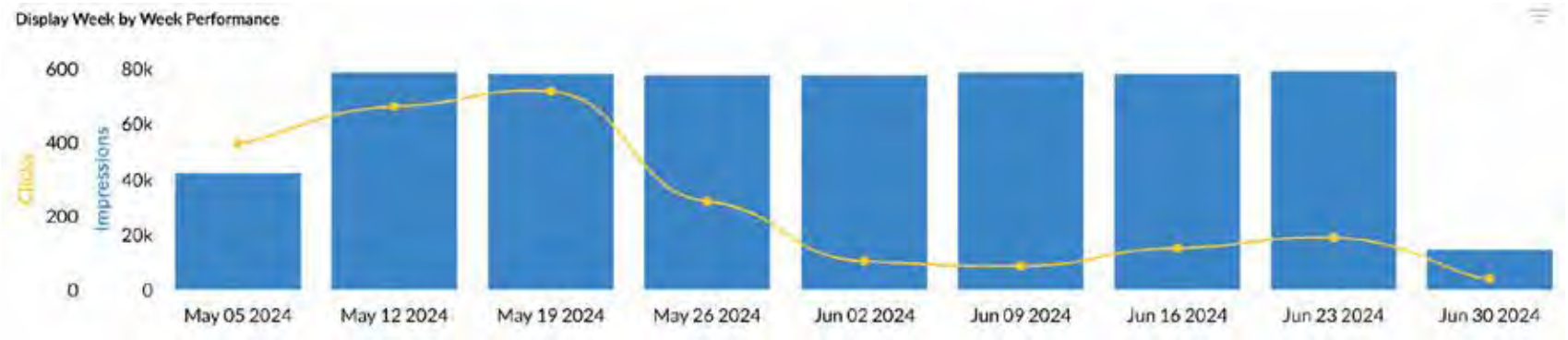
Stormwater Quality

Digital Media Performance

Campaign:
4/15/2024 - 6/30/2024

Programmatic Display

IMPRESSIONS DELIVERED	CLICKS	CTR
602,986	2,084	0.35%



HIGHEST PERFORMING AD SIZES

Mobile 320x50
Impressions: 114,852
Clicks: 372
CTR: 0.32%

728x90
Impressions: 60,567
Clicks: 206
CTR: 0.34%

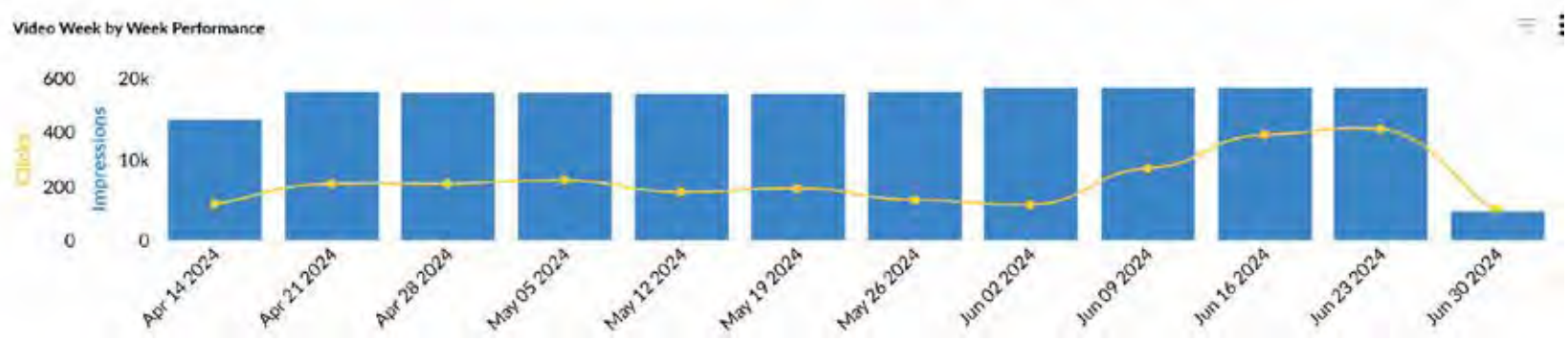
National average CTR for Display: 0.07%

SUNNY505

Mid Rio Grande Stormwater Quality Team

Pre-Roll Video

IMPRESSIONS DELIVERED	CLICKS	CTR	VIEW COMPLETION RATE
202,000	2,585	1.28%	75.31%



National average CTR for Pre-Roll: 0.12%

National average VCR for Pre-Roll: 35%

SUNNY505

Mid Rio Grande Stormwater Quality Team

OTT

VIEW COMPLETION RATES

IMPRESSIONS DELIVERED	50% COMPLETED	75% COMPLETED	100% COMPLETED
101,084	99.98%	99.84%	99.59%

DEVICE EXPOSURE

Smart TV

Set Top Box

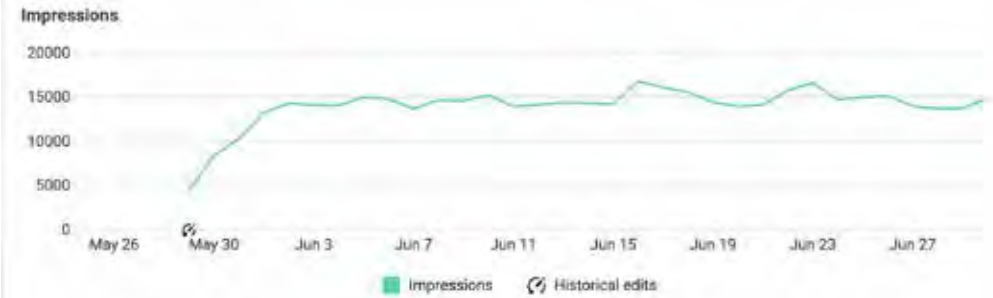
Game Console

SUNNY505

Mid Rio Grande Stormwater Quality Team

Paid Social

USERS REACHED	IMPRESSIONS DELIVERED	CLICKS	CTR
94,654	460,702	6,771	1.47%



National average CTR for Paid Social: 1%

SUNNY505

Mid Rio Grande Stormwater Quality Team

YouTube

IMPRESSIONS DELIVERED	CLICKS	CTR
159,664	1,829	1.15%

DEVICE EXPOSURE

Desktop Device

Mobile Device

Tablet Device

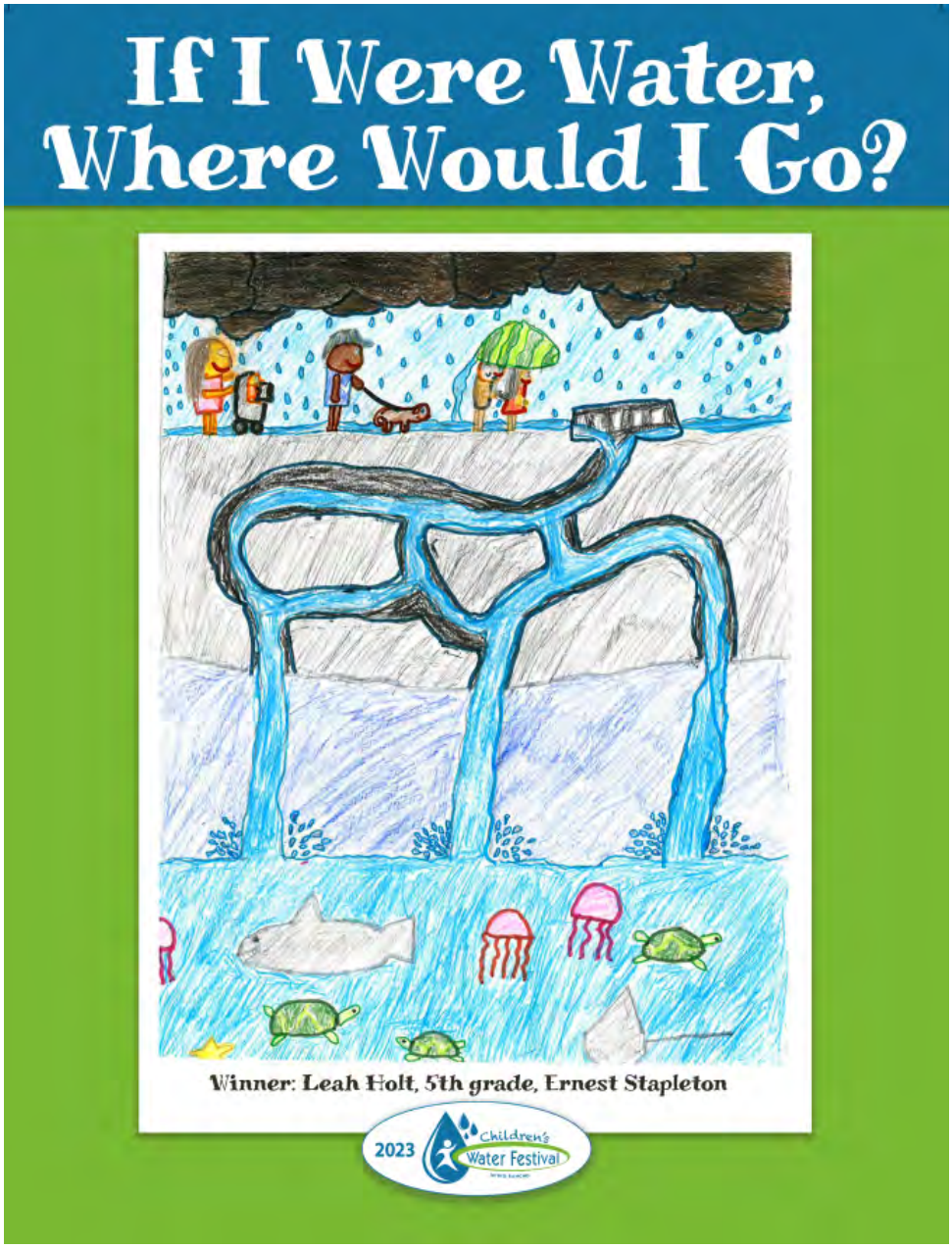
National average CTR for YouTube Ads: 0.65%

SUNNY505

Mid Rio Grande Stormwater Quality Team

Children's Water Festival

Rio Rancho, 2023



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Executive Summary

The 2023 Children's Water Festival (Festival) was held on Monday, October 23rd and Tuesday, October 24th at the Rio Rancho Events Center in Rio Rancho. Due to the pandemic, changes were made to the size and structure of the Festival to better accommodate the students and to give them a better all-around experience. Historically, fourth grade students attended the Festival. There was a change in school curriculum and for the past two years fifth grade students were invited to better fit into the schools' science learning objectives. Additionally, students attended from one-half of the Rio Rancho elementary schools' students, as the other half of the Rio Rancho elementary schools attended in 2022. Over 780 students from 34 classrooms, from Enchanted Hills, Vista Grande, Ernest Stapleton, St. Thomas Aquinas, Sandia Vista, Colinas Del Norte, and Cielo Azul Elementary Schools participated. Each class attend 4, 25-minute presentations. Seventeen hands-on presentations taught water-related ideas and concepts to the students.

The Festival had 49 presenters/associates and 18 volunteers to guide the classes to the assigned activity.

The seventeen presentations represented professional organizations that ranged from federal, state, regional governments, and private industry. The organizations all have water interests and focused on subjects such as the water cycle, water quantity and conservation, water distribution, wastewater and water quality/pollution.

Students were evaluated on basic water knowledge after the Festival. There were eight questions asked of the students and they averaged between 55% to 90% correct on the questions. A more detailed breakdown is found in the Student Post-test Scores section.

The Festival costs an estimated $26,516.63. The City of Rio Rancho contributed $10,000 to the Festival and additional funding was raised through Ciudad Soil & Water Conservation District. Festival sponsors include: TLC Plumbing, Jacobs, Waste Management, Southern Sandoval County Arroyo Flood Control Authority, Carollo Engineering, Resource Wise, Daniel B. Stephens & Associates, Bright Ideas Promotional Products, and CWA Strategic Communications.

Introduction

The Children's Water Festival (Festival) has been held in Rio Rancho since 2007. The 2010 Festival was the first event hosted by the City of Rio Rancho's Water Conservation Office. This report is for the 2023 Festival; the twelfth event hosted by the Water Conservation Office. There was a two-year hiatus because of the Covid-19 Pandemic. As in years past, the Festival was held at the Rio Rancho Events Center and about 780 students attended from 34 fifth grade classrooms from Rio Rancho Public Schools and one private school. The event was held on Monday, October 23rd and Tuesday, October 24th.

Purpose and Intent

The principal focus of the Festival is to educate fifth grade school children about water and its relationship to humans, animals and other natural resources in a fun and interactive atmosphere. The Festival's vision is to:

- Introduce students and teachers to new ideas, options, and solutions so they will conserve and protect water for the future,
- Lay the foundation for further learning, and
- Reach as many students and teachers as possible.

Public participation is essential to successful water conservation, and educating the public promotes better water conservation planning and implementation. Early education influences the future acceptance of water conservation concepts. This early education experience also has shown that training efforts affected behavioral changes and improved water use practices. Water conservation goals are only as effective as water users' willingness to adopt and implement appropriate water conservation measures. Through special training activities, water users are taught proper water use practices and techniques. Efficient use of water supplies decreases waste and prevents degradation of water quality leading to healthier ecosystems for fish and wildlife, including locally listed endangered species, such as, the Rio Grande Silvery Minnow (*Hybognathus amarus)* and the Southwestern Willow Flycatcher (*Empidonax traillii extimus*).

The Festival was designed specifically to introduce and explain new and unfamiliar water management tools to present and future water users and managers. Research concerning water conservation education indicates the targeted group of the Festival, fifth grade students, is ideal for achieving long-term goals. Through sharing water conservation and water quality tools at home and with extended family, the estimated 800 participants (students, teachers, and chaperones) represent a potential audience of 10,000 to 15,000 people for the Festival program.

A series of activities that cover a wide range of core curriculum areas were presented at the Festival. These activities included language arts, mathematics, science, social studies, visual arts, and health/wellness; all of which are tied to water conservation, water quality, and water quantity in the arid Southwest desert.

The updated Water Resources Management Plan (Plan), adopted by the City of Rio Rancho Governing Body in 2020, details water efficiencies and water conservation measures to be taken by the City to better manage the existing water supplies. Policy E.5 of the Plan sets forth this initiative: "Continue consulting with and improving the partnership with Rio Rancho Public Schools to implement a robust water resources educational curriculum."

Additionally, the City of Rio Rancho Strategic Plan was formally adopted by the City of Rio Rancho Governing Body on March 25, 2009 and updated in September 28, 2023. One important element of the Infrastructure Strategies section of the Strategic Plan pertains to water sustainability and conservation to support growth and development of the City.

Funds

Festival Cost

The Festival costs are listed in the table below. Please note that the cost for the Rio Rancho Events Center is only for the personnel time, including two police officers per day for security. The pipe and drape for the booth setup was bought by the Festival in previous years so there is no pipe and drape rental. A private bus company is used because there has been issues in the past with the public-school buses not arriving at the schools on time to pick up the students and deliver them to the Festival.

Cost Description	**Amount**
Rio Rancho Events Center	$3,080.25
Catering for volunteers & presenters	$3,494.18
Buses (Herrera Coaches)	$11,029.00
T-shirts with art/logos (805 shirts)	$7,295.00
Supplies (paper, postage, thank you cards, etc.)	$618.20
Fiscal Partner	$1,000.00
Total	**$26,516.63**

Sponsorships

Through its fiscal partner, Ciudad Soil & Water Conservation District, the City of Rio Rancho was able to secure several sponsors to fund the Festival. Additionally, the City sponsored $10,000 for the Festival.

A heartfelt "thank you" to these valuable Festival partners!

Steering Committee

The Festival was directed by a diverse steering committee. The core group contained members from:

- City of Rio Rancho's Water Conservation Office
- New Mexico Environment Department – Surface Water Quality Bureau
- Citizen volunteers

Design of Festival

Students attended four presentations at the Water Festival.

Pre-Festival Activities

- Each school provides a lead fifth grade teacher who confirms their commitment to participate, provides the number and names of the teacher/classes and the number of anticipated students for each.
- Elementary schools are provided the information on how to participate in the student T-shirt artwork project; student art work is submitted to the Water Conservation Office and a winner is selected by the committee.
- Teachers received the T-shirts prior to the event in order for students to wear them to the festival.
- Students take a pre-test in order to gauge their knowledge prior to the event. A post-test is given after the event to see how much students learn. More information can be found in the Post-Test section of this report.

Rio Rancho Children's Water Festival Event

- The Water Festival functioned from 10 a.m. through 12 p.m.
- Students attending the Festival boarded on buses at 9:30 a.m. at their school.
- Each class was met by a guide/timekeeper who escorted them to each of their four assigned presentations.
- Presentations lasted 25 minutes and topics included: water quality, water conservation, water cycle, watersheds, wastewater, historical water use, ecosystems, weather, and built water infrastructure.
- All students received a Festival T-shirt. Leah Holt from Ernest Stapleton Elementary, was the winner of the T-shirt student artwork contest. Her design was displayed on the front of the T-shirt and Festival sponsor logos were on the back.

Leah Holt – T-shirt artwork winner from Ernest Stapleton Elementary class

Post-Festival Activities

- Teachers will receive a copy of this report.

All aspects of the Festival planning and implementation were created with the *Big Water Questions* in mind. Each presentation addressed at least one of the *Big Water Questions*, as well as the Festival's mission and objectives. The long-term outcome goal is that all elementary school students will be able to provide reasonable answers to these questions by the time they reach middle school.

Big Water Questions

- Why is water so important to life?
- How do all living things depend on each other?
- What is the water cycle?
- What is a watershed?
- Where does my drinking water come from?
- What makes water dirty?
- How much water does my family use?
- Who are the other water users in our society?
- How can *I* protect our water?
- Where does my wastewater go?

Schools Attending the Festival

The following table outlines which schools attended.

Elementary School	**Number of Classes**
Enchanted Hills Elementary	5
Vista Grande Elementary	6
Ernest Stapleton Elementary	6
St. Thomas Aquinas Elementary	2
Sandia Vista Elementary	5
Colinas Del Norte Elementary	4
Cielo Azul Elementary	6
Totals	**34**

Festival Presentations

"Backyard Bass Fishing" activity. Students learned how water quality impacts aquatic life. Correct fishing technique was also taught and practiced.

Each year the Festival relies on numerous professionals who volunteer their expertise and presentation time. These professionals represent federal, state and regional government entities, local engineering firms, and the school district. They choose presentations that represent their missions or specialties. A description of all the presentations, the presenters and their contact information has been provided in Appendix A.

Volunteers

The Festival could not be held without the assistance of a number of volunteers, presenters, and steering committee members. Volunteers were required to use the City's on-line application process to have a background check.

Lessons Learned

Steering Committee Comments from the Festival

There were only a few comments from the steering committee including:

Event Aspect	Overall Performance	Areas of Improvement
Communication/coordinating with schools	Good overall	Continue to prioritize meetings with the teachers early on regarding Water Festival logistics. It would be beneficial to contact teachers as soon as school year starts.
Transportation	Went well	Some buses were a little late picking up the students from school or from the event center. We will need direct contact with bus drivers going forward.
Presentations	Presenters were enthusiastic	Make sure to go over the key words/concepts. Give presenters the schedule ahead of time. Presenters should have enough material (or filler) to engage the students so they don't finish too early. Ensure that presenters are speaking at an appropriate volume for students and teachers to hear.
Transition between presentations	Average	More detailed trainings for guides. The guides had blue vests this year which made them easy to locate. Students should stay at current stations until end of allotted time.
Food	Good overall	Due to labor and food costs increasing, some items were adjusted to fit the budget.
Logistics (Public safety, RREC)	Good overall	Need sign in sheets for Master Gardeners. Also need separate sign in sheets for volunteers and presenters. Decorations were added this year- less balloons and more streamers going forward. Utilize the facility capabilities by using lights, banners, and sound system.

Break (20 minutes)	N/A	There was no break this year as we had morning sessions only for two days.
T-shirts	Above average	Order majority mediums and fewer smalls next year. Larger sizes were in demand this year – mostly large.
Training of guides/teachers, etc.	Could be better	No student should be by themselves. They need to be accompanied by teachers. Reminder should be announced at beginning of event.
General		Set up should be done many hours in advance so presenters can easily locate their station. Presenters swapped stations this year which made the map inaccurate and guides confused. This should be avoided next year and if it occurs, the map should be updated immediately. Have a media person help with medial release. Have a Water Festival webpage (need to discuss with city management). "Thank You" banner for sponsor did not fit our stand – we will need to adjust this for next year.

Action Items:

- Need to replenish the supply of SWAG – bags, fans, stress balls etc.

Festival Event

The two days of the Festival ran very smooth. A private bus company was used because of issues with RRPS buses the past several years.

We did not have a dedicated photographer this year. Volunteers and Staff took many photos asking the teachers what students to not photograph. Teachers were in charge of the photo release forms so they informed us of what students did not return the form. Photo release forms were collected the day of the event.

Appendix A - Working Timeline

The following was used to ensure that steps of the Festival preparation were completed in a timely manner.

- June 30 - Ask for sponsors
- July 30 - Update VIP list
- July 30 – Reach out to presenters
- August 1 – PO for RR Sponsorship
- August 1 – PO for Buses
- August 8 – RR schools starts
- August 20 – Design poster with the theme
- August 20 - Email teachers about CWF date and artwork delivery
- August 22 – Drop off artwork paperwork, poster, photo release forms
- September 6 – Email volunteers
- September 6 - Email reminder to teachers including schedule
- September 6 – Pick up artwork, photo release forms
- September 13 – Meeting to select the winner
- September 13 – Artwork to Rio Rancho T Shirts
- September 15 - Update VIP list and mail invitations
- September 20 - Meet with RREC about food, etc.
- October 13 – Pick up T Shirts
- October 15 - Email layout to RREC
- October 18 – Meeting to pack bags of t-shirts
- October 20 – Drop off bags this day
- October 23rd and 24th – Water Festival
- October 27– Remind teachers about post-test and teacher evaluation sheets. Volunteer feedback forms also sent out.

Appendix B – Festival Presentations

This appendix lists all of the Festival presentations and contacts. For each section, there is the name of the presentation, a brief description of the activity, the contact information of the presenter and if available, where the teacher can locate a similar presentation if they would like to teach it in the classroom.

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Basic Surface Water Treatment

Students learn about processes used to clean water in a contemporary water treatment facility through an interactive process. This activity teaches children about the importance of water quality for drinking water.

Carollo Engineers
Rob Buss rbuss@carollo.com

****

Incredible Journey

During this activity, students become water molecules and move through the water cycle. They learn about the movement and distribution of water – as well as pollution – on the earth.

NM Environment Department, Surface Water Quality Bureau
Heidi Henderson heidi.henderson@state.nm.us

A similar activity found on web: Incredible Journey, Project WET — http://files.dnr.state.mn.us/education_safety/education/project_wet/sample_activity.pdf

****

Keep the Rio Grande

Keep the Rio Grande Activity is an interactive game where the students become an arroyo supplying stormwater to the Rio Grande. The stormwater picks up a variety of items as the flow increases creating a flood of raindrops, trash, pet waste, bacteria, and plastics as the students pass the items down to the river. The students learn about stormwater quality and the impact we have on water in our neighborhoods and town. After the rain has stopped, students discuss the water and debris on the ground around them and at the end of the line the river. Then they are tasked with sorting all of the items to bins labeled: trash, compost, recycle and rain.

Middle Rio Grande Stormwater Quality Team
Xavier Pettes (505) 891-5045 xpettes@rrnm.gov

****

Leaky Faucet

Students create a water leak and scientifically measure the leak using graduated cylinders over three tests. The students then compute the average milliliters of water leaked over one minute to the number of gallons of water leaked and wasted over one year.

Resource Wise
Lonnie Burke (505) 453-0027 lburke@resource-wise.com

A similar activity found on web: Leaky Faucet, Utah Education Network http://www.uen.org/Lessonplan/preview.cgi?LPid=27247

****

Let's Settle This Outside

Students become wastewater operators and learn how the wastewater treatment plant cleans dirty water. They then create wastewater using everyday materials and clean the wastewater by sorting it into three stations: water, sludge, and trash.

Jacobs

Bill Jaquez	(505) 891-5024	billy.jaquez@jacobs.com
Eric Jacquez	(505) 537-1712	Eric.Jaquez@jacobs.com

A similar activity found on web: Wastewater: We Treat it Right, City of Boise	http://bee.cityofboise.org/media/216580/43385_Wastewater.pdf

****

Rolling River

How does a river work? Students interact with a model watershed and watch the cause and effects of precipitation as it flows down-gradient from urban and rural environments. Students learn about "pervious" and "impervious" surfaces and their relationship with the water cycle, including pollutant transport and increased erosion. Students learn that their personal actions can protect their watershed.

Ciudad Soil and Water Conservation District

Steve Glass jstvglass@gmail.com

A similar activity found on web: Protecting Our Water Resources, Midwest Research Institute (See Level 2)
http://www.stormwater.ucf.edu/toolkit/vol3/Contents/pdfs/Student%20Activities/student_activities.pdf

****

Sustainable Tomorrow

WM of New Mexico host a giant pong game designed to help students learn how to Reduce, Reuse and Recycle as ways to help conserve water and other natural resources. Following a short interactive presentation, students step up to a collection of mini basketballs labeled with different materials such as Plastic Water Bottle, Cardboard Box, Blue Jeans, etc. The object of the game is to get the material (noted on the basketball) into the correct bucket – either Recycle, Reuse or Reduce. In action, the game offers the dual challenge of learning what the greenest option for different materials was and then getting the bouncing ball into the right 3-gallon bucket.

Waste Management

Anne Spitza aspitza@wm.com

****

Olla Olé

Students learn the history of collecting water in the ancient southwestern United States using clay pots. They also learn how ollas (clay pots) were used as an irrigation technique for crops and then the students make a mini olla to take home for use.

Citizen

Cheri Vogel and Teresa Harner cheri_vogel@yahoo.com and tjarner@comcast.net

****

Wateropoly

Modeled after the game Monopoly, a board game that teaches children ways to conserve water and how water is wasted. The game involves math – adding, subtracting, multiplying and using fractions. Students will see how many gallons of water they have remaining at the end of the game.

City of Rio Rancho

Matthew Gachupin mgachupin@rrnm.gov

****

My Water Footprint

A Water Footprint represents how a person uses water to meet their needs (direct uses) and the water that others such as growers manufacturers, processors use (indirect uses) to provide products we purchase and use every day. The activity teaches the importance of water and introduces/explains the terms direct and indirect water use and challenges students to think of ways to conserve water. The students also create a collage that illustrates their water needs by incorporating both direct and indirect water use along with ways to conserve water.

New Mexico Office of the State Engineer, Water Conservation Bureau

Ariana Gagnon arianna.gagnon@ose.nm.gov

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Stormwater and Watersheds

Students learn about watersheds by examining and manipulating watershed models. They learn that a watershed is the land area that drains to a water body such as a river or lake. They see for themselves how watersheds can influence water quality.

Sandia National Laboratories
John Kay (505) 344-7240 jtkay@sandia.gov

A similar activity found on web: Protecting Our Water Resources, Midwest Research Institute (See Level 2) http://www.stormwater.ucf.edu/toolkit/vol3/Contents/pdfs/Student%20Activities/student_activities.pdf

****

Water Jeopardy

Students learn basic concepts and differences about groundwater vs. surface water supply for potable drinking water. The concepts are reinforced by participation in a Jeopardy game where students compete to determine the correct water "question" for a series of given "answers" (like the TV show).

Bohannon Huston, Inc.
Nathan Roberts (505) 823-1000
nroberts@bhinc.com

A similar activity found on web: The Water Cycle Jeopardy, Super Teacher Tools (online Flash game for up to 5 teams) http://www.superteachertools.com/jeopardy/usergames/Jan201205/game1327973751.php

****

Flash Flooding

This activity demonstrates several ways flash flooding can occur utilizing our flood model. We allow the kids to use a pitcher of water to demonstrate rainfall and how rain-rate affects flash flooding. The model uses sponges to show how the ground can soak up a lot of that rainwater but eventually it runs off into the streams, arroyos and eventually rivers. If the ground or sponge is saturated, then all the rainfall runs off into the drainage areas. We have toy houses to show what happens to houses in flood prone areas and how to build levees to protect structures. We could change out the sponges or ground for a flat plexiglass surface to represent concrete. We could show how the "concrete" does not catch any rainfall and it immediately runs off causing flooding. We also demonstrate by moving our rain catcher how flooding changes with moving storms or how it changes with the speed of storms. These demonstrations let us have conversations with the kids and teachers about flood safety and preparedness.

National Oceanic & Atmospheric Administration, National Weather Service
Scott Overpeck scott.overpeck@noaa.gov

****

Build a Wastewater System

Students learn about the wastewater system and how they operate in a community. They learn how wastewater is generate in their homes and travels through piping to the wastewater treatment plant. Information regarding water treatment plants and pipe sizing is incorporated. Students build their own wastewater system by using different sized noodles for piping, and drawing their own city including homes, businesses and treatment plants.

City of Rio Rancho
Ethan Demello edemello@rrnm.gov

****

Water Cycle Paper Plates

Students discuss all aspects of the water cycle and the role it plays in water conservation. Paper plates will be used to visualize each step of the water cycle.

Albuquerque Open Space
Ellie Althoff ealthoff@cabq.gov

****

Watershed Ecology
Students learn about the plants, mammals, arthropods, and water table along the Bosque and how they are all supported by water in the Rio Grande.

Bosque Eco System Monitoring Program
Zoe.Wadkins@bemp.org

****

Pump It Up! All About Aquifers
Students learn about the important role aquifers play in supplying water. Logistics of how aquifers work will be discussed and students will get to be their own aquifer on a smaller scale through soap push pumps.

United States Geological Survey
Lydia Coenen lcoenen@usgs.gov

****

Backyard Bass Fishing
What is fishing without fish? Students learn the importance of water quality and its affect on aquatic life. Proper and safe fishing techniques will also be taught and students will be able to practice.

New Mexico Department of Game and Fish
Dennis Segura dennis.segura@dgf.nm.gov

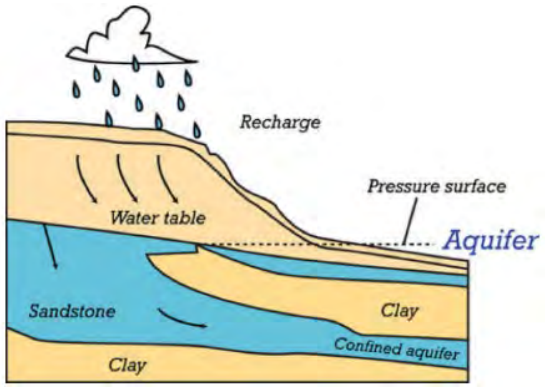
Appendix C - Post Test

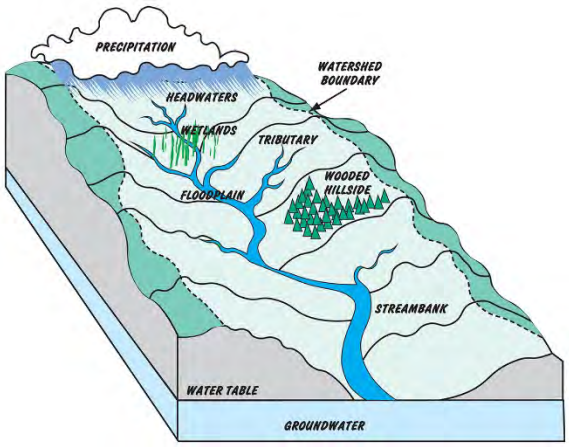
The Festival steering committee rewrote the student test in 2017; diagrams and pictures were added to help the students visualize the concepts. In 2019, Google Forms was used with the Rio Rancho students to take the tests. These tests were without diagrams and pictures.

The tests were written in Google Forms to be used and diagrams and pictures were added. Point values were assigned to the test questions based on teacher recommendation.

1. Many substances and objects can make river water dirty. Which of the following items can make the Rio Grande dirty?
   a) Trash
   b) Dog poop
   c) Leaky cars
   d) All the above

2. An **aquifer** is a layer of water-saturated porous rock. It lies below the water table. Most people who live in New Mexico get drinking water from a well drilled into an aquifer. If you live in Rio Rancho, is the water coming from your faucet from an aquifer?
   a) True
   b) False



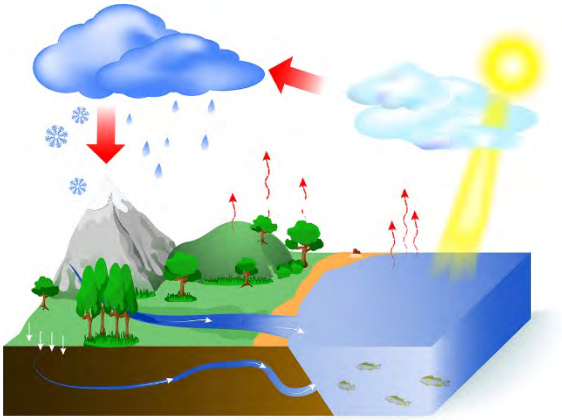


3. A **watershed** is an area of land that drains all the streams and rainfall to a common outlet such as the outflow of a reservoir, mouth of a bay, or any point along a stream channel. Is the following statement true or false: We all live in a watershed?
   a) False
   b) True

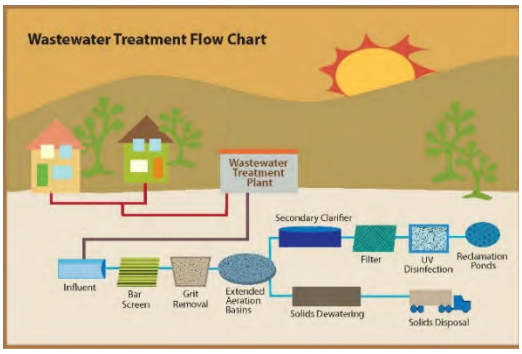
4. Everyone in Rio Rancho uses, on average, about 65 gallons of water per person per day. If you have four people in your home, what is your family's daily average water use?
   a) 260 gallons of water per day
   b) 200 gallons of water per day
   c) 2,600 gallons of water per day

5. Water users in our state include plants, animals, and people. Why is water so important to life?
   a) People need it to survive
   b) Plants need it to survive
   c) The river needs it to support nature
   d) All the above

6. The **water cycle** happens as the earth is warmed by the sun and water circulates between the earth's oceans, atmosphere, and land. Which of the following are terms associated with the water cycle?
   a) Pumping, Treatment, Delivery
   b) Evaporation, Condensation, Precipitation
   c) River, stream, aquifer



7. How can we protect our water?
   a) Litter
   b) Tell your parents when you see a leak
   c) Pour chemicals on the ground



8. **Wastewater** (or sewer water) is the used water from toilets, showers, and clothes washers and it is too dirty to go straight into the river or into the ground. Septic tanks and wastewater treatment plants clean the water before it goes to the river or into the ground.
   a) True
   b) False

Appendix D – Student Tests Scores

The following table shows the percentage of correct answers on both the pre and post-test. The test was given through Google Forms and there was no distinction between specific classes. Not every student from every school provided pre and post-tests. The questions are in the same order as in Appendix C.

Post-Test Scores:

Question	Elementary School Name					
	Enchanted Hills	Cielo Azul	Ernest Stapleton	Sandia Vista	Vista Grande	Average
What makes water dirty?	74%	68%	92%	86%	78%	79%
Is water from the aquifer?	96%	88%	92%	84%	92%	90%
Do we live in a watershed?	46%	54%	65%	47%	65%	55%
How much water is used? (math equation)	90%	78%	80%	78%	82%	82%
Why is water important to life	77%	75%	80%	82%	84%	80%
Water cycle	64%	72%	65%	62%	64%	65%
How can we protect water?	90%	86%	95%	93%	88%	90%
What is wastewater?	77%	90%	87%	86%	85%	85%

*Note there was no data for St. Thomas Aquinas as they do not use the Google Forms format.

As in year's past, the students do not have a good understanding of what a watershed is or the fact that we all live in a watershed. They also had problems with what is the water cycle.

Pre-Tests Scores:

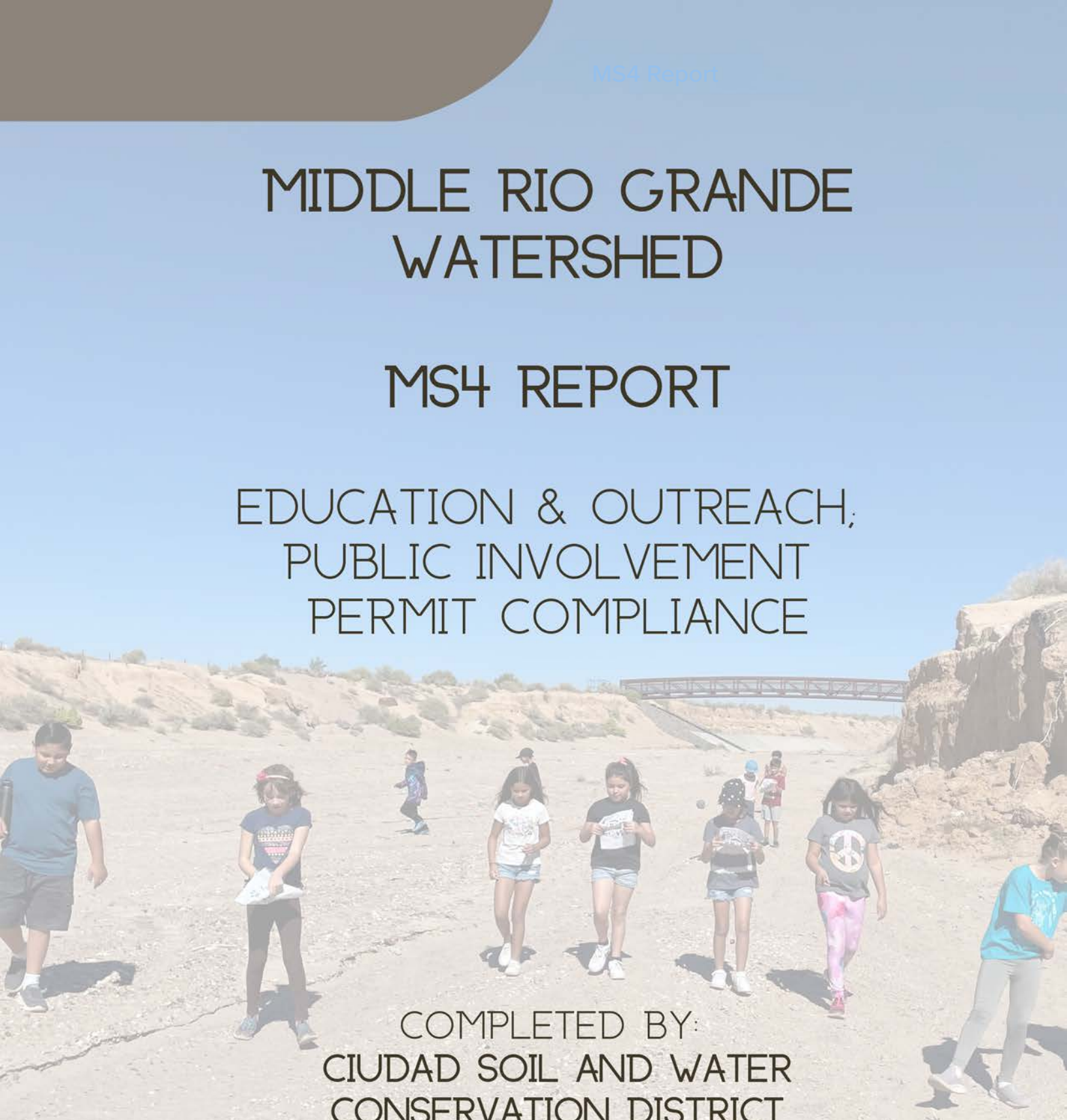
Question	Elementary School Name					
	Enchanted Hills	Cielo Azul	Ernest Stapleton	Sandia Vista	Vista Grande	Average
What makes water dirty?	71%	N/A	70%	69%	57%	66%
Is water from the aquifer?	76%	N/A	80%	72%	80%	77%
Do we live in a watershed?	42%	N/A	45%	45%	33%	41%
How much water is used? (math equation)	87%	N/A	71%	66%	66%	72%
Why is water important to life	80%	N/A	75%	74%	70%	74%
Water cycle	53%	N/A	62%	52%	54%	55%
How can we protect water?	83%	N/A	92%	84%	77%	84%
What is wastewater?	78%	N/A	84%	75%	79%	79%

*Cielo Azul only had one student take the pre-test so data percentage per answer was not calculated.

MIDDLE RIO GRANDE WATERSHED

MS4 REPORT

EDUCATION & OUTREACH; PUBLIC INVOLVEMENT PERMIT COMPLIANCE



COMPLETED BY:
CIUDAD SOIL AND WATER CONSERVATION DISTRICT

JULY 2023-JUNE 2024

CIUDAD SOIL & WATER CONSERVATION DISTRICT

Introduction

For fiscal year 2024, The Middle Rio Grande Stormwater Quality Team (MRGSQT) and Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA) provided Ciudad Soil and Water Conservation District (Ciudad SWCD) with a total $101,651.00 in funding to provide educational services in accordance with the requirements set forth in the EPA Municipal Separate Storm Sewer System Permit No. NMR04A000 (the MS4 Permit) for Education & Outreach and Public Involvement compliance. The funding provided by MRGSQT and SSCAFCA support the RiverXchange and Arroyo Classroom youth education programs, however Ciudad SWCD also provides additional educational services within the watershed outside the funding agreement that contributes to MS4 permit compliance. Ciudad SWCD is deeply invested in education and outreach programs as a strategy to address areas of natural resource concerns outlined in Ciudad SWCD's long-range action plan and demonstrates this commitment with years of successful educational programming. Ciudad SWCD is also a non-permittee member of the MRGSQT and our role is to promote collaborative, effective partnerships within the watershed. This report encompasses Ciudad SWCD's programs, activities and projects that contributed to the education and stewardship of watershed health in the Middle Rio Grande Watershed, reaching 7,319 individuals this fiscal year.

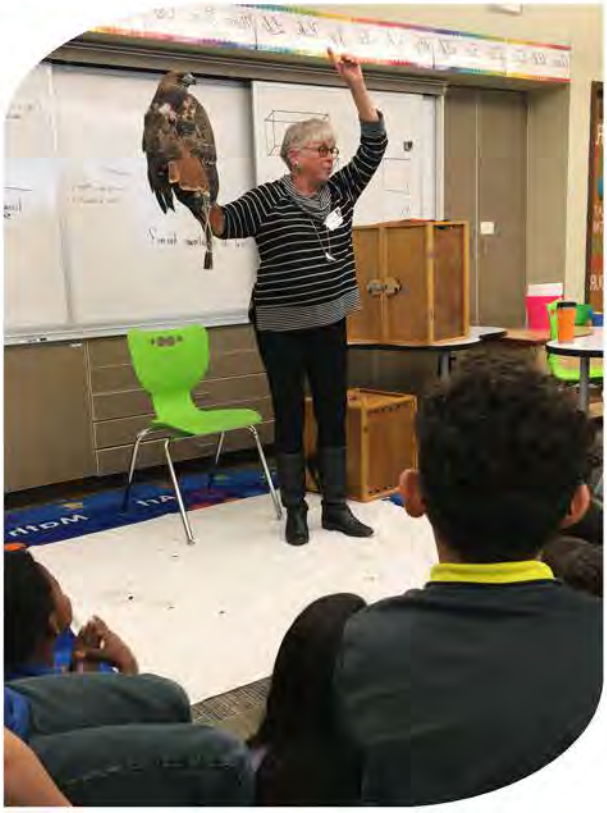
MRGSQT & SSCAFCA
FUNDED YOUTH PROGRAMS

RiverXchange®

RiverXchange® is a watershed education program for 5th graders which is comprised of guest speakers, hands-on activities and a conservation field trip with a class-led action project that incorporates the EarthForce organization's process for Environmental Action Civics. The EarthForce process is an educational approach where youth and adults work in partnership to identify a local environmental issue and engage with community members to take action by advocating for systemic changes to policies or practices. The EarthForce process aligns strongly with RiverXchange® objectives as it allows students and teachers to understand more deeply and think critically about watershed issues, while engaging a larger audience in taking action for change. RiverXchange® is appealing to teachers because it addresses many grade-level Next Generation Science Standards, social studies benchmarks, as well as Common Core Language Arts Standards and promotes project-based learning and access to outdoor learning.

