



City of Rio Rancho

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

December 1, 2023

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

Subject: 2022-2023 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 2022-2023 Annual Report for your review and comment. The Annual Report summarizes activities conducted from July 1, 2022 to June 30, 2023, 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 30, 2023. 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



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

**FINAL
2022-2023 ANNUAL REPORT**
July 1, 2022 – June 30, 2023



December 1, 2023



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

NPDES GENERAL PERMIT NO. NMR04A000
ADMINISTRATIVE CONTINUANCE

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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

2022-2023 ANNUAL REPORT

July 1, 2022 – June 30, 2023

TABLE OF CONTENTS

Section 1	Municipal Separate Storm Sewer System (MS4) Annual Report 1.1 2022-2023 MS4 Annual Report
Section 2	Special Conditions 2.1 FY2023 Adopted ICIP Budget - MS4 Outfalls to the Rio Grande
Section 3	Stormwater Management Program Status of Implementation 3.1 City of Rio Rancho MS4 Stormwater Management Program
Section 4	Stormwater Management Program Revisions 4.1 NPDES Permit No. NMR04A000 Administrative Continuance – Duty to Reapply
Section 5	Performance Assessment 5.1 Illicit Discharge Incident Reporting 5.2 Construction General Permit Compliance Inspection List 5.3 MS4 Outfall Dry Weather Screening 5.4 Drainage Facility Clean-up and Maintenance Schedule 5.5 CMC Monitoring FY2023 Wet Weather Memorandum
Section 6	Annual Report Responsibilities for Cooperation Programs 6.1 Middle Rio Grande Stormwater Quality Team Outcomes Report FY2022-2023 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 Data Entry into NetDMR System
Section 7	Public Review and Comment 7.1 Public Comment
Section 8	Signature on Certification of Annual Reports 8.1 Letter of Delegation

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Section 1	Municipal Separate Storm Sewer System (MS4) Annual Report 1.1 2022-2023 MS4 Annual Report
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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

07/01/2022

to

06/30/2023

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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Rio Grande NM-2105.1_00	PCB in Fish Tissue	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Rio Grande NM-2105.1_00	PCB in Water Column	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Rio Grande NM-2105.1_00	Gross Alpha	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

2. B. Continued

Impaired Water	Impairment	Approved TMDL		TMDL assigns WLA to MS4	
Rio Grande NM-2105.1_00	Mercury in Fish Tissue	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> 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 2022-2023

- 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 \geq 1 acre in operation in your jurisdiction at any time during the reporting period.
- D. How many of the sites identified in 4.C did you inspect during this reporting period?
- 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?

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 No Authority
- Yes Administrative fines 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

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?

J. How often do municipal employees receive training on the construction program?

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.

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?

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?

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

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?

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

L. How often do municipal employees receive training on the illicit discharge program?

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

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

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

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

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?

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?

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?

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.)?

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?

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

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

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

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

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?

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?

8. Program Resources

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

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

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: Amount \$ OR %
- 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)?

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

Entity	Activity/Task/Responsibility	Your Oversight/Accountability Mechanism
<input type="text" value="Various"/>	<input type="text" value="Stormwater Quality Team (SWQT)"/>	<input type="text" value="Signed Joint Agreement"/>
<input type="text" value="Various"/>	<input type="text" value="Technical Advisory Group (TAG)"/>	<input type="text" value="Signed Joint Agreement"/>
<input type="text" value="Various"/>	<input type="text" value="Compliance Monitoring Coop. (CMC)"/>	<input type="text" value="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
<i>Example: E. coli</i>	2003	Weekly April–September	20
<input type="text" value="Various (EPA approved analyte list)"/>	<input type="text" value="2016"/>	<input type="text" value="Qualifying Event (up to 7)"/>	<input type="text" value="2"/>
<input type="text" value="Various (EPA approved analyte list)"/>	<input type="text" value="2014"/>	<input type="text" value="Wet Season, annually"/>	<input type="text" value="8"/>
<input type="text" value="Please refer to the attached Annual Report or AMAFCA web site for additional information"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

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.

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 Digitally signed by DAVID SERRANO
DN: dc=gov, dc=rrm, dc=ad, ou=CoRR, ou=Departments,
ou=CityHall, ou=Development Services, ou=Executives,
ou=Users, cn=DAVID SERRANO
Date: 2023.11.30 15:00:31 -0700

Name of Certifying Official, Title

Date (mm/dd/yyyy)

Section 2**Special Conditions**

2.1 FY2023 Adopted ICIP Budget - MS4 Outfalls to the Rio Grande



FY23 Adopted Budget

Adopted Version - 7/28/2022

- < [Budget Overview](#)
- [Fund Summaries](#)
- [Funding Sources](#)
- [Departments](#)
- [Capital Improvements](#)
- [Debt](#)

Print

This requests information is generated from , Adopted Version.



MS4 Outfalls to the Rio Grande

Overview

Request Owner	JAMIE MARRUFO, Deputy Director DPW
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

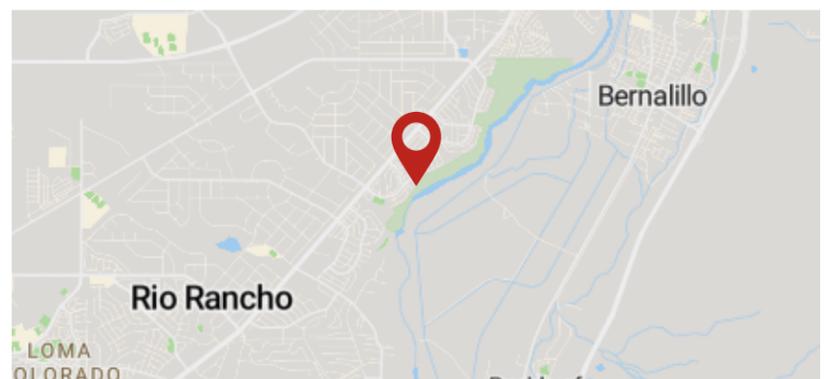
FY2024: River's Edge 1-8 General Conditions plus Rivers Edge 7 improvements

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

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 permit 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 development. The DAR addressed the deficiencies identified in the IDDE by providing preliminary engineering and cost to construct future water quality features to remove the Illicit discharges prior to entering the Rio Grande.





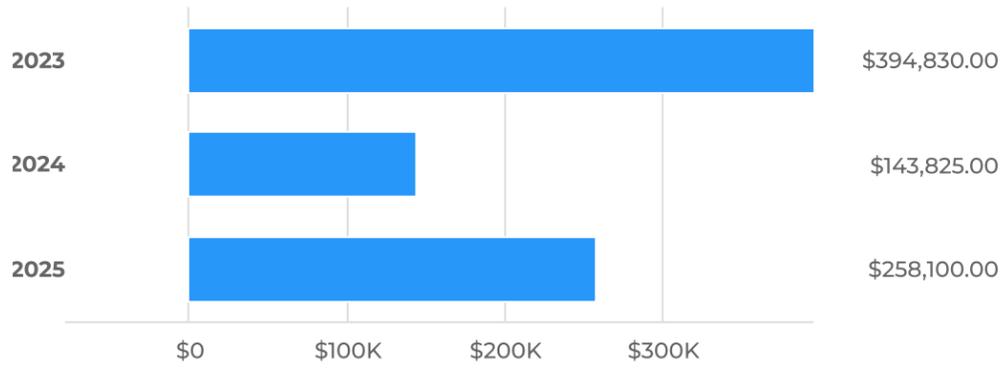
\$336,917

\$394,830

\$796.755K

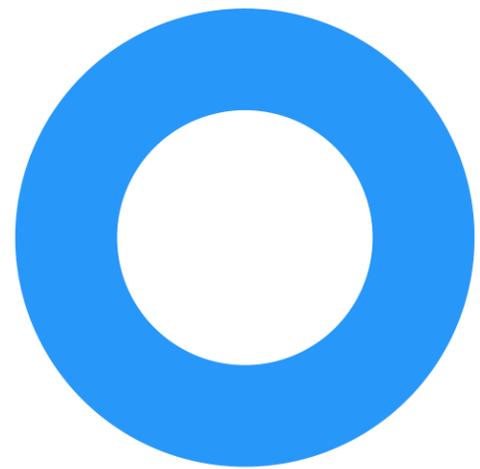
\$1.134M

Capital Cost by Year (Adopted)



● Construction/Maintenance

Capital Cost for Budgeted Years (Adopted)



● Construction/Maintenance (100%) \$796,755.00
TOTAL \$796,755.00

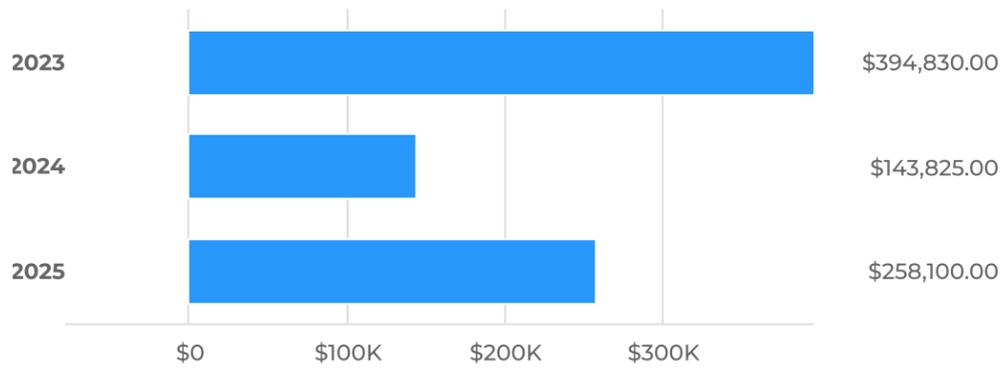
[Spreadsheet Breakdown >](#)

Funding Sources

FY2023 Budget	Total Budget (all years)	Project Total
\$394,830	\$796.755K	\$796.755K

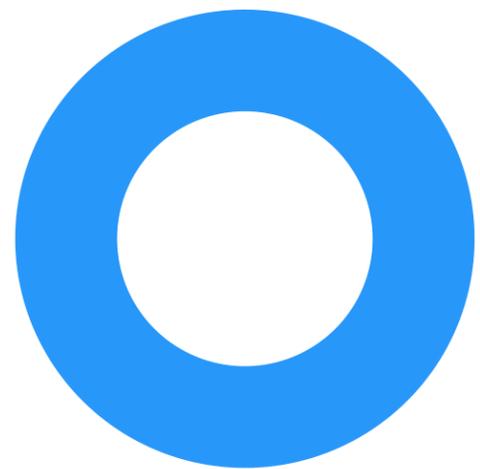


Funding Sources by Year (Adopted)



● General Fund Transfer

Funding Sources for Budgeted Years (Adopted)



● General Fund Transfer (100%) \$796,755.00
TOTAL \$796,755.00



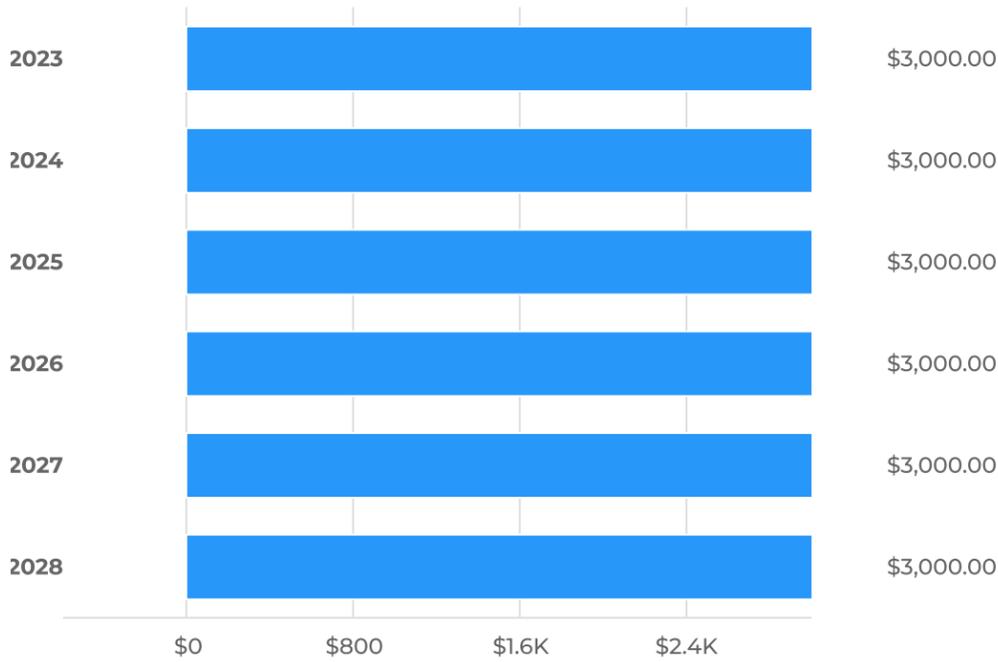


\$3,000

\$18K

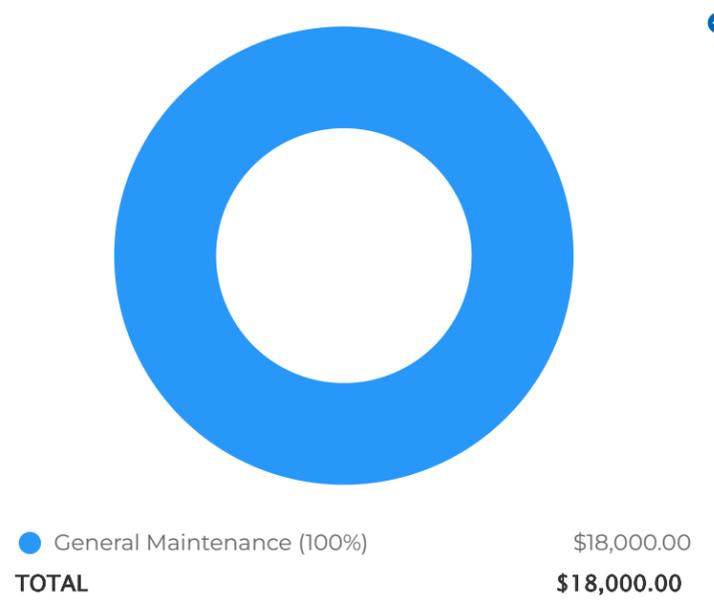
\$18K

Operational Costs by Year (Adopted)



● General Maintenance

Operational Costs for Budgeted Years (Adopted)



[Spreadsheet Breakdown >](#)

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Select Language ▼

[info@cleargov.com \(mailto:info@cleargov.com\)](mailto:info@cleargov.com)

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	<p>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.</p> <p>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.</p>									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	<p>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.</p> <p>This coincides with the requirements in Part I.C.3.a.(ii).(a), the revised strategy shall include:</p> <p>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).</p> <p>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.</p>								Not Applicable		

City of Rio Rancho Storm Water Management Plan
 NPDES Permit No. NMR04A000

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
Not Included in NOI	9	<p>(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:</p> <p>(a) Summary of data.</p> <p>(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).</p> <p>(c) Conclusions drawn, including support for any determinations.</p> <p>(d) Activities undertaken to eliminate MS4 discharge contribution to exceedances of applicable dissolved oxygen water quality standards in waters of the United States.</p> <p>(e) Account of stakeholder involvement.</p> <p>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.</p>				Not Applicable					
Not Included in NOI	10	<p>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.</p>				Not Applicable					
Not Included in NOI	11	<p>According to the requirements in Part I.C.3.b, the permittees (COA and AMAFCA) shall provide:</p> <p>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.</p>				Not Applicable					

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Not Included in NOI	12	<p>According to the requirements in Part I.C.3.b, the permittees (COA and AMAFCA) shall provide:</p> <p>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.</p>				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.										
	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: <u>COA and AMAFCA Areas</u> : San Jose Drain & North Diversion Channel <u>Bernalillo Co. Areas</u> : Adobe Acres Drain, Alameda Outfall Channel, Paseo del Norte Outfall Channel, & Sanchez Farm Drainage Area.										
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.										

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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	<p>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 <u>bacteria TMDL</u> 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</p> <p>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:</p>	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	<p>(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: <u>A. Sanitary Sewer Systems</u> (improve sanitary sewers; fix lift stations; identify and implement O&M procedures; improve violation reporting; and prevent overflows); <u>B. On-site Sewage Facilities</u> (address failing systems and inadequate maintenance of On-Site Sewage Facilities); <u>C. Illicit Discharges and Dumping</u> (effort to reduce waste sources of bacteria; for ex., septic systems, grease traps, and grit traps); <u>D. Animal Sources</u> (management programs to identify and target sources such as zoos, pet waste, and horse stables); <u>E. Residential Education</u> (bacteria from residential sites; fats, oils, and grease clogging sanitary sewer lines and resulting overflows; decorative ponds; and pet waste).</p>	<ul style="list-style-type: none"> • 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	<p>(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.</p> <p>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).</p>	<ul style="list-style-type: none"> 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: NDPEP Project Manager Implementation: Development Services Engineering Division and MRGSWQT
Not Included in NOI	25	<p>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:</p> <p>A. Evaluating Program Implementation Measures or B. Assessing Improvements in Water Quality</p> <p>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.</p>	<ul style="list-style-type: none"> 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: NDPEP Project Manager Implementation: Development Services Engineering Division and MRGSWQT

City of Rio Rancho Storm Water Management Plan
 NPDES Permit No. NMR04A000

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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.(1).(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: NDPEP 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: NDPEP 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: NDPEP 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: NDPEP 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: NDPEP 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).	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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).	<ul style="list-style-type: none"> • 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	<p>The permittee shall:</p> <p>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.</p> <p>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.</p> <p>C. Amend the SWMP to include any BMPs to address the pollutant(s) of concern.</p>	<ul style="list-style-type: none"> • Refer to other SWMP sections for: <ul style="list-style-type: none"> - 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) <u>Sediment Assessment</u> : 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.	<ul style="list-style-type: none"> 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: NDPE Project Manager Implementation: Development Services Engineering Division	
Not Included in NOI	39	(ii) <u>Estimate Baseline Loading</u> : 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.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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; (c) 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).	<ul style="list-style-type: none"> 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/ .	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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).	<ul style="list-style-type: none"> 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	

City of Rio Rancho Storm Water Management Plan
NPDES Permit No. NMR04A000

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
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)	<ul style="list-style-type: none"> 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: NDPE 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.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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: NDPE 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.	<ul style="list-style-type: none"> 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: NDPE 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: NDPEP 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: NDPEP 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: NDPEP 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: NDPEP 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.	<ul style="list-style-type: none"> 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: NDPEP 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.	<ul style="list-style-type: none"> 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: NDPEP 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.	<ul style="list-style-type: none"> 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: NDPEP 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.	<ul style="list-style-type: none"> 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: NDPEP 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).	<ul style="list-style-type: none"> 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: NDPEP Project Manager Implementation: Development Services Engineering Division

City of Rio Rancho Storm Water Management Plan
 NPDES Permit No. NMR04A000

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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.	<ul style="list-style-type: none"> 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 visit(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: NDPEP 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.	<ul style="list-style-type: none"> 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: NDPEP 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.	<ul style="list-style-type: none"> 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: NPDES 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.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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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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)).	<ul style="list-style-type: none"> 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	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	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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4	88	TABLE 5: Industrial and High Risk Runoff - Part I.D.5.d										
	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):	<ul style="list-style-type: none"> 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: NDPEP 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 discharge points into major drainage channels draining more than twenty (20) percent of the MS4 area;	<ul style="list-style-type: none"> 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: NPDES 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).	<ul style="list-style-type: none"> 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: NDPEP 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.	<ul style="list-style-type: none"> 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: NDPEP 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.	<ul style="list-style-type: none"> 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: NDPEP 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).	<ul style="list-style-type: none"> 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."	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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

City of Rio Rancho Storm Water Management Plan
 NPDES Permit No. NMR04A000

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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).	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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).	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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."	<ul style="list-style-type: none"> 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).	<ul style="list-style-type: none"> 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).	<ul style="list-style-type: none"> 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).	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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	<p>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.</p>	<p>• If enhancement activities are implemented, CORR will annually document progress made with these program enhancement activities.</p>	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report.				Update as necessary for SWMP and annually for Annual Report	Update as necessary		<p>Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division and MCM Members, KRRB,</p>

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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.	<ul style="list-style-type: none"> Post the draft SWMP, any SWMP amendments or modifications, and draft Annual Reports to CORRs NPDES Stormwater Program www.rnm.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	<u>Program Lead:</u> NPDES Project Manager <u>Implementation:</u> 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.	<ul style="list-style-type: none"> 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	<u>Program Lead:</u> NPDES Project Manager <u>Implementation:</u> 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.	<ul style="list-style-type: none"> 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.rnm.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	<u>Program Lead:</u> NPDES Project Manager <u>Implementation:</u> 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.	<ul style="list-style-type: none"> 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.keeptheriogrand.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.	<ul style="list-style-type: none"> 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).	<ul style="list-style-type: none"> 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	<p>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).</p> <p>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).</p>	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	<p>Part III.A.3.1.b. Option B: Cooperative Monitoring Program</p> <p>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.</p>	<ul style="list-style-type: none"> The monitoring program will follow the permit requirements for parameters tested (TSS, TDS, COD, BOD₅, 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	

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
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.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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										
		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 1 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 than five (5) separate events within twelve (12) months***		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division	
Not Included in NOI	129											
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.	<ul style="list-style-type: none"> 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	<p>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.</p> <p>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.</p> <p>a) Identify one (1) station to monitor and assess floatable material type.</p>	<ul style="list-style-type: none"> 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. 		<p>Arrowhead Ridge Pond - Trash Assessment</p> <p>Cascades at High Resort Pond(s) - Trash Assessment(s)</p> <p>Monterrey Pond(s) - Trash Assessments</p> <p>19th Ave Pond - Trash Assessment</p>		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	<p>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).</p> <p style="text-align: center;">Not Applicable</p>										

Section 4**Stormwater Management Program Revisions**

4.1 NPDES Permit No. NMR04A000 Administrative Continuance – Duty to Reapply

Ronald D. Brown, Chair
Bruce M. Thomson, P.E., Vice Chair
Deborah L. Stover, Secretary-Treasurer
Tim Eichenberg, Assistant Secretary-Treasurer
Cynthia D. Borrego, Director

Jerry M. Lovato, P.E.
Executive Engineer



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 MS4 Outfall Dry Weather Screening
- 5.4 Drainage Facility Clean-up and Maintenance Schedule
- 5.5 CMC Monitoring FY2023 Wet Weather Memorandum



Service Request ID# 2959726: Environmental Concerns

Request Type: Environmental Concerns

Date Created: Sep 23, 2022 @ 08:33 AM

Last Updated: Sep 23, 2022 @ 08:40 AM

Date Closed: N/A

Approximate Address: 1609 Excalibur St NE, Rio Rancho, NM 87144

Request Coordinates: 35.2853399, -106.6711018

Status: Received

Assigned To: Xavier Pettes

Device: Android msmnile

Console Url: <https://console.citysourced.com/pages/issues/issuedetail.aspx?issueid=2959726>

Type: Illicit Discharge of Waste

Description: Oil & paint & transmission fluid

Attachments

Date Created	URL
Sep 23, 2022 @ 08:34 AM	 https://d2p5liwq1c5kwh.cloudfront.net/FileStorage/2022-09/cd0604d986e646e59a7866d3ff5f345.jpg
Sep 23, 2022 @ 08:34 AM	 https://d2p5liwq1c5kwh.cloudfront.net/FileStorage/2022-09/e4d9fea987124bf7bffb52050ba281d8.jpg
Sep 23, 2022 @ 08:34 AM	 https://d2p5liwq1c5kwh.cloudfront.net/FileStorage/2022-09/7ca06eb5703547a3a25835a70eadc381.jpg
Sep 23, 2022 @ 08:34 AM	 https://d2p5liwq1c5kwh.cloudfront.net/FileStorage/2022-09/fa604145baac420690c00cdf6398276c.jpg

Author Information

Kim Foshea [Email: kimf8820@outlook.com; Telephone: [8323816638](tel:8323816638)]

Comments

Date Created	Author	Comment
Sep 23, 2022 @ 08:33 AM	 Rio Rancho	We have received your inquiry. The City will follow up with you on this issue as quickly as possible.
Sep 23, 2022 @ 08:40 AM	 Rio Rancho	Rio Rancho has updated this service request's status from 'Received' to 'In Process'.

Private Notes

Date Created	Author	Note
Sep 23, 2022 @ 08:33 AM	 Rio Rancho	This request was assigned to Xavier Pettes and a notification was sent to: xpettes@rrnm.gov .

Additional Data

Date Created	Key	Value
Sep 23, 2022 @ 08:33 AM	OriginationIpAddress	172.70.206.251
Sep 23, 2022 @ 08:33 AM	InitialBoundaryName	Rio Rancho, NM
Sep 23, 2022 @ 08:33 AM	InitialBoundaryName	District 3
Sep 23, 2022 @ 08:34 AM	AttachedMediaCount	4

Maps



EUGENE PETTES

From: EUGENE PETTES
Sent: Friday, September 23, 2022 8:52 AM
To: DYANE SONIER
Cc: DAVID SERRANO; DAVID BRANCH
Subject: FW: Assignment for Request ID# 2959726 - Environmental Concerns
Attachments: 1.jpg; 2.jpg; 3.jpg; 4.jpg; IssueDetail_2959726_2022-09-23-07-40-940.pdf

Dyane,

Does Parks and Rec. still have an on-call environmental contract to pickup motor oil on the mesa?

I received an environmental request regarding oil dumped at:

Approximate Address:
1609 Excalibur St NE, Rio Rancho, NM 87144
Lat/Lng: 35.2853399, -106.6711018

Thank you,

Xavier Pettes
NACDES Project Manager

City of Rio Rancho | Development Services / Engineering

O: 505.891.5045

RRNM.gov |   

From: Rio Rancho <notifications-usa@citysourced.net>
Sent: Friday, September 23, 2022 8:33 AM
To: EUGENE PETTES <XPETTES@rrnm.gov>
Subject: Assignment for Request ID# 2959726 - Environmental Concerns

CAUTION: This email was received from an EXTERNAL source, use caution when clicking links or opening attachments.



Rio Rancho has assigned you this service request.



Request ID# 2959726 - Environmental Concerns

[View Service Request](#)

This message is powered by OneView CRM [v2.15.3]



EUGENE PETTES

From: DYANE SONIER
Sent: Friday, September 23, 2022 3:07 PM
To: EUGENE PETTES
Cc: DAVID SERRANO; DAVID BRANCH
Subject: Re: Assignment for Request ID# 2959726 - Environmental Concerns
Attachments: image002.png; 1.jpg; 2.jpg; 3.jpg; 4.jpg; IssueDetail_2959726_2022-09-23-07-40-940.pdf

We are already taking care of it. The entire team for the contractor is out of state until later next week, but all information has been provided to them or just waiting for them to schedule removal of the oil in the contaminated soil

Dyane N. Sonier

Resource Development Manager

City of Rio Rancho | Parks, Recreation and Community Services, Administration

O: [505.896.8728](tel:505.896.8728) C: [505.270.7335](tel:505.270.7335)

RRNM.gov |   

On Sep 23, 2022, at 8:53 AM, EUGENE PETTES <XPETTES@rrnm.gov> wrote:

Dyane,

Does Parks and Rec. still have an on-call environmental contract to pickup motor oil on the mesa?

I received an environmental request regarding oil dumped at:

Approximate Address:
1609 Excalibur St NE, Rio Rancho, NM 87144
Lat/Lng: 35.2853399, -106.6711018

Thank you,

From: Rio Rancho <notifications-usa@citysourced.net>
Sent: Friday, September 23, 2022 8:33 AM
To: EUGENE PETTES <XPETTES@rrnm.gov>
Subject: Assignment for Request ID# 2959726 - Environmental Concerns

CAUTION: This email was received from an **EXTERNAL** source, use caution when clicking links or opening attachments.



Rio Rancho has assigned you this service request.



Request ID# 2959726 - Environmental Concerns

[View Service Request](#)

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CITY OF RIO RANCHO

ILLCIT DISCHARGE INCIDENT TRACKING FORM

Responder Information	
Call taken by:	Call date:
Call time:	Precipitation (inches) in past 24-48 hrs:
Reporter Information	
Incident time:	Incident date:
Caller contact information (<i>optional</i>):	
Incident Location (<i>complete one or more below</i>)	
Latitude and longitude:	
Stream address or outfall #:	
Closest street address:	
Nearby landmark:	
Primary Location Description	Secondary Location Description:
<input type="checkbox"/> Stream corridor (<i>In or adjacent to arroyo</i>)	<input type="checkbox"/> Outfall <input type="checkbox"/> In-stream flow <input type="checkbox"/> Along banks
<input type="checkbox"/> Upland area (<i>Land not adjacent to arroyo</i>)	<input type="checkbox"/> Near storm drain <input type="checkbox"/> Near other water source (storm water pond, wetland, etc.):
Narrative description of location:	
Upland Problem Indicator Description	
<input type="checkbox"/> Dumping	<input type="checkbox"/> Oil/solvents/chemicals <input type="checkbox"/> Sewage
<input type="checkbox"/> Wash water, suds, etc.	<input type="checkbox"/> Other: _____
Stream Corridor Problem Indicator Description	
Odor	<input type="checkbox"/> None <input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Petroleum (gas)
	<input type="checkbox"/> Sulfide (rotten eggs); natural gas <input type="checkbox"/> Other: Describe in "Narrative" section
Appearance	<input type="checkbox"/> "Normal" <input type="checkbox"/> Oil sheen <input type="checkbox"/> Cloudy <input type="checkbox"/> Suds
	<input type="checkbox"/> Other: Describe in "Narrative" section
Floatables	<input type="checkbox"/> None: <input type="checkbox"/> Sewage (toilet paper, etc) <input type="checkbox"/> Algae <input type="checkbox"/> Dead fish
	<input type="checkbox"/> Other: Describe in "Narrative" section
Narrative description of problem indicators:	
Suspected Violator (name, personal or vehicle description, license plate #, etc.):	



4509 Alpin
Rio Rancho, NM 87124
United States

EUGENE PETTES

From: Xavier Baca
Sent: Tuesday, May 23, 2023 4:02 PM
To: EUGENE PETTES
Subject: RE: 4513 Alpine Circle Se, Rio Rancho, New Mexico 87124

Received, thank you Eugene. Complaining party resides at 4509 Alpine Circle. Could you attempt to make contact? If you can't I understand Thank you again.

Respectfully,



Xavier Baca
Officer

Code Enforcement / Development Services

O: 505.891-5995

RRNM.gov |



From: EUGENE PETTES <xpettes@rrnm.gov>
Sent: Tuesday, May 23, 2023 3:56 PM
To: Xavier Baca <xbaca@rrnm.gov>
Subject: RE: 4513 Alpine Circle Se, Rio Rancho, New Mexico 87124

Illicit Discharge - 153.31(6) Specific IDDE Protections

However, you need to find the source. Is it a vehicle, bucket of oil, garbage can...? If I had to guess... oil was power washed off a driveway nearby and ponded in front of that driveway. I'll go out tomorrow and take a look.

Xavier

From: Xavier Baca <xbaca@rrnm.gov>
Sent: Tuesday, May 23, 2023 3:45 PM
To: EUGENE PETTES <xpettes@rrnm.gov>
Subject: 4513 Alpine Circle Se, Rio Rancho, New Mexico 87124

Good afternoon,

Code Enforcement received the following complaint:

[Rock Solid® | OneView® Console - The Power of ONE.™ \(citysources.com\)](https://www.citysources.com/)



Code Enforcement strongly thinks the oil is coming from the property located at 4513 Alpine Circle Se, Rio Rancho, New Mexico 87124 because the oil stream starts there.

Do you have any suggestions?

Respectfully,



Xavier Baca
Officer

Code Enforcement / Development Services

O: 505.891-5995

RRNM.gov |





June 9, 2023

Certified No. 7022 0410 0002 5818 9254

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 – 2715 Pinetree - Rio Rancho, NM

Dear Ms. Williams:

At approximately 18:15 p.m. on Sunday, June 4, 2023, the Collections systems manager received a call that there was manhole overflowing at 2715 Pinetree. Upon arrival and after investigation, it was found that tree roots had clogged the main sewer line causing manhole to overflow onto the street. This was due to residential plumbing repairs and roots being flushed to the main line after homeowners had their lines repaired. Roots were then cut from main line and removed. The affected area was pumped and cleaned by vactor truck. The estimated volume for the overflow was 200 gallons.

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Dennis Gonzales', with a stylized flourish at the end.

Dennis Gonzales
Operations Manager, Jacobs

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



March 1, 2023

Certified No. 7022 0410 0002 5818 9070

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 #24, WWTP #6 - Rio Rancho, NM

Dear Ms. Williams:

At approximately 10:00 p.m. on Saturday, February 25, 2023, the Operation systems manager received a call that there was facility power shutdown at WWTP #6 located at 2400 Westside Ct. Upon arrival and investigation, it was found that UPS power module that controls the entire facility had failed. The power failure caused the pumps at lift station #24 to shutdown which caused the manhole just east of the lift station to overflow. The estimated volume of 200 gallons flowed from manhole onto the nearby landscape. The flow also reached the arroyo adjacent to the manhole. Collections department and ICS department were called out to troubleshoot system failure and repair the UPS power module. 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,

A handwritten signature in black ink, appearing to read 'Dennis Gonzales', written over a light blue horizontal line.

Dennis Gonzales
Operations Manager, Jacobs

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

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

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	Harley's Pond	NMR10048K	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	7/5/2022	10/11/2021	
2	EPA	Champion Xpress Car Wash Rio Rancho	NMR1004XY	NPDES	General Permit	Construction Stormwater	New	Approved	Active	7/14/2022	7/28/2022	
3	EPA	RAINBOW SUBDIVISION	NMR1004Y8	NPDES	General Permit	Construction Stormwater	New	Approved	Active	7/15/2022	7/29/2022	
4	EPA	Raising Cane's #868 Rio Rancho, NM	NMR1004YA	NPDES	General Permit	Construction Stormwater	New	Approved	Active	7/18/2022	8/1/2022	
5	EPA	2025 Eucalyptus Residential Development	NMR1004YB	NPDES	Low Erosivity Waiver	Construction Stormwater	New	Approved	Expired	7/18/2022	7/18/2022	
6	EPA	2029 Eucalyptus, Residential Development	NMR1004YC	NPDES	Low Erosivity Waiver	Construction Stormwater	New	Approved	Expired	7/18/2022	7/18/2022	
7	EPA	2033 Eucalyptus Residential Development	NMR1004YD	NPDES	Low Erosivity Waiver	Construction Stormwater	New	Approved	Expired	7/18/2022	7/18/2022	
8	EPA	2101, 2105, 2109, 2113, 2117 Eucalyptus Rd. Residential Development	NMR1004YJ	NPDES	General Permit	Construction Stormwater	New	Approved	Active	7/19/2022	8/2/2022	
9	EPA	Presbyterian Rust Medical Center Physician Office Building 2	NMR1002LC	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	7/22/2022	12/3/2019	
10	EPA	Whataburger	NMR1004ZC	NPDES	General Permit	Construction Stormwater	New	Approved	Active	7/28/2022	8/11/2022	
11	EPA	Rockaway RV Storage	NMR1004ZO	NPDES	General Permit	Construction Stormwater	New	Approved	Active	8/2/2022	8/16/2022	
12	EPA	State Hwy 528 Self - Storage Facility	NMR1004ZP	NPDES	General Permit	Construction Stormwater	New	Approved	Active	8/2/2022	8/16/2022	
13	EPA	Raising Cane's #868 Rio Rancho, NM	NMR10050P	NPDES	General Permit	Construction Stormwater	New	Approved	Active	8/10/2022	8/24/2022	
14	EPA	Slim Chickens - Wellspring	NMR10050X	NPDES	General Permit	Construction Stormwater	New	Approved	Active	8/10/2022	8/24/2022	
15	EPA	MELON RIDGE	NMR10051Y	NPDES	General Permit	Construction Stormwater	New	Approved	Active	8/24/2022	9/7/2022	
16	EPA	Riverside Drive Reconstruction and Waterline Replacement	NMR10052R	NPDES	General Permit	Construction Stormwater	New	Approved	Active	9/7/2022	9/21/2022	ICIP
17	EPA	FLEET ESTATES	NMR10040E	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	9/9/2022	7/2/2021	
18	EPA	Riverside Drive Reconstruction and Waterline Replacement	NMR10053X	NPDES	General Permit	Construction Stormwater	New	Approved	Active	9/19/2022	10/3/2022	
19	EPA	Lomas Encantadas 1G Phase 2 & 3	NMR100544	NPDES	General Permit	Construction Stormwater	New	Approved	Active	9/21/2022	10/5/2022	
20	EPA	Rainbow Blvd Improvements	NMR1004EX	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	9/28/2022	1/6/2022	ICIP
21	EPA	The Block at Enchanted Hills	NMR10055F	NPDES	General Permit	Construction Stormwater	New	Approved	Active	10/10/2022	10/24/2022	
22	EPA	High Range Pond Excavation	NMR10055T	NPDES	General Permit	Construction Stormwater	New	Approved	Active	10/14/2022	10/28/2022	

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

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	
23	EPA	Lower Ivory Channel	NMR10056H	NPDES	General Permit	Construction Stormwater	New	Approved	Active	10/21/2022	11/4/2022	
24	EPA	The Block at Enchanted Hills	NMR100572	NPDES	General Permit	Construction Stormwater	New	Approved	Active	11/3/2022	11/17/2022	
25	EPA	550 Paseo Offsite	NMR100574	NPDES	General Permit	Construction Stormwater	New	Approved	Active	11/3/2022	11/17/2022	
26	EPA	Intel	NMR100543	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	11/4/2022	10/5/2022	
27	EPA	Encino North Solar Project	NMR10058I	NPDES	General Permit	Construction Stormwater	New	Approved	Active	11/18/2022	12/2/2022	
28	EPA	Mountain Hawk Unit 28 Phase 1-2	NMR1003AE	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	12/1/2022	9/28/2020	
29	EPA	Mountain Hawk Unit 23 Subdivision	NMR1003DC	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	12/1/2022	11/2/2020	
30	EPA	Mountain Hawk Unit 23 Subdivision	NMR1003DD	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	12/2/2022	11/2/2020	
31	EPA	Intel	NMR10055X	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	12/2/2022	10/31/2022	
32	EPA	Phase 3 Lomas Encantadas 2B Subdivision	NMR100388	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	12/5/2022	9/4/2020	
33	EPA	VISTA GRANDE SUBDIVISION	NMR10059K	NPDES	General Permit	Construction Stormwater	New	Approved	Active	12/5/2022	12/19/2022	
34	EPA	McDonald's (30-258)	NMR1004IO	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	12/9/2022	2/14/2022	
35	EPA	King Blvd Expansion	NMR1005A5	NPDES	General Permit	Construction Stormwater	New	Approved	Active	12/13/2022	12/27/2022	ICIP
36	EPA	King Boulevard Expansion Project	NMR1005AF	NPDES	General Permit	Construction Stormwater	New	Approved	Active	12/15/2022	12/29/2022	ICIP
37	EPA	Grande Court	NMR1005AL	NPDES	Low Erosivity Waiver	Construction Stormwater	New	Approved	Expired	12/19/2022	12/19/2022	
38	EPA	Mister Carwash	NMR1005AQ	NPDES	General Permit	Construction Stormwater	New	Approved	Active	12/20/2022	1/3/2023	
39	EPA	Grande Restoration Project	NMR1005AU	NPDES	Low Erosivity Waiver	Construction Stormwater	New	Approved	Expired	12/20/2022	12/20/2022	ICIP
40	EPA	Mountain Hawk 38 Subdivision	NMR1004K2	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	12/22/2022	3/11/2022	
41	EPA	CJ & WN Transmission	NMR1005B8	NPDES	General Permit	Construction Stormwater	New	Approved	Active	12/27/2022	1/10/2023	
42	EPA	May Circle	NMR1005BL	NPDES	Low Erosivity Waiver	Construction Stormwater	New	Approved	Expired	1/3/2023	1/3/2023	
43	EPA	37th Street and 18th Avenue SE	NMR1005BM	NPDES	Low Erosivity Waiver	Construction Stormwater	New	Approved	Expired	1/3/2023	1/3/2023	
44	EPA	Mackenzie Drive and Mackenzie Place	NMR1005BN	NPDES	Low Erosivity Waiver	Construction Stormwater	New	Approved	Expired	1/3/2023	1/3/2023	

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

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	
45	EPA	19th Avenue	NMR1005BQ	NPDES	Low Erosivity Waiver	Construction Stormwater	New	Approved	Expired	1/3/2023	1/3/2023	
46	EPA	Mister Car wash	NMR1005BR	NPDES	General Permit	Construction Stormwater	New	Approved	Active	1/3/2023	1/17/2023	
47	EPA	Rio Rancho Well 9R	NMR1005C5	NPDES	General Permit	Construction Stormwater	New	Approved	Active	1/11/2023	1/25/2023	
48	EPA	Westside Blvd Bike and Ped Path Improvements	NMR1004G8	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	1/16/2023	1/28/2022	ICIP
49	EPA	St. Andrews Drive	NMR1005D1	NPDES	Low Erosivity Waiver	Construction Stormwater	New	Approved	Expired	1/19/2023	1/19/2023	
50	EPA	Well No. 9 Improvements and 3 MG Reservoir	NMR1004EP	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	1/24/2023	1/3/2022	ICIP
51	EPA	Rainbow Boulevard Improvement Project	NMR1004FB	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	1/24/2023	1/17/2022	ICIP
52	EPA	Westside Blvd Bike and Pedestrian Path Improvements	NMR1004PB	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	1/24/2023	5/6/2022	ICIP
53	EPA	Well 9 Rehabilitation - WA 2164	NMR1005D5	NPDES	General Permit	Construction Stormwater	New	Approved	Active	1/24/2023	2/7/2023	
54	EPA	Lower Montoyas Arroyo Bank Stabilization	NMR1004MG	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	1/30/2023	4/8/2022	ICIP
55	EPA	TIERRA DEL NORTE SUBDIVISION	NMR1004NL	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	2/8/2023	4/19/2022	
56	EPA	Lomas Encantadas 1F	NMR10041T	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	2/13/2023	7/16/2021	
57	EPA	Lomas Encantadas 4A Camino Encantadas Offsite Improvements	NMR10041U	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	2/14/2023	7/16/2021	
58	EPA	Mountain Hawk 38 Subdivision	NMR1004JP	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	2/14/2023	3/7/2022	
59	EPA	Caliber Collision	NMR1004T5	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	2/15/2023	6/7/2022	
60	EPA	Abrazo Road	NMR1005FE	NPDES	Low Erosivity Waiver	Construction Stormwater	New	Approved	Expired	2/21/2023	2/21/2023	ICIP
61	EPA	Sandoval County Landfill - Litter Barrier Fence	NMR1004R5	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	2/22/2023	5/24/2022	
62	EPA	High Range Pond Excavation	NMR10054P	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	2/27/2023	10/14/2022	
63	EPA	Abrazo Road Asphalt Resurfacing	NMR1005GA	NPDES	Low Erosivity Waiver	Construction Stormwater	New	Approved	Expired	2/28/2023	2/28/2023	ICIP
64	EPA	Mountain Hawk 40 Subdivision	NMR1003WL	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	3/7/2023	5/25/2021	
65	EPA	Siesta Hills II - Baltic Park Subdivision	NMR1005HH	NPDES	General Permit	Construction Stormwater	New	Approved	Active	3/17/2023	3/31/2023	
66	EPA	CN A300381 NM528	NMR1003ZZ	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	4/13/2023	6/29/2021	

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

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	
67	EPA	Pinetree Road Reconstruction	NMR1005LM	NPDES	General Permit	Construction Stormwater	New	Approved	Active	4/27/2023	5/11/2023	ICIP
68	EPA	Vista Montebella Oeste	NMR1003OJ	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	5/1/2023	3/9/2021	
69	EPA	Encino North Solar Project	NMR10059Y	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	5/4/2023	12/23/2022	
70	EPA	Rio Rancho Sports Complex North Phase 2	NMR1004M1	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	5/9/2023	4/6/2022	ICIP
71	EPA	Redondo at Mariposa	NMR1001AR	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	5/10/2023	5/18/2018	
72	EPA	Stonegate Phase I	NMR1005MU	NPDES	General Permit	Construction Stormwater	New	Approved	Active	5/15/2023	5/29/2023	
73	EPA	Modwash Express Carwash - Rio Rancho	NMR1005NJ	NPDES	General Permit	Construction Stormwater	New	Approved	Active	5/19/2023	6/2/2023	
74	EPA	City of Rio Rancho Road Reconstruction	NMR1005NT	NPDES	General Permit	Construction Stormwater	New	Approved	Active	5/23/2023	6/6/2023	ICIP
75	EPA	Spring Road Reconstruction Project	NMR1005NZ	NPDES	General Permit	Construction Stormwater	New	Approved	Active	5/24/2023	6/7/2023	ICIP
76	EPA	District 1 Residential Hybrid Mill and Inlay	NMR1005OD	NPDES	General Permit	Construction Stormwater	New	Approved	Active	6/2/2023	6/16/2023	ICIP
77	EPA	District 1 Residential Hybrid Mill and Inlay Project	NMR1005OO	NPDES	General Permit	Construction Stormwater	New	Approved	Active	6/7/2023	6/21/2023	ICIP
78	EPA	Lomas Encantadas 4A Camino Encantadas Offsite Improvements	NMR10044E	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	6/8/2023	8/16/2021	
79	EPA	Phase 1 Melon Ridge Subdivision	NMR1004B9	NPDES	General Permit	Construction Stormwater	Termination	Approved	Terminated	6/8/2023	11/16/2021	
80	EPA	Cielo Azul Subdivision	NMR1005OU	NPDES	General Permit	Construction Stormwater	New	Approved	Active	6/12/2023	6/26/2023	
81	EPA	Quail Ranch 345kV Substation	NMR1005Q6	NPDES	General Permit	Construction Stormwater	New	Approved	Active	6/26/2023	7/10/2023	
82	EPA	Northern Meadows Tract J-1	NMR1005HG	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	6/27/2023	3/31/2023	
83	EPA	Lomas Encantadas 1E Phases 1 and 2	NMR1005ER	NPDES	General Permit	Construction Stormwater	Change	Approved	Active	6/29/2023	2/23/2023	
84	EPA	Unit 7 - SFR Lots	NMR1005QM	NPDES	General Permit	Construction Stormwater	New	Approved	Active	6/30/2023	7/14/2023	
85	EPA	Unit 11 SFR Lots	NMR1005QN	NPDES	General Permit	Construction Stormwater	New	Approved	Active	6/30/2023	7/14/2023	

DRY WEATHER DISCHARGE SCREENING

From **JULY 1, 2022** to **JUNE 30, 2023**

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 1 through October 31)

and

Dry Season (November 1 through June 30)

**CITY OF RIO RANCHO
IDDE INSPECTION FIELD FORM**

PROJECT/SURVEY NAME (i.e., Wet, Dry, Incident Tracking, Outfall Recon Inventory) DRY WEATHER SCREENING	DATE 5/17/2023	TIME 10:30 am	INVESTIGATOR(S) Xavier Pintos
OUTFALL ID Rivers 0040 # 1	SUBWATERSHED BARRANCA	LATITUDE 15°17'54" N	OBSERVER INFO. (Reported by Citizens) ANNUAL SCREENING
LAND USE IN DRAINAGE AREA (i.e., Commercial, Industrial, Residential) RESIDENTIAL	WEATHER	LONGITUDE 106°34'50" W	
		LAST RAIN (>72 hours or <72 hours) 0.0"	