Arroyo Classroom

The Arroyo Classroom program, for 3rd graders, consists of a four-part series of lessons utilizing the arroyos as outdoor classrooms. The lessons teach students about local desert plant and animal species, their physiological adaptations and their role in the environment by means of walking field trips and live wildlife visits to classrooms. All lessons include a component about conservation and arroyo safety, including discussions on ATV use, removal of pet waste, trash/debris and impacts on arroyo inhabitants and stormwater quality, set to grade-level science standards and age appropriate messages. Arroyo Classroom also supports the Next Generation Science Standards and increases access to outdoor learning.



"Students were engaged and learned a lot in the process. They felt that they actually could make a difference with their actions." -Beer, Cochiti ES, RiverXchange teacher

RIVERXCHANGE® 2023-2024

EDUCATION FOR UNDERSTANDING AND PROTECTING WATERSHED HEALTH

Executive Summary

During the 2023-2024 school year, RiverXchange® served **897** 5th grade students and **41** teachers across **13** schools, 10 of which were Title I schools. Each student engaged with a minimum of 10 hours of programming provided by Ciudad SWCD staff and partners. Classrooms who completed an action project engaged in an addition 5-10 hours of the program. Contributions from partner time, and student and adult volunteers on the conservation field trip provided a total of **$105,871.00 of in-kind match** this school year. MRSSQT provided $48,477.00 and SSCAFCA provided $22,374.00 for a total of **$70,851.00 in cash** for program coordination, bus costs, teacher stipends and materials.

41 Teachers

Teacher Professional Development

Teachers are invaluable participants in RiverXchange® and are a key audience for the program. RiverXchange® serves teachers by providing a teacher workshop that helps strengthen their own understanding of watershed health through experiencing science and project-based activities they can use in the classroom to support RiverXchange®, the Action Project, and other curriculum. Teachers learn from other teachers, partners and RiverXchange® staff at the teacher workshop and receive a stipend for attending, along with other materials and resources for their classrooms.

Post Program Teacher Feedback

Upon completion of the program, teachers are asked to fill out a survey providing feedback about the program. 27 participants responded, with overwhelmingly positive feedback. **97% of respondents said students had made meaningful connections between human actions, stormwater and pollution** with evidence such as "children [are] thinking about [the] use of various pollutants, and trying to keep things clean *'so they wouldn't get into the river'."*(Carty, Seven Bar ES)

"The greatest learning outcomes for my class as participants in RiverXchange was focusing on the **importance of water in our ecosystem**. Another **big learning outcome was to be stewards within our school community**. Many students were able to **discuss bigger issues they see towards the end of program compared to the beginning**." Martinez, Valle Vista ES

"My students are **more invested now** in taking care of the environment, protecting natural resources and **being more responsible stewards of their community**." Ortiz y Martinez, Chaparral ES

RIVERXCHANGE® CURRICULUM

EDUCATION FOR UNDERSTANDING AND PROTECTING WATERSHED HEALTH

The RiverXchange® Curriculum introduces a wide range of water resource topics with the goal of bringing awareness to their role in protecting watershed health. Within the curriculum, all *897 students engaged with grade-level appropriate lessons that covered the following required MS4 topics*:

897 Students

- PET WASTE MANAGEMENT
- PROPER DISPOSAL OF OIL, HOUSEHOLD HAZARDOUS WASTE
- PROPER DISPOSAL OF PESTICIDES, HERBICIDES AND FERTILIZERS
- IMPAIRED WATERS IN THE CITY/STATE
- WATERSHED MANAGEMENT

Presentations

Each class in RiverXchange® experienced presentations on Drinking Water, Wastewater, Stormwater and River History. Students in Rio Rancho Public schools also received an Agriculture & Water presentation.

Partners that provided these presentations are:

- Albuquerque Bernalillo County Water Utility Authority
- Sandia Labs
- City of Rio Rancho Utilities Department
- Sandoval County Cooperative Extension Services
- City of Albuquerque Open Space Division
- Ciudad Soil and Water Conservation District Board Chair, Steven Glass

303 trees planted

41 shrubs planted

Conservation Field Trip

Thanks to a long-standing partnership with City of Albuquerque Open Space Division, RiverXchange® students are able to participate in the Conservation Field Trip where they help to restore the Bosque riparian ecosystem by planting native species such as Cottonwood, Coyote Willow, Four Wing Saltbush, New Mexico Olive and seed native grasses. In addition to the **749 students** recorded in attendance across December through March this year, **112 adults** joined in the effort to steward the Bosque by learning restoration practices guided by Open Space and Ciudad SWCD staff.

RIVERXCHANGE® ACTION PROJECT

EDUCATION FOR UNDERSTANDING AND PROTECTING WATERSHED HEALTH

The RiverXchange® Action Project is a process by which students and teachers work together to determine an issue of concern, engage with stakeholders, decision-makers and community members to research their issue, and take informed action with the goal of changing or positively influencing a policy or practice to improve an environmental outcome.

Criteria for Action Projects to be submitted for an award:

- Student Voice and Participation
- Practicality
- Civic Engagement

4,471

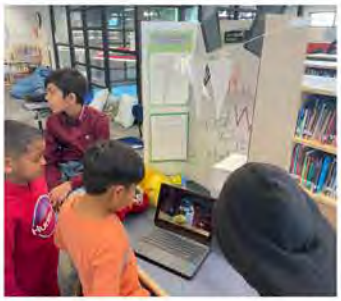
individuals impacted by action projects

News reports are a great tool to share student voices with other classes on campus!

Action Project Submissions

14 classes officially submitted their Action Projects for the reward of a pizza party, however, more teachers reported doing an Action Project in the teacher feedback. Of those who submitted, the projects varied from campus clean-ups, trash to treasure campaigns, water conservation campaigns, the creation of bilingual resources, and public service announcements. In total, teachers reported reaching 4,471 individuals through their projects, mostly from school-wide efforts by RiverXchange® students to educate others and change community practices such as littering. A few examples of the amazing RiverXchange® students are shared here!

STUDENTS INVESTIGATE ISSUES AND USE THEIR VOICE TO SHARE THEIR KNOWLEDGE



Shown above are students who investigated the Villain of the Water Supply by doing literature research, talking to experts, and then presented their findings in an exhibition with over 50 members of community, families, and school admin in attendance. Each presentation included a proposed solution or action to take to address their issue of concern, like adding more "grates" to storm drains to filter out trash (above right).

"'Dear Person in Power, We believe that litter is a villain to Albuquerque's water supply. Are you aware of the litter in Albuquerque, New Mexico's water supply. Litter is poisoning the water supply. What goes into the storm drain goes into the Rio Grande River. When trash and dog poop and other things go in the storm drain all of that goes into the River."
-Excerpt of student letter from "Villian" exhibition

STUDENTS CREATE INVENTIVE WAYS TO ENGAGE PEERS IN THEIR CAMPAIGNS FOR CHANGE - "TRASH TO TREASURE"

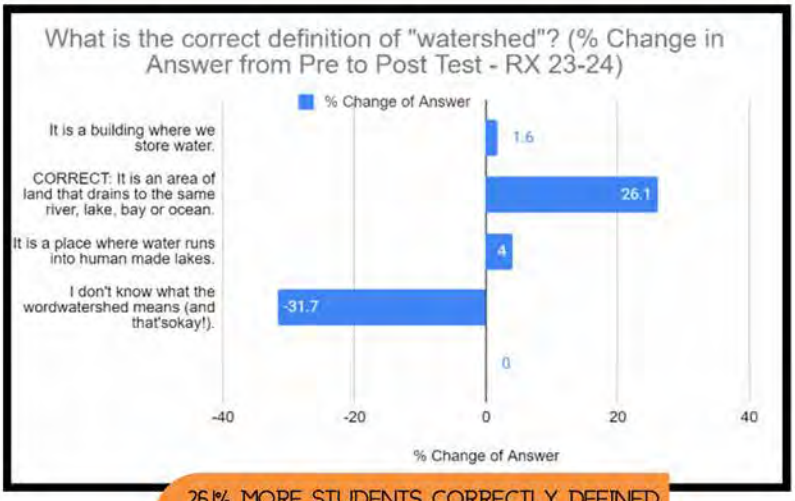
Pictured to the left are students who completed the action project process by completing a campus walk to identify environmental issues, talked with teachers and admin about concerns, selected litter as their issue, developed a plan to reduce litter, conducted a school survey to determine effective methods for change and created a Trash to Treasure recycling program to encourage recycling and teach about the impacts of litter!

RIVERXCHANGE®

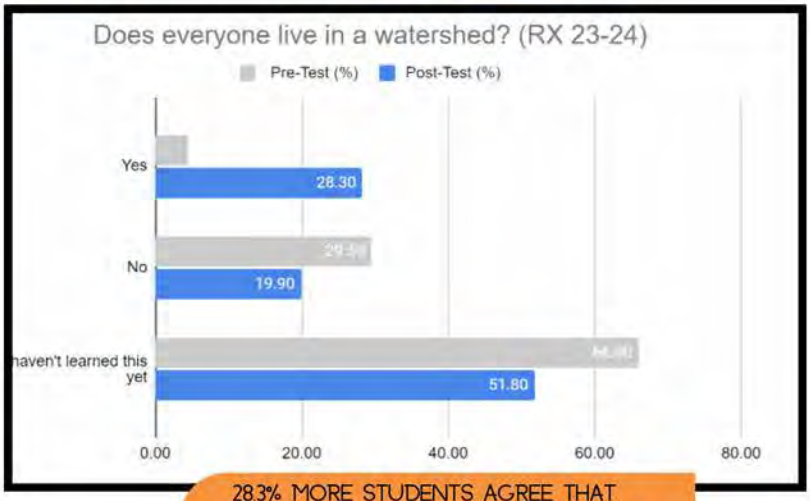
EDUCATION FOR UNDERSTANDING AND PROTECTING WATERSHED HEALTH

Program Evaluation

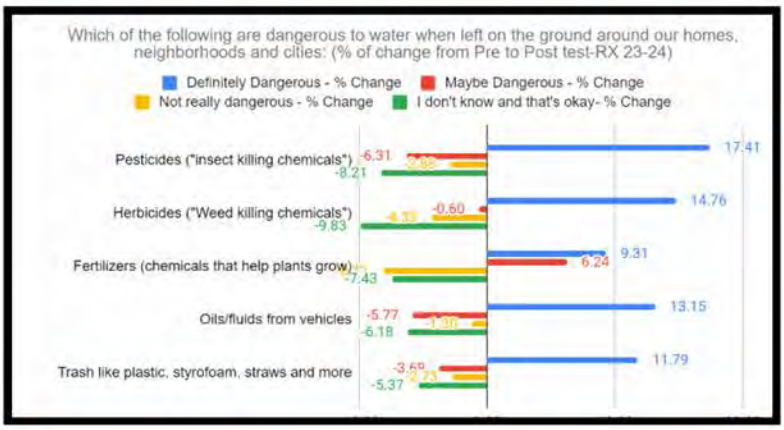
Qualitative evaluation of the program is compiled via teacher feedback through short answer questions, which concludes that the program was successful in helping students make connections between their actions, stormwater and watershed health and that the program was a positive experience for teachers. Quantitative evaluation is conducted through pre and post student surveys. The metrics of these surveys demonstrate a positive percentage change of correctly identifying the definition of a watershed and the impacts of pollution on water quality (i.e. pet waste, pesticides, herbicides, fertilizers, oils, and trash). 732 students completed the pre-survey and 492 students completed the post-survey.



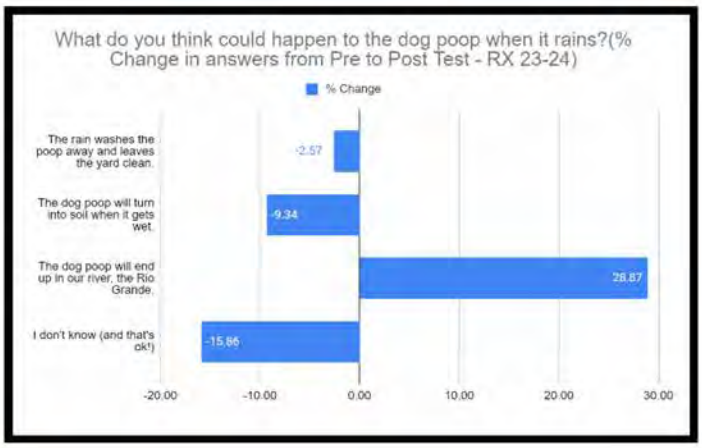
26.1% MORE STUDENTS CORRECTLY DEFINED "WATERSHED" AFTER THE PROGRAM



28.3% MORE STUDENTS AGREE THAT EVERYONE LIVES IN A WATERSHED AFTER THE PROGRAM



APPROXIMATELY 10%-20% MORE STUDENTS IDENTIFY THE ABOVE MS4 TOPICS AS DANGEROUS TO WATER AFTER THE PROGRAM



28.87% MORE STUDENTS IDENTIFY THAT DOG WASTE CAN END UP IN THE RIVER AFTER THE PROGRAM

ARROYO CLASSROOM 2023-2024

LOCAL WILDLIFE, HABITAT & ARROYO EDUCATION

Executive Summary

During the 2023-2024 school year, Arroyo Classroom served 715 3rd grade students and 36 teachers across 7 schools in Rio Rancho, 5 of which were Title I schools. Each student engaged in 4 hours of programming provided by Ciudad SWCD staff and contractors. SSCAFCA provided a total of **$30,800.00 in cash** for program coordination and delivery and a contract with Hawks Aloft Inc. for live wildlife presentations. Within the curriculum, *all 715 students engaged with grade level appropriate lessons that covered the following required MS4 topics*:

715 Students

- PET WASTE MANAGEMENT
- PROPER DISPOSAL OF PESTICIDES, HERBICIDES AND FERTILIZERS
- IMPAIRED WATERS IN THE CITY/STATE
- WATERSHED MANAGEMENT

Presentations

Arroyo Walk

The Arroyo Walk takes students out into the field to look for evidence of wildlife such as tracks, scat, exoskeletons and of course- live animals! Students also do plant adaptation investigations through sensory observations of plants. Throughout the walk, students naturally make observations of pollution and human impacts in the environment and discussions about ways to improve the environment through our own actions always take place. (Middle and top right images above)

Local Reptiles and Arthropods

Much like the bird presentation, the reptile and arthropod presentation introduces students to these local creatures, their key roles in the ecosystem and educates students about the importance to protect organisms who are often misunderstood, feared and considered pests. The presentation also focuses on how pollution and human behaviors can impact the habitat in which these creatures rely on to survive.(Bottom left image)

Local Birds

Hawks Aloft Inc. brings a wonderful experience to students with a visit of educational avian ambassadors to the classroom. Some of the birds that visit are: (depending on availability and cultural sensitivities) American Kestrels, Peregrine Falcons, Swansons Hawks, Burrowing Owls, Great Horned Owls or Turkey Vultures. Hawks Aloft help students understand how pollution and human behaviors can impact these birds and what they can do to protect these wonderful creatures. (Bottom right image)

Watershed Lesson

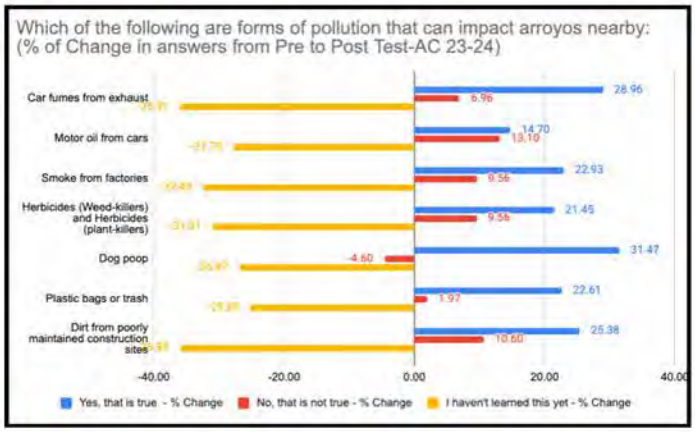
The watershed lesson help students build an understanding of how the water cycle interacts with the land. Working in groups, students use paper to mimic topography of the land and make it rain to see how water gathers in lakes and rivers. They they mimic adding pollution to the watershed to see where it ends up! (Top left image above)

ARROYO CLASSROOM 2023-2024

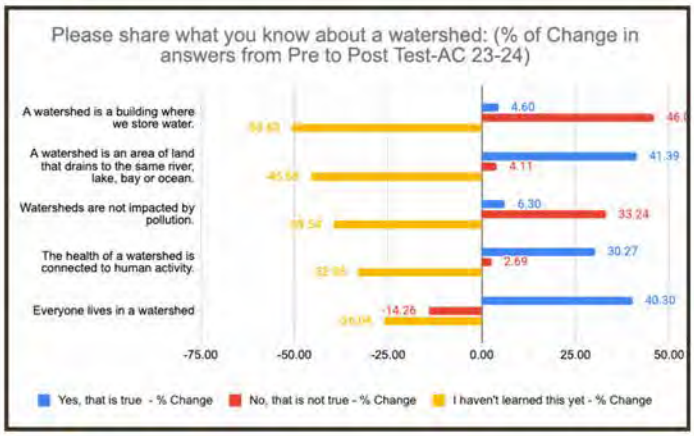
LOCAL WILDLIFE, HABITAT & ARROYO EDUCATION

Program Evaluation

Qualitative evaluation of the program is compiled via teacher feedback (13 respondents) through short answer questions, which concludes that the program was successful in helping students make connections between their actions and impacts on local wildlife and their habitats (arroyos). Teachers also note this program helps them meet 3rd grade science standards. Quantitative evaluation is conducted through pre and post student surveys. The metrics of these surveys demonstrate a positive percentage change of correctly identifying the the impacts of pollution on the arroyo habitat and watershed (i.e. pet waste, pesticides, herbicides, fertilizers, oils, and trash). Additionally, students demonstrate growth in understanding arroyo safety. 481 students completed the pre-survey and 422 students completed the post-survey.



STUDENTS DEMONSTRATE AN INCREASE RANGING BETWEEN 15%-31% IN CORRECTLY IDENTIFYING COMMON POLLUTANTS IN THE LOCAL ENVIRONMENTAL



STUDENTS DEMONSTRATE AN INCREASE OF 30%-46% IN CORRECTLY UNDERSTANDING WATERSHED HEALTH CONCEPTS

APPROXIMATELY 30% MORE STUDENTS MADE AN IMPORTANT DISTINCTION THAT FLASH FLOODS HAPPEN IN ARROYOS AND CONCRETE ARROYOS ARE NEVER SAFE.

Post Program Teacher Feedback Quotes

What where the greatest learning outcomes for your class?

"They were fully engaged in the material and learning experiences, and retained that information. They really enjoyed learning about watersheds and were able to actively discuss topics concerning watersheds and our environment throughout the year." -Reed, Colinas Del Norte ES

"The students absolutely loved it, and gained new knowledge about outdoor observations. It also was a great prequel to our ecology unit later in the year!" - Schnittke, Sandia Vista ES

Students learning, applying and sharing their experiences with family." - Begay, Maggie Cordova ES

"Appreciating our environment and influencing them to respect arroyos and desert plants and environment." - Burns, Cielo Azul ES

2023-2024
CIUDAD SWCD EDUCATION PROGRAMS
(GRANTS FROM OTHER FUNDERS)

Watershed Stewards

- Funding Provided by SSCAFCA, considered on a fiscal year basis.
- Objective: Local Conservation Education for Adult and Senior Citizens with a focus on MS4 topics.

Sponge City Middle and High School Stewardship Program

- Funding Provided by NM Soil and Water Conservation Commision via the Water Quality and Conservation Grant FY2024.
- Objective: Green Stormwater Infrastructure Education Program that aims to inspire students to visualize and implement GSI on their school campus.

Rolling River

- Funding provided by intergovernmental agreements with City of Albuquerque Open Space and Bernalillo County Open Space, and direct booking fees.
- Objective: The Rolling River is a mobile model of a watershed where we demonstrate MS4 topics to the public at school, community and other public events.

APS School Garden Conference

- Funding provided through an EPA subaward through the Bosque Ecosystem Monitoring Program.
- Objective: Support teacher professional development in watershed education.

WATERSHED STEWARDS 2023-2024

CONSERVATION EDUCATION FOR ADULTS AND SENIORS

Executive Summary

During the 2023-2024 fiscal year, the Watershed Stewards program engaged 267 participants in education and outreach opportunities across 19 events and certified 12 residences as an ABQ Backyard Refuge. The program's events were primarily held in the Rio Rancho area and Corrales, but also included field trips to the ABQ BioPark with Meadowlark Senior Center. The program benefited greatly this year from increased collaboration between Keep Rio Rancho Beautiful (under City of Rio Rancho Parks, Recreation and Community Services department), City of Rio Rancho Public Libraries, Sandoval County Master Gardeners, Ciudad SWCDs contract with ABQ Backyard Refuge (a program of Valle De Oro National Wildlife Refuge) and support from Rio Grande Return and other subject matter experts. Working with these partners to engage audiences in SSCAFCA's jurisdictional boundaries has proven to be beneficial in developing a program that truly encourages stewardship through education, training and community engagement.

Program Highlights

Ciudad SWCD chose to contract directly with ABQ Backyard Refuge for the program this year, as past years of hosting ABQ Backyard Refuge for Watershed Stewards programming demonstrated how an program like Backyard Refuge provides an anchor for residents to learn about how to implement voluntary conservation practices at home. By working with ABQ Backyard Refuge, we were able to provide a diverse set of learning opportunities with a clear goal; to increase ABQ Backyard Refuge certifications within SSCAFCA's boundaries. Presentations ranged from native plant selection and care, designing a backyard refuge, local wildlife, adapting to climate change, tree care and pruning, and rainwater harvesting. Regardless of the presentation or field trip, Ciudad SWCD, ABQ Backyard Refuge and Keep Rio Rancho Beautiful consistently promote awareness of MS4 topics and provide resources and opportunities to implement conservation practices that benefit the watershed.

SOUTHERN SANDOVAL COUNTY ARROYO FLOOD CONTROL AUTHORITY

267 participants

12 certified backyard wildlife refuges

- PET WASTE MANAGEMENT
- PROPER DISPOSAL OF OIL, HOUSEHOLD HAZARDOUS WASTE
- PROPER DISPOSAL OF PESTICIDES, HERBICIDES AND FERTILIZERS
- IMPAIRED WATERS IN THE CITY/STATE
- WATERSHED MANAGEMENT

PARTNERS:

RioRancho
Keep Rio Rancho Beautiful
KEEP AMERICA BEAUTIFUL AFFILIATE

ABQ Backyard Refuge Program

SPONGE CITY 2023-2024

MIDDLE AND HIGH SCHOOL STEWARDSHIP PROGRAM

35 students

Executive Summary

The Sponge City Program aimed to work with middle and high school students to promote an understanding of watershed health and the use of rainwater harvesting in an urban environment as a design approach to improve watershed health. The program was delivered across 3 visits with each participating class: an introductory classroom lesson, a field trip to an important watershed feature, and a walking field trip in the urban environment. Two classes participated; one 8th grade gardening class from Mountain Mahogany and a 9th-12th grade permaculture class from Amy Biehl, for a total of 35 students. To ensure student engagement, the program was tailored to each class's needs. The 8th graders focused more on campus stewardship by implementing soil sponges and berms. The Amy Biehl class was able to complete a design proposal for an outdoor green space that included rainwater harvesting features. Each class was able to participate in stewardship activities, either at their school or a restoration site.

AMY BIEHL CHARTER HS

Top images across are from field trips to the Tijeras Bio-Zone Education Center, where students practiced building one rock dams and soil sponges while learning about watersheds. Pictured left and below are student working on and presenting their green space designs.

The Amy Biehl green space project aims to build an outdoor classroom, gardens, and rainwater harvesting features around the school that would replace concrete with permeable surfaces and tree canopy and tie into a GSI street project on Gold Ave. More funding is needed for the next phase.

MOUNTAIN MAHOGANY COMMUNITY SCHOOL

Pictured left, students build soil sponges. Pictured below is small basin students dug out and filled with "sponge" materials to capture and absorb rainwater from a downspout for a Mountain Mahogany.

Sponsored by:

STATE OF NEW MEXICO
NEW MEXICO SOIL & WATER CONSERVATION DEPARTMENT OF AGRICULTURE

- PET WASTE MANAGEMENT
- PROPER DISPOSAL OF OIL, HOUSEHOLD HAZARDOUS WASTE
- PROPER DISPOSAL OF PESTICIDES, HERBICIDES AND FERTILIZERS
- IMPAIRED WATERS IN THE CITY/STATE
- WATERSHED MANAGEMENT

ROLLING RIVER 2023-2024
MOBILE WATERSHED MODEL

880 VISITORS
12 EVENTS

The Rolling River is a mobile watershed education trailer that provides a hands-on opportunity for the public to observe and manipulate how how human impacts, like urban development and pollution, can create impaired waters in the Rio Grande.

Participants are asked to develop the natural watershed with farms, neighborhoods, and impervious surfaces, like paved parking lots and streets. They then "make it rain" on the watershed to see what happens to the water. Finally, we discuss how we can protect the watershed through conservation practices that prevent pollution of stormwater and water waste to improve water quality, wildlife habitat and protection of resources.

- PET WASTE MANAGEMENT
- PROPER DISPOSAL OF OIL, HOUSEHOLD HAZARDOUS WASTE
- PROPER DISPOSAL OF PESTICIDES, HERBICIDES AND FERTILIZERS
- IMPAIRED WATERS IN THE CITY/STATE
- WATERSHED MANAGEMENT

APS GARDEN CONFERENCE

Ciudad SWCD was able to support the APS School Garden this year thanks to a sub-award from BEMP's EE EPA grant. Ciudad SWCD helped to coordinate the conference and provided a Rainwater Harvesting presentation to 20 teachers, focused on the passive rainwater harvesting opportunities on school campuses to both teach about, and improve, watershed health in our city. Across the conference, 54 teachers engaged with outdoor learning practices, science curriculum, and local traditional ecological knowledge. Teachers also received garden materials and resources, and Ciudad SWCD was able to provide presenters with honorariums for their attendance with the sub- award.

54 TEACHERS
2 DAYS

ACKNOWLEDGEMENTS

Ciudad SWCD acknowledges the important contributions of the following organizations, municipalities and individuals who supported the outreach completed this year. Without these partnerships, we could not do what we do so effectively. We are endlessly grateful for our communities' support to educate about, and protect the Middle Rio Grande Watershed.

City of Albuquerque Open Space Division
Bernalillo County Open Space Division
Bernalillo County Natural Resource Services
City of Rio Rancho Parks, Recreation and Community Services
Keep Rio Rancho Beautiful
City of Rio Rancho Utilities Department
Albuquerque Bernalillo County Water Utility Authority
Sandia National Laboratories
Hawks Aloft Inc.
BEMP
Valle de Oro National Wildlife Refuge
Laurel Ladwig, Albuquerque Backyard Refuge Program
Shelby Stimson, Arid LID Coalition
Cameron Weber, Rio Grande Return
Judith Phillips, Design Oasis
Hunter Ten Broeck, WaterWise Landscapes Inc.
Mario Nuño-Whelan, Arid LID Coaltion
Joran Viers, JVHC Inc.
Mikal Deese, On a Wing and A Prayer
Corva Rose, Tree School NM
Nissa Patterson, Mountain Mahogany Community School
Sandra Mack, Amy Biehl Charter High School
Allison Martin, TOTAL NM
Susan Schipull, APS Garden Resources
Travis McKenzie, APS Polk MS

Sponsored by:

Mid Rio Grande Stormwater Quality Team
www.keeptheriograndg.org

Southern Sandoval County Arroyo Flood Control Authority

Ciudad SWCD Contacts

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THERESA ARAGON, EDUCATION COORDINATOR
theresa@ciudadswcd.org

Ciudad Soil & Water Conservation District

CIUDAD SOIL & WATER CONSERVATION DISTRICT
PO BOX PO Box 93463, Albuquerque, NM 87199

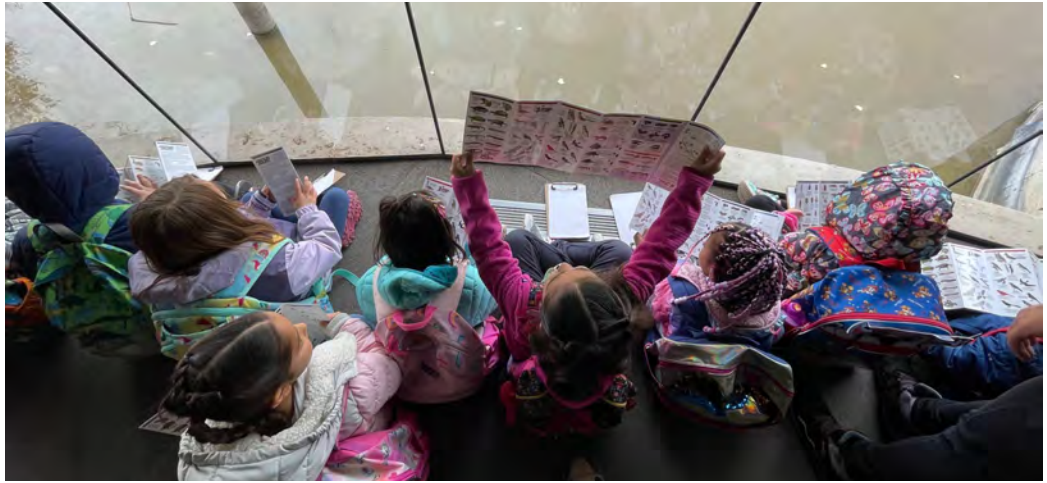
2023 - 2024 STORMWATER SCIENCE

BEMP • Zoe Wadkins Daniels
Education Director

Mid Rio Grande Stormwater Quality Team

BEMP
Bosque Ecosystem Monitoring Program

"Students have gained skills in working with new people, adults and children, and they have gained an understanding of river systems and human impacts on those systems." - Coyote Willow Family School Teacher



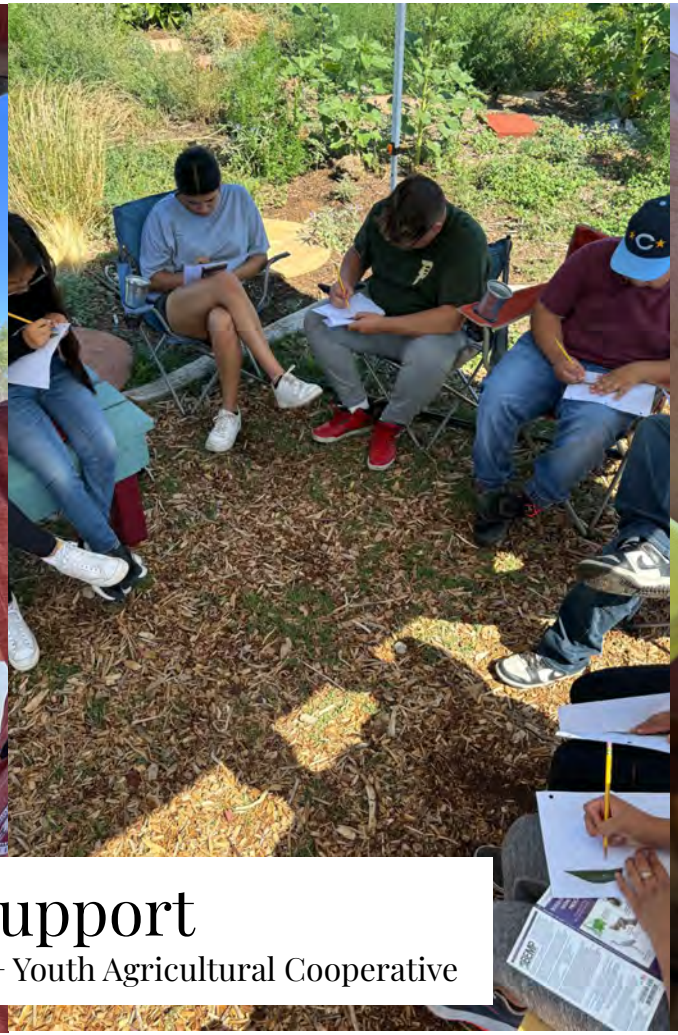
16,395 students.
63 schools and community organizations.
389 hours of education.

In-person & Synchronous Learning

4,140 students

Monthly Monitoring

Study Trips

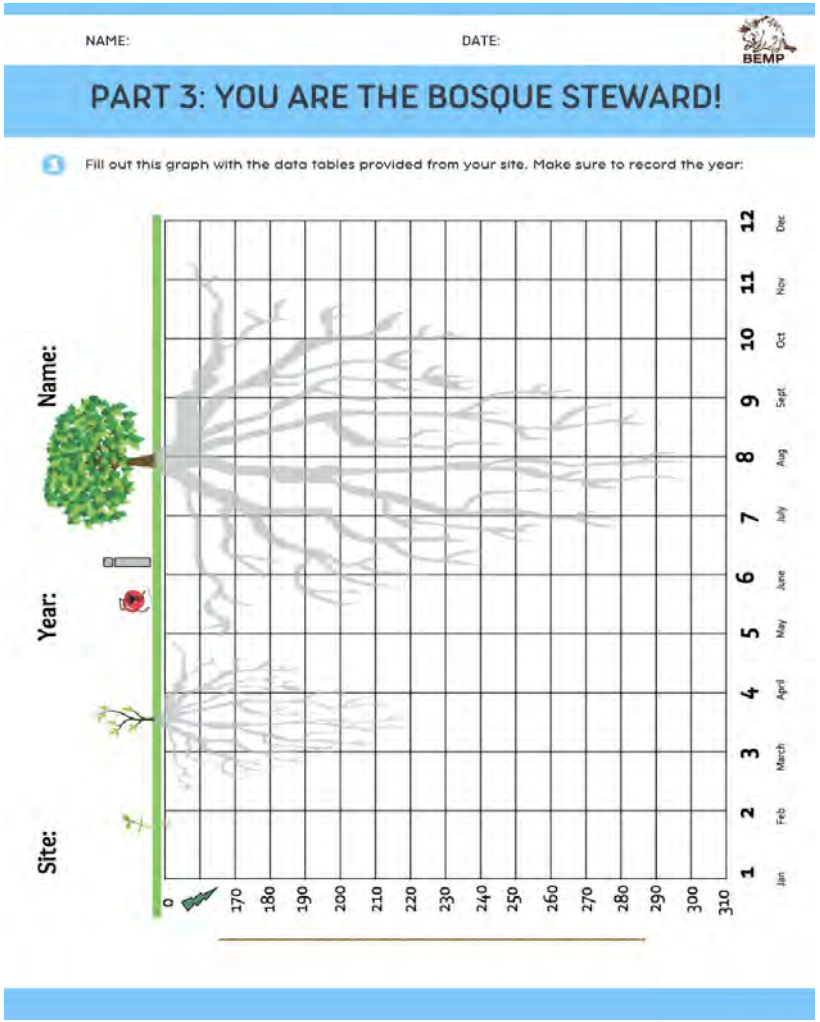


Summer Learning Support

Horizons ABQ + Project Feed the Hood + Youth Agricultural Cooperative

New Lessons

7th grade program



NAME: DATE:

BEMP

PART 3: YOU ARE THE BOSQUE STEWARD!

1. Fill out this graph with the data tables provided from your site. Make sure to record the year:

Name:

Year:

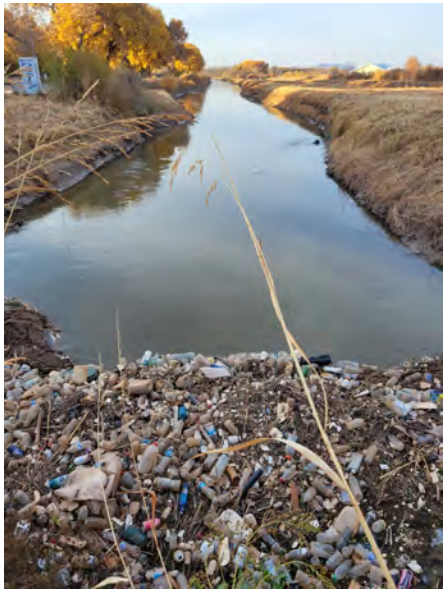
Site:

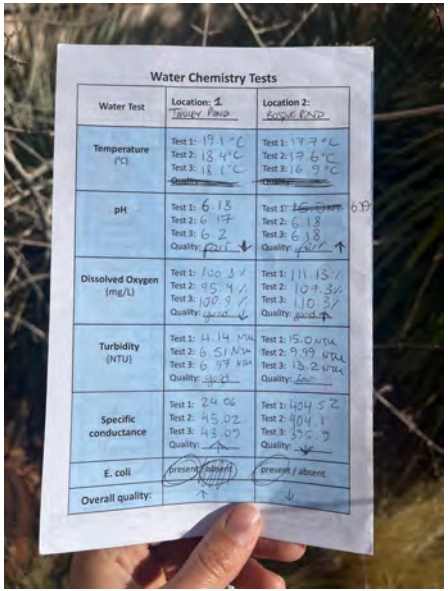
1	2	3	4	5	6	7	8	9	10	11	12
Jan	Feb	March	April	May	June	July	Aug	Sept.	Oct	Nov	Dec

0	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310

IN THEIR OWN WORDS...

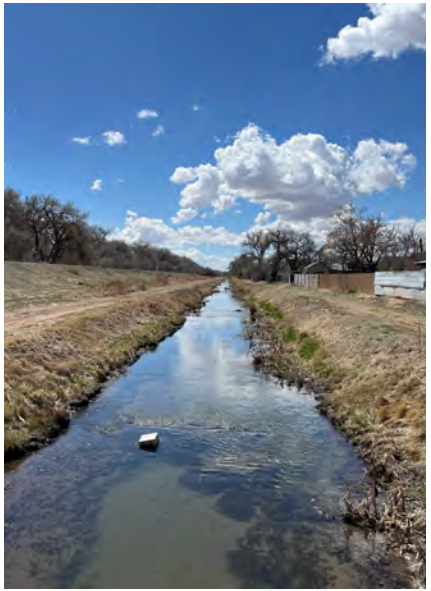
“I’m humbled to count myself as one of Cliff’s many cottonwood saplings along the vegetation transect line of BEMP’s history – a datapoint that serves as a constant reminder of the importance of local action in the global fight for environmental justice. The spirit of a BEMP alumni is a champion for the Middle Rio Grande, its students, and all the plants and animals – humans, coyotes, the Rio Grande Silvery Minnow, and many more - that depend on its waters for life.” - BEMP Alumnus and volunteer.