Conveyance (Check one only)	<input checked="" type="checkbox"/> MS4 Outfall	<input type="checkbox"/> Other MS4 Structure	<input type="checkbox"/> Concrete Channel	<input type="checkbox"/> Earthen Channel	<input type="checkbox"/> Arroyo/Natural Creek	Comments:				
Material	<input checked="" type="checkbox"/> Concrete	<input type="checkbox"/> Earthen	<input type="checkbox"/> Rip-Rap	<input type="checkbox"/> RCP	<input type="checkbox"/> CMP	<input type="checkbox"/> PVC	<input type="checkbox"/> HDPE	<input type="checkbox"/> Steel	<input type="checkbox"/> Other _____	
Shape	<input checked="" type="checkbox"/> Circular	<input type="checkbox"/> Elliptical	<input type="checkbox"/> Box	<input type="checkbox"/> Trapezoid	<input type="checkbox"/> Parabolic	<input type="checkbox"/> Other _____	<input type="checkbox"/> Single	<input type="checkbox"/> Double	<input type="checkbox"/> Triple	<input type="checkbox"/> Other _____
Dimensions	<input checked="" type="checkbox"/> Diameter/Dimensions: 24"		<input type="checkbox"/> Depth: _____	<input type="checkbox"/> Bottom Width: _____	<input type="checkbox"/> Top Width: _____					
Submerged	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully			With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully						
Ownership	<input type="checkbox"/> SCAFCFA	<input checked="" type="checkbox"/> City	<input type="checkbox"/> Private	<input type="checkbox"/> Unknown	<input type="checkbox"/> Other _____					
Discharges to	<input type="checkbox"/> Pond/Depressional Feature	<input type="checkbox"/> Natural Conveyance	<input type="checkbox"/> Storm Drain Channel	<input type="checkbox"/> Open Space	<input checked="" type="checkbox"/> Rio Grande (WOTUS)	<input type="checkbox"/> Other _____				
Flow Status	<input type="checkbox"/> Flowing	<input checked="" type="checkbox"/> Dry	<input type="checkbox"/> Pondered	Flow Reaches Receiving Water?		<input type="checkbox"/> Yes	<input type="checkbox"/> No	N/A		

WATER QUALITY APPEARANCE	ODOR	<input type="checkbox"/> HYDROGEN SULFIDE	<input type="checkbox"/> MUSTY	<input checked="" type="checkbox"/> SEWAGE	<input type="checkbox"/> AMMONIA	<input type="checkbox"/> GASOLINE	<input type="checkbox"/> OTHER _____	
	COLOR	<input type="checkbox"/> SOAP	<input type="checkbox"/> CHLORINE	<input checked="" type="checkbox"/> NONE	<input type="checkbox"/> EARTHY	<input type="checkbox"/> PESTICIDE	<input type="checkbox"/> OTHER _____	
		<input type="checkbox"/> YELLOW	<input type="checkbox"/> GREEN	<input type="checkbox"/> BLUE	<input type="checkbox"/> BROWN	<input type="checkbox"/> BLACK	<input type="checkbox"/> OTHER _____	
	FLOATING MATERIALS	<input type="checkbox"/> GRAY	<input type="checkbox"/> WHITE	<input type="checkbox"/> COLORLESS	<input checked="" type="checkbox"/> NONE			
		<input type="checkbox"/> TRASH OR DEBRIS	<input type="checkbox"/> OILY SHEEN	<input type="checkbox"/> ORGANIC	<input type="checkbox"/> SCUM	<input type="checkbox"/> SUDS	<input type="checkbox"/> OTHER _____	
OIL AND GREASE	<input checked="" type="checkbox"/> NONE	<input type="checkbox"/> DEPOSIT	<input type="checkbox"/> EMULSION	<input type="checkbox"/> SHEEN	<input type="checkbox"/> HEAVY FLOATING CONCENTRATION			
TURBIDITY	<input type="checkbox"/> HEAVY CLOUDINESS, OPAQUE		<input type="checkbox"/> CLOUDY	<input type="checkbox"/> SOME CLOUDINESS	<input checked="" type="checkbox"/> NONE			

POTENTIAL SOURCES OF FLOW OBSERVED NEAR SITE	<input type="checkbox"/> Pool/Spa Discharge	<input type="checkbox"/> Illicit Connection	<input type="checkbox"/> Restaurant Washing	<input type="checkbox"/> Illegal Dumping	<input type="checkbox"/> Sewage	<input type="checkbox"/> Groundwater
	<input type="checkbox"/> Irrigation Runoff	<input type="checkbox"/> Vehicle Washing	<input type="checkbox"/> Water Line Break	<input type="checkbox"/> Permitted Discharge	<input type="checkbox"/> Power Washing	<input type="checkbox"/> Other _____
DESCRIBE ALL SOURCES: NONE - FLOW WAS NOT OBSERVED DURING SCREENING						

OTHER VISUAL OBSERVATIONS						
Outfall Damage	<input type="checkbox"/> Cracking or Chipping	<input type="checkbox"/> Corrosion	<input type="checkbox"/> Peeling Paint	<input checked="" type="checkbox"/> Undermined Structure	<input type="checkbox"/> None	<input type="checkbox"/> Other _____
Deposits/Stains	<input type="checkbox"/> Flow Line	<input type="checkbox"/> Oily	<input type="checkbox"/> Paint	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other _____	
Abnormal Vegetation	<input checked="" type="checkbox"/> Excessive	<input type="checkbox"/> Inhibited				
Pipe benthic growth	<input type="checkbox"/> Brown	<input type="checkbox"/> Orange	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other _____	

FIELD MEASUREMENTS (Taken in duplicate)	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)
	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)

GRAB COLLECTION TIME:	Grab samples collected: (Circle all that apply) Ammonia, Bacteria, Boron, Chlorine, Color, Detergents, Fluoride, Hardness, Potassium, Surfactants
QA/QC SAMPLES:	<input type="checkbox"/> Field Duplicate <input type="checkbox"/> Field Blank

FLOW ESTIMATION	Flow <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Pondered	Evidence of overland flow near sampling location? <input type="checkbox"/> Yes <input type="checkbox"/> No
	Marsh-McBirney used for flow measurements? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Flowing Creek (Marsh-McBirney or leaf method)	Filling a Bottle	Flowing Pipe
1. Width (ft or in) _____	1. Volume (mL or L) _____	1. Pipe Diameter (ft or in) _____
2. Depth (ft or in) _____	2. Time to fill (sec) _____	2. Depth (ft or in) _____
3. Velocity (ft or in / sec) _____		3. Velocity (ft or in / sec) _____
Flow _____	Flow _____	Flow _____

PHOTOS TAKEN: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	COMMENTS: OUTFALL SITE WAS DRY DURING FIELD VISIT.
INVESTIGATOR SIGNATURE	NPDES Project Manager

**CITY OF RIO RANCHO
IDDE INSPECTION FIELD FORM**

PROJECT/SURVEY NAME (i.e., Wet, Dry, Incident Tracking, Outfall Recon Inventory) Day Weather Screening	DATE 5/17/2023	TIME 10:50 am	INVESTIGATOR(S) Xavier Ponce
OUTFALL ID RIVERS EDGE # 2	SUBWATERSHED Unimpaired Waters	LATITUDE 15°17'27" N	OBSERVER INFO. (Reported by Citizens) Actual Screening
LAND USE IN DRAINAGE AREA (i.e., Commercial, Industrial, Residential) Residential	WEATHER	LONGITUDE 106°35'20" W	
		LAST RAIN (≥72 hours or <72 hours) 0.0"	

Conveyance (Check one only)	<input checked="" type="checkbox"/> MS4 Outfall	<input type="checkbox"/> Other MS4 Structure	<input type="checkbox"/> Concrete Channel	<input type="checkbox"/> Earthen Channel	<input type="checkbox"/> Arroyo/Natural Creek	Comments:				
Material	<input type="checkbox"/> Concrete	<input type="checkbox"/> Earthen	<input type="checkbox"/> Rip-Rap	<input type="checkbox"/> RCP	<input type="checkbox"/> CMP	<input type="checkbox"/> PVC	<input type="checkbox"/> HDPE	<input checked="" type="checkbox"/> Steel	<input type="checkbox"/> Other	
Shape	<input checked="" type="checkbox"/> Circular	<input type="checkbox"/> Elliptical	<input type="checkbox"/> Box	<input type="checkbox"/> Trapezoid	<input type="checkbox"/> Parabolic	<input type="checkbox"/> Other	<input type="checkbox"/> Single	<input type="checkbox"/> Double	<input type="checkbox"/> Triple	<input type="checkbox"/> Other
Dimensions	<input checked="" type="checkbox"/> Diameter/Dimensions: 18"		<input type="checkbox"/> Depth: _____	<input type="checkbox"/> Bottom Width: _____	<input type="checkbox"/> Top Width: _____					
Submerged	In Water: <input checked="" type="checkbox"/> No			<input type="checkbox"/> Partially	<input type="checkbox"/> Fully	With Sediment: <input checked="" type="checkbox"/> No		<input type="checkbox"/> Partially	<input type="checkbox"/> Fully	
Ownership	<input type="checkbox"/> SSCAFCA	<input checked="" type="checkbox"/> City	<input type="checkbox"/> Private	<input type="checkbox"/> Unknown	<input type="checkbox"/> Other					
Discharges to	<input type="checkbox"/> Pond/Depressional Feature	<input type="checkbox"/> Natural Conveyance	<input type="checkbox"/> Storm Drain Channel	<input checked="" type="checkbox"/> Open Space	<input type="checkbox"/> Rio Grande (WOTUS)	<input type="checkbox"/> Other				
Flow Status	<input type="checkbox"/> Flowing	<input checked="" type="checkbox"/> Dry	<input type="checkbox"/> Ponded	Flow Reaches Receiving Water?		<input type="checkbox"/> Yes	<input type="checkbox"/> No			

WATER QUALITY APPEARANCE	ODOR	<input type="checkbox"/> HYDROGEN SULFIDE	<input type="checkbox"/> MUSTY	<input type="checkbox"/> SEWAGE	<input type="checkbox"/> AMMONIA	<input type="checkbox"/> GASOLINE	<input type="checkbox"/> OTHER
		<input type="checkbox"/> SOAP	<input type="checkbox"/> CHLORINE	<input checked="" type="checkbox"/> NONE	<input type="checkbox"/> EARTHY	<input type="checkbox"/> PESTICIDE	
	COLOR	<input type="checkbox"/> YELLOW	<input type="checkbox"/> GREEN	<input type="checkbox"/> BLUE	<input type="checkbox"/> BROWN	<input type="checkbox"/> BLACK	<input type="checkbox"/> OTHER
		<input type="checkbox"/> GRAY	<input type="checkbox"/> WHITE	<input type="checkbox"/> COLORLESS	<input checked="" type="checkbox"/> NONE		
	FLOATING MATERIALS	<input type="checkbox"/> TRASH OR DEBRIS	<input type="checkbox"/> OILY SHEEN	<input type="checkbox"/> ORGANIC	<input type="checkbox"/> SCUM	<input type="checkbox"/> SUDS	<input type="checkbox"/> OTHER
	<input checked="" type="checkbox"/> OBJECTS (DESCRIBE)	<input type="checkbox"/> FECAL MATTER	<input type="checkbox"/> BIOFILM	<input checked="" type="checkbox"/> NONE			
OIL AND GREASE	<input checked="" type="checkbox"/> NONE	<input type="checkbox"/> DEPOSIT	<input type="checkbox"/> EMULSION	<input type="checkbox"/> SHEEN	<input type="checkbox"/> HEAVY FLOATING CONCENTRATION		
TURBIDITY	<input type="checkbox"/> HEAVY CLOUDINESS, OPAQUE		<input type="checkbox"/> CLOUDY	<input type="checkbox"/> SOME CLOUDINESS	<input checked="" type="checkbox"/> NONE		

POTENTIAL SOURCES OF FLOW OBSERVED NEAR SITE	<input type="checkbox"/> Pool/Spa Discharge	<input type="checkbox"/> Illicit Connection	<input type="checkbox"/> Restaurant Washing	<input type="checkbox"/> Illegal Dumping	<input type="checkbox"/> Sewage	<input type="checkbox"/> Groundwater
	<input type="checkbox"/> Irrigation Runoff	<input type="checkbox"/> Vehicle Washing	<input type="checkbox"/> Water Line Break	<input type="checkbox"/> Permitted Discharge	<input type="checkbox"/> Power Washing	<input type="checkbox"/> Other
DESCRIBE ALL SOURCES: Flow was not observed during screening						

OTHER VISUAL OBSERVATIONS						
Outfall Damage	<input type="checkbox"/> Cracking or Chipping	<input type="checkbox"/> Corrosion	<input type="checkbox"/> Peeling Paint	<input type="checkbox"/> Undermined Structure	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Deposits/Stains	<input type="checkbox"/> Flow Line	<input type="checkbox"/> Oily	<input type="checkbox"/> Paint	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other	
Abnormal Vegetation	<input checked="" type="checkbox"/> Excessive	<input type="checkbox"/> Inhibited				
Pipe benthic growth	<input type="checkbox"/> Brown	<input type="checkbox"/> Orange	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other	

FIELD MEASUREMENTS (Taken in duplicate)	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)
	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)

GRAB COLLECTION TIME:	Grab samples collected: (Circle all that apply) Ammonia, Bacteria, Boron, Chlorine, Color, Detergents, Fluoride, Hardness, Potassium, Surfactants
QA/QC SAMPLES:	<input type="checkbox"/> Field Duplicate <input type="checkbox"/> Field Blank

FLOW ESTIMATION	Flow <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Ponded	Evidence of overland flow near sampling location? <input type="checkbox"/> Yes <input type="checkbox"/> No
	Marsh-McBirney used for flow measurements? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Flowing Creek (Marsh-McBirney or leaf method)	Filling a Bottle	Flowing Pipe
1. Width (ft or in) _____	1. Volume (mL or L) _____	1. Pipe Diameter (ft or in) _____
2. Depth (ft or in) _____	2. Time to fill (sec) _____	2. Depth (ft or in) _____
3. Velocity (ft or in / sec) _____		3. Velocity (ft or in / sec) _____
Flow _____	Flow _____	Flow _____

PHOTOS TAKEN: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	COMMENTS:
INVESTIGATOR SIGNATURE XPR	NPDES Project Manager

**CITY OF RIO RANCHO
IDDE INSPECTION FIELD FORM**

PROJECT/SURVEY NAME (i.e., Wet, Dry, Incident Tracking, Outfall Recon Inventory) <i>DRY WEATHER SCREENING</i>	DATE <i>5/17/2023</i>	TIME <i>11:10 am</i>	INVESTIGATOR(S) <i>XAVIER PETTES</i>
OUTFALL ID <i>RIVERS DUGE # 3</i>	SUBWATERSHED <i>WILLOW CREEK</i>	LATITUDE <i>15°17'22"N</i>	OBSERVER INFO. (Reported by Citizens) <i>ANNUAL SCREENING</i>
LAND USE IN DRAINAGE AREA (i.e., Commercial, Industrial, Residential) <i>RESIDENTIAL</i>	WEATHER	LONGITUDE <i>106°35'30"W</i>	
		LAST RAIN (>72 hours or < 72 hours) <i>0.0"</i>	

Conveyance (Check one only)	<input checked="" type="checkbox"/> MS4 Outfall	<input type="checkbox"/> Other MS4 Structure	<input type="checkbox"/> Concrete Channel	<input type="checkbox"/> Earthen Channel	<input type="checkbox"/> Arroyo/Natural Creek	Comments:				
Material	<input type="checkbox"/> Concrete	<input type="checkbox"/> Earthen	<input type="checkbox"/> Rip-Rap	<input checked="" type="checkbox"/> RCP	<input type="checkbox"/> CMP	<input type="checkbox"/> PVC	<input type="checkbox"/> HDPE	<input type="checkbox"/> Steel	<input type="checkbox"/> Other	
Shape	<input checked="" type="checkbox"/> Circular	<input type="checkbox"/> Elliptical	<input type="checkbox"/> Box	<input type="checkbox"/> Trapezoid	<input type="checkbox"/> Parabolic	<input type="checkbox"/> Other	<input type="checkbox"/> Single	<input type="checkbox"/> Double	<input type="checkbox"/> Triple	<input type="checkbox"/> Other
Dimensions	<input checked="" type="checkbox"/> Diameter/Dimensions: <i>60"</i>			<input type="checkbox"/> Depth:	<input type="checkbox"/> Bottom Width:	<input type="checkbox"/> Top Width:				
Submerged	In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully			With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully						
Ownership	<input type="checkbox"/> SCA/FCA	<input checked="" type="checkbox"/> City	<input type="checkbox"/> Private	<input type="checkbox"/> Unknown	<input type="checkbox"/> Other					
Discharges to	<input type="checkbox"/> Pond/Depressional Feature	<input type="checkbox"/> Natural Conveyance	<input type="checkbox"/> Storm Drain Channel	<input checked="" type="checkbox"/> Open Space	<input type="checkbox"/> Rio Grande (WOTUS)	<input type="checkbox"/> Other				
Flow Status	<input type="checkbox"/> Flowing	<input checked="" type="checkbox"/> Dry	<input type="checkbox"/> Ponded	Flow Reaches Receiving Water?			<input type="checkbox"/> Yes	<input type="checkbox"/> No		

WATER QUALITY APPEARANCE	ODOR	<input type="checkbox"/> HYDROGEN SULFIDE	<input type="checkbox"/> MUSTY	<input checked="" type="checkbox"/> SEWAGE	<input type="checkbox"/> AMMONIA	<input type="checkbox"/> GASOLINE	<input type="checkbox"/> OTHER
		<input type="checkbox"/> SOAP	<input type="checkbox"/> CHLORINE	<input checked="" type="checkbox"/> NONE	<input type="checkbox"/> EARTHY	<input type="checkbox"/> PESTICIDE	
	COLOR	<input type="checkbox"/> YELLOW	<input type="checkbox"/> GREEN	<input type="checkbox"/> BLUE	<input type="checkbox"/> BROWN	<input type="checkbox"/> BLACK	<input type="checkbox"/> OTHER
		<input type="checkbox"/> GRAY	<input type="checkbox"/> WHITE	<input checked="" type="checkbox"/> COLORLESS	<input checked="" type="checkbox"/> NONE		
	FLOATING MATERIALS	<input type="checkbox"/> TRASH OR DEBRIS	<input type="checkbox"/> OILY SHEEN	<input type="checkbox"/> ORGANIC	<input type="checkbox"/> SCUM	<input type="checkbox"/> SUDS	<input type="checkbox"/> OTHER
	<input checked="" type="checkbox"/> OBJECTS (DESCRIBE)	<input type="checkbox"/> FECAL MATTER	<input type="checkbox"/> BIOFILM	<input checked="" type="checkbox"/> NONE			
OIL AND GREASE	<input checked="" type="checkbox"/> NONE	<input type="checkbox"/> DEPOSIT	<input type="checkbox"/> EMULSION	<input type="checkbox"/> SHEEN	<input type="checkbox"/> HEAVY FLOATING CONCENTRATION		
TURBIDITY	<input checked="" type="checkbox"/> HEAVY CLOUDINESS, OPAQUE		<input type="checkbox"/> CLOUDY	<input type="checkbox"/> SOME CLOUDINESS	<input checked="" type="checkbox"/> NONE		

POTENTIAL SOURCES OF FLOW OBSERVED NEAR SITE	<input type="checkbox"/> Pool/Spa Discharge	<input type="checkbox"/> Illicit Connection	<input type="checkbox"/> Restaurant Washing	<input type="checkbox"/> Illegal Dumping	<input type="checkbox"/> Sewage	<input type="checkbox"/> Groundwater
	<input type="checkbox"/> Irrigation Runoff	<input type="checkbox"/> Vehicle Washing	<input type="checkbox"/> Water Line Break	<input type="checkbox"/> Permitted Discharge	<input type="checkbox"/> Power Washing	<input type="checkbox"/> Other
DESCRIBE ALL SOURCES: <i>Flow was not observed during screening</i>						

OTHER VISUAL OBSERVATIONS						
Outfall Damage	<input type="checkbox"/> Cracking or Chipping	<input type="checkbox"/> Corrosion	<input type="checkbox"/> Peeling Paint	<input type="checkbox"/> Undermined Structure	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other
Deposits/Stains	<input type="checkbox"/> Flow Line	<input type="checkbox"/> Oily	<input type="checkbox"/> Paint	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other	
Abnormal Vegetation	<input type="checkbox"/> Excessive	<input type="checkbox"/> Inhibited				
Pipe benthic growth	<input type="checkbox"/> Brown	<input type="checkbox"/> Orange	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other	

FIELD MEASUREMENTS (Taken in duplicate)	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)
	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)

GRAB COLLECTION TIME:	Grab samples collected: (Circle all that apply) Ammonia, Bacteria, Boron, Chlorine, Color, Detergents, Fluoride, Hardness, Potassium, Surfactants
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QA/QC SAMPLES:	<input type="checkbox"/> Field Duplicate	<input type="checkbox"/> Field Blank
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FLOW ESTIMATION	Flow <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Ponded	Evidence of overland flow near sampling location? <input type="checkbox"/> Yes <input type="checkbox"/> No
	Marsh-McBirney used for flow measurements? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Flowing Creek (Marsh-McBirney or leaf method)	Filling a Bottle	Flowing Pipe
1. Width (ft or in) _____	1. Volume (mL or L) _____	1. Pipe Diameter (ft or in) _____
2. Depth (ft or in) _____	2. Time to fill (sec) _____	2. Depth (ft or in) _____
3. Velocity (ft or in / sec) _____		3. Velocity (ft or in / sec) _____
Flow _____	Flow _____	Flow _____

PHOTOS TAKEN:	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	COMMENTS:
INVESTIGATOR SIGNATURE <i>Xavier Pettes</i>		NPDES Project Manager

**CITY OF RIO RANCHO
IDDE INSPECTION FIELD FORM**

PROJECT/SURVEY NAME (i.e., Wet, Dry, Incident Tracking, Outfall Recon Inventory) DRY WEATHER SCREENING	DATE 5/17/2023	TIME 11:25 AM	INVESTIGATOR(S) XAVIER PETTES
OUTFALL ID RIVERS EDGE # 4	SUBWATERSHED BALTIMORA	LATITUDE 15° 17' 21" N	OBSERVER INFO. (Reported by Citizens) ANNUAL SCREENING
LAND USE IN DRAINAGE AREA (i.e., Commercial, Industrial, Residential) RESIDENTIAL	WEATHER	LONGITUDE 106° 35' 35" W	
		LAST RAIN (>72 hours or <72 hours) 0.0"	

Conveyance (Check one only)		<input checked="" type="checkbox"/> MS4 Outfall		<input type="checkbox"/> Other MS4 Structure	<input type="checkbox"/> Concrete Channel	<input type="checkbox"/> Earthen Channel	<input type="checkbox"/> Arroyo/Natural Creek	Comments:			
Material		<input type="checkbox"/> Concrete	<input type="checkbox"/> Earthen	<input type="checkbox"/> Rip-Rap	<input checked="" type="checkbox"/> RCP	<input type="checkbox"/> CMP	<input type="checkbox"/> PVC	<input type="checkbox"/> HDPE	<input type="checkbox"/> Steel	<input type="checkbox"/> Other _____	
Shape		<input checked="" type="checkbox"/> Circular	<input type="checkbox"/> Elliptical	<input type="checkbox"/> Box	<input type="checkbox"/> Trapezoid	<input type="checkbox"/> Parabolic	<input type="checkbox"/> Other _____	<input type="checkbox"/> Single	<input type="checkbox"/> Double	<input type="checkbox"/> Triple	<input type="checkbox"/> Other _____
Dimensions		<input checked="" type="checkbox"/> Diameter/Dimensions: 30"		<input type="checkbox"/> Depth: _____	<input type="checkbox"/> Bottom Width: _____	<input type="checkbox"/> Top Width: _____					
Submerged		In Water: <input checked="" type="checkbox"/> No		<input type="checkbox"/> Partially	<input type="checkbox"/> Fully	With Sediment: <input checked="" type="checkbox"/> No		<input type="checkbox"/> Partially	<input type="checkbox"/> Fully		
Ownership		<input type="checkbox"/> SCA/CA	<input checked="" type="checkbox"/> City	<input type="checkbox"/> Private	<input type="checkbox"/> Unknown	<input type="checkbox"/> Other _____					
Discharges to		<input type="checkbox"/> Pond/Depressional Feature	<input type="checkbox"/> Natural Conveyance Channel	<input type="checkbox"/> Storm Drain Channel	<input checked="" type="checkbox"/> Open Space	<input type="checkbox"/> Rio Grande (WOTUS)	<input type="checkbox"/> Other _____				
Flow Status		<input type="checkbox"/> Flowing	<input checked="" type="checkbox"/> Dry	<input type="checkbox"/> Ponded	Flow Reaches Receiving Water?		<input type="checkbox"/> Yes	<input type="checkbox"/> No			

WATER QUALITY APPEARANCE	ODOR	<input type="checkbox"/> HYDROGEN SULFIDE	<input type="checkbox"/> MUSTY	<input type="checkbox"/> SEWAGE	<input type="checkbox"/> AMMONIA	<input type="checkbox"/> GASOLINE	<input type="checkbox"/> OTHER _____
		<input type="checkbox"/> SOAP	<input type="checkbox"/> CHLORINE	<input checked="" type="checkbox"/> NONE	<input type="checkbox"/> EARTHY	<input type="checkbox"/> PESTICIDE	
	COLOR	<input type="checkbox"/> YELLOW	<input type="checkbox"/> GREEN	<input type="checkbox"/> BLUE	<input type="checkbox"/> BROWN	<input type="checkbox"/> BLACK	<input type="checkbox"/> OTHER _____
		<input type="checkbox"/> GRAY	<input type="checkbox"/> WHITE	<input type="checkbox"/> COLORLESS	<input checked="" type="checkbox"/> NONE		
	FLOATING MATERIALS	<input type="checkbox"/> TRASH OR DEBRIS	<input type="checkbox"/> OILY SHEEN	<input type="checkbox"/> ORGANIC	<input type="checkbox"/> SCUM	<input type="checkbox"/> SLUDGS	<input type="checkbox"/> OTHER _____
	<input type="checkbox"/> OBJECTS (DESCRIBE)	<input type="checkbox"/> FECAL MATTER	<input type="checkbox"/> BIOFILM	<input checked="" type="checkbox"/> NONE			
	OIL AND GREASE	<input checked="" type="checkbox"/> NONE	<input type="checkbox"/> DEPOSIT	<input type="checkbox"/> EMULSION	<input type="checkbox"/> SHEEN	<input type="checkbox"/> HEAVY FLOATING CONCENTRATION	
	TURBIDITY	<input type="checkbox"/> HEAVY CLOUDINESS, OPAQUE		<input type="checkbox"/> CLOUDY	<input type="checkbox"/> SOME CLOUDINESS	<input checked="" type="checkbox"/> NONE	

POTENTIAL SOURCES OF FLOW OBSERVED NEAR SITE	<input type="checkbox"/> Pool/Spa Discharge	<input type="checkbox"/> Illicit Connection	<input type="checkbox"/> Restaurant Washing <small>write restaurant name in comments</small>	<input type="checkbox"/> Illegal Dumping	<input type="checkbox"/> Sewage	<input type="checkbox"/> Groundwater
	<input type="checkbox"/> Irrigation Runoff	<input type="checkbox"/> Vehicle Washing	<input type="checkbox"/> Water Line Break	<input type="checkbox"/> Permitted Discharge	<input type="checkbox"/> Power Washing	<input type="checkbox"/> Other _____
DESCRIBE ALL SOURCES: Flow was not observed during screening						

OTHER VISUAL OBSERVATIONS						
Outfall Damage	<input type="checkbox"/> Cracking or Chipping	<input type="checkbox"/> Corrosion	<input type="checkbox"/> Peeling Paint	<input type="checkbox"/> Undermined Structure	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other _____
Deposits/Stains	<input type="checkbox"/> Flow Line	<input type="checkbox"/> Oily	<input type="checkbox"/> Paint	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other _____	
Abnormal Vegetation	<input type="checkbox"/> Excessive	<input type="checkbox"/> Inhibited				
Pipe benthic growth	<input type="checkbox"/> Brown	<input type="checkbox"/> Orange	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other _____	

FIELD MEASUREMENTS (Taken in duplicate)	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)
	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)

GRAB COLLECTION TIME:	Grab samples collected: (Circle all that apply) Ammonia, Bacteria, Boron, Chlorine, Color, Detergents, Fluoride, Hardness, Potassium, Surfactants
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QA/QC SAMPLES:	<input type="checkbox"/> Field Duplicate	<input type="checkbox"/> Field Blank
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FLOW ESTIMATION	Flow Yes / No <input checked="" type="checkbox"/> Pounded	Evidence of overland flow near sampling location? Yes / No
	Marsh-McBirney used for flow measurements? Yes / No	
Flowing Creek (Marsh-McBirney or leaf method)	Filling a Bottle	Flowing Pipe
1. Width (ft or in) _____	1. Volume (mL or L) _____	1. Pipe Diameter (ft or in) _____
2. Depth (ft or in) _____	2. Time to fill (sec) _____	2. Depth (ft or in) _____
3. Velocity (ft or in / sec) _____		3. Velocity (ft or in / sec) _____
Flow _____	Flow _____	Flow _____

PHOTOS TAKEN: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	COMMENTS:
INVESTIGATOR SIGNATURE	NPDES Project Manager

**CITY OF RIO RANCHO
IDDE INSPECTION FIELD FORM**

PROJECT/SURVEY NAME (i.e., Wet, Dry, Incident Tracking, Outfall Recon Inventory) DRY WEATHER SCREENING	DATE 5/17/2023	TIME 12:00pm	INVESTIGATOR(S) XAVIER PETTES
OUTFALL ID RIVERS EDGE # 5	SUBWATERSHED UNNAMED WASH	LATITUDE 15°17'13"N	OBSERVER INFO. (Reported by Citizens) ANNUAL SCREENING
LAND USE IN DRAINAGE AREA (i.e., Commercial, Industrial, Residential) RESIDENTIAL	WEATHER	LONGITUDE 106°35'42"W	
		LAST RAIN (>72 hours or <72 hours) 0.0"	

Conveyance (Check one only)		Comments:	
<input checked="" type="checkbox"/> MS4 Outfall	<input type="checkbox"/> Other MS4 Structure	<input type="checkbox"/> Concrete Channel	<input type="checkbox"/> Earthen Channel
<input type="checkbox"/> Concrete	<input type="checkbox"/> Earthen	<input type="checkbox"/> Rip-Rap	<input checked="" type="checkbox"/> RCP
<input type="checkbox"/> CMP	<input type="checkbox"/> PVC	<input type="checkbox"/> HDPE	<input type="checkbox"/> Steel
<input type="checkbox"/> Other			
Shape			
<input checked="" type="checkbox"/> Circular	<input type="checkbox"/> Elliptical	<input type="checkbox"/> Box	<input type="checkbox"/> Trapezoid
<input type="checkbox"/> Parabolic	<input type="checkbox"/> Other	<input type="checkbox"/> Single	<input type="checkbox"/> Double
<input type="checkbox"/> Triple	<input type="checkbox"/> Other		
Dimensions			
<input checked="" type="checkbox"/> Diameter/Dimensions: 48"	<input type="checkbox"/> Depth: _____	<input type="checkbox"/> Bottom Width: _____	<input type="checkbox"/> Top Width: _____
Submerged In Water:		With Sediment:	
<input checked="" type="checkbox"/> No	<input type="checkbox"/> Partially	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Partially
<input type="checkbox"/> Fully		<input type="checkbox"/> Partially	<input type="checkbox"/> Fully
Ownership			
<input type="checkbox"/> SSCAFCA	<input checked="" type="checkbox"/> City	<input type="checkbox"/> Private	<input type="checkbox"/> Unknown
<input type="checkbox"/> Other			
Discharges to			
<input type="checkbox"/> Pond/Depressional Feature	<input type="checkbox"/> Natural Conveyance Channel	<input checked="" type="checkbox"/> Storm Drain	<input checked="" type="checkbox"/> Open Space
<input type="checkbox"/> Rio Grande (WOTUS)	<input type="checkbox"/> Other		
Flow Status		Flow Reaches Receiving Water?	
<input type="checkbox"/> Flowing	<input checked="" type="checkbox"/> Dry	<input type="checkbox"/> Pondered	<input type="checkbox"/> Yes
			<input type="checkbox"/> No

WATER QUALITY APPEARANCE	ODOR						
	<input type="checkbox"/> HYDROGEN SULFIDE	<input type="checkbox"/> MUSTY	<input type="checkbox"/> SEWAGE	<input type="checkbox"/> AMMONIA	<input type="checkbox"/> GASOLINE	<input type="checkbox"/> OTHER	_____
	<input type="checkbox"/> SOAP	<input type="checkbox"/> CHLORINE	<input checked="" type="checkbox"/> NONE	<input type="checkbox"/> EARTHY	<input type="checkbox"/> PESTICIDE		
	COLOR						
	<input type="checkbox"/> YELLOW	<input type="checkbox"/> GREEN	<input checked="" type="checkbox"/> BLUE	<input type="checkbox"/> BROWN	<input type="checkbox"/> BLACK	<input type="checkbox"/> OTHER	_____
	<input type="checkbox"/> GRAY	<input type="checkbox"/> WHITE	<input type="checkbox"/> COLORLESS	<input checked="" type="checkbox"/> NONE			
FLOATING MATERIALS							
<input type="checkbox"/> TRASH OR DEBRIS	<input type="checkbox"/> OILY SLICEN	<input type="checkbox"/> ORGANIC	<input checked="" type="checkbox"/> SCUM	<input type="checkbox"/> SUDG	<input type="checkbox"/> OTHER	_____	
<input type="checkbox"/> OBJECTS (DESCRIBE)	<input type="checkbox"/> FECAL MATTER	<input type="checkbox"/> BIOFILM	<input checked="" type="checkbox"/> NONE				
OIL AND GREASE							
<input checked="" type="checkbox"/> NONE	<input type="checkbox"/> DEPOSIT	<input type="checkbox"/> EMULSION	<input type="checkbox"/> SHEEN	<input checked="" type="checkbox"/> HEAVY FLOATING CONCENTRATION			
TURBIDITY							
<input checked="" type="checkbox"/> HEAVY CLOUDINESS, OPAQUE	<input type="checkbox"/> CLOUDY	<input type="checkbox"/> SOME CLOUDINESS	<input checked="" type="checkbox"/> NONE				

POTENTIAL SOURCES OF FLOW OBSERVED NEAR SITE	<input type="checkbox"/> Pool/Spa Discharge	<input type="checkbox"/> Illicit Connection	<input type="checkbox"/> Restaurant Washing <small>write restaurant name in comments</small>	<input type="checkbox"/> Illegal Dumping	<input type="checkbox"/> Sewage	<input type="checkbox"/> Groundwater
	<input type="checkbox"/> Irrigation Runoff	<input type="checkbox"/> Vehicle Washing	<input type="checkbox"/> Water Line Break	<input type="checkbox"/> Permitted Discharge	<input type="checkbox"/> Power Washing	<input type="checkbox"/> Other
DESCRIBE ALL SOURCES: FLOW WAS NOT OBSERVED DURING SCREENING						

OTHER VISUAL OBSERVATIONS						
Outfall Damage						
<input type="checkbox"/> Cracking or Chipping	<input type="checkbox"/> Corrosion	<input type="checkbox"/> Peeling Paint	<input type="checkbox"/> Undermined Structure	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other	_____
Deposits/Stains						
<input type="checkbox"/> Flow Line	<input type="checkbox"/> Oily	<input type="checkbox"/> Paint	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other		
Abnormal Vegetation						
<input type="checkbox"/> Excessive	<input type="checkbox"/> Inhibited					
Pipe benthic growth						
<input type="checkbox"/> Brown	<input type="checkbox"/> Orange	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other		

FIELD MEASUREMENTS (Taken in duplicate)	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)	
	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)	

GRAB COLLECTION TIME:	Grab samples collected: (Circle all that apply) Ammonia, Bacteria, Boron, Chlorine, Color, Detergents, Fluoride, Hardness, Potassium, Surfactants
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QA/QC SAMPLES:	<input type="checkbox"/> Field Duplicate	<input type="checkbox"/> Field Blank
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FLOW ESTIMATION		Flow	Yes / No <input checked="" type="checkbox"/> Pondered	Evidence of overland flow near sampling location?	Yes / No
		Marsh-McBirney used for flow measurements?		Yes / No	
Flowing Creek (Marsh-McBirney or leaf method)		Filling a Bottle		Flowing Pipe	
1. Width (ft or in)	_____	1. Volume (mL or L)	_____	1. Pipe Diameter (ft or in)	_____
2. Depth (ft or in)	_____	2. Time to fill (sec)	_____	2. Depth (ft or in)	_____
3. Velocity (ft or in / sec)	_____			3. Velocity (ft or in / sec)	_____
Flow	_____	Flow	_____	Flow	_____

PHOTOS TAKEN:	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	COMMENTS:
INVESTIGATOR SIGNATURE		NPDES Project Manager	

**CITY OF RIO RANCHO
IDDE INSPECTION FIELD FORM**

PROJECT/SURVEY NAME (i.e., Wet, Dry, Incident Tracking, Outfall Recon Inventory) Dry Weather Screening	DATE 5/17/2023	TIME 12:30 pm	INVESTIGATOR(S) Xavier Pecos
OUTFALL ID RIVER BOGE # 6	SUBWATERSHED UNNAMED WASH	LATITUDE 15°17'06" N	OBSERVER INFO. (Reported by Citizens) ANNUAL SCREENING
LAND USE IN DRAINAGE AREA (i.e., Commercial, Industrial, Residential) RESIDENTIAL	WEATHER	LONGITUDE 106°35'48" W	
		LAST RAIN (>72 hours or <72 hours) 0.0"	

Conveyance (Check one only)		<input checked="" type="checkbox"/> MS4 Outfall <input type="checkbox"/> Other MS4 Structure <input type="checkbox"/> Concrete Channel <input type="checkbox"/> Earthen Channel <input type="checkbox"/> Arroyo/Natural Creek Comments:	
Material		<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> Rip-Rap <input checked="" type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other _____	
Shape		<input checked="" type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other _____ <input type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other _____	
Dimensions		<input checked="" type="checkbox"/> Diameter/Dimensions: 48" <input type="checkbox"/> Depth: _____ <input type="checkbox"/> Bottom Width: _____ <input type="checkbox"/> Top Width: _____	
Submerged		In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully	
Ownership		<input type="checkbox"/> SCAFCFA <input checked="" type="checkbox"/> City <input type="checkbox"/> Private <input type="checkbox"/> Unknown <input type="checkbox"/> Other _____	
Discharges to		<input checked="" type="checkbox"/> Pond/Depressional Feature <input type="checkbox"/> Natural Conveyance <input type="checkbox"/> Storm Drain Channel <input checked="" type="checkbox"/> Open Space <input type="checkbox"/> Rio Grande (WOTUS) <input type="checkbox"/> Other _____	
Flow Status		<input type="checkbox"/> Flowing <input type="checkbox"/> Dry <input type="checkbox"/> Pondered Flow Reaches Receiving Water? <input type="checkbox"/> Yes <input type="checkbox"/> No	

WATER QUALITY APPEARANCE	ODOR	<input type="checkbox"/> HYDROGEN SULFIDE	<input type="checkbox"/> MUSTY	<input type="checkbox"/> SEWAGE	<input type="checkbox"/> AMMONIA	<input type="checkbox"/> GASOLINE	<input type="checkbox"/> OTHER _____
	COLOR	<input type="checkbox"/> SOAP	<input type="checkbox"/> CHLORINE	<input checked="" type="checkbox"/> NONE	<input type="checkbox"/> EARTHY	<input type="checkbox"/> PESTICIDE	<input type="checkbox"/> OTHER _____
		<input type="checkbox"/> YELLOW	<input type="checkbox"/> GREEN	<input type="checkbox"/> BLUE	<input type="checkbox"/> BROWN	<input type="checkbox"/> BLACK	<input type="checkbox"/> OTHER _____
	FLOATING MATERIALS	<input type="checkbox"/> GRAY	<input type="checkbox"/> WHITE	<input type="checkbox"/> COLORLESS	<input checked="" type="checkbox"/> NONE	<input type="checkbox"/> SUDS	<input type="checkbox"/> OTHER _____
		<input type="checkbox"/> TRASH OR DEBRIS	<input type="checkbox"/> OILY SHEEN	<input type="checkbox"/> ORGANIC	<input type="checkbox"/> SCUM	<input type="checkbox"/> SUDS	<input type="checkbox"/> OTHER _____
OIL AND GREASE	<input checked="" type="checkbox"/> NONE	<input type="checkbox"/> DEPOSIT	<input type="checkbox"/> EMULSION	<input type="checkbox"/> SHEEN	<input type="checkbox"/> HEAVY FLOATING CONCENTRATION	<input type="checkbox"/> OTHER _____	
TURBIDITY	<input type="checkbox"/> HEAVY CLOUDINESS, OPAQUE		<input type="checkbox"/> CLOUDY	<input type="checkbox"/> SOME CLOUDINESS	<input checked="" type="checkbox"/> NONE	<input type="checkbox"/> OTHER _____	

POTENTIAL SOURCES OF FLOW OBSERVED NEAR SITE	<input type="checkbox"/> Pool/Spa Discharge	<input type="checkbox"/> Illicit Connection	<input type="checkbox"/> Restaurant Washing <small>write restaurant name in comments</small>	<input type="checkbox"/> Illegal Dumping	<input type="checkbox"/> Sewage	<input type="checkbox"/> Groundwater
	<input type="checkbox"/> Irrigation Runoff	<input type="checkbox"/> Vehicle Washing	<input type="checkbox"/> Water Line Break	<input type="checkbox"/> Permitted Discharge	<input type="checkbox"/> Power Washing	<input type="checkbox"/> Other _____
DESCRIBE ALL SOURCES: Flow was not observed during screening						

OTHER VISUAL OBSERVATIONS						
Outfall Damage	<input checked="" type="checkbox"/> Cracking or Chipping	<input type="checkbox"/> Corrosion	<input type="checkbox"/> Peeling Paint	<input checked="" type="checkbox"/> Undermined Structure	<input type="checkbox"/> None	<input type="checkbox"/> Other _____
Deposits/Stains	<input type="checkbox"/> Flow Line	<input type="checkbox"/> Oily	<input type="checkbox"/> Paint	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other _____	
Abnormal Vegetation	<input type="checkbox"/> Excessive	<input type="checkbox"/> Inhibited				
Pipe benthic growth	<input type="checkbox"/> Brown	<input type="checkbox"/> Orange	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other _____	

FIELD MEASUREMENTS (Taken in duplicate)	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)
	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)

GRAB COLLECTION TIME:	Grab samples collected: (Circle all that apply) Ammonia, Bacteria, Boron, Chlorine, Color, Detergents, Fluoride, Hardness, Potassium, Surfactants
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QA/QC SAMPLES:	<input type="checkbox"/> Field Duplicate	<input type="checkbox"/> Field Blank
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FLOW ESTIMATION		Flow Yes / No <input checked="" type="checkbox"/> Pondered	Evidence of overland flow near sampling location? Yes / No
		Marsh-McBirney used for flow measurements? Yes / No	
Flowing Creek (Marsh-McBirney or leaf method)	Filling a Bottle	Flowing Pipe	
1. Width (ft or in) _____	1. Volume (mL or L) _____	1. Pipe Diameter (ft or in) _____	
2. Depth (ft or in) _____	2. Time to fill (sec) _____	2. Depth (ft or in) _____	
3. Velocity (ft or in / sec) _____		3. Velocity (ft or in / sec) _____	
Flow _____	Flow _____	Flow _____	

PHOTOS TAKEN:	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	COMMENTS:
INVESTIGATOR SIGNATURE		NPDES Project Manager

**CITY OF RIO RANCHO
IDDE INSPECTION FIELD FORM**

PROJECT/SURVEY NAME (i.e., Wet, Dry, Incident Tracking, Outfall Recon Inventory) DRY WEATHER SCREENING	DATE 5/17/2023	TIME 12:15 pm	INVESTIGATOR(S) XAVIER PETTET
OUTFALL ID RIVERS EDGE # 7	SUBWATERSHED WILLOW CREEK	LATITUDE 15°17'54" N	OBSERVER INFO. (Reported by Citizens) ANNUAL SCREENING
LAND USE IN DRAINAGE AREA (i.e., Commercial, Industrial, Residential) RESIDENTIAL	WEATHER	LONGITUDE 106°35'50" W	
		LAST RAIN (>72 hours or < 72 hours) 0.0"	

Conveyance (Check one only)		<input type="checkbox"/> MS4 Outfall	<input type="checkbox"/> Other MS4 Structure	<input type="checkbox"/> Concrete Channel	<input checked="" type="checkbox"/> Earthen Channel	<input type="checkbox"/> Arroyo/Natural Creek	Comments:
Material		<input type="checkbox"/> Concrete	<input checked="" type="checkbox"/> Earthen	<input type="checkbox"/> Rip-Rap	<input type="checkbox"/> RCP	<input type="checkbox"/> CMP	<input type="checkbox"/> PVC
Shape		<input type="checkbox"/> Circular	<input type="checkbox"/> Elliptical	<input type="checkbox"/> Box	<input type="checkbox"/> Trapezoid	<input type="checkbox"/> Parabolic	<input checked="" type="checkbox"/> Other INCISED
Dimensions		Diameter/Dimensions: _____		Depth: _____	Bottom Width: _____	Top Width: _____	
Submerged		In Water: <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully		With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully			
Ownership		<input type="checkbox"/> SSCAFCA	<input checked="" type="checkbox"/> City	<input type="checkbox"/> Private	<input type="checkbox"/> Unknown	Other _____	
Discharges to		<input type="checkbox"/> Pond/Depressional Feature	<input type="checkbox"/> Natural Conveyance	<input type="checkbox"/> Storm Drain Channel	<input checked="" type="checkbox"/> Open Space	<input type="checkbox"/> Rio Grande (WOTUS)	Other _____
Flow Status		<input type="checkbox"/> Flowing	<input checked="" type="checkbox"/> Dry	<input type="checkbox"/> Ponded	Flow Reaches Receiving Water?		<input type="checkbox"/> Yes <input type="checkbox"/> No

WATER QUALITY APPEARANCE	ODOR	<input type="checkbox"/> HYDROGEN SULFIDE	<input type="checkbox"/> MUSTY	<input checked="" type="checkbox"/> SEWAGE	<input type="checkbox"/> AMMONIA	<input type="checkbox"/> GASOLINE	<input type="checkbox"/> OTHER _____	
	COLOR	<input type="checkbox"/> SOAP	<input type="checkbox"/> CHLORINE	<input checked="" type="checkbox"/> NONE	<input type="checkbox"/> EARTHY	<input type="checkbox"/> PESTICIDE		
		<input type="checkbox"/> YELLOW	<input type="checkbox"/> GREEN	<input type="checkbox"/> BLUE	<input type="checkbox"/> BROWN	<input type="checkbox"/> BLACK	<input type="checkbox"/> OTHER _____	
	FLOATING MATERIALS	<input type="checkbox"/> GRAY	<input type="checkbox"/> WHITE	<input type="checkbox"/> COLORLESS	<input checked="" type="checkbox"/> NONE			
		<input type="checkbox"/> TRASH OR DEBRIS	<input type="checkbox"/> OILY SHEEN	<input type="checkbox"/> ORGANIC	<input type="checkbox"/> SCUM	<input type="checkbox"/> SUDS	<input type="checkbox"/> OTHER _____	
OIL AND GREASE	<input checked="" type="checkbox"/> NONE	<input type="checkbox"/> DEPOSIT	<input type="checkbox"/> EMULSION	<input type="checkbox"/> SHEEN	<input type="checkbox"/> HEAVY FLOATING CONCENTRATION			
TURBIDITY	<input type="checkbox"/> HEAVY CLOUDINESS, OPAQUE		<input type="checkbox"/> CLOUDY	<input type="checkbox"/> SOME CLOUDINESS	<input checked="" type="checkbox"/> NONE			

POTENTIAL SOURCES OF FLOW OBSERVED NEAR SITE	<input type="checkbox"/> Pool/Spa Discharge	<input type="checkbox"/> Illicit Connection	<input type="checkbox"/> Restaurant Washing <small>write restaurant name in comments</small>	<input type="checkbox"/> Illegal Dumping	<input type="checkbox"/> Sewage	<input type="checkbox"/> Groundwater
	<input type="checkbox"/> Irrigation Runoff	<input type="checkbox"/> Vehicle Washing	<input type="checkbox"/> Water Line Break	<input type="checkbox"/> Permitted Discharge	<input type="checkbox"/> Power Washing	<input type="checkbox"/> Other _____
DESCRIBE ALL SOURCES: Flow was NOT OBSERVED DURING SCREENING						

OTHER VISUAL OBSERVATIONS							
Outfall Damage		<input type="checkbox"/> Cracking or Chipping	<input type="checkbox"/> Corrosion	<input type="checkbox"/> Peeling Paint	<input type="checkbox"/> Undermined Structure	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other _____
Deposits/Stains		<input type="checkbox"/> Flow Line	<input type="checkbox"/> Oily	<input type="checkbox"/> Paint	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other _____	
Abnormal Vegetation		<input type="checkbox"/> Excessive	<input type="checkbox"/> Inhibited				
Pipe benthic growth		<input type="checkbox"/> Brown	<input type="checkbox"/> Orange	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other _____	

FIELD MEASUREMENTS (Taken in duplicate)	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)
	TEMP (degree C)	pH	CONDUCTIVITY (uS/cm)

GRAB COLLECTION TIME:	Grab samples collected: (Circle all that apply) Ammonia, Bacteria, Boron, Chlorine, Color, Detergents, Fluoride, Hardness, Potassium, Surfactants
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QA/QC SAMPLES:	<input type="checkbox"/> Field Duplicate	<input type="checkbox"/> Field Blank
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FLOW ESTIMATION		Flow <input checked="" type="checkbox"/> Pounded <input type="checkbox"/>	Evidence of overland flow near sampling location? <input type="checkbox"/> Yes <input type="checkbox"/> No
		Marsh-McBirney used for flow measurements? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Flowing Creek (Marsh-McBirney or leaf method)	Filling a Bottle	Flowing Pipe	
1. Width (ft or in) _____	1. Volume (mL or L) _____	1. Pipe Diameter (ft or in) _____	
2. Depth (ft or in) _____	2. Time to fill (sec) _____	2. Depth (ft or in) _____	
3. Velocity (ft or in / sec) _____		3. Velocity (ft or in / sec) _____	
Flow _____	Flow _____	Flow _____	

PHOTOS TAKEN:	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	COMMENTS:
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INVESTIGATOR SIGNATURE 	NPDES Project Manager
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City of Rio Rancho
Department of Public Works/Streets & ROW
Inspections & Maintenance of Drainage Facilities

Drainage facilities assist in minimizing flooding and protect water quality by removing trash, sediment, debris, and other solids from stormwater runoff; however, without proper maintenance these facilities may not function as designed.