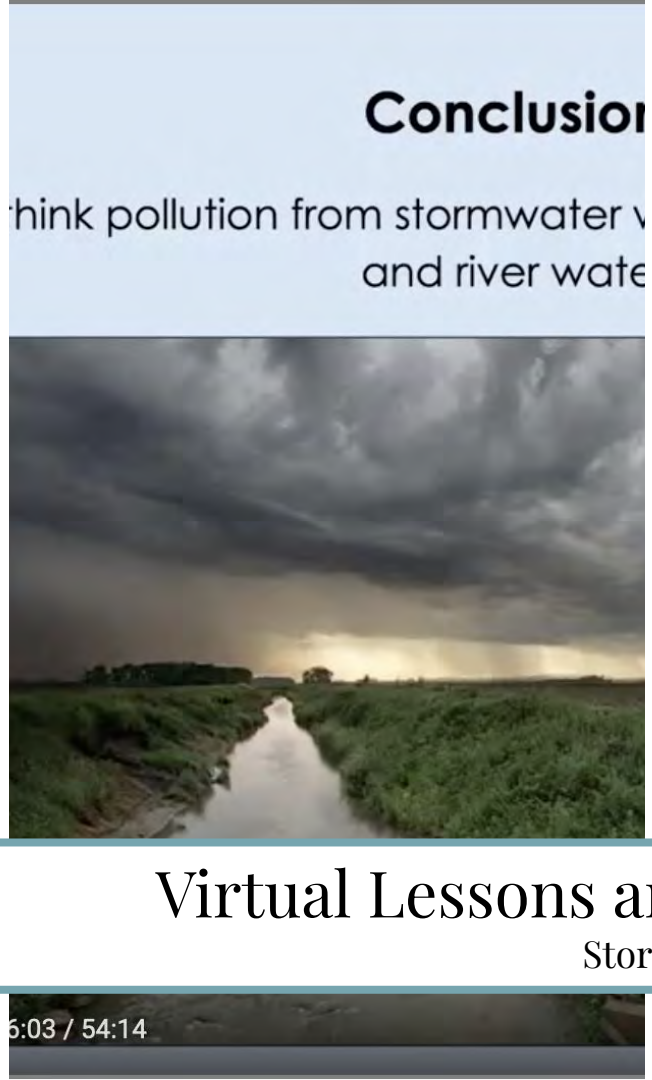
Water Chemistry Tests

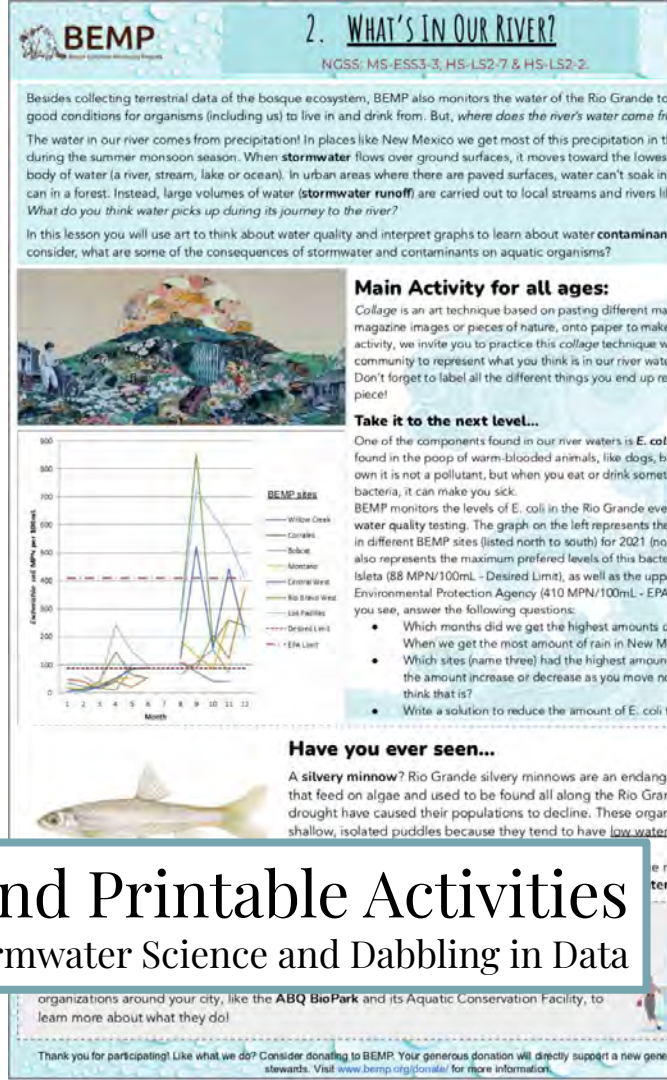
Water Test	Location: 1 TAYLOR POND	Location 2: RIDGE POND
Temperature (°C)	Test 1: 19.1°C Test 2: 18.4°C Test 3: 18.1°C Quality:	Test 1: 17.7°C Test 2: 17.6°C Test 3: 16.9°C Quality:
pH	Test 1: 6.13 Test 2: 6.17 Test 3: 6.2 Quality: poor	Test 1: [illegible] 6.9 Test 2: 6.18 Test 3: 6.18 Quality: poor
Dissolved Oxygen (mg/L)	Test 1: 100.3% Test 2: 95.4% Test 3: 100.9% Quality: good	Test 1: 111.13% Test 2: 109.3% Test 3: 110.5% Quality: good
Turbidity (NTU)	Test 1: 4.14 NTU Test 2: 6.51 NTU Test 3: 6.97 NTU Quality: poor	Test 1: 15.0 NTU Test 2: 9.99 NTU Test 3: 13.2 NTU Quality: low
Specific conductance	Test 1: 24.06 Test 2: 45.02 Test 3: 43.09 Quality:	Test 1: 404.52 Test 2: 404.1 Test 3: 392.7 Quality:
E. coli	present / absent	present / absent
Overall quality:		



Asynchronous Learning

11,600 students served





Virtual Lessons and Printable Activities

Stormwater Science and Dabbling in Data

Social Media and Youtube Videos

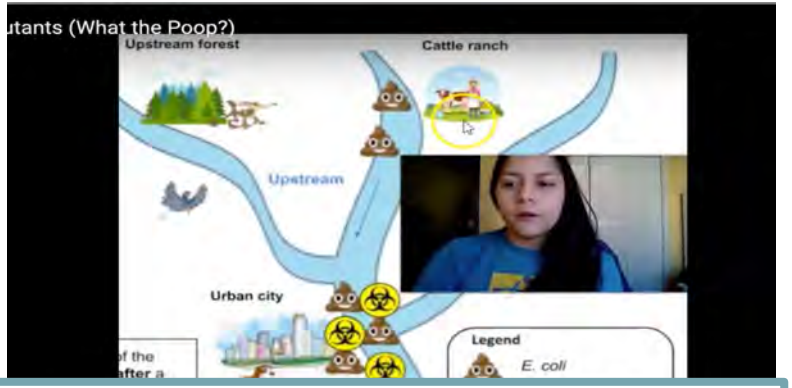
127,486 Reaches

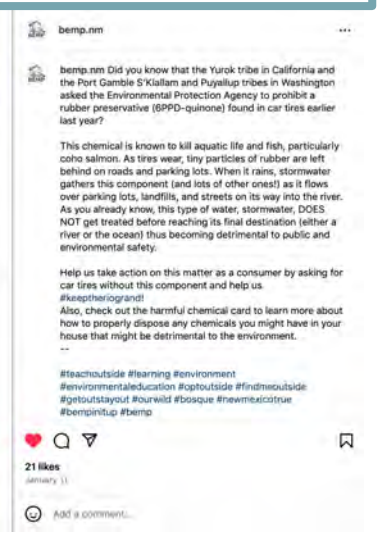
Background Information

For this project we did tap water vs stormwater and how it affects the plants. We decided to do this because we were curious on how the plants Would react to stormwater, and if it will drastically change how to plant grows.

Para este proyecto analizamos el agua del grifo versus el agua de lluvia y

plantas al agua de lluvia y si cambiaría drásticamente la forma de crecer las plantas.



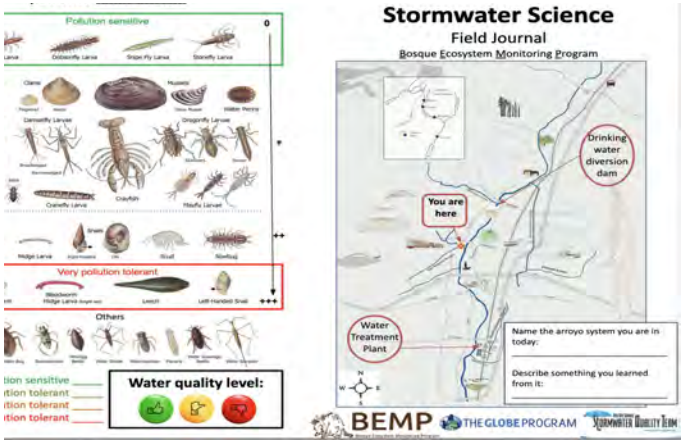


Events

Children's Water Festival, Luquillo-Sevilleta Virtual Symposium & Crawford Symposium - 655 participants

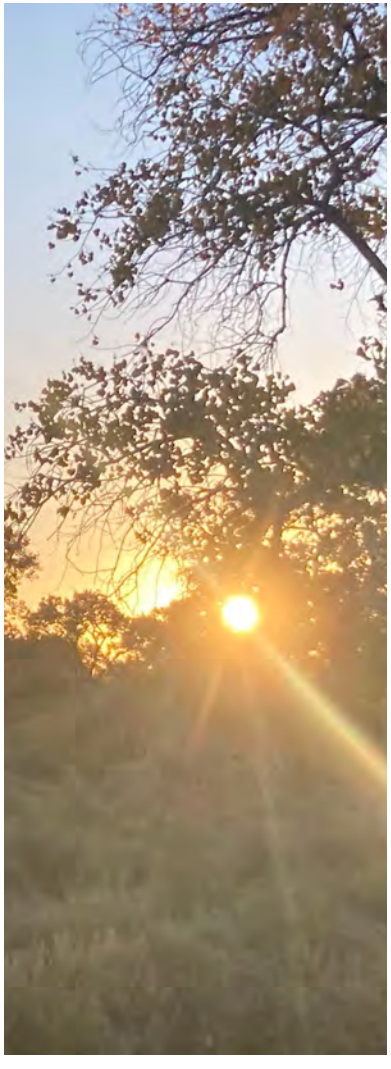
Watershed Education Collaboration Group

Connect our community by providing equitable access to watershed health *principles* and *education* by increasing awareness, scaffolding student learning and creating meaningful experiences to inspire a future generation.



Teacher Workshop Collaboration

Environmental Justice Community Days



Future movement 2024-2025:

Strengthen **relationships** with Title I schools.

Continue to provide both remote and in-person **learning experiences** to best fit all audiences.

Continue to provide **Stormwater Science concepts** during our Monthly Monitoring collections.

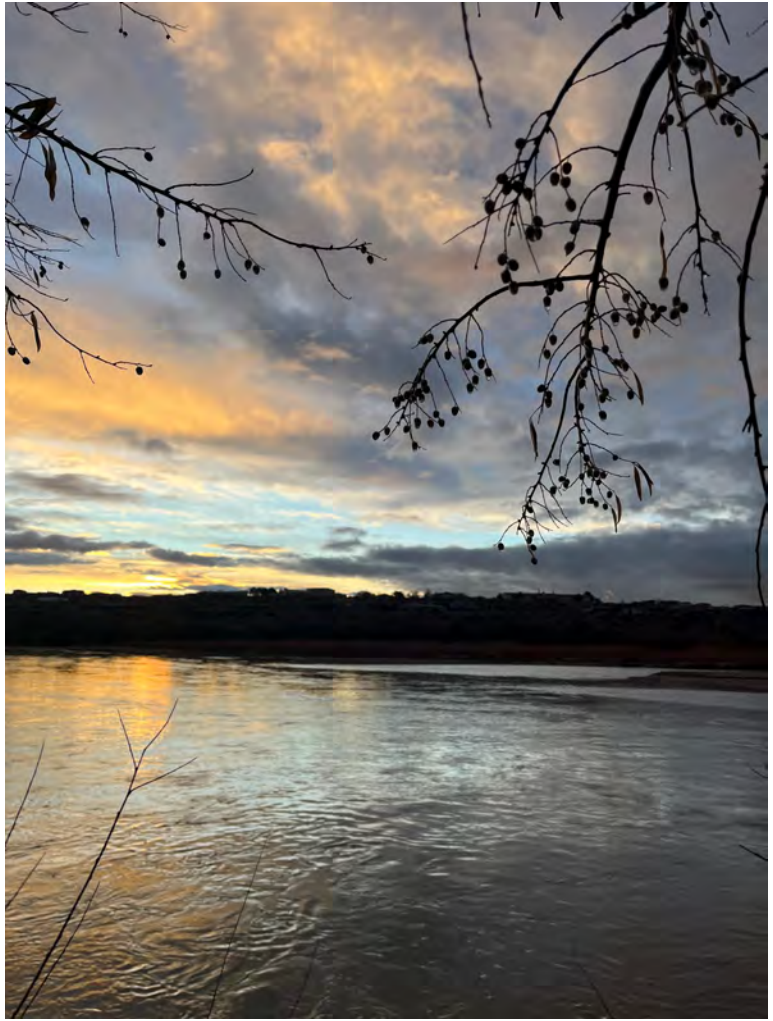
Expand Stormwater Science concepts to other lessons, especially our 7th grade program.

Expand our web of influence and focus on **community science** and **stewardship** components through collaboration with other organizations.

Strengthen **collaborations** with other organizations, reinforcing a water focus.

Offer **field work**, **data analysis**, and **public speaking** experience for students.

Continue to **increase accessibility** with Spanish translations.



THANK YOU!

BEMP PROPOSED BUDGET for FY25

Partial funding of BEMP Educator/Biologist staff (curriculum development, prep, program delivery in classroom, field, summer, and monthly monitoring)	**$25,500**
Partial funding of BEMP Education Manager staff for program oversight education outreach events (planning and coordination)	**$3,240**
Transportation costs for student participation in field study trips and outreach events, including translation costs & expenses for virtual materials	**$4,500**
Program materials (e.g., water testing kits, printing, poster boards)	**$500**
Administrative overhead costs at 18% of above total	**$6,073.2**
	TOTAL · $39,813.2

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Matthew Leister
Bosque Ecosystem Monitoring Program
1 University of New Mexico
Albuquerque, New Mexico 87106

Generated 6/24/2024 10:56:16 AM

JOB DESCRIPTION

BEMP

JOB NUMBER

885-6670-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

myEOL

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization

Generated
6/24/2024 10:56:16 AM

Authorized for release by
Colleen McNamara, Project Manager
colleen.McNamara@et.eurofinsus.com
(505)345-3975

Table of Contents

Definitions/Glossary

Client: Bosque Ecosystem Monitoring Program
Project/Site: BEMP

Job ID: 885-6670-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 885-6670-1 — Eurofins Albuquerque

Job Narrative
885-6670-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 6/20/2024 3:40 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 13.8°C.

Receipt Exceptions
The Field Sampler was not listed on the Chain of Custody.

Biology
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Bosque Ecosystem Monitoring Program
Project/Site: BEMP

Job ID: 885-6670-1

Client Sample ID: Willow Creek

Date Collected: 06/20/24 10:12
Date Received: 06/20/24 15:40

Lab Sample ID: 885-6670-1

Matrix: Water

Method: SM 9223B - Coliforms, Total, and E.Coll (Colilert - Quanti Tray)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Escherichia coli	ND		10.0		MPN/100mL			06/20/24 17:04	1

Client Sample Results

Client: Bosque Ecosystem Monitoring Program
Project/Site: BEMP

Job ID: 885-6670-1

Client Sample ID: Corrales

Date Collected: 06/20/24 11:16
Date Received: 06/20/24 15:40

Lab Sample ID: 885-6670-2

Matrix: Water

Method: SM 9223B - Coliforms, Total, and E.Coll (Colilert - Quanti Tray)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Escherichia coli	63.0		10.0		MPN/100mL			06/20/24 17:04	1

Client Sample Results

Client: Bosque Ecosystem Monitoring Program
Project/Site: BEMP

Job ID: 885-6670-1

Client Sample ID: Bobcat

Date Collected: 06/20/24 11:54
Date Received: 06/20/24 15:40

Lab Sample ID: 885-6670-3

Matrix: Water

Method: SM 9223B - Coliforms, Total, and E.Coll (Colilert - Quanti Tray)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Escherichia coli	30.0		10.0		MPN/100mL			06/20/24 17:04	1

Client Sample Results

Client: Bosque Ecosystem Monitoring Program
Project/Site: BEMP

Job ID: 885-6670-1

Client Sample ID: Montano

Date Collected: 06/20/24 12:39
Date Received: 06/20/24 15:40

Lab Sample ID: 885-6670-4

Matrix: Water

Method: SM 9223B - Coliforms, Total, and E.Coll (Colilert - Quanti Tray)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Escherichia coli	52.0		10.0		MPN/100mL			06/20/24 17:04	1

Client Sample Results

Client: Bosque Ecosystem Monitoring Program
Project/Site: BEMP

Job ID: 885-6670-1

Client Sample ID: Central West

Date Collected: 06/20/24 13:35
Date Received: 06/20/24 15:40

Lab Sample ID: 885-6670-5

Matrix: Water

Method: SM 9223B - Coliforms, Total, and E.Coli (Colilert - Quanti Tray)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Escherichia coli	134.0		10.0		MPN/100mL			06/20/24 17:04	1

Client Sample Results

Client: Bosque Ecosystem Monitoring Program
Project/Site: BEMP

Job ID: 885-6670-1

Client Sample ID: Rio Bravo West

Date Collected: 06/20/24 14:14
Date Received: 06/20/24 15:40

Lab Sample ID: 885-6670-6

Matrix: Water

Method: SM 9223B - Coliforms, Total, and E.Coll (Colilert - Quanti Tray)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Escherichia coli	161.0		10.0		MPN/100mL			06/20/24 17:04	1

Client Sample Results

Client: Bosque Ecosystem Monitoring Program
Project/Site: BEMP

Job ID: 885-6670-1

Client Sample ID: Los Padillas

Date Collected: 06/20/24 14:47
Date Received: 06/20/24 15:40

Lab Sample ID: 885-6670-7

Matrix: Water

Method: SM 9223B - Coliforms, Total, and E.Coll (Colilert - Quanti Tray)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Escherichia coli	305.0		10.0		MPN/100mL			06/20/24 17:04	1

Client: Bosque Ecosystem Monitoring Program
Project/Site: BEMP

Job ID: 885-6670-1

Client Sample ID: Blank
Date Collected: 06/20/24 15:00
Date Received: 06/20/24 15:40

Lab Sample ID: 885-6670-8
Matrix: Water

Method: SM 9223B - Coliforms, Total, and E.Coll (Colilert - Quanti Tray)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Escherichia coli	ND		1.0		MPN/100mL			06/20/24 17:04	1

Client: Bosque Ecosystem Monitoring Program
Project/Site: BEMP

Job ID: 885-6670-1

Method: 9223B - Coliforms, Total, and E.Coll (Colilert - Quanti Tray)

Lab Sample ID: MB 885-7126/1
Matrix: Water
Analysis Batch: 7126

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Escherichia coli	ND		1.0		MPN/100mL			06/20/24 17:04	1

QC Association Summary

Client: Bosque Ecosystem Monitoring Program
Project/Site: BEMP

Job ID: 885-6670-1

Biology

Analysis Batch: 7126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6670-1	Willow Creek	Total/NA	Water	9223B	
885-6670-2	Corrales	Total/NA	Water	9223B	
885-6670-3	Bobcat	Total/NA	Water	9223B	
885-6670-4	Montano	Total/NA	Water	9223B	
885-6670-5	Central West	Total/NA	Water	9223B	
885-6670-6	Rio Bravo West	Total/NA	Water	9223B	
885-6670-7	Los Padillas	Total/NA	Water	9223B	
885-6670-8	Blank	Total/NA	Water	9223B	
MB 885-7126/1	Method Blank	Total/NA	Water	9223B	

Lab Chronicle

Client: Bosque Ecosystem Monitoring Program
Project/Site: BEMP

Job ID: 885-6670-1

Client Sample ID: Willow Creek
Lab Sample ID: 885-6670-1
Date Collected: 06/20/24 10:12
Matrix: Water
Date Received: 06/20/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9223B		1	7126	SS	EET ALB	06/20/24 17:04

Client Sample ID: Corrales
Lab Sample ID: 885-6670-2
Date Collected: 06/20/24 11:16
Matrix: Water
Date Received: 06/20/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9223B		1	7126	SS	EET ALB	06/20/24 17:04

Client Sample ID: Bobcat
Lab Sample ID: 885-6670-3
Date Collected: 06/20/24 11:54
Matrix: Water
Date Received: 06/20/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9223B		1	7126	SS	EET ALB	06/20/24 17:04

Client Sample ID: Montano
Lab Sample ID: 885-6670-4
Date Collected: 06/20/24 12:39
Matrix: Water
Date Received: 06/20/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9223B		1	7126	SS	EET ALB	06/20/24 17:04

Client Sample ID: Central West
Lab Sample ID: 885-6670-5
Date Collected: 06/20/24 13:35
Matrix: Water
Date Received: 06/20/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9223B		1	7126	SS	EET ALB	06/20/24 17:04

Client Sample ID: Rio Bravo West
Lab Sample ID: 885-6670-6
Date Collected: 06/20/24 14:14
Matrix: Water
Date Received: 06/20/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9223B		1	7126	SS	EET ALB	06/20/24 17:04

Client Sample ID: Los Padillas
Lab Sample ID: 885-6670-7
Date Collected: 06/20/24 14:47
Matrix: Water
Date Received: 06/20/24 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9223B		1	7126	SS	EET ALB	06/20/24 17:04

Lab Chronicle

Client: Bosque Ecosystem Monitoring Program
Project/Site: BEMP

Job ID: 885-6670-1

Client Sample ID: Blank

Date Collected: 06/20/24 15:00
Date Received: 06/20/24 15:40

Lab Sample ID: 885-6670-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9223B		1	7126	SS	EET ALB	06/20/24 17:04

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Bosque Ecosystem Monitoring Program
Job ID: 885-6670-1
Project/Site: BEMP

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
9223B		Water	Escherichia coli

Oregon	NELAP	NM100001	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
9223B		Water	Escherichia coli

Chain-of-Custody Record

Client: Bosque Ecosystem Monitoring Program (BEMP)
Mailing Address: 1 University, MSC 032020 Alb. NM 87131
Phone #: (505) 206-3767
email or Fax#: Matt.Leister@BEMP.org
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance ☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: BEMP
Project #:
Project Manager: Matt Leister
Sampler:
On Ice: ☒ Yes ☐ No
# of Coolers: 1
Cooler Temp (including CF): 13.8 ± 0 = 13.8 (°C)

HALL ENVIRONMENTAL ANALYSIS LABO
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87
Tel. 505-345-3975 Fax 505-345-4107
885-6670 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	E Coli. Coliform Enumer					
06/20/24	10:12	Surface Water	Willow Creek			2406971											X					
06/20/24	11:16	Surface Water	Corrales														X					
06/20/24	11:54	Surface Water	Bobcat														X					
06/20/24	12:39	Surface Water	Montaño														X					
06/20/24	13:35	Surface Water	Central West														X					
06/20/24	14:14	Surface Water	Rio Bravo West														X					
06/20/24	14:47	Surface Water	Los Padillas														X					
06/20/24	15:00	D.I. Water	Blank														X					

Date	Time:	Relinquished by.	Received by	Via	Date	Time
06/20/24	15:19	McKenzie Williams		COD	Jun 20, 2024	1540
Date	Time	Relinquished by.	Received by	Via	Date	Time

Remarks:

Login Sample Receipt Checklist

Client: Bosque Ecosystem Monitoring Program

Job Number: 885-6670-1

Login Number: 6670
List Number: 1
Creator: Dominguez, Desiree

List Source: Eurofins Albuquerque

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Received same day of collection; chilling process has begun.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
TCEQ Mtd 1005 soil sample was frozen/delivered for prep within 48H of sampling.	N/A	

In partnership with the University of New Mexico and Sevilleta LTER

BOSQUE ECOSYSTEM MONITORING PROGRAM (BEMP)

SITE MONITORING REPORT FOR 2023

2023 ANNUAL SITE MONITORING TECHNICAL REPORT

Submitted

04/29/2024

2023 Final Report submitted to:

US Army Corps of Engineers, USACE Contract #: W912PP18C0023

US Bureau of Reclamation, Grant NO R21AP10166

Key personnel and contact information:

Dr. Kim Eichhorst, Program Director, kimde@unm.edu

Matt Leister, Science Director, matt.leister@bemp.org

Zoe Wadkins, Education Director, zoe.wadkins@bemp.org

Dr. Ara Winter, Information Manager, akooser@unm.edu

Contents

1 Introduction

Objective

To collect and analyze abiotic and biotic data at BEMP sites in the Rio Grande Bosque while involving K-12 and university students in learning about and monitoring this ecosystem.
All data and reports are available on the BEMP website, www.BEMP.org.

Scope of Work (updated from previous reports)

The Bosque Ecosystem Monitoring Program (BEMP) combines long-term ecological research with community outreach by involving K-12 teachers, their students, and students from the University of New Mexico in monitoring key indicators of structural and functional change in the Rio Grande riparian forest, or "bosque." In 1996, BEMP began as a program of the University of New Mexico's Department of Biology (under NSF Grant No. DEB-9420510, Amendment No. 004) and quickly became a collaboration between the University of New Mexico and Bosque School in Albuquerque, with fewer than 200 participants in its first year. Before the COVID-19 pandemic, BEMP was averaging approximately 9,000 participants annually. The BEMP outdoor education experience builds science skills, educates the community about the bosque ecosystem, and helps create a constituency for stewardship of the bosque. BEMP findings derived from student-gathered data are used by government agencies to inform multi-million dollar management decisions that impact the riparian corridor.

The 2023 reporting period covers 33 BEMP sites along 250 miles of the Rio Grande, including 32 sites within the Middle Rio Grande (Figure 1.1 and Table 1.1). Through the stakeholder driven and strategic location of these sites, BEMP studies the ecological drivers and effects of fire, flooding, climate change, and human alteration on the bosque ecosystem. Two-thirds of BEMP sites were installed by BEMP staff at the request of natural resource and water managers to monitor the long-term ecological impacts of restoration projects such as mechanical clearing, wood chipping, bank-lowering, and more recently, post burn recovery. The other third were installed to facilitate research opportunities or at the request of schools or other partners.

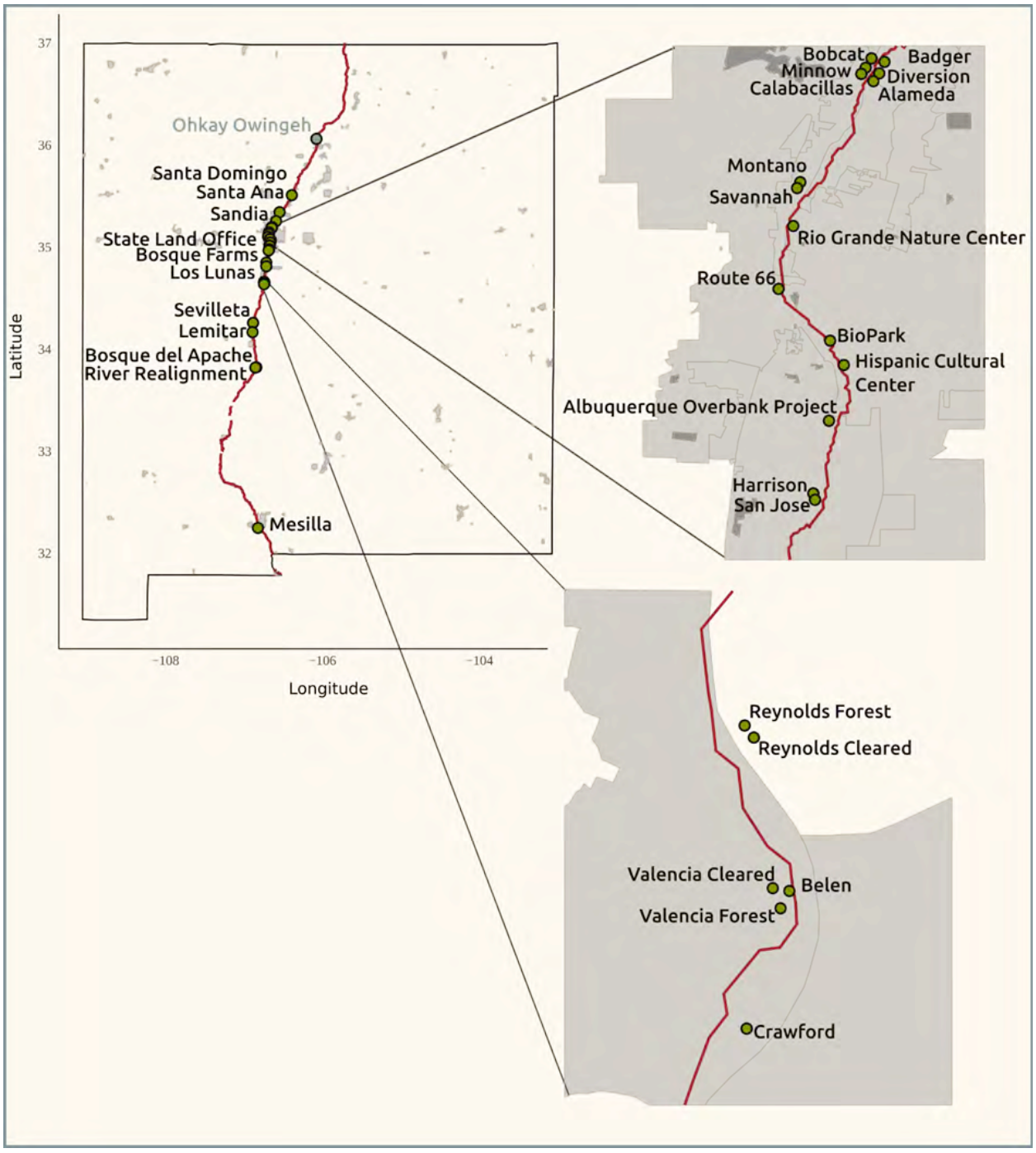


Figure 1.1. Map of 33 active BEMP sites along the Rio Grande; Ohkay Owingeh was not an active site for all of 2023.

Table 1.1. BEMP sites and locations along the Rio Grande by Reach, listed from north to south.
* denotes inactive site (either no longer active or temporarily inactive)

Site number	Site name	Latitude	Longitude	Reach
9	Ohkay Owingeh*	36.0618	-106.0761	Cochiti
24	Santo Domingo*	35.50989	-106.3896	Cochiti
5	Santa Ana	35.34284	-106.5458	Angostura
32	Sandia	35.255	-106.5907	Angostura
22	Bobcat	35.19705633	-106.6439494	Angostura
21	Badger	35.1956	-106.6402	Angostura
12	Minnow	35.19315094	-106.646915	Angostura
10	Diversion	35.1908	-106.6429	Angostura
11	Calabacillas	35.19056822	-106.6491626	Angostura
1	Alameda	35.1875	-106.6459	Angostura
17	Montano	35.14528819	-106.6803699	Angostura
6	Savannah	35.14285294	-106.6819814	Angostura
2	Rio Grande Nature Center (RGNC)	35.127	-106.6854	Angostura
20	Route 66	35.1006408	-106.6914783	Angostura
23	BioPark	35.079	-106.668	Angostura
8	Hispanic Cultural Center (HCC)	35.06881267	-106.6580575	Angostura
29	Albuquerque Overbank Project (AOP)	35.04546	-106.6657	Angostura

13	Harrison	35.01505603	-106.6736953	Angostura
31	San Jose	35.012375	-106.6728	Angostura
28	Valle de Oro	34.97895	-106.6801	Angostura
30	State Land Office (SLO)	34.96785	-106.6856	Angostura
27	Bosque Farm	34.848851	-106.714722	Isleta
3	Los Lunas	34.81236936	-106.714458	Isleta
19	Reynolds Forest	34.66054583	-106.7429525	Isleta
18	Reynolds Cleared	34.65966431	-106.7421328	Isleta
15	Valencia Cleared	34.64863444	-106.7391728	Isleta
4	Belen	34.6484315	-106.7377022	Isleta
16	Valencia Forest	34.64716225	-106.738482	Isleta
25	Crawford	34.63835	-106.74277	Isleta
14	Sevilleta	34.25834233	-106.8831845	San Acacia
7	Lemitar	34.16703188	-106.8899486	San Acacia
34	River Realignment	33.8227	-106.8419	San Acacia
33	Bosque del Apache (BDA)	33.8197	-106.8539	San Acacia
26	Mesilla	32.248328	-106.821014	South of San Marcial

BEMP monitors biotic and abiotic variables at our research sites. Our abiotic datasets include: depth to groundwater; water level in ditches and drains; precipitation; above- and below-ground temperature; and water quality in the Rio Grande. Our biotic datasets include litterfall; vegetation cover; surface-active arthropod richness and abundance; and tamarisk leaf beetle distribution, abundance and impact.

Timing of Data Collection (from previous reports)

Depth to groundwater, water level in nearby ditches and/or drains, precipitation, and litterfall are collected monthly, during the week of the third Tuesday of each month. Surface-active arthropods are collected three times each year, in the spring, summer, and fall. Vegetation cover is surveyed once each year in August-September. Tamarisk leaf beetle monitoring is conducted during the week of monthly monitoring from May-August, with some sites collected through September. BEMP collects other datasets as funding permits, including water quality of the river, ditches, and groundwater; fuel load/woody debris; cottonwood sex and diameter at breast height; cottonwood phenology; sunflower phenology; and seedling counts.

Site Updates

High river flows from May through early July, 2023 resulted in the inundation of numerous sites by overbank and seep flooding. Flooded sites were (north to south): in Bernalillo County: Minnow (Site #12), Diversion (Site #10), Alameda (Site #1), Route 66 (Site #20), Bio Park (Site #23), Hispanic Cultural Center (Site #8), Albuquerque Overbank Project (Site #29), Harrison (Site #13), San Jose (Site #31) and State Land Office (Site #30); in Valencia County: Bosque Farms (Site #27), Los Lunas (Site # 3), Reynolds Cleared (Site #18), Reynolds Forest (Site #19), Valencia Cleared (Site #15), Valencia Forest (Site #16), Belen (Site #4), and Crawford (Site #25) and in Socorro County: Bosque del Apache (Site #33) and River Realignment (Site #34). Collections were modified to accommodate the amount of flood water at each site while maintaining field crew safety. BEMP was unable to secure permission to monitor Santo Domingo (Site #24) from the local tribal authorities starting in June 2023.

In February 2023, there was a small, rapidly-contained fire at the Los Lunas BEMP site. The fire was primarily in the center of the site, scorching the center well and burning B, D, and E litterfall tubs and a few pitfall traps. The fire scorched the ground and a few cottonwoods but it was a low severity fire. This area flooded in April of 2023 and remained inundated through June. This allows for a comparison of post-fire recovery following flooding. Pictures and data visualizations of the Reynolds Forest and Los Lunas sites post-fire are in the last section of 6 Litterfall and Vegetation Cover, post-burn assessment.

2 Importance of long-term data, community science, and education outreach (from previous reports)

BEMP's mission is community science, education, and stewardship: equitable and inclusive hands-on student research essential to the management of the Rio Grande ecosystem.

The long-term data generated by BEMP have been used in informing predictive models, assessing restoration projects, tracking shifts in native and exotic vegetation, understanding bosque response to different ecosystem drivers (e.g., fire, flooding, clearing, impacts of climate change, introduction of biocontrol species), determining what ecotones are present, and how to transition former riparian areas to sustainable semi-arid ecosystems. Long-term monitoring of these sites is critical for understanding how the ecosystem responds to land management strategies and climate variability under rapidly changing means and variances. Long term data is necessary for effectively applying adaptive management and developing best practices strategies.

BEMP involves community members and students of all ages, from pre-K through high school, college, and graduate school to life-long learners volunteering in the program. Our primary focus is on elementary, middle , and high school students that participate in monthly fieldwork (long term educational engagement) to collect groundwater, precipitation, and litterfall data, as well as going out once or twice each year to participate in monitoring arthropods. Students have opportunities to participate in other data collections, including water quality, tamarisk leaf beetle, and monitoring fuel load. BEMP involves UNM undergraduate and graduate students in a semester-long internship experience through an upper division biology BEMP course, BIOL 408/508, where they learn about the bosque ecosystem, develop independent projects applying BEMP data, work with K-12 students and teachers, and play an integral role in regular field and lab work. The work of K-12 students in the field is facilitated and quality controlled by BEMP staff as well as the UNM interns. Having now played a role in our community for a couple of decades, we are starting to see the long-term impacts of our programming. Each year, there are a few UNM students in the BEMP course that had previously participated in BEMP as elementary, middle, and/or high school students. These students are often reconnected to their former schools and sites. BEMP has been part of a meaningful story for many students and community members. BEMP helps students connect with their local landscape, learn science through hands-on research, and communicate or present their understanding through math, writing, art, and other forms of expression. Several former BEMP students now have jobs with our partner agencies, including Bernalillo County

Water Utility Authority, City of Albuquerque Open Space, Middle Rio Grande Conservancy District, and New Mexico Interstate Stream Commission.

3 Outreach

BEMP hosted two events during 2023 to present new data, visualizations, and analyses: the Crawford Symposium and the Luquillo-Sevilleta Virtual Spanish Symposium. Both of these events feature student presentations. BEMP staff and students present BEMP data to managers, professionals, and students several times throughout the year depending on conference availability. In 2023, BEMP data were shared at conferences and workshops including the RiversEdge West Planting for the Future Conference, Climate Adaptation Science Center Fall Science Meeting, Audubon, Sevilleta All Hands Meeting, and the Rio Grande Basin Study. BEMP staff co-hosted a tour with the Rio Grande Basin Study of sites in the San Acacia and Isleta Reaches in June 2023. BEMP participated in multiple workshops, addressing issues around water, climate, fire, and vegetation, including workshops through the MRG Endangered Species Collaborative Program, Whitfield Wildlife Conservation Area, Rio Grande Basin Study, Valle de Oro National Wildlife Refuge and EJ-40 Air Network, Wetland Stakeholder Work Group, and San Acacia Science Forum.

STEM pathways and workforce development through BEMP

Over the last several years, the COVID-19 pandemic has had an unprecedented effect on the educational (and broader) sphere. Despite the many variations of learning that schools, teachers and community partners readjusted to, BEMP education did its best to meet our community's needs at every turn. Taking all necessary precautions to ensure public health and safety, BEMP education reached 5,900 students and adults through in-person contacts alone, engaging 56 different schools and community organizations throughout April of last year to today.

Instruction was provided in-person and remotely at field locations and in outdoor and on campus classrooms, through field monitoring collections, and in study-trips. We also offered an ongoing array of educational programming provided online through printable and electronic platforms, including self-led activities and video lessons. Through lessons focused on water quality and storm impacts, phenological observation, ecosystem monitoring, climate change, scientific processes, graphing and data analysis, students obtained a deeper understanding of nature while developing career-based skills in the sciences, public-speaking and presentation delivery. Moreover, university students participating in the Biology 408/508 internship course

conducted field and lab work during this time, engaging in an array of scientific, procedural and collection based skill sets as well as educating younger students and expanding their professional experience as Albuquerque's upcoming workforce.

If this time has taught us anything, it is the deep value of engaging audiences through our broader ecosystem, encouraging us all to see ourselves connected to, rather than separate from, one another and our more-than-human world.

4 Temperature

During the 2022-2023 reporting period, we collected data from OnSet temperature loggers at nine BEMP sites. Three loggers were initially installed at each selected site: a canopy air temperature logger attached to a tree near the canopy rain gauge, a canopy subsurface logger buried underground near the canopy rain gauge, and an open subsurface logger buried near the open rain gauge. Temperature data are logged hourly and downloaded annually by BEMP staff.

Complete temperature monitoring methodology can be found online at: https://secureservercdn.net/45.40.146.38/659.541.myftpupload.com/wp-content/uploads/2017/09/TempLoggerDownloadandDeploy.pdf

Data were run through a visual QA/QC to make sure plots follow the general expected seasonal patterns and historical trends. The data were then checked for the number of NA (missing data points) by site over time and for any points more than three standard deviations (SD) away from the z-score transformed data. The number of data points flagged as outside the three SD were minimal given the volume of data. Data points collected on the same day as the logger was handled for download were eliminated as they did not account for the full day, and as the logger position was disturbed in the download process.

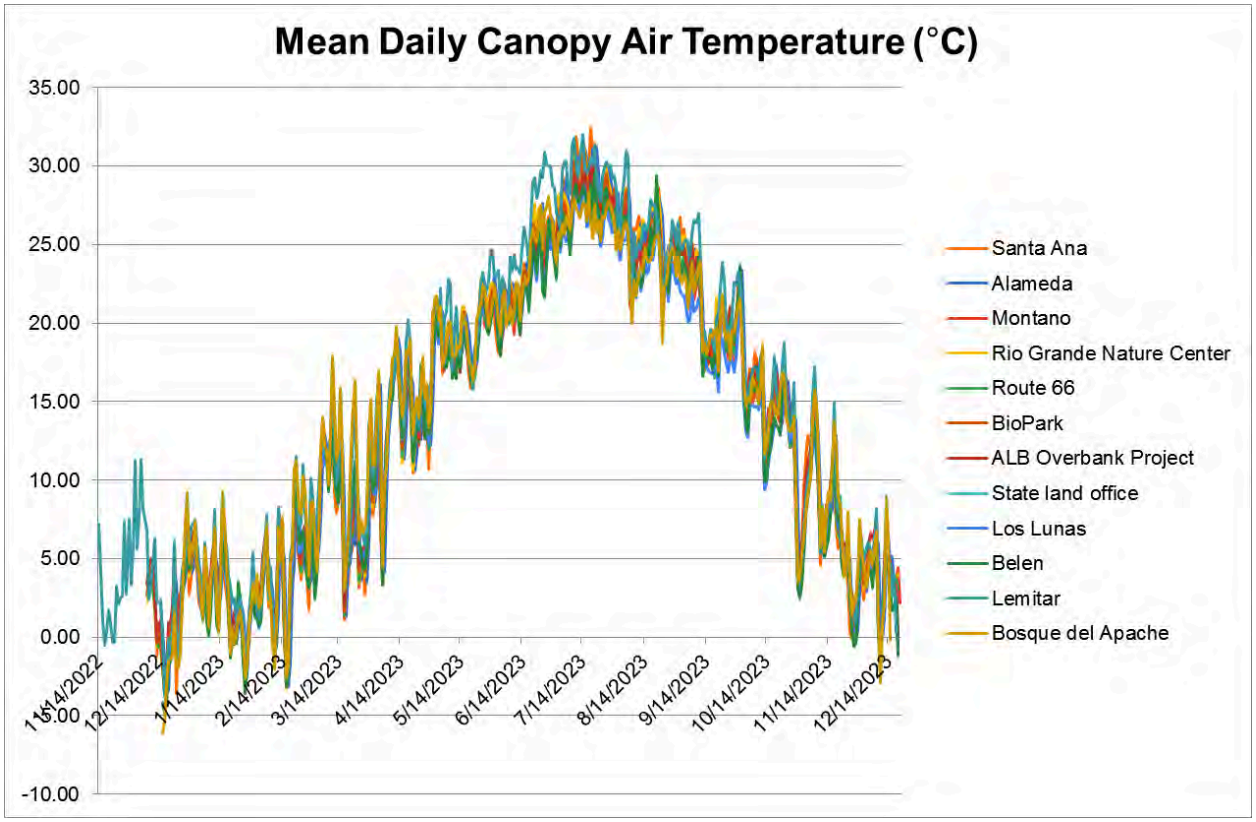


Figure 4.1. Mean daily air temperature (°C) under a canopy from December 2022 through December 2023 at Santa Ana, Albuquerque sites (Alameda, Montano, Rio Grande Nature Center, Route 66, BioPark, and State Land Office), Los Lunas, Belen, Lemitar, and Bosque del Apache.

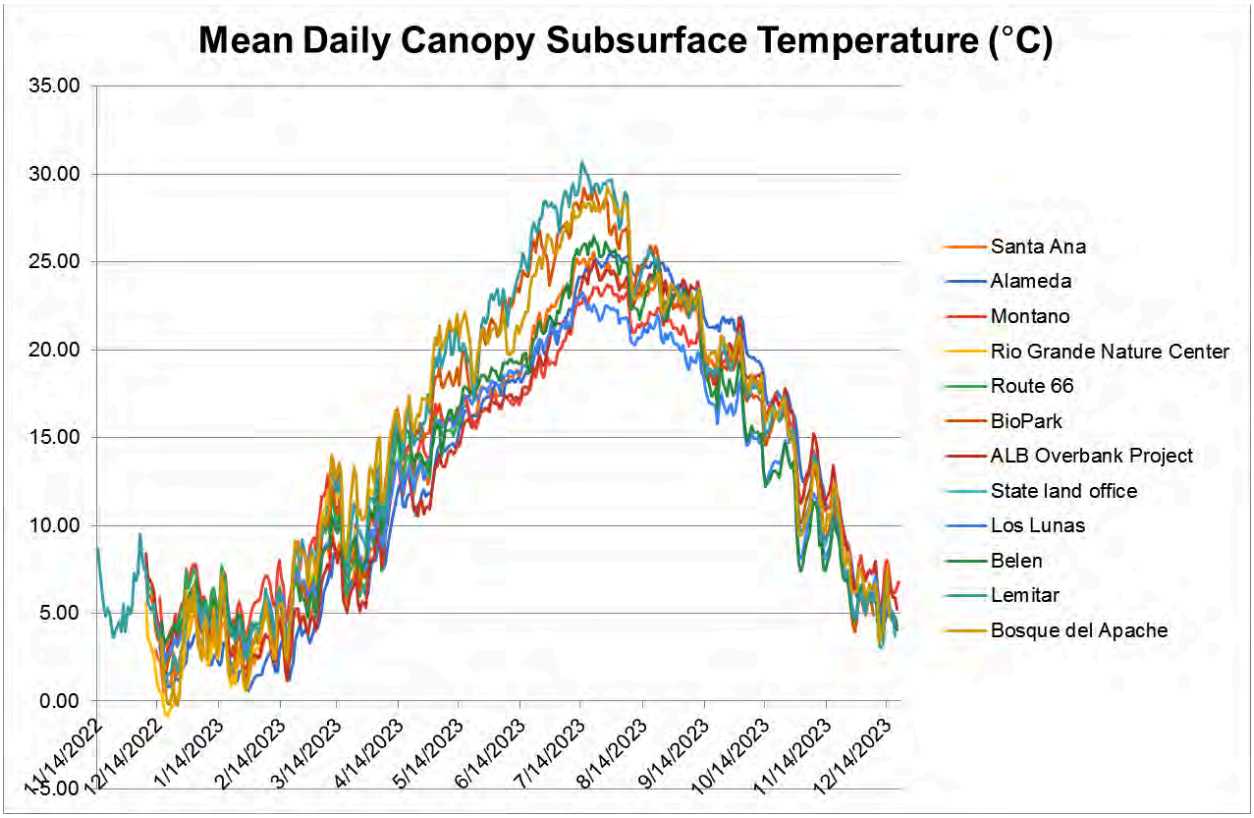


Figure 4.2 Mean daily subsurface temperature (°C) under a canopy from December 2022 through December 2023 at Santa Ana, Albuquerque sites (Alameda, Montano, Rio Grande Nature Center, Route 66, BioPark, and State Land Office), Los Lunas, Belen, Lemitar, and Bosque del Apache.

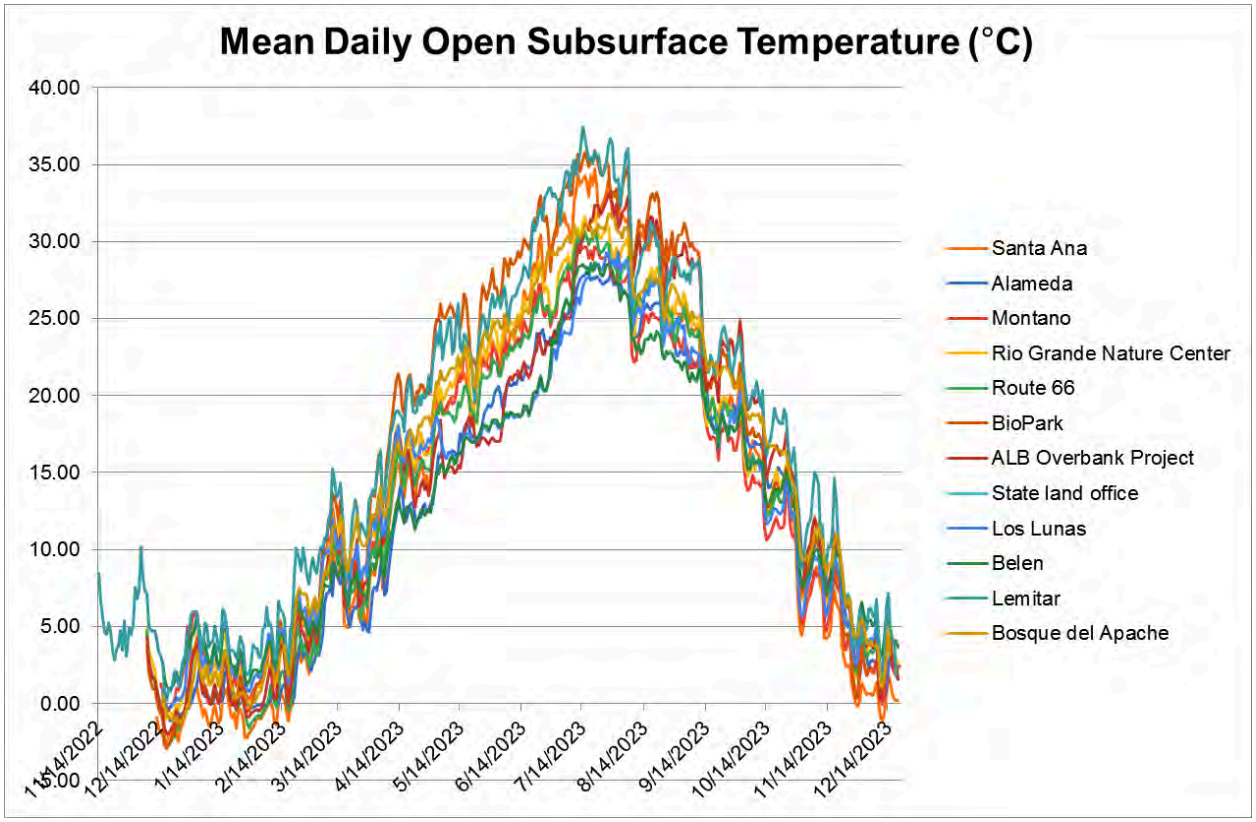


Figure 4.3 Mean daily subsurface temperature (°C) in the open from December 2022 through December 2023 at Santa Ana, Albuquerque sites (Alameda, Montano, Rio Grande Nature Center, Route 66, BioPark, and State Land Office), Los Lunas, Belen, Lemitar, and Bosque del Apache.

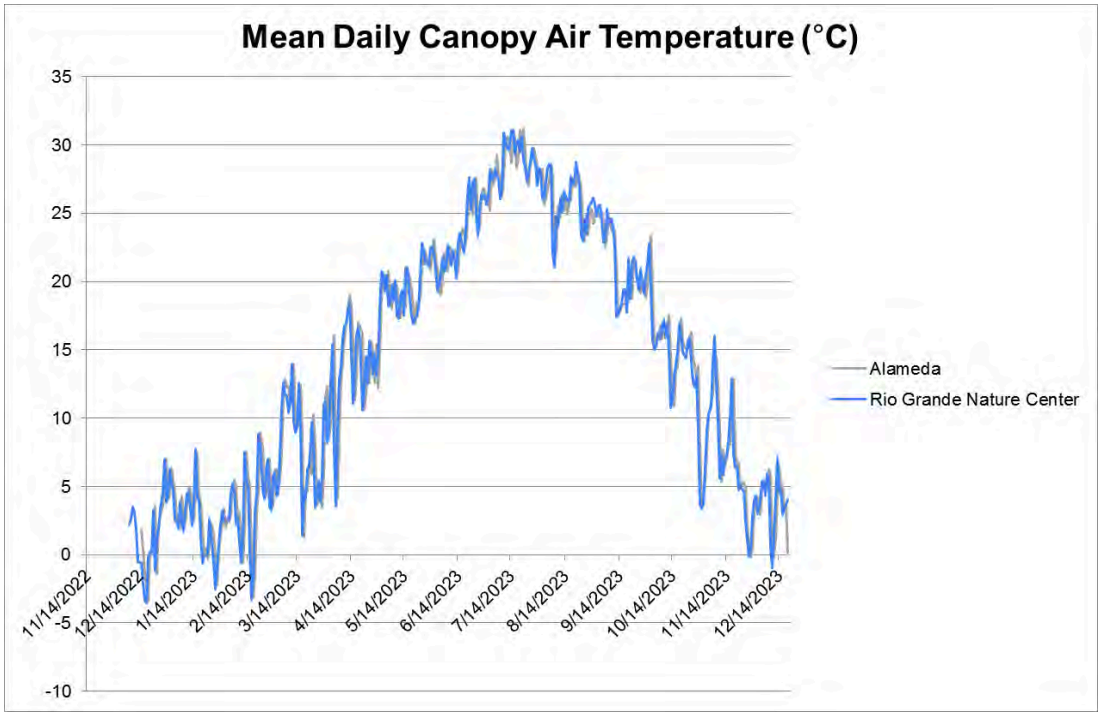


Figure 4.4 Mean air temperatures at Alameda (high canopy cover) and RGNC (low canopy cover) in Albuquerque.

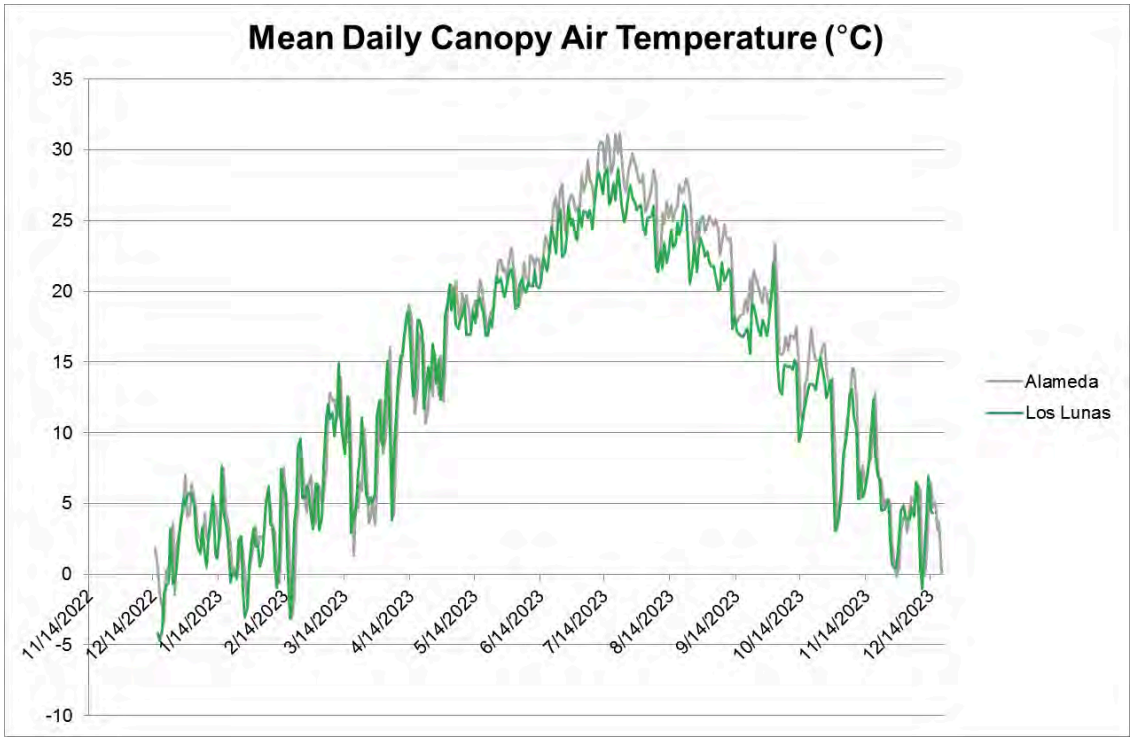


Figure 4.5 Mean air temperatures at Alameda (high canopy cover, urban area) and Los Lunas (high canopy cover, rural area).

Air temperatures show that the warmest sites fluctuate between the southernmost sites (Lemitar and Bosque del Apache), sites with low canopy cover (Santa Ana, Rt 66), and urban sites near bridges (Alameda, Rt 66).

Canopy loss is expected to expose affected areas to increased solar radiation, resulting in local elevated temperatures. This is expected to occur in regions where the dominant canopy trees (cottonwoods) die and are not replaced either through natural recruitment or plantings. As a result, microclimates within these areas will undergo noticeable shifts.

By comparing data from the subsurface temperature loggers beneath the existing canopy and in exposed areas within the same site, we not only gain insight into the insulating capacity of canopy trees within this ecosystem but will also be able to anticipate temperature shifts occurring in areas experiencing canopy loss without replacement.

The importance of canopy is demonstrated through a comparison of two Albuquerque sites, Alameda and RGNC (Figure 4.4). While RGNC is buffered by more farm fields and Candelaria Preserve, the cottonwood cover at Alameda is three times higher than at RGNC. Alameda is 1km (0.65 miles) south of the Alameda Bridge and 0.65 km (0.35 miles) north of Paseo del Norte Bridge. RGNC is 0.25 km (1 mile) south of the Montano Bridge and 0.25km (1 mile) north of I-40. Both sites are easily accessible and in the heart of the City. RGNC, with its declining canopy and sparse understory cover, is on average 0.11 °C warmer than Alameda with a maximum of 1.62 °C warmer. When considering the impact of urban areas on temperatures of the bosque, two sites with similar canopy cover were compared: Alameda and Los Lunas (almost 30 miles to the south) (Figure 4.5). Alameda is on average 1 °C warmer than Los Lunas with a maximum difference of 3.88 °C warmer.

5 Precipitation

Precipitation is measured at all of our sites, except for Bosque Farms (due to repeated vandalism). At each site, two Tru-Chek precipitation gauges are installed on a post; one under the forest canopy, and one out in the open. Each rain gauge is monitored and emptied by BEMP staff and community scientists once per month. A small amount of oil is added to the empty gauge to prevent evaporation and to ensure capture of the full month's precipitation.

More details on our methods for collecting precipitation data can be found here: https://github.com/BEMPscience/bemp_data/tree/master/precipitation

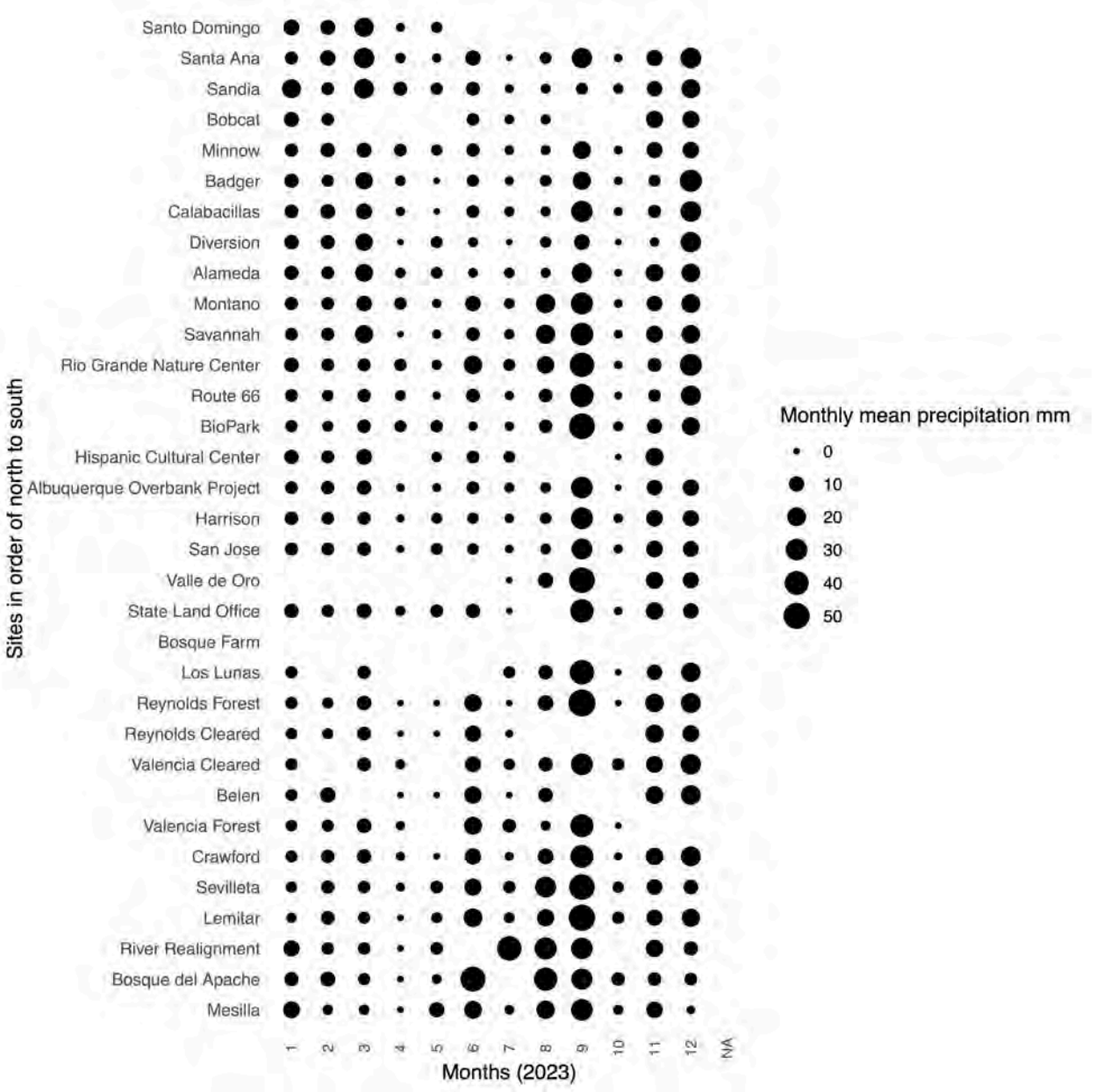


Figure 5.1 Mean monthly precipitation (mm) at each site for 2023.

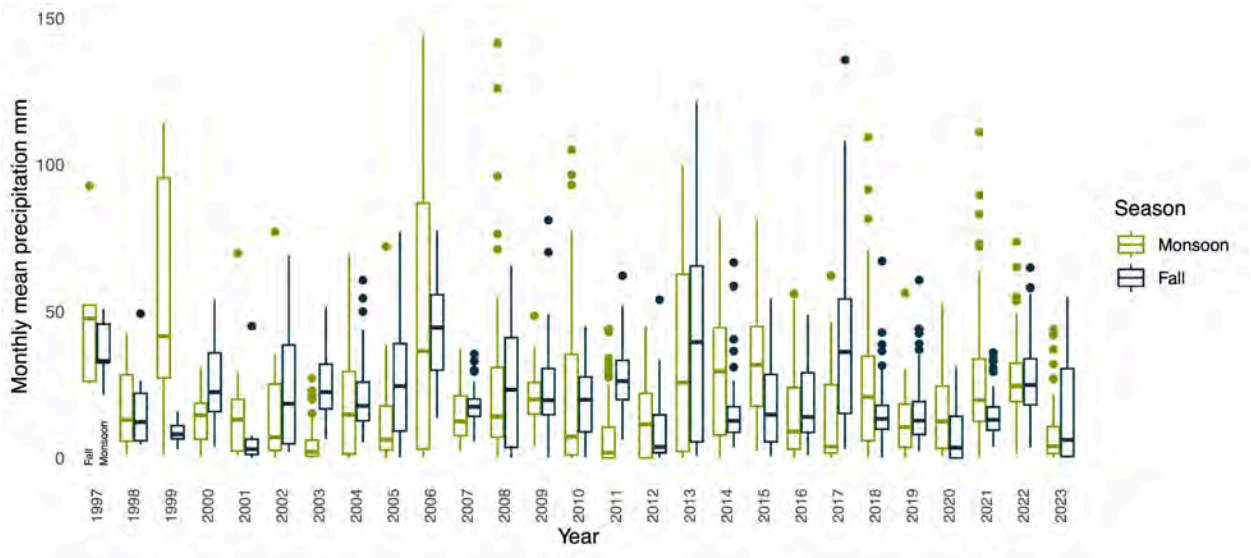


Figure 5.2 Boxplot of precipitation divided into the monsoon season (June - August) and fall storms (September-October). The number of sites has increased over time, starting with 3 sites in 1997 and reaching a maximum of 34 sites by 2018 and then dropping to 32 by 2023.

Long term precipitation trends

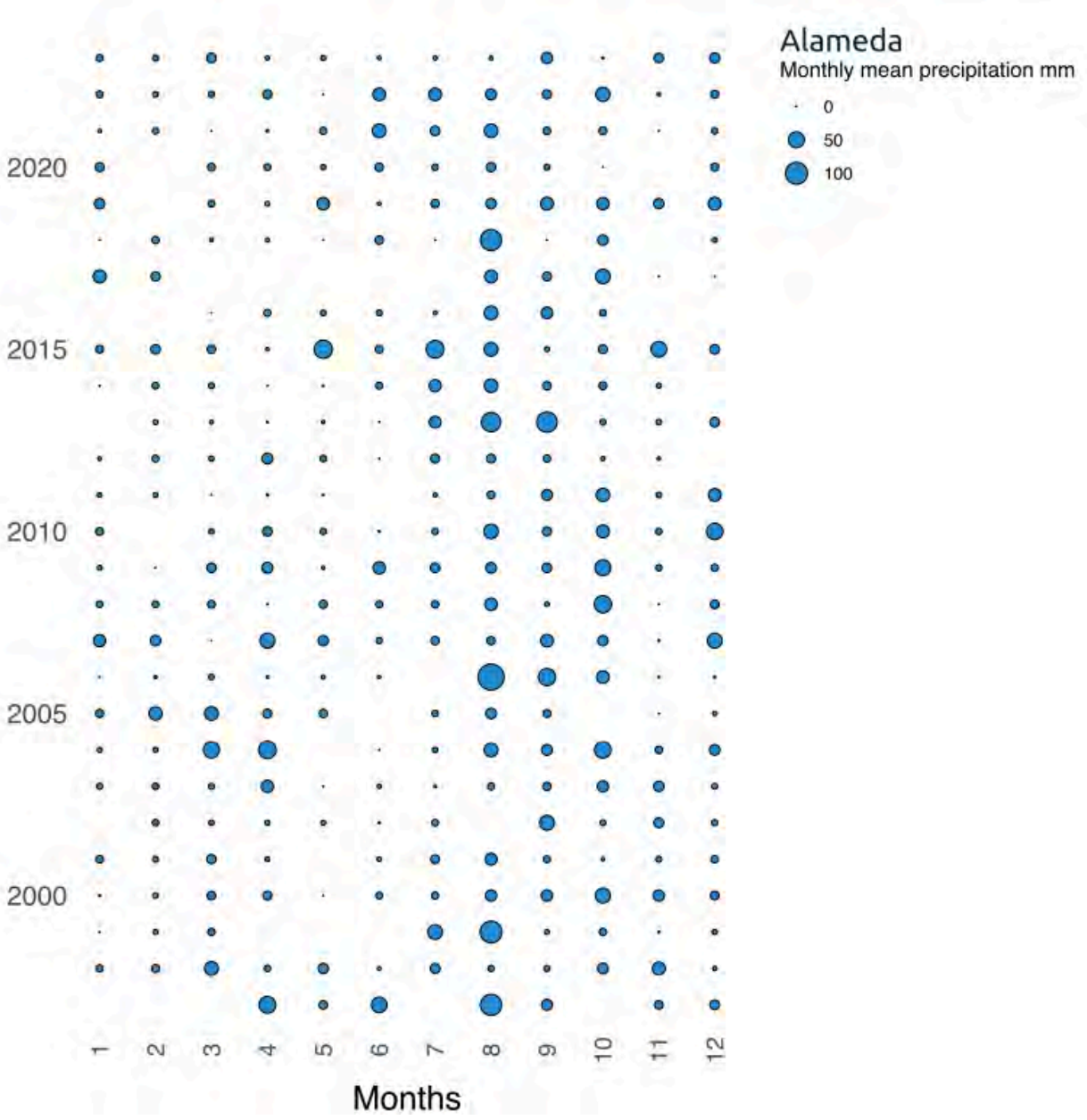


Figure 5.3 Mean monthly precipitation at Alameda from 1997 through 2023.

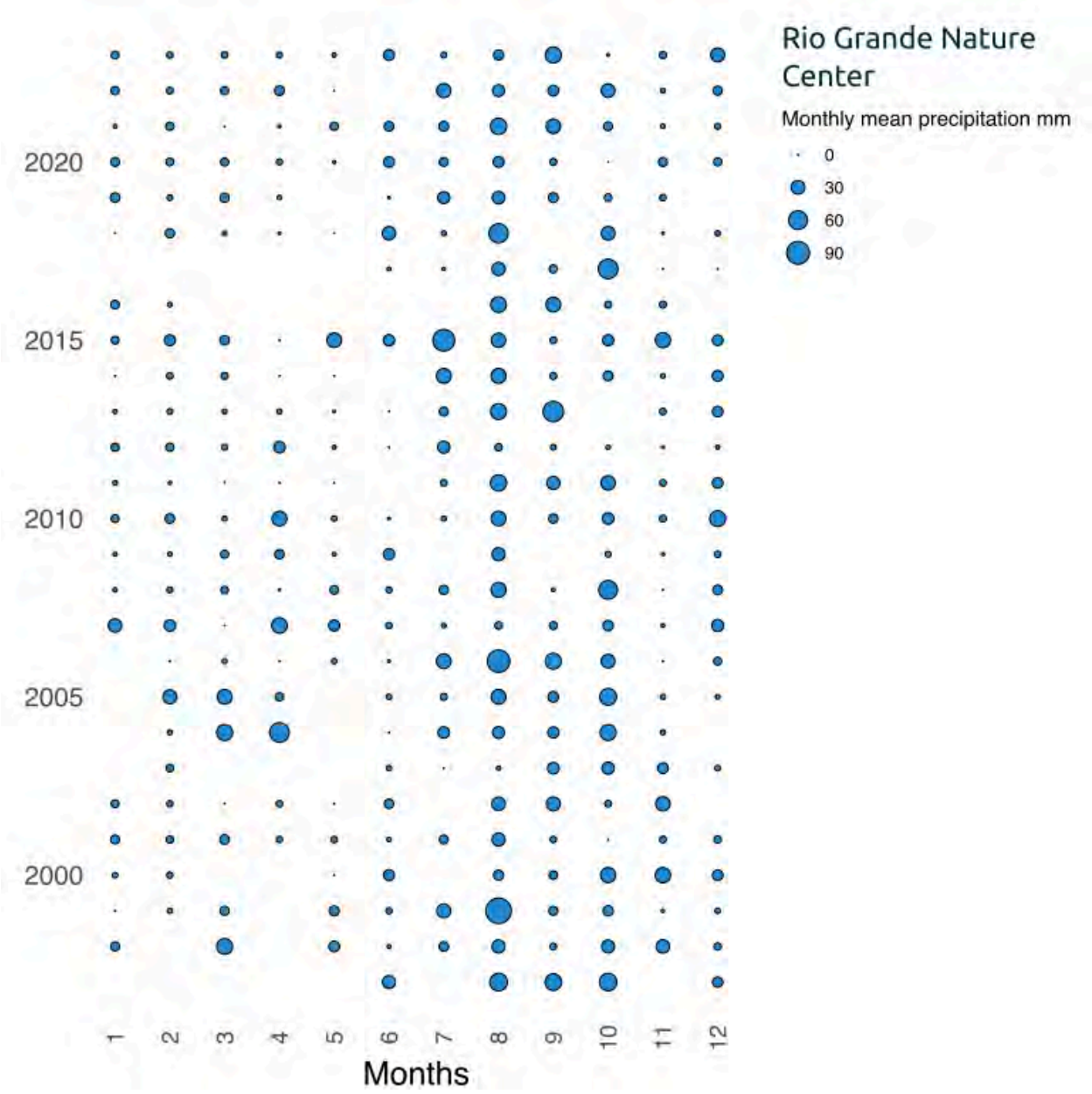


Figure 5.4 Mean monthly precipitation at RGNC from 1997 through 2023.

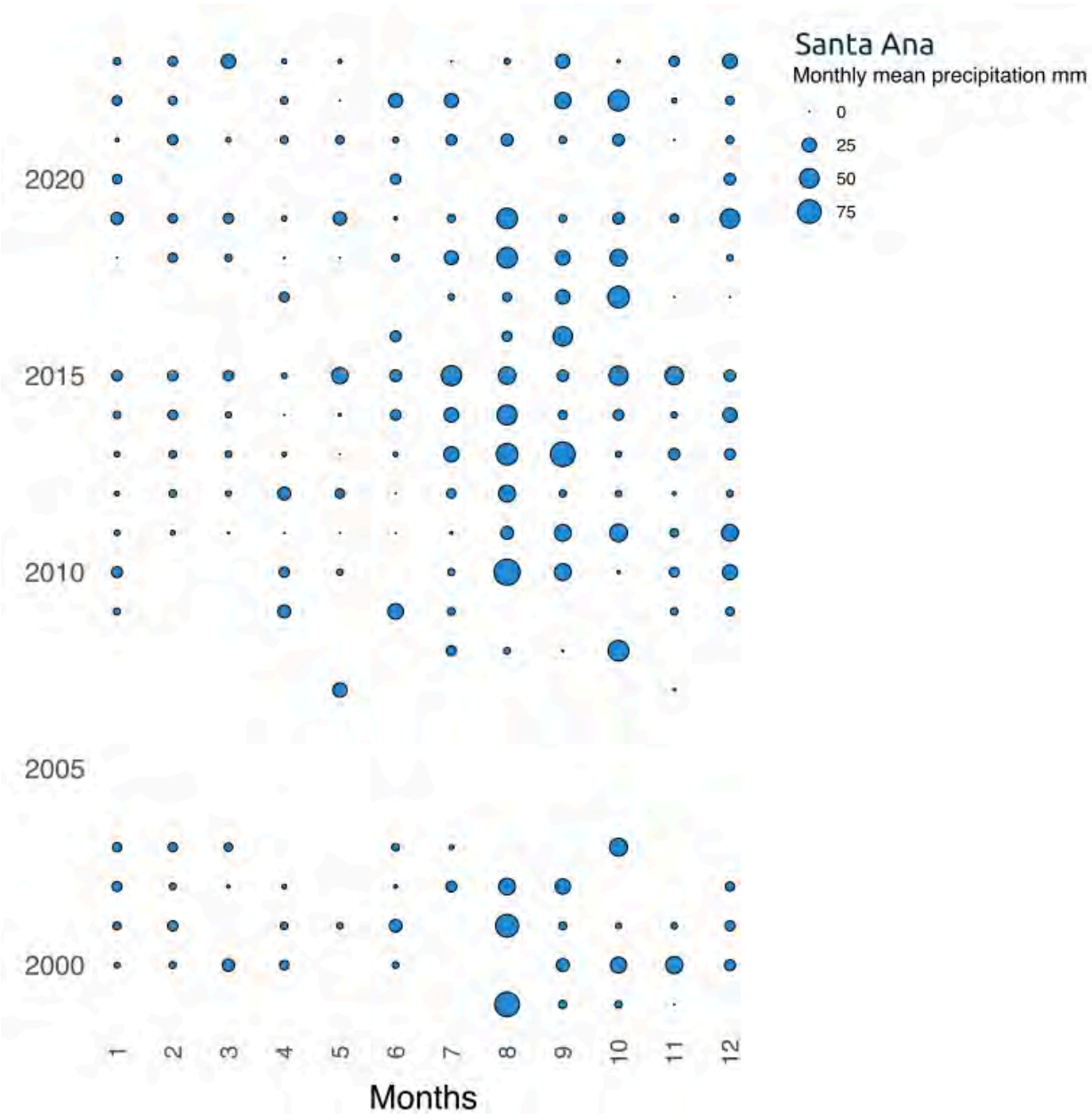


Figure 5.5 Mean monthly precipitation at Santa Ana from 1999 through 2023.

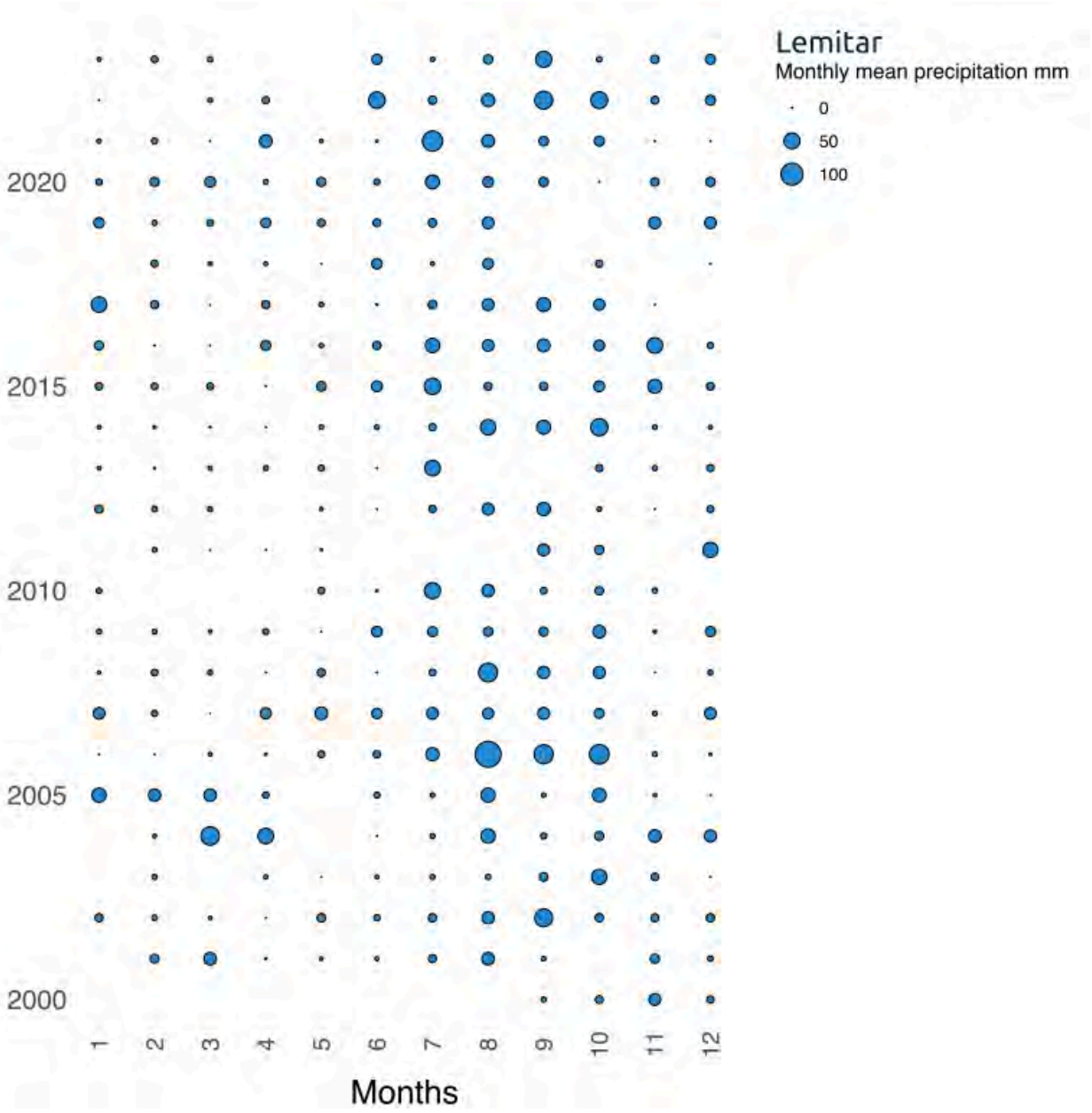


Figure 5.6 Mean monthly precipitation at Lemitar from 2000 through 2023.

While 2023 was a dry year, it is illustrative of the predicted shift towards greater precipitation events in the fall, after the historic monsoon season (mid-June to mid-September). Peak rainfall at most sites occurred in September. We compared monsoon season rains (typically defined as mid-June through September, but we used data from June-August) to fall rains (we used September and October rainfall). Even with the unevenness of having 3 months in the "monsoon" season and only two months in the "fall" season, we can see evidence of this potential shift of higher mean precipitation in fall, although it is not a strong shift in our data

at this point. The reduction of snowpack runoff, earlier snowmelt, and later fall storms will likely have an impact on the germination and growth of many different native riparian plants.

6 Depth to groundwater

Depth to groundwater is monitored at all BEMP sites except the Pueblos of Santa Ana and Santo Domingo. Pueblo of Sandia groundwater data are proprietary and must be requested through the Pueblo's Department of Natural Resources. Each month, BEMP staff along with UNM interns, K-12 students, and teachers monitor the five groundwater wells at BEMP sites. The nearby ditch/drain is also monitored and USGS river flow data are downloaded based on the monitoring day from the closest gauge to the north of each site.

Full monitoring methods can be found at:
https://github.com/BEMPscience/bemp_data/tree/master/depth_to_groundwater_data

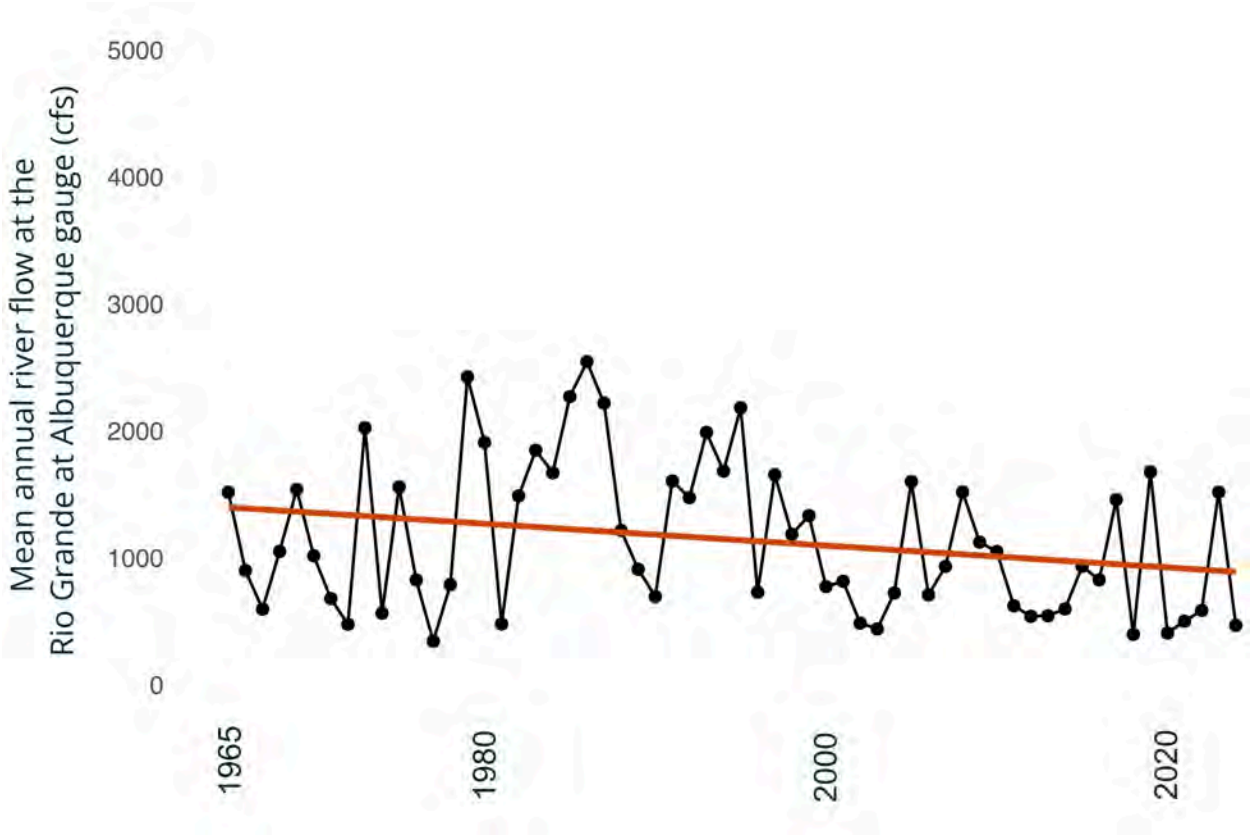


Figure 6.1 Mean annual river flow at the Albuquerque gauge over time. It is important to note that the Albuquerque gauge is located below Cochiti Dam which has regulated flows to the Rio Grande south of the dam since 1975. Prior to Cochiti Dam's construction, it was not unusual to see flows in the Rio Grande through Albuquerque peaking at or above 10 kcfs.

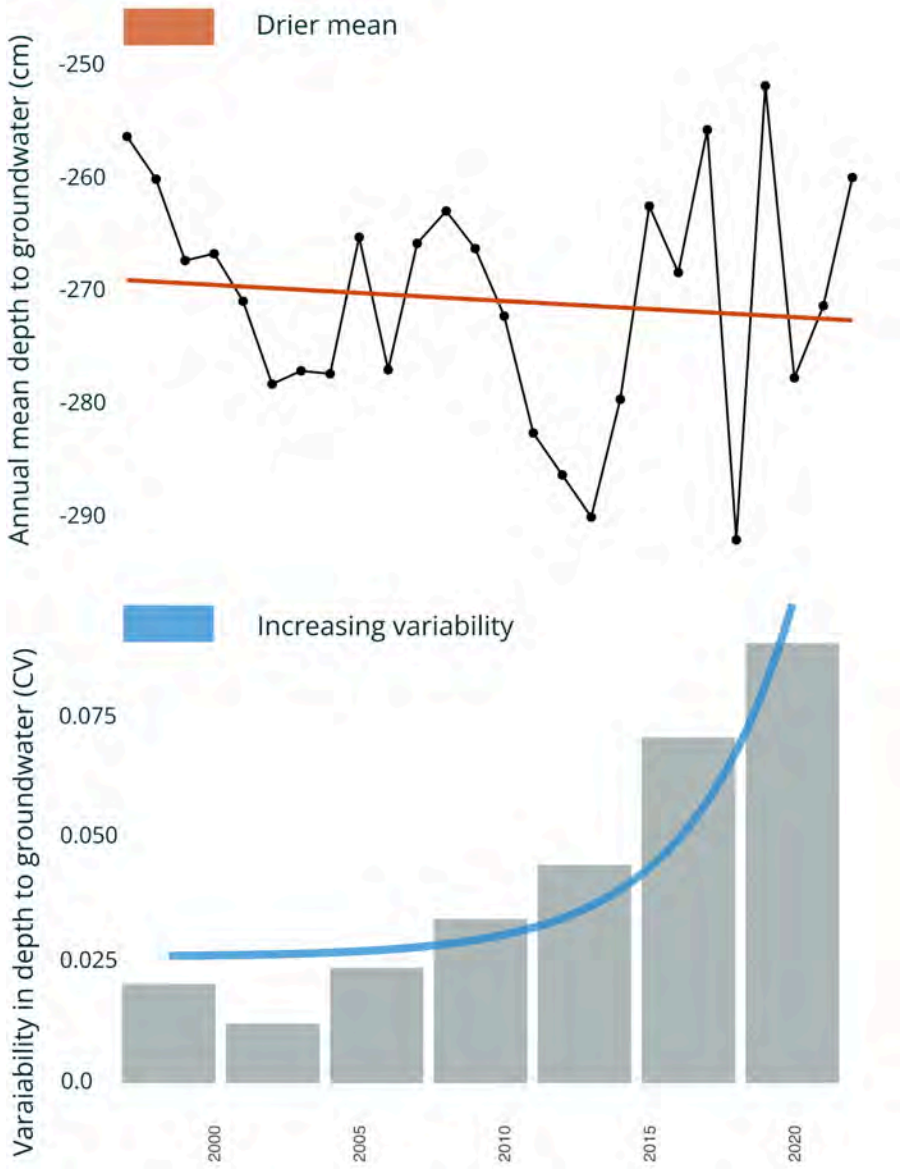


Figure 6.2 Figures showing the annual mean depth to groundwater and variability in depth to groundwater for the Alameda site.

The rapid changes in the mean and variance brought on by human-caused climate change may drive ecosystems into transition (riparian to semi-arid or arid). Climate change can cause more variability in snowpack between years, on top of overall declines in snowpack, leading to variability in river flow levels. Not all sites are impacted equally by this variability. For example, in response to high river flow, aggradation in some areas of the river can increase the likelihood of overbank flooding. Flooding can also lead to the Rio Grande flowing in sub-channels, increasing the proximity of some areas of the bosque to the river and thus decreasing depth to

groundwater more drastically. Soil profiles can also change the permeability of the soil, causing varying responses to changes in river flow.