The Department of Public Works/Streets & ROW Division is the group charged with performing routine inspections, cleanings, and the maintenance of approximately 129 drainage facilities that are dedicated to the City of Rio Rancho.

Inspections of drainage facilities will be conducted by Streets & ROW Division staff yearly in October and after any significant rainfall.

Inspections will annotate the current conditions of the drainage facilities, assess trash and weed accumulation, sediment buildup, and the maintenance that is required.

Cleanup and maintenance of drainage facilities will occur during the winter months of December, January, and February. Cleanup will include, but not be limited to, the removal of trash and debris, accumulated sediment, remove trees and mow vegetation, and backfill erosion.

Cleanup occurs during these months because it is conducive for maintenance, vegetation is dormant, reduced impact on landscape, and hard ground to work on facilitating equipment access on otherwise soft ground.

The cleanup and maintenance of drainage facilities will require equipment to be rented as needed during the cleanup and maintenance season.

The accumulation of data, last inspection date, next inspection date, and the date the drainage facility was last serviced will be accessible through GIS.

Drainage Facility Clean-up Schedule

Cleanup takes place during December, January, and February every year.
Schedule is based on a 5 day work week (Monday thru Friday), schedule also accounts for City Observed Holidays.

ID	District	Name	Location	Current Condition	Date of Last Inspection	Photos	Compliance Resolution	Est. Start	Est. Completion	Actual Start	Actual Completion	Additional Comments
73	6	Fire Station 7 Channel	641 Rockaway Blvd NE	Fair; Less than 1 large garbage bag of trash; lots of tree's, 5 bunches together; approx. 12-18in depth of sediment buildup, partially submerged with sediment.	6/14/2022	Y	Remove Trees and trash	12/1/2022	12/7/2022	12/1/2022	12/5/2022	
630	6	U17, Blk 153, Lot 9 Pond	924 Saratoga DR NE	Good; Trace amounts of trash; excessive weeds; 0-6in depth of sediment buildup.	6/27/2022	Y	Remove weeds, trash and debris	12/8/2022	12/12/2022	12/8/2022	12/9/2022	
629	6	U17, Blk 67, Lot 9 Pond	917 Saratoga DR	Good; Traces amounts of trash; a few trees; 0-6in depth of sediment buildup.	6/27/2022	Y	Remove Trees, trash and debris	12/12/2022	12/14/2022	12/8/2022	12/9/2022	
54	2	NH14, Blk 6, PAR B east Pond	9999 Cherry Rd NE	Fair; Trace amounts of trash; approx. 12-18in depth of sediment buildup, fully submerged with sediment.	6/13/2022	Y	Remove accumulated sediment	12/15/2022	12/29/2022	12/12/2022	12/16/2022	
631	3	U17, Blk 63, Lot 13 Libra	5153 Libra Rd NE	Good; Trace amounts of trash; approx. 3 large mature trees; approx. 0-6in depth of sediment buildup.	6/27/2022	Y	Remove Trees and trash	12/30/2022	1/4/2023	12/19/2022	12/19/2022	
624	1	WAPR, Blk B, PAR A Wallen Park	109 Landing Trail NE	Good; Less than 1 large garbage bag of trash; A few mature trees; approx. 0-6in depth of sediment buildup.	6/27/2022	Y	Remove Trees, trash and debris	1/5/2023	1/9/2023	12/20/2022	12/21/2022	
611	4	LM, Blk 8, PAR C1 Park Pond	400 Colorado Mountain Rd NE	Good; Less than 1 large garbage bag of trash; +10 mature trees; More than 50% full(water); approx. 0-6in depth of sediment buildup, fully submerged in water.	6/27/2022	Y	Remove Trees, trash and debris	1/10/2023	1/12/2023	12/21/2022	1/18/2023	
596	3	2501 King Blvd Det Pond	2501 King Blvd NE	Fair; Trace amounts of trash; a couple mature trees, and a few juvenile trees; approx. 0-6in depth of sediment buildup.	6/24/2022	Y	Remove Trees	1/13/2023	1/17/2023	1/19/2023	1/19/2023	
177	4	CG, Blk 2, TR B1 Pond	3397 St. Andrews DR SE	Good; Trace amounts of trash; A few trees and bushes; approx. 6-12in depth of sediment buildup.	6/23/2022	Y	Remove Trees and Bushes, trash and debris	1/18/2023	1/19/2023	1/20/2023	1/20/2023	
85	3	CR, Blk 1, PAR B Ret Pond	4900 Chaco Loop NE	Less than 1 large garbage bag of trash; minor juvenile trees in bottom; Washed-out.	6/7/2022	Y	Remove Trees and trash; Back-fill wash-out.	1/20/2023	1/23/2023	1/20/2023	1/20/2023	
81	3	CCCEH, Blk E, PAR D Pres	3791 NM Highway 528 NE	Poor; More than 3cu of trash; excessive trees; approx. 6-12in depth of sediment buildup; partially submerged with sediment.	6/14/2022	Y	Remove Trees, trash and debris	1/24/2023	2/6/2023	1/27/2023	2/1/2023	
1098	3	HAWK, PAR 5A1 Main Pond	4601 Patriot Rd NE	Fair; Less than 1 large garbage bag of trash; excessive trees; partially submerged with sediment.	6/24/2022	Y	Remove Trees, trash and debris	2/7/2023	2/13/2023	1/31/2023	2/9/2023	
620	3	HGHR, Blk 5, PAR B Corner	3973 Rancher Loop NE	Fair; Less than 1 large garbage bag of trash; excessive brushes.	6/24/2022	Y	Remove Bushes, trash and debris	2/14/2023	2/16/2023	1/23/2023	1/24/2023	
186	2	U21, Blk 12 PAR BB Pond	1501 Wilpet Ave NE	Good; Trace amounts of trash; partially submerged with sediment; erosion; approx. 6-12in depth of sediment buildup. Partially submerged with sediment.	6/24/2022	Y	Slope Erosion.	2/17/2023	2/21/2023	1/24/2023	1/24/2023	
29	4	CHR, Blk 1, PAR C1 Pond	3501 High Resort Blvd SE	Good; Approx. 0-6in depth of sediment buildup.	6/9/2022	Y	Remove Trash and debris.	2/22/2023	2/23/2023	1/24/2023	1/25/2023	

Drainage Facility Clean-up Schedule

Cleanup takes place during December, January, and February every year.
Schedule is based on a 5 day work week (Monday thru Friday), schedule also accounts for City Observed Holidays.

ID	District	Name	Location	Current Condition	Date of Last Inspection	Photos	Compliance Resolution	Est. Start	Est. Completion	Actual Start	Actual Completion	Additional Comments
140	2	NMED16, Blk 7, PAR C Pond	9999 King Blvd NE	Fair; Trace amounts of trash; approx. 0-6in depth of sediment buildup; partially submerged with sediment.	6/16/2022	Y	Remove Trash and debris.	2/24/2023	2/27/2023	1/24/2023	1/24/2023	
155	3	ECD, PAR PD4 Encantado Channel	5905 Kennard Rd NE	Fair; Trace amounts of trash; excessive bushes; approx. 6-12in depth of sediment buildup; partially submerged with sediment.	6/21/2022	Y	Remove Trash and debris.	2/27/2023	2/28/2023	2/22/2023	2/24/2023	
38	6	Sonara Detention Pond	501 Monterrey Rd NE	Poor; Trace amounts of trash; lots of trees; approx. 0-6in depth of sediment buildup, partially submerged with sediment.	6/10/2022		Remove Trees, trash and debris	12/1/2023	12/14/2023			
167	6	GHE, Blk 1, PAR B Pond	9999 Talon Dr NE	Fair; Trace amounts of trash; Trees blocking access for equipment; approx. 0-6in depth of sediment buildup; partially submerged with sediment.	6/12/2022	Y	Remove Trees for access for equipment, remove trash and debris.	12/18/2023	12/19/2023			
133	2	NH03, Blk 1, PAR A1 Pond	9999 Skyview Cir NE	Fair; Trace amounts of trash; excessive mature trees; approx. 6-12in depth of sediment buildup; partially submerged with sediment.	6/16/2022	Y	Remove Trees, trash and debris	12/20/2023	12/28/2023			
84	3	CCCEH, Blk E, PAR A Walgreen	3791 NM Highway 528 NE	Poor; More than 3cu of trash; excessive trees; approx. 0-6in depth of sediment buildup.	6/14/2022	Y	Remove Trees, trash and debris	12/29/2023	1/12/2024			
679	4	WTHR, Blk 1, PAR A Pond	3420 Lockerbie Dr SE	Fair; Less than 1 large garbage bag of trash; couple of mature trees; approx. 0-6in depth of sediment.	6/22/2022	Y	Remove Trees, trash and debris	1/16/2024	1/18/2024			
159	3	MARE, TR 1B1 Site Pond	3651 Hanley Rd NE	Fair; Trace amounts of trash; approx. 6-12in depth of sediment buildup; partially submerged with sediment.	6/21/2022	Y	Remove sediment	1/18/2024	1/19/2024			
56	2	NMED, PAR B1A South Pond	9999 King Blvd NE	?; Trace amounts of trash; Excessive amounts of mature trees; erosion; 6/12in depth of sediment buildup; partially submerged with sediment.	6/13/2022	Y	Remove trees, erosion backfill	1/22/2024	1/26/2024			
83	3	CCCEH, Blk D, PAR C	4430 Jager Dr NE	Poor; Approx. 1-3cu yards of trash; approx. 6-12in depth of sediment buildup; partially submerged with sediment.	6/14/2022	Y	Remove Trees, trash and debris	1/29/2024	2/10/2024			
598	3	U20, Blk 113, Lot 14A Pond	3121 Oldenburg Rd NE	Fair; Trace amounts of trash; slope erosion; approx. 0-6in depth of sediment build buildup.	6/24/2022	Y	Remove Bushes, backfill	2/12/2024	2/13/2024			
671	2	CGR, Blk 5, Par B Pond	1790 Mesa Grande Loop NE	Good; Trace amounts of trash; Excessive mature trees; more than 50% full; fully submerged in water.	6/12/2022	Y	Remove trees	2/14/2024	2/16/2024			
112	2	NMEP, PAR A2 Flatiron	3557 Camino De Los Montoyas Rd NE	Fair; Trace amounts of trash; mature and juvenile trees; 6-12in depth of sediment buildup; partially submerged with sediment.	6/16/2022	Y	Remove Trees, trash and debris	2/19/2024	2/23/2024			
36	1	SPW, Blk 1, PAR A Pond	9999 Wexford Rd SE	Fair; Less than 1 large garbage bag; trees blocking inlet/outlets; erosion by inlet ;0-6in depth of sediment buildup; partially submerged with sediment.	6/9/2022	Y	Remove Trees, trash and debris, backfill.	12/2/2024	12/13/2024	12/5/2022	12/15/2022	

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82	3	CCCEH, Blk E, PAR D Shop	3791 NM Highway 528 NE	Poor; More than 3cu yards of trash; excessive mature trees; 6-12in depth of sediment buildup; partially submerged with sediment.	6/14/2022	Y	Remove Trees, trash and debris	12/16/2024	12/31/2024			
663	6	OH, Blk3, PAR E Pond	2933 Kiva View NE	Good; Less than 1 large garbage bag of trash; a few juvenile trees; 0-6in depth of sediment buildup.	6/22/2022	Y	Remove Trees, trash and debris	1/2/2025	1/6/2025			
662	6	OH, Blk 3, PAR D Pond	601 Tiwa Ln NE	Good; Less than 1 large garbage bag of trash; a few juvenile trees; 0-6in depth of sediment buildup.	6/22/2022	Y	Remove Trees, trash and debris	1/6/2025	1/7/2025			
57	2	NMED,PAR A2 at King Pond	3557 Camino De Los Montoyas Rd NE	?; Less than 1 large garbage bag of trash; a few trees ;0-6in depth of sediment buildup; partially submerged with sediment.	6/13/2022	Y	Remove Trees, trash and debris	1/7/2025	1/13/2025			
627	6	U17, Blk 132, Lot 6 Pond	1401 Monterrey Rd NE	Fair; Trace amounts of trash; Mature trees; slope erosion; 0-6in depth of sediment buildup.	6/27/2022	Y	Remove Trees, trash and debris, backfill.	1/13/2025	1/27/2025			
670	2	SN, PAR D Ponding	1618 Costilla Rd NE	Fair; Less than 1 garbage large bag of trash; excessive brushes; 6-12in depth of sediment buildup; partially submerged with sediment.	6/22/2022	Y	Remove bushes, trash and litter	1/27/2025	1/28/2025			
636	6	Loma Colorado Library Pond	745 Loma Colorado Blvd NE	Good; Trace amounts of trash; approx. 6 mature trees; 0-6in depth of sediment buildup; partially submerged with sediment.	6/21/2022	Y	Remove Trees, trash and debris	1/28/2025	1/30/2025			
32	6	VHW1, Blk 12, PAR D Pond	9999 Pumice Loop NE	Poor; Less than 1 large garbage bag of trash; a few trees at basin; 0-6in depth of sediment buildup; partially submerged with sediment.	6/9/2022	Y	Remove Trees, trash and debris	1/30/2025	2/5/2025			
34	4	CHR, Blk 1, PAR B Broadmoor	9999 Cascades Trl SE	Fair; Trace amounts of trash; a few juvenile trees; 6-12in depth of sediment buildup; partially submerged with sediment.	6/9/2022	Y	Remove Trees, trash and debris	2/5/2025	2/18/2025			
169	2	MDS, Blk 3, PAR A Pond	1151 Mirador Loop NE	Fair; Trace amounts of trash; a few juvenile trees; 6-12in depth of sediment buildup; partially submerged with sediment.	6/21/2022	Y	Remove Trees, trash and debris	2/18/2025	2/20/2025			
675	1	TDS, Blk 2, PAR A Pond	823 Redwood St SW	Good; Trace amounts of trash; a few bushes; 0-6in depth of sediment buildup.	6/22/2022	Y	Remove Bushes, trash and debris	2/20/2025	2/21/2025			
1101	6	U13, Blk 117, Lot 24A1 Pond	808 Broadmoor Blvd NE	Fair; Trace amounts of trash; partially submerged in water.	6/24/2022	Y	Remove Trees, trash and debris	2/24/2025	2/28/2025			
20	5	U16, Blk 19, Lot 5 Pond	3008 20th Ave SE	Fair; Trace amounts of trash; excessive amounts of mature trees at bottom of basin and in front of inlet; 0-6in depth of sediment buildup.	6/9/2022	Y	Remove Trees, trash and debris	12/1/2025	12/12/2025			
637	6	DIAM, Blk 1, PAR D Pond	4120 Cholla Dr NE	?; Approx. 1-3cu yards of trash.	6/21/2022		Remove Trees, trash and debris	12/15/2025	12/19/2025			
1095	5	Haynes Park Pond 2	2006 Grande Blvd SE	Fair; Less than 1 large garbage bag of trash; approx. 4 mature tress; More than 50% full; fully sumberged in water;	6/23/2022	Y	Remove Trees, trash and debris	12/22/2025	12/24/2025			
173	5	U16, TR A3 Haynes Park Pond 1	2006 Grande Blvd SE	Fair; Trace amounts of trash; a few juvenile trees.	6/22/2022	Y	Remove Trees, trash and debris	12/29/2025	12/31/2025			

Drainage Facility Clean-up Schedule

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ID	District	Name	Location	Current Condition	Date of Last Inspection	Photos	Compliance Resolution	Est. Start	Est. Completion	Actual Start	Actual Completion	Additional Comments
188	3	U20, Blk 103, PAR C Pond	3207 Palmyra Ct NE	Good; Less than 1 large garbage bag of trash; 0-6in depth of sediment buildup.	6/24/2022	Y	Remove Trash and debris.	1/2/2026	1/5/2026			
168	2	MDS, Blk 3, PAR A Pond	1151 Mirador Loop NE	Fair; Trace amounts of trash; a few trees submerged; More than 50% full; 0-6in depth of sediment buildup; partiall1 submerged in water.	6/21/2022	Y	Remove Trees, trash and debris	1/5/2026	1/7/2026			
622	6	LCES, Blk 2 PAR A East	140 Paseo Vista Loop NE	Fair; Less than 1 large garbage bag of trash; a few trees, 0-6in depth of sediment buildup.	6/27/2022	Y	Remove Trees, trash and debris	1/7/2026	1/13/2026			
141	2	NMED17, Blk 6, PAR A Pond	3535 Havasu Falls St NE	Fair; Traces amounts of trash; 1 mature tree; 0-6in depth of sediment buildup.	6/16/2022	Y	Remove Trees, trash and debris	1/13/2026	1/15/2026			
616	6	U20, Blk 104, PAR C Pond	6893 Nacelle Rd NE	Good; Less than 1 large garbage bag of trash; 0-6in depth of sediment buildup.	6/24/2022	Y	Remove Trash and debris.	1/15/2026	1/16/2026			
1100	2	U13, Blk 2, Lot 16 Pond	2900 Westminster ST NE	Good; Trace amounts of trash; slope erosion; 0-6in depth of sediment buildup.	6/24/2022	Y	Mitigated slop erosion	1/20/2026	1/21/2026			
139	3	NMED15, PAR F Pond	3149 Zia St NE	Fair; Trace amounts of trash; a few juvenile trees; 0-6in depth of sediment buildup.	6/16/2022	Y	Remove Trees, trash and debris	1/21/2026	1/23/2026			
1097	2	LPN, Blk 5, PAR C Pond	711 Loma Pinon Loop NE	Fair; Trace amounts of trash; 0-6in depth of sediment buildup; partially submerged with sediment.	6/24/2022	Y	Remove Bushes, trash and debris	1/26/2026	1/27/2026			
45	6	VH4, Blk D, PAR D1	9999 NM Highway 528 NE	Fair; Trace amounts of trash; excessive mature and juvenile trees; 0-6in depth of sediment buildup.	6/15/2022	Y	Remove Trees, trash and debris	1/27/2026	1/29/2026			
615	3	U20, Blk 116, Lot 22 Pond	7317 Hapsburg Rd NE	Fair; Less than 1 large garbage bag of trash; approx. 5 mature trees.	6/24/2022	Y	Remove Trees, trash and debris	1/29/2026	2/4/2026			
90	3	ECD, PAR PD3 Retention	5113 Santa Fe Hills Blvd NE	Fair; Approx. 1-3cu yards of trash; a few juvenile trees; 12-18in depth of sediment buildup; Fully submerged with sediment.	6/15/2022	Y	Remove Trees, trash and debris, remove accumulated sediment.	2/4/2026	2/5/2026			
91	3	ECD, PAR PD3 Detention	5113 Santa Fe Hills Blvd NE	Fair; Approx. 1-3cu yards of trash; a few juvenile trees; 12-18in depth of sediment buildup; Fully submerged with sediment.	6/15/2022	Y	Remove Trees, trash and debris, remove accumulated sediment.	2/5/2026	2/6/2026			
1099	3	EH11A, Blk 11, PAR E Pond	5399 Sandoval Dr NE	Fair; Trace amounts of trash; slope erosion.	6/24/2022	Y	Mitigated slope erosion; remove trash and debris	2/9/2026	2/10/2026			
621	6	Rio Hondo Pond NM528 Los Rios	709 Rio Hondo Rd NE	Fair; Trace amounts of trash; 0-6in depth of sediment buildup.	6/27/2022	Y	Remove weeds, trash and debris	2/10/2026	2/11/2026			
39	6	VH1, Blk B, PAR A1	470 Sundt Rd NE	Fair; Trace amounts of trash; mature trees at bottom of basin;	6/10/2022	Y	Remove Trees; trash and debris.	2/11/2026	2/13/2026			
626	6	470 Sundt Rd NE	1400 Monterrey Rd NE	Good; Trace amounts of trash; excessive weeds; 0-6in depth of sediment buildup.	6/27/2022	Y	Remove weeds, trash and debris	2/16/2026	2/17/2026			
37	1	SR, Blk 2, PAR B1	201 Sugar Ridge Loop SE	Fair; Trace amounts of trash; a few trees at bottom of basin; 0-6in depth of sediment buildup; partially submerged with sediment.	6/9/2022	Y	Remove Trees, trash and debris	2/17/2026	2/19/2026			

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1094	1	CCRS, Blk 2, PAR C Pond	269 El Camino Loop NW	Fair; Less than 1 large garbage bag of trash; approx. 2 mature trees and a few juvenile trees; more than 50% full; 0-6in depth of sediment buildup; partially submerged in water; partially submerged with sediment.	6/23/2022	Y	Remove Trees, trash and debris	2/20/2026	2/26/2026			
114	5	NR, TR A Det. Pond	4477 Snow Heights Cir SE	Poor; Trace amounts of trash; excessive mature and juvenile trees; 0-6in depth of sediment buildup.	6/15/2022	Y	Remove Trees, trash and debris	12/1/2026	12/7/2026			
9	5	SGH, Blk 1, PAR A Pond	999 Benjamin Dr SE	Fair; Trace amounts of trash; a few trees; 0-6in depth of sediment buildup.	6/8/2022	Y	Remove Trees, trash and debris	12/8/2026	12/10/2026			
24	4	Esther Bone Retention	950 Pinetree Rd SE	Fair; Trace amounts of trash; trees in front of inlet, and around outlet; approx. 0-6in depth of sediment buildup.	6/9/2022	Y	Remove Trees and trash	12/10/2026	12/16/2026			
87	3	LE, PAR I2 Channel Pond	7323 King Salmon Dr NE	Fair; Traces amounts of trash; a few juvenile trees and bushes; 0-6in depth of sediment buildup; partially submerged with sediment.	6/14/2022	Y	Remove Trees/bushes, trash and debris	12/16/2026	12/17/2026			
92	5	GN, TR C11 Pond 2 East	1800 NM Highway 528 SE	Fair; Trace amounts of trash; approx. 6 mature trees; 0-6in depth of sediment buildup.	6/15/2022	Y	Remove Trees, trash and debris	12/18/2026	1/21/2026			
46	6	NM 528 U17, Blk 149, Lot 13	604 Monterrey Rd NE	Good; A few mature trees at the bottom of basin; 0-6in depth of sediment buildup.	6/7/2022	Y	Remove Trees, trash and debris	12/21/2026	12/23/2026			
120	5	GN, R C11 West Pond	1800 NM Highway 528 SE	Good; Trace amounts of trash; approx. 6 mature trees; 0-6in depth of sediment buildup.	6/15/2022	Y	Remove Trees, trash and debris	12/28/2026	12/29/2026			
2	2	TRIN, Blk 4, PAR C1 Pond	1450 Sara Way SE	Fair; Trace amounts of trash; erosion by concrete; 0-6in depth of sediment buildup.	6/8/2022	Y	Backfill, remove trash and debris	12/29/2026	12/31/2026			
158	3	HAWK, PAR 30A Hawksite	6430 Westphalia Blvd NE	Fair; Less than 1 large garbage bag of trash; approx. 2 mature trees and a few juvenile trees; slope erosion; erosion around inlet bridge; 6-12in depth of sediment buildup; partially submerged with sediment.	6/21/2022	Y	Remove Trees, trash and debris, backfill.	1/4/2027	1/8/2027			
172	1	SN2, Blk 1, PAR A Park Pond	1800 Pine Rd NE	Fair; Traces amounts of trash; 0-6in depth of sediment buildup; partially submerged with sediment.	6/16/2022	Y	Remove Trees, trash and debris	1/11/2027	1/12/2027			
190	3	U20, Blk 94, PAR A PVD Pond	3402 Ilford Rd NE	Good; Less than 1 large garbage bag of trash; excessive bushes; 0-6in of depth of sediment buildup.	6/24/2022	Y	Remove Bushes, trash and debris	1/13/2027	1/15/2027			
654	3	HGHR, Blk 4, PAR B Arroyo	1901 Loma Colorado Blvd NE	Fair; Trace amounts of trash; Excessive trees/bushes; slope erosion; 0-6in depth of sediment buildup.	6/21/2022	Y	Remove Trees/bushes, trash and debris, remove accumulated sediment, backfill.	1/19/2027	1/20/2027			
189	3	U20, Blk 100, PAR B Pond	3014 Ilford Rd NE	Good; Less than 1 large garbage bag of trash; excessive weeds; 0-6in depth of sediment buildup.	6/24/2022	Y	Remove weeds, trash and debris	1/20/2027	1/22/2027			

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123	5	CABE, TR 17A1A Parking Pond	2307 Cabezon Blvd SE	Fair; Trace amounts of trash; a few trees at bottom of basin; 0-6in depth of sediment buipdup; partially submerged with sediment.	6/16/2022	Y	Remove Trees, trash and debris	1/25/2027	1/29/2027			
184	3	EH11A, Blk 6, PAR B1 Pond	5511 Cibola Dr NE	Good; Trace amounts of trash; slope erosion; 0-6in depth of sediment buildup.	6/24/2022	Y	Remove Trash and debris, backfill.	2/1/2027	2/2/2027			
673	2	NMED18, Blk 1, PAR A Pond	1100 Desert Willow Pl NE	Good; Trace amounts of trash; a few juvenile trees; 0-6in depth of sediment buildup.	6/22/2022	Y	Remove trees, trash and debris	2/3/2027	2/5/2027			
648	1	UPVN, PAR F1 Park Drain Pond	2312 19th St SE	Good; Trace maounts of trash; a few trees/bushes.	6/21/2022	Y	Remove Trees/bushes, trash and debris	2/8/2027	2/10/2027			
594	3	HGHR3, Blk 1, PAR A Det Pond	1838 Lark Dr NE	Fair; Less than 1 large garbage bag of trash; excessive bushes; 0-6in depth of sediment buildup.	6/24/2022	Y	Remove Bushes, trash and debris	2/11/2027	2/12/2027			
643	6	LOMA, PAR A Wellsite Det Pond	919 Red Hill Pl NE	Good; Trace amounts of trash; a few trees; 0-6in depth of sediment buildup.	6/21/2022	Y	Remove trees, trash and debris	2/15/2027	2/17/2027			
607	2	CLN1, Blk 7, PAR B Pond	1209 Northern Lights Way NE	Good; Less than 1 large garbage bag of trash; 0-6in depth of sediment buildbup.	6/24/2022	Y	Remove weeds, trash and debris	2/18/2027	2/19/2027			
53	2	HNH07, Blk 1, PAR A1 North Pond	1739 Blueberry Dr NE	Poor; Trace amounts of trash; excessice amounts of trees; erosion around structure (under concrete); structure undermined; more than 50% full; 6-12 depth of sediment buildup; fully submerged with sediment.	6/10/2022	Y	Remove Trees, trash and debris, backfill, repair structure.	12/1/2027	12/14/2027			
52	2	HNH07, Blk 1, PAR A1 South Pond	1739 Blueberry Dr NE	Poor; Trace amounts of trash; excessice amounts of trees; erosion around structure (under concrete); structure undermined; more than 50% full; 6-12 depth of sediment buildup; fully submerged with sediment.	6/10/2022	Y	Remove Trees, trash and debris, backfill, repair structure.	12/14/2027	12/29/2027			
642	6	LOMA, PAR A Wellsite Pond	919 Red Hill Pl NE	Good; Trace amounts of trash; a few trees.	6/21/2022	Y	Remove Trees, trash and debris	12/29/2027	1/3/2028			
608	2	CLN2, Blk 3, PAR A Pond	1335 Nothern Lights Way NE	Good; Less than 1 large garbage bag of trash; a mature tree; 0-6in sediment buildup.	6/24/2022	Y	Remove trees, trash and debris	1/3/2028	1/4/2028			
634	1	Unser Channel Pond Spillway	0 Unser Blvd SE	Fair; Less than 1 large garbage bag of trash; a few trees; partially submerged with sediment.	6/22/2022	Y	Remove Trees, trash and debris	1/5/2028	1/7/2028			
609	2	UB2A, PAR B Pond Unser P2	2709 Copper City Ct NE	Good; Trace amounts of trash; 0-6in depth of sediment buildup.	6/24/2022	Y	Remove dirt from drain	1/10/2028	1/11/2028			
633	4	MR, PAR A Pond	2611 Jade Ct NE	Good; Less than 1 large garbage bag of trash; a few juvenile trees; 0-6in depth of sediment buildup.	6/21/2022	Y	Remove trees, trash and debris	1/11/2028	1/13/2028			
136	3	U20IP, Blk A, Lot7A1	9999 NM Highway 528 NE	Fair; Trace amounts of trash; 0-6in depth of sediment buildup; partially submerged with sediment.	6/21/2022	Y	Remove Bushes, trash and debris	1/13/2028	1/17/2028			

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152	2	U21, Blk 21, PAR E Pond	1323 33rd Ave NE	Fair; Trace amounts of trash; a mature tree; 6-12in depth of sediment buildup; partially submered with sediment.	6/16/2022	Y	Remove tree, trash and debris	1/17/2028	1/19/2028			
131	6	LOMA, TR P1B1A1 Aquatics Det	745 Loma Colorado Blvd NE	Fair; Trace amounts of trash; approx. 3 mature trees at bottom of basin; 0-6in depth of sediment buildup; partially submerged with sediment.	6/16/2022	Y	Remove trees, trash and debris	1/19/2028	1/21/2028			
94	6	CP, Blk 2, PAR A Pond	7001 Devonna Rd NE	Fair; Trace amounts of trash; a few juvenile trees; 0-6in depth of sediment buildup.	6/15/2022	Y	Remove Trees, trash and debris	1/24/2028	1/26/2028			
93	6	LOMA, PAR 10A Pond	9999 Northern Blvd NE	Fair; Trace amounts of trash; excessive juvenile trees; 0-6in depth of sediment buildup; partially submerged with sediment.	6/15/2022	Y	Remove Trees, trash and debris	1/26/2028	1/28/2028			
89	3	Enchanted Hills Channel Pond	9999 [4525] Safelite Blvd NE	Poor; Approx. 1-3cu yards of trash; A few trees near inlet/outlet; erosion around structure; approx. 6-12in depth of sediment buildup; partially submerged with sediment.	6/14/2022	Y	Remove Trees, trash and debris, backfill.	2/1/2028	2/7/2028			
69	2	CHR, Blk 1, PAR B Cascades	9999 Cascades Trl SE	Fair; Approx. 1-3cu yards of trash; a few mature trees near inlet and outlet; erosion amount structure(washout southend); 6-12in depth of sediment buildup; partially submerged with sediment.	6/14/2022	Y	Remove Trees, trash and debris, backfill.	2/7/2028	2/11/2028			
28	4	EST1, Blk 1, PAR C Pond	9999 Spyglass Loop SE	Fair; Trace amounts of trash; 0-6in depth of sediment buildup.	6/9/2022	Y	Remove Trash and debris	2/14/2028	2/16/2028			
25	4	ESP, TR A Pond	3404 Oakmount Dr SE	Fair; Trace amounts of trash; 0-6in depth of sediment buildup.	6/9/2022	Y	Remove trash and debris	2/16/2028	2/18/2028			
74	6	LOMA, PAR 9 Parking Pond	9999 Loma Colorado Blvd NE	Fair; Trace amounts of trash; a tree and excessive amounts of bushes; 18-24in depth of sediment buildup; fully submerged with sediment.	6/14/2022	Y	Remove tree/bushes, trash and debris	2/18/2028	2/22/2028			
55	2	NH10, TR 10A Pond	9999 17th Ave NE	Fair; Trace amounts of trash; 6-12in depth of sediment buildup; fully submerged with sediment.	6/13/2022	Y	Remove trash and debirs	2/22/2028	2/24/2028			
111	3	CCIEH, Blk A, Lot 6A1	7511 Nita Pl NE	Fair; Trace amounts of trash; excessive juvenile trees; 0-6in depth of sediment buildup.	6/15/2022	Y	Remove trees, trash and debris	2/24/2028	2/29/2028			
17	5	Haynes Park Field Pond	2006 Grande Blvd SE	Good; Trace amounts of trash; 0-6in depth of sediment buildup.	6/8/2022	Y	Facility in good condition at this time of inspection. No mitigation needed at this time					
19	5	SGH, Blk 1, PAR A Pond	999 Benjamin Dr SE	Fair; Trace amounts of trash; excessive mature trees at botton of basin; slope erosion (washoutalong side); structure (fence posts are coiming up); 0-6in depth of sediment buildup.	6/8/2022	Y	Remove Trees, trash and debris, backfill					

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170	2	SC, Blk 1, PAR D Pond	2101 Sagecrest Loop NE	Poor; Trace amounts of trash; approx 2 mature trees and a few juvenile trees; 0-6in depth of sediment buildup; partially submerged with sediment.	6/21/2022	Y	Remove trees, trash and debris			7/14/2022	7/15/2022	
183	3	U20, Blk 106, PAR, A Nacelle	6800 Nacelle Rd NE	Good; Trace amounts of trash; 0-6in depth of sediment buildup.	6/22/2022	Y	Facility in good condition at this time of inspection. No mitigation needed at this time					
191	5	U16, Blk 19, Lot 94-95 Pond	3017 21st Ave NE	Good; Trace amounts of trash; 0-6in depth of sediment buildup.	6/22/2022		Facility in good condition at this time of inspection. No mitigation needed at this time					
595	3	EH11B, Blk 1, PAR B Pond	5859 Colfax PI NE	Good; Trace amounts of trash; 0-6in depth of sediment buildup.	6/24/2022	Y	Facility in good condition at this time of inspection. No mitigation needed at this time					
623	3	EH11A, Blk 11, PAR E Pond	5399 Sandoval Dr NE	Good; Trace amounts of trash.	6/27/2022	Y	Facility in good condition at this time of inspection. No mitigation needed at this time					
632	1	U11 Blk 42, Lot 1 NorthernUnser	1900 Northern Blvd NE	Good; Trace amounts of trash; 0-6in depth of sediment buildup.	6/27/2022		Facility in good condition at this time of inspection. No mitigation needed at this time					
638	2	RRDG, Blk 1, PAR B Pond	2937 Wilder Loop NE	Good; Trace amounts of trash; approx. 3 developed bushes; 0-6in depth of sediment buildup.	6/21/2022	Y	Remove Bushes, trash and debris					
644	6	LOMA, TR P1B1A1 North Pond	745 Loma Colorado Blvd NE	Good; Trace amounts of trash; 0-6in depth of sediment buildup.	6/21/2022		Facility in good condition at this time of inspection. No mitigation needed at this time					
645	6	Loma Colorado Roundabout Pond	745 Loma Colorado Blvd NE	Good; Trace amounts of trash; 0-6in depth of sediment buildup.	6/21/2022		Facility in good condition at this time of inspection. No mitigation needed at this time					
650	6	U17, Blk 109, Lot 13 Pond	2153 Chihuahua Rd NE	Poor; Trace amounts of trash; 6-12in depth of sediment buildup; partially submerged with sediment.	6/21/2022	Y	Remove trash and debris, remove accumulated sediment.					
651	3	EH7, Blk B, PAR A Pond	6441 Grayson Hills Dr NE	Good; Trace amounts of trash; 0-6in depth of sediment buildup.	6/27/2022		Facility in good condition at this time of inspection. No mitigation needed at this time					
664	4	U13, Blk 125, Lot1B Pond	2613 Chessman Dr NE	Good; Trace amounts of trash; 0-6in depth of sediment buildup.	6/22/2022	Y	Facility in good condition at this time of inspection. No mitigation needed at this time					
665	4	HRN2, Blk 2, PAR A Pounding	9999 Superstition Dr SE	Good; Trace amounts of trash; 0-6in depth of sediment buildup; partially submerged in water.	6/22/2022	Y	Facility in good condition at this time of inspection. No mitigation needed at this time					

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669	2	SN, PAR D Drain to Montoyas	1618 Costilla Rd NE	Fair; approx. 1-3cu yards of trash; a few bushes; 0-6in depth of sediment buildup; partially submerged with sediment.	6/22/2022	Y	Remove Bushes, trash and debris					
674	3	U25, Blk 138, Lot 32A1 Pond	3601 Jennifer Rd NE	Good; Trace amounts of trash; 0-6in depth of sediment buildup.	6/21/2022		Facility in good condition at this time of inspection. No mitigation needed at this time					
677	1	U10, Blk 13, Lot 17 Pond	1229 Viga Rd SE	Good; Trace amounts of trash; 6-12in depth of sediment buildup.	6/22/2022		Facility in good condition at this time of inspection. No mitigation needed at this time					
678	5	CABE, TR 17A1A Channelside Pond	2400 A Park Above Ct SE	Good; Trace amounts of trash; 0-6in depth of sediment buildup.	6/22/2022	Y	Facility in good condition at this time of inspection. No mitigation needed at this time					
686	6	LOMA, PAR A North Pond	919 Red Hills Pl NE	Good; Trace amounts of trash; 0-6in depth of sediment buildup.	6/22/2022		Facility in good condition at this time of inspection. No mitigation needed at this time					
689	3	EH12, PAR B Park Pond	7201 Enchanted Hills Blvd NE	Good; Trace amounts of trash; 0-6in depth of sediment buildup.	6/21/2022	Y	Facility in good condition at this time of inspection. No mitigation needed at this time					
690	6	GHE, Blk 1, PAR A Pond	700 Gray Hawk Dr NE	Good; Trace amounts of trash; small area of slope erosion; 0-6in depth of sediment buildup.	6/21/2022	Y	Facility in good condition at this time of inspection. No mitigation needed at this time					
696	3	MARE, TR OS2 Roadside Pond	9999 Mariposa Pkwy NE	Good; Trace amounts of trash; 0-6in depth of sediment buildup.	6/21/2022		Facility in good condition at this time of inspection. No mitigation needed at this time					
1089	6	VH4, Blk B, Lot 5A1 DPS Pond	500 Quantum Rd NE	Good; Trace amounts of trash; 0-6in depth of sediment buildup.	6/24/2022		Facility in good condition at this time of inspection. No mitigation needed at this time					
1093	6	U11, Blk V, Lot 30 Pond	524 Northern Blvd NE	Good; Trace amounts of trash; 0-6in depth of sediment buildup.	6/24/2022		Facility in good condition at this time of inspection. No mitigation needed at this time					
1096	5	U16, Blk GLDNW, Lot DRn	9999 Barbara Loop SE	Good; Trace amounts of trash; 0-6in depth of sediment buildup.	6/23/2022	Y	Facility in good condition at this time of inspection. No mitigation needed at this time					

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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

Bohannon 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

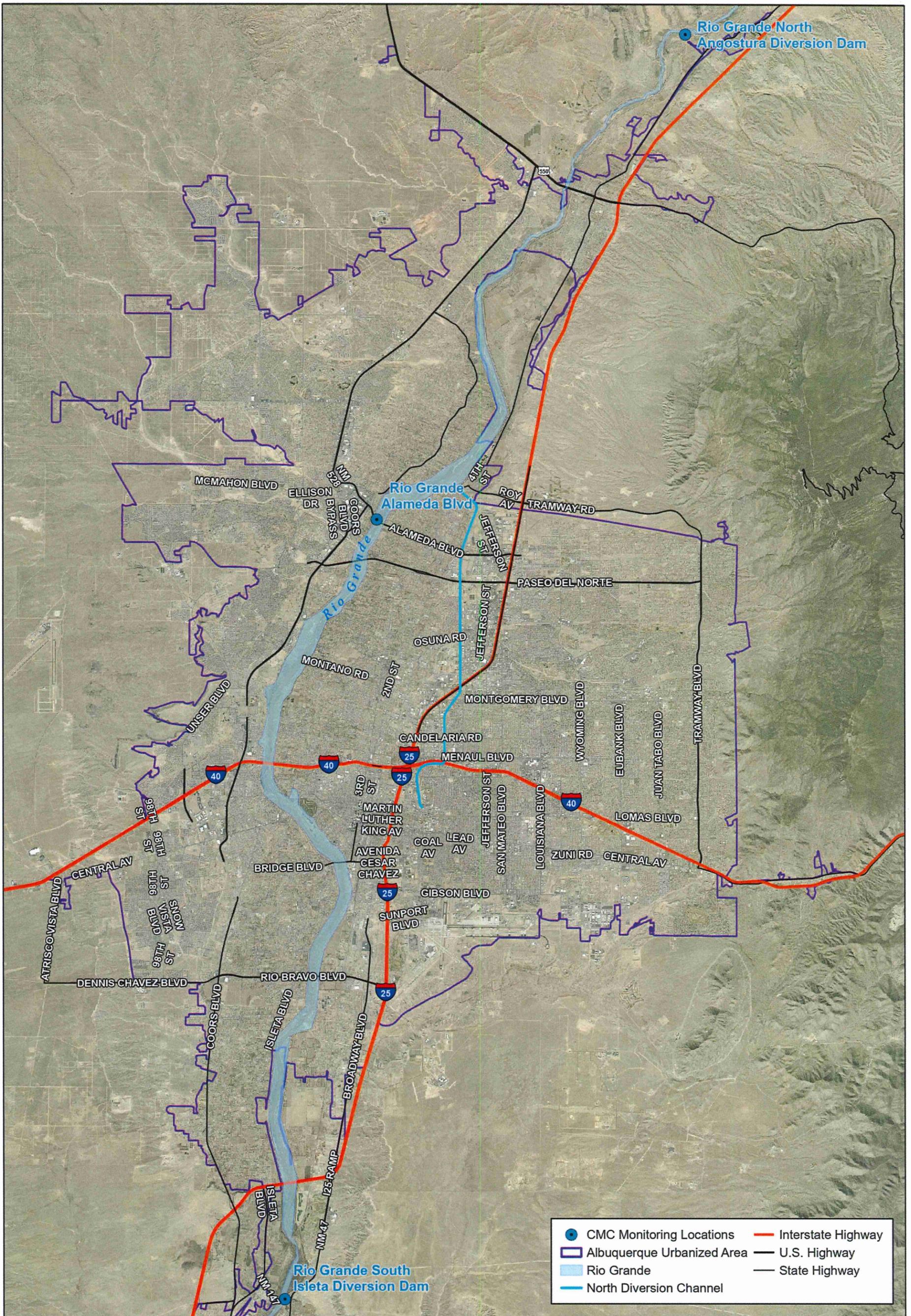
(1) sample obtained in FY 2022 wet season, and one (1) sample obtained in FY 2023 wet season during Administrative Continuance; all 11 CMC samples are summarized in Table 2 below.

**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.



Bohannon & Huston
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0 6,000 12,000 24,000 Feet
1 inch = 12,205 feet

CMC Monitoring

Figure 1
Monitoring Locations

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 (BOD₅)
- 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-ethylhexyl)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.