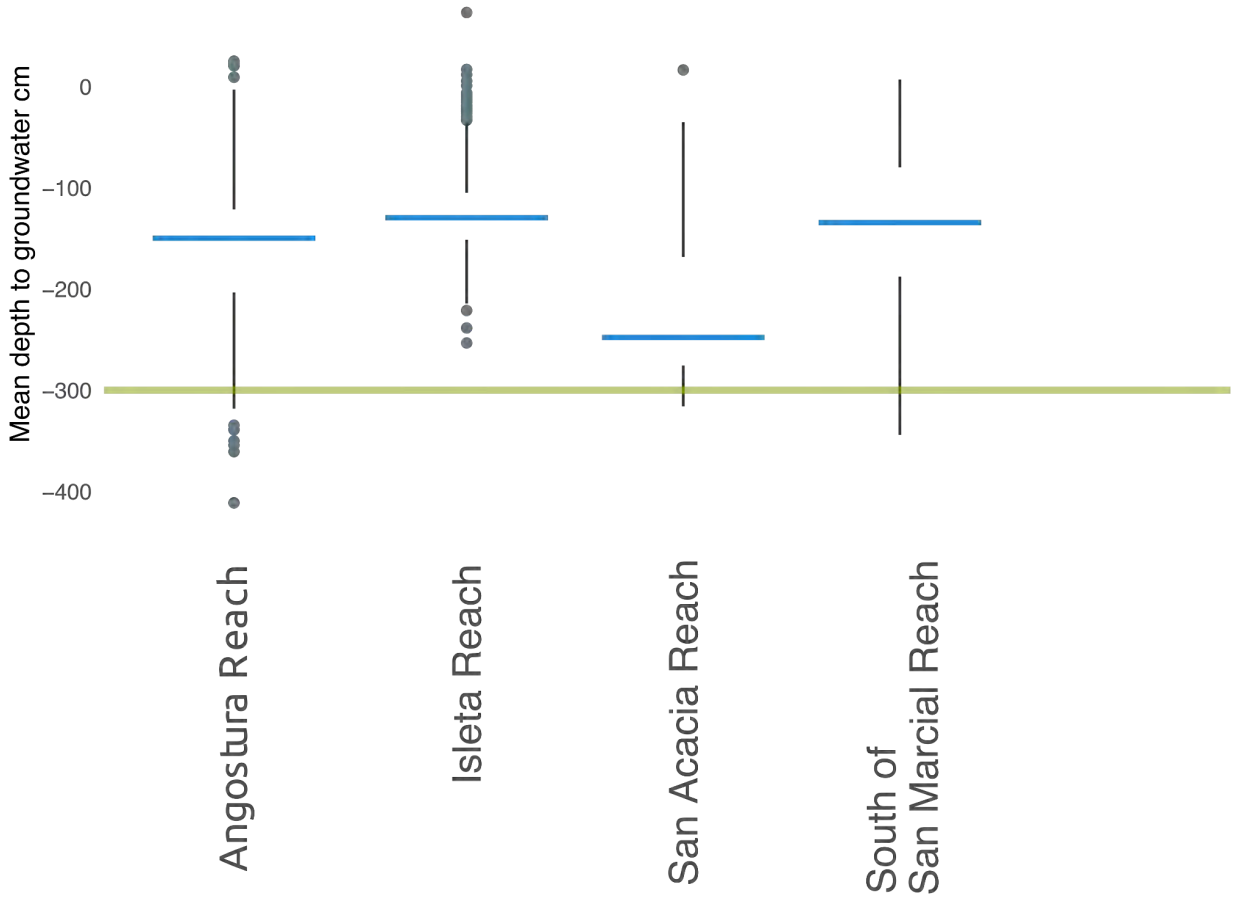


Figure 6.3 Mean depth to groundwater (cm) of BEMP sites with ten or more years of data organized by reaches of the Middle Rio Grande. Reaches are arranged north to south from left to right.

Angostura reach includes all sites within Albuquerque plus Sandia Pueblo; scouring due to proximity to Cochiti Dam as well as topography causes the riverbed in this reach to be the most degraded. The riverbed starts aggrading in lower Albuquerque and is more aggraded in the southern reaches. San Acacia is the most aggraded and experiences regular overbank flooding but also experiences longer periods of river drying. This, in addition to the placement of one

BEMP site (Lemitar) outside the levee, leads to the San Acacia Reach having the lowest mean monthly mean depth to groundwater. There is also greater variability in mean monthly mean depth to groundwater in the southern reaches than the Angostura Reach. This could be due to supplemental flows in the Angostura Reach preventing regular river drying, as groundwater levels are tightly correlated with river flow; although, 2022 and 2023 saw unusual summer drying in this reach.

Figure 6.5 Spark line plot of the mean monthly depth to groundwater across all BEMP sites. Time from 1997 to 2023 runs across the x-axis and the y-axis is depth to groundwater in cm. Sites are arranged from north to south by center point latitude.

Angostura Reach

The Angostura Reach comprises 19 sites. From north to south they are Santa Ana Pueblo, Sandia Pueblo, Bobcat, Badger, Minnow, Diversion, Calabacillas, Alameda, Montano, Savannah, Rio Grande Nature Center, Route 66, BioPark, Hispanic Cultural Center, Albuquerque Overbank Project, Harrison, San Jose, Valle de Oro NWR, and State Land Office. Groundwater data are not collected at Santa Ana. Groundwater data from Sandia Pueblo must be requested through the Pueblo's Natural Resources Department.

Isleta Reach

The Isleta reach comprises eight sites: Bosque Farms, Los Lunas, Reynolds Forest, Reynolds Cleared, Valencia Cleared, Belen, Valencia Forest, and Crawford. Similar groundwater fluctuations are exhibited by all sites throughout the Isleta reach, with peaks reflecting spikes in groundwater corresponding to recent flood events (2023, 2019, 2017) behaving more or less the same at all these sites. Los Lunas, which sees much higher peaks during recent flood events, is the sole exception. This is due to the site's positioning between the main river channel and a trough or flowing channel that fills during high flow events.

San Acacia and South of San Marcial Reaches

There are four BEMP sites that lie in the San Acacia Reach. These are Sevilleta, Lemitar, Bosque Del Apache, and River Realignment. The mean for this reach is the lowest of all the reaches, although this is skewed by the Lemitar site that is outside the levee system. As a result, Lemitar is less influenced by the river flow and there is a lower overall depth to groundwater and lower variability. As we go further south we get to an aggraded area of the Rio Grande that has many drying events as well as extreme flooding. This is shown by the variability in groundwater depth at the Bosque del Apache site in Figure 6.5.

Changes in mean and variance of depth groundwater in the shallow riparian aquifer.

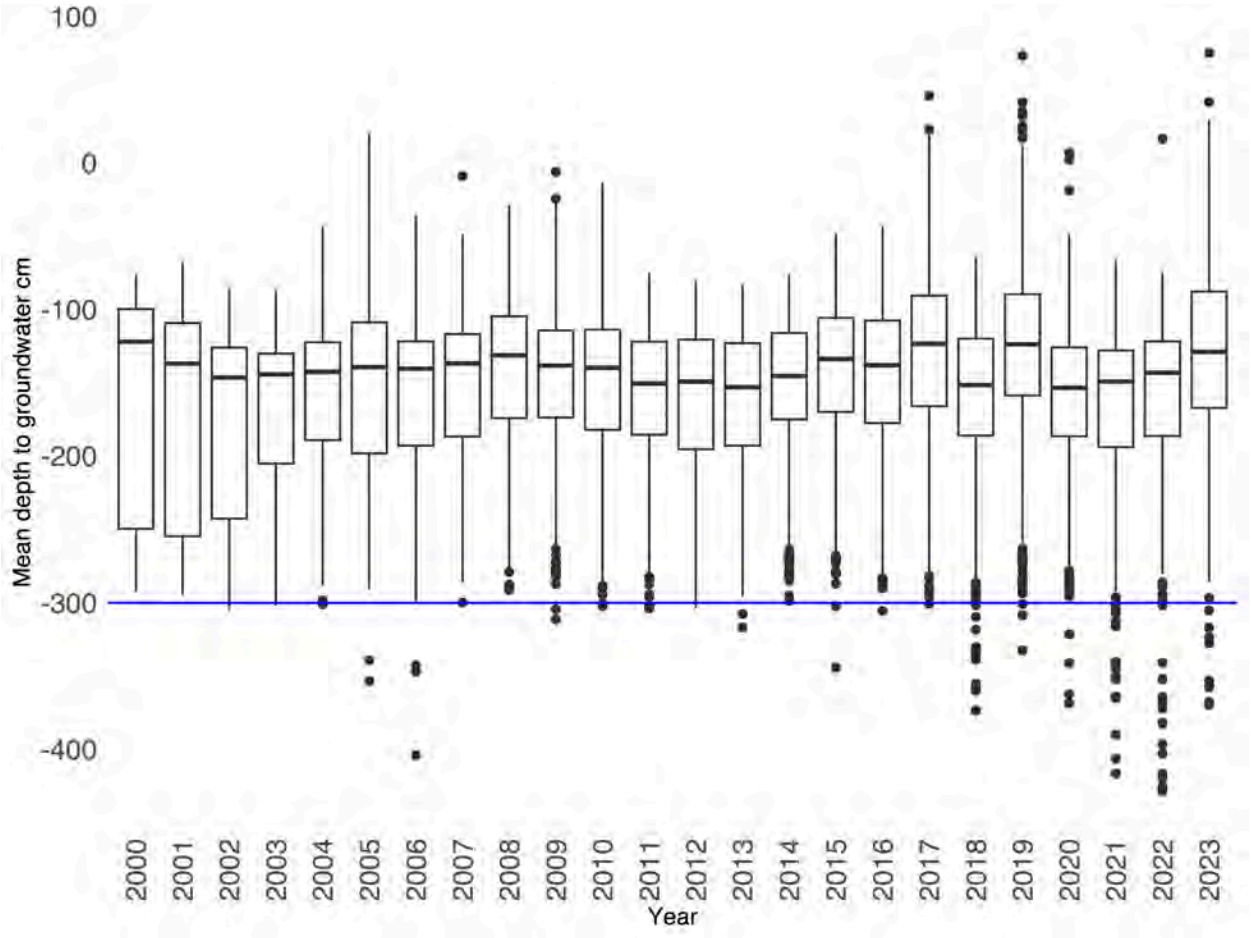


Figure 6.6 Boxplot of the mean monthly depth to groundwater across all BEMP sites from 2000 to 2023. The solid blue line is at 300 cm to show the threshold for established cottonwood trees. The black dots show the increasing number of outliers, especially toward drying events or declining groundwater. The flood events corresponding to high river flows in recent years (2017, 2019, and 2023) also have months with extremely low groundwater levels.

7 Litterfall and Vegetation Cover

Litterfall is any plant material that falls to the ground. BEMP litterfall data are categorized into leaves, reproductive parts, and wood from dominant tree species. It is collected monthly and then dried for 48 hours before being sorted and weighed. Litterfall is used to gauge plant productivity (leaves), reproductive effort (buds, flowers, seeds), and stress or senescence (wood).

Full monitoring methods can be found at:
https://github.com/BEMPscience/bemp_data/tree/master/leaf_litterfall

Vegetation cover surveys are conducted in August-September each year by a team of botanists and BEMP staff. Line intercept methods are used to monitor plant species along ten 30 meter transects at each of 27 sites. Herbarium work (identification of species) has been completed for 2023 data, which were entered, checked, and are being QA/QCed. Preliminary data through 2023 are included in this report.

Full monitoring methods can be found at:

https://github.com/BEMPscience/bemp_data/tree/master/additional_data_sets/vegetation_surveys/methods

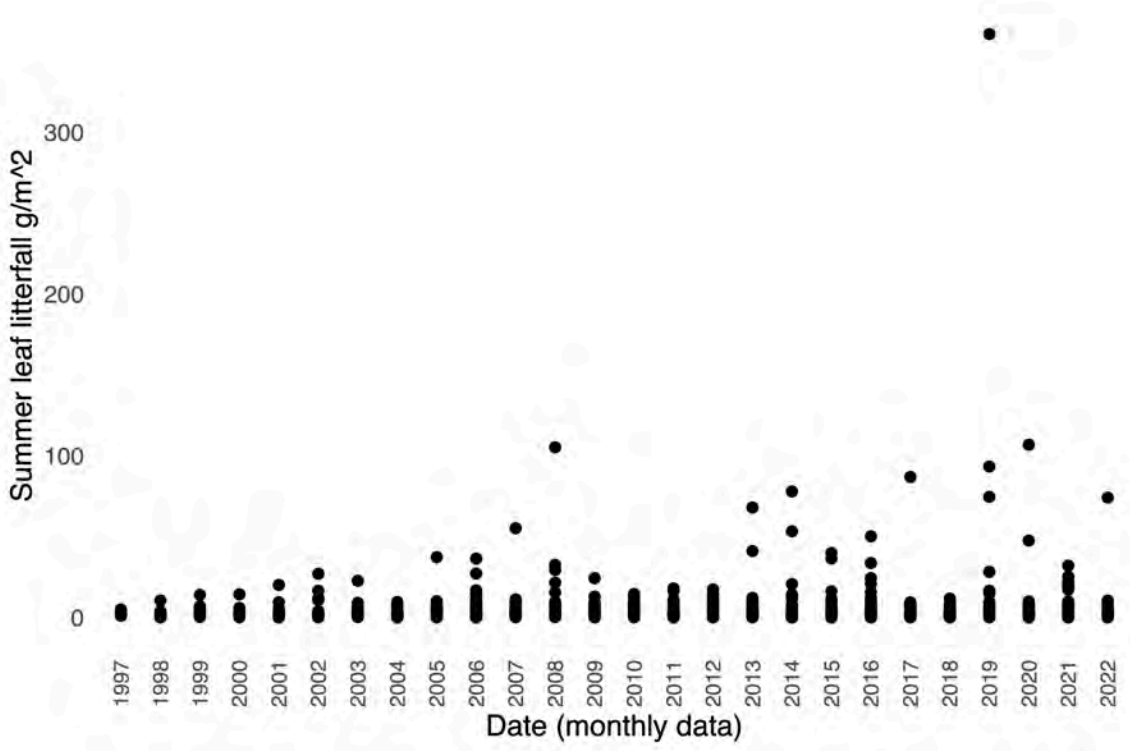


Figure 7.1 Change in leaf fall (g/m^2) during summer months, or "green fall", represents early leaf drop due to stress (e.g., heat, drought, defoliator outbreak, physical force from storms).

Most leaf fall biomass at BEMP sites is composed of cottonwood leaves. The shift toward increasing summer leaf drop most likely represents increasing stress on cottonwoods, although saltcedar early leaf drop due to defoliation from the tamarisk leaf beetle is a contributor to these numbers. Increasing outliers for higher leaf drop during flood years could also be due to the impact of long inundation periods (and potential anoxia) following years without.

Monthly litterfall of select plants.

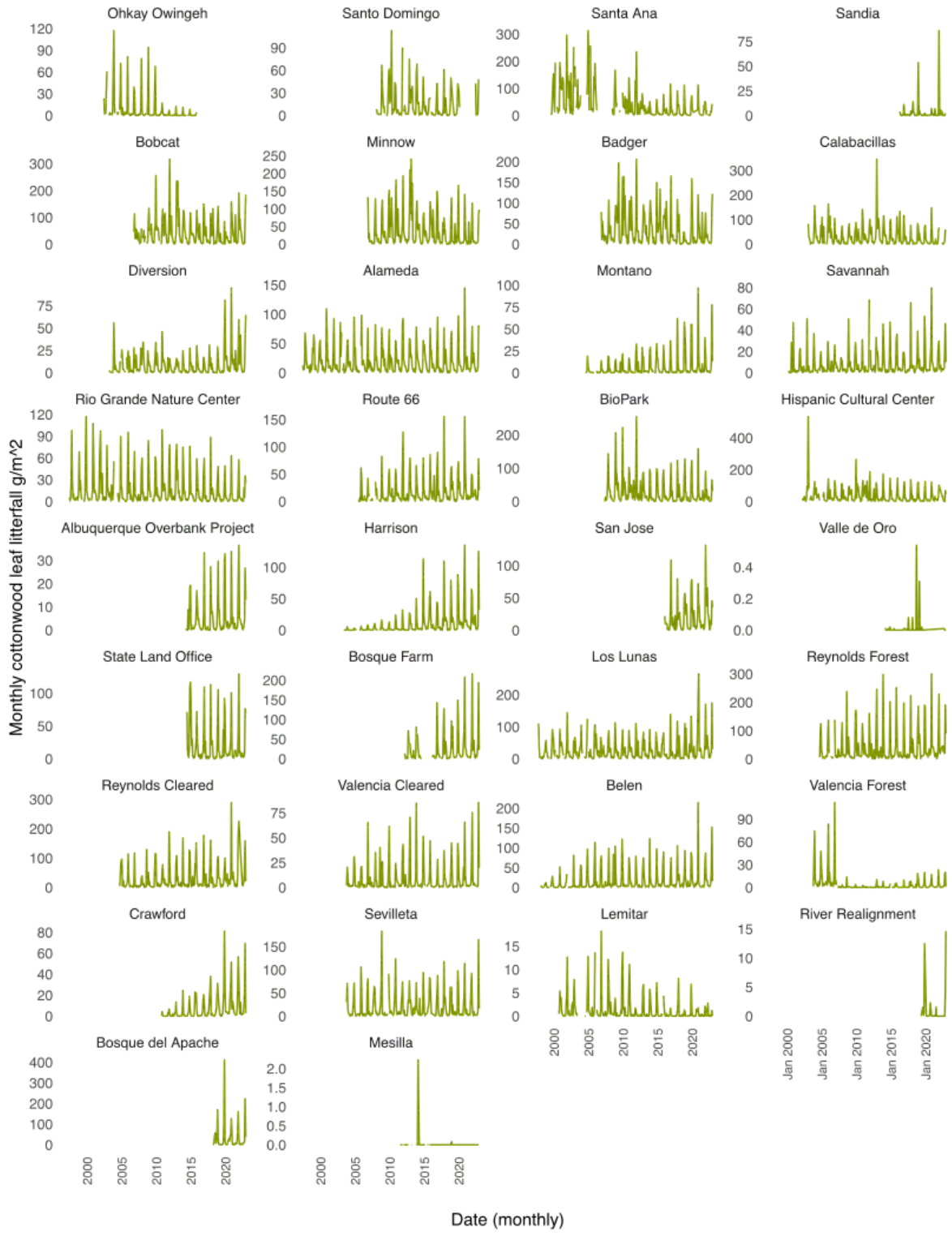


Figure 7.2 Monthly cottonwood leaf fall (g/m^2) shown across years for each site (listed north to south).

Annual litterfall trends

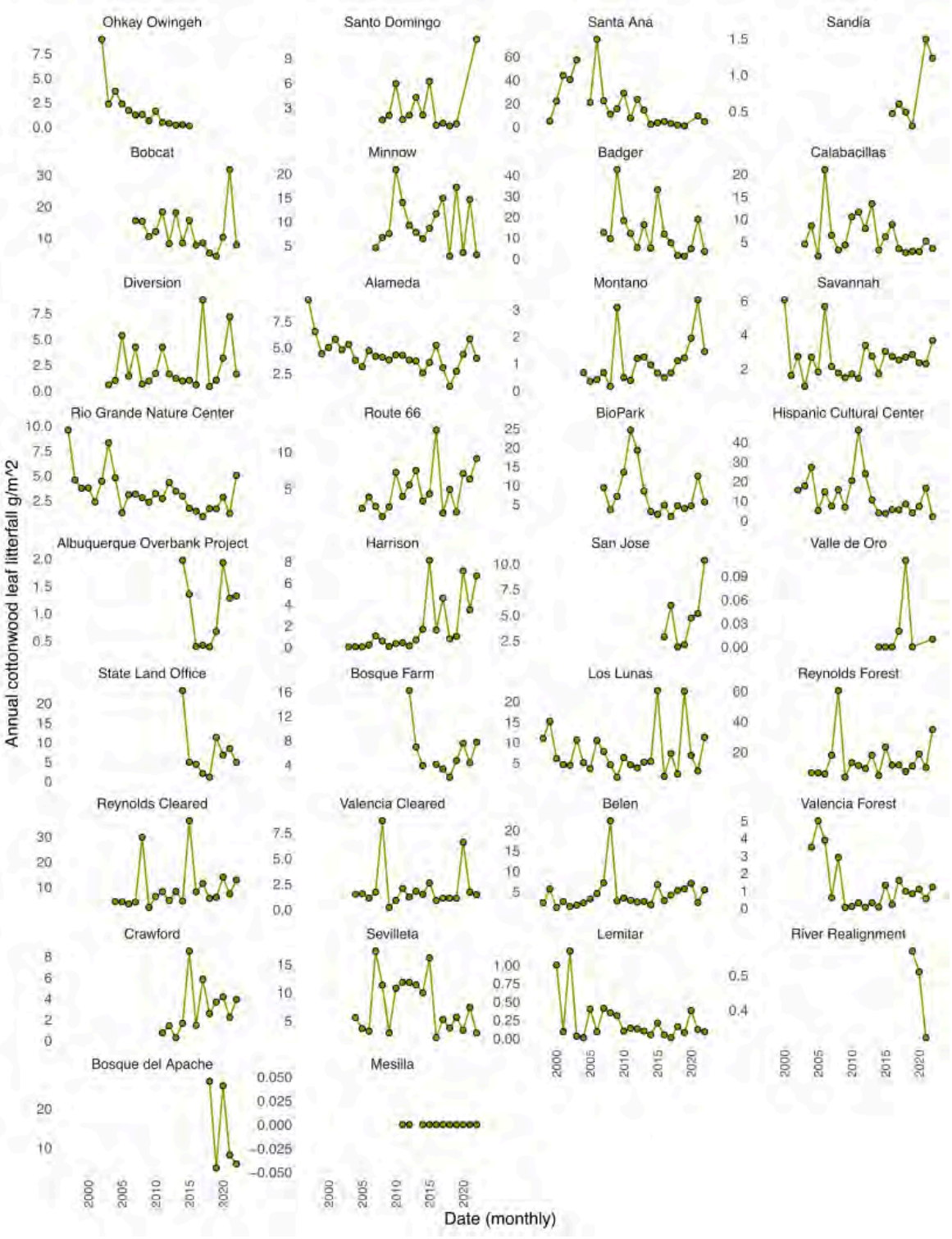


Figure 7.3 Annual sum of cottonwood leaf fall (g/m^2) across years for each site (listed north to south).

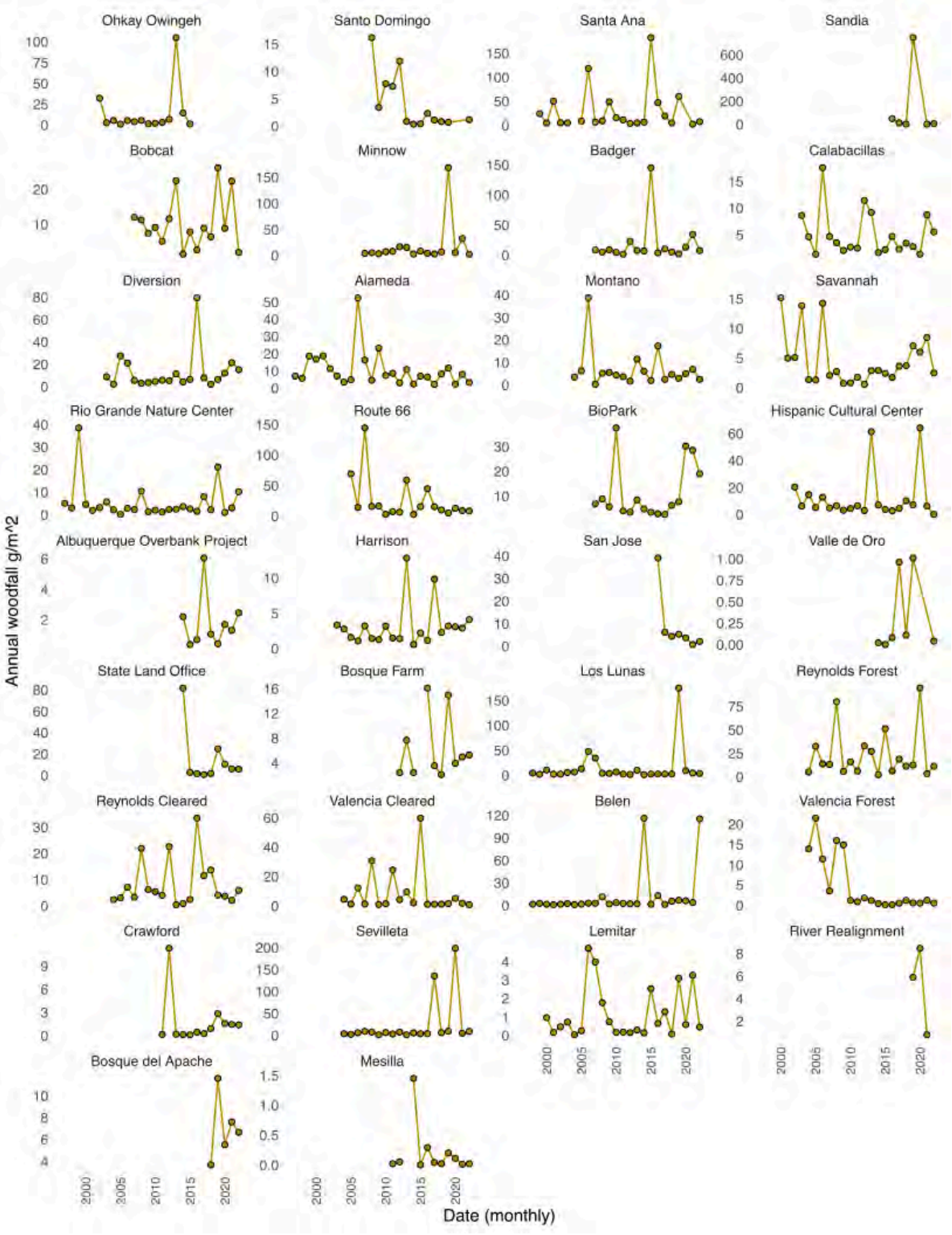


Figure 7.4 Annual sum of wood fall (g/m^2) across years for each site (listed north to south).

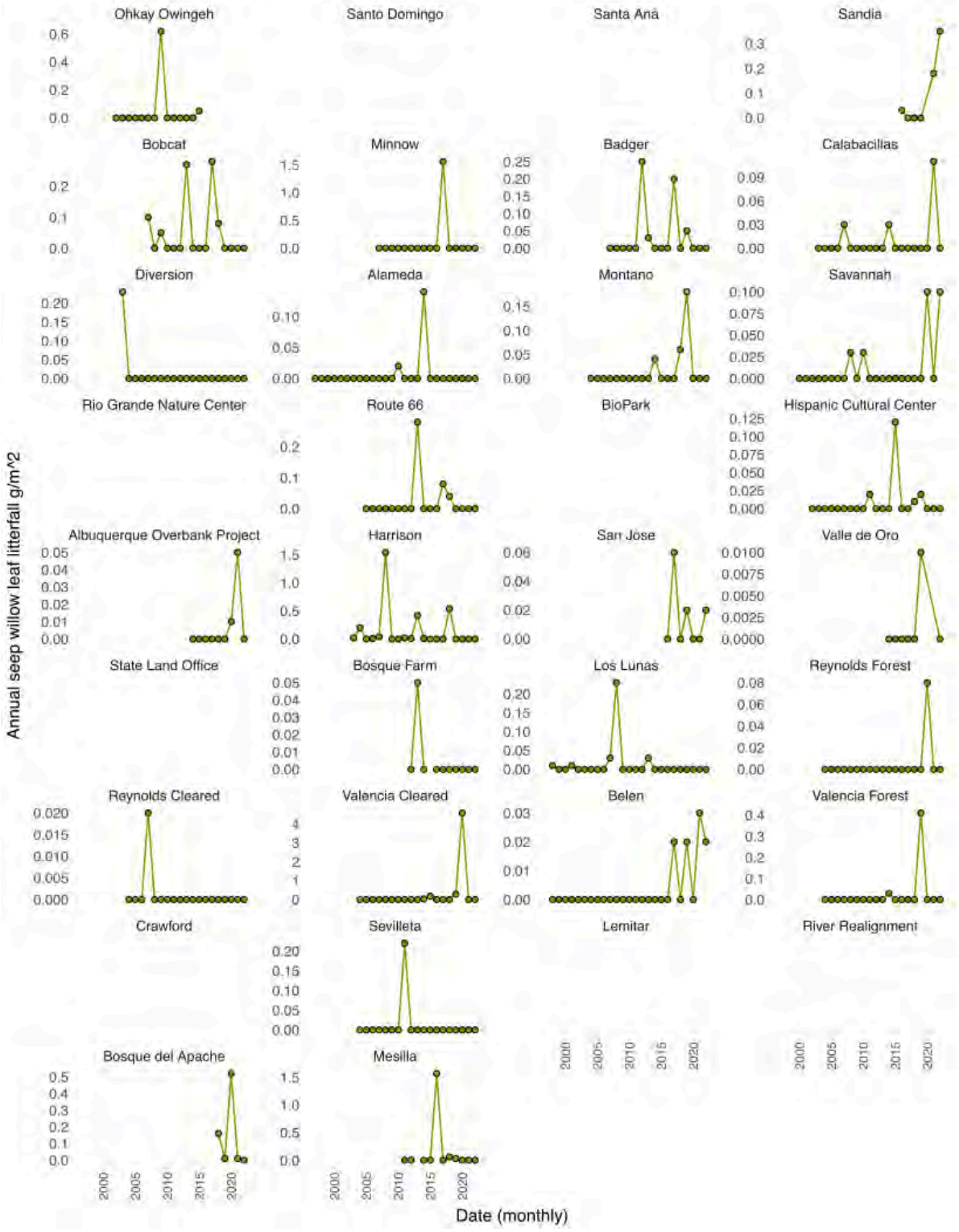


Figure 7.5 Annual sum of seepwillow (*Baccharis*) leaf fall (g/m^2) across years for each site (listed north to south). Y-axis is on a free-scale to better show data at individual sites.

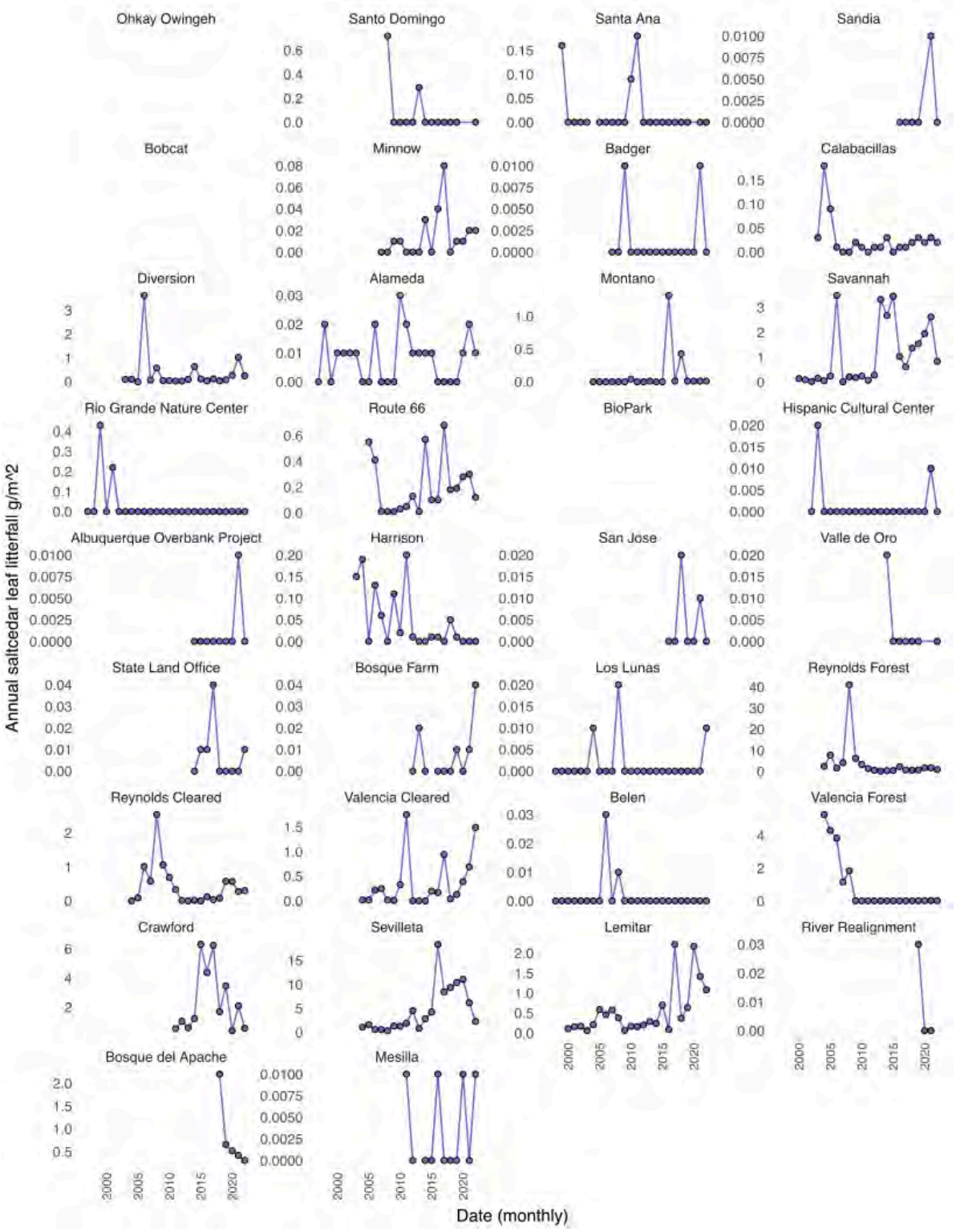


Figure 7.6 Annual sum of saltcedar leaf fall (g/m^2) across years for each site (listed north to south). Y-axis is on a free-scale to better show data at individual sites.

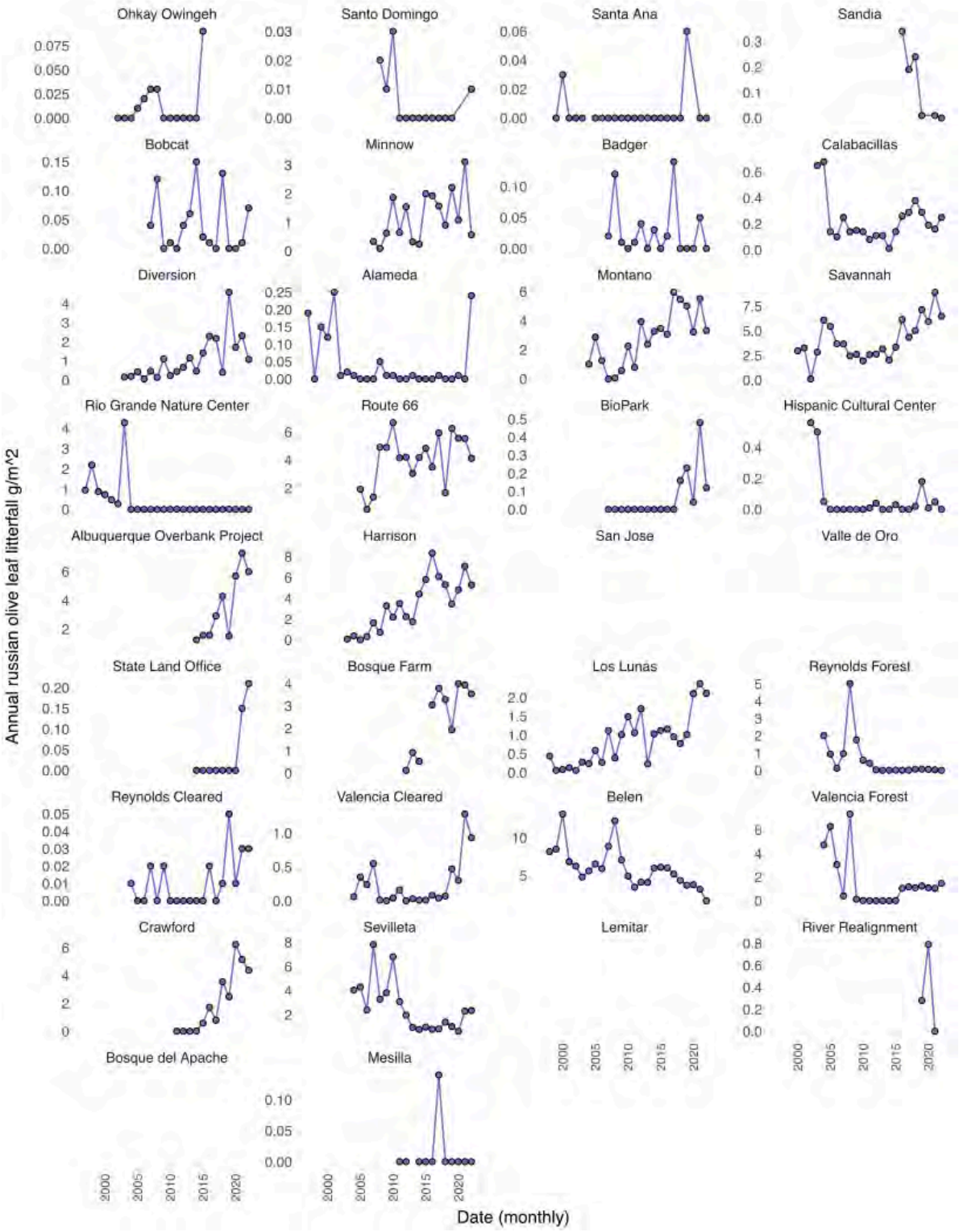


Figure 7.7 Annual sum of Russian olive leaf fall (g/m^2) across years for each site (listed north to south). Y-axis is on a free-scale to better show data at individual sites.

Annual vegetation cover

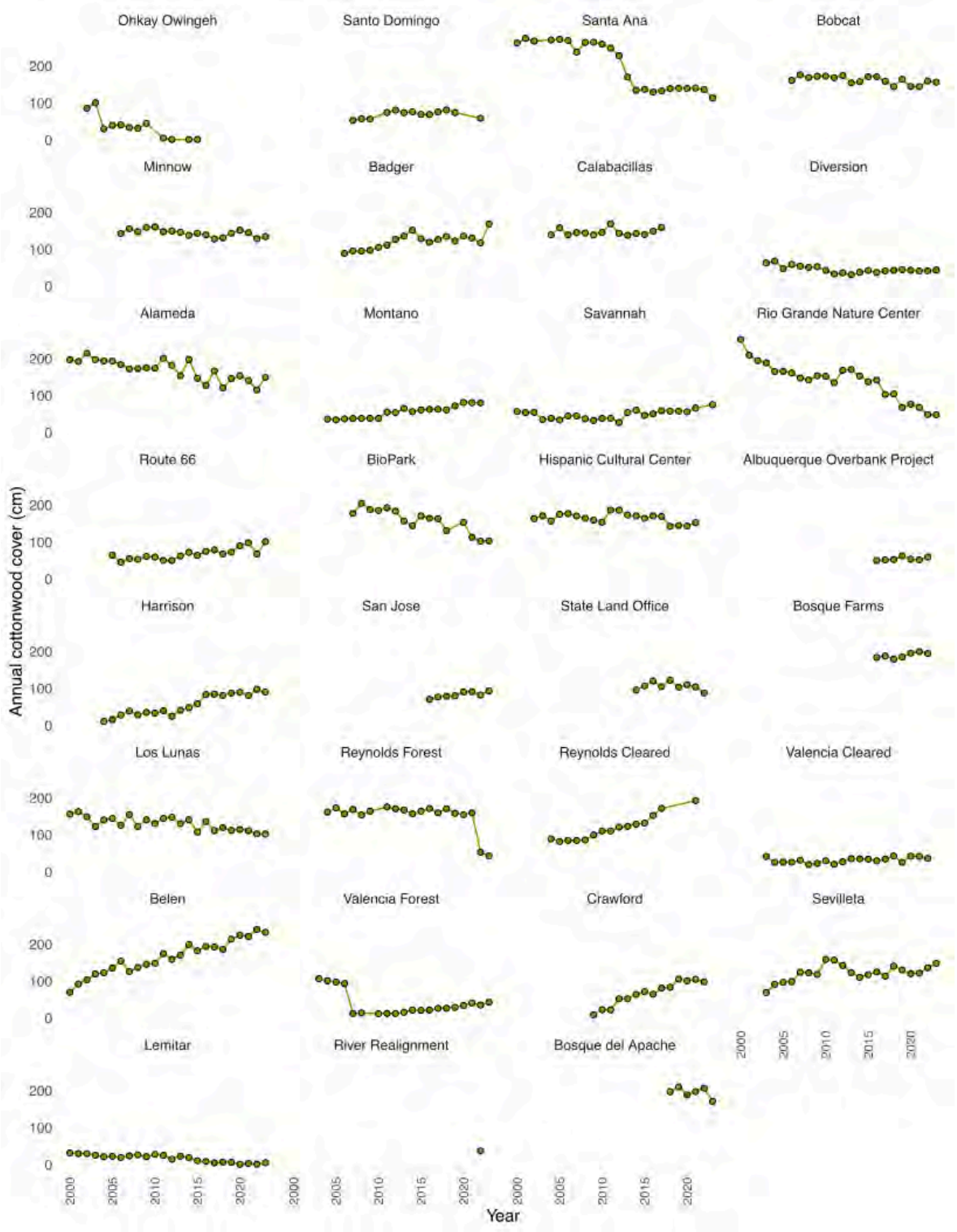


Figure 7.8 Annual cottonwood tree cover across BEMP sites. Sites are ordered from north to south. Typically sites north of I25/I40 have declining cover due to lower groundwater levels.

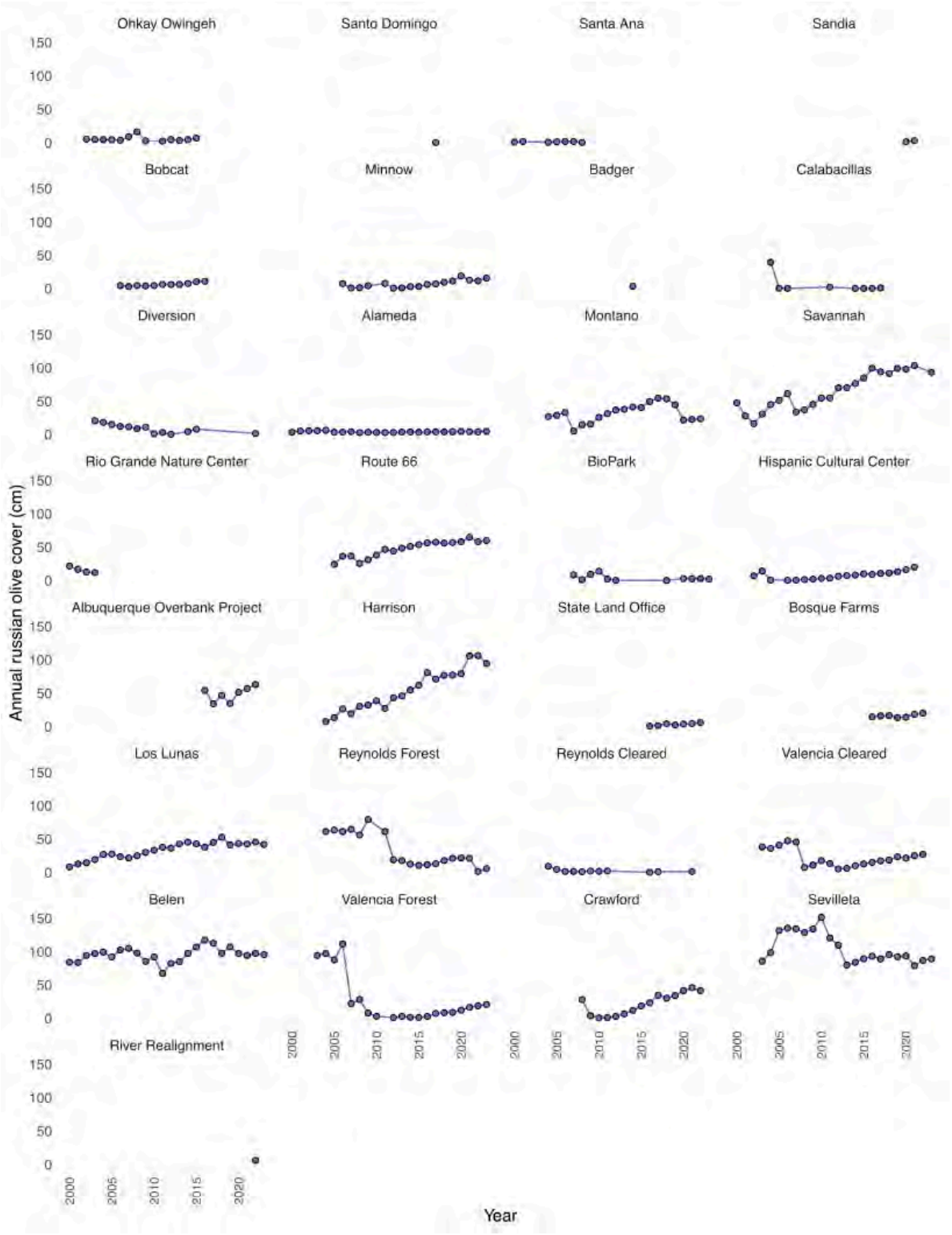


Figure 7.9 Annual Russian olive tree cover across BEMP sites. Sites are ordered from north to south. Russian olive cover continues to increase over time; however, the impact of exotic removal efforts show up as sharp decreases in cover.

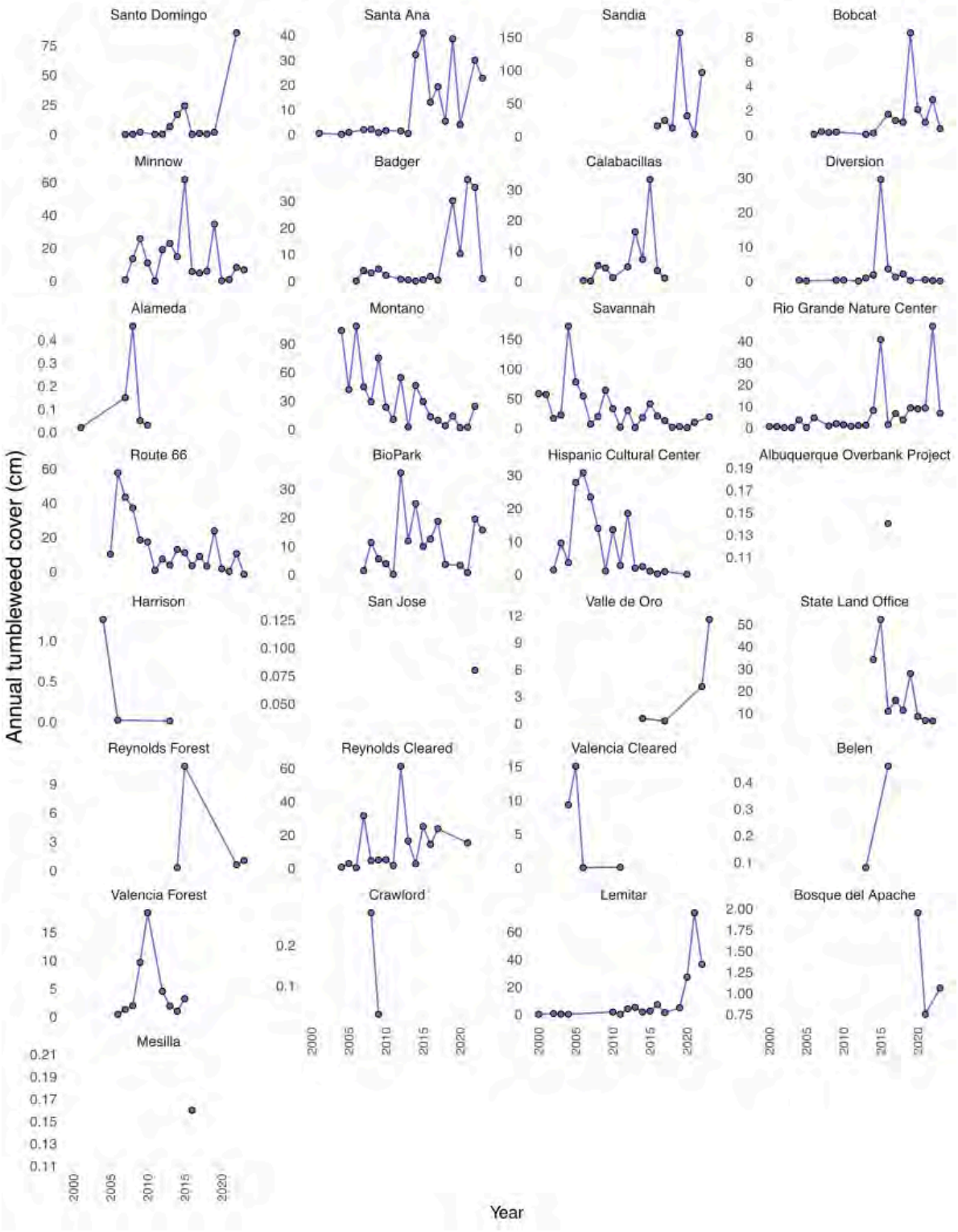


Figure 7.10 Annual tumbleweed cover across all BEMP sites. Tumbleweed cover varies quite a bit due to the interactions of exotic removal efforts, fire, and flooding.

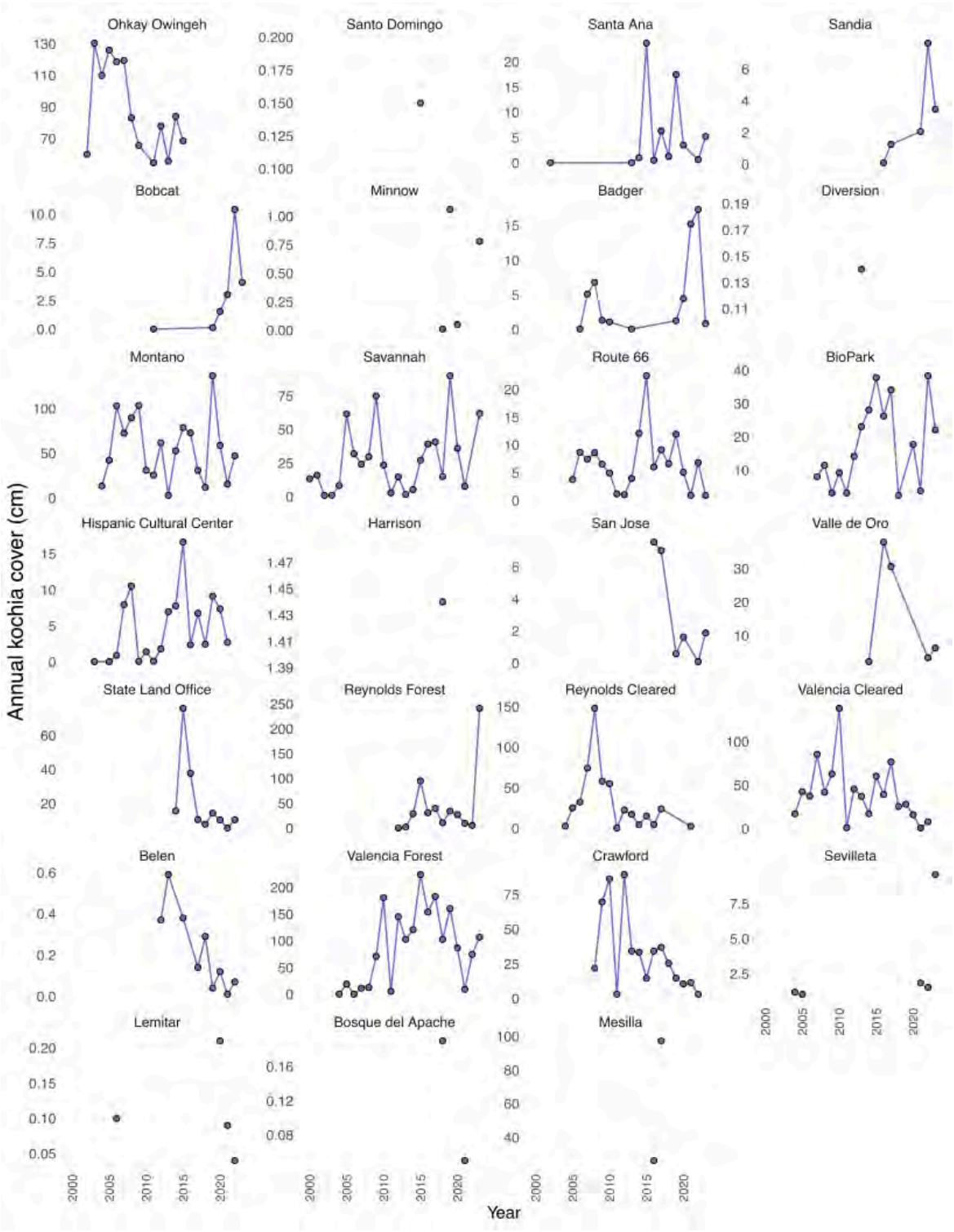


Figure 7.11 Annual kochia cover across all BEMP sites. Kochia cover is highly variable (similar to tumbleweed) due to the interactions of exotic removal efforts, fire, and flooding. In many places kochia is still persistent despite efforts to remove it but its cover relative to other plants is reduced.

Sites with higher groundwater are great for both bank-lowering and pole-planting projects or represent areas where bank-lowering or swales have been incorporated. These sites more often support younger trees and show increasing cottonwood cover. Sites with greater depths to groundwater or perched sites have little to no cottonwood recruitment and cover is decreasing over time. The sharp drop in cottonwood cover at Santa Ana starting in 2009 was part of a larger, expanding die-off of the bosque in that area. With the decrease in cottonwood cover (now 57% reduced from what it was in 2000) opening the canopy, squirrel grass, tumbleweed, and kochia started to increase in cover starting in 2011. The sharp decline in cottonwood cover at Valencia Forest in 2007 and at Reynolds Forest in 2022 were both due to fires in the Belen area. At both sites, this led to an increase in kochia and tumbleweed. Some sites have a slow, steady decline (Bobcat, Minnow, Los Lunas, Lemitar); others have a decline with small yet sharp drops due to localized fires (Ohkay Owingeh, BioPark, HCC). Alameda and Rio Grande Nature Center (RGNC) have more noticeable downward trends that are due to the dying cottonwood branches and trees at these sites. The cottonwood cover has declined by 25% at Alameda and by 80% at RGNC since the surveys done in 2000. As a non-flood site, the encroaching vegetation at RGNC is a mix of upland vegetation and invasive exotics, mostly tumbleweed. Tumbleweed has increased by over 800% at RGNC in the last 10 years. These downward trends in cottonwoods are also seen in the litterfall data, though leaf fall is more sporadic, as tree productivity responds more quickly to environmental changes. The spikes in wood fall also underline the cottonwood senescence at sites but are less indicative than cover as branches must actually fall into one of ten 40-cm diameter tubs at each site. Changes in fuel load will also be indicative of cottonwood health.

Seepwillow (*Baccharis* spp., also known as false willow or mule fat) is an important native understory shrub that has declined in this ecosystem. Seepwillow leaf fall is low compared to other species and the occasional peaks in leaf fall are still relatively small, representing leaves falling into tubs that are not always captured each year. Sites with steady seepwillow productivity levels include San Jose, a USACE-requested site with created swales that still successfully flood during higher river flows. San Jose has low saltcedar productivity, no Russian olive, and slowly increasing cottonwoods and coyote willows. Kochia and tumbleweed were only high immediately following swale construction and have remained low since then.

Exotic species such as saltcedar and Russian olive show a sporadic increase in productivity at many sites over time, with drops in productivity following targeted exotic removal projects. Russian olive cover is increasing at different rates across most sites, with drops due to management practices. Saltcedar is more sporadic than Russian olive, due to both mechanical removal and the changing outbreak cycle of the tamarisk leaf beetle. Some sites show gradual declines, like Russian olive at Belen and Sevilleta, where old growth stands are slowly dying back, or saltcedar at Crawford, which is being outcompeted by cottonwood after new establishment and repeated flooding.

Post burn assessment

Exotic recovery is particularly apparent at sites where treatment has not occurred (e.g., sites around the San Juan Chama Diversion Project Dam were cleared in 2004). Both Russian olive and saltcedar are slowly increasing. Sites with high TLB abundance show saltcedar recovery in years following TLB outbreaks. Post-burn areas that experienced flooding show native understory recovery (Los Lunas, which had no tumbleweed or kochia) while post-burn areas that did not experience flooding have high cover of exotic tumbleweed and kochia (Sandia, Reynolds Forest, Valencia Forest) (Figures 7.10 & 7.11). Both kochia and tumbleweed went from extremely low cover to abundant following the 2007 fire at Valencia Forest (Figures 7.10 & 7.11); while tumbleweed cover has been cyclic since then, kochia cover has remained relatively high (Figure 7.11). Yerba mansa has been declining in Los Lunas, but was recovering from the February 2023 fire by the time August vegetation surveys were completed. Reynolds Forest has a lower yerba mansa cover, but by August 2023, it had completely recovered from the April 2022 fire (Figure 7.12).

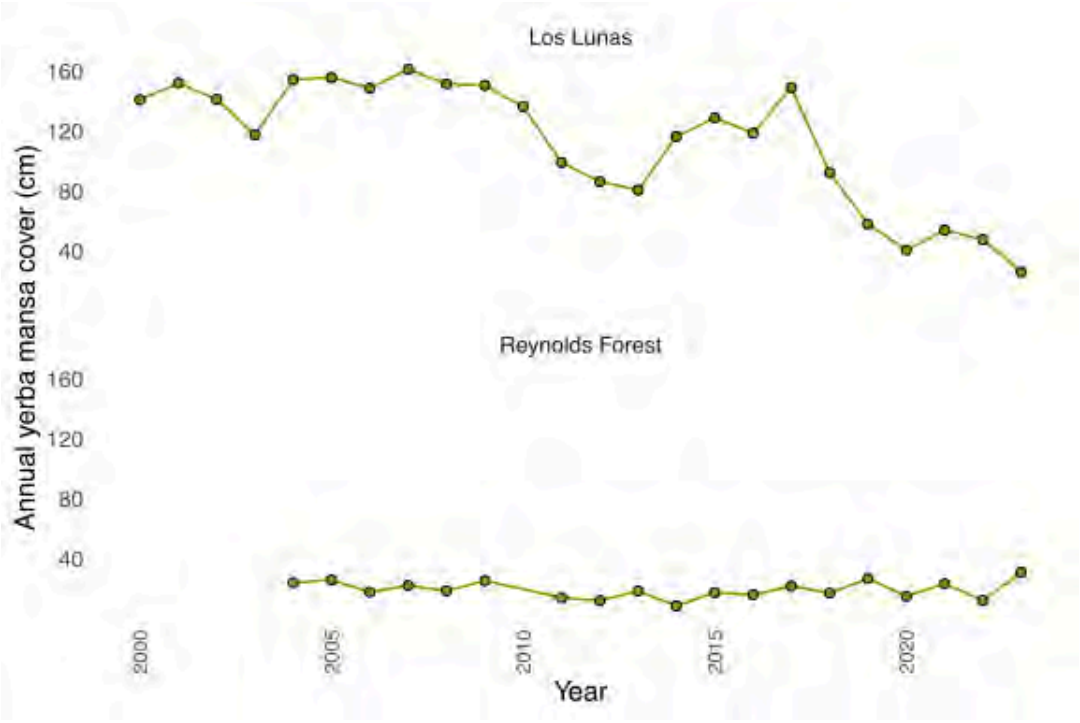


Figure 7.12 Annual yerba mansa cover at Los Lunas (partially burned in February 2023) and Reynolds Forest (severely burned in April 2022). Recovery happened quickly at both sites.

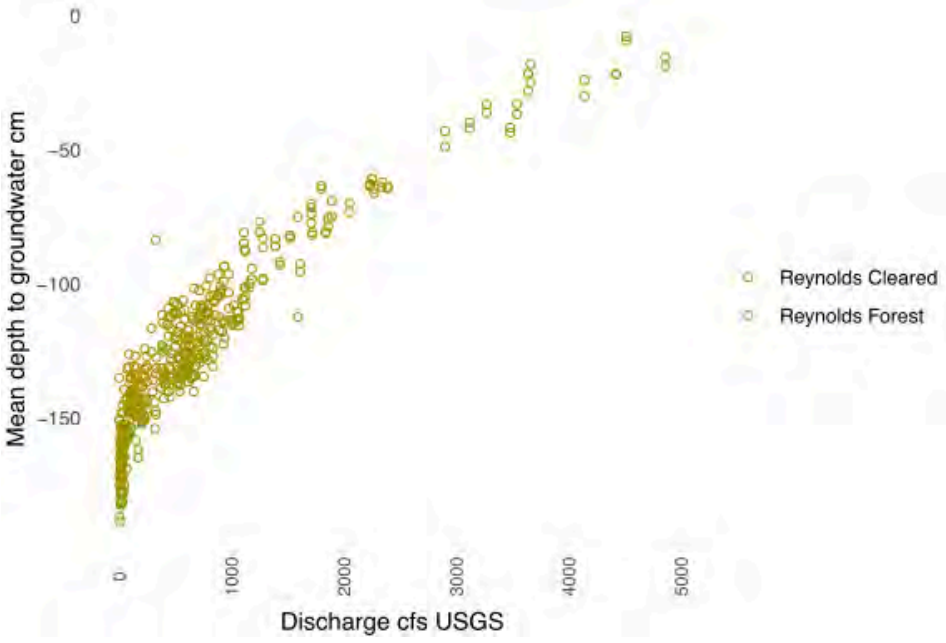


Figure 7.13 Mean depth to groundwater (cm) vs river flow (cfs) across years at Reynolds Cleared and Reynolds Forest. Groundwater levels are tightly correlated with river flow. Impacts of the Big Hole fire on groundwater can be assessed at the Reynolds Forest site.

Reynolds Forest BEMP site, May 17, 2022 (~1 month after the Big Hole fire); burned cavity from tree stump

Reynolds Forest BEMP site, May 17, 2022 (~1 month after the Big Hole fire)

Reynolds Forest BEMP site, May 17, 2022 (~1 month after the Big Hole fire); yerba mansa regrowth

Reynolds Forest BEMP site, June 22, 2022 (~2 months post fire); cottonwood resprouts in foreground, some golden currant resprouts, and thick kochia recruitment

Los Lunas BEMP site near center well, March 7, 2023, 1 week post-fire

UNM interns entering Los Lunas BEMP site, April 18, 2023, ~ 2 months post fire, floods starting

Los Lunas site, August 18, 2023, ~6 months post fire, 2 months post flood; yerba mansa regrowth

8 Surface-Active Arthropods

Surface active arthropods are monitored 3 times per year, in early May, late June, and early September through the use of pitfall traps. This report includes data through 2021. 2022 and 2023 arthropod samples are being processed, entered and checked. Full monitoring methods can be found at:
https://github.com/BEMPscience/bemp_data/tree/master/surface_active_arthropods

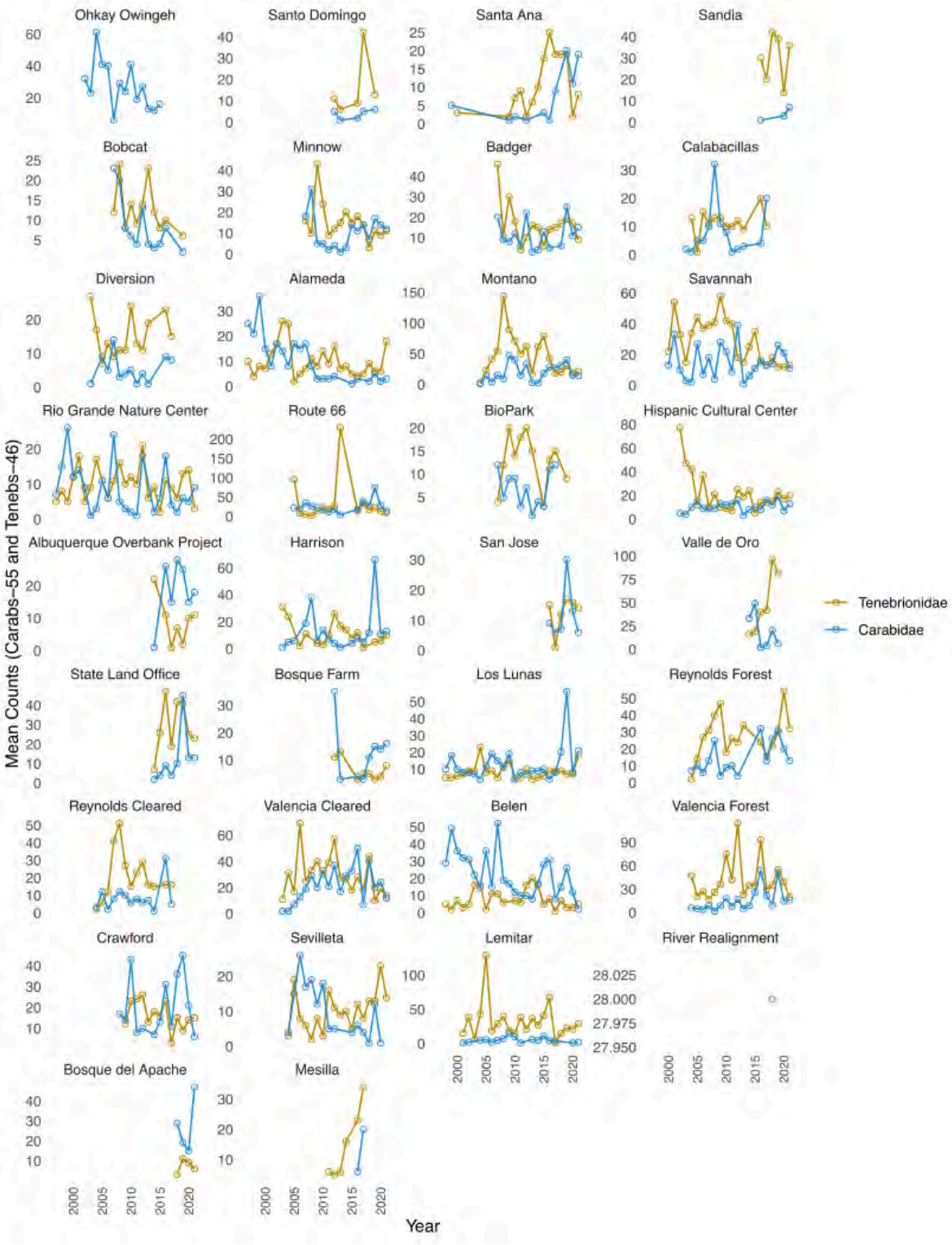


Figure 8.1 Annual mean darkling beetle (Tenebrionidae) and ground beetle (Carabidae) abundance across all sites.

Trends of surface active arthropods over time.

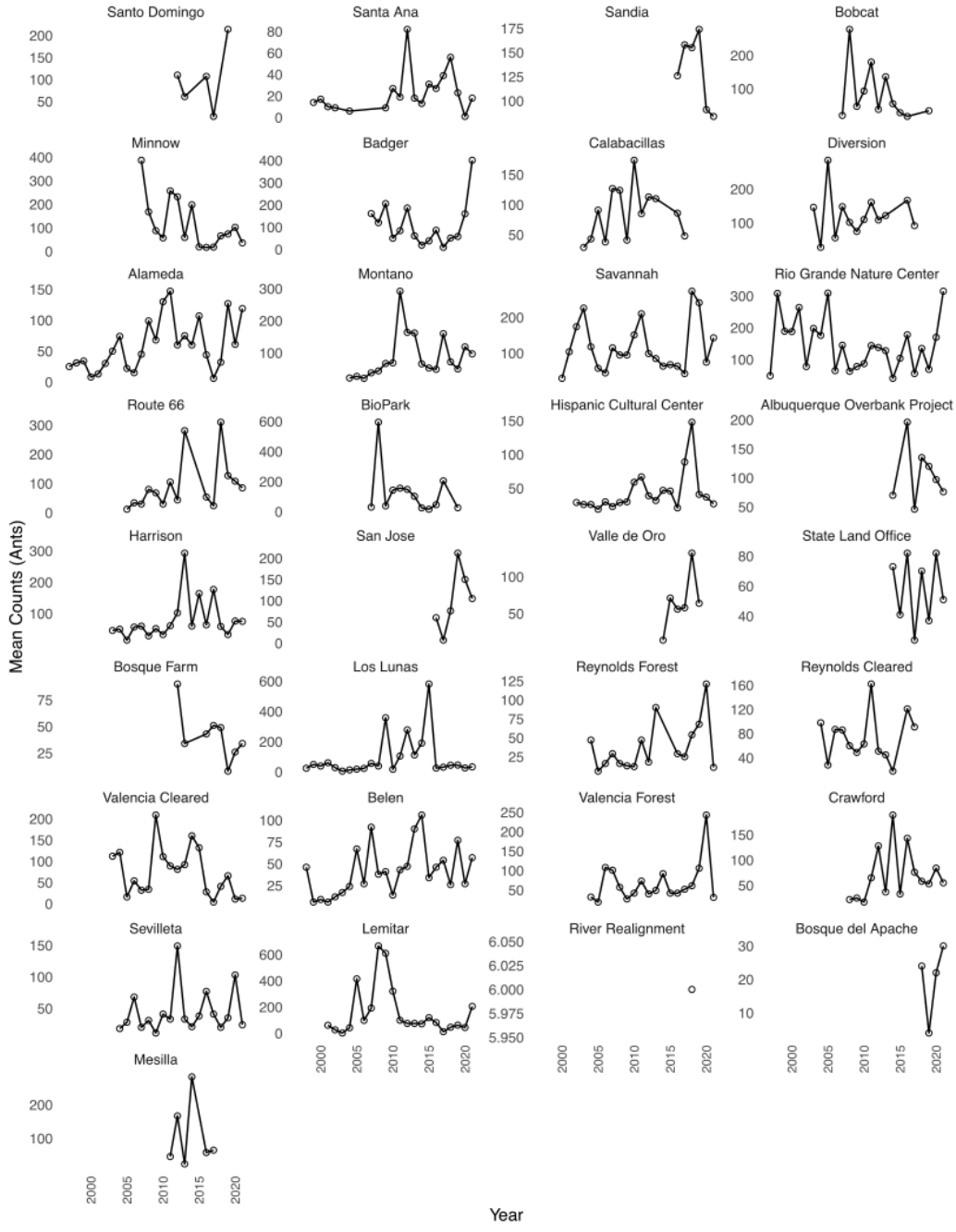


Figure 8.2 Annual mean ant (Formicidae) abundance across sites.

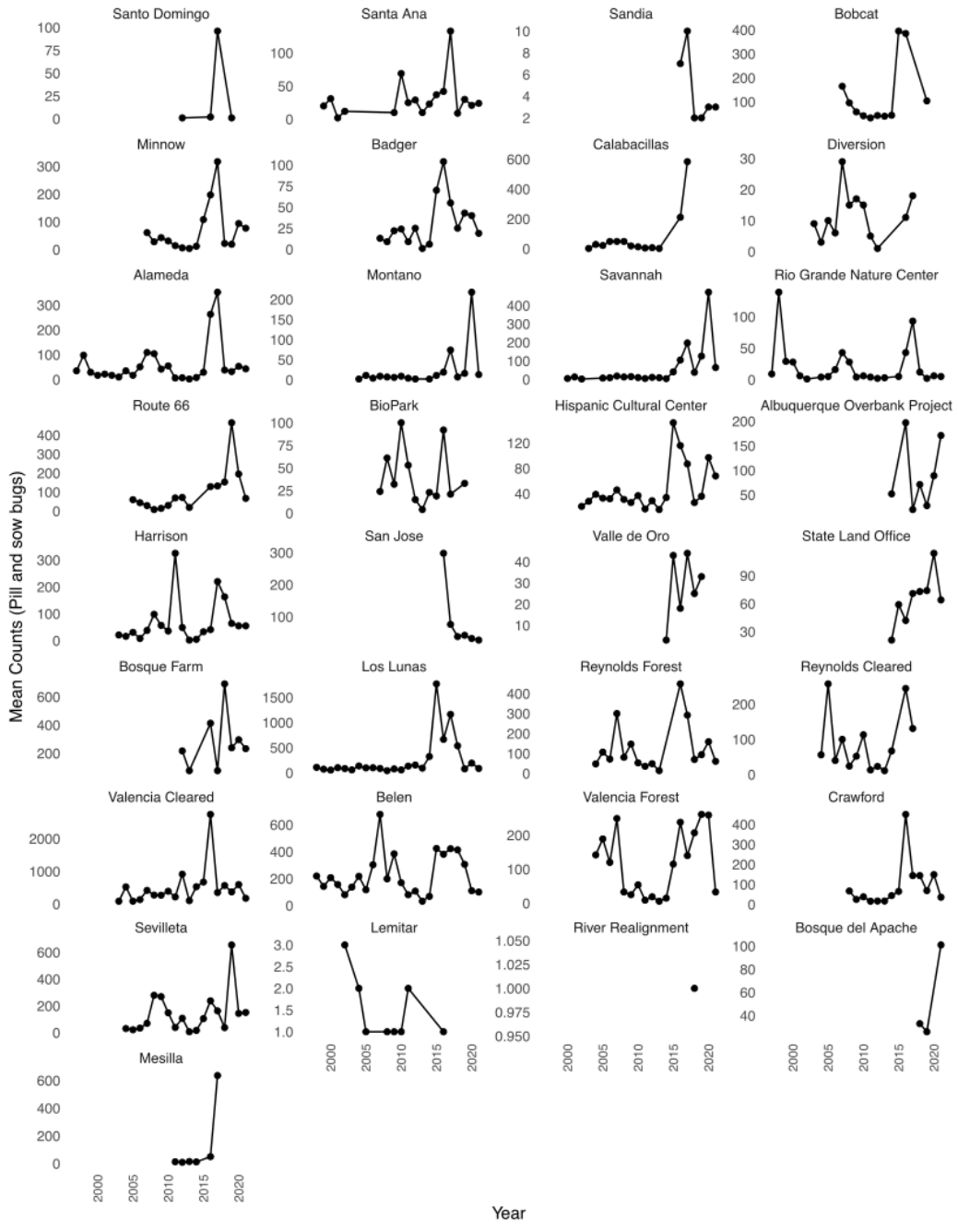


Figure 8.3 Annual mean Isopoda abundance across sites.

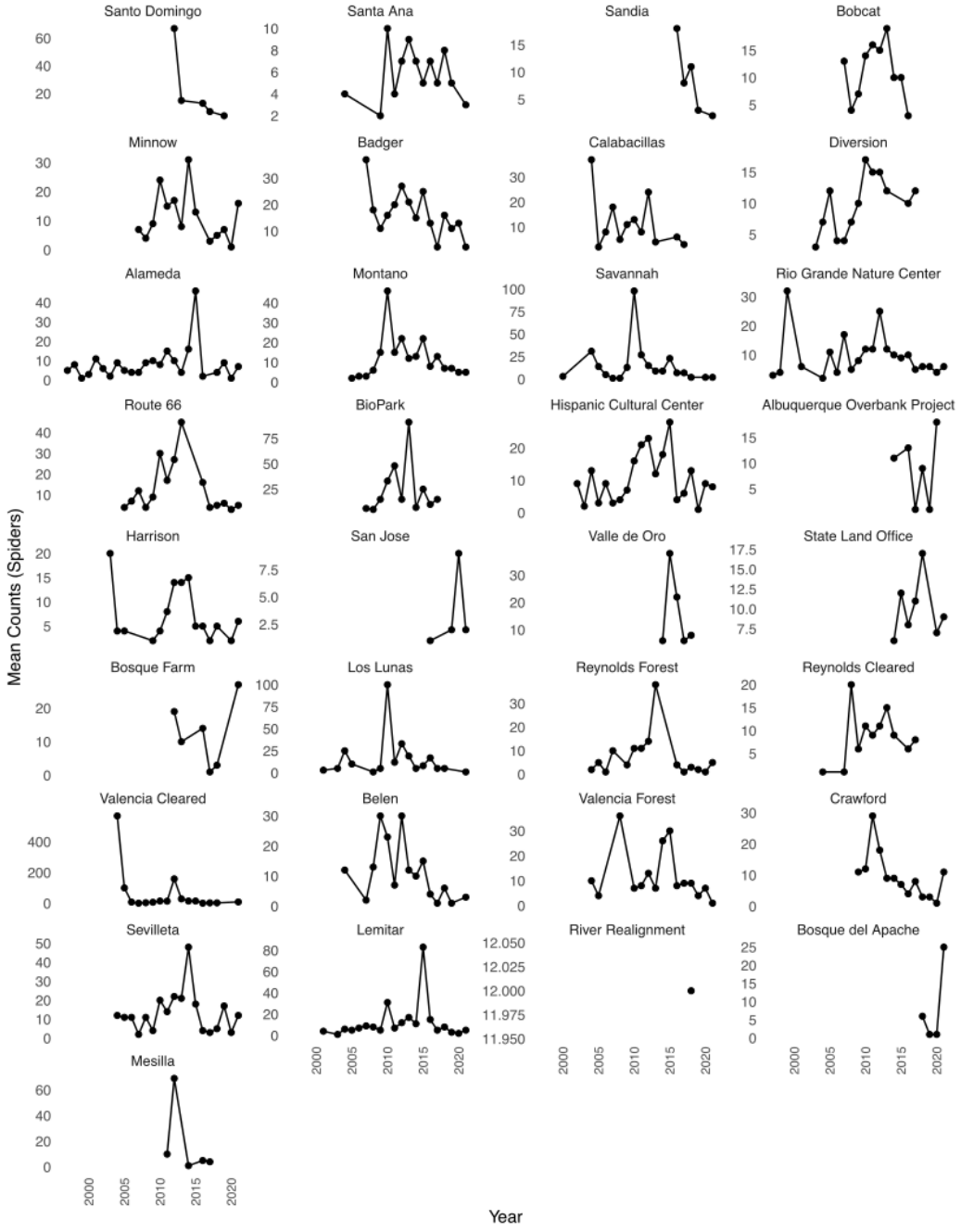


Figure 8.4 Annual mean spider (Araneae) abundance across sites.

In 2021 approximately 26,000 arthropods consisting of over 170 unique arthropod identifications were reported from BEMP sites. Belen (site# 4) had the lowest arthropod richness with 36 unique arthropod identifications, and State Land Office (site #30) had the highest richness with 56 unique arthropod identifications. Of the total arthropods identified, over 18,000 individuals were identified as Isopoda making these animals the dominant species collected in pitfall traps for 2021. Isopods are terrestrial crustaceans with two species found in the Middle Rio Grande, *Armadillidium vulgare* (pill bugs) and *Porcellio laevis* (sow bugs). These species are exotic decomposers introduced globally, and in our ecosystem, they fill niches previously dominated by crickets and other decomposers. Despite their exotic origin, these animals serve a valuable ecosystem function by aiding in the decomposition of leaf litter and fallen woody debris. Their sensitivity to moisture also makes them useful bioindicators. Pill bugs are known to be more tolerant of drier conditions while sow bugs tend to prefer relatively more mesic micro habitats. In 2021 approximately 15,000 pill bugs and 3,000 sow bugs were identified at BEMP sites. Unsurprisingly two of the most arid sites monitored, Sandia (site #32) and Lemitar (site #7) had fewer than ten pill bugs identified in 2021 (Figure 8.3).

Other indicator species include the darkling beetles (Tenebrionidae) and ground beetles (Carabidae). Tenebrionids can tolerate a variety of habitats but many are well adapted for arid environments where they are generalist omnivores feeding on fresh and decaying plant matter as well as decaying animals and occasionally fungi. Carabids form one of the most diverse families of beetles in North America, and although their diets can vary, a majority are predaceous and many are well adapted for mesic environments. At several sites where flooding has been known to occur, including Harrison (site # 13), Los Lunas (site # 3), Belen (site# 4), and Crawford (site# 25), increases in carabids following the flood events in 2017 and 2019 were documented. More arid sites, including Lemitar (site #7) and Sandia (site #32), tend to be dominated by the more xeric tenebrionids (Figure 8.1).

Ants (Formicidae) are a hyperdiverse family of insects. Species from the Middle Rio Grande form subterranean, eusocial colonies where they play important roles in ecosystems by helping to aerate soil, helping to disperse seeds, creating seed banks within their colonies, and eating a variety of living and dead organisms while being an important food source to other predators. Due to the subterranean habits of these arthropods, certain species, such as acrobat ants, (*Crematogaster* spp.) are better adapted to survival in areas prone to flooding than other species

commonly encountered in more arid environments such as harvester ants (*Pogonomyrmex* spp.). *Crematogaster* spp. were identified from 19 of the 24 sampled sites in 2021 and *Pogonomyrmex* spp. were identified from 11 of the 24 sampled sites in 2021. Tracking the occurrences of these and other ants throughout the Middle Rio Grande is important for monitoring shifts in the bosque ecosystem.

The spider, *Marinarozelotes barbatus* (Koch, 1866), has been collected at several BEMP sites located within Albuquerque since 2016. This spider is native to the Mediterranean region and was previously only documented in California within the United States before its discovery in New Mexico. Specimens have been found in pit traps at the Albuquerque Overbank Project , Harrison, San Jose, and State Land Office sites. Additionally, evidence of this spider has been documented at the BioPark BEMP site during a targeted collection effort in 2020. In 2021, this species was once again observed in traps from Albuquerque Overbank Project , Harrison, and San Jose sites. BEMP sites will continue to be monitored for evidence of this exotic species to track potential range expansions.

9 Tamarisk Leaf Beetle

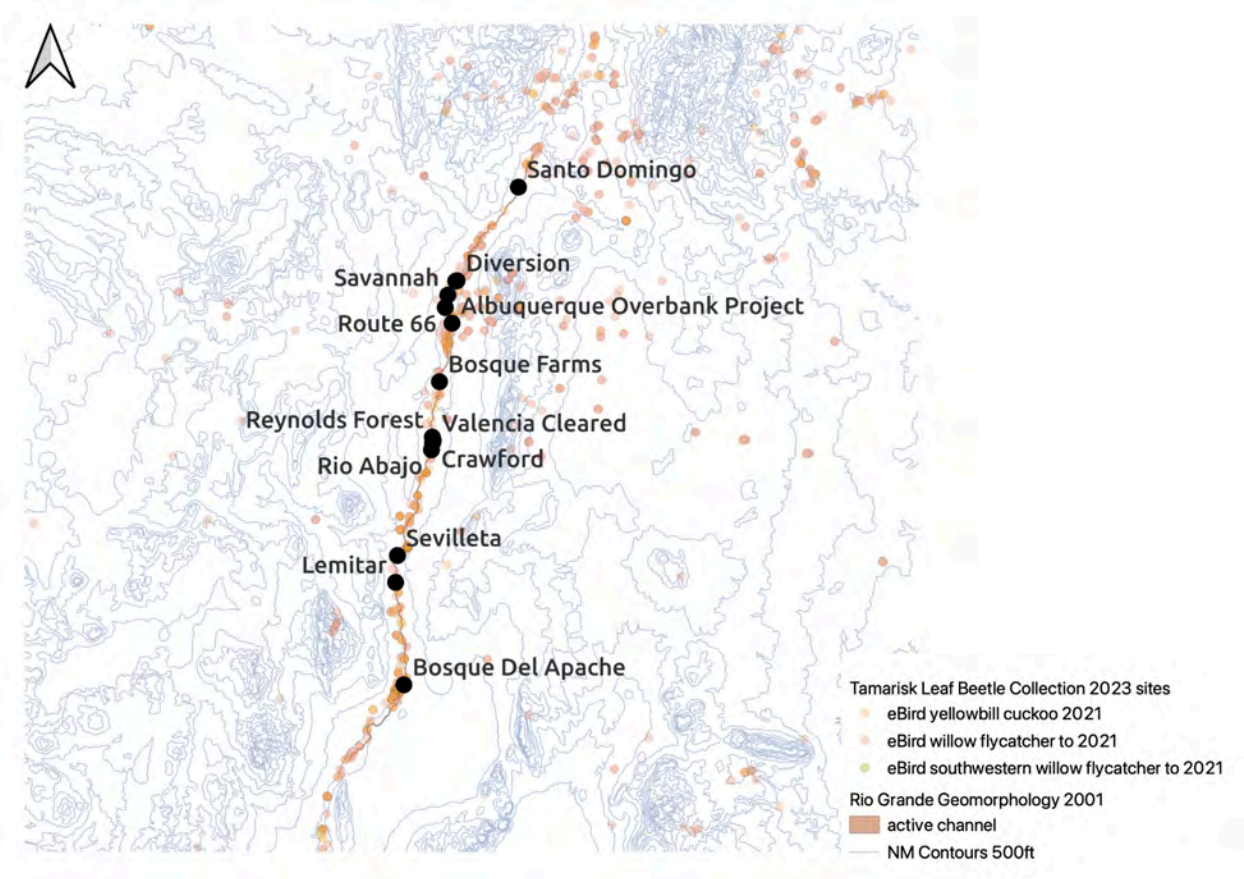


Figure 9.1 Current tamarisk leaf beetle monitoring sites for 2023 in bold. 500 foot contour intervals are in pale blue. Black circles are TLB collection sites. Tan-brown circles are ebird data from 2021 that are species of interest.