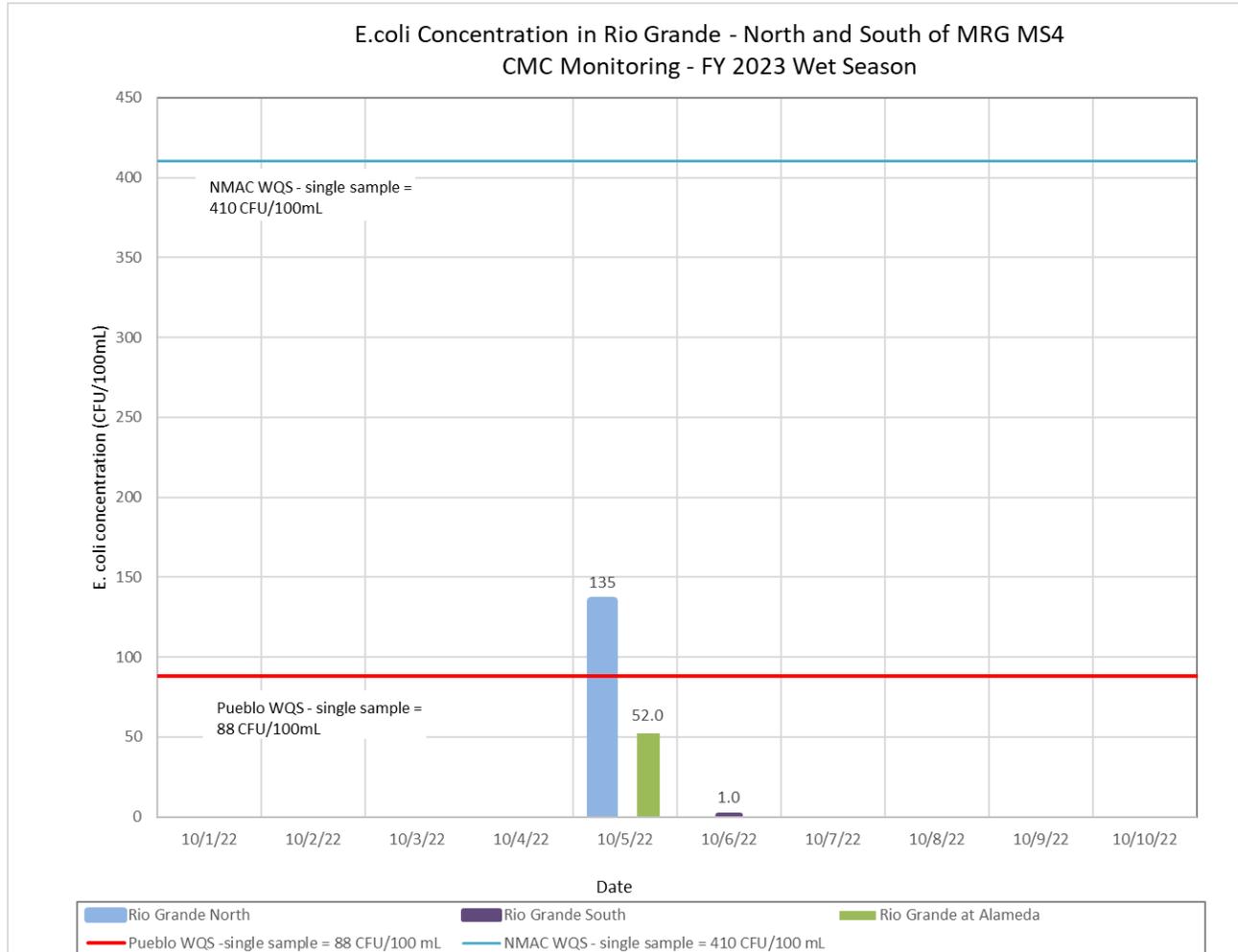


Figure 2: E. coli Results in Rio Grande CMC Monitoring – FY 2023 Wet Season

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.

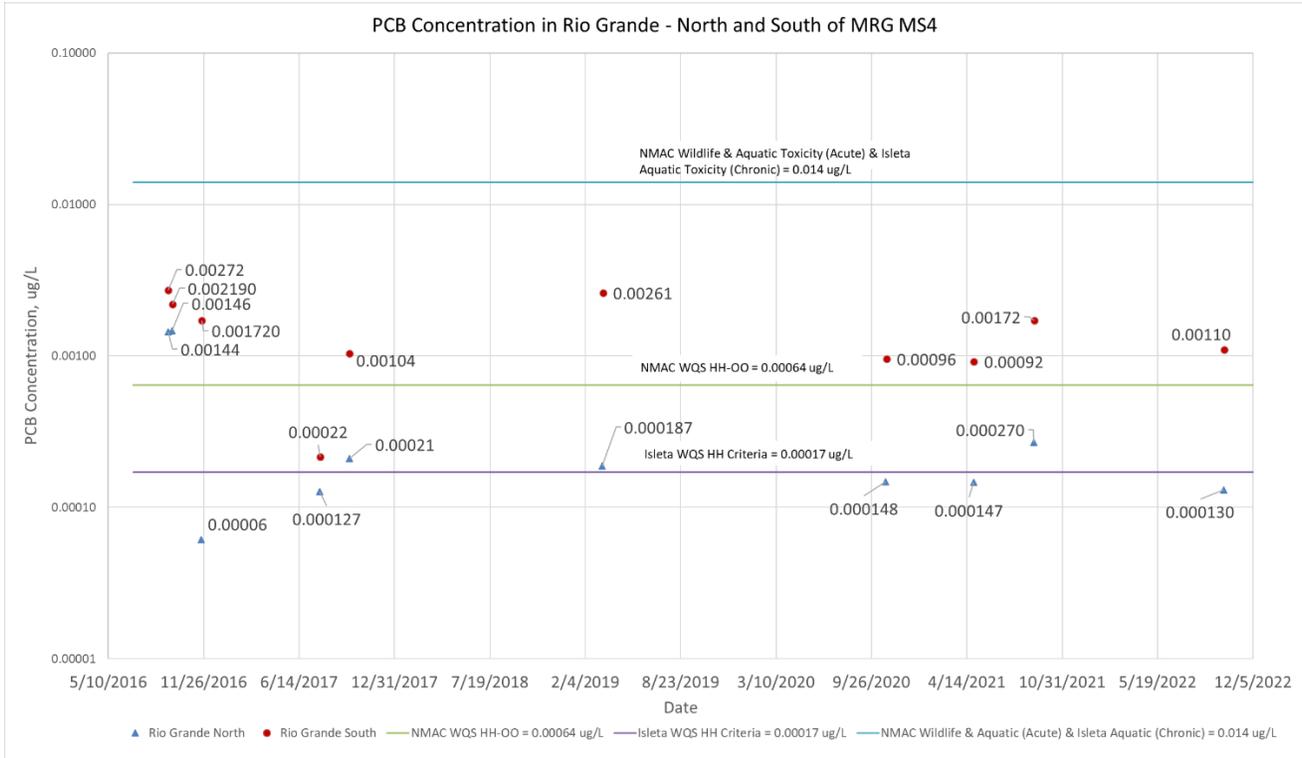


Figure 3: PCB Monitoring Results in Rio Grande CMC Monitoring – 2016 - 2022

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.

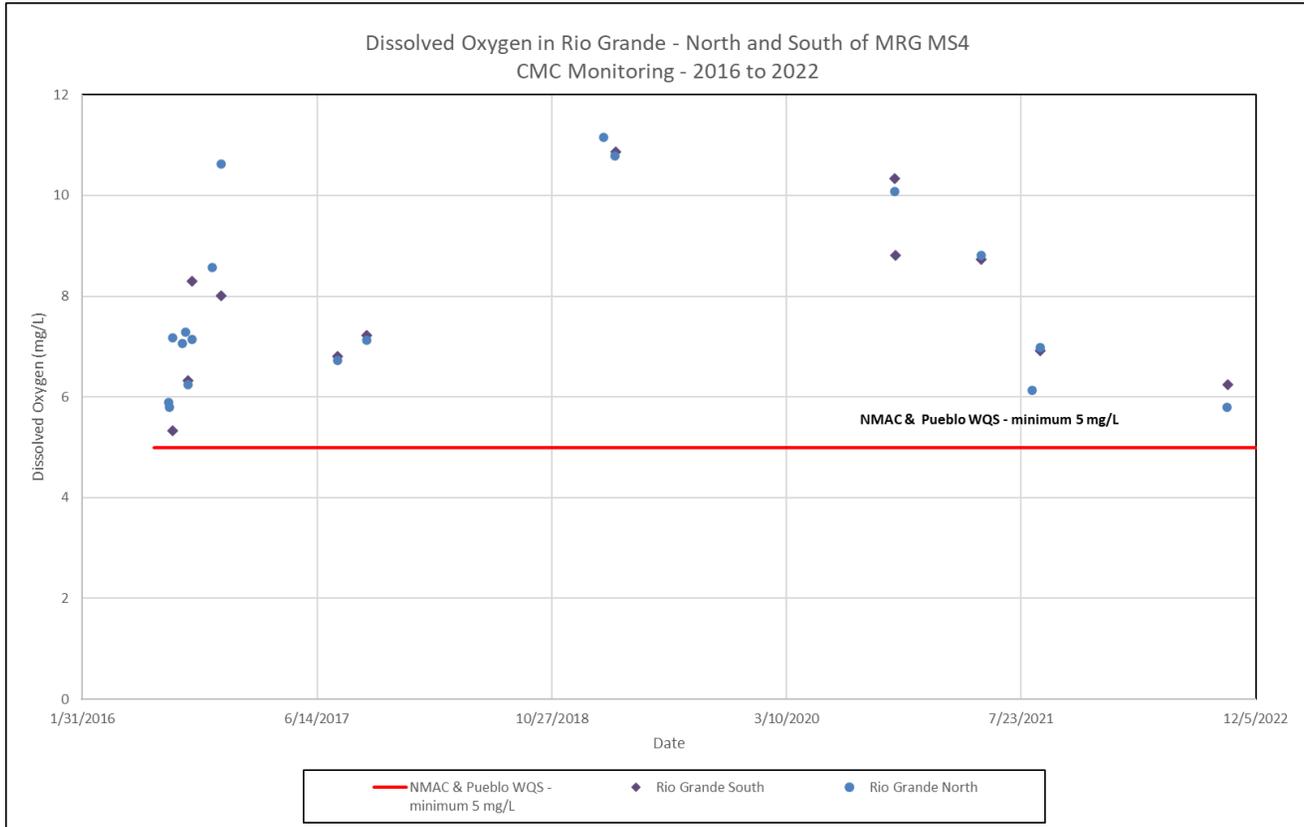


Figure 4: Dissolved Oxygen Results in the Rio Grande CMC Monitoring – 2016 - 2022

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.

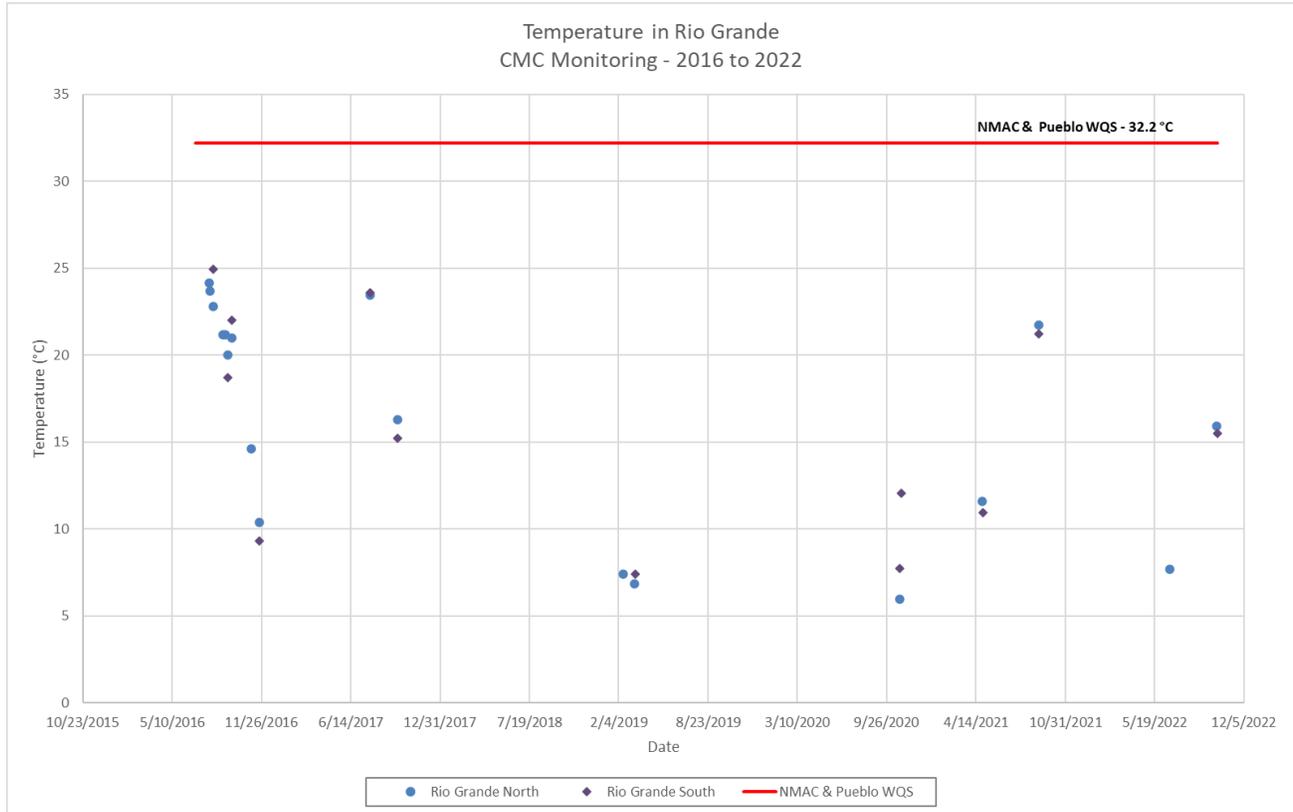


Figure 5: Temperature Monitoring Results in the Rio Grande CMC Monitoring – 2016 - 2022

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.

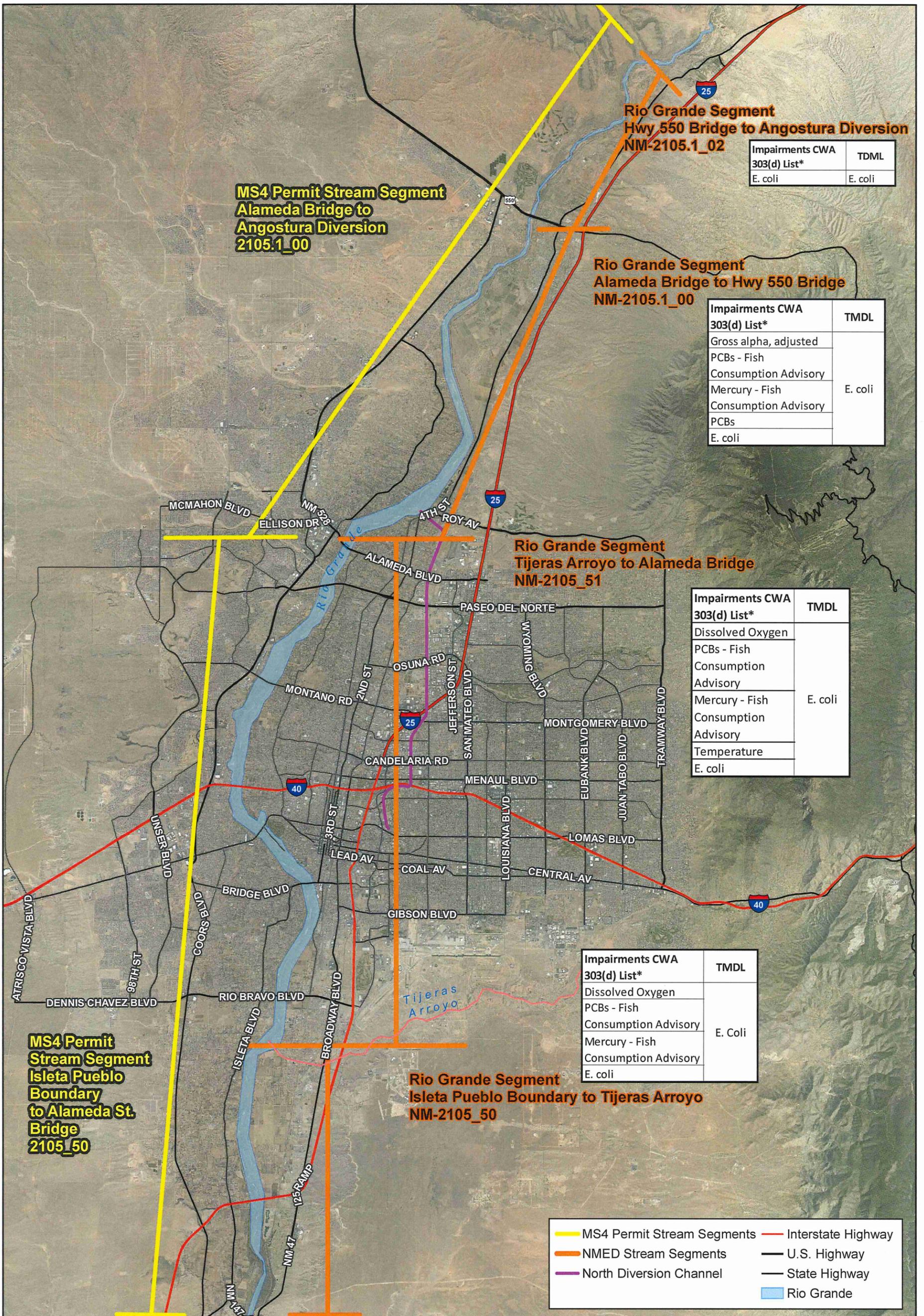
The E. coli daily loading associated with the CMC group and comparison to the NMED WLA was completed for the one (1) qualifying wet season storm event – October 5-6, 2022. For this event, the CMC obtained an E. coli sample in the Rio Grande at Alameda and used this to calculate the E. coli loading for 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) <i>range defined by NMED</i>	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 Alameda) 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.



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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

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 WQs 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 Alameda) 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

ATTACHMENT 1

**DBS&A FIELD DATA & HALL ENVIRONMENTAL ANALYSIS
LABORATORY REPORTS WITH BHI NOTES FOR
FY 2023 WET SEASON**

CMC Water Quality Results Database
 Date: December 29, 2022
 Summary of Lab Results for CMC samples for FY 2023 Wet Season

Parameter	Permit Required Units	Analysis Method	Rio Grande - North				Rio Grande - South - At Isleta Dam				Rio Grande - Alameda Bridge (E. coli Only Samples)			
			Provisional or Verified	2023 CMC SAMPLE - EXTRA NORTH Collection Date 10/5/2022 Wet Season Sample	Qualifier	Check compared to Water Quality Criterion	Provisional or Verified	2023 CMC SAMPLE - EXTRA SOUTH Collection Date 10/6/2022 Wet Season Sample	Qualifier	Check compared to Water Quality Criterion	Provisional or Verified	2023 CMC SAMPLE - EXTRA ALAMEDA Collection Date 10/5/22 Wet Season Sample	Qualifier	Check compared to Water Quality Criterion
Total Suspended Solids (TSS)	mg/L	SM 2540D	V	29		--	V	890	D	--				
Total Dissolved Solids (TDS)	mg/L	SM2540C MOD	V	195		OK	V	265	D	OK				
Chemical Oxygen Demand (COD)	mg/L	EPA 410.4	V	22.3		--	V	ND		--				
Biochemical Oxygen Demand (BOD ₅)	mg/L	SM5210B	--	Not provided		--	--	Not provided		--				
Dissolved Oxygen (DO)	mg/L	FIELD	V	5.79		OK	V	6.24		OK	V	5.58		OK
Oil and Grease (N-Hexane Extractable Material)	mg/L	EPA 1664A	V	ND		OK	V	ND		OK				
E. coli	MPN (CFU/100 mL)	SM 9223B Fecal Indicator	V	135		>WQ Standard	V	<1		OK	V	52		OK
pH	S.U.	FIELD	V	8.24	H	OK	V	8.02	H	OK	V	7.6		OK
Total Kjeldahl Nitrogen (TKN)	mg/L	SM 4500	V	ND		--	V	1.7		--				
Nitrate plus Nitrite	mg/L	EPA 300.0: Anions	V	ND		OK	V	ND		OK				
Dissolved Phosphorous	mg/L	EPA 365.1, filtered sample	V	ND	D	--	V	ND	D	--				
Ammonia (mg/L as N)	mg/L	SM 4500 NH3	V	ND		OK	V	ND		OK				
Total Nitrogen	mg/L	--	V	ND		OK	V	1.70		OK				
Total Phosphorous	mg/L	EPA 365.1	V	ND	D	--	V	0.97	D	--				
PCBS - 0.000064 (Method 1668A - sum of all congeners)	µg/L	EPA 1668	V	0.00013	J	OK	V	0.0011	J	>WQ Standard				
Gross Alpha, Adjusted	pCi/L	EPA 900.0	V	0.895 ± NA		OK	V	22.98 ± NA		>WQ Standard				
Tetrahydrofuran	µg/L	EPA 8260 C	V	ND		--	V	ND		--				
Benzo[a]pyrene	µg/L	EPA 625	V	ND		OK	V	ND		OK				
Benzo[b]fluoranthene (other name: 3,4-Benzofluoranthene)	µg/L	EPA 625	V	ND		OK	V	ND		OK				
Benzo[k]fluoranthene	µg/L	EPA 625	V	ND		OK	V	ND		OK				
Chrysene	µg/L	EPA 625	V	ND		OK	V	ND		OK				
Indeno[1,2,3-cd]Pyrene	µg/L	EPA 625	V	ND		OK	V	ND		OK				
Dieldrin	µg/L	EPA 608	V	ND		OK	V	ND		OK				
Pentachlorophenol	µg/L	EPA 625	V	ND		OK	V	ND		OK				
Benzidine	µg/L	EPA 625	V	ND		OK	V	ND		OK				
Benzo[a]anthracene	µg/L	EPA 625	V	ND		OK	V	ND		OK				
Dibenzofuran	µg/L	EPA 625	V	ND		--	V	ND		--				
Dibenzo[a,h]anthracene	µg/L	EPA 625	V	ND		OK	V	ND		OK				
Chromium VI (Hexavalent)	µg/L	3500Cr C-2011	V	ND		OK	V	ND		OK				
Dissolved Copper	µg/L	EPA 200.8	V	1.1		OK	V	ND		OK				
Dissolved Lead	µg/L	EPA 200.8	V	ND		OK	V	ND		OK				
Bis (2-ethylhexyl) Phthalate (other names: Di(2-ethylhexyl)phthalate, DEHP) - 2.2	µg/L	EPA 625	V	ND		OK	V	ND		OK				
Conductivity	µmhos/cm	FIELD	V	290		--	V	395		--	V	275		--
Temperature	°C	FIELD	V	15.9		OK	V	15.5		OK	V	18		OK
Hardness (as CaCO ₃)	mg/L	SM2340B	V	120		--	V	280		--				
Mercury	µg/l	--												

Data Verification/Validation and Qualifier Notes:
 (R) The sample results are unusable because certain criteria were not met. The analyte may or may not be present in the sample.
 (H) Sample holding time exceeded.
 (I) The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
 (D) Sample was diluted by Lab due to matrix
 (U) Analyte was analyzed for, but not detected above the specified detection limit.

Notes:
 1. Wet Season monitoring period - July 1 to October 31 and Dry Season monitoring period - November 1 to June 30 according to the Watershed Based MS4 Permit NMR04A000.
 mean monthly flow of 100 cfs, monthly average concentration for TDS 1,500 mg/l or less, sulfate 500 mg/L or less, and chloride 250 mg/L or less.
 3. Aquatic life criteria for metals are expressed as a function of total hardness (mg/L as CaCO₃)
 4. According to NMAC 20.6.4, E. coli bacteria for Primary Contact - monthly geometric mean
 5. Water quality criterion for metals is based on dissolved metals, NMAC 20.6.4.900.1 and individual sample results compared to acute toxicity values.
 6. HEAL lab method: SM 9223B Fecal Indicator. Note - lab method for units of MPN/100 ml, lab report uses units CFU/100 ml, for this analysis assuming two units are equivalent

ND - analyte not detected above the laboratory method detection limit
 NA - not analyzed
 Hatching also indicates that parameter was not analyzed

National recommended WQ criteria Human Health
<https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table>

Samplers Chad Johannsen
Sam Fire

CMC Sampling Data Sheet

Site Identification: Rio Grande North j Angostura Diversion Dam

Notes: _____

Full Suite Sample Date and Time:	<u>10/5/22</u>	<u>1215</u>
Full Sample Identification:	<u>RG North- 2022 1005</u>	
QC Samples:	Duplicate / <u>(None)</u>	QC Sample ID:
QC samples require a DIFFERENT sample time than the environmental sample.		
QC Sample time:		

Full Suite Collection Point :	<u>Diversion Structure</u>		
Full Suite Sample Volume:	<u>8gal</u>	Collection Time Start:	<u>1125</u> End: <u>1210</u>

Field Parameters for each 2-gallon grab

Grab	Time	Temp (°C)	pH	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)
1	1125	16.4	8.56	334	6.56	66.6
2	1140	16.8	7.25	297	5.90	60.7
3	1155	16.8	8.01	295	3.42	34.6
4	1210	14.9	8.27	291	8.91	88.2
Composite	1215	15.9	8.24	290	5.79	59.6

Turbid Water Color TAN Solids Oil/Sheen Foam Odor _____

Analytical - see 2021 COC table

Site Photo Sample Photo

Samplers Chad Johannes
Sam Fire

CMC Sampling Data Sheet

Site Identification: Rio Grande @ Isleta

Notes:

Full Suite Sample Date and Time:	<u>10/6/22 0905</u>
Full Sample Identification:	<u>RG South - 2022 1006</u>
QC Samples: Duplicate / None	QC Sample ID:
QC samples require a DIFFERENT sample time than the environmental sample.	
QC Sample time:	

Full Suite Collection Point :	<u>Isleta diversion structure</u>		
Full Suite Sample Volume:	<u>8 gal</u>	Collection Time Start:	<u>0815</u> End: <u>0900</u>

Field Parameters for each 2-gallon grab

Grab	Time	Temp (°C)	pH	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)
1	0815	15.9	8.51	423	5.43	54.7
2	0830	15.8	7.27	399	5.95	59.7
3	0845	15.6	7.97	394	6.08	60.7
4	0900	15.7	8.01	396	6.21	62.0
Composite	0905	15.5	8.02	395	6.24	62.1

Turbid Water Color Blown Solids Oil/Sheen Foam Odor _____

Analytical - see 2021 COC table

Site Photo Sample Photo

Samplers Chad Johannesen
Sam F. Le

CMC Sampling Data Sheet

Site Identification: Rio Grande at Alameda

Notes:

Full Suite Sample Date and Time:	<u>10/5/22 1340</u>
Full Sample Identification:	<u>R6 Alameda - 20221005</u>
QC Samples:	Duplicate / None QC Sample ID:
QC samples require a DIFFERENT sample time than the environmental sample.	
QC Sample time:	

Full Suite Collection Point :	<u>Alameda Bridge</u>		
Full Suite Sample Volume:	<u>1 gal</u>	Collection Time Start:	<u>1330</u> End: <u>1340</u>

Field Parameters for each 2-gallon grab

Grab	Time	Temp (°C)	pH	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)
1						
2						
3						
4						
Composite	<u>1340</u>	<u>18.0</u>	<u>7.60</u>	<u>275</u>	<u>5.58</u>	<u>57.9</u>

Turbid Water Color 3100 Solids Oil/Sheen Foam Odor _____

Analytical - see 2021 COC table

Site Photo Sample Photo



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 10, 2022

Patrick Chavez

AMAFCA

2600 Prospect Ave NE

Albuquerque, NM 87107

TEL: (505) 884-2215

FAX:

10/5/2022: Alameda and Rio Grande North E.coli only samples

RE: CMC Wet 22

OrderNo.: 2210242

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/5/2022 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman'.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Field Parameters:
Rio Grande North
Temp = 15.9°C
pH = 8.24
Conductivity = 290 uS/cm
Dissolved Oxygen = 5.79 mg/L

Field Parameters:
Rio Grande at Alameda
Temp = 18.0°C
pH = 7.60
Conductivity = 275 uS/cm
Dissolved Oxygen = 5.58 mg/L

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2210242

Date Reported: 10/10/2022

CLIENT: AMAFCA

Client Sample ID: **RG North-20221005**

Project: CMC Wet 22

Collection Date: 10/5/2022 12:05:00 PM

Lab ID: 2210242-001

Matrix: AQUEOUS

Received Date: 10/5/2022 2:20:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: dms	
E. Coli	135	10.00	10.00		MPN/100	10	10/7/2022 5:05:00 PM	70632

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:				
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	
D	Sample Diluted Due to Matrix	E	Estimated value	
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
PQL	Practical Quantitative Limit	RL	Reporting Limit	
S	% Recovery outside of range due to dilution or matrix interference			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2210242

Date Reported: 10/10/2022

CLIENT: AMAFCA

Client Sample ID: **RG Alameda-20221005**

Project: CMC Wet 22

Collection Date: 10/5/2022 1:40:00 PM

Lab ID: 2210242-002

Matrix: AQUEOUS

Received Date: 10/5/2022 2:20:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: dms	
E. Coli	52	10.00	10.00		MPN/100	10	10/7/2022 5:05:00 PM	70632

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Sample Log-In Check List

Client Name: **AMAFCA**

Work Order Number: **2210242**

RcptNo: 1

Received By: **Juan Rojas** 10/5/2022 2:20:00 PM *Juan Rojas*

Completed By: **Cheyenne Cason** 10/5/2022 2:45:18 PM *Cason*

Reviewed By: *[Signature]* 10-5-22 @ 15:19

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? Client

Log In

3. Was an attempt made to cool the samples? Yes No NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
5. Sample(s) in proper container(s)? Samples were collected the same day and chilled. Yes No
6. Sufficient sample volume for indicated test(s)? Yes No
7. Are samples (except VOA and ONG) properly preserved? Yes No
8. Was preservative added to bottles? Yes No NA
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes No NA
10. Were any sample containers received broken? Yes No
11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes No
13. Is it clear what analyses were requested? Yes No
14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: _____
 (<2 or >12 unless noted)
 Adjusted? _____
 Checked by: *KPG 10-05-22*

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	15.1	Good	Not Present			

Chain-of-Custody Record

Client: AMAFCA

Mailing Address:

Phone #:

email or Fax#: pchavez@amafca.org

QA/QC Package:
 Standard Level 4 (Full Validation)

Accreditation: Az Compliance
 NELAC Other

EDD (Type)

Turn-Around Time:

Standard Rush

Project Name:

CMC - Wet 22

Project #:

Project Manager:

Patrick Chavez

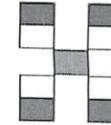
Sampler: C. Johansson

On Ice: Yes No

of Coolers: 1

Cooler Temp (including CF): 15.1 - 0 = 15.1 (°C)

Container Type and #	Preservative Type	HEAL No.
		<u>2210242</u>
		<u>001</u>
		<u>002</u>



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

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)	Ecoli - enumerated
									X	
									X	

Date	Time	Matrix	Sample Name
<u>10-5-22</u>	<u>1215</u>	<u>AQ</u>	<u>R6 North - 20221005</u>
<u>10-5-22</u>	<u>1340</u>	<u>AQ</u>	<u>R6 Alameda - 20221005</u>

Date: 10-5-22 Time: 1420 Relinquished by: [Signature]

Received by: [Signature] Via: 000 Date: 10/5/22 Time: 14:20

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 23, 2022

Patrick Chavez

AMAFCA

2600 Prospect Ave NE

Albuquerque, NM 87107

TEL: (505) 884-2215

FAX:

10/5/2022: Rio Grande North
and 10/6/2022: Rio Grande
South

RE: CMC Wet FY23

OrderNo.: 2210315

Dear Patrick Chavez:

Hall Environmental Analysis Laboratory received 3 sample(s) on 10/6/2022 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Field Parameters:
- Rio Grande North
Temp = 15.9°C
pH = 8.24
Conductivity = 290 uS/cm
Dissolved Oxygen = 5.79 mg/L
- Rio Grande South
Temp = 15.5°C
pH = 8.02
Conductivity = 395 uS/cm
Dissolved Oxygen = 6.24 mg/L

Analytical Report

Lab Order: 2210315

Date Reported: 11/23/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA

Client Sample ID: R6 North-20221005

Project: CMC Wet FY23

Collection Date: 10/5/2022 12:15:00 PM

Lab ID: 2210315-001A

Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8081: PESTICIDES							Analyst: JME
Dieldrin	ND	0.10		µg/L	1	10/17/2022 12:51:12 PM	70767
Surr: Decachlorobiphenyl	94.3	40.9-111		%Rec	1	10/17/2022 12:51:12 PM	70767
Surr: Tetrachloro-m-xylene	64.3	15-107		%Rec	1	10/17/2022 12:51:12 PM	70767

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order: 2210315

Date Reported: 11/23/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA

Client Sample ID: R6 North-20221005

Project: CMC Wet FY23

Collection Date: 10/5/2022 12:15:00 PM

Lab ID: 2210315-001D

Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 1664B							Analyst: SMS
N-Hexane Extractable Material	ND	9.40		mg/L	1	10/18/2022 6:18:00 PM	70825

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC Wet FY23
Lab ID: 2210315-001E

Client Sample ID: R6 North-20221005
Collection Date: 10/5/2022 12:15:00 PM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: JTT
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	10/6/2022 11:59:13 PM	A91618
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	10/6/2022 11:59:13 PM	A91618
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: SNS
Total Dissolved Solids	195	20.0		mg/L	1	10/12/2022 8:50:00 AM	70696
SM 4500 NH3: AMMONIA							Analyst: EKM
Nitrogen, Ammonia	ND	1.0		mg/L	1	10/21/2022 1:24:00 PM	R91993
SM4500-H+B / 9040C: PH							Analyst: JTT
pH	8.24		H	pH units	1	10/10/2022 3:56:29 PM	R91722
EPA METHOD 365.1: TOTAL PHOSPHOROUS							Analyst: CJS
Phosphorus, Total (As P)	ND	0.25	D	mg/L	1	10/25/2022 3:03:00 PM	71023
SM 4500 NORG C: TKN							Analyst: EKM
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	10/24/2022 10:19:00 AM	70981
SM 2540D: TSS							Analyst: KS
Suspended Solids	29	4.0		mg/L	1	10/10/2022 3:18:00 PM	70679

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA

Client Sample ID: R6 North-20221005

Project: CMC Wet FY23

Collection Date: 10/5/2022 12:15:00 PM

Lab ID: 2210315-001F

Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 365.1: TOTAL PHOSPHOROUS							Analyst: CJS
Phosphorus, Total (As P)	ND	0.25	D	mg/L	1	10/25/2022 3:04:00 PM	71023

Dissolved phosphorous

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC Wet FY23
Lab ID: 2210315-001G

Client Sample ID: R6 North-20221005
Collection Date: 10/5/2022 12:15:00 PM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
SM2340B: HARDNESS							Analyst: VP
Hardness as CaCO ₃	120	6.6		mg/L	1	10/14/2022 2:05:00 PM	R91819
EPA METHOD 200.7: METALS							Analyst: VP
Calcium	39	1.0		mg/L	1	10/14/2022 5:58:24 PM	70811
Magnesium	6.8	1.0		mg/L	1	10/14/2022 5:58:24 PM	70811

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA

Client Sample ID: R6 North-20221005

Project: CMC Wet FY23

Collection Date: 10/5/2022 12:15:00 PM

Lab ID: 2210315-001N

Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: bcv
Copper	0.0011	0.0010		mg/L	1	10/18/2022 1:04:27 PM	A91883
Lead	ND	0.00050		mg/L	1	10/18/2022 1:04:27 PM	A91883

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order: 2210315

Date Reported: 11/23/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC Wet FY23
Lab ID: 2210315-002A

Client Sample ID: R6 South-20221006
Collection Date: 10/6/2022 9:05:00 AM
Matrix: Aqueous

Table with columns: Analyses, Result, RL, Qual, Units, DF, Date Analyzed, Batch ID. Includes EPA METHOD 8081: PESTICIDES and Analyst: JME.

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Table with 2 columns: Qualifiers and their corresponding descriptions (e.g., Value exceeds Maximum Contaminant Level, Analyte detected in the associated Method Blank).

Analytical Report

Lab Order: 2210315

Date Reported: 11/23/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA

Client Sample ID: R6 South-20221006

Project: CMC Wet FY23

Collection Date: 10/6/2022 9:05:00 AM

Lab ID: 2210315-002B

Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: dms
E. Coli	<1	1.000		MPN/100	1	10/7/2022 5:05:00 PM	70671

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order: 2210315

Date Reported: 11/23/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC Wet FY23
Lab ID: 2210315-002D

Client Sample ID: R6 South-20221006
Collection Date: 10/6/2022 9:05:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 1664B							Analyst: SMS
N-Hexane Extractable Material	ND	9.50		mg/L	1	10/18/2022 6:18:00 PM	70825

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC Wet FY23
Lab ID: 2210315-002E

Client Sample ID: R6 South-20221006
Collection Date: 10/6/2022 9:05:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: JTT
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	10/7/2022 1:16:26 AM	A91618
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	10/7/2022 1:16:26 AM	A91618
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: SNS
Total Dissolved Solids	265	100	D	mg/L	1	10/12/2022 8:50:00 AM	70696
SM 4500 NH3: AMMONIA							Analyst: EKM
Nitrogen, Ammonia	ND	1.0		mg/L	1	10/21/2022 1:24:00 PM	R91993
SM4500-H+B / 9040C: PH							Analyst: JTT
pH	8.09		H	pH units	1	10/10/2022 4:00:35 PM	R91722
EPA METHOD 365.1: TOTAL PHOSPHOROUS							Analyst: CJS
Phosphorus, Total (As P)	0.97	0.25	D	mg/L	1	10/25/2022 3:06:00 PM	71023
SM 4500 NORG C: TKN							Analyst: EKM
Nitrogen, Kjeldahl, Total	1.7	1.0		mg/L	1	10/24/2022 10:19:00 AM	70981
SM 2540D: TSS							Analyst: KS
Suspended Solids	890	20	D	mg/L	1	10/10/2022 3:18:00 PM	70679

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC Wet FY23
Lab ID: 2210315-002F

Client Sample ID: R6 South-20221006
Collection Date: 10/6/2022 9:05:00 AM
Matrix: Aqueous

Table with columns: Analyses, Result, RL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 365.1: TOTAL PHOSPHOROUS, ND, 0.25, D, mg/L, 1, 10/25/2022 3:08:00 PM, 71023

Analyst: CJS

Dissolved phosphorous

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Table with 2 columns: Qualifiers and their descriptions. Includes codes like *, D, H, ND, PQL, S, B, E, J, P, RL.

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA
Project: CMC Wet FY23
Lab ID: 2210315-002G

Client Sample ID: R6 South-20221006
Collection Date: 10/6/2022 9:05:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
SM2340B: HARDNESS							Analyst: VP
Hardness as CaCO3	280	6.6		mg/L	1	10/14/2022 2:05:00 PM	R91819
EPA METHOD 200.7: METALS							Analyst: VP
Calcium	82	1.0		mg/L	1	10/14/2022 6:01:40 PM	70811
Magnesium	17	1.0		mg/L	1	10/14/2022 6:01:40 PM	70811

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: AMAFCA

Client Sample ID: R6 South-20221006

Project: CMC Wet FY23

Collection Date: 10/6/2022 9:05:00 AM

Lab ID: 2210315-002N

Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: bcv
Copper	ND	0.0010		mg/L	1	10/18/2022 1:07:08 PM	A91883
Lead	ND	0.00050		mg/L	1	10/18/2022 1:07:08 PM	A91883

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Client: Hall Environmental Analysis Lab
Address: 4901 Hawkins NE Suite D
Albuquerque, NM 87109
Attn: Andy Freeman

Work Order: MCJ0294
Project: 2210315
Reported: 11/1/2022 11:21

Analytical Results Report

Sample Location: 2210315-001H (R6 North-20221005)
Lab/Sample Number: MCJ0294-01 **Collect Date:** 10/05/22 12:15
Date Received: 10/07/22 14:03 **Collected By:**
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Volatiles							
Tetrahydrofuran	ND	ug/L	5.00	10/12/22 18:51	BKP	EPA 8260D	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>104%</i>		<i>70-130</i>	<i>10/12/22 18:51</i>	<i>BKP</i>	<i>EPA 8260D</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>94.8%</i>		<i>70-130</i>	<i>10/12/22 18:51</i>	<i>BKP</i>	<i>EPA 8260D</i>	
<i>Surrogate: Toluene-d8</i>	<i>96.1%</i>		<i>70-130</i>	<i>10/12/22 18:51</i>	<i>BKP</i>	<i>EPA 8260D</i>	

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Analytical Results Report

(Continued)

Sample Location: 2210315-001I (R6 North-20221005)
Lab/Sample Number: MCJ0294-02 Collect Date: 10/05/22 12:15
Date Received: 10/07/22 14:03 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Semivolatiles							
Benzidine	ND	ug/L	1.00	10/18/22 0:20	MH	EPA 8270E	
Benzo[a]anthracene	ND	ug/L	1.00	10/18/22 0:20	MH	EPA 8270E	
Benzo[a]pyrene	ND	ug/L	1.00	10/18/22 0:20	MH	EPA 8270E	
Benzo[b]fluoranthene	ND	ug/L	1.00	10/18/22 0:20	MH	EPA 8270E	
Benzo[k]fluoranthene	ND	ug/L	1.00	10/18/22 0:20	MH	EPA 8270E	
bis(2-Ethylhexyl)phthalate	ND	ug/L	1.00	10/18/22 0:20	MH	EPA 8270E	
Chrysene	ND	ug/L	1.00	10/18/22 0:20	MH	EPA 8270E	
Dibenz[a,h]anthracene	ND	ug/L	1.00	10/18/22 0:20	MH	EPA 8270E	
Dibenzofuran	ND	ug/L	1.00	10/18/22 0:20	MH	EPA 8270E	
Indeno[1,2,3-cd]pyrene	ND	ug/L	1.00	10/18/22 0:20	MH	EPA 8270E	
Pentachlorophenol	ND	ug/L	1.00	10/18/22 0:20	MH	EPA 8270E	
<hr/>							
Surrogate: Terphenyl-d14	64.9%		57-133	10/18/22 0:20	MH	EPA 8270E	

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Analytical Results Report

(Continued)

Sample Location: 2210315-002H (R6 South-20221006)
Lab/Sample Number: MCJ0294-03 Collect Date: 10/06/22 09:05
Date Received: 10/07/22 14:03 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Volatiles							
Tetrahydrofuran	ND	ug/L	5.00	10/12/22 19:21	BKP	EPA 8260D	
Surrogate: 1,2-Dichlorobenzene-d4	104%		70-130	10/12/22 19:21	BKP	EPA 8260D	
Surrogate: 4-Bromofluorobenzene	92.6%		70-130	10/12/22 19:21	BKP	EPA 8260D	
Surrogate: Toluene-d8	96.5%		70-130	10/12/22 19:21	BKP	EPA 8260D	

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Analytical Results Report

(Continued)

Sample Location: 2210315-002I (R6 South-20221006)
Lab/Sample Number: MCJ0294-04 Collect Date: 10/06/22 09:05
Date Received: 10/07/22 14:03 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Semivolatiles							
Benzidine	ND	ug/L	2.50	10/18/22 0:47	MH	EPA 8270E	
Benzo[a]anthracene	ND	ug/L	2.50	10/18/22 0:47	MH	EPA 8270E	
Benzo[a]pyrene	ND	ug/L	2.50	10/18/22 0:47	MH	EPA 8270E	
Benzo[b]fluoranthene	ND	ug/L	2.50	10/18/22 0:47	MH	EPA 8270E	
Benzo[k]fluoranthene	ND	ug/L	2.50	10/18/22 0:47	MH	EPA 8270E	
bis(2-Ethylhexyl)phthalate	ND	ug/L	2.50	10/18/22 0:47	MH	EPA 8270E	
Chrysene	ND	ug/L	2.50	10/18/22 0:47	MH	EPA 8270E	
Dibenz[a,h]anthracene	ND	ug/L	2.50	10/18/22 0:47	MH	EPA 8270E	
Dibenzofuran	ND	ug/L	2.50	10/18/22 0:47	MH	EPA 8270E	
Indeno[1,2,3-cd]pyrene	ND	ug/L	2.50	10/18/22 0:47	MH	EPA 8270E	
Pentachlorophenol	ND	ug/L	2.50	10/18/22 0:47	MH	EPA 8270E	
<hr/>							
Surrogate: Terphenyl-d14	78.7%		57-133	10/18/22 0:47	MH	EPA 8270E	

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Analytical Results Report (Continued)

Sample Location: 2210315-003A (Trip Blank)
Lab/Sample Number: MCJ0294-05 Collect Date: 10/06/22 00:00
Date Received: 10/07/22 14:03 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Volatiles							
Tetrahydrofuran	ND	ug/L	0.500	10/12/22 19:51	BKP	EPA 8260D	
Surrogate: 1,2-Dichlorobenzene-d4	104%		70-130	10/12/22 19:51	BKP	EPA 8260D	
Surrogate: 4-Bromofluorobenzene	91.6%		70-130	10/12/22 19:51	BKP	EPA 8260D	
Surrogate: Toluene-d8	104%		70-130	10/12/22 19:51	BKP	EPA 8260D	

Authorized Signature,



Justin Doty For Todd Taruscio, Laboratory Manager

PQL Practical Quantitation Limit
ND Not Detected
MCL EPA's Maximum Contaminant Level
Dry Sample results reported on a dry weight basis
* Not a state-certified analyte

This report shall not be reproduced except in full, without the written approval of the laboratory
The results reported related only to the samples indicated.