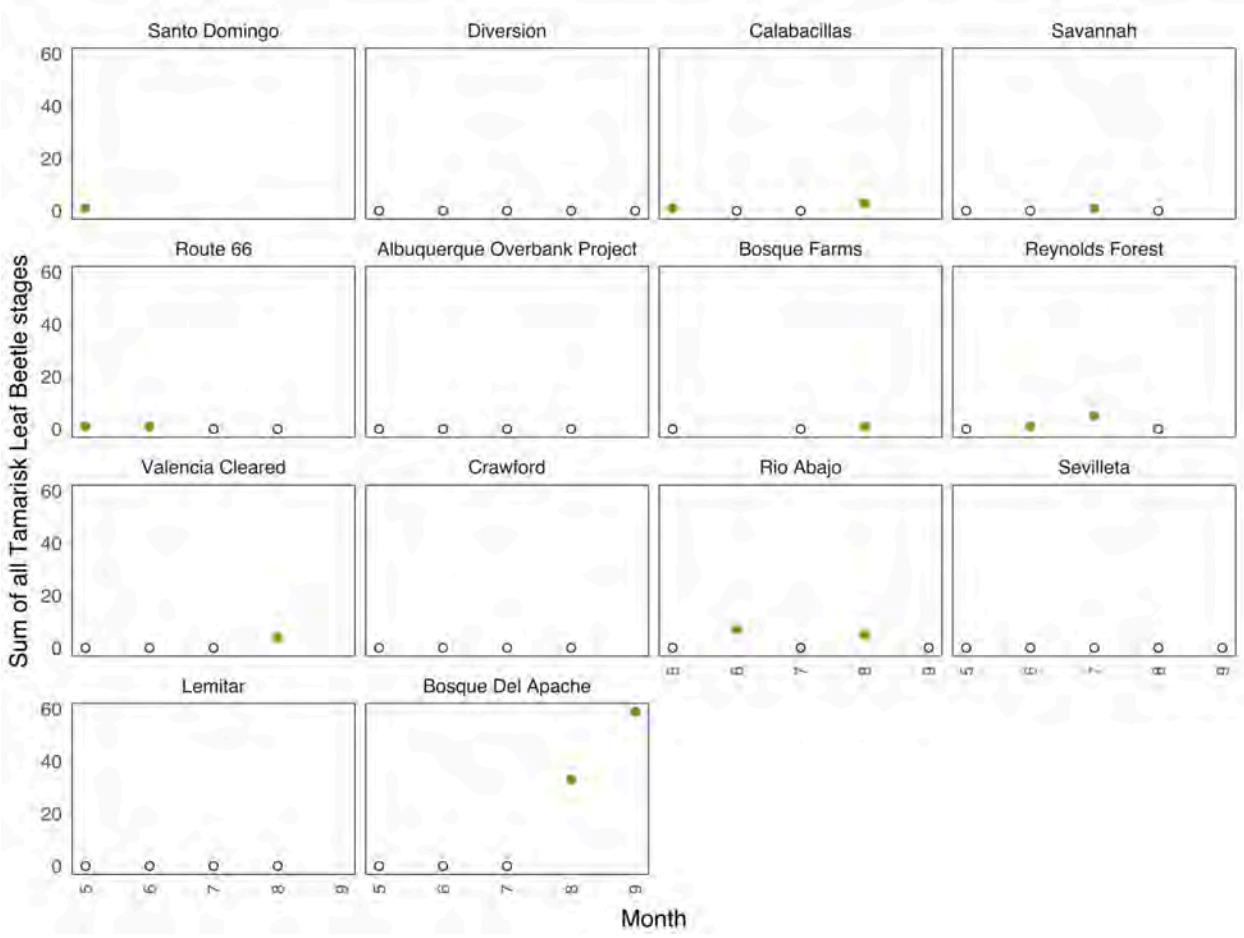


Figure 9.2 Total tamarisk leaf beetle for all life stages found at sites from May through August or September (four sites) 2023. All life stages include egg masses, early and late larvae, and adults. Hollow dots represent zeros; blanks indicate no collection. Sites are arranged from north to south.

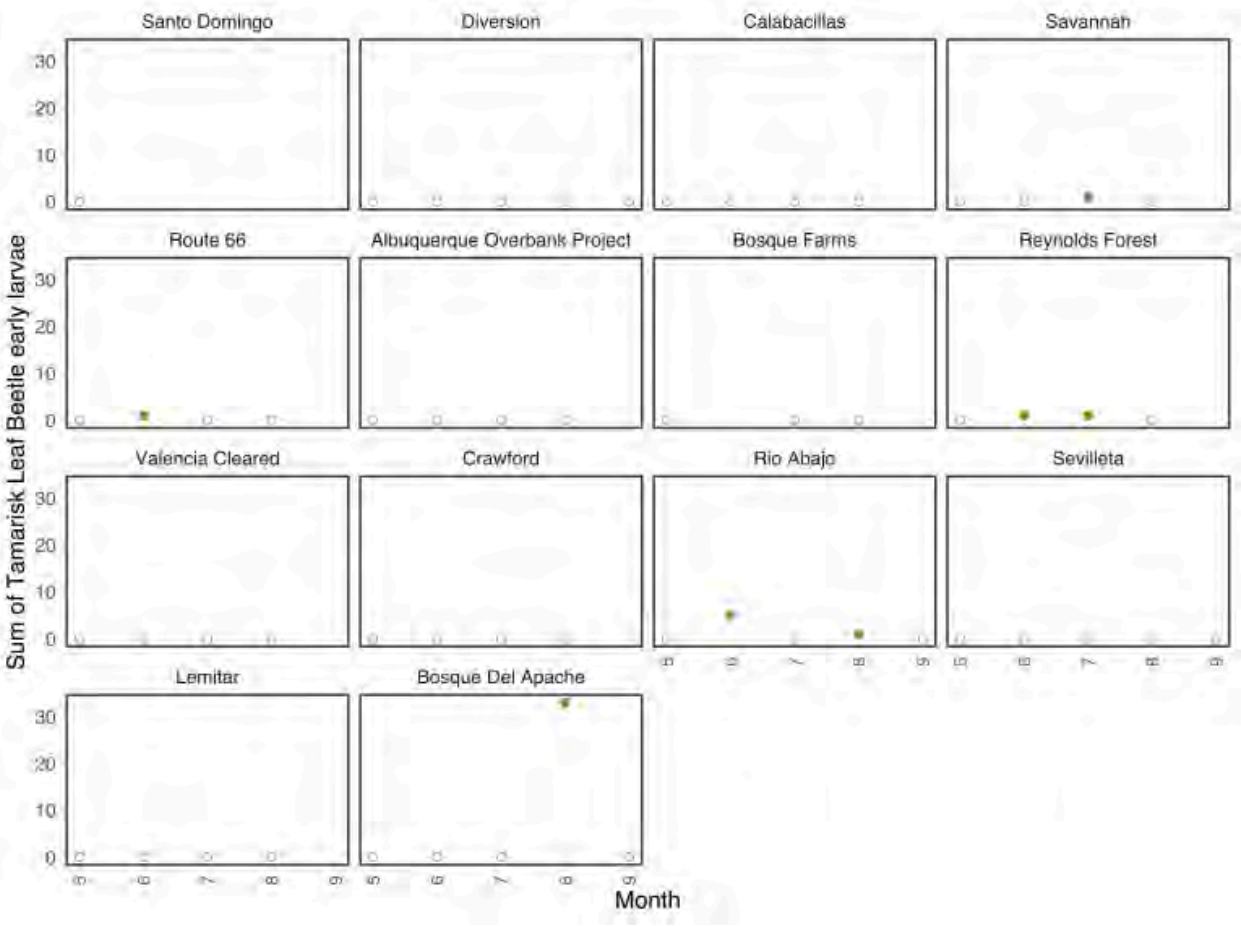


Figure 9.3 Total tamarisk leaf beetle early stage larvae found at sites from May through August or September (four sites) 2023. Hollow dots represent zeros; blanks indicate no collection. Sites are arranged from north to south.

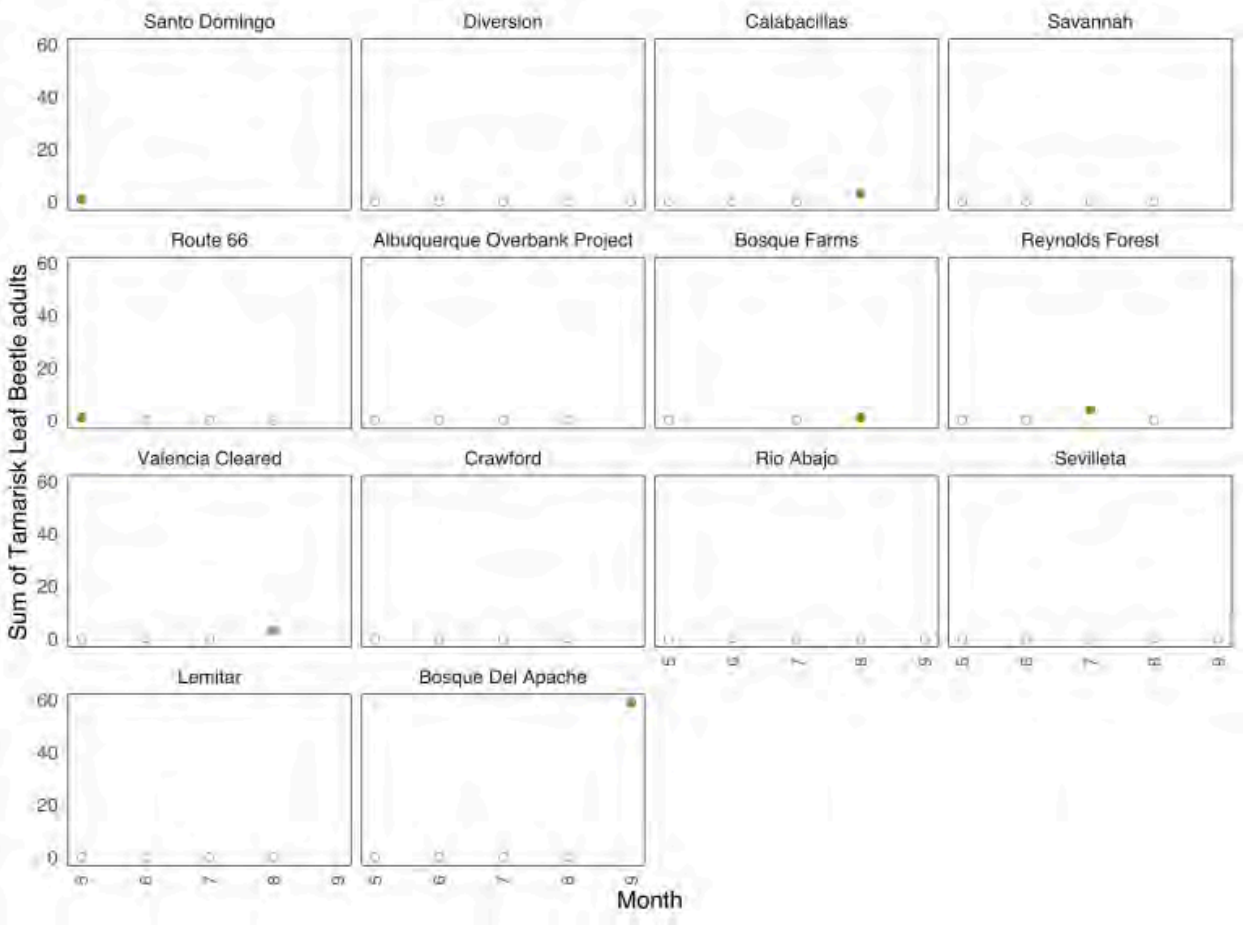


Figure 9.4 Total tamarisk leaf beetle adults found at all sites from May through August or September (four sites) 2023. Hollow dots represent zeros; blanks indicate no collection. Sites are arranged from north to south.

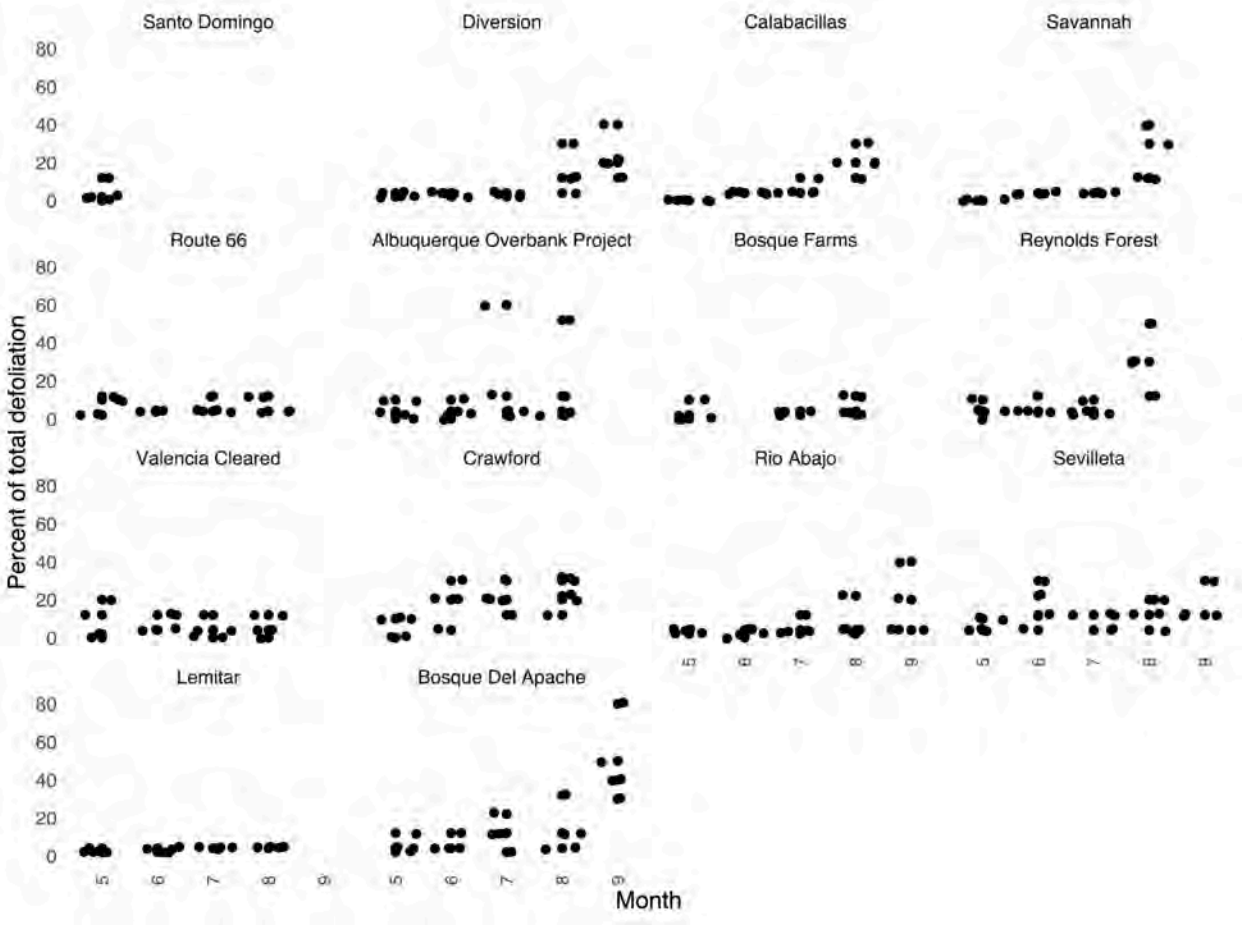


Figure 9.5 Percent total defoliation shown by tree across the sample sites for 2023. Total defoliation includes defoliation by both TLB and other defoliators.

Tamarisk leaf beetle (TLB) abundance was extremely low or absent at most sites in 2023. While many sites flooded, even sites that remained dry had low TLB abundance. Defoliation at many sites was dominated by the tamarisk leaf hopper, which was abundant this year. Bosque del Apache was the only site that had a large TLB presence, especially in September.

10 Water Quality

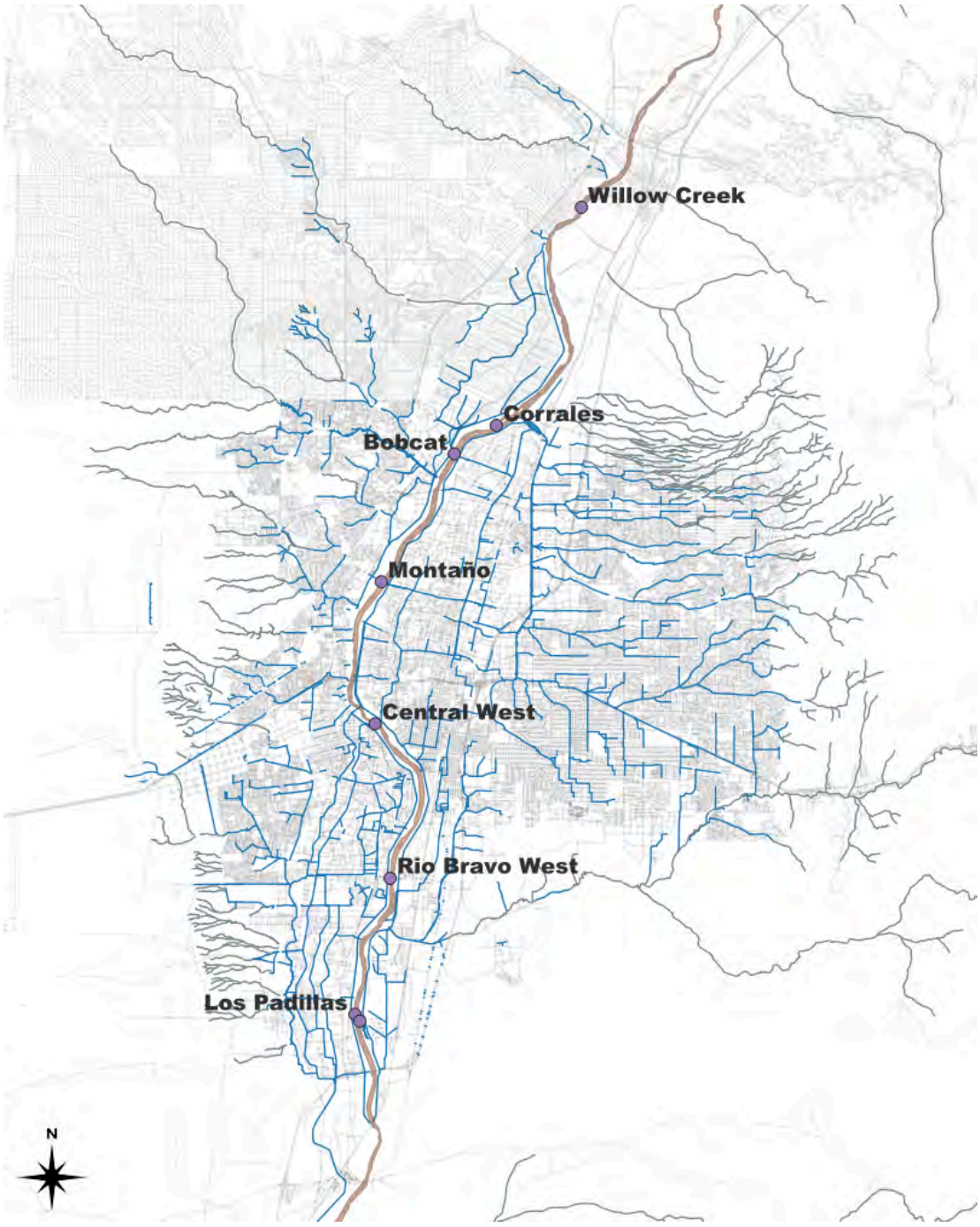


Figure 10.1. Storm water sampling locations for 2023. Additional GIS layers include arroyos, drains and ditches, city streets, and river center.

	Willow Creek	Corrales	Bobcat	Montano	Central West	Rio Bravo West	Los Padillas
February	3.1	7.4	6.3	6.3	4.1	27.2	31.8
March	7.5	2	7.5	7.5	6.3	8.4	9.7
April	<10	10	41	52	20	20	20
May	41	52	52	41	86	31	110
June	25.9	13.5	30.9	28.8	34.5	28.1	42.8
July	56.5	88.4	50.4	48	54.6	62.2	143.9
August	1607	2046	860	2909	2359	8164	261.3
September	85	118	121	63	216	63	313
October	39.9	160.7	119.8	261.3	971	369	9208
November	79.8	120.1	118.7	240	190.4	325.5	517.2
December	7.4	24.1	50.4	70.6	93.3	93.3	261.3

Table 10.1. *Escherichia coli* (MPN/100mL) samples with desired limit exceedances (88 MPN/100mL) highlighted in yellow and EPA limit exceedances (410 MPN/100mL) highlighted in orange. Sampling sites arranged from north to south.

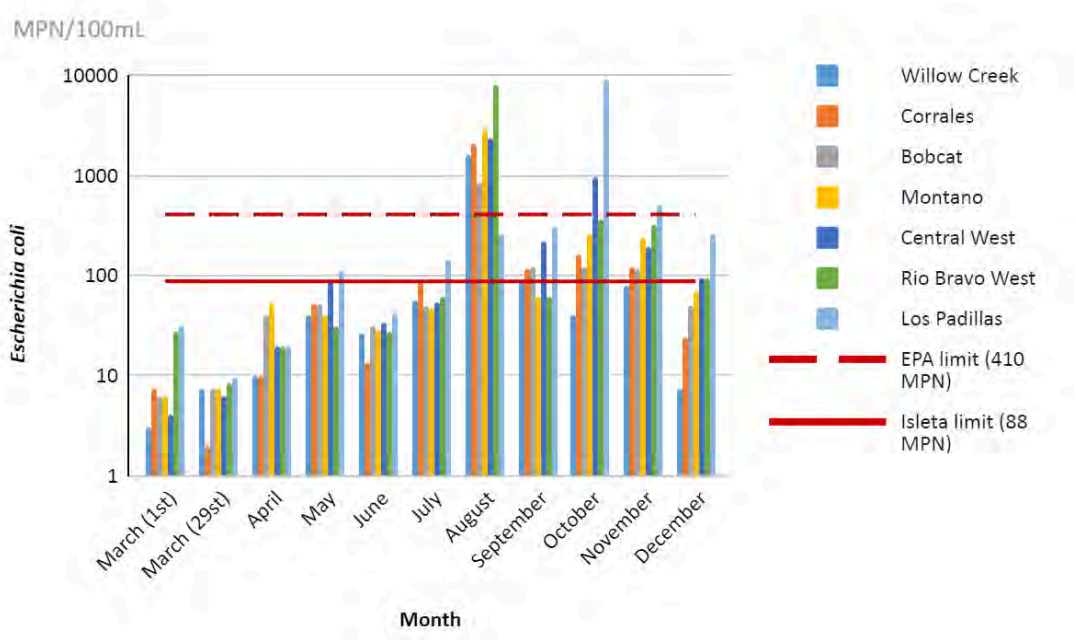


Figure 10.2 *Escherichia coli* (MPN/100mL) Log 10 scale at sampling sites across months.

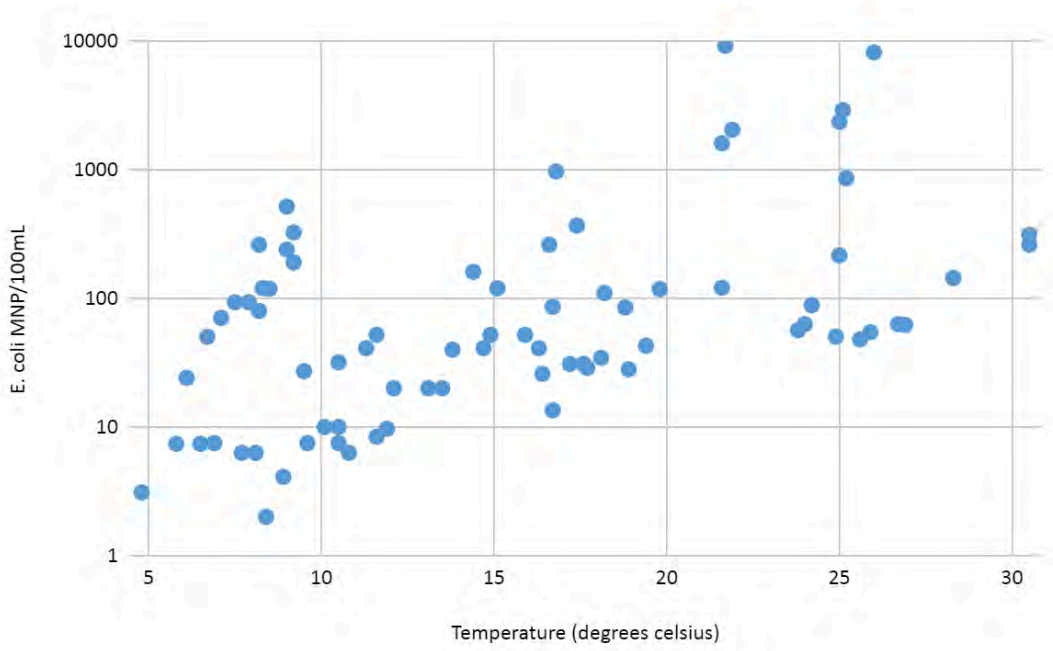


Figure 10.3 Log scale *Echeriachia coli* (MPN/100mL) vs. water temperature (degrees celsius).

Figure 10.4. Photo series of Rio Grande at Willow Creek sampling location facing upstream from March 1, 2023 – December 15, 2023, demonstrating variability in channel size and turbidity throughout the year.

BEMP is funded by the Mid Rio Grande Stormwater Quality Team to sample field parameters (specific conductance, dissolved oxygen, turbidity, and pH) and *Escherichia coli* levels in the Rio Grande. This sampling occurred monthly between March and December 2023 at seven locations seen in Figure 10.1. *Escherichia coli* levels exceeded the desired limits of 88 MPN/100mL and the EPA limits for a primary contact river of 410 MPN/100mL numerous

times during the sampling season (Table 10.1, Figure 10.2). Levels of *E. coli* are seen to increase as water flows through Albuquerque, with the highest concentration typically occurring at the southernmost sampling locations, and are positively correlated with increased water temperatures (Table 10.1, Figures 10.2 – 10.3). Monthly changes in river channel and turbidity can be seen in Figure 10.4. Sampling methodologies, details on sample sites, and results are further detailed in the 2023 Annual Stormwater Quality Technical Report, available on request.

11 Bayesian Structural Equation Models (riparian plant cover)

BEMP is constructing a Bayesian (data driven and generative model) structural equation model (SEM) using Stan (probabilistic modeling language) linking depth to groundwater, precipitation, leaf litterfall response (a proxy for productivity), vegetation cover, fire, flood, temperature, and exotic removals. Below are a couple of simple examples of SEMs, looking at one ecosystem driver (fire). Preliminary results of the SEM (Figures 11.1, 11.2, 11.3) show that native wetland plants, wet meadow grasses, and drop seed grasses all have higher cover at sites that have not burned. Sites that have burned show a variable response to fire (positive, negative, and minimal) depending on other factors (such as depth to groundwater, flooding, or management decisions, like reseeding).

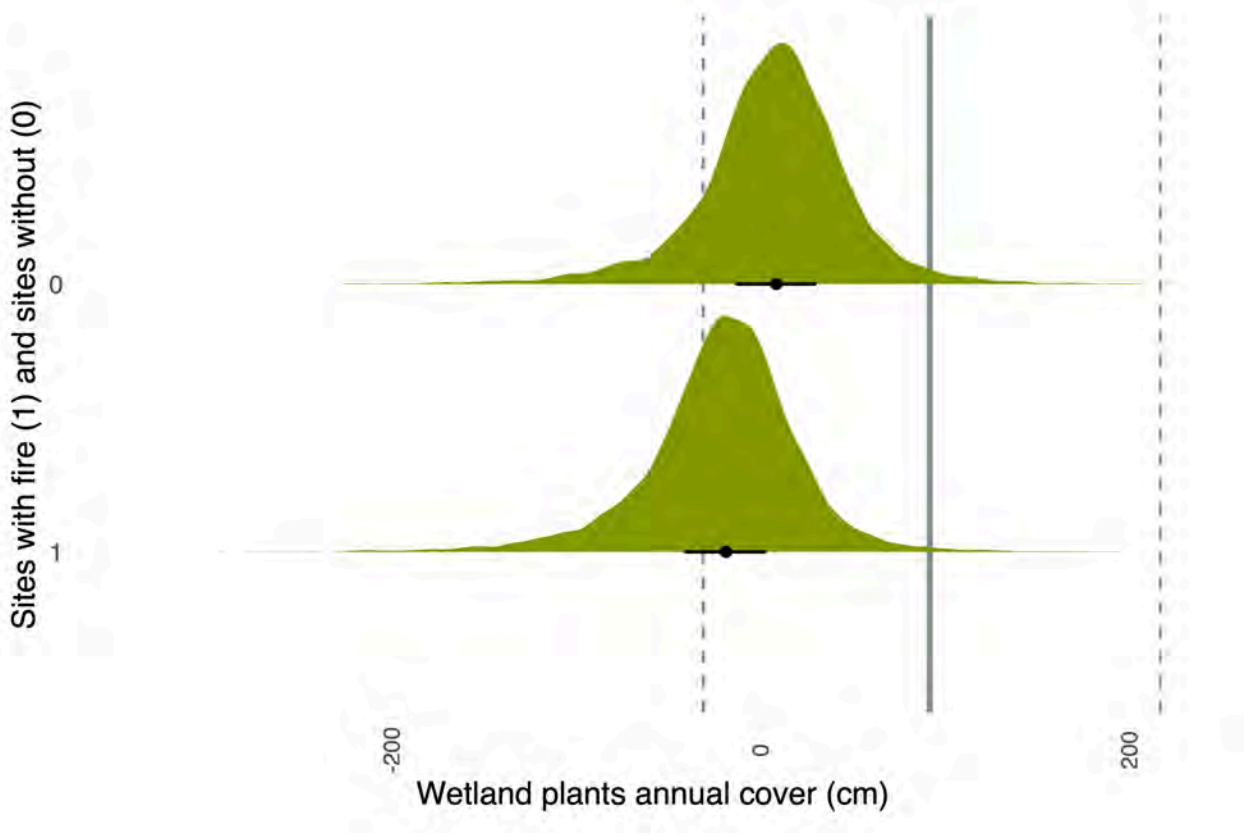


Figure 11.1 Wetland plant cover response to fire from the SEM. Posterior probability distribution (in green) with the 50% uncertainty intervals as black lines and point estimate as a black dot.

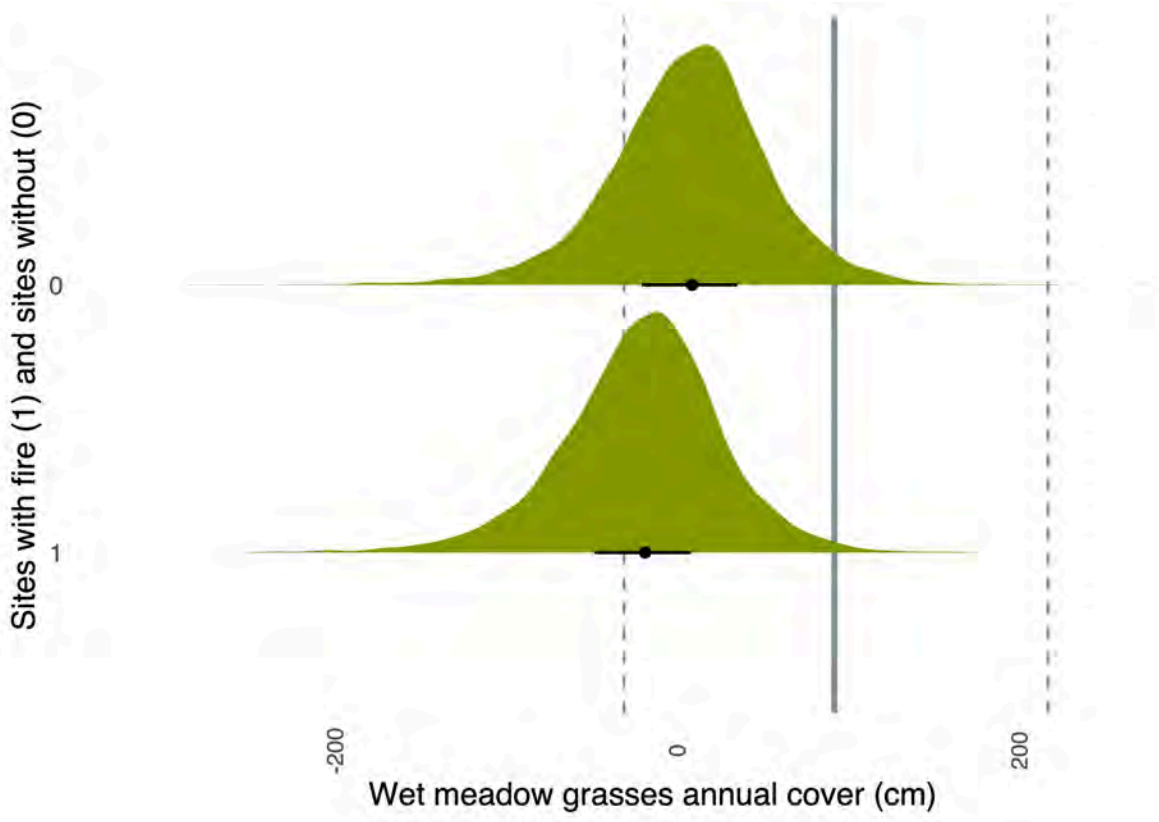


Figure 11.2 Wet meadow grasses cover response to fire from the SEM. Posterior probability distribution (in green) with the 50% uncertainty intervals as black lines and point estimate as a black dot.

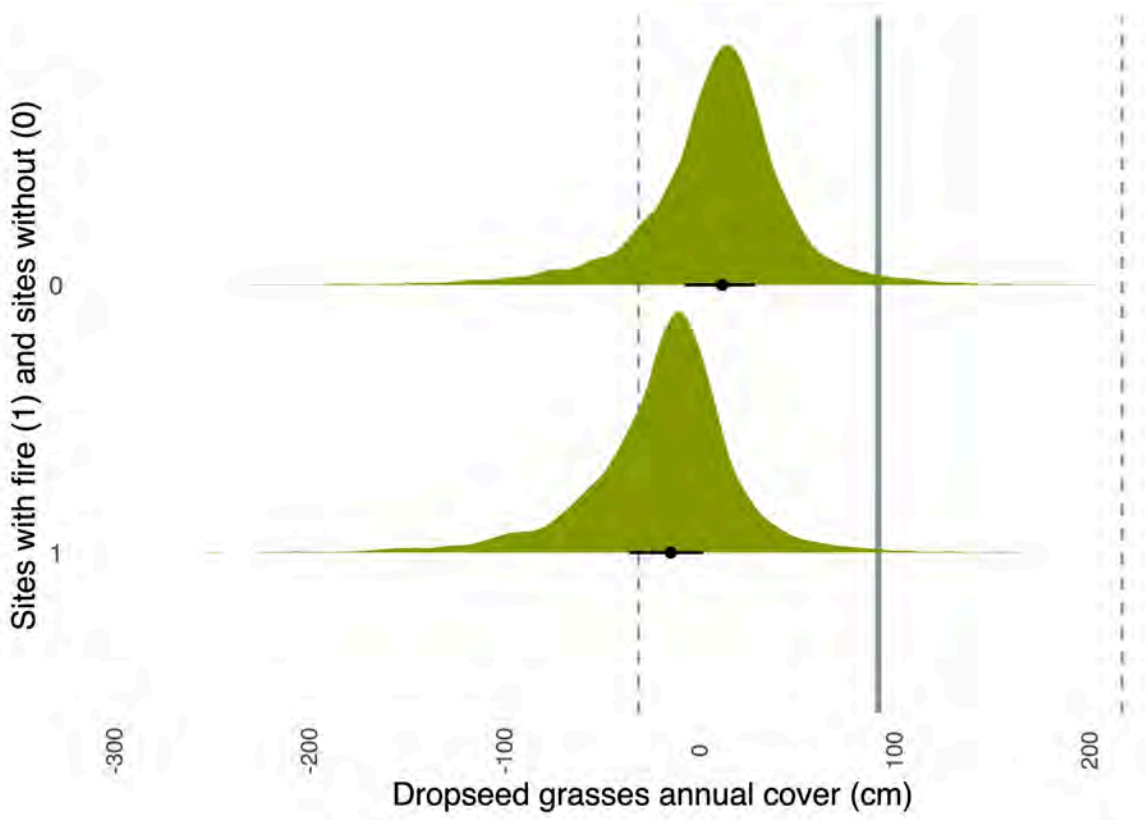


Figure 11.3 Dropseed grass (*Sporobolus* spp.) cover response to fire from the SEM. Posterior probability distribution (in green) with the 50% uncertainty intervals as black lines and point estimate as a black dot.

Kochia and tumbleweed have a different response to fire (Figure 11.4). Their combined cover increases at sites that have burned unless management action is taken to reduce their cover. This is particularly true at sites that have burned and do not flood within the same year.

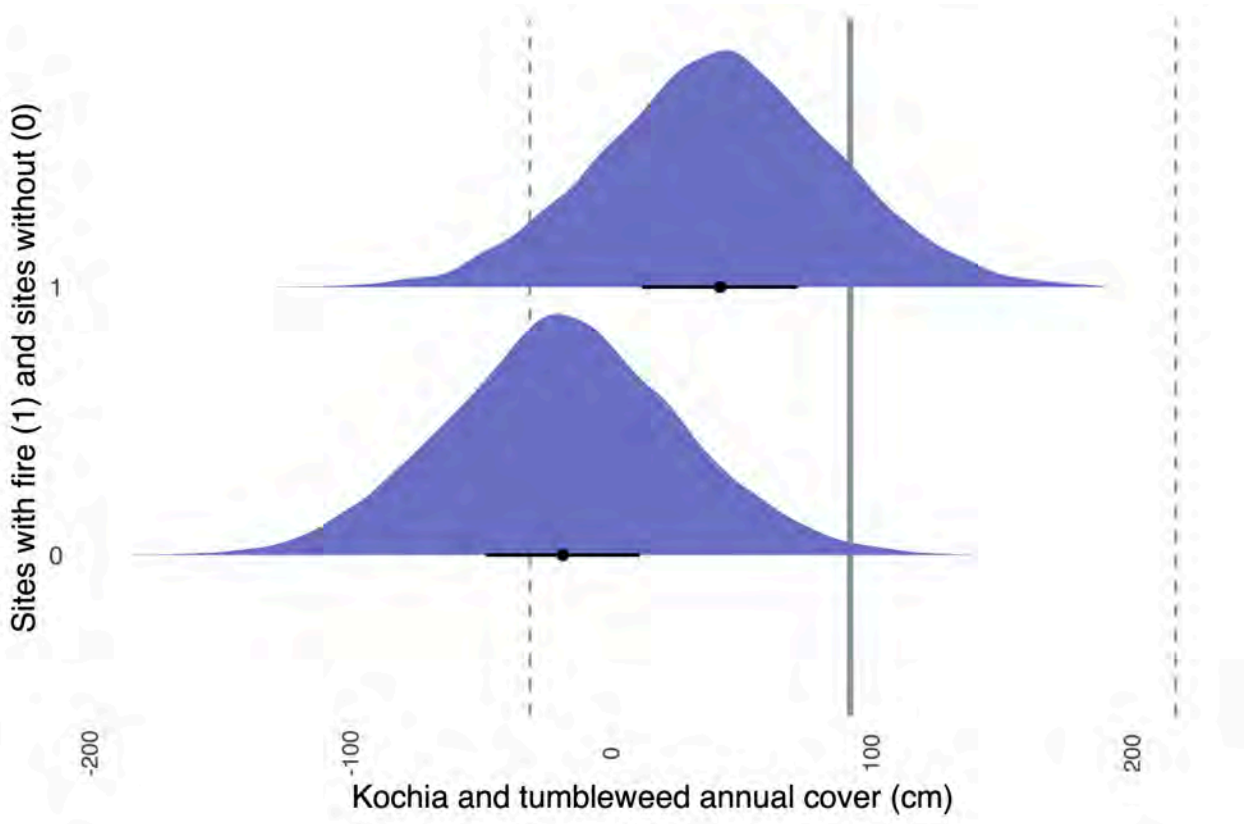


Figure 11.4 Kochia and tumbleweed cover response to fire from the SEM. Posterior probability distribution (in purple) with the 50% uncertainty intervals as black lines and point estimate as a black dot.

12 Implications for management

Data on depth to groundwater, precipitation, temperature, vegetation cover, litterfall, and indicator arthropod species are all critical for both determining what type of management strategies to use in different riparian areas and for monitoring the success of those strategies. Sites with higher groundwater levels are more likely to support successful cottonwood-willow restoration (e.g., San Jose), while sites with deeper groundwater levels require more earth-moving to establish deeper swales and wetlands in order to be successful (e.g., SLO). Establishing native vegetation following fires will depend greatly on the ability to get water on the site. Knowing what vegetation was on the site prior to the fire will aid in restoration efforts, as many native plants (e.g., golden currant, sedges, yerba mansa) are able to recover quickly after a fire, especially with stronger connections to groundwater. Without flooding, areas that were bare or disturbed generally support invasive exotics like tumbleweed and kochia following fires. These invasives can then persist for years.

Temperature data indicate that urban sites and sites with reduced canopy have warmer temperatures, directly impacting both vegetation and animals in those areas. The cooling benefits of a canopy are clearly seen at cottonwood and willow-dominated sites.

The shift to warmer temperatures, reduced spring river flows, and more variable precipitation events that occur later in the year will directly impact which species are able to thrive. Developing Bayesian SEMs to help inform management decisions, projects, and mitigation efforts will be key to maintaining ecosystem function with reduced water availability.

Middle Rio Grande Stormwater Quality Team
Annual Member
Cooperative Funding Agreement

This Cooperative Funding Agreement is made and entered into this 21st day of July, 2014, by and among the County of Bernalillo, the City of Albuquerque ("COA"), the Albuquerque Metropolitan Arroyo Flood Control Authority ("AMAFCA"), the New Mexico Department of Transportation ("NMDOT"), and the Southern Sandoval County Arroyo Flood Control Authority ("SSCAFCA"), all political subdivisions of the State of New Mexico (hereinafter collectively referred to as the "Storm Water Team"), and City of Rio Rancho (hereinafter referred to as "Annual Member").

WHEREAS, the Intergovernmental Agreement Regarding the Operation, Function, and Funding of the Storm Water Team, as amended by the First Amendment thereto dated January 22. 2014 ("Intergovernmental Agreement"), provides that potentially eligible MS4s may be added to the Team at any time on an annual basis as additional voting members, provided all requirements for membership have been fulfilled, including providing payment for the expected contribution; and

WHEREAS, the Storm Water Team wishes to add the Annual Member as an additional voting member to the Team on an annual basis; and

WHEREAS, the Annual Member wishes to be added to the Team as an additional voting member on an annual basis; and

WHEREAS, the Annual Member agrees to fulfill all requirements for membership, including providing payment for its expected annual contribution; and

NOW, THEREFORE, in consideration of the covenants and promises set forth herein, the Annual Member agrees as follows:

1. The Annual Member will be invoiced by the Storm Water Team for its annual contribution for Fiscal Year 2015 as tabulated below. The Annual Member agrees to pay the annual contribution to the Storm Water Team's fiscal agent within forty-five (45) days of the date of invoice. Failure to provide payment prior to the deadline will result in the Annual Member's membership being suspended as provided for in the Intergovernmental Agreement.

2. Upon payment of the annual contribution and fulfillment of any other requirements of membership, the Storm Water Team will update Attachment A, Contribution Schedule, and Attachment B, Annual Roster, to include the Annual Member.

3. The Annual Member agrees that by executing this Agreement it is subject to the requirements of the Intergovernmental Agreement as it may be amended from time to time, which is hereby incorporated by reference as if fully set forth herein. The Annual Member agrees to abide by the terms and conditions of the Intergovernmental Agreement as it may be amended from time to time.

4. This Agreement, including Annual Member's membership on the Team, shall be effective for the 2015 fiscal year. This Agreement may be extended beyond the initial fiscal year for additional one (1) year periods running concurrently with the fiscal year. Any extension must be completed in writing at the initiative of and authorization of AMAFCA, as the fiscal agent of the Storm Water Team, with concurrence of the Annual Member. All extensions are subject to the terms set forth herein, provided however, that the annual contribution for any subsequent years shall be established by the Storm Water Team in the Contribution Schedule, which shall be incorporated fully as if set forth herein.