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Quality Control Data

Semivolatiles

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCJ0360 - SVOC Water										
Blank (BCJ0360-BLK1)										
Prepared: 10/10/2022 Analyzed: 10/17/2022										
Dibenzofuran	ND		0.500	ug/L						
Benzidine	ND		0.500	ug/L						
Indeno(1,2,3-cd)pyrene	ND		0.500	ug/L						
Dibenz(a,h)anthracene	ND		0.500	ug/L						
Chrysene	ND		0.500	ug/L						
Di (2-ethylhexyl) phthalate	ND		0.500	ug/L						
Benzo[k]fluoranthene	ND		0.500	ug/L						
Benzo[b]fluoranthene	ND		0.500	ug/L						
Benzo[a]pyrene	ND		0.500	ug/L						
Benzo[a]anthracene	ND		0.500	ug/L						
Pentachlorophenol	ND		0.500	ug/L						
<i>Surrogate: Terphenyl-d14</i>			18.7	ug/L	25.0		74.9	57-133		
LCS (BCJ0360-BS1)										
Prepared: 10/10/2022 Analyzed: 10/17/2022										
Dibenzofuran	4.43		0.500	ug/L	5.00		88.6	75-120		
Benzo[a]anthracene	4.38		0.500	ug/L	5.00		87.6	80-120		
Benzo[a]pyrene	4.25		0.500	ug/L	5.00		85.0	66-116		
Benzo[b]fluoranthene	4.61		0.500	ug/L	5.00		92.2	72-116		
Benzo[k]fluoranthene	4.97		0.500	ug/L	5.00		99.4	71-121		
Di (2-ethylhexyl) phthalate	5.39		0.500	ug/L	5.00		108	60-144		
Indeno(1,2,3-cd)pyrene	4.19		0.500	ug/L	5.00		83.8	62-123		
Pentachlorophenol	4.17		0.500	ug/L	5.00		83.4	51-118		
Chrysene	4.70		0.500	ug/L	5.00		94.0	74-124		
Dibenz(a,h)anthracene	4.16		0.500	ug/L	5.00		83.2	62-120		
LCS Dup (BCJ0360-BSD1)										
Prepared: 10/10/2022 Analyzed: 10/17/2022										
Di (2-ethylhexyl) phthalate	4.79		0.500	ug/L	5.00		95.8	60-144	11.8	32
Pentachlorophenol	4.51		0.500	ug/L	5.00		90.2	51-118	7.83	25
Indeno(1,2,3-cd)pyrene	4.05		0.500	ug/L	5.00		81.0	62-123	3.40	25
Dibenzofuran	4.46		0.500	ug/L	5.00		89.2	75-120	0.675	25
Chrysene	4.79		0.500	ug/L	5.00		95.8	74-124	1.90	25
Benzo[k]fluoranthene	5.08		0.500	ug/L	5.00		102	71-121	2.19	25
Benzo[b]fluoranthene	4.47		0.500	ug/L	5.00		89.4	72-116	3.08	25
Benzo[a]pyrene	4.07		0.500	ug/L	5.00		81.4	66-116	4.33	25
Benzo[a]anthracene	4.38		0.500	ug/L	5.00		87.6	80-120	0.00	25
Dibenz(a,h)anthracene	3.91		0.500	ug/L	5.00		78.2	62-120	6.20	30

Quality Control Data

Volatiles

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCJ0445 - VOC										
Blank (BCJ0445-BLK1)										
Prepared & Analyzed: 10/12/2022										
Tetrahydrofuran	ND		0.500	ug/L						
<i>Surrogate: 4-Bromofluorobenzene</i>			23.7	ug/L	25.0		94.6	70-130		
<i>Surrogate: Toluene-d8</i>			24.7	ug/L	25.0		98.6	70-130		
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>			19.1	ug/L	19.0		100	70-130		

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Quality Control Data (Continued)

Volatiles (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCJ0445 - VOC (Continued)										
LCS (BCJ0445-BS1)										
Tetrahydrofuran	11.7		1.00	ug/L	10.0		117	80-120		



SUB CONTRACTOR: Anatek ID	COMPANY: Anatek Labs, Inc.	PHONE: (208) 883-2839	FAX: (208) 882-9246
ADDRESS: 1282 Alturas Dr		ACCOUNT #:	EMAIL:
CITY, STATE, ZIP: Moscow, ID 83843			

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2210315-001H	R6 North-20221005	VOAHCL	Aqueous	10/5/2022 12:15:00 PM	3	8260 Tetrahydrofuran Only
2	2210315-001I	R6 North-20221005	1LAMGU	Aqueous	10/5/2022 12:15:00 PM	3	8270 - See attached
3	2210315-002H	R6 South-20221006	VOAHCL	Aqueous	10/6/2022 9:05:00 AM	3	8260 Tetrahydrofuran Only
4	2210315-002I	R6 South-20221006	1LAMGU	Aqueous	10/6/2022 9:05:00 AM	2	8270 - See attached
5	2210315-003A	Trip Blank	VOAHCL	Trip Blank		2	8260 Tetrahydrofuran Only

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By: <i>SA</i>	Date: 10/6/2022	Time: 2:34 PM	Received By: <i>JKT</i>	Date: <i>10/7/22</i>	Time: <i>14:03</i>	REPORT TRANSMITTAL DESIRED: <input type="checkbox"/> HARDCOPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE FOR LAB USE ONLY Temp of samples _____ °C Attempt to Cool? _____ Comments: _____
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
TAT: Standard <input checked="" type="checkbox"/> RUSH Next BD <input type="checkbox"/> 2nd BD <input type="checkbox"/> 3rd BD <input type="checkbox"/>						

Attached Sheet

MCJ0294



Due: 10/24/22

Collaborative Monitoring Cooperative - Analyses List Attach to Chain of Custody

Please refer to attached NPDES Permit No. NMR04A00.Appendix F. Methods and minimum quantities (MQL's) will be those approved under 40 CFR 136 and specified in the attached permit

Analyte (Bold Indicates WQS)	CAS #	Fraction	Method #	MDL (µg/L)
Hardness (Ca + Mg)	NA	Total	200.7	2.4
Lead	7439-92-1	Dissolved	200.8	0.09
Copper	7440-50-8	Dissolved	200.8	1.06
Ammonia + organic nitrogen	7664-41-7	Total	350.1	31.32
Total Kjeldahl Nitrogen	17778-88-0	Total	351.2	58.78
Nitrate + Nitrite	14797-55-8	Total	353.2	10.17
Polychlorinated biphenyls (PCBs)	1336-36-3	Total	1668	0.014
Tetrahydrofuran (THF)	109-99-9	Total	8260C	7.9
bis(2-Ethylhexyl)phthalate	117-81-7	Total	8270D	0.2
Dibenzofuran	132-64-9	Total	8270D	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	Total	8270D	0.2
Benzo(b)fluoranthene	205-99-2	Total	8270D	0.1
Benzo(k)fluoranthene	207-08-9	Total	8270D	0.1
Chrysene	218-01-9	Total	8270D	0.2
Benzo(a)pyrene	50-32-8	Total	8270D	0.3
Dibenzo(a,h)anthracene	53-70-3	Total	8270D	0.2
Benzo(a)anthracene	56-55-3	Total	8270D	0.1
Dieldrin	60-57-1	Total	8081	0.2
Pentachlorophenol	87-86-5	Total	8270D	0.1
Benzidine	92-87-5	Total	8270D	0.2
Chemical Oxygen Demand	E1641638 ²	Total	HACH	5100
Gross alpha (adjusted)	NA	Total	Method 900	0.1 pCi/L
Total Dissolved Solids	E1642222 ²	Total	SM 2540C	60.4
Total Suspended Solids	NA	Total	SM 2540D	3450
Biological Oxygen Demand	N/A	Total	Standard Methods	930
Oil and Grease		Total	1664A	5000
Ecoli-enumeration			SM 9223B	
pH			SM 4500	
Phosphorus		Dissolved	365.1	100
Phosphorus		Total	365.1	100
Chromium IV		Total	3500Cr C-2011	100



Sample Receipt and Preservation Form

MCJ0294



Due: 10/24/22

Client Name: Hall

TAT: Normal RUSH: _____ days

Samples Received From: FedEx UPS USPS Client Courier Other: _____

Custody Seal on Cooler/Box: Yes No Custody Seals Intact: Yes No N/A

Number of Coolers/Boxes: 4 Type of Ice: Wet Ice Ice Packs Dry Ice None

Packing Material: Bubble Wrap Bags Foam/Peanuts Paper None Other: _____

Cooler Temp As Read (°C): 3.8 Cooler Temp Corrected (°C): - Thermometer Used: IR-5

Comments:

Samples Received Intact?	<u>Yes</u>	No	N/A
Chain of Custody Present?	<u>Yes</u>	No	N/A
Samples Received Within Hold Time?	<u>Yes</u>	No	N/A
Samples Properly Preserved?	<u>Yes</u>	No	N/A
VOC Vials Free of Headspace (<6mm)?	<u>Yes</u>	<u>No</u>	N/A
VOC Trip Blanks Present?	Yes	No	N/A
Labels and Chains Agree?	<u>Yes</u>	No	N/A
Total Number of Sample Bottles Received:	<u>11</u>		

One of 2 trip blanks
2210315-003A excessive HS

Chain of Custody Fully Completed?	<u>Yes</u>	No	N/A
Correct Containers Received?	<u>Yes</u>	No	N/A
Anatek Bottles Used?	Yes	<u>No</u>	Unknown

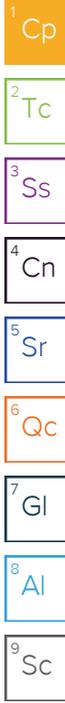
Record preservatives (and lot numbers, if known) for containers below:

HCl - 8260 Tetrahydrofuran only - g 44mL x 6 + 2 TBs

Notes, comments, etc. (also use this space if contacting the client - record names and date/time)

8270 (see attached) - g 2L x 3 (2210315-001E x 2)

Received/Inspected By: JKA Date/Time: 10/7/22 14:03



Hall Environmental Analysis Laboratory

Sample Delivery Group: L1544321

Samples Received: 10/07/2022

Project Number:

Description:

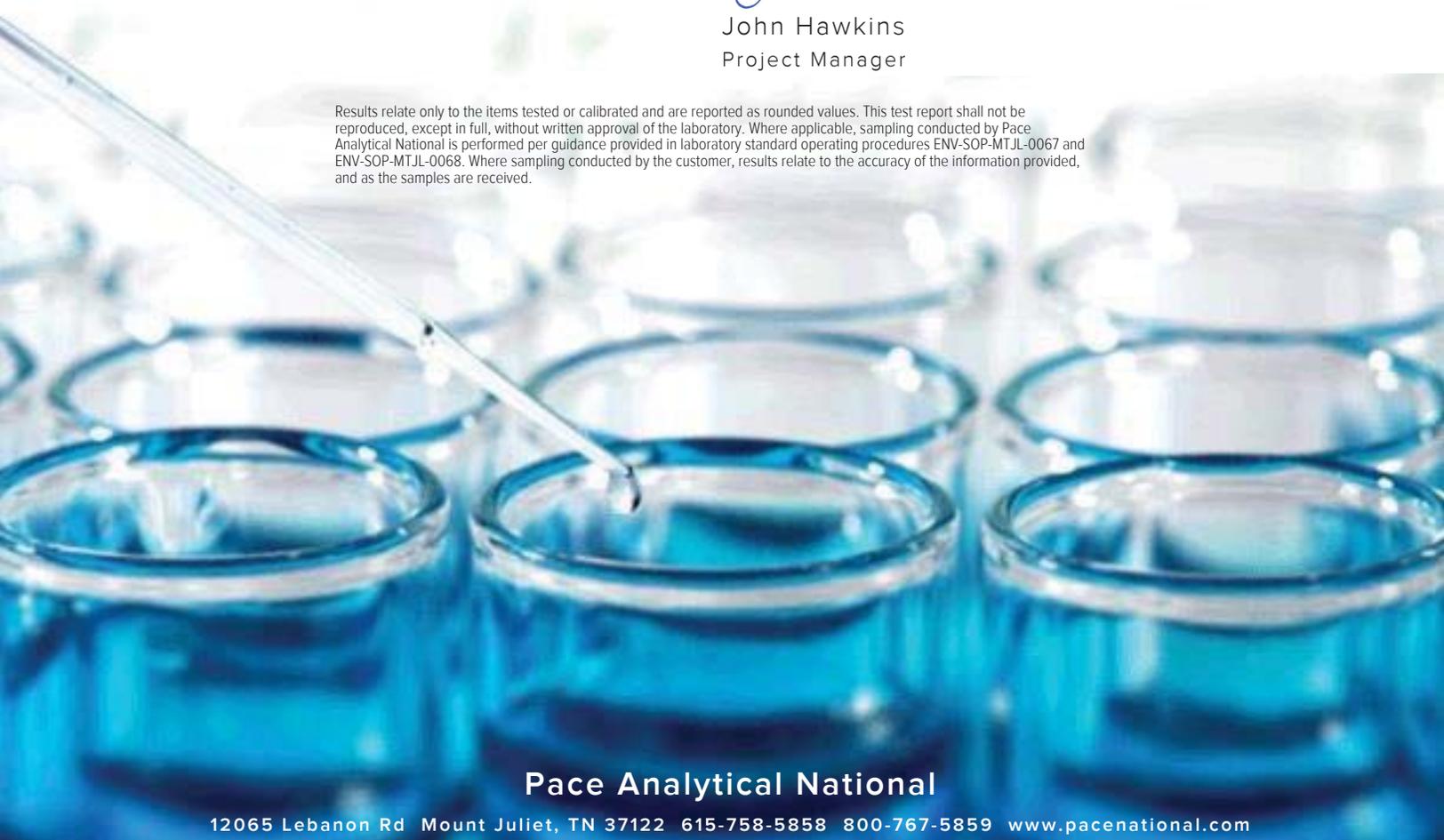
Report To: Andy Freeman
4901 Hawkins NE
Albuquerque, NM 87109

Entire Report Reviewed By:



John Hawkins
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

Cp: Cover Page	1	
Tc: Table of Contents	2	
Ss: Sample Summary	3	
Cn: Case Narrative	4	
Sr: Sample Results	5	
2210315-001KM R6 NORTH-20221005 L1544321-01	5	
2210315-002KM R6 SOUTH-20221006 L1544321-02	6	
Qc: Quality Control Summary	7	
Wet Chemistry by Method 3500Cr C-2011	7	
Wet Chemistry by Method 410.4	8	
Gl: Glossary of Terms	10	
Al: Accreditations & Locations	11	
Sc: Sample Chain of Custody	12	
		

SAMPLE SUMMARY

2210315-001KM R6 NORTH-20221005 L1544321-01 GW

Collected by:
 Collected date/time: 10/05/22 12:15
 Received date/time: 10/07/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 3500Cr C-2011	WG1938076	1	10/12/22 07:17	10/12/22 07:17	ARD	Mt. Juliet, TN
Wet Chemistry by Method 410.4	WG1939857	1	10/09/22 17:30	10/09/22 20:03	EPW	Mt. Juliet, TN

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

2210315-002KM R6 SOUTH-20221006 L1544321-02 GW

Collected by:
 Collected date/time: 10/06/22 09:05
 Received date/time: 10/07/22 09:00

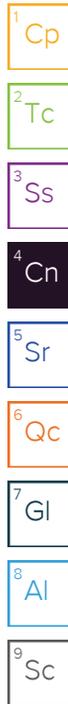
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 3500Cr C-2011	WG1938076	1	10/12/22 07:25	10/12/22 07:25	ARD	Mt. Juliet, TN
Wet Chemistry by Method 410.4	WG1940273	1	10/10/22 13:00	10/10/22 16:42	TQP	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



John Hawkins
Project Manager



Wet Chemistry by Method 3500Cr C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.000500	1	10/12/2022 07:17	WG1938076

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
COD	22.3		20.0	1	10/09/2022 20:03	WG1939857

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Wet Chemistry by Method 3500Cr C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.000500	1	10/12/2022 07:25	WG1938076

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
COD	ND		20.0	1	10/10/2022 16:42	WG1940273

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Method Blank (MB)

(MB) R3849771-1 10/11/22 21:36

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Hexavalent Chromium	U		0.000150	0.000500

L1542321-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1542321-01 10/11/22 22:35 • (DUP) R3849771-5 10/11/22 22:42

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Hexavalent Chromium	ND	ND	1	0.000		20

L1542881-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1542881-01 10/12/22 00:15 • (DUP) R3849771-6 10/12/22 00:22

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Hexavalent Chromium	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3849771-2 10/11/22 21:43

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Hexavalent Chromium	0.00200	0.00205	102	90.0-110	

L1542312-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1542312-01 10/11/22 22:10 • (MS) R3849771-3 10/11/22 22:19 • (MSD) R3849771-4 10/11/22 22:27

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Hexavalent Chromium	0.0500	ND	0.0507	0.0511	101	102	1	90.0-110			0.884	20

L1543260-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1543260-01 10/12/22 00:38 • (MS) R3849771-7 10/12/22 01:01

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Hexavalent Chromium	0.0500	ND	0.0503	101	1	90.0-110	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3846395-1 10/09/22 19:50

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
COD	U		11.7	20.0

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1543424-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1543424-01 10/09/22 19:54 • (DUP) R3846395-3 10/09/22 19:55

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
COD	47.4	47.7	1	0.610		20

L1544335-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1544335-01 10/09/22 20:03 • (DUP) R3846395-6 10/09/22 20:04

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
COD	32.2	32.7	1	1.60		20

Laboratory Control Sample (LCS)

(LCS) R3846395-2 10/09/22 19:53

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
COD	500	537	107	90.0-110	

L1543925-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1543925-02 10/09/22 19:56 • (MS) R3846395-4 10/09/22 19:57 • (MSD) R3846395-5 10/09/22 19:58

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
COD	500	263	1160	1170	180	181	1	80.0-120	<u>E J5</u>	<u>E J5</u>	0.549	20

Sample Narrative:

MS: Matrix spike failure due to matrix interference.
MSD: Matrix spike failure due to matrix interference.

Method Blank (MB)

(MB) R3846784-1 10/10/22 16:33

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
COD	U		11.7	20.0

L1544252-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1544252-02 10/10/22 16:36 • (DUP) R3846784-5 10/10/22 16:36

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
COD	33.9	37.2	1	9.50		20

L1544331-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1544331-02 10/10/22 16:42 • (DUP) R3846784-6 10/10/22 16:42

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
COD	33.9	28.6	1	16.9		20

Laboratory Control Sample (LCS)

(LCS) R3846784-2 10/10/22 16:34

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
COD	500	483	96.7	90.0-110	

L1544093-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1544093-01 10/10/22 16:34 • (MS) R3846784-3 10/10/22 16:34 • (MSD) R3846784-4 10/10/22 16:34

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
COD	500	ND	532	549	106	110	1	80.0-120			3.15	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

GLOSSARY OF TERMS

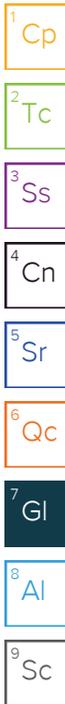
Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.
Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.



ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

J091

SUB CONTRACTOR: Pace TN		COMPANY: PACE TN		PHONE: (800) 767-5859		FAX: (615) 758-5859	
ADDRESS: 12065 Lebanon Rd				ACCOUNT #:		EMAIL:	
CITY, STATE, ZIP: Mt. Juliet, TN 37122							
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2210315-001K	R6 North-20221005	500HDPEH2 504	Aqueous	10/5/2022 12:15:00 PM	1	COD
2	2210315-001M	R6 North-20221005	120mL	Aqueous	10/5/2022 12:15:00 PM	1	HEXAVALENT CHROMIUM
3	2210315-002K	R6 South-20221006	500HDPEH2 504	Aqueous	10/6/2022 9:05:00 AM	1	COD
4	2210315-002M	R6 South-20221006	120mL	Aqueous	10/6/2022 9:05:00 AM	1	HEXAVALENT CHROMIUM

L1944321

J01
J02

cont. - 4
0221 5755 8093 2632

Sample Receipt Checklist

CCC Seal Present/Intact: Y N If Applicable

CCC Signed/Accurate: Y N VOA Zero Headspace: Y N

Bottles arrive intact: Y N Pres. Correct/Check: Y N

Correct bottles used: Y N

Sufficient volume sent: Y N

RAD Screen <0.5 mR/hr: Y N

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By: <i>See</i>	Date: 10/6/2022	Time: 11:42 AM	Received By: <i>[Signature]</i>	Date: 10/11/22	Time: 0910
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

REPORT TRANSMITTAL DESIRED:

HARDCOPY (extra cost) FAX EMAIL ONLINE

FOR LAB USE ONLY

Temp of samples *NSM* 5.8 to 5.8 °C Attempt to Cool? _____

Comments: _____

TAT: Standard RUSH Next BD 2nd BD 3rd BD

November 10, 2022

Andy Freeman
Hall Environmental
4901 Hawkins NE
Albuquerque, NM 87109

RE: Project: 2210315
Pace Project No.: 30528336

Dear Andy Freeman:

Enclosed are the analytical results for sample(s) received by the laboratory on October 07, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Carla Cmar
carla.cmar@pacelabs.com
(724)850-5600
Project Manager

Enclosures

cc: Ms. Jackie Ball, Hall Environmental
Michelle Garcia, Hall Environmental



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: 2210315
Pace Project No.: 30528336

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 2210315
Pace Project No.: 30528336

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30528336001	2210315-001L/R6 North-20221005	Water	10/05/22 12:15	10/07/22 09:25
30528336002	2210315-002L/ R6 South-2022100	Water	10/06/22 09:05	10/07/22 09:25

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: 2210315
Pace Project No.: 30528336

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30528336001	2210315-001L/R6 North-20221005	EPA 900.0	SVM	1	PASI-PA
		EPA 900.0	JAL	1	PASI-PA
30528336002	2210315-002L/ R6 South-2022100	EPA 900.0	SVM	1	PASI-PA
		EPA 900.0	JAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 2210315
Pace Project No.: 30528336

Method: EPA 900.0
Description: 900.0 Gross Alpha/Beta
Client: Hall Environmental
Date: November 10, 2022

General Information:

2 samples were analyzed for EPA 900.0 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 2210315
Pace Project No.: 30528336

Method: EPA 900.0
Description: Adjusted Gross Alpha
Client: Hall Environmental
Date: November 10, 2022

General Information:

2 samples were analyzed for EPA 900.0 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2210315
Pace Project No.: 30528336

Sample: 2210315-001L/R6 North-20221005		Lab ID: 30528336001	Collected: 10/05/22 12:15	Received: 10/07/22 09:25	Matrix: Water		
PWS:		Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC)	Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg							
Gross Alpha	EPA 900.0	2.00 ± 1.50 (2.55)		pCi/L	10/14/22 08:41	12587-46-1	
Pace Analytical Services - Greensburg							
Adjusted Gross Alpha	EPA 900.0	0.895 ± NA (NA)		pCi/L	11/10/22 15:20		

Sample: 2210315-002L/ R6 South-2022100		Lab ID: 30528336002	Collected: 10/06/22 09:05	Received: 10/07/22 09:25	Matrix: Water		
PWS:		Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC)	Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg							
Gross Alpha	EPA 900.0	25.3 ± 5.74 (3.07)		pCi/L	10/13/22 19:38	12587-46-1	
Pace Analytical Services - Greensburg							
Adjusted Gross Alpha	EPA 900.0	22.98 ± NA (NA)		pCi/L	11/10/22 15:20		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 2210315
Pace Project No.: 30528336

QC Batch: 538872	Analysis Method: EPA 900.0
QC Batch Method: EPA 900.0	Analysis Description: 900.0 Gross Alpha/Beta
	Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30528336001, 30528336002

METHOD BLANK: 2614993 Matrix: Water

Associated Lab Samples: 30528336001, 30528336002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Gross Alpha	0.883 ± 0.808 (1.48) C:NA T:NA	pCi/L	10/14/22 08:19	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 2210315
Pace Project No.: 30528336

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: For Safe Drinking Water Act (SDWA) analyses, the reported Unc. is the calculated Count Uncertainty (95% confidence interval) using a coverage factor of 1.96. For all other matrices (non-SDWA), the reported Unc. is the calculated Expanded Uncertainty (aka Combined Standard Uncertainty, CSU), reported at the 95% confidence interval using a coverage factor of 1.96.

Gamma Spec: The Unc. reported for all gamma-spectroscopy analyses (EPA 901.1), is the calculated Expanded Uncertainty (CSU) at the 95.4% confidence interval, using a coverage factor of 2.0.

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SUB CONTRACTOR: Pace-Greensburg	COMPANY: Pace Analytical Services, Inc.	PHONE: (724) 850-5600	FAX: (724) 850-5601
ADDRESS: 1638 Roseytown Rd Ste 2,3,4		ACCOUNT #:	EMAIL:
CITY, STATE, ZIP: Greensburg, PA 15601			

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2210315-001L	R6 North-20221005	1LHDPEHNO	Aqueous	10/5/2022 12:15:00 PM	2	Adjusted Gross Alpha
2	2210315-002L	R6 South-20221006	1LHDPEHNO	Aqueous	10/6/2022 9:05:00 AM	2	Adjusted Gross Alpha

WO# : 30528336



SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By: <i>SL</i>	Date: 10/6/2022	Time: 11:46 AM	Received By: <i>Philip Nosh</i>	Date: 10/11/22	Time: 9:25	REPORT TRANSMITTAL DESIRED: <input type="checkbox"/> HARDCOPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE FOR LAB USE ONLY Temp of samples _____ °C Attempt to Cool? _____ Comments: _____
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
TAT: Standard <input checked="" type="checkbox"/> RUSH Next BD <input type="checkbox"/> 2nd BD <input type="checkbox"/> 3rd BD <input type="checkbox"/>						


DC#_Title: ENV-FRM-GBUR-0088 v02_Sample Condition Upon Receipt-Pittsburgh
 Effective Date: 10/03/2022

Client Name: Hall Project #: _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other

Tracking Number: 5344 4102 7710

Custody Seal on Cooler/Box Present: Yes No Seals Intact: Yes No

Thermometer Used: _____ Type of Ice: Wet Blue (None)

Cooler Temperature: Observed Temp _____ °C Correction Factor: _____ °C Final Temp: _____ °C
 Temp should be above freezing to 6°C

Examined By	<u>PS</u>
Labeled By	<u>PS</u>
Temped By	<u>_____</u>

Comments:				pH paper Lot#	D.P.D. Residual Chlorine Lot #
	Yes	No	NA	<u>1000421</u>	<u>_____</u>
Chain of Custody Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.	
Chain of Custody Filled Out: -Were client corrections present on COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.	
Chain of Custody Relinquished	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.	
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.	
Sample Labels match COC: -Includes date/time/ID Matrix: <u>WT</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.	
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.	
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.	
Rush Turn Around Time Requested:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8.	
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.	
Correct Containers Used: -Pace Containers Used	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.	
Orthophosphate field filtered:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.	
Hex Cr Aqueous samples field filtered:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.	
Organic Samples checked for dechlorination	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.	
Filtered volume received for dissolved tests:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.	
All containers checked for preservation: exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16.	<u>PH<2</u>
All containers meet method preservation requirements:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed	<u>PS</u> Date/Time of Preservation
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lot# of added Preservative	
Trip Blank Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17.	
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18.	
Rad Samples Screened <0.5 mrem/hr.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed	<u>PS</u> Date: <u>10/17/22</u> Survey Meter SN: <u>1563</u>
Comments:					

W0#: 30528336
 Due Date: 10/28/22
 PM: HMC
 CLIENT: HALL ENVIRON

Note: For NC compliance samples with discrepancies, a copy of this form must be sent to the DEHNR Certification office. PM Review is documented electronically in LIMS through the SRF Review schedule in the Workorder Edit Screen.



Pace Greensburg Lab -Sample Container Count

Client _____

Profile Number 1845

Site 7210315

Notes _____

Sample Line Item	Matrix	AG1H	AG1S	AG1T	AG2U	AG3S	AG3U	AG5U	AG5T	BG1U	BG2U	BP1N	BP1U	BP2S	BP2U	BP3C	BP3N	BP3S	BP3U	DG9S	GCUB	VG9H	VG9T	VG9U	VOAK	WGFU	WGKU	ZPLC	
1	W											2																	
2	W											2																	
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

WO# : 30528336

PM: HMC Due Date: 10/28/22
 CLIENT: HALL ENVIRON

Container Codes

Glass			
AG3U	250mL amber glass unpreserved	DG9S	40mL amber VOA vial H2SO4
AG3S	250mL amber glass H2SO4	VG9U	40mL clear VOA vial
AG2U	500mL amber glass unpreserved	VG9T	40mL clear VOA vial Na Thiosulfate
BG1U	1L clear glass unpreserved	VG9H	40mL clear VOA vial HCl
AG1H	1L amber glass HCl	JGFU	4oz amber wide jar
AG1T	1L amber glass Na Thiosulfate	WGFU	4oz wide jar unpreserved
AG1S	1L amber glass H2SO4	BG2U	500mL clear glass unpreserved
AG5U	100mL amber glass unpreserved	AG2U	500mL amber glass unpreserved
AG5T	100mL amber glass Na Thiosulfate	WGKU	8oz wide jar unpreserved
GJN	1 Gallon Jug		

Plastic / Misc.	
GCUB	1 Gallon Cubitainer
12GN	1/2 Gallon Cubitainer
SP5T	120mL Coliform Na Thiosulfate
BP1N	1L plastic HNO3
BP1U	1L plastic unpreserved
BP3S	250mL plastic H2SO4
BP3N	250mL plastic HNO3
BP3U	250mL plastic unpreserved
BP3C	250ml plastic NAOH
BP2S	500mL plastic H2SO4
BP2U	500mL plastic unpreserved

EZI	5g Encore
VOAK	Kit for Volatile Solid
I	Wipe/Swab
ZPLC	Ziploc Bag

WT	Water
SL	Solid
OL	Non-aqueous liquid
WP	Wipe

Pace Analytical - Greensburg, PA

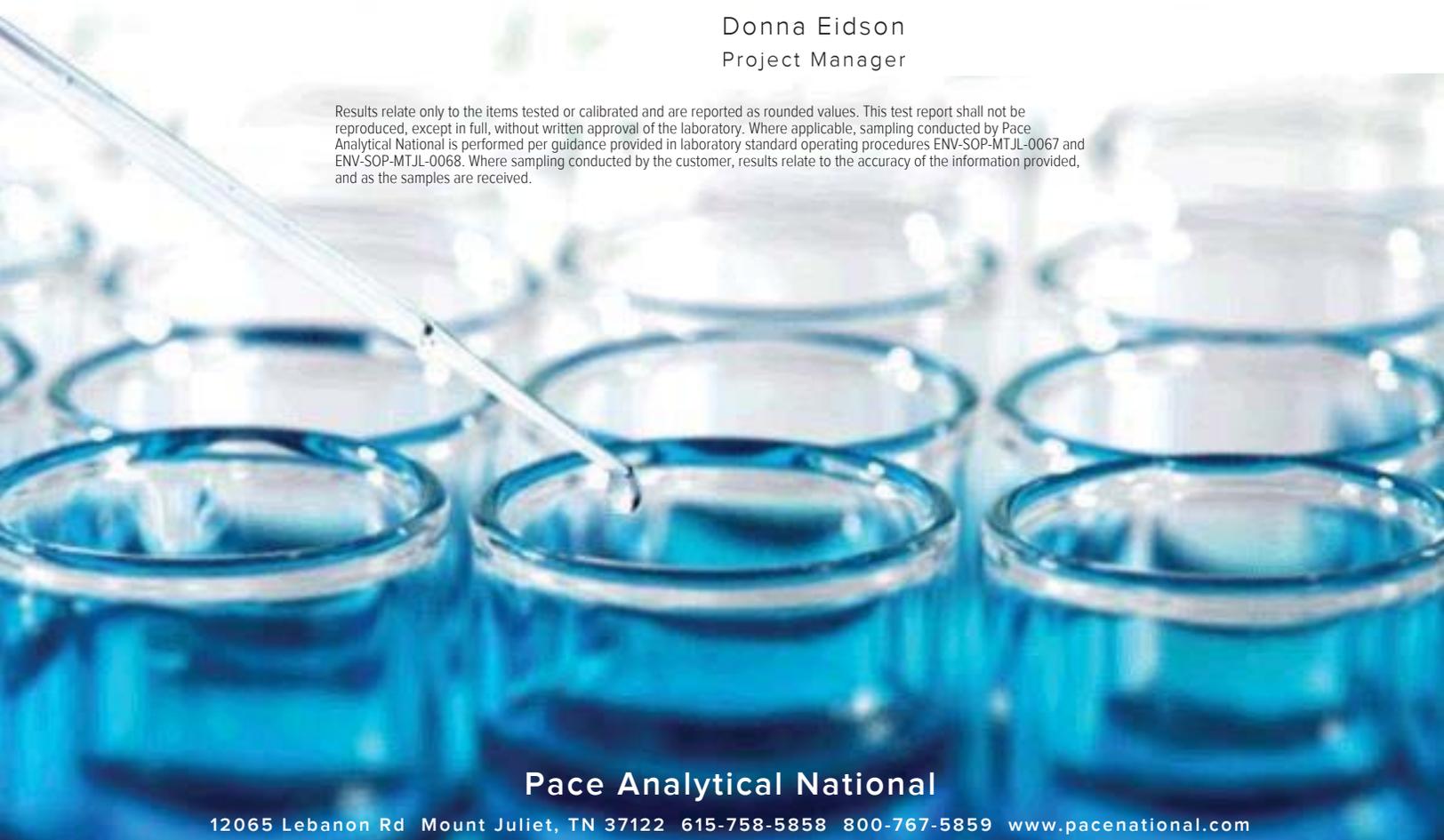
Sample Delivery Group: L1547177
Samples Received: 10/15/2022
Project Number: 30528336
Description: 2210315
Site: 001
Report To: Carla Cmar
1638 Roseytown Road
Greensburg, PA 15601

Entire Report Reviewed By:



Donna Eidson
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

Cp: Cover Page	1	¹ Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	² Tc
Cn: Case Narrative	4	
Sr: Sample Results	5	³ Ss
2210315-001L/R6 NORTH-20221005 L1547177-01	5	
2210315-002L//R6 SOUTH-2022100 L1547177-02	6	⁴ Cn
Qc: Quality Control Summary	7	⁵ Sr
Radiochemistry by Method D5174	7	
Gl: Glossary of Terms	8	⁶ Qc
Al: Accreditations & Locations	9	⁷ Gl
Sc: Sample Chain of Custody	10	⁸ Al
		⁹ Sc

SAMPLE SUMMARY

				Collected by	Collected date/time	Received date/time
2210315-001L/R6 NORTH-20221005 L1547177-01 Non-Potable Water					10/05/22 12:15	10/15/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method D5174	WG1949166	1	11/03/22 14:48	11/09/22 16:17	SNR	Mt. Juliet, TN

				Collected by	Collected date/time	Received date/time
2210315-002L//R6 SOUTH-2022100 L1547177-02 Non-Potable Water					10/06/22 09:05	10/15/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method D5174	WG1949166	1	11/03/22 14:48	11/09/22 16:20	SNR	Mt. Juliet, TN

- 1
Cp
- 2
Tc
- 3
Ss
- 4
Cn
- 5
Sr
- 6
Qc
- 7
Gl
- 8
Al
- 9
Sc

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Donna Eidson
Project Manager

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc

Radiochemistry by Method D5174

Analyte	Result	Qualifier	Uncertainty	RDL	Analysis Date	Batch
	ug/l		+ / -	ug/l	date / time	
Uranium	1.65		0.0549	1.00	11/09/2022 16:17	WG1949166

- ¹Cp
- ²Tc
- ³Ss
- ⁴Cn
- ⁵Sr
- ⁶Qc
- ⁷Gl
- ⁸Al
- ⁹Sc

Radiochemistry by Method D5174

Analyte	Result	Qualifier	Uncertainty	RDL	Analysis Date	Batch
Uranium	3.46		0.115	1.00	11/09/2022 16:20	WG1949166

- ¹Cp
- 2Tc
- 3Ss
- 4Cn
- 5Sr
- 6Qc
- 7Gl
- 8Al
- 9Sc

Method Blank (MB)

(MB) R3859221-1 11/09/22 15:57

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Uranium	U		1.00	1.00

Laboratory Control Sample (LCS)

(LCS) R3859221-2 11/09/22 16:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Uranium	30.0	29.2	97.5	80.0-120	

L1547600-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1547600-01 11/09/22 16:58 • (MS) R3859221-3 11/09/22 16:02 • (MSD) R3859221-5 11/09/22 16:07

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Uranium	20.0	ND	20.3	20.1	101	101	1	75.0-125			0.781	20

L1547600-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1547600-02 11/09/22 17:00 • (MS) R3859221-4 11/09/22 16:04 • (MSD) R3859221-6 11/09/22 16:10

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Uranium	20.0	ND	18.7	19.3	93.6	96.5	1	75.0-125			3.07	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
 4901 Hawkins NE
 Albuquerque, NM 87109
 TEL: 505-345-3975
 FAX: 505-345-4107
 Website: www.hallenvironmental.com

454777

SUB CONTRACTOR: Pace-Greensburg		COMPANY: Pace Analytical Services, Inc.		PHONE: (724) 850-5600		FAX: (724) 850-5601	
ADDRESS: 1638 Roseytown Rd Ste 2,3,4				ACCOUNT #:		EMAIL:	
CITY, STATE, ZIP: Greensburg, PA 15601							
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2210315-001L	R6 North-20221005	1LHDPEHNO	Aqueous	10/5/2022 12:15:00 PM	2	Adjusted Gross Alpha
2	2210315-002L	R6 South-20221006	1LHDPEHNO	Aqueous	10/6/2022 9:05:00 AM	2	Adjusted Gross Alpha

WO#: 30528336



SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By: <i>SL</i>	Date: 10/6/2022	Time: 11:46 AM	Received By: <i>Ralph Noth</i>	Date: 10/7/22	Time: 9:25	REPORT TRANSMITTAL DESIRED: <input type="checkbox"/> HARD COPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE FOR LAB USE ONLY Temp of samples _____ °C Attempt to Cool? _____ Comments: _____
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
TAT: Standard <input checked="" type="checkbox"/> RUSH Next BD <input type="checkbox"/> 2nd BD <input type="checkbox"/> 3rd BD <input type="checkbox"/>						

November 23, 2022

Mr. Andy Freeman
Hall Environmental
4901 Hawkins NE
Suite D
Albuquerque, New Mexico 87109

Re: Routine Analysis
Work Order: 20534
SDG: 2210315

Dear Mr. Freeman:

Cape Fear Analytical LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on October 07, 2022. This original data report has been prepared and reviewed in accordance with CFA's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at 910-795-0421.

Sincerely,



Cynde Larkins
Project Manager

Purchase Order: IDIQ Pricing
Enclosures



CHAIN OF CUSTODY RECORD PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
 4901 Hawkins NE
 Albuquerque, NM 87109
 TEL: 505-345-3975
 FAX: 505-345-4107
 Website: www.hallenvironmental.com

CFA WO#20534

SUB CONTRACTOR: Cape Fear Analytical		COMPANY: Cape Fear Analytical		PHONE: (910) 795-0421	FAX:		
ADDRESS: 3306 Kitty Hawk Rd Ste 120				ACCOUNT #:	EMAIL:		
CITY, STATE, ZIP: Wilmington, NC 28405							
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2210315-001J	R6 North-20221005	1LAMGU	Aqueous	10/5/2022 12:15:00 PM	1	PCBs by 1668
2	2210315-002J	R6 South-20221006	1LAMGU	Aqueous	10/6/2022 9:05:00 AM	1	PCBs by 1668

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By: <i>isa</i>	Date: 10/6/2022	Time: 11:42 AM	Received By: <i>Cynde Jenkins</i>	Date: 07 OCT 22	Time: 0947	REPORT TRANSMITTAL DESIRED: <input type="checkbox"/> HARD COPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE FOR LAB USE ONLY Temp of samples <u>5.2</u> °C Attempt to Cool? <input checked="" type="checkbox"/> Comments: _____
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
TAT: Standard <input checked="" type="checkbox"/> RUSH Next BD <input type="checkbox"/> 2nd BD <input type="checkbox"/> 3rd BD <input type="checkbox"/>						

PCB Congeners Analysis

Case Narrative

**PCBC Case Narrative
Hall Environmental Analysis Laboratory (HALL)
SDG 2210315
Work Order 20534**

Method/Analysis Information

Product: PCB Congeners by EPA Method 1668A in Liquids
Analytical Method: EPA Method 1668A
Extraction Method: SW846 3520C
Analytical Batch Number: 51323
Clean Up Batch Number: 51322
Extraction Batch Number: 51321

Sample Analysis

Samples were received within temperature requirements at 5.2°C (20534001, 20534002). The following samples were analyzed using the analytical protocol as established in EPA Method 1668A:

Sample ID	Client ID
12033076	Method Blank (MB)
12033077	Laboratory Control Sample (LCS)
12033078	Laboratory Control Sample Duplicate (LCSD)
20534001	2210315-001J R6 North-20221005
20534002	2210315-002J R6 South-20221006

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by Cape Fear Analytical LLC (CFA) as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with CF-OA-E-003 REV# 10.

Raw data reports are processed and reviewed by the analyst using the TargetLynx software package.

Calibration Information

Initial Calibration

All initial calibration requirements have been met for this sample delivery group (SDG).

Continuing Calibration Verification (CCV) Requirements

All associated calibration verification standard(s) (ICV or CCV) met the acceptance criteria.

Quality Control (QC) Information

Certification Statement

The test results presented in this document are certified to meet all requirements of the 2009 TNI Standard.

Method Blank (MB) Statement

The MB(s) analyzed with this SDG met the acceptance criteria.

Surrogate Recoveries

All surrogate recoveries were within the established acceptance criteria for this SDG.

Laboratory Control Sample (LCS) Recovery

The LCS spike recoveries met the acceptance limits.

Laboratory Control Sample Duplicate (LCSD) Recovery

The LCSD spike recoveries met the acceptance limits.

LCS/LCSD Relative Percent Difference (RPD) Statement

The RPD(s) between the LCS and LCSD met the acceptance limits.

QC Sample Designation

A matrix spike and matrix spike duplicate analysis was not required for this SDG.

Technical Information

Holding Time Specifications

CFA assigns holding times based on the associated methodology, which assigns the date and time from sample collection. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification

All procedures were performed as stated in the SOP.

Sample Dilutions

The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis

Re-extractions or re-analyses were not required in this SDG.

Miscellaneous Information

Manual Integrations

Manual integrations were required for data files in this SDG. Certain standards and QC samples required manual integrations to correctly position the baseline as set in the calibration standard

injections. Where manual integrations were performed, copies of all manual integration peak profiles are included in the raw data section of this fraction.

System Configuration

This analysis was performed on the following instrument configuration:

Instrument ID	Instrument	System Configuration	Column ID	Column Description
HRP875_1	PCB Analysis	PCB Analysis	SPB-Octyl	30m x 0.25mm, 0.25um

Sample Data Summary

Cape Fear Analytical, LLC

3306 Kitty Hawk Road Suite 120, Wilmington, NC 28405 - (910) 795-0421 - www.capefearanalytical.com

Certificate of Analysis Report for

HALL001 Hall Environmental Analysis Laboratory

Client SDG: 2210315 CFA Work Order: 20534

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- B The target analyte was detected in the associated blank.
- C Congener has coeluters. When Cxxx, refer to congener number xxx for data
- J Value is estimated
- U Analyte was analyzed for, but not detected above the specified detection limit.

Review/Validation

Cape Fear Analytical requires all analytical data to be verified by a qualified data reviewer.