5. The Annual Member's contact, designated voting member, and billing information is as follows:

Annual Member Entity:	City of Rio Rancho
Designated Voting Member:	Eugene Pettes 3200 Civic Center Circle NE Rio Rancho, NM 87144 505-891-5045 xpettes@rio-rancho.nm.us
Billing Instructions:	check
Expected Contribution:	$10,000.00

The Annual Member agrees to immediately notify the Storm Water Team and its fiscal agent in the event of any changes to the information listed herein.

Middle Rio Grande Stormwater Quality Team
Annual Member
Cooperative Funding Agreement

Date: 11/4/14

City of Rio Rancho

[Name, Title]

Keith Riesberg
City Manager

RioRancho
City of Vision

City of Rio Rancho

3200 Civic Center Circle NE
Rio Rancho, New Mexico 87144-4501
(505) 981-5005 • FAX (505) 891-0986

June 20, 2016

US EPA, Region 6
Compliance Assurance and Enforcement Division
Water Enforcement Branch (6EN-WC)
1445 Ross Avenue
Dallas, Texas 75202-2733

RE: Albuquerque Metropolitan Area Municipal Separate Storm Sewer System (MS4) Wet Weather Monitoring Site Certification, Permit No. NMR04A000

Per Table 10, Wet Weather Monitoring Program Implementation Schedules, enclosed as Attachment 2 in the letter from EPA Region 6 dated February 10, 2016, the City of Rio Rancho submits certification that the wet weather monitoring sites in the Middle Rio Grande are operational and ready for sampling. As a member of the Middle Rio Grande Stormwater MS4 Compliance Monitoring Cooperative, the City of Rio Rancho meets the criteria for a permittee with a cooperative program and qualifies for the cooperative deadline of June 21, 2016. Copies of the Intergovernmental Agreement and Cooperative Monitoring Plan are attached. Please contact Xavier Pettes by phone at 505-891-5045 or by email at xpettes@rrnm.gov if you have any questions regarding the agreement or plan.

CERTIFICATION STATEMENT

I, the undersigned, certify under penalty of law that this document, the Intergovernmental Agreement that creates the Middle Rio Grande Stormwater MS4 Compliance Monitoring Cooperative, was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

David Serrano, P.E.
Engineering Division Manager

6/20/2016
Date

Middle Rio Grande Stormwater MS4 Compliance Monitoring Cooperative

INTERGOVERNMENTAL AGREEMENT

AN INTERGOVERNMENTAL AGREEMENT, CREATING THE MIDDLE RIO GRANDE MS4 COMPLIANCE MONITORING COOPERATIVE, IN SUPPORT OF COMPLIANCE EFFORTS FOR A STORMWATER DISCHARGE PERMITTING SYSTEM FOR THE MIDDLE RIO GRANDE VALLEY IN ACCORDANCE WITH THE FEDERAL CLEAN WATER ACT.

RECITALS

WHEREAS, the United States Environmental Protection Agency (EPA), Region 6 regulates the discharge of stormwater from municipal separate storm sewer systems (MS4s) in central New Mexico through the issuance of an MS4 permit for the Middle Rio Grande valley urbanized area, under the authority of the National Pollutant Discharge Elimination System (NPDES) regulations (40CFR122); and

WHEREAS, the Middle Rio Grande valley urbanized area is comprised of many diverse local, state, federal and tribal entities, each with separate and distinct authority and responsibilities; and

WHEREAS, the Middle Rio Grande valley urbanized area entities that are eligible for authorization under NPDES General Permit No. NMR04A000 (hereinafter "MS4 Permit"), and therefore eligible to enter into this Intergovernmental Agreement (hereinafter "Agreement") in furtherance of the requirements of the MS4 Permit, are the City of Albuquerque, Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA), University of New Mexico, New Mexico Department of Transportation District 3, Bernalillo County, Sandoval County, Village of Corrales, City of Rio Rancho, Village of Los Ranchos de Albuquerque, Kirtland Air Force Base, Town of Bernalillo, State Fairgrounds/Expo New Mexico, Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA), Eastern Sandoval County Arroyo Flood Control Authority (ESCAFCA), Sandia National Laboratories/Department of Energy, Pueblo of Sandia, Pueblo of Isleta, and Pueblo of Santa Ana (collectively "Co-permittees"); and

WHEREAS, the proposed MS4 Permit requires each Co-permittee to obtain and report stormwater compliance monitoring results in their MS4 Annual Report; and

WHEREAS, the proposed MS4 Permit encourages cooperative efforts among the Co-permittees, including compliance monitoring activities, to reduce the amount of pollutants discharged with stormwater into the Rio Grande; and

WHEREAS, cooperation among the Co-permittees in the MS4 Permit through the Middle Rio Grande Compliance Monitoring Cooperative ("CMC"), with regard to monitoring requirements, offers the opportunity to reduce each individual Co-permittee's monitoring costs by cooperatively developing, funding, and executing a common monitoring plan without reducing the effectiveness of the monitoring plan.

NOW, THEREFORE, BE IT AGREED THAT:

1. **PURPOSE.** The CMC will serve as the focal point for the development, execution, and, as needed, the amendment of the Monitoring Plan required as part of the MS4 Permit. The intent of the CMC is to attain and demonstrate permit compliance for member Co-permittees with respect to the provisions of the MS4 Permit. The Monitoring Plan will be developed cooperatively among the member Co-permittees of the CMC.

2. **ELIGIBILITY.** All Co-permittees specifically identified in the MS4 Permit are eligible to be members of the CMC.

3. **MEMBERSHIP.** The CMC will include as members all Co-permittees that have signed this Intergovernmental Agreement ("Members"). Members are expected to provide funding for the ongoing operations of the CMC and to contribute financially or materially to the benefit of the CMC, either from their own assets or through the securing of contributions from others. The Members shall elect a Chairman of the CMC. The Chairman shall be elected by a majority vote of the members.

4. **VOTING.** The CMC will be made up of one voting Member from each Co-permittee in good standing, which is defined as having paid their expected contribution, as defined in the Contribution Schedule included as Attachment 1. Attachment 1 shall be updated annually by the Fiscal Agent (See Paragraph 7) to reflect Members in good standing. Each Member will designate a staff person to represent the Member's interest on the CMC and to vote on that Member's behalf. Designation of a representative may be completed at any time and under any circumstances. Other/outside agencies may participate on the CMC by attending meetings and giving input; however, only the Members in good standing may vote on CMC decisions. Decisions of the CMC will be decided by majority vote of the Members in good standing. The CMC may take action during a meeting, by telephone, or by e-mail.

5. **TERM.** The term of this Agreement shall run from the date the MS4 Permit is issued by the EPA until the date the MS4 Permit is terminated or expires, whichever occurs first. This Agreement may be terminated in its entirety at any time upon the mutual agreement of all of the then-existing Members to this Agreement.

6. **FISCAL MATTERS.** In the first Calendar Year of this Agreement, the CMC will meet to develop a budget based on the costs for implementing the Monitoring Plan for MS4 Permit compliance. To ensure sufficient funding is available to carry out the Monitoring Plan, the budget shall equal 110% of the estimated costs associated with the Monitoring Plan, including estimated contingencies. In subsequent years, the budget will be based on the actual expenditures from the prior year's monitoring activities plus any reasonable increases identified by the CMC. Each Member shall commit funding to the CMC based on the Contribution Schedule established for that year, which Contribution Schedule shall be in a total amount of not less than the budgeted costs. In-kind contributions shall be permitted in lieu of all or a portion of a Members cash contribution,

provided however, that participation in the CMC shall not be considered in-kind contributions. The value of in-kind contributions will be determined by the membership of the CMC by equating the value of the service to the cost that would be paid by the membership of the CMC to have the in-kind service performed by a third party (non-CMC member) contractor. The Contribution Schedule is located in Attachment 1 to this Agreement. This Contribution Schedule may be modified by the CMC annually without requiring modification to this agreement, provided however, that it shall be adopted by unanimous vote of the Members. Any funds remaining at the end of the Agreement Year will be carried into the next Calendar Year of this agreement. In such event, the CMC may either elect to retain the excess funds from the prior Calendar Year as a contingency fund, or may lower the annual contribution schedules for that year for all Members in equal proportion, based on the total amount carried forward. In the event a Member does not have the resources to provide full payment for any funds required by the Contribution Schedule, the remaining Members may agree, by unanimous vote, amend the Contribution Schedule if it is in the best interest of the CMC. Each Member's obligations under this Agreement are contingent upon sufficient appropriations being made therefor by such Member's governing body sufficient to fulfill such Member's said obligations. If such appropriations are insufficient to such Member's obligations hereunder, such Member's shall promptly notify the other Members, and this Agreement shall terminate forthwith with respect to such Member.

7. **FISCAL AGENT.** The Members shall select one (1) Co-permittee to act as Fiscal Agent for the CMC for the purposes of this Agreement. The Fiscal Agent shall act as the custodian of the CMC's funds, securities, and property. All funds will be held in a separate bank account for the purposes of this Agreement. All CMC funds shall be deposited promptly by the Fiscal Agent to the credit of the CMC. The CMC shall adhere to the Fiscal Agent's accounting and procurement procedures, provided such procedures comply with law. The Fiscal Agent shall make available to any interested Member, all records, receipts, and other documentation with respect to all matters concerning this agreement and shall have this account included in its annual audit. The Fiscal Agent shall maintain funds in accordance with all applicable state and Federal statutes. The Fiscal Agent shall be authorized on the CMC's behalf to sign checks, drafts, or other instruments for payment of money, acceptances, notes, or other evidences of indebtedness, to enter into contracts, or to execute and deliver other documents and instruments. This authority to enter into any contract or negotiated agreement shall be subject to approval by the CMC and subject to any limitations as set forth in this Agreement. Subject to the provisions of this Agreement, no loans shall be contracted on behalf of the CMC and no evidence of indebtedness shall be issued in its name unless authorized by a unanimous vote of the CMC Members. In consideration of the in-kind contributions anticipated from the Fiscal Agent, the total financial contribution requirements of the Fiscal Agent's Member agency, under any applicable agreement, shall be credited by the sum of one thousand dollars ($1,000.00) for the term of the permit in which that Member serves as the Fiscal Agent.

8. **PAYMENTS.** The Fiscal Agent will invoice each Member for their respective participation, minus the values of any CMC approved in-kind contributions at the start of each member entity's Fiscal Year. Each Member will pay such invoices to the Fiscal Agent within one hundred twenty (120) days of the date of the invoice. Failure to pay invoices within 120 days of

the date of the invoice shall deem the Member not in good standing status until payment is made in full. Invoices will be sent to CMC Member entities listed in Attachment 1.

9. **PARTICIPATION.** It is intended that the CMC's operation and function described in this Agreement are ongoing, subject to continued support and authorized funding by each of the Members. Each Member has the option to not participate in this Agreement in the future by sending written notice to all the other participating Members twelve (12) months prior to the Member's proposed withdrawal. This time requirement is made so that all Member Co-permittees will have the opportunity to update their Storm Water Management Plans (SWMP) to reflect the change in status of the cooperative sampling effort and obtain EPA's concurrence on the amended SWMP. In such an event, the terminating Member shall not be entitled to return of any contribution(s) made under this Agreement, and this Agreement shall remain in full force and effect by and among the remaining Members.

10. **OUTSIDE CONTRIBUTIONS.** The CMC may accept contributions from outside funding sources, to be used to support the CMC's mission. Such contributions shall not establish any voting privileges on the CMC, which privileges are reserved exclusively to eligible Members. Outside contributions shall be supplementary to the Contribution Schedule, and no Member's contribution shall be reduced based on receipt of any outside contributions except upon adoption of an amended Contribution Schedule by the Members.

11. **CONTRACTING.** Each Member agrees that a variety of contractors (e.g. sample collection, laboratory, sample results interpretation, geotechnical, etc.) may need to be hired in accordance with the State Procurement Code, in advance of any contractor taking any actions on behalf of the CMC. No contractor shall be an employee of either the Fiscal Agent or any Member of this Agreement. Responsibilities of the contractor shall be included in any resulting contract and the contractor shall only be authorized to provide approved services determined to help Member Co-permittees comply with the provisions of the MS4 permit. For procurement purposes, the CMC will form a Selection Advisory Committee ("SAC"), composed of representatives from Members in good standing. Each Member in good standing will have one representative on the SAC for the RFP process. The SAC will rank proposals and recommend the top three respondents to the Fiscal Agent for selection through the Fiscal Agent's existing procurement selection process. Upon approval, the Fiscal Agent will negotiate an agreement with the selected contractor. The CMC will provide input on scope and fees; however, final negotiations and approval will be the Fiscal Agent's responsibility. If contractor services are obtained using the procurement process set forth in this paragraph, then, with concurrence of the other members of the CMC, funds collected as part of the CMC group may be used to pay that contractor directly for services associated with execution of the monitoring plan. Contractors will be agents of the Member issuing the contract. Other Members of the CMC shall not be bound by the terms of the contract but shall be deemed third party beneficiary hereunder.

12. **ALTERNATIVE CONTRACTING.** As an alternative contracting process, and in order to leverage existing and future contracts between Contractors and Members in good standing of the CMC, contracts may be used, with concurrence from all Members of the CMC,

that have been issued by Members to perform elements of the monitoring program. If a contractor is used that has been procured by a Member in good standing of the CMC instead of the Fiscal Agent, then, with concurrence of the other Members of the CMC, an entity that is not the Fiscal Agent for the CMC may contract to have the services performed and upon successful completion of the services, submit an invoice, with no mark-up, to the Fiscal Agent for reimbursement. Reimbursement shall only be authorized for reasonable and necessary costs. All contractor's utilized for the purposes identified in this Agreement shall be procured in accordance with the State Procurement Code. Contractors will be agents of the Member issuing the contract. Other Members of the CMC shall not be bound by the terms of the contract.

13. **EVALUATION.** The Members agree that the Stormwater Monitoring contract is an ongoing program. The effectiveness of the Stormwater Monitoring contract, with regard to permit compliance, will be evaluated by the CMC prior to annual renewal(s) or request for proposals.

14. **LIMITATION ON SAMPLING ACTIVITIES.** The contractor's scope of services will be limited to the CMC-developed and EPA approved sampling plan and associated reporting. If, in the event of an exceedence during routine monitoring events, additional investigation is required by the EPA to identify the source of a potential contaminant, the CMC may expand monitoring activities to the degree necessary to locate the likely entry point of the potential contaminants. Once the likely entry point is identified, further investigation into the source of the potential contaminant will become the responsibility of the specific Co-permittee(s) having jurisdiction at the location where the likely entry occurred. The CMC shall have no responsibility, fiscal or otherwise, to investigate potential sources of contamination outside of the river or its affiliated Middle Rio Grande Conservancy District-owned water conveyances.

15. **PARTICIPATION AFFECTED.** If any situation arises which adversely affects any Member's participation in this Agreement, said Member will immediately, and in writing, notify the other Members. Any circumstance that materially affects this Agreement will be promptly and equitably resolved by all Members and if necessary, an amendment to this Agreement shall be executed.

16. **COMPLIANCE WITH GOVERNING LAWS.** The obligations of each Member under this Agreement shall be performed in compliance with all applicable laws, statues, and ordinances. Nothing herein is intended to constitute any agreement for the Members to perform any activity in violation of the Constitution or Laws of the State of New Mexico or the Ordinances of any Co-permittee that is a Member of this Agreement.

17. **SEVERABILITY.** If any clause or provision of this Agreement is illegal, invalid or unenforceable, under present or future laws effective during the term of this Agreement, then and in that event, it is the intention of the Members hereto that the remainder of this Agreement shall not be affected thereby.

18. **NO RIGHTS CREATED.** It is specifically agreed among the Members that this Agreement does not, and is not intended to, create in the public, or any member thereof, any rights whatsoever, such as but not limited to, the rights of a third Party beneficiary, and does not authorize anyone not a Member of this Agreement to maintain a suit for wrongful death or any other claim whatsoever.

19. **LIABILITY.** As among the Members, each shall be solely responsible for any and all liability from personal injury, including death, or damage to property, arising from any negligent or intentional act or failure to act of the respective Member, its officials, agents, contractors or employees pursuant to this Agreement. Liabilities of each Member shall be subject to the immunities and limitation of the New Mexico Tort Claims Act, §§41-4-1, et seq., NMSA, 1978, and any amendments thereto. By entering into this Agreement, all public agencies and its "public employees" as defined in the New Mexico Tort Claims Act, do not waive sovereign immunity, do not waive any defense and/or do not waive any limitation of liability pursuant to law. No provision in this Agreement modifies and/or waives any provision of the New Mexico Tort Claims Act.

20. **AMENDMENT.** This Agreement may only be altered or amended upon written approval by a majority of the CMC Members.

21. **DATE OF EFFECTIVENESS.** Regardless of the date when this Agreement is signed by each Permittee, this agreement shall not become effective for each Permittee until that Permittee has received official notification from the Environmental Protection Agency that they have received coverage under NPDES General Permit No. NMR04A000.

City of Rio Rancho

Keith Riesberg
City Manager

5/27/16
Date

Approved as to Form:

Jennifer Vega-Brown
City Attorney

Date: 5/26/16

Date for of beginning of Fiscal Year: July 1

ATTACHMENT 1

CONTRIBUTION SCHEDULE

ATTACHMENT 1

Sampling Cooperative Cost Allocation Determination (CAD) Tool

28-Apr-16

Number	Participant			$ 132,000.00	ENTITY PAYMENT	FISCAL AGENT CREDIT ($1k)
1	City of Albuquerque		1.38	$ 45,574.50	$45,600.00	
2	AMAFCA		0.43	$ 14,319.39	$14,400.00	$ (1,000.00)
3	UNM		0.41	$ 13,553.53	$13,600.00	
4	NMDOT		0.12	$ 3,865.56	$3,900.00	
5	Bernalillo County		0.59	$ 19,549.95	$19,600.00	
6	Sandoval County		0.46	$ 15,094.20	$15,100.00	
7	Village of Corrales		0.04	$ 1,393.20	$1,400.00	
8	City of Rio Rancho		0.42	$ 13,997.46	$14,000.00	
9	Los Ranchos de Albuquerque		0.02	$ 705.79	$1,000.00	
10	Town of Bernalillo		0.03	$ 903.81	$1,000.00	
11	ESCAFCA		0.01	$ 338.88	$500.00	
12	SSCAFCA		0.08	$ 2,703.72	$2,900.00	
	Ratio Check (Sum = Weighting Factor)		4.00		$132,000.00	

Middle Rio Grande Stormwater MS4 Technical Advisory Group

MEMORANDUM OF AGREEMENT

A COOPERATIVE AGREEMENT, CREATING THE MIDDLE RIO GRANDE MS4 TECHNICAL ADVISORY GROUP, IN SUPPORT OF COMPLIANCE EFFORTS FOR A STORMWATER DISCHARGE PERMITTING SYSTEM FOR THE MIDDLE RIO GRANDE VALLEY IN ACCORDANCE WITH THE FEDERAL CLEAN WATER ACT.

WHEREAS, the United States Environmental Protection Agency (EPA), Region 6 regulates the discharge of stormwater from municipal separate storm sewer systems (MS4s) in New Mexico through the issuance of an MS4 permit for the Middle Rio Grande valley urbanized area under the authority of the National Pollutant Discharge Elimination System (NPDES) regulations (40CFR122); and

WHEREAS, the Middle Rio Grande area is comprised of many diverse local, state, federal and tribal entities, each with separate and distinct authority and responsibilities; and

WHEREAS, the Middle Rio Grande area entities potentially eligible for authorization under the proposed NPDES General Permit No. NMR04A000 (hereinafter "MS4 Permit") and therefore are eligible to enter into this Agreement (hereinafter "Agreement") in furtherance of the requirements of the MS4 Permit are the City of Albuquerque, Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA), University of New Mexico, New Mexico Department of Transportation District 3, Bernalillo County, Sandoval County, Village of Corrales, City of Rio Rancho, Los Ranchos de Albuquerque, Kirtland Air Force Base, Town of Bernalillo, State Fairgrounds/Expo New Mexico, the Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA), the Eastern Sandoval County Arroyo Flood Control Authority (ESCAFCA), Sandia National Laboratories/Department of Energy, Pueblo of Sandia, Pueblo of Isleta, and Pueblo of Santa Ana (collectively "Stormwater Management Entities"); and

WHEREAS, the proposed MS4 Permit encourages cooperative efforts among separate local, state, federal and Tribal governments to reduce the amount of pollutants discharged with stormwater from the Middle Rio Grande urbanized area MS4s; and

WHEREAS, continued cooperation among the Stormwater Management Entities in the MS4 Permit offers an enhanced opportunity each entity to remain aware of the requirements in the MS4 Permit and facilitating compliance with conditions of the permit;

NOW, THEREFORE, BE IT AGREED THAT:

1. The signatories to this Agreement (hereinafter collectively referred to as "Parties" and individually referred to as "Party") support and encourage a cooperative commitment to assist one another with technical issues regarding compliance with the MS4 Permit and agree to form the Middle Rio Grande MS4 Technical Advisory Group (MS4TAG).

2. The purpose of the MS4TAG will be to exchange technical information regarding compliance with the MS4 Permit, exchange ideas among Parties regarding compliance efforts, and exchange information regarding illicit discharges detected within each Party's jurisdiction. The MS4TAG shall have no binding financial authority and shall be strictly advisory in nature.

3. Nothing in this Agreement shall be construed as obligating a Party to this agreement to expend funds for any purpose, and no Party shall be required to contribute any funds in order to participate in this Agreement. In the event the Parties determine that any expenditure of funds becomes necessary in order to comply with the requirements of the MS4 Permit, a separate agreement shall be entered into between the affected Parties regarding any and all such expenditures at that time.

4. The term of this Agreement shall run from the date the MS4 Permit is issued by the EPA until the date the MS4 Permit is terminated or expires, whichever occurs first. This Agreement may be terminated in its entirety at any time upon the mutual agreement of all of the then-existing Parties to this Agreement. In the event any Party wishes to withdraw from this Agreement without terminating the other Parties' interests in this Agreement, withdrawal shall become effective upon ninety (90) days prior written notice to the other Parties. Withdrawal shall fully and completely terminate that Party's interest in and obligations under this Agreement. Following any Party's withdrawal, this Agreement shall continue in full force and effect as to all remaining Parties to the extent possible.

5. This Agreement does not address the "Public Education and Outreach: or "Cooperative Sampling" sections of the MS4 Permit. Any MS4TAG efforts regarding either of these sections of the MS4 Permit under this Agreement shall be strictly in furtherance of the spirit of cooperation intended among the Parties. Each Party acknowledges its obligations under the "Public Education and Outreach" and "Cooperative Sampling" sections of the MS4 Permit are separate and apart from its activities under this Agreement, and a separate agreement will be required for any collaboration among the Parties with respect to those permit requirements.

6. The Parties will appoint two (2) Co-Coordinators from among the Parties, one of which must be from a Party located within the Bernalillo County geographical area and one of which must be from a Party located within the Sandoval County geographical area. Appointment of a Co-Coordinator shall be by majority vote of the voting Parties, with only those Parties located in the county of Bernalillo voting on the Co-Coordinator from that area, and only those Parties located in the county of Sandoval voting on the Co-Coordinator from that area. Co-Coordinators must be appointed annually in each subsequent permit year, or earlier if the position becomes vacant for any reason. For the New Mexico Department of Transportation District 3, which operates stormwater management facilities in both counties, for the purposes of this section, they shall select one county affiliation in year one of the agreement and alternate affiliations is subsequent years of this Agreement. The Co-Coordinators will be expected to coordinate the Parties' efforts under this Agreement, including facilitating meetings of the MS4TAG at least monthly for the first year of the MS4 Permit. In years two through five of the permit, the frequency of meetings may be reduced to quarterly with additional meetings called as necessary to discuss issues regarding MS4 Permit compliance.

7. Each Party shall be entitled to one (1) vote on any action items.

8. This Agreement creates no obligations on behalf of any Party to any other Party to this Agreement, including for any requirements imposed or determinations made by EPA. The Parties acknowledge and agree that each shall at all times remain individually liable for full compliance with the requirements of the MS4 Permit, including EPA's determination regarding the implementation schedule.

9. This Agreement may be modified in writing at any time upon the mutual agreement of the Parties.

10. Parties can be added at any time during the life of this Agreement. A potential future Party's submittal of a signature page to the Co-Coordinators and approval by the Co-Coordinators shall add the Party to the Agreement.

.

NOTE: Each approving entity would have a separate signature page

City of Rio Rancho

Approved as to Form:

City Attorney

Date: 10/1/13

Recommended By:

Dolores Wood, Director

Date: 11.4.13

Approved By:

Keith Riesberg, City Manager

Date: 11/1/13

RioRancho
City of Vision

City of Rio Rancho

3200 Civic Center Circle NE
Rio Rancho, New Mexico 87144-4501
(505) 981-5005 • FAX (505) 981-5203

December 19, 2015

SENT VIA EMAIL

Ms. Nelly Smith
Municipal Stormwater Coordinator
EPA Region 6
Permits and Technical Assistance Section
1445 Ross Ave., Suite 1200
Dallas, TX 75202

Re: NPDES General Permit No. NMR04A000 - Proposed Monitoring Plan

Dear Ms. Smith,

Please consider the attached document as City of Rio Rancho's formal submittal of our proposed monitoring plan for NPDES General Permit No. NMR04A000. This submittal is being made in response to Part III.A.1.b., Cooperative Monitoring. The proposed cooperative monitoring agreement includes the following entities:

1. City of Albuquerque
2. City of Rio Rancho
3. Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA)
4. Eastern Sandoval County Arroyo Flood Control Authority (ESCAFCA)
5. Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA)
6. New Mexico Department of Transportation (NMDOT)
7. University of New Mexico (UNM)
8. Village of Corrales
9. Village of Los Ranchos de Albuquerque
10. Town of Bernalillo
11. Bernalillo County
12. Sandoval County

The above listed entities are currently negotiating the Cooperative Agreement for cost sharing. Upon completion of the Cooperative Agreement, the final membership of the agreement will be reported to the EPA and New Mexico Environment Department.

Should you require any further information, please feel free to contact Xavier Pettes at xpettes@rrnm.gov or at 505-891-5045.

Sincerely,

David Serrano, PE
Engineering Division Manager

Enclosure: Cooperative Monitoring Plan
Sampling Location Map

Cc: Sarah Holcomb, New Mexico Environment Department

City of Rio Rancho
Cooperative Monitoring Plan – MS4 Watershed-based permit
December 17, 2015

Sampling must be conducted at a minimum of seven (7) events per sampling location during the permit term with at least three (3) events in the wet season and two (2) events in the dry season. Seasonal monitoring periods are the Wet Season: July 1 – October 31 and Dry Season: November 1 – June 30. Monitoring methodology for both seasons will consist of collecting a minimum of four grab samples spaced at a minimum interval of 15 minutes each. Individual grab samples for each sampling location, will be preserved and combined into a single composite sample at the laboratory.

Qualifying Storm Event

Due to the nature of rainfall in the middle Rio Grande Valley, the MS4s are proposing that a qualifying event be defined as a 0.25-inch or greater storm anywhere in the watershed that creates a discharge to the Rio Grande. Additionally, no antecedent dry period will be required in order to ensure that a sufficient number of qualifying events are available for sampling.

In order to determine whether or not a qualifying storm event has occurred, the MS4s may use a variety of different data sources for representative locations within the watershed to identify the qualifying storm event. Sources for determining a qualifying storm event may include, CoCoRahs, wundermap.com data, calibrated National Weather Service radar, and/or USGS weather data based on rainfall measurements taken within the watershed.

Wet Weather Monitoring (Wet Season: July 1 – October 31/Dry Season: November 1 – June 30)

Wet weather monitoring gathers information on the response from the receiving waters to wet weather discharges. The following parameters must be sampled: TSS, TDS, COD, BOD5, DO, TPH/oil, 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 Locations

Rio Grande (NORTH)- In stream sampling within the Rio Grande will be performed upstream of the Angostura Diversion Dam at the north end of the water shed (upstream or background)..

Rio Grande (SOUTH) – In stream sampling within the Rio Grande will be performed at the Isleta Bridge at the south end of the watershed and downstream of all inputs from the Urban Area to the river to provide the downstream water conditions.

These locations have been identified and are proposed to meet the permit requirements as identified in Part III.A. These up and down stream sample locations capture all inputs to the river within the Urbanized Area. See Attachment 1 for a map of sampling locations.

Sample Collection

The greatest difficulty the MS4s will have in sample collection are the logistics for collecting the sample(s) and getting them to the laboratory within the required holding time limitations for each sample type, particularly E.coli. In order to expedite this process, the MS4s are proposing the following actions:

1. On days where rainfall in excess of the qualifying storm event are predicted to take place within a timeframe where an in-stream sample can be collected and delivered to the laboratory in time to meet holding time requirements, the upstream sample (Angostura Diversion Dam) will be collected by noon (12:00 PM) on the day of the predicted event.
2. After collection of the upstream samples, the e-coli sample will be submitted to the laboratory for analysis and the remaining samples will be preserved as required and held until the determination can be made regarding whether or not there is a Qualifying Storm Event.
3. When a Qualifying Storm Event is anticipated within the watershed, a river staging timing methodology will be used to identify the proper time for the sample to be taken from the downstream location(s) per Table 1. For example, if it typically takes one hour for water from the North Diversion Channel to reach the Isleta Bridge sampling location, then the sample will be taken one hour after the discharge from the NDC has occurred.
4. Upon collection of the downstream sample(s) from the Isleta Bridge location, the e-coli sample(s) will be taken to a laboratory for analysis and the balance of the samples will be preserved, as required, and held until the determination can be made regarding whether or not there is a Qualifying Storm Event.
5. In the event that a Qualifying Storm Event is NOT recorded, all non-e-coli samples will be dumped and not analyzed. In the event a Qualifying Storm Event is recorded, samples (upstream and downstream) will be submitted to a laboratory for analysis.

During sample collection, the sampler shall maintain a log book recording the site conditions at the time of sampling, actions taken to collect the samples, and any other pertinent information that may be relevant to the sample event. All collected samples shall have a chain-of-custody form associated with each sample container. This chain-of-custody form shall be maintained by the sampler until the sample is delivered to the laboratory for analysis. Greater detail will be contained in the Quality Assurance Program Plan (QAPP) that will be developed for this plan.

Example CoCoRaHS Rain Gages and Assumed Travel Times for Sampling Stormwater Events in Watershed						
Zonal Segments of River (north to south travel times)		Western Side of Watershed (west to east travel times)		Rio Grande	Eastern Side of Watershed (east to west travel times)	
		3 hours -->	1.5 hours -->	<-- <-- <-- <-- <--	<-- 20 min.	<-- 40 min.
7.4 hours	Rio Grande at Angostura to Rio Grande at Alameda	NM-SN-59	NM-SN-70		N/A	N/A
4.4 hours	Rio Grande at Alameda to Rio Grande at Central	NM-BR-113	NM-BR-144		NM-BR-71	NM-BR-162
5.2 hours	Rio Grande at Central to Rio Grande at Isleta 147 Bridge	NM-BR-159	NM-BR-104		NM-BR-150	NM-BR-41

TABLE 1 – HYDROGRAPH TIMING FOR RAIN EVENTS TO SOUTHERN SAMPLING POINT

Rainfall information associated with the above Station Numbers can be obtained from the Community Collaborative Rain, Hail and Snow Network website (www.cocorahs.org). The Station Numbers provided in the table are for representative purposes only. The actual CoCoRaHS rainfall data utilized to confirm a Qualifying Event will be from the appropriate zone in the watershed but may not be from the exact Station Number listed in the table.

Response to Monitoring Results

In the event of an exceedance, the MS4 Sampling cooperative will examine all meteorological and stream gauge data available and correlate rainfall event/timing with sampling timing to determine the most likely source location and discharge point to the river. Once the most likely source location has been determined, MS4s will cooperatively develop a pollutant-specific response plan whose elements may include a review of land use for potential sources of the specific pollutant exceeded or enhanced public outreach and education to specific user or industry groups.

In the event of rainfall in the same distribution as the storm event associated with the exceedance, additional sampling may be conducted to monitor for potential sources, if appropriate. Only the constituent(s) identified in the exceedance will be analyzed.

Sample Collector Training Requirements

Any person collecting samples for compliance purposes shall be trained in the proper technique for collecting stormwater samples. Experience in the collection of stormwater samples may be

considered in lieu of receiving formal training in sampling requirements. Greater detail will be contained in the QAPP that will be developed for this plan.

Sample Analysis

After a sample collection event has been performed, the validity of the qualifying storm event must be determined before the samples can be counted as an official sample event. However, since the holding time for the E.coli is so short, the MS4s are proposing analyzing the E.coli samples prior to determining the validity of the storm event as a qualifying storm event. The balance of the samples will be held until the determination of the storm event as qualifying can be made. In the event that the storm event is deemed qualifying, the remaining samples will be run for the required parameters. If an event is deemed by an analysis of rainfall data to be non-qualifying, the results from the E.coli samples will be kept but not reported as part of the official sampling event for permit compliance and the preserved samples will be appropriately discarded without analysis.

Field obtained results (D.O., pH, and temperature) will be handled in a similar fashion as E.coli sampling results. In the event the storm is deemed qualifying during the review of rainfall data, the results from these field obtained measurements will be reported with the balance of the sample results. If the storm event is deemed non-qualifying, these results will be kept but not reported for permit compliance.

QAPP

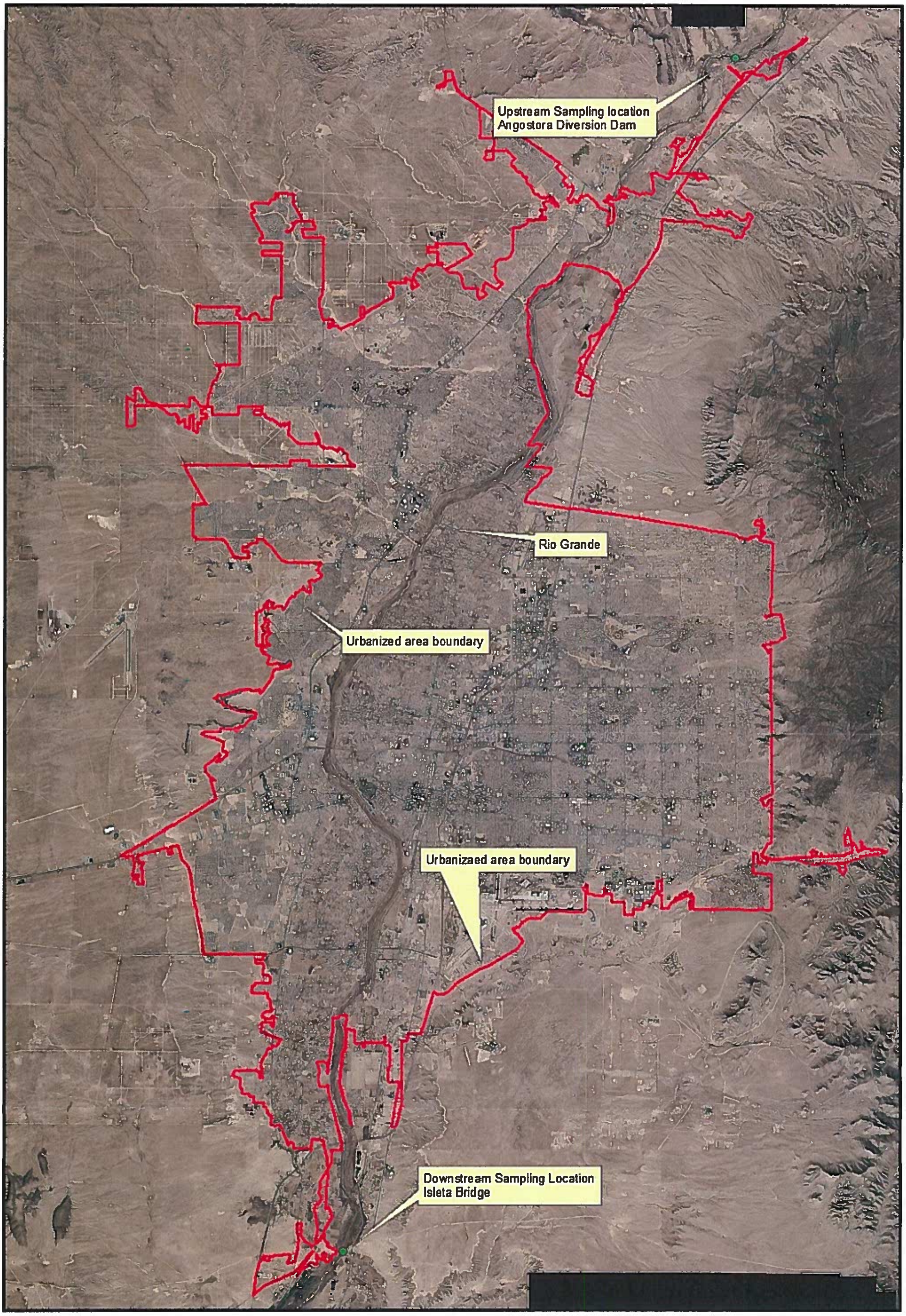
All sampling collection and analysis shall conform to the QAPP to be developed for the sampling program in accordance with Part III.A.5.b and III.Q. of the permit and the methods specified at 40 CRF §136.

Monitoring Records

A QAPP will be developed, conforming to Part III.P requirements.

Permittees Cooperating in Monitoring Program

City of Albuquerque
Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA)
University of New Mexico (UNM)
New Mexico Department of Transportation (NMDOT)
Bernalillo County
Sandoval County
Village of Corrales
City of Rio Rancho
Los Ranchos de Albuquerque
Town of Bernalillo
Eastern Sandoval County Arroyo Flood Control Authority
Southern Sandoval County Arroyo Flood Control Authority



1 inch = 2.367424 miles

Miles
0 1 2

N

WSB MS4 Sampling Locations

Southern Sandoval County
Arroyo Flood Control Authority

Date: November 13, 2015

Attachment 1

Path: Q:\Environmental_Services\MS4\Sampling\Sampling map 11-13-15 - whole area.mxd

RioRancho
City of Vision

City of Rio Rancho

3200 Civic Center Circle NE
Rio Rancho, New Mexico 87144-4501
(505) 981-5002 • FAX (505) 981-7274

August 15, 2017

Mr. Jerry Lovato, Executive Engineer
Albuquerque Metropolitan Arroyo Flood Control Authority
2600 Prospect Ave NE
Albuquerque, NM 87107

RE: Memorandum of Understanding for Delegation of Authority for Data Entry into NetDMR System

Dear Mr. Lovato,

As you are aware, twelve permittees covered under the Middle Rio Grande Watershed Based Municipal Separate Storm Sewer System (MS4) General Permit (NPDES No. NMR04A000) have entered into a cooperative agreement for the performance of permit-mandated water quality monitoring. Currently, results from the samples taken during monitoring events are shared among the twelve members of the Compliance Monitoring Cooperative (CMC) and must be entered by each entity into the Network Discharge Monitoring Report (NetDMR) database individually, creating twelve identical (barring typos or other data entry error) records. This is clearly inefficient, at best.

Following discussions between the CMC and the Environmental Protection Agency (EPA), EPA has approved a methodology whereby one member of the CMC will enter data in NetDMR on behalf of any other CMC-member entity. Each CMC-member entity that wishes to participate will delegate authority to the data entry CMC-member entity or their designed contractor, for this purpose. We appreciate Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) volunteering to be the data entry CMC entity on behalf of the CMC.

Therefore, the City of Rio Rancho, Permit Tracking No. NMR04A007, hereby delegates authority for data entry and approval of sampling results into NetDMR to AMAFCA for the purposes of compliance with MS4 General Permit requirements. Please provide us notification, via email, of the completion of data entry for our records.

In the event that AMAFCA becomes unable to perform this function on behalf of the City of Rio Rancho, please notify me a minimum of 60 days prior to the deadline, or by December 1st, for data entry in order to perform this function internally.

Please contact Xavier Pettes via email at xpettes@rrnm.gov or phone at (505)891-5045 if you have questions or concerns regarding this memorandum. Thank you again for your willingness to perform this function on behalf of the membership of the CMC.

Requested
Keith Riesberg
City Manager, City of Rio Rancho

Acknowledged and Accepted
Jerry Lovato, P.E.
Executive Director, AMAFCA

Section 7	Public Review and Comment
	7.1 Public Comment

Public Review and Comment Period

The City of Rio Rancho published a public notice announcing the draft 2023-2024 Annual Report in the *Rio Rancho Observer* on October 10-17, 2024. A copy of the draft annual report was made available for review and comment at Rio Rancho City Hall, Development Service Department. The comment period closed on November 24, 2024. The City of Rio Rancho did not receive comments from individuals or organizations during the 45-day comment period.

NPDES Stormwater Program Website

The City of Rio Rancho continues to update and provide information on its NPDES Stormwater Program website. The draft annual report for the 2023-2024 reporting period is made available from October 8, 2024 through December 2, 2024.

https://www.rrnm.gov/2184/NPDES-Stormwater-Program

CITY OF RIO RANCHO PUBLIC NOTICE The City of Rio Rancho has

Save

Share

Details for CITY OF RIO RANCHO PUBLIC NOTICE The City of Rio Rancho has

Oct 17, 2024

CITY OF RIO RANCHO PUBLIC NOTICE The City of Rio Rancho has prepared its 2023-2024 Municipal Separate Storm Sewer System (MS4) Annual Report describing activities conducted and accomplishments made by the City pursuant to Environmental Protection Agency (EPA) MS4 Permit issued December 22, 2014, NPDES Permit No. NMR04A000 (administratively continued December 2019). The draft Annual Report is available for public review and comment prior to submission to U.S. EPA, Region 6 during regular business hours at Rio Rancho City Hall, 3200 Civic Center Circle NE, Suite 130, Rio Rancho, NM 87144. The draft Annual Report is also available online at https://rrnm.gov/2184/NPDES-Stormwater-Program. Individuals wishing to comment on the Annual Report should submit written comments within 45 days from the date of this notice to: City of Rio Rancho, Development Services Department, Attn. Stormwater Program, 3200 Civic Center Circle NE, Suite 130, Rio Rancho, NM 87144

erver: October 10, 17, 20

Section 8	Signature on Certification of Annual Reports
	8.1 Letter of Delegation

RioRancho
City of Vision

City of Rio Rancho

3200 Civic Center Circle NE
Rio Rancho, New Mexico 87144
(505) 981-5005 • FAX (505) 981-0986

"Director"
US EPA Region 6
1445 Ross Ave., Suite 1200 (6EN-WT)
Dallas, TX 75202-2733

NPDES Permit No. NMR04A000
Delegating an "Authorized Representative" for the City of Rio Rancho

Dear Director:

This letter serves to designate either a person or specifically described position as an authorized person for signing reports, storm water pollution prevention plans, certifications or other information requested by the Director or required by the permit. This authorization cannot be used for signing an NPDES permit application (e.g. Notice of Intent (NOI)) in accordance with 40 CFR 122.22. The following person or position is herby authorized to sign reports, storm water pollution prevention plans or certifications other than the NOI application:

Name: David Serrano, P.E. Position: Deputy Director

By signing this authorization, I confirm that I meet the following requirements to make such a designation as set forth in Part IV.H.1-4 of the Municipal Separate Storm Sewer System Permit [79 Fed Reg 76328] effective December 22, 2014.

> *For a municipality, State, Federal or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (1) the chief executive officer of the agency, or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g. Regional Administrators of EPA).*

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

	City Manager	19-Sept-2022
Matt Geisel	Title	Date