The following data validator verified the information presented in this case narrative:

Signature:



Name: Alexis Finks

Date: 23 NOV 2022

Title: Data Validator

**PCB Congeners
Certificate of Analysis
Sample Summary**

Page 1 of 8

SDG Number: 2210315	Client: HALL001	Project: HALL00113
Lab Sample ID: 20534001	Date Collected: 10/05/2022 12:15	Matrix: WATER
Client Sample: 1668A Water	Date Received: 10/07/2022 09:47	
Client ID: 2210315-001J R6 North-20221005		Prep Basis: As Received
Batch ID: 51323	Method: EPA Method 1668A	
Run Date: 11/11/2022 21:11	Analyst: MLL	Instrument: HRP875
Data File: d08nov22a_7-9		Dilution: 1
Prep Batch: 51321	Prep Method: SW846 3520C	Prep SOP Ref: CF-OA-E-001
Prep Date: 02-NOV-22	Prep Aliquot: 876.4 mL	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB	U	ND	pg/L	6.00	114
2051-61-8	2-MoCB	U	ND	pg/L	7.44	114
2051-62-9	3-MoCB	U	ND	pg/L	4.95	114
13029-08-8	4-DiCB	U	ND	pg/L	14.3	114
16605-91-7	5-DiCB	U	ND	pg/L	11.3	114
25569-80-6	6-DiCB	U	ND	pg/L	8.42	114
33284-50-3	7-DiCB	U	ND	pg/L	8.40	114
34883-43-7	8-DiCB	U	ND	pg/L	7.33	114
34883-39-1	9-DiCB	U	ND	pg/L	10.8	114
33146-45-1	10-DiCB	U	ND	pg/L	7.01	114
2050-67-1	11-DiCB	J	33.7	pg/L	9.79	114
2974-92-7	12-DiCB	CU	ND	pg/L	9.11	228
2974-90-5	13-DiCB	C12				
34883-41-5	14-DiCB	U	ND	pg/L	9.15	114
2050-68-2	15-DiCB	U	ND	pg/L	12.1	114
38444-78-9	16-TrCB	U	ND	pg/L	3.99	114
37680-66-3	17-TrCB	U	ND	pg/L	4.79	114
37680-65-2	18-TrCB	CJ	6.39	pg/L	4.13	228
38444-73-4	19-TrCB	U	ND	pg/L	5.75	114
38444-84-7	20-TrCB	BCJ	11.3	pg/L	3.58	228
55702-46-0	21-TrCB	CU	ND	pg/L	3.13	228
38444-85-8	22-TrCB	J	4.47	pg/L	3.54	114
55720-44-0	23-TrCB	U	ND	pg/L	3.31	114
55702-45-9	24-TrCB	U	ND	pg/L	4.40	114
55712-37-3	25-TrCB	U	ND	pg/L	2.97	114
38444-81-4	26-TrCB	CU	ND	pg/L	3.45	228
38444-76-7	27-TrCB	U	ND	pg/L	3.72	114
7012-37-5	28-TrCB	C20				
15862-07-4	29-TrCB	C26				
35693-92-6	30-TrCB	C18				
16606-02-3	31-TrCB	U	ND	pg/L	6.60	114
38444-77-8	32-TrCB	U	ND	pg/L	3.29	114

Comments:

- B** The target analyte was detected in the associated blank.
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**PCB Congeners
Certificate of Analysis
Sample Summary**

SDG Number: 2210315	Client: HALL001	Project: HALL00113
Lab Sample ID: 20534001	Date Collected: 10/05/2022 12:15	Matrix: WATER
Client Sample: 1668A Water	Date Received: 10/07/2022 09:47	
Client ID: 2210315-001J R6 North-20221005		Prep Basis: As Received
Batch ID: 51323	Method: EPA Method 1668A	
Run Date: 11/11/2022 21:11	Analyst: MLL	Instrument: HRP875
Data File: d08nov22a_7-9		Dilution: 1
Prep Batch: 51321	Prep Method: SW846 3520C	Prep SOP Ref: CF-OA-E-001
Prep Date: 02-NOV-22	Prep Aliquot: 876.4 mL	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
38444-86-9	33-TrCB	C21				
37680-68-5	34-TrCB	U	ND	pg/L	3.86	114
37680-69-6	35-TrCB	U	ND	pg/L	4.70	114
38444-87-0	36-TrCB	U	ND	pg/L	4.11	114
38444-90-5	37-TrCB	U	ND	pg/L	4.11	114
53555-66-1	38-TrCB	U	ND	pg/L	4.61	114
38444-88-1	39-TrCB	U	ND	pg/L	4.70	114
38444-93-8	40-TeCB	CU	ND	pg/L	5.59	228
52663-59-9	41-TeCB	U	ND	pg/L	9.04	114
36559-22-5	42-TeCB	U	ND	pg/L	5.80	114
70362-46-8	43-TeCB	U	ND	pg/L	7.17	114
41464-39-5	44-TeCB	CU	ND	pg/L	8.26	342
70362-45-7	45-TeCB	CJ	4.22	pg/L	2.65	228
41464-47-5	46-TeCB	U	ND	pg/L	2.58	114
2437-79-8	47-TeCB	C44				
70362-47-9	48-TeCB	U	ND	pg/L	6.16	114
41464-40-8	49-TeCB	CU	ND	pg/L	5.00	228
62796-65-0	50-TeCB	CU	ND	pg/L	2.51	228
68194-04-7	51-TeCB	C45				
35693-99-3	52-TeCB	BJ	8.44	pg/L	6.69	228
41464-41-9	53-TeCB	C50				
15968-05-5	54-TeCB	U	ND	pg/L	1.89	114
74338-24-2	55-TeCB	U	ND	pg/L	3.77	114
41464-43-1	56-TeCB	U	ND	pg/L	3.97	114
70424-67-8	57-TeCB	U	ND	pg/L	3.61	114
41464-49-7	58-TeCB	U	ND	pg/L	3.70	114
74472-33-6	59-TeCB	CU	ND	pg/L	4.61	342
33025-41-1	60-TeCB	U	ND	pg/L	3.81	114
33284-53-6	61-TeCB	CU	ND	pg/L	11.1	456
54230-22-7	62-TeCB	C59				
74472-34-7	63-TeCB	U	ND	pg/L	3.70	114
52663-58-8	64-TeCB	U	ND	pg/L	4.47	114

Comments:

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**PCB Congeners
Certificate of Analysis
Sample Summary**

Page 3 of 8

SDG Number: 2210315	Client: HALL001	Project: HALL00113
Lab Sample ID: 20534001	Date Collected: 10/05/2022 12:15	Matrix: WATER
Client Sample: 1668A Water	Date Received: 10/07/2022 09:47	
Client ID: 2210315-001J R6 North-20221005		Prep Basis: As Received
Batch ID: 51323	Method: EPA Method 1668A	
Run Date: 11/11/2022 21:11	Analyst: MLL	Instrument: HRP875
Data File: d08nov22a_7-9		Dilution: 1
Prep Batch: 51321	Prep Method: SW846 3520C	Prep SOP Ref: CF-OA-E-001
Prep Date: 02-NOV-22	Prep Aliquot: 876.4 mL	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
33284-54-7	65-TeCB	C44				
32598-10-0	66-TeCB	J	4.52	pg/L	3.95	114
73575-53-8	67-TeCB	U	ND	pg/L	3.08	114
73575-52-7	68-TeCB	U	ND	pg/L	3.35	114
60233-24-1	69-TeCB	C49				
32598-11-1	70-TeCB	C61				
41464-46-4	71-TeCB	C40				
41464-42-0	72-TeCB	U	ND	pg/L	3.63	114
74338-23-1	73-TeCB	U	ND	pg/L	4.27	114
32690-93-0	74-TeCB	C61				
32598-12-2	75-TeCB	C59				
70362-48-0	76-TeCB	C61				
32598-13-3	77-TeCB	U	ND	pg/L	3.72	114
70362-49-1	78-TeCB	U	ND	pg/L	4.56	114
41464-48-6	79-TeCB	U	ND	pg/L	3.51	114
33284-52-5	80-TeCB	U	ND	pg/L	3.31	114
70362-50-4	81-TeCB	U	ND	pg/L	3.47	114
52663-62-4	82-PeCB	U	ND	pg/L	5.04	114
60145-20-2	83-PeCB	U	ND	pg/L	5.77	114
52663-60-2	84-PeCB	U	ND	pg/L	4.27	114
65510-45-4	85-PeCB	CU	ND	pg/L	3.56	342
55312-69-1	86-PeCB	BCJ	7.80	pg/L	3.61	685
38380-02-8	87-PeCB	C86				
55215-17-3	88-PeCB	CU	ND	pg/L	4.31	228
73575-57-2	89-PeCB	U	ND	pg/L	4.95	114
68194-07-0	90-PeCB	CU	ND	pg/L	7.17	342
68194-05-8	91-PeCB	C88				
52663-61-3	92-PeCB	U	ND	pg/L	4.75	114
73575-56-1	93-PeCB	CU	ND	pg/L	3.95	228
73575-55-0	94-PeCB	U	ND	pg/L	4.02	114
38379-99-6	95-PeCB	U	ND	pg/L	4.47	114
73575-54-9	96-PeCB	U	ND	pg/L	2.53	114

Comments:

- B** The target analyte was detected in the associated blank.
- C** Congener has coeluters. When Cxxx, refer to congener number xxx for data
- J** Value is estimated
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**PCB Congeners
Certificate of Analysis
Sample Summary**

Page 4 of 8

SDG Number: 2210315	Client: HALL001	Project: HALL00113
Lab Sample ID: 20534001	Date Collected: 10/05/2022 12:15	Matrix: WATER
Client Sample: 1668A Water	Date Received: 10/07/2022 09:47	
Client ID: 2210315-001J R6 North-20221005		Prep Basis: As Received
Batch ID: 51323	Method: EPA Method 1668A	
Run Date: 11/11/2022 21:11	Analyst: MLL	Instrument: HRP875
Data File: d08nov22a_7-9		Dilution: 1
Prep Batch: 51321	Prep Method: SW846 3520C	Prep SOP Ref: CF-OA-E-001
Prep Date: 02-NOV-22	Prep Aliquot: 876.4 mL	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
41464-51-1	97-PeCB	C86				
60233-25-2	98-PeCB	CU	ND	pg/L	3.86	228
38380-01-7	99-PeCB	U	ND	pg/L	3.81	114
39485-83-1	100-PeCB	C93				
37680-73-2	101-PeCB	C90				
68194-06-9	102-PeCB	C98				
60145-21-3	103-PeCB	U	ND	pg/L	4.06	114
56558-16-8	104-PeCB	U	ND	pg/L	2.01	114
32598-14-4	105-PeCB	U	ND	pg/L	4.08	114
70424-69-0	106-PeCB	U	ND	pg/L	4.13	114
70424-68-9	107-PeCB	U	ND	pg/L	3.42	114
70362-41-3	108-PeCB	CU	ND	pg/L	4.20	228
74472-35-8	109-PeCB	C86				
38380-03-9	110-PeCB	CJ	6.91	pg/L	3.31	228
39635-32-0	111-PeCB	U	ND	pg/L	3.15	114
74472-36-9	112-PeCB	U	ND	pg/L	2.85	114
68194-10-5	113-PeCB	C90				
74472-37-0	114-PeCB	U	ND	pg/L	3.72	114
74472-38-1	115-PeCB	C110				
18259-05-7	116-PeCB	C85				
68194-11-6	117-PeCB	C85				
31508-00-6	118-PeCB	U	ND	pg/L	5.41	114
56558-17-9	119-PeCB	C86				
68194-12-7	120-PeCB	U	ND	pg/L	3.33	114
56558-18-0	121-PeCB	U	ND	pg/L	2.99	114
76842-07-4	122-PeCB	U	ND	pg/L	5.39	114
65510-44-3	123-PeCB	U	ND	pg/L	3.42	114
70424-70-3	124-PeCB	C108				
74472-39-2	125-PeCB	C86				
57465-28-8	126-PeCB	U	ND	pg/L	4.52	114
39635-33-1	127-PeCB	U	ND	pg/L	4.47	114
38380-07-3	128-HxCB	CU	ND	pg/L	3.93	228

Comments:

- B** The target analyte was detected in the associated blank.
- C** Congener has coeluters. When Cxxx, refer to congener number xxx for data
- J** Value is estimated
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**PCB Congeners
Certificate of Analysis
Sample Summary**

Page 5 of 8

SDG Number: 2210315
 Lab Sample ID: 20534001
 Client Sample: 1668A Water
 Client ID: 2210315-001J R6 North-20221005
 Batch ID: 51323
 Run Date: 11/11/2022 21:11
 Data File: d08nov22a_7-9
 Prep Batch: 51321
 Prep Date: 02-NOV-22

Client: HALL001
 Date Collected: 10/05/2022 12:15
 Date Received: 10/07/2022 09:47
 Method: EPA Method 1668A
 Analyst: MLL
 Prep Method: SW846 3520C
 Prep Aliquot: 876.4 mL

Project: HALL00113
 Matrix: WATER
 Prep Basis: As Received
 Instrument: HRP875
 Dilution: 1
 Prep SOP Ref: CF-OA-E-001

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
55215-18-4	129-HxCB	CJ	9.97	pg/L	4.27	342
52663-66-8	130-HxCB	U	ND	pg/L	4.95	114
61798-70-7	131-HxCB	U	ND	pg/L	4.88	114
38380-05-1	132-HxCB	U	ND	pg/L	4.59	114
35694-04-3	133-HxCB	U	ND	pg/L	4.70	114
52704-70-8	134-HxCB	U	ND	pg/L	5.16	114
52744-13-5	135-HxCB	CJ	5.18	pg/L	3.42	228
38411-22-2	136-HxCB	U	ND	pg/L	2.49	114
35694-06-5	137-HxCB	U	ND	pg/L	4.77	114
35065-28-2	138-HxCB	C129				
56030-56-9	139-HxCB	CU	ND	pg/L	3.99	228
59291-64-4	140-HxCB	C139				
52712-04-6	141-HxCB	U	ND	pg/L	4.04	114
41411-61-4	142-HxCB	U	ND	pg/L	4.86	114
68194-15-0	143-HxCB	U	ND	pg/L	4.56	114
68194-14-9	144-HxCB	U	ND	pg/L	3.38	114
74472-40-5	145-HxCB	U	ND	pg/L	2.35	114
51908-16-8	146-HxCB	U	ND	pg/L	3.90	114
68194-13-8	147-HxCB	CJ	5.73	pg/L	3.88	228
74472-41-6	148-HxCB	U	ND	pg/L	3.26	114
38380-04-0	149-HxCB	C147				
68194-08-1	150-HxCB	U	ND	pg/L	2.19	114
52663-63-5	151-HxCB	C135				
68194-09-2	152-HxCB	U	ND	pg/L	2.44	114
35065-27-1	153-HxCB	BCJ	6.71	pg/L	3.56	228
60145-22-4	154-HxCB	U	ND	pg/L	2.65	114
33979-03-2	155-HxCB	U	ND	pg/L	1.87	114
38380-08-4	156-HxCB	CU	ND	pg/L	3.40	228
69782-90-7	157-HxCB	C156				
74472-42-7	158-HxCB	U	ND	pg/L	2.97	114
39635-35-3	159-HxCB	U	ND	pg/L	2.81	114
41411-62-5	160-HxCB	U	ND	pg/L	3.63	114

Comments:

- B** The target analyte was detected in the associated blank.
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J Value is estimated
U Analyte was analyzed for, but not detected above the specified detection limit.

**PCB Congeners
Certificate of Analysis
Sample Summary**

Page 6 of 8

SDG Number: 2210315	Client: HALL001	Project: HALL00113
Lab Sample ID: 20534001	Date Collected: 10/05/2022 12:15	Matrix: WATER
Client Sample: 1668A Water	Date Received: 10/07/2022 09:47	
Client ID: 2210315-001J R6 North-20221005		Prep Basis: As Received
Batch ID: 51323	Method: EPA Method 1668A	
Run Date: 11/11/2022 21:11	Analyst: MLL	Instrument: HRP875
Data File: d08nov22a_7-9		Dilution: 1
Prep Batch: 51321	Prep Method: SW846 3520C	Prep SOP Ref: CF-OA-E-001
Prep Date: 02-NOV-22	Prep Aliquot: 876.4 mL	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
74472-43-8	161-HxCB	U	ND	pg/L	3.26	114
39635-34-2	162-HxCB	U	ND	pg/L	2.78	114
74472-44-9	163-HxCB	C129				
74472-45-0	164-HxCB	U	ND	pg/L	3.10	114
74472-46-1	165-HxCB	U	ND	pg/L	3.63	114
41411-63-6	166-HxCB	C128				
52663-72-6	167-HxCB	U	ND	pg/L	2.42	114
59291-65-5	168-HxCB	C153				
32774-16-6	169-HxCB	U	ND	pg/L	3.01	114
35065-30-6	170-HpCB	U	ND	pg/L	3.67	114
52663-71-5	171-HpCB	CU	ND	pg/L	3.56	228
52663-74-8	172-HpCB	U	ND	pg/L	3.65	114
68194-16-1	173-HpCB	C171				
38411-25-5	174-HpCB	U	ND	pg/L	3.95	114
40186-70-7	175-HpCB	U	ND	pg/L	3.19	114
52663-65-7	176-HpCB	U	ND	pg/L	2.46	114
52663-70-4	177-HpCB	U	ND	pg/L	3.61	114
52663-67-9	178-HpCB	U	ND	pg/L	3.51	114
52663-64-6	179-HpCB	U	ND	pg/L	2.37	114
35065-29-3	180-HpCB	CU	ND	pg/L	5.77	228
74472-47-2	181-HpCB	U	ND	pg/L	3.45	114
60145-23-5	182-HpCB	U	ND	pg/L	3.08	114
52663-69-1	183-HpCB	CJ	3.54	pg/L	3.26	228
74472-48-3	184-HpCB	U	ND	pg/L	2.33	114
52712-05-7	185-HpCB	C183				
74472-49-4	186-HpCB	U	ND	pg/L	2.49	114
52663-68-0	187-HpCB	J	3.13	pg/L	3.08	114
74487-85-7	188-HpCB	U	ND	pg/L	2.19	114
39635-31-9	189-HpCB	U	ND	pg/L	2.56	114
41411-64-7	190-HpCB	U	ND	pg/L	2.85	114
74472-50-7	191-HpCB	U	ND	pg/L	2.65	114
74472-51-8	192-HpCB	U	ND	pg/L	2.94	114

Comments:

- B** The target analyte was detected in the associated blank.
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- J** Value is estimated
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PCB Congeners
Certificate of Analysis
Sample Summary

Page 7 of 8

SDG Number: 2210315
Lab Sample ID: 20534001
Client Sample: 1668A Water
Client ID: 2210315-001J R6 North-20221005
Batch ID: 51323
Run Date: 11/11/2022 21:11
Data File: d08nov22a_7-9
Prep Batch: 51321
Prep Date: 02-NOV-22

Client: HALL001
Date Collected: 10/05/2022 12:15
Date Received: 10/07/2022 09:47
Method: EPA Method 1668A
Analyst: MLL
Prep Method: SW846 3520C
Prep Aliquot: 876.4 mL

Project: HALL00113
Matrix: WATER
Prep Basis: As Received
Instrument: HRP875
Dilution: 1
Prep SOP Ref: CF-OA-E-001

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
69782-91-8	193-HpCB	C180				
35694-08-7	194-OcCB	U	ND	pg/L	4.06	114
52663-78-2	195-OcCB	U	ND	pg/L	2.74	114
42740-50-1	196-OcCB	U	ND	pg/L	3.04	114
33091-17-7	197-OcCB	CJ	3.10	pg/L	2.33	228
68194-17-2	198-OcCB	CJ	4.91	pg/L	3.26	228
52663-75-9	199-OcCB	C198				
52663-73-7	200-OcCB	C197				
40186-71-8	201-OcCB	U	ND	pg/L	2.17	114
2136-99-4	202-OcCB	U	ND	pg/L	2.35	114
52663-76-0	203-OcCB	U	ND	pg/L	3.10	114
74472-52-9	204-OcCB	U	ND	pg/L	2.24	114
74472-53-0	205-OcCB	U	ND	pg/L	1.94	114
40186-72-9	206-NoCB	U	ND	pg/L	4.06	114
52663-79-3	207-NoCB	U	ND	pg/L	2.81	114
52663-77-1	208-NoCB	U	ND	pg/L	2.42	114
2051-24-3	209-DeCB	U	ND	pg/L	3.01	114
1336-36-3	Total PCB Congeners	J	130	pg/L		114

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		896	2280	pg/L	39.3	(15%-150%)
13C-3-MoCB		1040	2280	pg/L	45.7	(15%-150%)
13C-4-DiCB		1100	2280	pg/L	48.0	(25%-150%)
13C-15-DiCB		1650	2280	pg/L	72.2	(25%-150%)
13C-19-TrCB		1390	2280	pg/L	61.0	(25%-150%)
13C-37-TrCB		1450	2280	pg/L	63.6	(25%-150%)
13C-54-TeCB		1430	2280	pg/L	62.6	(25%-150%)
13C-77-TeCB		1840	2280	pg/L	80.8	(25%-150%)
13C-81-TeCB		1900	2280	pg/L	83.2	(25%-150%)
13C-104-PeCB		1320	2280	pg/L	57.7	(25%-150%)
13C-105-PeCB		1480	2280	pg/L	64.7	(25%-150%)
13C-114-PeCB		1470	2280	pg/L	64.4	(25%-150%)
13C-118-PeCB		1370	2280	pg/L	60.1	(25%-150%)
13C-123-PeCB		1590	2280	pg/L	69.5	(25%-150%)
13C-126-PeCB		1530	2280	pg/L	66.9	(25%-150%)
13C-155-HxCB		1480	2280	pg/L	64.7	(25%-150%)
13C-156-HxCB	C	2990	4560	pg/L	65.5	(25%-150%)
13C-157-HxCB	C156L					
13C-167-HxCB		1470	2280	pg/L	64.6	(25%-150%)
13C-169-HxCB		1480	2280	pg/L	64.7	(25%-150%)
13C-188-HpCB		1490	2280	pg/L	65.2	(25%-150%)
13C-189-HpCB		1480	2280	pg/L	64.9	(25%-150%)

**PCB Congeners
Certificate of Analysis
Sample Summary**

Page 8 of 8

SDG Number: 2210315	Client: HALL001	Project: HALL00113
Lab Sample ID: 20534001	Date Collected: 10/05/2022 12:15	Matrix: WATER
Client Sample: 1668A Water	Date Received: 10/07/2022 09:47	
Client ID: 2210315-001J R6 North-20221005		Prep Basis: As Received
Batch ID: 51323	Method: EPA Method 1668A	
Run Date: 11/11/2022 21:11	Analyst: MLL	Instrument: HRP875
Data File: d08nov22a_7-9		Dilution: 1
Prep Batch: 51321	Prep Method: SW846 3520C	Prep SOP Ref: CF-OA-E-001
Prep Date: 02-NOV-22	Prep Aliquot: 876.4 mL	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL	
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-202-OcCB			1460	2280	pg/L	64.0	(25%-150%)
13C-205-OcCB			1780	2280	pg/L	78.1	(25%-150%)
13C-206-NoCB			1730	2280	pg/L	76.0	(25%-150%)
13C-208-NoCB			1670	2280	pg/L	73.1	(25%-150%)
13C-209-DeCB			1650	2280	pg/L	72.4	(25%-150%)
13C-28-TrCB			1610	2280	pg/L	70.7	(30%-135%)
13C-111-PeCB			1790	2280	pg/L	78.5	(30%-135%)
13C-178-HpCB			2090	2280	pg/L	91.6	(30%-135%)

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**PCB Congeners
Certificate of Analysis
Sample Summary**

Page 1 of 8

SDG Number: 2210315	Client: HALL001	Project: HALL00113
Lab Sample ID: 20534002	Date Collected: 10/06/2022 09:05	Matrix: WATER
Client Sample: 1668A Water	Date Received: 10/07/2022 09:47	
Client ID: 2210315-002J R6 South -20221006		Prep Basis: As Received
Batch ID: 51323	Method: EPA Method 1668A	
Run Date: 11/11/2022 22:21	Analyst: MLL	Instrument: HRP875
Data File: d08nov22a_7-10		Dilution: 1
Prep Batch: 51321	Prep Method: SW846 3520C	Prep SOP Ref: CF-OA-E-001
Prep Date: 02-NOV-22	Prep Aliquot: 952.9 mL	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB	U	ND	pg/L	6.23	105
2051-61-8	2-MoCB	U	ND	pg/L	7.85	105
2051-62-9	3-MoCB	U	ND	pg/L	5.33	105
13029-08-8	4-DiCB	U	ND	pg/L	12.7	105
16605-91-7	5-DiCB	U	ND	pg/L	11.7	105
25569-80-6	6-DiCB	U	ND	pg/L	8.73	105
33284-50-3	7-DiCB	U	ND	pg/L	8.69	105
34883-43-7	8-DiCB	U	ND	pg/L	7.60	105
34883-39-1	9-DiCB	U	ND	pg/L	11.2	105
33146-45-1	10-DiCB	U	ND	pg/L	6.40	105
2050-67-1	11-DiCB	J	86.7	pg/L	10.1	105
2974-92-7	12-DiCB	CU	ND	pg/L	9.42	210
2974-90-5	13-DiCB	C12				
34883-41-5	14-DiCB	U	ND	pg/L	9.49	105
2050-68-2	15-DiCB	U	ND	pg/L	15.0	105
38444-78-9	16-TrCB	U	ND	pg/L	4.32	105
37680-66-3	17-TrCB	U	ND	pg/L	5.18	105
37680-65-2	18-TrCB	CU	ND	pg/L	7.68	210
38444-73-4	19-TrCB	U	ND	pg/L	6.02	105
38444-84-7	20-TrCB	BCJ	16.7	pg/L	3.88	210
55702-46-0	21-TrCB	CU	ND	pg/L	6.86	210
38444-85-8	22-TrCB	U	ND	pg/L	6.59	105
55720-44-0	23-TrCB	U	ND	pg/L	3.59	105
55702-45-9	24-TrCB	U	ND	pg/L	4.76	105
55712-37-3	25-TrCB	U	ND	pg/L	3.21	105
38444-81-4	26-TrCB	CU	ND	pg/L	3.71	210
38444-76-7	27-TrCB	U	ND	pg/L	4.03	105
7012-37-5	28-TrCB	C20				
15862-07-4	29-TrCB	C26				
35693-92-6	30-TrCB	C18				
16606-02-3	31-TrCB	U	ND	pg/L	11.3	105
38444-77-8	32-TrCB	U	ND	pg/L	3.76	105

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**PCB Congeners
Certificate of Analysis
Sample Summary**

Page 2 of 8

SDG Number: 2210315	Client: HALL001	Project: HALL00113
Lab Sample ID: 20534002	Date Collected: 10/06/2022 09:05	Matrix: WATER
Client Sample: 1668A Water	Date Received: 10/07/2022 09:47	
Client ID: 2210315-002J R6 South -20221006		Prep Basis: As Received
Batch ID: 51323	Method: EPA Method 1668A	
Run Date: 11/11/2022 22:21	Analyst: MLL	Instrument: HRP875
Data File: d08nov22a_7-10		Dilution: 1
Prep Batch: 51321	Prep Method: SW846 3520C	Prep SOP Ref: CF-OA-E-001
Prep Date: 02-NOV-22	Prep Aliquot: 952.9 mL	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
38444-86-9	33-TrCB	C21				
37680-68-5	34-TrCB	U	ND	pg/L	4.18	105
37680-69-6	35-TrCB	U	ND	pg/L	6.57	105
38444-87-0	36-TrCB	U	ND	pg/L	5.71	105
38444-90-5	37-TrCB	J	7.98	pg/L	5.81	105
53555-66-1	38-TrCB	U	ND	pg/L	6.44	105
38444-88-1	39-TrCB	U	ND	pg/L	6.55	105
38444-93-8	40-TeCB	CU	ND	pg/L	5.79	210
52663-59-9	41-TeCB	U	ND	pg/L	9.78	105
36559-22-5	42-TeCB	U	ND	pg/L	6.28	105
70362-46-8	43-TeCB	U	ND	pg/L	7.77	105
41464-39-5	44-TeCB	CJ	18.1	pg/L	6.07	315
70362-45-7	45-TeCB	CJ	5.08	pg/L	3.25	210
41464-47-5	46-TeCB	U	ND	pg/L	3.17	105
2437-79-8	47-TeCB	C44				
70362-47-9	48-TeCB	U	ND	pg/L	6.67	105
41464-40-8	49-TeCB	CU	ND	pg/L	7.70	210
62796-65-0	50-TeCB	CU	ND	pg/L	3.30	210
68194-04-7	51-TeCB	C45				
35693-99-3	52-TeCB	BJ	25.7	pg/L	7.26	210
41464-41-9	53-TeCB	C50				
15968-05-5	54-TeCB	U	ND	pg/L	2.14	105
74338-24-2	55-TeCB	U	ND	pg/L	3.69	105
41464-43-1	56-TeCB	J	8.37	pg/L	3.92	105
70424-67-8	57-TeCB	U	ND	pg/L	3.57	105
41464-49-7	58-TeCB	U	ND	pg/L	3.65	105
74472-33-6	59-TeCB	CU	ND	pg/L	5.00	315
33025-41-1	60-TeCB	U	ND	pg/L	4.01	105
33284-53-6	61-TeCB	CU	ND	pg/L	33.6	420
54230-22-7	62-TeCB	C59				
74472-34-7	63-TeCB	U	ND	pg/L	3.63	105
52663-58-8	64-TeCB	J	8.08	pg/L	4.85	105

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**PCB Congeners
Certificate of Analysis
Sample Summary**

Page 3 of 8

SDG Number: 2210315	Client: HALL001	Project: HALL00113
Lab Sample ID: 20534002	Date Collected: 10/06/2022 09:05	Matrix: WATER
Client Sample: 1668A Water	Date Received: 10/07/2022 09:47	
Client ID: 2210315-002J R6 South -20221006		Prep Basis: As Received
Batch ID: 51323	Method: EPA Method 1668A	
Run Date: 11/11/2022 22:21	Analyst: MLL	Instrument: HRP875
Data File: d08nov22a_7-10		Dilution: 1
Prep Batch: 51321	Prep Method: SW846 3520C	Prep SOP Ref: CF-OA-E-001
Prep Date: 02-NOV-22	Prep Aliquot: 952.9 mL	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
33284-54-7	65-TeCB	C44				
32598-10-0	66-TeCB	J	12.8	pg/L	3.88	105
73575-53-8	67-TeCB	U	ND	pg/L	3.04	105
73575-52-7	68-TeCB	U	ND	pg/L	3.32	105
60233-24-1	69-TeCB	C49				
32598-11-1	70-TeCB	C61				
41464-46-4	71-TeCB	C40				
41464-42-0	72-TeCB	U	ND	pg/L	3.59	105
74338-23-1	73-TeCB	U	ND	pg/L	4.62	105
32690-93-0	74-TeCB	C61				
32598-12-2	75-TeCB	C59				
70362-48-0	76-TeCB	C61				
32598-13-3	77-TeCB	J	4.11	pg/L	3.80	105
70362-49-1	78-TeCB	U	ND	pg/L	4.49	105
41464-48-6	79-TeCB	U	ND	pg/L	3.46	105
33284-52-5	80-TeCB	U	ND	pg/L	3.27	105
70362-50-4	81-TeCB	U	ND	pg/L	3.51	105
52663-62-4	82-PeCB	U	ND	pg/L	7.64	105
60145-20-2	83-PeCB	U	ND	pg/L	8.73	105
52663-60-2	84-PeCB	J	9.00	pg/L	6.46	105
65510-45-4	85-PeCB	CJ	8.56	pg/L	5.39	315
55312-69-1	86-PeCB	BCJ	35.2	pg/L	5.48	630
38380-02-8	87-PeCB	C86				
55215-17-3	88-PeCB	CU	ND	pg/L	6.53	210
73575-57-2	89-PeCB	U	ND	pg/L	7.49	105
68194-07-0	90-PeCB	CJ	48.3	pg/L	5.56	315
68194-05-8	91-PeCB	C88				
52663-61-3	92-PeCB	J	8.54	pg/L	7.20	105
73575-56-1	93-PeCB	CU	ND	pg/L	5.98	210
73575-55-0	94-PeCB	U	ND	pg/L	6.09	105
38379-99-6	95-PeCB	J	37.5	pg/L	6.76	105
73575-54-9	96-PeCB	U	ND	pg/L	2.92	105

Comments:

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**PCB Congeners
Certificate of Analysis
Sample Summary**

Page 4 of 8

SDG Number: 2210315	Client: HALL001	Project: HALL00113
Lab Sample ID: 20534002	Date Collected: 10/06/2022 09:05	Matrix: WATER
Client Sample: 1668A Water	Date Received: 10/07/2022 09:47	
Client ID: 2210315-002J R6 South-20221006		Prep Basis: As Received
Batch ID: 51323	Method: EPA Method 1668A	
Run Date: 11/11/2022 22:21	Analyst: MLL	Instrument: HRP875
Data File: d08nov22a_7-10		Dilution: 1
Prep Batch: 51321	Prep Method: SW846 3520C	Prep SOP Ref: CF-OA-E-001
Prep Date: 02-NOV-22	Prep Aliquot: 952.9 mL	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
41464-51-1	97-PeCB	C86				
60233-25-2	98-PeCB	CU	ND	pg/L	5.83	210
38380-01-7	99-PeCB	J	14.9	pg/L	5.77	105
39485-83-1	100-PeCB	C93				
37680-73-2	101-PeCB	C90				
68194-06-9	102-PeCB	C98				
60145-21-3	103-PeCB	U	ND	pg/L	6.15	105
56558-16-8	104-PeCB	U	ND	pg/L	2.27	105
32598-14-4	105-PeCB	J	16.5	pg/L	4.47	105
70424-69-0	106-PeCB	U	ND	pg/L	4.83	105
70424-68-9	107-PeCB	U	ND	pg/L	4.30	105
70362-41-3	108-PeCB	CU	ND	pg/L	4.91	210
74472-35-8	109-PeCB	C86				
38380-03-9	110-PeCB	CJ	59.8	pg/L	5.02	210
39635-32-0	111-PeCB	U	ND	pg/L	4.76	105
74472-36-9	112-PeCB	U	ND	pg/L	4.32	105
68194-10-5	113-PeCB	C90				
74472-37-0	114-PeCB	U	ND	pg/L	4.37	105
74472-38-1	115-PeCB	C110				
18259-05-7	116-PeCB	C85				
68194-11-6	117-PeCB	C85				
31508-00-6	118-PeCB	BJ	43.2	pg/L	4.64	105
56558-17-9	119-PeCB	C86				
68194-12-7	120-PeCB	U	ND	pg/L	5.06	105
56558-18-0	121-PeCB	U	ND	pg/L	4.53	105
76842-07-4	122-PeCB	U	ND	pg/L	6.28	105
65510-44-3	123-PeCB	U	ND	pg/L	4.03	105
70424-70-3	124-PeCB	C108				
74472-39-2	125-PeCB	C86				
57465-28-8	126-PeCB	U	ND	pg/L	5.10	105
39635-33-1	127-PeCB	U	ND	pg/L	5.23	105
38380-07-3	128-HxCB	CJ	14.2	pg/L	7.35	210

Comments:

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PCB Congeners
Certificate of Analysis
Sample Summary

Page 5 of 8

SDG Number: 2210315
 Lab Sample ID: 20534002
 Client Sample: 1668A Water
 Client ID: 2210315-002J R6 South-20221006
 Batch ID: 51323
 Run Date: 11/11/2022 22:21
 Data File: d08nov22a_7-10
 Prep Batch: 51321
 Prep Date: 02-NOV-22

Client: HALL001
 Date Collected: 10/06/2022 09:05
 Date Received: 10/07/2022 09:47
 Method: EPA Method 1668A
 Analyst: MLL
 Prep Method: SW846 3520C
 Prep Aliquot: 952.9 mL

Project: HALL00113
 Matrix: WATER
 Prep Basis: As Received
 Instrument: HRP875
 Dilution: 1
 Prep SOP Ref: CF-OA-E-001

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
55215-18-4	129-HxCB	CJ	116	pg/L	8.00	315
52663-66-8	130-HxCB	U	ND	pg/L	9.23	105
61798-70-7	131-HxCB	U	ND	pg/L	9.15	105
38380-05-1	132-HxCB	J	30.4	pg/L	8.56	105
35694-04-3	133-HxCB	U	ND	pg/L	8.77	105
52704-70-8	134-HxCB	U	ND	pg/L	9.63	105
52744-13-5	135-HxCB	CJ	33.3	pg/L	4.64	210
38411-22-2	136-HxCB	J	10.7	pg/L	3.36	105
35694-06-5	137-HxCB	U	ND	pg/L	8.92	105
35065-28-2	138-HxCB	C129				
56030-56-9	139-HxCB	CU	ND	pg/L	7.49	210
59291-64-4	140-HxCB	C139				
52712-04-6	141-HxCB	J	20.9	pg/L	7.56	105
41411-61-4	142-HxCB	U	ND	pg/L	9.09	105
68194-15-0	143-HxCB	U	ND	pg/L	8.52	105
68194-14-9	144-HxCB	J	6.00	pg/L	4.55	105
74472-40-5	145-HxCB	U	ND	pg/L	3.19	105
51908-16-8	146-HxCB	U	ND	pg/L	13.1	105
68194-13-8	147-HxCB	CJ	68.6	pg/L	7.24	210
74472-41-6	148-HxCB	U	ND	pg/L	4.37	105
38380-04-0	149-HxCB	C147				
68194-08-1	150-HxCB	U	ND	pg/L	2.98	105
52663-63-5	151-HxCB	C135				
68194-09-2	152-HxCB	U	ND	pg/L	3.30	105
35065-27-1	153-HxCB	CJ	85.4	pg/L	6.67	210
60145-22-4	154-HxCB	U	ND	pg/L	3.61	105
33979-03-2	155-HxCB	U	ND	pg/L	2.67	105
38380-08-4	156-HxCB	CU	ND	pg/L	10.9	210
69782-90-7	157-HxCB	C156				
74472-42-7	158-HxCB	U	ND	pg/L	10.8	105
39635-35-3	159-HxCB	U	ND	pg/L	4.16	105
41411-62-5	160-HxCB	U	ND	pg/L	6.78	105

Comments:

- B** The target analyte was detected in the associated blank.
C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
U Analyte was analyzed for, but not detected above the specified detection limit.

**PCB Congeners
Certificate of Analysis
Sample Summary**

SDG Number: 2210315
Lab Sample ID: 20534002
Client Sample: 1668A Water
Client ID: 2210315-002J R6 South-20221006
Batch ID: 51323
Run Date: 11/11/2022 22:21
Data File: d08nov22a_7-10
Prep Batch: 51321
Prep Date: 02-NOV-22

Client: HALL001
Date Collected: 10/06/2022 09:05
Date Received: 10/07/2022 09:47
Method: EPA Method 1668A
Analyst: MLL
Prep Method: SW846 3520C
Prep Aliquot: 952.9 mL

Project: HALL00113
Matrix: WATER
Prep Basis: As Received
Instrument: HRP875
Dilution: 1
Prep SOP Ref: CF-OA-E-001

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
74472-43-8	161-HxCB	U	ND	pg/L	6.11	105
39635-34-2	162-HxCB	U	ND	pg/L	4.13	105
74472-44-9	163-HxCB	C129				
74472-45-0	164-HxCB	U	ND	pg/L	6.00	105
74472-46-1	165-HxCB	U	ND	pg/L	6.78	105
41411-63-6	166-HxCB	C128				
52663-72-6	167-HxCB	J	4.22	pg/L	3.65	105
59291-65-5	168-HxCB	C153				
32774-16-6	169-HxCB	U	ND	pg/L	4.37	105
35065-30-6	170-HpCB	J	32.8	pg/L	3.86	105
52663-71-5	171-HpCB	CU	ND	pg/L	10.5	210
52663-74-8	172-HpCB	J	6.23	pg/L	3.84	105
68194-16-1	173-HpCB	C171				
38411-25-5	174-HpCB	J	27.2	pg/L	3.38	105
40186-70-7	175-HpCB	U	ND	pg/L	3.40	105
52663-65-7	176-HpCB	U	ND	pg/L	3.74	105
52663-70-4	177-HpCB	U	ND	pg/L	18.2	105
52663-67-9	178-HpCB	U	ND	pg/L	8.50	105
52663-64-6	179-HpCB	J	12.2	pg/L	2.52	105
35065-29-3	180-HpCB	CJ	63.2	pg/L	3.09	210
74472-47-2	181-HpCB	U	ND	pg/L	3.63	105
60145-23-5	182-HpCB	U	ND	pg/L	3.27	105
52663-69-1	183-HpCB	CJ	19.3	pg/L	3.44	210
74472-48-3	184-HpCB	U	ND	pg/L	2.48	105
52712-05-7	185-HpCB	C183				
74472-49-4	186-HpCB	U	ND	pg/L	2.64	105
52663-68-0	187-HpCB	J	33.5	pg/L	3.25	105
74487-85-7	188-HpCB	U	ND	pg/L	2.35	105
39635-31-9	189-HpCB	J	3.21	pg/L	3.04	105
41411-64-7	190-HpCB	J	6.07	pg/L	3.00	105
74472-50-7	191-HpCB	U	ND	pg/L	2.79	105
74472-51-8	192-HpCB	U	ND	pg/L	3.13	105

Comments:

- B** The target analyte was detected in the associated blank.
- C** Congener has coeluters. When Cxxx, refer to congener number xxx for data
- J** Value is estimated
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**PCB Congeners
Certificate of Analysis
Sample Summary**

SDG Number: 2210315
 Lab Sample ID: 20534002
 Client Sample: 1668A Water
 Client ID: 2210315-002J R6 South-20221006
 Batch ID: 51323
 Run Date: 11/11/2022 22:21
 Data File: d08nov22a_7-10
 Prep Batch: 51321
 Prep Date: 02-NOV-22

Client: HALL001
 Date Collected: 10/06/2022 09:05
 Date Received: 10/07/2022 09:47
 Method: EPA Method 1668A
 Analyst: MLL
 Prep Method: SW846 3520C
 Prep Aliquot: 952.9 mL

Project: HALL00113
 Matrix: WATER
 Prep Basis: As Received
 Instrument: HRP875
 Dilution: 1
 Prep SOP Ref: CF-OA-E-001

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
69782-91-8	193-HpCB	C180				
35694-08-7	194-OcCB	J	16.7	pg/L	3.15	105
52663-78-2	195-OcCB	U	ND	pg/L	6.67	105
42740-50-1	196-OcCB	U	ND	pg/L	8.71	105
33091-17-7	197-OcCB	CU	ND	pg/L	3.97	210
68194-17-2	198-OcCB	CU	ND	pg/L	16.3	210
52663-75-9	199-OcCB	C198				
52663-73-7	200-OcCB	C197				
40186-71-8	201-OcCB	U	ND	pg/L	2.92	105
2136-99-4	202-OcCB	U	ND	pg/L	3.61	105
52663-76-0	203-OcCB	J	9.93	pg/L	4.20	105
74472-52-9	204-OcCB	U	ND	pg/L	3.00	105
74472-53-0	205-OcCB	U	ND	pg/L	2.22	105
40186-72-9	206-NoCB	J	8.02	pg/L	3.82	105
52663-79-3	207-NoCB	U	ND	pg/L	2.85	105
52663-77-1	208-NoCB	U	ND	pg/L	2.98	105
2051-24-3	209-DeCB	U	ND	pg/L	5.18	105
1336-36-3	Total PCB Congeners	J	1100	pg/L		105

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		886	2100	pg/L	42.2	(15%-150%)
13C-3-MoCB		1020	2100	pg/L	48.7	(15%-150%)
13C-4-DiCB		1130	2100	pg/L	53.8	(25%-150%)
13C-15-DiCB		1550	2100	pg/L	73.8	(25%-150%)
13C-19-TrCB		1330	2100	pg/L	63.5	(25%-150%)
13C-37-TrCB		1380	2100	pg/L	65.7	(25%-150%)
13C-54-TeCB		1390	2100	pg/L	66.4	(25%-150%)
13C-77-TeCB		1680	2100	pg/L	79.8	(25%-150%)
13C-81-TeCB		1770	2100	pg/L	84.2	(25%-150%)
13C-104-PeCB		1260	2100	pg/L	60.2	(25%-150%)
13C-105-PeCB		1460	2100	pg/L	69.7	(25%-150%)
13C-114-PeCB		1400	2100	pg/L	66.6	(25%-150%)
13C-118-PeCB		1310	2100	pg/L	62.5	(25%-150%)
13C-123-PeCB		1510	2100	pg/L	71.8	(25%-150%)
13C-126-PeCB		1520	2100	pg/L	72.5	(25%-150%)
13C-155-HxCB		1270	2100	pg/L	60.3	(25%-150%)
13C-156-HxCB	C	2670	4200	pg/L	63.5	(25%-150%)
13C-157-HxCB	C156L					
13C-167-HxCB		1310	2100	pg/L	62.3	(25%-150%)
13C-169-HxCB		1300	2100	pg/L	62.1	(25%-150%)
13C-188-HpCB		1280	2100	pg/L	61.1	(25%-150%)
13C-189-HpCB		1330	2100	pg/L	63.3	(25%-150%)

**PCB Congeners
Certificate of Analysis
Sample Summary**

SDG Number: 2210315	Client: HALL001	Project: HALL00113
Lab Sample ID: 20534002	Date Collected: 10/06/2022 09:05	Matrix: WATER
Client Sample: 1668A Water	Date Received: 10/07/2022 09:47	
Client ID: 2210315-002J R6 South-20221006		Prep Basis: As Received
Batch ID: 51323	Method: EPA Method 1668A	
Run Date: 11/11/2022 22:21	Analyst: MLL	Instrument: HRP875
Data File: d08nov22a_7-10		Dilution: 1
Prep Batch: 51321	Prep Method: SW846 3520C	Prep SOP Ref: CF-OA-E-001
Prep Date: 02-NOV-22	Prep Aliquot: 952.9 mL	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
Surrogate/Tracer recovery						
		Qual	Result	Nominal	Units	Recovery%
						Acceptable Limits
13C-202-OcCB			1260	2100	pg/L	60.1 (25%-150%)
13C-205-OcCB			1590	2100	pg/L	75.6 (25%-150%)
13C-206-NoCB			1610	2100	pg/L	76.8 (25%-150%)
13C-208-NoCB			1420	2100	pg/L	67.8 (25%-150%)
13C-209-DeCB			1590	2100	pg/L	75.8 (25%-150%)
13C-28-TrCB			1570	2100	pg/L	75.0 (30%-135%)
13C-111-PeCB			1650	2100	pg/L	78.5 (30%-135%)
13C-178-HpCB			1800	2100	pg/L	85.9 (30%-135%)

Comments:

- B** The target analyte was detected in the associated blank.
- C** Congener has coeluters. When Cxxx, refer to congener number xxx for data
- J** Value is estimated
- U** Analyte was analyzed for, but not detected above the specified detection limit.

Quality Control Summary

PCB Congeners
Surrogate Recovery Report

SDG Number: 2210315

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12033077	LCS for batch 51321	13C-1-MoCB		37.9	(15%-140%)
		13C-3-MoCB		43.8	(15%-140%)
		13C-4-DiCB		43.3	(30%-140%)
		13C-15-DiCB		65.1	(30%-140%)
		13C-19-TrCB		53.6	(30%-140%)
		13C-37-TrCB		61.0	(30%-140%)
		13C-54-TeCB		51.6	(30%-140%)
		13C-77-TeCB		64.6	(30%-140%)
		13C-81-TeCB		66.8	(30%-140%)
		13C-104-PeCB		60.0	(30%-140%)
		13C-105-PeCB		57.4	(30%-140%)
		13C-114-PeCB		56.9	(30%-140%)
		13C-118-PeCB		50.5	(30%-140%)
		13C-123-PeCB		58.0	(30%-140%)
		13C-126-PeCB		65.6	(30%-140%)
		13C-155-HxCB		57.6	(30%-140%)
		13C-156-HxCB	C	65.3	(30%-140%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		65.4	(30%-140%)
		13C-169-HxCB		67.8	(30%-140%)
		13C-188-HpCB		56.5	(30%-140%)
		13C-189-HpCB		58.4	(30%-140%)
		13C-202-OcCB		61.1	(30%-140%)
		13C-205-OcCB		70.3	(30%-140%)
		13C-206-NoCB		69.1	(30%-140%)
		13C-208-NoCB		57.7	(30%-140%)
		13C-209-DeCB		68.4	(30%-140%)
		13C-28-TrCB		61.0	(40%-125%)
13C-111-PeCB		64.1	(40%-125%)		
13C-178-HpCB		73.2	(40%-125%)		
12033078	LCSD for batch 51321	13C-1-MoCB		27.2	(15%-140%)
		13C-3-MoCB		31.8	(15%-140%)
		13C-4-DiCB		32.8	(30%-140%)
		13C-15-DiCB		44.8	(30%-140%)
		13C-19-TrCB		41.9	(30%-140%)
		13C-37-TrCB		37.6	(30%-140%)
		13C-54-TeCB		37.5	(30%-140%)
		13C-77-TeCB		41.3	(30%-140%)
		13C-81-TeCB		43.7	(30%-140%)
		13C-104-PeCB		44.2	(30%-140%)
		13C-105-PeCB		43.2	(30%-140%)
		13C-114-PeCB		42.1	(30%-140%)
		13C-118-PeCB		38.2	(30%-140%)
		13C-123-PeCB		44.0	(30%-140%)
		13C-126-PeCB		42.9	(30%-140%)
		13C-155-HxCB		38.2	(30%-140%)
		13C-156-HxCB	C	41.2	(30%-140%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		41.8	(30%-140%)
		13C-169-HxCB		41.8	(30%-140%)
13C-188-HpCB		39.7	(30%-140%)		
13C-189-HpCB		40.8	(30%-140%)		

PCB Congeners
Surrogate Recovery Report

SDG Number: 2210315

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits	
12033078	LCSD for batch 51321	13C-202-OcCB		39.0	(30%-140%)	
		13C-205-OcCB		47.6	(30%-140%)	
		13C-206-NoCB		46.5	(30%-140%)	
		13C-208-NoCB		40.6	(30%-140%)	
		13C-209-DeCB		46.0	(30%-140%)	
		13C-28-TrCB		54.9	(40%-125%)	
		13C-111-PeCB		61.1	(40%-125%)	
		13C-178-HpCB		63.3	(40%-125%)	
12033076	MB for batch 51321	13C-1-MoCB		33.3	(15%-150%)	
		13C-3-MoCB		38.0	(15%-150%)	
		13C-4-DiCB		38.1	(25%-150%)	
		13C-15-DiCB		50.4	(25%-150%)	
		13C-19-TrCB		45.8	(25%-150%)	
		13C-37-TrCB		48.2	(25%-150%)	
		13C-54-TeCB		43.6	(25%-150%)	
		13C-77-TeCB		56.2	(25%-150%)	
		13C-81-TeCB		60.0	(25%-150%)	
		13C-104-PeCB		46.6	(25%-150%)	
		13C-105-PeCB		48.6	(25%-150%)	
		13C-114-PeCB		48.2	(25%-150%)	
		13C-118-PeCB		44.1	(25%-150%)	
		13C-123-PeCB		50.5	(25%-150%)	
		13C-126-PeCB		50.6	(25%-150%)	
		13C-155-HxCB		49.8	(25%-150%)	
		13C-156-HxCB		56.2	(25%-150%)	
		13C-157-HxCB	C			
		13C-167-HxCB	C156L		55.7	(25%-150%)
		13C-169-HxCB			57.1	(25%-150%)
		13C-188-HpCB			49.5	(25%-150%)
		13C-189-HpCB			51.5	(25%-150%)
		13C-202-OcCB			51.8	(25%-150%)
13C-205-OcCB			58.6	(25%-150%)		
13C-206-NoCB			57.5	(25%-150%)		
13C-208-NoCB			51.4	(25%-150%)		
13C-209-DeCB			57.7	(25%-150%)		
13C-28-TrCB			51.9	(30%-135%)		
13C-111-PeCB			55.2	(30%-135%)		
13C-178-HpCB			62.0	(30%-135%)		
20534001	2210315-001J R6 North-20221005	13C-1-MoCB		39.3	(15%-150%)	
		13C-3-MoCB		45.7	(15%-150%)	
		13C-4-DiCB		48.0	(25%-150%)	
		13C-15-DiCB		72.2	(25%-150%)	
		13C-19-TrCB		61.0	(25%-150%)	
		13C-37-TrCB		63.6	(25%-150%)	
		13C-54-TeCB		62.6	(25%-150%)	
		13C-77-TeCB		80.8	(25%-150%)	
		13C-81-TeCB		83.2	(25%-150%)	
		13C-104-PeCB		57.7	(25%-150%)	
		13C-105-PeCB		64.7	(25%-150%)	
		13C-114-PeCB		64.4	(25%-150%)	
		13C-118-PeCB		60.1	(25%-150%)	

PCB Congeners
Surrogate Recovery Report

SDG Number: 2210315

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
20534001	2210315-001J R6 North-20221005	13C-123-PeCB		69.5	(25%-150%)
		13C-126-PeCB		66.9	(25%-150%)
		13C-155-HxCB		64.7	(25%-150%)
		13C-156-HxCB	C	65.5	(25%-150%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		64.6	(25%-150%)
		13C-169-HxCB		64.7	(25%-150%)
		13C-188-HpCB		65.2	(25%-150%)
		13C-189-HpCB		64.9	(25%-150%)
		13C-202-OcCB		64.0	(25%-150%)
		13C-205-OcCB		78.1	(25%-150%)
		13C-206-NoCB		76.0	(25%-150%)
		13C-208-NoCB		73.1	(25%-150%)
		13C-209-DeCB		72.4	(25%-150%)
		13C-28-TrCB		70.7	(30%-135%)
		13C-111-PeCB		78.5	(30%-135%)
		13C-178-HpCB		91.6	(30%-135%)
20534002	2210315-002J R6 South-20221006	13C-1-MoCB		42.2	(15%-150%)
		13C-3-MoCB		48.7	(15%-150%)
		13C-4-DiCB		53.8	(25%-150%)
		13C-15-DiCB		73.8	(25%-150%)
		13C-19-TrCB		63.5	(25%-150%)
		13C-37-TrCB		65.7	(25%-150%)
		13C-54-TeCB		66.4	(25%-150%)
		13C-77-TeCB		79.8	(25%-150%)
		13C-81-TeCB		84.2	(25%-150%)
		13C-104-PeCB		60.2	(25%-150%)
		13C-105-PeCB		69.7	(25%-150%)
		13C-114-PeCB		66.6	(25%-150%)
		13C-118-PeCB		62.5	(25%-150%)
		13C-123-PeCB		71.8	(25%-150%)
		13C-126-PeCB		72.5	(25%-150%)
		13C-155-HxCB		60.3	(25%-150%)
		13C-156-HxCB	C	63.5	(25%-150%)
		13C-157-HxCB	C156L		
		13C-167-HxCB		62.3	(25%-150%)
		13C-169-HxCB		62.1	(25%-150%)
		13C-188-HpCB		61.1	(25%-150%)
		13C-189-HpCB		63.3	(25%-150%)
		13C-202-OcCB		60.1	(25%-150%)
13C-205-OcCB		75.6	(25%-150%)		
13C-206-NoCB		76.8	(25%-150%)		
13C-208-NoCB		67.8	(25%-150%)		
13C-209-DeCB		75.8	(25%-150%)		
13C-28-TrCB		75.0	(30%-135%)		
13C-111-PeCB		78.5	(30%-135%)		
13C-178-HpCB		85.9	(30%-135%)		

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

PCB Congeners
Quality Control Summary
Spike Recovery Report

SDG Number: 2210315
Client ID: LCS for batch 51321
Lab Sample ID: 12033077
Instrument: HRP875
Analyst: MLL

Sample Type: Laboratory Control Sample
Matrix: WATER
Analysis Date: 11/10/2022 12:14
Prep Batch ID: 51321
Batch ID: 51323

Dilution: 1

CAS No.	Parmname	Amount Added pg/L	Spike Conc. pg/L	Recovery %	Acceptance Limits
2051-60-7	LCS 1-MoCB	500	490	98.1	50-150
2051-62-9	LCS 3-MoCB	500	498	99.6	50-150
13029-08-8	LCS 4-DiCB	500	462	92.3	50-150
2050-68-2	LCS 15-DiCB	500	513	103	50-150
38444-73-4	LCS 19-TrCB	500	513	103	50-150
38444-90-5	LCS 37-TrCB	500	483	96.6	50-150
15968-05-5	LCS 54-TeCB	1000	1020	102	50-150
32598-13-3	LCS 77-TeCB	1000	977	97.7	50-150
70362-50-4	LCS 81-TeCB	1000	826	82.6	50-150
56558-16-8	LCS 104-PeCB	1000	1010	101	50-150
32598-14-4	LCS 105-PeCB	1000	924	92.4	50-150
74472-37-0	LCS 114-PeCB	1000	1040	104	50-150
31508-00-6	LCS 118-PeCB	1000	1110	111	50-150
65510-44-3	LCS 123-PeCB	1000	926	92.6	50-150
57465-28-8	LCS 126-PeCB	1000	993	99.3	50-150
33979-03-2	LCS 155-HxCB	1000	1000	100	50-150
38380-08-4	LCS 156-HxCB	2000	C 1980	98.9	50-150
69782-90-7	LCS 157-HxCB		C156		
52663-72-6	LCS 167-HxCB	1000	1000	100	50-150
32774-16-6	LCS 169-HxCB	1000	967	96.7	50-150
74487-85-7	LCS 188-HpCB	1000	997	99.7	50-150
39635-31-9	LCS 189-HpCB	1000	1010	101	50-150
2136-99-4	LCS 202-OcCB	1500	1620	108	50-150
74472-53-0	LCS 205-OcCB	1500	1450	96.4	50-150
40186-72-9	LCS 206-NoCB	1500	1490	99.3	50-150
52663-77-1	LCS 208-NoCB	1500	1590	106	50-150
2051-24-3	LCS 209-DeCB	1500	1430	95.4	50-150

PCB Congeners
Quality Control Summary
Spike Recovery Report

SDG Number: 2210315
Client ID: LCSD for batch 51321
Lab Sample ID: 12033078
Instrument: HRP875
Analyst: MLL

Sample Type: Laboratory Control Sample Duplicate
Matrix: WATER
Analysis Date: 11/10/2022 13:23
Prep Batch ID: 51321
Batch ID: 51323
Dilution: 1

CAS No.	Parmname	Amount Added pg/L	Spike Conc. pg/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
2051-60-7	LCSD 1-MoCB	500	443	88.5	50-150	10.2	0-20
2051-62-9	LCSD 3-MoCB	500	480	96	50-150	3.66	0-20
13029-08-8	LCSD 4-DiCB	500	425	85	50-150	8.22	0-20
2050-68-2	LCSD 15-DiCB	500	471	94.3	50-150	8.51	0-20
38444-73-4	LCSD 19-TrCB	500	473	94.5	50-150	8.26	0-20
38444-90-5	LCSD 37-TrCB	500	456	91.2	50-150	5.67	0-20
15968-05-5	LCSD 54-TeCB	1000	988	98.8	50-150	3.41	0-20
32598-13-3	LCSD 77-TeCB	1000	901	90.1	50-150	8.10	0-20
70362-50-4	LCSD 81-TeCB	1000	769	76.9	50-150	7.23	0-20
56558-16-8	LCSD 104-PeCB	1000	953	95.3	50-150	5.83	0-20
32598-14-4	LCSD 105-PeCB	1000	847	84.7	50-150	8.71	0-20
74472-37-0	LCSD 114-PeCB	1000	985	98.5	50-150	5.75	0-20
31508-00-6	LCSD 118-PeCB	1000	1010	101	50-150	9.72	0-20
65510-44-3	LCSD 123-PeCB	1000	818	81.8	50-150	12.3	0-20
57465-28-8	LCSD 126-PeCB	1000	947	94.7	50-150	4.74	0-20
33979-03-2	LCSD 155-HxCB	1000	941	94.1	50-150	6.09	0-20
38380-08-4	LCSD 156-HxCB	2000	1830	91.4	50-150	7.91	0-20
69782-90-7	LCSD 157-HxCB		C156				
52663-72-6	LCSD 167-HxCB	1000	933	93.3	50-150	7.24	0-20
32774-16-6	LCSD 169-HxCB	1000	907	90.7	50-150	6.37	0-20
74487-85-7	LCSD 188-HpCB	1000	909	90.9	50-150	9.26	0-20
39635-31-9	LCSD 189-HpCB	1000	895	89.5	50-150	12.1	0-20
2136-99-4	LCSD 202-OcCB	1500	1510	100	50-150	7.05	0-20
74472-53-0	LCSD 205-OcCB	1500	1340	89.4	50-150	7.52	0-20
40186-72-9	LCSD 206-NoCB	1500	1420	94.8	50-150	4.66	0-20
52663-77-1	LCSD 208-NoCB	1500	1530	102	50-150	4.20	0-20
2051-24-3	LCSD 209-DeCB	1500	1330	88.7	50-150	7.30	0-20

Method Blank Summary

Page 1 of 1

SDG Number: 2210315
Client ID: MB for batch 51321
Lab Sample ID: 12033076
Column:

Client: HALL001
Instrument ID: HRP875
Prep Date: 02-NOV-22

Matrix: WATER
Data File: d08nov22a_5-3
Analyzed: 11/10/22 14:33

This method blank applies to the following samples and quality control samples:

Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01 LCS for batch 51321	12033077	d08nov22a_5-1	11/10/22	1214
02 LCSD for batch 51321	12033078	d08nov22a_5-2	11/10/22	1323
03 2210315-001J R6 North-20221005	20534001	d08nov22a_7-9	11/11/22	2111
04 2210315-002J R6 South-20221006	20534002	d08nov22a_7-10	11/11/22	2221

**PCB Congeners
Certificate of Analysis
Sample Summary**

Page 1 of 8

SDG Number: 2210315	Client: HALL001	Project: HALL00113
Lab Sample ID: 12033076		Matrix: WATER
Client Sample: QC for batch 51321		
Client ID: MB for batch 51321		Prep Basis: As Received
Batch ID: 51323	Method: EPA Method 1668A	
Run Date: 11/10/2022 14:33	Analyst: MLL	Instrument: HRP875
Data File: d08nov22a_5-3		Dilution: 1
Prep Batch: 51321	Prep Method: SW846 3520C	Prep SOP Ref: CF-OA-E-001
Prep Date: 02-NOV-22	Prep Aliquot: 1000 mL	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB	U	ND	pg/L	4.24	100
2051-61-8	2-MoCB	U	ND	pg/L	4.84	100
2051-62-9	3-MoCB	U	ND	pg/L	3.80	100
13029-08-8	4-DiCB	U	ND	pg/L	11.4	100
16605-91-7	5-DiCB	U	ND	pg/L	9.04	100
25569-80-6	6-DiCB	U	ND	pg/L	7.52	100
33284-50-3	7-DiCB	U	ND	pg/L	7.66	100
34883-43-7	8-DiCB	U	ND	pg/L	6.54	100
34883-39-1	9-DiCB	U	ND	pg/L	8.86	100
33146-45-1	10-DiCB	U	ND	pg/L	6.40	100
2050-67-1	11-DiCB	U	ND	pg/L	58.1	100
2974-92-7	12-DiCB	CU	ND	pg/L	7.68	200
2974-90-5	13-DiCB	C12				
34883-41-5	14-DiCB	U	ND	pg/L	7.86	100
2050-68-2	15-DiCB	U	ND	pg/L	6.96	100
38444-78-9	16-TrCB	U	ND	pg/L	5.24	100
37680-66-3	17-TrCB	U	ND	pg/L	5.26	100
37680-65-2	18-TrCB	CU	ND	pg/L	4.46	200
38444-73-4	19-TrCB	U	ND	pg/L	5.52	100
38444-84-7	20-TrCB	CJ	5.80	pg/L	3.66	200
55702-46-0	21-TrCB	CU	ND	pg/L	3.52	200
38444-85-8	22-TrCB	U	ND	pg/L	3.82	100
55720-44-0	23-TrCB	U	ND	pg/L	3.82	100
55702-45-9	24-TrCB	U	ND	pg/L	4.22	100
55712-37-3	25-TrCB	U	ND	pg/L	3.36	100
38444-81-4	26-TrCB	CU	ND	pg/L	3.82	200
38444-76-7	27-TrCB	U	ND	pg/L	4.04	100
7012-37-5	28-TrCB	C20				
15862-07-4	29-TrCB	C26				
35693-92-6	30-TrCB	C18				
16606-02-3	31-TrCB	U	ND	pg/L	3.52	100
38444-77-8	32-TrCB	U	ND	pg/L	3.68	100

Comments:

- C** Congener has coeluters. When Cxxx, refer to congener number xxx for data
- J** Value is estimated
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**PCB Congeners
Certificate of Analysis
Sample Summary**

Page 2 of 8

SDG Number: 2210315	Client: HALL001	Project: HALL00113
Lab Sample ID: 12033076		Matrix: WATER
Client Sample: QC for batch 51321		
Client ID: MB for batch 51321		Prep Basis: As Received
Batch ID: 51323	Method: EPA Method 1668A	
Run Date: 11/10/2022 14:33	Analyst: MLL	Instrument: HRP875
Data File: d08nov22a_5-3		Dilution: 1
Prep Batch: 51321	Prep Method: SW846 3520C	Prep SOP Ref: CF-OA-E-001
Prep Date: 02-NOV-22	Prep Aliquot: 1000 mL	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
38444-86-9	33-TrCB	C21				
37680-68-5	34-TrCB	U	ND	pg/L	4.14	100
37680-69-6	35-TrCB	U	ND	pg/L	5.24	100
38444-87-0	36-TrCB	U	ND	pg/L	4.62	100
38444-90-5	37-TrCB	U	ND	pg/L	4.66	100
53555-66-1	38-TrCB	U	ND	pg/L	5.26	100
38444-88-1	39-TrCB	U	ND	pg/L	5.12	100
38444-93-8	40-TeCB	CU	ND	pg/L	4.88	200
52663-59-9	41-TeCB	U	ND	pg/L	6.64	100
36559-22-5	42-TeCB	U	ND	pg/L	5.40	100
70362-46-8	43-TeCB	U	ND	pg/L	6.46	100
41464-39-5	44-TeCB	CU	ND	pg/L	6.04	300
70362-45-7	45-TeCB	CU	ND	pg/L	3.42	200
41464-47-5	46-TeCB	U	ND	pg/L	3.54	100
2437-79-8	47-TeCB	C44				
70362-47-9	48-TeCB	U	ND	pg/L	5.38	100
41464-40-8	49-TeCB	CU	ND	pg/L	4.44	200
62796-65-0	50-TeCB	CU	ND	pg/L	3.34	200
68194-04-7	51-TeCB	C45				
35693-99-3	52-TeCB	J	8.28	pg/L	5.84	200
41464-41-9	53-TeCB	C50				
15968-05-5	54-TeCB	U	ND	pg/L	2.26	100
74338-24-2	55-TeCB	U	ND	pg/L	4.76	100
41464-43-1	56-TeCB	U	ND	pg/L	4.80	100
70424-67-8	57-TeCB	U	ND	pg/L	4.56	100
41464-49-7	58-TeCB	U	ND	pg/L	4.72	100
74472-33-6	59-TeCB	CU	ND	pg/L	4.12	300
33025-41-1	60-TeCB	U	ND	pg/L	4.66	100
33284-53-6	61-TeCB	CJ	7.58	pg/L	4.50	400
54230-22-7	62-TeCB	C59				
74472-34-7	63-TeCB	U	ND	pg/L	4.44	100
52663-58-8	64-TeCB	U	ND	pg/L	3.86	100

Comments:

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**PCB Congeners
Certificate of Analysis
Sample Summary**

Page 3 of 8

SDG Number: 2210315	Client: HALL001	Project: HALL00113
Lab Sample ID: 12033076		Matrix: WATER
Client Sample: QC for batch 51321		
Client ID: MB for batch 51321		Prep Basis: As Received
Batch ID: 51323	Method: EPA Method 1668A	
Run Date: 11/10/2022 14:33	Analyst: MLL	Instrument: HRP875
Data File: d08nov22a_5-3		Dilution: 1
Prep Batch: 51321	Prep Method: SW846 3520C	Prep SOP Ref: CF-OA-E-001
Prep Date: 02-NOV-22	Prep Aliquot: 1000 mL	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
33284-54-7	65-TeCB	C44				
32598-10-0	66-TeCB	U	ND	pg/L	4.66	100
73575-53-8	67-TeCB	U	ND	pg/L	3.66	100
73575-52-7	68-TeCB	U	ND	pg/L	4.02	100
60233-24-1	69-TeCB	C49				
32598-11-1	70-TeCB	C61				
41464-46-4	71-TeCB	C40				
41464-42-0	72-TeCB	U	ND	pg/L	4.34	100
74338-23-1	73-TeCB	U	ND	pg/L	3.84	100
32690-93-0	74-TeCB	C61				
32598-12-2	75-TeCB	C59				
70362-48-0	76-TeCB	C61				
32598-13-3	77-TeCB	U	ND	pg/L	4.76	100
70362-49-1	78-TeCB	U	ND	pg/L	5.30	100
41464-48-6	79-TeCB	U	ND	pg/L	4.20	100
33284-52-5	80-TeCB	U	ND	pg/L	4.04	100
70362-50-4	81-TeCB	U	ND	pg/L	4.04	100
52663-62-4	82-PeCB	U	ND	pg/L	6.86	100
60145-20-2	83-PeCB	U	ND	pg/L	7.94	100
52663-60-2	84-PeCB	U	ND	pg/L	5.86	100
65510-45-4	85-PeCB	CU	ND	pg/L	4.86	300
55312-69-1	86-PeCB	CJ	6.84	pg/L	4.90	600
38380-02-8	87-PeCB	C86				
55215-17-3	88-PeCB	CU	ND	pg/L	5.84	200
73575-57-2	89-PeCB	U	ND	pg/L	6.96	100
68194-07-0	90-PeCB	CU	ND	pg/L	7.70	300
68194-05-8	91-PeCB	C88				
52663-61-3	92-PeCB	U	ND	pg/L	6.42	100
73575-56-1	93-PeCB	CU	ND	pg/L	5.26	200
73575-55-0	94-PeCB	U	ND	pg/L	5.60	100
38379-99-6	95-PeCB	U	ND	pg/L	6.24	100
73575-54-9	96-PeCB	U	ND	pg/L	3.24	100

Comments:

- C** Congener has coeluters. When Cxxx, refer to congener number xxx for data
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**PCB Congeners
Certificate of Analysis
Sample Summary**

Page 4 of 8

SDG Number: 2210315
 Lab Sample ID: 12033076
 Client Sample: QC for batch 51321
 Client ID: MB for batch 51321
 Batch ID: 51323
 Run Date: 11/10/2022 14:33
 Data File: d08nov22a_5-3
 Prep Batch: 51321
 Prep Date: 02-NOV-22

Client: HALL001
 Method: EPA Method 1668A
 Analyst: MLL
 Prep Method: SW846 3520C
 Prep Aliquot: 1000 mL

Project: HALL00113
 Matrix: WATER
 Prep Basis: As Received
 Instrument: HRP875
 Dilution: 1
 Prep SOP Ref: CF-OA-E-001

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
41464-51-1	97-PeCB	C86				
60233-25-2	98-PeCB	CU	ND	pg/L	5.32	200
38380-01-7	99-PeCB	U	ND	pg/L	5.34	100
39485-83-1	100-PeCB	C93				
37680-73-2	101-PeCB	C90				
68194-06-9	102-PeCB	C98				
60145-21-3	103-PeCB	U	ND	pg/L	5.42	100
56558-16-8	104-PeCB	U	ND	pg/L	2.42	100
32598-14-4	105-PeCB	U	ND	pg/L	4.16	100
70424-69-0	106-PeCB	U	ND	pg/L	4.48	100
70424-68-9	107-PeCB	U	ND	pg/L	3.60	100
70362-41-3	108-PeCB	CU	ND	pg/L	4.32	200
74472-35-8	109-PeCB	C86				
38380-03-9	110-PeCB	CU	ND	pg/L	6.76	200
39635-32-0	111-PeCB	U	ND	pg/L	4.16	100
74472-36-9	112-PeCB	U	ND	pg/L	3.94	100
68194-10-5	113-PeCB	C90				
74472-37-0	114-PeCB	U	ND	pg/L	3.92	100
74472-38-1	115-PeCB	C110				
18259-05-7	116-PeCB	C85				
68194-11-6	117-PeCB	C85				
31508-00-6	118-PeCB	J	5.50	pg/L	4.02	100
56558-17-9	119-PeCB	C86				
68194-12-7	120-PeCB	U	ND	pg/L	4.38	100
56558-18-0	121-PeCB	U	ND	pg/L	4.12	100
76842-07-4	122-PeCB	U	ND	pg/L	5.68	100
65510-44-3	123-PeCB	U	ND	pg/L	3.70	100
70424-70-3	124-PeCB	C108				
74472-39-2	125-PeCB	C86				
57465-28-8	126-PeCB	U	ND	pg/L	4.76	100
39635-33-1	127-PeCB	U	ND	pg/L	4.44	100
38380-07-3	128-HxCB	CU	ND	pg/L	5.02	200

Comments:

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**PCB Congeners
Certificate of Analysis
Sample Summary**

Page 5 of 8

SDG Number: 2210315
Lab Sample ID: 12033076
Client Sample: QC for batch 51321
Client ID: MB for batch 51321
Batch ID: 51323
Run Date: 11/10/2022 14:33
Data File: d08nov22a_5-3
Prep Batch: 51321
Prep Date: 02-NOV-22

Client: HALL001

Method: EPA Method 1668A
Analyst: MLL

Prep Method: SW846 3520C
Prep Aliquot: 1000 mL

Project: HALL00113
Matrix: WATER

Prep Basis: As Received

Instrument: HRP875
Dilution: 1
Prep SOP Ref: CF-OA-E-001

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
55215-18-4	129-HxCB	CU	ND	pg/L	6.82	300
52663-66-8	130-HxCB	U	ND	pg/L	6.36	100
61798-70-7	131-HxCB	U	ND	pg/L	6.48	100
38380-05-1	132-HxCB	U	ND	pg/L	5.90	100
35694-04-3	133-HxCB	U	ND	pg/L	6.18	100
52704-70-8	134-HxCB	U	ND	pg/L	6.48	100
52744-13-5	135-HxCB	CU	ND	pg/L	4.58	200
38411-22-2	136-HxCB	U	ND	pg/L	3.48	100
35694-06-5	137-HxCB	U	ND	pg/L	5.58	100
35065-28-2	138-HxCB	C129				
56030-56-9	139-HxCB	CU	ND	pg/L	5.20	200
59291-64-4	140-HxCB	C139				
52712-04-6	141-HxCB	U	ND	pg/L	5.24	100
41411-61-4	142-HxCB	U	ND	pg/L	6.30	100
68194-15-0	143-HxCB	U	ND	pg/L	5.98	100
68194-14-9	144-HxCB	U	ND	pg/L	4.50	100
74472-40-5	145-HxCB	U	ND	pg/L	3.30	100
51908-16-8	146-HxCB	U	ND	pg/L	5.00	100
68194-13-8	147-HxCB	CU	ND	pg/L	5.08	200
74472-41-6	148-HxCB	U	ND	pg/L	4.38	100
38380-04-0	149-HxCB	C147				
68194-08-1	150-HxCB	U	ND	pg/L	3.16	100
52663-63-5	151-HxCB	C135				
68194-09-2	152-HxCB	U	ND	pg/L	3.38	100
35065-27-1	153-HxCB	CJ	4.94	pg/L	4.58	200
60145-22-4	154-HxCB	U	ND	pg/L	3.64	100
33979-03-2	155-HxCB	U	ND	pg/L	2.48	100
38380-08-4	156-HxCB	CU	ND	pg/L	4.10	200
69782-90-7	157-HxCB	C156				
74472-42-7	158-HxCB	U	ND	pg/L	3.68	100
39635-35-3	159-HxCB	U	ND	pg/L	3.54	100
41411-62-5	160-HxCB	U	ND	pg/L	4.46	100

Comments:

- C** Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
U Analyte was analyzed for, but not detected above the specified detection limit.

**PCB Congeners
Certificate of Analysis
Sample Summary**

SDG Number: 2210315
Lab Sample ID: 12033076
Client Sample: QC for batch 51321
Client ID: MB for batch 51321
Batch ID: 51323
Run Date: 11/10/2022 14:33
Data File: d08nov22a_5-3
Prep Batch: 51321
Prep Date: 02-NOV-22

Client: HALL001

Method: EPA Method 1668A
Analyst: MLL

Prep Method: SW846 3520C
Prep Aliquot: 1000 mL

Project: HALL00113
Matrix: WATER

Prep Basis: As Received

Instrument: HRP875
Dilution: 1
Prep SOP Ref: CF-OA-E-001

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
74472-43-8	161-HxCB	U	ND	pg/L	4.34	100
39635-34-2	162-HxCB	U	ND	pg/L	3.46	100
74472-44-9	163-HxCB	C129				
74472-45-0	164-HxCB	U	ND	pg/L	4.12	100
74472-46-1	165-HxCB	U	ND	pg/L	4.58	100
41411-63-6	166-HxCB	C128				
52663-72-6	167-HxCB	U	ND	pg/L	3.06	100
59291-65-5	168-HxCB	C153				
32774-16-6	169-HxCB	U	ND	pg/L	3.52	100
35065-30-6	170-HpCB	U	ND	pg/L	4.72	100
52663-71-5	171-HpCB	CU	ND	pg/L	4.98	200
52663-74-8	172-HpCB	U	ND	pg/L	4.90	100
68194-16-1	173-HpCB	C171				
38411-25-5	174-HpCB	U	ND	pg/L	4.64	100
40186-70-7	175-HpCB	U	ND	pg/L	4.20	100
52663-65-7	176-HpCB	U	ND	pg/L	3.24	100
52663-70-4	177-HpCB	U	ND	pg/L	5.02	100
52663-67-9	178-HpCB	U	ND	pg/L	4.46	100
52663-64-6	179-HpCB	U	ND	pg/L	3.16	100
35065-29-3	180-HpCB	CU	ND	pg/L	3.88	200
74472-47-2	181-HpCB	U	ND	pg/L	4.80	100
60145-23-5	182-HpCB	U	ND	pg/L	4.04	100
52663-69-1	183-HpCB	CU	ND	pg/L	4.64	200
74472-48-3	184-HpCB	U	ND	pg/L	3.10	100
52712-05-7	185-HpCB	C183				
74472-49-4	186-HpCB	U	ND	pg/L	3.22	100
52663-68-0	187-HpCB	U	ND	pg/L	4.08	100
74487-85-7	188-HpCB	U	ND	pg/L	2.70	100
39635-31-9	189-HpCB	U	ND	pg/L	4.02	100
41411-64-7	190-HpCB	U	ND	pg/L	3.48	100
74472-50-7	191-HpCB	U	ND	pg/L	3.44	100
74472-51-8	192-HpCB	U	ND	pg/L	4.00	100

Comments:

- C** Congener has coeluters. When Cxxx, refer to congener number xxx for data
- J** Value is estimated
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**PCB Congeners
Certificate of Analysis
Sample Summary**

Page 7 of 8

SDG Number: 2210315	Client: HALL001	Project: HALL00113
Lab Sample ID: 12033076		Matrix: WATER
Client Sample: QC for batch 51321		
Client ID: MB for batch 51321		Prep Basis: As Received
Batch ID: 51323	Method: EPA Method 1668A	
Run Date: 11/10/2022 14:33	Analyst: MLL	Instrument: HRP875
Data File: d08nov22a_5-3		Dilution: 1
Prep Batch: 51321	Prep Method: SW846 3520C	Prep SOP Ref: CF-OA-E-001
Prep Date: 02-NOV-22	Prep Aliquot: 1000 mL	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
69782-91-8	193-HpCB	C180				
35694-08-7	194-OcCB	U	ND	pg/L	3.80	100
52663-78-2	195-OcCB	U	ND	pg/L	4.02	100
42740-50-1	196-OcCB	U	ND	pg/L	3.70	100
33091-17-7	197-OcCB	CU	ND	pg/L	2.94	200
68194-17-2	198-OcCB	CU	ND	pg/L	3.84	200
52663-75-9	199-OcCB	C198				
52663-73-7	200-OcCB	C197				
40186-71-8	201-OcCB	U	ND	pg/L	2.74	100
2136-99-4	202-OcCB	U	ND	pg/L	2.74	100
52663-76-0	203-OcCB	U	ND	pg/L	3.66	100
74472-52-9	204-OcCB	U	ND	pg/L	2.82	100
74472-53-0	205-OcCB	U	ND	pg/L	3.00	100
40186-72-9	206-NoCB	U	ND	pg/L	5.48	100
52663-79-3	207-NoCB	U	ND	pg/L	4.04	100
52663-77-1	208-NoCB	U	ND	pg/L	3.76	100
2051-24-3	209-DeCB	U	ND	pg/L	4.54	100
1336-36-3	Total PCB Congeners	J	38.9	pg/L		100

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		666	2000	pg/L	33.3	(15%-150%)
13C-3-MoCB		760	2000	pg/L	38.0	(15%-150%)
13C-4-DiCB		761	2000	pg/L	38.1	(25%-150%)
13C-15-DiCB		1010	2000	pg/L	50.4	(25%-150%)
13C-19-TrCB		915	2000	pg/L	45.8	(25%-150%)
13C-37-TrCB		963	2000	pg/L	48.2	(25%-150%)
13C-54-TeCB		872	2000	pg/L	43.6	(25%-150%)
13C-77-TeCB		1120	2000	pg/L	56.2	(25%-150%)
13C-81-TeCB		1200	2000	pg/L	60.0	(25%-150%)
13C-104-PeCB		932	2000	pg/L	46.6	(25%-150%)
13C-105-PeCB		971	2000	pg/L	48.6	(25%-150%)
13C-114-PeCB		964	2000	pg/L	48.2	(25%-150%)
13C-118-PeCB		882	2000	pg/L	44.1	(25%-150%)
13C-123-PeCB		1010	2000	pg/L	50.5	(25%-150%)
13C-126-PeCB		1010	2000	pg/L	50.6	(25%-150%)
13C-155-HxCB		996	2000	pg/L	49.8	(25%-150%)
13C-156-HxCB	C	2250	4000	pg/L	56.2	(25%-150%)
13C-157-HxCB	C156L					
13C-167-HxCB		1110	2000	pg/L	55.7	(25%-150%)
13C-169-HxCB		1140	2000	pg/L	57.1	(25%-150%)
13C-188-HpCB		989	2000	pg/L	49.5	(25%-150%)
13C-189-HpCB		1030	2000	pg/L	51.5	(25%-150%)

**PCB Congeners
Certificate of Analysis
Sample Summary**

SDG Number: 2210315	Client: HALL001	Project: HALL00113
Lab Sample ID: 12033076		Matrix: WATER
Client Sample: QC for batch 51321		
Client ID: MB for batch 51321		Prep Basis: As Received
Batch ID: 51323	Method: EPA Method 1668A	
Run Date: 11/10/2022 14:33	Analyst: MLL	Instrument: HRP875
Data File: d08nov22a_5-3		Dilution: 1
Prep Batch: 51321	Prep Method: SW846 3520C	Prep SOP Ref: CF-OA-E-001
Prep Date: 02-NOV-22	Prep Aliquot: 1000 mL	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
Surrogate/Tracer recovery						
		Qual	Result	Nominal	Units	Recovery%
						Acceptable Limits
13C-202-OcCB			1040	2000	pg/L	51.8 (25%-150%)
13C-205-OcCB			1170	2000	pg/L	58.6 (25%-150%)
13C-206-NoCB			1150	2000	pg/L	57.5 (25%-150%)
13C-208-NoCB			1030	2000	pg/L	51.4 (25%-150%)
13C-209-DeCB			1150	2000	pg/L	57.7 (25%-150%)
13C-28-TrCB			1040	2000	pg/L	51.9 (30%-135%)
13C-111-PeCB			1100	2000	pg/L	55.2 (30%-135%)
13C-178-HpCB			1240	2000	pg/L	62.0 (30%-135%)

Comments:
C Congener has coeluters. When Cxxx, refer to congener number xxx for data
J Value is estimated
U Analyte was analyzed for, but not detected above the specified detection limit.

**PCB Congeners
Certificate of Analysis
Sample Summary**

SDG Number: 2210315	Client: HALL001	Project: HALL00113
Lab Sample ID: 12033077		Matrix: WATER
Client Sample: QC for batch 51321		
Client ID: LCS for batch 51321		Prep Basis: As Received
Batch ID: 51323	Method: EPA Method 1668A	
Run Date: 11/10/2022 12:14	Analyst: MLL	Instrument: HRP875
Data File: d08nov22a_5-1		Dilution: 1
Prep Batch: 51321	Prep Method: SW846 3520C	Prep SOP Ref: CF-OA-E-001
Prep Date: 02-NOV-22	Prep Aliquot: 1000 mL	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB		490	pg/L	5.90	100
2051-62-9	3-MoCB		498	pg/L	5.40	100
13029-08-8	4-DiCB		462	pg/L	9.84	100
2050-68-2	15-DiCB		513	pg/L	8.46	100
38444-73-4	19-TrCB		513	pg/L	7.04	100
38444-90-5	37-TrCB		483	pg/L	12.0	100
15968-05-5	54-TeCB		1020	pg/L	3.78	100
32598-13-3	77-TeCB		977	pg/L	16.2	100
70362-50-4	81-TeCB		826	pg/L	15.1	100
56558-16-8	104-PeCB		1010	pg/L	2.54	100
32598-14-4	105-PeCB		924	pg/L	19.9	100
74472-37-0	114-PeCB		1040	pg/L	18.6	100
31508-00-6	118-PeCB		1110	pg/L	18.9	100
65510-44-3	123-PeCB		926	pg/L	17.8	100
57465-28-8	126-PeCB		993	pg/L	20.4	100
33979-03-2	155-HxCB		1000	pg/L	2.64	100
38380-08-4	156-HxCB	C	1980	pg/L	17.4	200
69782-90-7	157-HxCB	C156				
52663-72-6	167-HxCB		1000	pg/L	12.8	100
32774-16-6	169-HxCB		967	pg/L	14.7	100
74487-85-7	188-HpCB		997	pg/L	3.20	100
39635-31-9	189-HpCB		1010	pg/L	8.64	100
2136-99-4	202-OcCB		1620	pg/L	22.6	100
74472-53-0	205-OcCB		1450	pg/L	9.54	100
40186-72-9	206-NoCB		1490	pg/L	7.36	100
52663-77-1	208-NoCB		1590	pg/L	5.44	100
2051-24-3	209-DeCB		1430	pg/L	4.50	100

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		757	2000	pg/L	37.9	(15%-140%)
13C-3-MoCB		876	2000	pg/L	43.8	(15%-140%)
13C-4-DiCB		865	2000	pg/L	43.3	(30%-140%)
13C-15-DiCB		1300	2000	pg/L	65.1	(30%-140%)
13C-19-TrCB		1070	2000	pg/L	53.6	(30%-140%)
13C-37-TrCB		1220	2000	pg/L	61.0	(30%-140%)
13C-54-TeCB		1030	2000	pg/L	51.6	(30%-140%)
13C-77-TeCB		1290	2000	pg/L	64.6	(30%-140%)
13C-81-TeCB		1340	2000	pg/L	66.8	(30%-140%)
13C-104-PeCB		1200	2000	pg/L	60.0	(30%-140%)
13C-105-PeCB		1150	2000	pg/L	57.4	(30%-140%)
13C-114-PeCB		1140	2000	pg/L	56.9	(30%-140%)
13C-118-PeCB		1010	2000	pg/L	50.5	(30%-140%)

**PCB Congeners
Certificate of Analysis
Sample Summary**

SDG Number: 2210315	Client: HALL001	Project: HALL00113
Lab Sample ID: 12033077		Matrix: WATER
Client Sample: QC for batch 51321		
Client ID: LCS for batch 51321		Prep Basis: As Received
Batch ID: 51323	Method: EPA Method 1668A	
Run Date: 11/10/2022 12:14	Analyst: MLL	Instrument: HRP875
Data File: d08nov22a_5-1		Dilution: 1
Prep Batch: 51321	Prep Method: SW846 3520C	Prep SOP Ref: CF-OA-E-001
Prep Date: 02-NOV-22	Prep Aliquot: 1000 mL	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
Surrogate/Tracer recovery						
		Qual	Result	Nominal	Units	Recovery%
						Acceptable Limits
13C-123-PeCB			1160	2000	pg/L	58.0 (30%-140%)
13C-126-PeCB			1310	2000	pg/L	65.6 (30%-140%)
13C-155-HxCB			1150	2000	pg/L	57.6 (30%-140%)
13C-156-HxCB		C	2610	4000	pg/L	65.3 (30%-140%)
13C-157-HxCB		C156L				
13C-167-HxCB			1310	2000	pg/L	65.4 (30%-140%)
13C-169-HxCB			1360	2000	pg/L	67.8 (30%-140%)
13C-188-HpCB			1130	2000	pg/L	56.5 (30%-140%)
13C-189-HpCB			1170	2000	pg/L	58.4 (30%-140%)
13C-202-OcCB			1220	2000	pg/L	61.1 (30%-140%)
13C-205-OcCB			1410	2000	pg/L	70.3 (30%-140%)
13C-206-NoCB			1380	2000	pg/L	69.1 (30%-140%)
13C-208-NoCB			1150	2000	pg/L	57.7 (30%-140%)
13C-209-DeCB			1370	2000	pg/L	68.4 (30%-140%)
13C-28-TrCB			1220	2000	pg/L	61.0 (40%-125%)
13C-111-PeCB			1280	2000	pg/L	64.1 (40%-125%)
13C-178-HpCB			1460	2000	pg/L	73.2 (40%-125%)

Comments:
C Congener has coeluters. When Cxxx, refer to congener number xxx for data
U Analyte was analyzed for, but not detected above the specified detection limit.

**PCB Congeners
Certificate of Analysis
Sample Summary**

Page 1 of 2

SDG Number: 2210315	Client: HALL001	Project: HALL00113
Lab Sample ID: 12033078		Matrix: WATER
Client Sample: QC for batch 51321		
Client ID: LCSD for batch 51321		Prep Basis: As Received
Batch ID: 51323	Method: EPA Method 1668A	
Run Date: 11/10/2022 13:23	Analyst: MLL	Instrument: HRP875
Data File: d08nov22a_5-2		Dilution: 1
Prep Batch: 51321	Prep Method: SW846 3520C	Prep SOP Ref: CF-OA-E-001
Prep Date: 02-NOV-22	Prep Aliquot: 1000 mL	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
2051-60-7	1-MoCB		443	pg/L	6.46	100
2051-62-9	3-MoCB		480	pg/L	7.18	100
13029-08-8	4-DiCB		425	pg/L	11.5	100
2050-68-2	15-DiCB		471	pg/L	12.7	100
38444-73-4	19-TrCB		473	pg/L	9.06	100
38444-90-5	37-TrCB		456	pg/L	16.4	100
15968-05-5	54-TeCB		988	pg/L	4.04	100
32598-13-3	77-TeCB		901	pg/L	27.0	100
70362-50-4	81-TeCB		769	pg/L	25.2	100
56558-16-8	104-PeCB		953	pg/L	3.18	100
32598-14-4	105-PeCB		847	pg/L	23.4	100
74472-37-0	114-PeCB		985	pg/L	20.8	100
31508-00-6	118-PeCB		1010	pg/L	23.3	100
65510-44-3	123-PeCB		818	pg/L	19.9	100
57465-28-8	126-PeCB		947	pg/L	26.0	100
33979-03-2	155-HxCB		941	pg/L	9.38	100
38380-08-4	156-HxCB	C	1830	pg/L	21.8	200
69782-90-7	157-HxCB	C156				
52663-72-6	167-HxCB		933	pg/L	16.1	100
32774-16-6	169-HxCB		907	pg/L	18.4	100
74487-85-7	188-HpCB		909	pg/L	3.64	100
39635-31-9	189-HpCB		895	pg/L	8.12	100
2136-99-4	202-OcCB		1510	pg/L	25.5	100
74472-53-0	205-OcCB		1340	pg/L	7.66	100
40186-72-9	206-NoCB		1420	pg/L	9.36	100
52663-77-1	208-NoCB		1530	pg/L	6.86	100
2051-24-3	209-DeCB		1330	pg/L	5.86	100

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1-MoCB		544	2000	pg/L	27.2	(15%-140%)
13C-3-MoCB		636	2000	pg/L	31.8	(15%-140%)
13C-4-DiCB		656	2000	pg/L	32.8	(30%-140%)
13C-15-DiCB		895	2000	pg/L	44.8	(30%-140%)
13C-19-TrCB		838	2000	pg/L	41.9	(30%-140%)
13C-37-TrCB		753	2000	pg/L	37.6	(30%-140%)
13C-54-TeCB		750	2000	pg/L	37.5	(30%-140%)
13C-77-TeCB		827	2000	pg/L	41.3	(30%-140%)
13C-81-TeCB		874	2000	pg/L	43.7	(30%-140%)
13C-104-PeCB		884	2000	pg/L	44.2	(30%-140%)
13C-105-PeCB		864	2000	pg/L	43.2	(30%-140%)
13C-114-PeCB		843	2000	pg/L	42.1	(30%-140%)
13C-118-PeCB		764	2000	pg/L	38.2	(30%-140%)

**PCB Congeners
Certificate of Analysis
Sample Summary**

Page 2 of 2

SDG Number: 2210315	Client: HALL001	Project: HALL00113
Lab Sample ID: 12033078		Matrix: WATER
Client Sample: QC for batch 51321		
Client ID: LCSD for batch 51321		Prep Basis: As Received
Batch ID: 51323	Method: EPA Method 1668A	
Run Date: 11/10/2022 13:23	Analyst: MLL	Instrument: HRP875
Data File: d08nov22a_5-2		Dilution: 1
Prep Batch: 51321	Prep Method: SW846 3520C	Prep SOP Ref: CF-OA-E-001
Prep Date: 02-NOV-22	Prep Aliquot: 1000 mL	

CAS No.	Parmname	Qual	Result	Units	EDL	PQL
Surrogate/Tracer recovery						
		Qual	Result	Nominal	Units	Recovery%
						Acceptable Limits
13C-123-PeCB			880	2000	pg/L	44.0 (30%-140%)
13C-126-PeCB			857	2000	pg/L	42.9 (30%-140%)
13C-155-HxCB			763	2000	pg/L	38.2 (30%-140%)
13C-156-HxCB		C	1650	4000	pg/L	41.2 (30%-140%)
13C-157-HxCB		C156L				
13C-167-HxCB			837	2000	pg/L	41.8 (30%-140%)
13C-169-HxCB			835	2000	pg/L	41.8 (30%-140%)
13C-188-HpCB			795	2000	pg/L	39.7 (30%-140%)
13C-189-HpCB			817	2000	pg/L	40.8 (30%-140%)
13C-202-OcCB			781	2000	pg/L	39.0 (30%-140%)
13C-205-OcCB			953	2000	pg/L	47.6 (30%-140%)
13C-206-NoCB			929	2000	pg/L	46.5 (30%-140%)
13C-208-NoCB			811	2000	pg/L	40.6 (30%-140%)
13C-209-DeCB			920	2000	pg/L	46.0 (30%-140%)
13C-28-TrCB			1100	2000	pg/L	54.9 (40%-125%)
13C-111-PeCB			1220	2000	pg/L	61.1 (40%-125%)
13C-178-HpCB			1270	2000	pg/L	63.3 (40%-125%)

Comments:

- C** Congener has coeluters. When Cxxx, refer to congener number xxx for data
U Analyte was analyzed for, but not detected above the specified detection limit.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2210315

23-Nov-22

Client: AMAFCA
Project: CMC Wet FY23

Sample ID: MB-70825	SampType: MBLK	TestCode: EPA Method 1664B								
Client ID: PBW	Batch ID: 70825	RunNo: 91919								
Prep Date: 10/14/2022	Analysis Date: 10/18/2022	SeqNo: 3297147	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	ND	10.0								

Sample ID: LCS-70825	SampType: LCS	TestCode: EPA Method 1664B								
Client ID: LCSW	Batch ID: 70825	RunNo: 91919								
Prep Date: 10/14/2022	Analysis Date: 10/18/2022	SeqNo: 3297148	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	37.8	10.0	40.00	0	94.5	78	114			

Sample ID: LCSD-70825	SampType: LCSD	TestCode: EPA Method 1664B								
Client ID: LCSS02	Batch ID: 70825	RunNo: 91919								
Prep Date: 10/14/2022	Analysis Date: 10/18/2022	SeqNo: 3297149	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	37.4	10.0	40.00	0	93.5	78	114	1.06	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2210315

23-Nov-22

Client: AMAFCA
Project: CMC Wet FY23

Sample ID: MB-70811	SampType: MBLK	TestCode: EPA Method 200.7: Metals								
Client ID: PBW	Batch ID: 70811	RunNo: 91819								
Prep Date: 10/13/2022	Analysis Date: 10/14/2022	SeqNo: 3291906	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								

Sample ID: LCSLL-70811	SampType: LCSLL	TestCode: EPA Method 200.7: Metals								
Client ID: BatchQC	Batch ID: 70811	RunNo: 91819								
Prep Date: 10/13/2022	Analysis Date: 10/14/2022	SeqNo: 3291907	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0	0.5000	0	103	50	150			
Magnesium	ND	1.0	0.5000	0	104	50	150			

Sample ID: LCS-70811	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: 70811	RunNo: 91819								
Prep Date: 10/13/2022	Analysis Date: 10/14/2022	SeqNo: 3291908	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	51	1.0	50.00	0	102	85	115			
Magnesium	52	1.0	50.00	0	104	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2210315

23-Nov-22

Client: AMAFCA
Project: CMC Wet FY23

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: A91883	RunNo: 91883								
Prep Date:	Analysis Date: 10/18/2022	SeqNo: 3295065	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0010								
Lead	ND	0.00050								

Sample ID: LCSLL	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: A91883	RunNo: 91883								
Prep Date:	Analysis Date: 10/18/2022	SeqNo: 3295066	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.0010	0.0010	0.001000	0	101	50	150			
Lead	0.00052	0.00050	0.0005000	0	105	50	150			

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: A91883	RunNo: 91883								
Prep Date:	Analysis Date: 10/18/2022	SeqNo: 3295067	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.025	0.0010	0.02500	0	98.9	85	115			
Lead	0.012	0.00050	0.01250	0	97.4	85	115			

Sample ID: 2210315-002NMSLL	SampType: MS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: R6 South-20221006	Batch ID: A91883	RunNo: 91883								
Prep Date:	Analysis Date: 10/18/2022	SeqNo: 3295096	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.026	0.0010	0.02500	0.0007151	102	70	130			
Lead	0.013	0.00050	0.01250	0.0007696	107	70	130			

Sample ID: 2210315-002NMSDL	SampType: MSD	TestCode: EPA 200.8: Dissolved Metals								
Client ID: R6 South-20221006	Batch ID: A91883	RunNo: 91883								
Prep Date:	Analysis Date: 10/18/2022	SeqNo: 3295097	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.026	0.0010	0.02500	0.0007151	101	70	130	0.371	20	
Lead	0.013	0.00050	0.01250	0.0007696	105	70	130	1.82	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2210315

23-Nov-22

Client: AMAFCA
Project: CMC Wet FY23

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A91618	RunNo: 91618								
Prep Date:	Analysis Date: 10/6/2022	SeqNo: 3282485			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								

Sample ID: LCS	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A91618	RunNo: 91618								
Prep Date:	Analysis Date: 10/6/2022	SeqNo: 3282486			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	93.8	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	98.8	90	110			

Sample ID: 2210315-001EMS	SampType: MS	TestCode: EPA Method 300.0: Anions								
Client ID: R6 North-20221005	Batch ID: A91618	RunNo: 91618								
Prep Date:	Analysis Date: 10/7/2022	SeqNo: 3282497			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	4.7	0.50	5.000	0	94.4	83.4	110			
Nitrogen, Nitrate (As N)	13	0.50	12.50	0.1075	99.8	89.5	113			

Sample ID: 2210315-001EMSD	SampType: MSD	TestCode: EPA Method 300.0: Anions								
Client ID: R6 North-20221005	Batch ID: A91618	RunNo: 91618								
Prep Date:	Analysis Date: 10/7/2022	SeqNo: 3282498			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	4.7	0.50	5.000	0	93.8	83.4	110	0.691	20	
Nitrogen, Nitrate (As N)	12	0.50	12.50	0.1075	98.8	89.5	113	0.995	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2210315

23-Nov-22

Client: AMAFCA
Project: CMC Wet FY23

Sample ID: MB-70767	SampType: MBLK		TestCode: EPA Method 8081: PESTICIDES							
Client ID: PBW	Batch ID: 70767		RunNo: 91851							
Prep Date: 10/12/2022	Analysis Date: 10/17/2022		SeqNo: 3294644	Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dieldrin	ND	0.10								
Surr: Decachlorobiphenyl	2.5		2.500		101	40.9	111			
Surr: Tetrachloro-m-xylene	2.0		2.500		79.4	15	107			

Sample ID: MB-70767	SampType: MBLK		TestCode: EPA Method 8081: PESTICIDES							
Client ID: PBW	Batch ID: 70767		RunNo: 91851							
Prep Date: 10/12/2022	Analysis Date: 10/17/2022		SeqNo: 3294646	Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dieldrin	ND	0.10								
Surr: Decachlorobiphenyl	2.5		2.500		102	40.9	111			
Surr: Tetrachloro-m-xylene	2.0		2.500		80.9	15	107			

Sample ID: LCS-70767	SampType: LCS		TestCode: EPA Method 8081: PESTICIDES							
Client ID: LCSW	Batch ID: 70767		RunNo: 91851							
Prep Date: 10/12/2022	Analysis Date: 10/17/2022		SeqNo: 3294647	Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dieldrin	0.43	0.10	0.5000	0	86.2	56.3	121			
Surr: Decachlorobiphenyl	2.4		2.500		95.2	40.9	111			
Surr: Tetrachloro-m-xylene	2.0		2.500		78.6	15	107			

Sample ID: LCS-70767	SampType: LCS		TestCode: EPA Method 8081: PESTICIDES							
Client ID: LCSW	Batch ID: 70767		RunNo: 91851							
Prep Date: 10/12/2022	Analysis Date: 10/17/2022		SeqNo: 3294648	Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dieldrin	0.44	0.10	0.5000	0	87.9	56.3	121			
Surr: Decachlorobiphenyl	2.4		2.500		95.7	40.9	111			
Surr: Tetrachloro-m-xylene	2.0		2.500		79.7	15	107			

Sample ID: LCSD-70767	SampType: LCSD		TestCode: EPA Method 8081: PESTICIDES							
Client ID: LCSS02	Batch ID: 70767		RunNo: 91851							
Prep Date: 10/12/2022	Analysis Date: 10/17/2022		SeqNo: 3294649	Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dieldrin	0.42	0.10	0.5000	0	84.6	56.3	121	1.91	20	
Surr: Decachlorobiphenyl	2.3		2.500		90.9	40.9	111	0	20	
Surr: Tetrachloro-m-xylene	1.8		2.500		73.5	15	107	0	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2210315

23-Nov-22

Client: AMAFCA
Project: CMC Wet FY23

Sample ID: LCSD-70767	SampType: LCSD	TestCode: EPA Method 8081: PESTICIDES								
Client ID: LCSS02	Batch ID: 70767	RunNo: 91851								
Prep Date: 10/12/2022	Analysis Date: 10/17/2022	SeqNo: 3294650	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dieldrin	0.43	0.10	0.5000	0	86.1	56.3	121	2.00	20	
Surr: Decachlorobiphenyl	2.3		2.500		91.5	40.9	111	0	20	
Surr: Tetrachloro-m-xylene	1.8		2.500		73.9	15	107	0	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2210315

23-Nov-22

Client: AMAFCA
Project: CMC Wet FY23

Sample ID: MB-70671	SampType: MBLK	TestCode: SM 9223B Fecal Indicator: E. coli MPN								
Client ID: PBW	Batch ID: 70671	RunNo: 91638								
Prep Date: 10/6/2022	Analysis Date: 10/7/2022	SeqNo: 3283469			Units: MPN/100mL					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
E. Coli	<1	1.000								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2210315

23-Nov-22

Client: AMAFCA
Project: CMC Wet FY23

Sample ID: MB	SampType: MBLK	TestCode: SM 4500 NH3: Ammonia								
Client ID: PBW	Batch ID: R91993	RunNo: 91993								
Prep Date:	Analysis Date: 10/21/2022	SeqNo: 3300449	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	1.0								

Sample ID: LCS	SampType: LCS	TestCode: SM 4500 NH3: Ammonia								
Client ID: LCSW	Batch ID: R91993	RunNo: 91993								
Prep Date:	Analysis Date: 10/21/2022	SeqNo: 3300450	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	9.8	1.0	10.00	0	98.0	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Above Quantitation Range/Estimated Value |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of standard limits. If undiluted results may be estimated. | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2210315

23-Nov-22

Client: AMAFCA
Project: CMC Wet FY23

Sample ID: MB-71023	SampType: MBLK	TestCode: EPA Method 365.1: Total Phosphorous								
Client ID: PBW	Batch ID: 71023	RunNo: 92060								
Prep Date: 10/24/2022	Analysis Date: 10/25/2022	SeqNo: 3303642	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	ND	0.050								

Sample ID: LCS-71023	SampType: LCS	TestCode: EPA Method 365.1: Total Phosphorous								
Client ID: LCSW	Batch ID: 71023	RunNo: 92060								
Prep Date: 10/24/2022	Analysis Date: 10/25/2022	SeqNo: 3303643	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	0.24	0.050	0.2500	0	96.9	90	110			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Above Quantitation Range/Estimated Value |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of standard limits. If undiluted results may be estimated. | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2210315

23-Nov-22

Client: AMAFCA
Project: CMC Wet FY23

Sample ID: MB-70696	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: PBW	Batch ID: 70696	RunNo: 91714								
Prep Date: 10/10/2022	Analysis Date: 10/12/2022	SeqNo: 3286928	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: LCS-70696	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: LCSW	Batch ID: 70696	RunNo: 91714								
Prep Date: 10/10/2022	Analysis Date: 10/12/2022	SeqNo: 3286929	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1050	20.0	1000	0	105	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2210315

23-Nov-22

Client: AMAFCA
Project: CMC Wet FY23

Sample ID: MB-70981	SampType: MBLK	TestCode: SM 4500 Norg C: TKN								
Client ID: PBW	Batch ID: 70981	RunNo: 92019								
Prep Date: 10/21/2022	Analysis Date: 10/24/2022	SeqNo: 3301880	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	ND	1.0								

Sample ID: LCS-70981	SampType: LCS	TestCode: SM 4500 Norg C: TKN								
Client ID: LCSW	Batch ID: 70981	RunNo: 92019								
Prep Date: 10/21/2022	Analysis Date: 10/24/2022	SeqNo: 3301881	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	10	1.0	10.00	0	101	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2210315

23-Nov-22

Client: AMAFCA
Project: CMC Wet FY23

Sample ID: MB-70679	SampType: MBLK	TestCode: SM 2540D: TSS								
Client ID: PBW	Batch ID: 70679	RunNo: 91686								
Prep Date: 10/7/2022	Analysis Date: 10/10/2022	SeqNo: 3285851	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Suspended Solids	ND	4.0								

Sample ID: LCS-70679	SampType: LCS	TestCode: SM 2540D: TSS								
Client ID: LCSW	Batch ID: 70679	RunNo: 91686								
Prep Date: 10/7/2022	Analysis Date: 10/10/2022	SeqNo: 3285852	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Suspended Solids	89	4.0	91.90	0	96.8	83.89	119.7			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Above Quantitation Range/Estimated Value |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of standard limits. If undiluted results may be estimated. | |

Sample Log-In Check List

Client Name: AMAFCA

Work Order Number: 2210315

RcptNo: 1

Received By: Joseph Alderette 10/6/2022 10:25:00 AM

Completed By: Sean Livingston 10/6/2022 11:10:53 AM

Reviewed By: SO 10/6/22

JA
Sean Livingston

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
 2. How was the sample delivered? Client

Log In

3. Was an attempt made to cool the samples? Yes No NA
 4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
 5. Sample(s) in proper container(s)? Yes No
 6. Sufficient sample volume for indicated test(s)? Yes No
 7. Are samples (except VOA and ONG) properly preserved? Yes No
 8. Was preservative added to bottles? Yes No NA
 9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes No NA
 10. Were any sample containers received broken? Yes No
 11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes No
 12. Are matrices correctly identified on Chain of Custody? Yes No
 13. Is it clear what analyses were requested? Yes No
 14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes No

of preserved bottles checked for pH: 14
 (<2 or >12 unless noted)
 Adjusted? NO
 Checked by: KPA 10.6.22

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

16. Additional remarks: NO BOD BOTTLES. NO E COLI BOTTLE FOR RG NORTH TO 10.7.22

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.9	Good				

note - BOD bottles not provided to lab for these samples. E. coli for Rio Grande North sample and results provided in previous lab report.

Collaborative Monitoring Cooperative - Analyses List
Attach to Chain of Custody

Please refer to attached NPDES Permit No. NMR04A00 Appendix F. Methods and minimum quantification levels (MDL's) will be those approved under 40 CFR 136 and specified in the attached permit

Analyte (Bold Indicates WQS)	CAS #	Fraction	Method #	MDL (µg/L)
Hardness (Ca + Mg)	NA	Total	200.7	2.4
Lead	7439-92-1	Dissolved	200.8	0.09
Copper	7440-50-8	Dissolved	200.8	1.06
Ammonia + organic nitrogen	7664-41-7	Total	350.1	31.32
Total Kjehldal Nitrogen	17778-88-0	Total	351.2	58.78
Nitrate + Nitrite	14797-55-8	Total	353.2	10.17
Polychlorinated biphenyls (PCBs)	1336-36-3	Total	1668	0.014
Tetrahydrofuran (THF)	109-99-9	Total	8260C	7.9
bis(2-Ethylhexyl)phthalate	117-81-7	Total	8270D	0.2
Dibenzofuran	132-64-9	Total	8270D	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	Total	8270D	0.2
Benzo(b)fluoranthene	205-99-2	Total	8270D	0.1
Benzo(k)fluoranthene	207-08-9	Total	8270D	0.1
Chrysene	218-01-9	Total	8270D	0.2
Benzo(a)pyrene	50-32-8	Total	8270D	0.3
Dibenzo(a,h)anthracene	53-70-3	Total	8270D	0.2
Benzo(a)anthracene	56-55-3	Total	8270D	0.1
Dieldrin	60-57-1	Total	8081	0.2
Pentachlorophenol	87-86-5	Total	8270D	0.1
Benzidine	92-87-5	Total	8270D	0.2
Chemical Oxygen Demand	E1641638 ²	Total	HACH	0.1
Gross alpha (adjusted)	NA	Total	Method 900	5100
Total Dissolved Solids	E1642222 ²	Total	SM 2540C	0.1 pCi/L
Total Suspended Solids	NA	Total	SM 2540D	60.4
Biological Oxygen Demand	N/A	Total	Standard Methods	3450
Oil and Grease		Total	1664A	930
Ecoli-enumeration			SM 9223B	5000
pH			SM 4500	
Phosphorus		Dissolved	365.1	100
Phosphorus		Total	365.1	100
Chromium IV		Total	3500Cr C-2011	100

ATTACHMENT 2
**FY 2023 WET SEASON COMPLETED DATA VERIFICATION AND
VALIDATION (V&V) FORMS**

Attachment 1.1 Water Quality Sample Data Verification and Validation Worksheet

Study Name: Compliance Monitoring Cooperative (CMC)

Year: FY 2023 (October 2022 – Wet Season Sample)

Project Coordinator: For Data Review and Reporting – SJG, BHI

V&V Reviewer: SJG

Data covered by this worksheet: Rio Grande North – 10/5/2022

Version of Verification/Validation Procedures: QAPP –AMAFCA SOP #5 (7/2022)

Step 1: Verify Field Data

A. Are all Field Data forms present and complete? Yes No

If yes, proceed; if no, attempt to locate missing forms, then indicate any remaining missing forms and action taken.

Missing Field Data Forms	Action Taken
_____	_____
_____	_____

Total number of occurrences: 0

B. Are station name and ID, and sampling date and time on forms consistent with database? Yes No

If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify.

Station and Parameter	Action Taken	Re-verified?
_____	_____	_____
_____	_____	_____

Total number of occurrences: 0

C. Are field data on forms consistent with database? Yes No

If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify.

Station	Sampling Date	Parameter(s) Corrected	Re-verified?
_____	_____	_____	_____
_____	_____	_____	_____

Total number of occurrences: 0

D. Are RIDs correct and associated with the correct analytical suite, media subdivision (e.g. surface water, municipal waste, etc.) and activity type (e.g. Field observation, Routine sample, QA sample etc.)?

Yes No

If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify

Station/RID	Sampling Date	RID Corrected	Re-verified?

Total number of occurrences: 0

Step 1 Completed *Initials: SJG Date: 12/14/22*

Step 2: Verify Data Deliverables

A. Have all data in question been delivered? Yes No

If yes, proceed; if no, indicate RIDs with missing data (samples or blanks) or attach report with applicable RIDs highlighted. Contact data source and indicate action taken. Complete this step upon receipt of all missing data.

RID	Submittal Date	Missing Data/Parameters	Date of Initial Verification	Date Missing Data Were Received

Total number of occurrences: 0

B. Do all of the analytical suites have the correct number and type of analytes. Yes No

If yes, proceed; if no, indicate RIDs with missing or incorrect analyte(s) or attach report with applicable RIDs highlighted. Contact data source and indicate action taken.

RID	Submittal Date	Missing or Incorrect Parameters	Action Taken	Re-verified?
	<u>11/30/22 emailed AMAFCA on missing parameter; BOD</u>	BOD		

	bottle not submitted for sample.			

*Note – HEAL Lab report order numbers 2210242 & 2210315.

Step 2 Completed *Initials: SJK* *Date: 12/14/22*

Step 3: Verify Flow Data

*Note – Not Applicable – no flow data provided with CMC sample collection

A. Identify incorrect or missing data on the flow calculation spreadsheet and correct errors.

Station	Sampling Date	Flow data missing or incorrect?

Total number of occurrences: 0

B. Identify incorrect or missing discharge measurements, correct errors in database and re-verify.

Station	Sampling Date	Flow data missing or incorrect?	Re-verified?

Total number of occurrences: 0

Not Applicable
 Step 3 Completed *Initials: SJK* *Date: 12/14/22*

Step 4: Verify Analytical Results for Missing Information or Questionable Results

Were any results with missing/questionable information identified? Yes No

If no, proceed; if yes, indicate results with missing information or questionable results or attach report. Contact data source and indicate action taken. Complete this step upon receipt of missing information or clarification of questionable results (clarify questionable results only, DO NOT change results without written approval (from lab or QA officer) and associated documentation).

RID	Sample Date	Missing or Questionable Information/Results	Action Taken
Rio Grande South	<u>10/5/2022</u>	Lab report lists Dissolved Phosphorous results as "Total Phosphorous" for "filtered sample".	BHI added note to the lab report.

Total number of occurrences: 1

Step 4 Completed *Initials: SJK Date: 12/14/22*

Step 5: Validate Blanks Results

Were any analytes of concern detected in blank samples? Yes No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager, with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes have been added to database correctly.

RID	Sample Date	Parameter	[Blank]	[Sample]	Validation Code/Flag Applied	Code/Flag verified in database? *

*See validation procedures to determine which associated data need to be flagged and include on *Validation Codes Form*.

Total number of occurrences: 0

Step 5 Completed *Initials: SJK Date: 12/14/22*

Step 6: Validate Holding Times Violations

Were any samples submitted that did not meet specified holding times? Yes No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes/flags have been added to database.

RID	Sample Date	Parameter	[Blank]	[Sample]	Validation Code/Flag Applied	Code/Flag verified in database to ALL associated data?*

--	--	--	--	--	--	--

*See validation procedures to determine which associated data need to be flagged.
 *Note – Lab reports lists pH with hold time flag. Database uses field data reported pH, so this is hold time is not applicable.

Total number of occurrences: 0

Step 6 Completed *Initials: SJK* *Date: 12/14/22*

Step 7: Validate Replicate/Duplicate Results (if applicable)

Were any replicate/duplicate pairs submitted outside of the established control limit of 20%?

Yes No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes/flags have been added to database.

RID Pairs	Replicate or Duplicate?	Sample Date	Parameter	RPD	Validation Code/Flag Applied	Code/Flag verified in database applied?*

Total number of occurrences: 0

Step 7 Completed *Initials: SJK* *Date: 12/14/22*

After all of the above steps have been completed, save and print the worksheet, attach all applicable supplemental information and sign below.

I acknowledge that the data verification and validation process has been completed for the data identified above in accordance with the procedures described in the CMC QAPP, SOP #2



12/14/22

 Data Verifier/Validator Signature

 Date

COMPLETION OF DATA VERIFICATION AND VALIDATION PROCESS

Once the data verification and validation process has been completed for the entire study (note: if the worksheet is for a subset of the data from a study, be sure ALL the data for the entire study is included before final completion of the data verification and validation process), notify the NMSQUID administrator that the process is complete and request that "V V in STORET" be added to the project title.

Once all data have been verified and validated for a study provide copies of ALL *Data Verification and Validation Worksheets* and attachments associated with the study to the Quality Assurance Officer and retain originals in the project binder.

Attachment 1.2 SWQB Validation Codes

When deficiencies are identified through the data verification and validation process, AMAFCA documents or “flags” the deficiencies by assigning validation codes. All data collected from the last compliant QC sample and up to the next compliant QC sample are assigned validation codes. The validation code alerts the data user that the results are outside QA control limits and may require re-sampling or a separate, qualitative analysis based on professional judgment.

Validation Code	Definition	WQX Equivalent
A1	Sample not collected according to SOP	
B1	Chemical was detected in the field blank at a concentration less than 5% of the sample concentration.	
BN	Blanks NOT collected during sampling run	
BU	Detection in blank. Analyte was not detected in this sample above the method's sample detection limit.	BU
RB1	Chemical was detected in the field blank at a concentration greater than or equal to 5% of the sample concentration. Results for this sample are rejected because they may be the result of contamination; the results may not be reported or used for regulatory compliance purposes.	B
R1	Rejected due to incorrect sample preservation	R
R2	Rejected due to equipment failure in the field	R
R3	Rejected based on best professional judgment	R
D1	Spike recovery not within method acceptance limits	
F1	Sample filter time exceeded	
J1	Estimated: the analyte was positively identified and the associated value is an approximate concentration of the analyte in the sample	J
K1	Holding time violation	H
Ea	Estimated-Incubation temperature between 35.5 and 38.0° Celsius	
Er	Rejected-Incubation temperature < 34.5 or >38.0° Celsius	
PD1	Percent difference between duplicate samples excessive	
S1	Per SLD, uncertainties (sigmas) are expressed as one standard deviation, i.e. one standard error. Small negative or positive values that are less than two standard deviations should be interpreted as “less than the detection limit.”	
S2	Data are suspect but deemed usable based on best professional judgment; documentation of justification is required and should be included in the Data Verification and Validation Packet and reported with results	
Z1	Macroinvertebrate data did not meet QC criteria specified in Section 2.5 of QAPP	
H1	Habitat data did not meet QC criteria specified in Section 2.5 of QAPP	

Attachment 1.1 Water Quality Sample Data Verification and Validation Worksheet

Study Name: Compliance Monitoring Cooperative (CMC)

Year: FY 2023 (October 2022 – Wet Season Sample)

Project Coordinator: For Data Review and Reporting – SJG, BHI

V&V Reviewer: SJG

Data covered by this worksheet: Alameda – 10/5/2022– E. coli Only Sample

Version of Verification/Validation Procedures: QAPP –AMAFCA SOP #5 (7/2022)

Step 1: Verify Field Data

A. Are all Field Data forms present and complete? Yes No

If yes, proceed; if no, attempt to locate missing forms, then indicate any remaining missing forms and action taken.

Missing Field Data Forms	Action Taken
_____	_____
_____	_____

Total number of occurrences: 0

B. Are station name and ID, and sampling date and time on forms consistent with database? Yes No

If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify.

Station and Parameter	Action Taken	Re-verified?
_____	_____	_____
_____	_____	_____

Total number of occurrences: 0

C. Are field data on forms consistent with database? Yes No

If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify.

Station	Sampling Date	Parameter(s) Corrected	Re-verified?
_____	_____	_____	_____
_____	_____	_____	_____

Total number of occurrences: 0

D. Are RIDs correct and associated with the correct analytical suite, media subdivision (e.g. surface water, municipal waste, etc.) and activity type (e.g. Field observation, Routine sample, QA sample etc.)?

Yes No

If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify

Station/RID	Sampling Date	RID Corrected	Re-verified?

Total number of occurrences: 0

Step 1 Completed Initials: SJG Date: 12/7/22

Step 2: Verify Data Deliverables

A. Have all data in question been delivered? Yes No

If yes, proceed; if no, indicate RIDs with missing data (samples or blanks) or attach report with applicable RIDs highlighted. Contact data source and indicate action taken. Complete this step upon receipt of all missing data.

RID	Submittal Date	Missing Data/Parameters	Date of Initial Verification	Date Missing Data Were Received

Total number of occurrences: 0

B. Do all of the analytical suites have the correct number and type of analytes. Yes No

If yes, proceed; if no, indicate RIDs with missing or incorrect analyte(s) or attach report with applicable RIDs highlighted. Contact data source and indicate action taken.

RID	Submittal Date	Missing or Incorrect Parameters	Action Taken	Re-verified?

Step 2 Completed Initials: SJG Date: 12/7/22

Step 3: Verify Flow Data

*Note – Not Applicable – no flow data provided with CMC sample collection

A. Identify incorrect or missing data on the flow calculation spreadsheet and correct errors.

Station	Sampling Date	Flow data missing or incorrect?
_____	_____	_____
_____	_____	_____

Total number of occurrences: 0

B. Identify incorrect or missing discharge measurements, correct errors in database and re-verify.

Station	Sampling Date	Flow data missing or incorrect?	Re-verified?
_____	_____	_____	_____
_____	_____	_____	_____

Total number of occurrences: 0

Not Applicable
 Step 3 Completed *Initials: SJJ Date: 12/7/22*

Step 4: Verify Analytical Results for Missing Information or Questionable Results

Were any results with missing/questionable information identified? Yes No

If no, proceed; if yes, indicate results with missing information or questionable results or attach report. Contact data source and indicate action taken. Complete this step upon receipt of missing information or clarification of questionable results (clarify questionable results only, DO NOT change results without written approval (from lab or QA officer) and associated documentation).

RID	Sample Date	Missing or Questionable Information/Results	Action Taken
_____	_____	_____	_____

Total number of occurrences: 0

Step 4 Completed *Initials: SJJ Date: 12/7/22*

Step 5: Validate Blanks Results

Were any analytes of concern detected in blank samples? Yes No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager, with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes have been added to database correctly.

RID	Sample Date	Parameter	[Blank]	[Sample]	Validation Code/Flag Applied	Code/Flag verified in database? *

*See validation procedures to determine which associated data need to be flagged and include on *Validation Codes Form*.

Total number of occurrences: 0

Step 5 Completed *Initials: SJJ Date: 12/7/22*

Step 6: Validate Holding Times Violations

Were any samples submitted that did not meet specified holding times? Yes No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes/flags have been added to database.

RID	Sample Date	Parameter	[Blank]	[Sample]	Validation Code/Flag Applied	Code/Flag verified in database to ALL associated data?*

*See validation procedures to determine which associated data need to be flagged.

Total number of occurrences: 0

Step 6 Completed *Initials: SJJ Date: 12/7/22*

Step 7: Validate Replicate/Duplicate Results (if applicable)

Were any replicate/duplicate pairs submitted outside of the established control limit of 20%?

Yes No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes/flags have been added to database.

RID Pairs	Replicate or Duplicate?	Sample Date	Parameter	RPD	Validation Code/Flag Applied	Code/Flag verified in database applied?*

Total number of occurrences: 0

Step 7 Completed Initials: SJG Date: 12/7/22

After all of the above steps have been completed, save and print the worksheet, attach all applicable supplemental information and sign below.

I acknowledge that the data verification and validation process has been completed for the data identified above in accordance with the procedures described in the CMC QAPP, SOP #2



12/7/22

 Data Verifier/Validator Signature

 Date

COMPLETION OF DATA VERIFICATION AND VALIDATION PROCESS

Once the data verification and validation process has been completed for the entire study (note: if the worksheet is for a subset of the data from a study, be sure ALL the data for the entire study is included before final completion of the data verification and validation process), notify the NMSQUID administrator that the process is complete and request that "V V in STORET" be added to the project title.

Once all data have been verified and validated for a study provide copies of ALL *Data Verification and Validation Worksheets* and attachments associated with the study to the Quality Assurance Officer and retain originals in the project binder.

Attachment 1.2 SWQB Validation Codes

When deficiencies are identified through the data verification and validation process, AMAFCA documents or “flags” the deficiencies by assigning validation codes. All data collected from the last compliant QC sample and up to the next compliant QC sample are assigned validation codes. The validation code alerts the data user that the results are outside QA control limits and may require re-sampling or a separate, qualitative analysis based on professional judgment.

Validation Code	Definition	WQX Equivalent
A1	Sample not collected according to SOP	
B1	Chemical was detected in the field blank at a concentration less than 5% of the sample concentration.	
BN	Blanks NOT collected during sampling run	
BU	Detection in blank. Analyte was not detected in this sample above the method's sample detection limit.	BU
RB1	Chemical was detected in the field blank at a concentration greater than or equal to 5% of the sample concentration. Results for this sample are rejected because they may be the result of contamination; the results may not be reported or used for regulatory compliance purposes.	B
R1	Rejected due to incorrect sample preservation	R
R2	Rejected due to equipment failure in the field	R
R3	Rejected based on best professional judgment	R
D1	Spike recovery not within method acceptance limits	
F1	Sample filter time exceeded	
J1	Estimated: the analyte was positively identified and the associated value is an approximate concentration of the analyte in the sample	J
K1	Holding time violation	H
Ea	Estimated-Incubation temperature between 35.5 and 38.0° Celsius	
Er	Rejected-Incubation temperature < 34.5 or >38.0° Celsius	
PD1	Percent difference between duplicate samples excessive	
S1	Per SLD, uncertainties (sigmas) are expressed as one standard deviation, i.e. one standard error. Small negative or positive values that are less than two standard deviations should be interpreted as “less than the detection limit.”	
S2	Data are suspect but deemed usable based on best professional judgment; documentation of justification is required and should be included in the Data Verification and Validation Packet and reported with results	
Z1	Macroinvertebrate data did not meet QC criteria specified in Section 2.5 of QAPP	
H1	Habitat data did not meet QC criteria specified in Section 2.5 of QAPP	

Attachment 1.1 Water Quality Sample Data Verification and Validation Worksheet

Study Name: Compliance Monitoring Cooperative (CMC)

Year: FY 2023 (October 2022 – Wet Season Sample) **Project Coordinator:** For Data Review and Reporting – SJG, BHI

V&V Reviewer: SJG

Data covered by this worksheet: Rio Grande South – 10/6/2022

Version of Verification/Validation Procedures: QAPP –AMAFCA SOP #5 (7/2022)

Step 1: Verify Field Data

A. Are all Field Data forms present and complete? Yes No

If yes, proceed; if no, attempt to locate missing forms, then indicate any remaining missing forms and action taken.

Missing Field Data Forms	Action Taken
_____	_____
_____	_____

Total number of occurrences: 0

B. Are station name and ID, and sampling date and time on forms consistent with database? Yes No

If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify.

Station and Parameter	Action Taken	Re-verified?
_____	_____	_____
_____	_____	_____

Total number of occurrences: 0

C. Are field data on forms consistent with database? Yes No

If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify.

Station	Sampling Date	Parameter(s) Corrected	Re-verified?
_____	_____	_____	_____
_____	_____	_____	_____

Total number of occurrences: 0

D. Are RIDs correct and associated with the correct analytical suite, media subdivision (e.g. surface water, municipal waste, etc.) and activity type (e.g. Field observation, Routine sample, QA sample etc.)?

Yes No

If yes, proceed; if no, indicate errors identified, correct errors in database and re-verify

Station/RID	Sampling Date	RID Corrected	Re-verified?

Total number of occurrences: 0

Step 1 Completed *Initials: SJG Date: 12/14/22*

Step 2: Verify Data Deliverables

A. Have all data in question been delivered? Yes No

If yes, proceed; if no, indicate RIDs with missing data (samples or blanks) or attach report with applicable RIDs highlighted. Contact data source and indicate action taken. Complete this step upon receipt of all missing data.

RID	Submittal Date	Missing Data/Parameters	Date of Initial Verification	Date Missing Data Were Received

Total number of occurrences: 0

B. Do all of the analytical suites have the correct number and type of analytes. Yes No

If yes, proceed; if no, indicate RIDs with missing or incorrect analyte(s) or attach report with applicable RIDs highlighted. Contact data source and indicate action taken.

RID	Submittal Date	Missing or Incorrect Parameters	Action Taken	Re-verified?
	<u>11/30/22 emailed AMAFCA on missing parameter; BOD bottle not</u>	BOD		

	<u>submitted for sample.</u>			

*Note – HEAL Lab report order number 2210315.

Step 2 Completed *Initials: SJG Date: 12/14/22*

Step 3: Verify Flow Data

*Note – Not Applicable – no flow data provided with CMC sample collection

A. Identify incorrect or missing data on the flow calculation spreadsheet and correct errors.

Station	Sampling Date	Flow data missing or incorrect?
_____	_____	_____
_____	_____	_____

Total number of occurrences: 0

B. Identify incorrect or missing discharge measurements, correct errors in database and re-verify.

Station	Sampling Date	Flow data missing or incorrect?	Re-verified?
_____	_____	_____	_____
_____	_____	_____	_____

Total number of occurrences: 0

Not Applicable
 Step 3 Completed *Initials: SJG Date: 12/14/22*

Step 4: Verify Analytical Results for Missing Information or Questionable Results

Were any results with missing/questionable information identified? Yes No

If no, proceed; if yes, indicate results with missing information or questionable results or attach report. Contact data source and indicate action taken. Complete this step upon receipt of missing information or clarification of questionable results (clarify questionable results only, DO NOT change results without written approval (from lab or QA officer) and associated documentation).

RID	Sample Date	Missing or Questionable Information/Results	Action Taken
Rio Grande South	<u>10/6/2022</u>	Lab report lists Dissolved Phosphorous results as "Total Phosphorous" for "filtered sample".	BHI added note to the lab report.

*Note – HEAL Lab report order number 2210315.

Total number of occurrences: 1

Step 4 Completed *Initials: SJG Date: 12/14/22*

Step 5: Validate Blanks Results

Were any analytes of concern detected in blank samples? Yes No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager, with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes have been added to database correctly.

RID	Sample Date	Parameter	[Blank]	[Sample]	Validation Code/Flag Applied	Code/Flag verified in database? *

*See validation procedures to determine which associated data need to be flagged and include on *Validation Codes Form*.

Total number of occurrences: 0

Step 5 Completed *Initials: SJG Date: 12/14/22*

Step 6: Validate Holding Times Violations

Were any samples submitted that did not meet specified holding times? Yes No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes/flags have been added to database.

RID	Sample Date	Parameter	[Blank]	[Sample]	Validation Code/Flag Applied	Code/Flag verified in database to ALL associated data?*

*See validation procedures to determine which associated data need to be flagged.
 *Note – Lab reports lists pH with hold time flag. Database uses field data reported pH, so this is hold time is not applicable.

Total number of occurrences: 0

Step 6 Completed Initials: SJG Date: 12/14/22

Step 7: Validate Replicate/Duplicate Results (if applicable)

Were any replicate/duplicate pairs submitted outside of the established control limit of 20%?

Yes No

If no, proceed; if yes, list results that need to have validation codes applied in the database save these results as an excel file and forward to QA officer or Program Manager with a request to add appropriate validation codes to database. Complete this step after verifying that validation codes/flags have been added to database.

RID Pairs	Replicate or Duplicate?	Sample Date	Parameter	RPD	Validation Code/Flag Applied	Code/Flag verified in database applied?*

Total number of occurrences: 0

Step 7 Completed Initials: SJG Date: 12/14/22

After all of the above steps have been completed, save and print the worksheet, attach all applicable supplemental information and sign below.

I acknowledge that the data verification and validation process has been completed for the data identified above in accordance with the procedures described in the CMC QAPP, SOP #2



12/14/22

Data Verifier/Validator Signature

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Once the data verification and validation process has been completed for the entire study (note: if the worksheet is for a subset of the data from a study, be sure ALL the data for the entire study is included before final completion of the data verification and validation process), notify the NMSQUID administrator that the process is complete and request that "V V in STORET" be added to the project title.

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R1	Rejected due to incorrect sample preservation	R
R2	Rejected due to equipment failure in the field	R
R3	Rejected based on best professional judgment	R
D1	Spike recovery not within method acceptance limits	
F1	Sample filter time exceeded	
J1	Estimated: the analyte was positively identified and the associated value is an approximate concentration of the analyte in the sample	J
K1	Holding time violation	H
Ea	Estimated-Incubation temperature between 35.5 and 38.0° Celsius	
Er	Rejected-Incubation temperature < 34.5 or >38.0° Celsius	
PD1	Percent difference between duplicate samples excessive	
S1	Per SLD, uncertainties (sigmas) are expressed as one standard deviation, i.e. one standard error. Small negative or positive values that are less than two standard deviations should be interpreted as “less than the detection limit.”	
S2	Data are suspect but deemed usable based on best professional judgment; documentation of justification is required and should be included in the Data Verification and Validation Packet and reported with results	
Z1	Macroinvertebrate data did not meet QC criteria specified in Section 2.5 of QAPP	
H1	Habitat data did not meet QC criteria specified in Section 2.5 of QAPP	

Section 6**Annual Report Responsibilities for Cooperation Programs**

- 6.1 Middle Rio Grande Stormwater Quality Team Outcomes Report FY2022-2023
- 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 Data Entry into NetDMR System

Outcome Report

for Fiscal Year 2022–2023

(July 1, 2022 to June 30, 2023)



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 2022–2023, the Storm Team reached over 100,000 individuals in the Albuquerque Metro area through special events, educational efforts, as well as digital promotions via various social media and the website.

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.



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

Bernalillo County1

City of Albuquerque7

Middle Rio Grande Stormwater Quality Team..... 35

Village of Corrales..... 36

Village of Los Ranchos 37

Rio Rancho 38

Ciudad Soil and Water Conservation District 62

Southern Sandoval County Arroyo Flood Control Authority 120

Town of Bernalillo147

UNM | BEMP | Bosque School148

AMAFCA 166





Bernalillo County

Public Outreach and Education Tracking

FY2023: July 1, 2022 – June 30, 2023

Date	Location	Event Topic	Description of Education/Outreach Event Program/Materials	NRS Programs	Partner Organizations	Participants	Source for Participant Count
Q1							
7/9, 7/30, 8/27, 9/10, 9/24/2022	Tijeras Creek Remediation Project	Volunteer work days, 3 hrs each	Working on watershed restoration by addressing erosion, removing invasive plants, addressing tree health (pruning dead/broken branches), had watering	Water Conservation, Stormwater	Ciudad SWCD, TCWC organization members	27	attendance
7/22/2022	ABCWUA water bill insert	Residential rainwater harvesting PSA	Water bill insert on residential rainwater harvesting that included benefits, steps you can take, and link to more resources.	Water Conservation, Stormwater	Arid LID Coalition	210,000	Total printed copies of insert
8/13/2022	Gutierrez Hubbell House (6029 Isleta Blvd SE, Albuquerque, NM 87105)	Drip Irrigation Repair for Homeowners Workshop	Hands-on workshop for homeowners on drip irrigation repair.	Water Conservation	ABCWUA	17	Headcount at event. 24 registered per Cervis.
9/14/2022	GovDelivery Email	News Bulletin	News Bulletin advertising Water Fair and Well Owner Workshop	Water Conservation, Hydrogeology, Review and Permitting		1,345	Unique recipients for Water Conservation, Hydrogeology, and Review and Permitting email lists
9/25/2022	Los Vecinos Community Center (478 NM-333, Tijeras, NM 87059)	East Mountain Celebration	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, Hydrogeology, Review and Permitting		2,300	BernCo Office of Community Engagement and Outreach
9/25/2022	Los Vecinos Community Center (478 NM-333, Tijeras, NM 87059)	Water Fair	Provided staff support for NMDOH/NMED Water Fair at East Mountain Celebration. Included mail out of flyer advertising water fair to 600 Carnuel residents.	Hydrogeology, Review and Permitting	NMDOH, NMED	51	NMDOH count of water samples analyzed



Q2							
10/8/2022	Polk Middle School (2220 Raymac Rd SW, Albuquerque NM 87105)	Household Hazardous Waste (HHW) Collection Event	HHW weekend collection event	Stormwater, Review & Permitting		16	Count
10/15/2022	James McGrane Public Safety Complex (48 Public School Rd, Tijeras, NM 87059)	Well Owner Workshop	3 hour presentation on water quality testing, drinking water contaminants, water rights, well permitting and tagging, East Mountain groundwater resources, financial incentives for water conservation.	Water Conservation, Stormwater, Hydrogeology, Review and Permitting	NMDOH, NMED, OSE	29	NMDOH
11/16/2022	Albuquerque Open Space Visitors Center (6500 Coors Blvd NW, Albuquerque, NM 87120)	Green Stormwater Infrastructure Maintenance Training through ABCWUA WaterSmart Academy	Cofacilitated training with MRWM Landscape Architects on arid-adapted green stormwater infrastructure maintenance for an audience of landscape professionals.	Stormwater, Water Conservation	ABCWUA, MRWM Landscape Architects	8	attendance
11/18/2022	Expo New Mexico	STEAM Discovery Fair	6 hour event for middle school students highlighting Natural Resources as a STEAM career. Worked with the Envirosapes model to discuss hydrology, pollution prevention and water conservation.	Water Conservation, Stormwater, Hydrogeology, Review and Permitting	Big Brothers Big Sisters of Central New Mexico	1,506	attendance
12/10/2022	Tijeras Creek Remediation Project	Volunteer work days, 3 hrs each	Working on watershed restoration by addressing erosion, removing invasive plants, addressing tree health (pruning dead/broken branches), had watering	Water Conservation, Stormwater	Ciudad SWCD, TCWC organization members	5	attendance
12/14/2022	Bernco PROS	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		9	attendance
Q3							
2/1/2023	Albuquerque Open Space Visitors Center (6500 Coors Blvd NW, Albuquerque, NM 87120)	Green Stormwater Infrastructure Maintenance Training through ABCWUA WaterSmart Academy	Cofacilitated training with MRWM Landscape Architects on arid-adapted green stormwater infrastructure maintenance for an audience of landscape professionals.	Stormwater, Water Conservation	ABCWUA, MRWM Landscape Architects	16	attendance



3/1 – 3/3/2023	Hybrid conference (virtual and in-person at Indian Pueblo Cultural Center at 2401 12th St NW, Albuquerque, NM 87104)	Land and Water Summit	Professional conference that provides 2-days of presentations and 1-day tour of local Green Stormwater Infrastructure projects. 2023 conference theme: Communities, Collaboration, & Climate Change, highlighting local, collaborative responses to climate change. BernCo is a conference sponsor and BernCo staff sit on conference Planning Committee.	Water Conservation, Stormwater Quality, Hydrogeology	Ciudad Soil and Water Conservation District, Arid LID Coalition	378	Whova (virtual conference platform) report
3/11/2023	Tijeras Creek Remediation Project	Volunteer work days, 3 hrs each	Working on watershed restoration by addressing erosion, removing invasive plants, addressing tree health (pruning dead/broken branches), had watering	Water Conservation, Stormwater	Ciudad SWCD, TCWC organization members	5	attendance
3/18/2023	Valle de Oro Backyard Refuge (7851 2nd St SW, Albuquerque, NM 87105)	“Incorporating Passive Rainwater Harvesting into Your Backyard Refuge” presentation at Backyard Refuge Day	Presentation addressed steps to designing, constructing, and maintaining residential passive rainwater harvesting features, drawing context from residential passive rainwater harvesting video series at bernco.gov/rainwater .	Water Conservation, Stormwater Quality	Friends of Valle de Oro Refuge	54	Friends of Valle de Oro Refuge count
3/20/2023	Gutierrez Hubbell House (6029 Isleta Blvd SE, Albuquerque, NM 87105)	Hands-on Training on Drip Irrigation Installation for Grow the Growers Farm Training Program	Hands-on instruction on installation of drip irrigation systems for 2023 Grow the Growers trainees. Workshop included installation of irrigation main lines in Gutierrez Hubbell House Medicinal Garden.	Water Conservation		5	Workshop headcount
3/14/2023, 3/17/2023, 4/7/2023	GovDelivery Email	News Bulletin	News Bulletins advertising Backyard Refuge Day, Irrigation Efficiency Exhibit and workshops	Water Conservation, Stormwater Quality, Hydrogeology		1,502	GovDelivery report
2/23/2023, 2/28/2023, 3/9/2023, 3/16/2023	Mountain View Community Center	GSI Maintenance Training for BernCo Land Management, Drainage Maintenance, and Clean Team staff	Education for landscape maintenance staff for understanding what Green Stormwater Infrastructure is, how to maintain GSI facilities, and how to maintain plants in and around these facilities.	Water Conservation, Stormwater Quality	Arid LID Coalition	60	headcount at training



Q4

4/1/2023 – 5/27/2023	Gutierrez Hubbell House (6029 Isleta Blvd SE, Albuquerque, NM 87105)	Irrigation Efficiency Exhibit	Exhibit based on content from Water Authority’s Irrigation Efficiency Guide. Addresses how to efficiently water different types of landscapes, using drip irrigation, spray irrigation, hose watering, flood irrigation, and rainwater harvesting. Includes hands-on elements to demystify irrigation systems. In English and Spanish.	Water Conservation, Stormwater Quality	Water Authority, Middle Rio Grande Conservancy District, Arid LID Coalition, Groundwork Studio	704	Individual and group visitor counts per Open Space (Dave Ottaviano)
4/8/2023	Gutierrez Hubbell House (6029 Isleta Blvd SE, Albuquerque, NM 87105)	Tree Irrigation Workshop	Hands-on workshop on how to install drip irrigation for trees. Workshop attendees installed new drip lines to trees in Gutierrez Hubbell House Medicinal Garden.	Water Conservation	Water Authority, Middle Rio Grande Conservancy District, Arid LID Coalition, Groundwork Studio	16	Workshop headcount
4/13/2023	TransCon, Las Cruces, NM	Panel: Why GSI? Green Stormwater Solutions for Transportation Infrastructure	Panel presentation regarding GSI in transportation projects	Water Conservation/ Stormwater	BHI, NMDOT, PLAND Collaborative	40	Estimate
4/15/2023	Gutierrez Hubbell House (6029 Isleta Blvd SE, Albuquerque, NM 87105)	Perennial Irrigation Workshop	Hands-on workshop on how to install drip irrigation for perennials and grasses. Workshop attendees installed new drip lines to perennials in Gutierrez Hubbell House Medicinal Garden.	Water Conservation	Water Authority, Middle Rio Grande Conservancy District, Arid LID Coalition, Groundwork Studio	10	Workshop headcount
4/17/2023	Bernalillo County Alvarado Square	NRS Earth Day Lunch and Learn – Bioremediation in GSI Features	Presentation from this year’s Land and Water Summit by Reese Baker of the RainCatcher. After hearing the talk you’ll understand why we can’t stop talking about GSI and that there are simple solutions all around us to improve water quality and the urban environment.	Water Conservation, Stormwater Quality	Reese Baker, RainCatcher	22	attendance
4/19/2023	Bernalillo County Alvarado Square	IDDE training	Training for Bernalillo County Zoning Enforcement staff for illicit discharge detection and elimination	Stormwater Quality		8	attendance
4/22/2023, 6/10/2023, 6/24/2023	Tijeras Creek Remediation Project	TCRP workday, 3 hrs each	Working on watershed restoration by addressing erosion, removing invasive plants, addressing tree health (pruning dead/broken branches), had watering	Water Conservation, Stormwater Quality	Ciudad SWCD, TCWC organization members	19	attendance



4/23/2023	Westside Community Center	South Valley Pride Day	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		4,000	Estimate
4/26/2023	Albuquerque Open Space Visitors Center (6500 Coors Blvd NW, Albuquerque, NM 87120)	Green Stormwater Infrastructure Maintenance Training through ABCWUA WaterSmart Academy	Cofacilitated training with MRWM Landscape Architects on arid-adapted green stormwater infrastructure maintenance for an audience of landscape professionals.	Stormwater, Water Conservation	ABCWUA, MRWM Landscape Architects	4	attendance
4/29/2023	Gutierrez Hubbell House (6029 Isleta Blvd SE, Albuquerque, NM 87105)	Drip Irrigation Fundamentals Workshop	Hands-on workshop on how to build a drip irrigation system that attaches to a hose bib and how to make the most common repairs to a drip system.	Water Conservation	Water Authority, Middle Rio Grande Conservancy District, Arid LID Coalition, Groundwork Studio	16	Workshop headcount
5/13/2023	James McGrane Public Safety Complex (48 Public School Rd, Tijeras, NM 87059)	Tablazon Groundwater	Presentation to Tablazon Water Users Association on Updates to the Groundwater Program, Sandia Basin Closure update, East Mountain and Tablazon water level trends.	Hydrogeology		30	TWUA sign in sheet
5/18/2023	GovDelivery Email	News Bulletin	News Bulletin advertising new Passive Rainwater Harvesting Guide, Next Generation Water Summit, changes to Water Conservation Incentive Program	Water Conservation, Stormwater Quality		1,972	GovDelivery report
5/25/2023	Online	Tijeras Creek Natural Resources Cluster Meeting	Tijeras Creek Watershed Restoration Project discussion and solicitation of ideas for project; watershed planning for the Upper Tijeras Creek Watershed	Stormwater Quality	Ciudad Soil and Water Conservation District, Bernco OS, City OS	11	meeting headcount
6/3/2023	Paradise Hills Community Center	Day in Paradise community event	Evening in Paradise – District focused general community event	Water Conservation, Stormwater Quality		1,700	
6/8/2023	Los Vecinos Community Center (478 NM-333, Tijeras, NM 87059)	Comprehensive Plan Community Update – South Valle	Comprehensive Plan community meeting, Staff offered general support for Q&A for environmental issues	Stormwater/ Water Conservation / Hydrogeology / Review & Permitting		30	Estimate
6/13/2023	Westside Community Center	Comprehensive Plan Community Update - South Valley	Comprehensive Plan community meeting, Staff offered general support for Q&A for environmental issues	Stormwater/ Water Conservation / Hydrogeology / Review & Permitting		40	Estimate

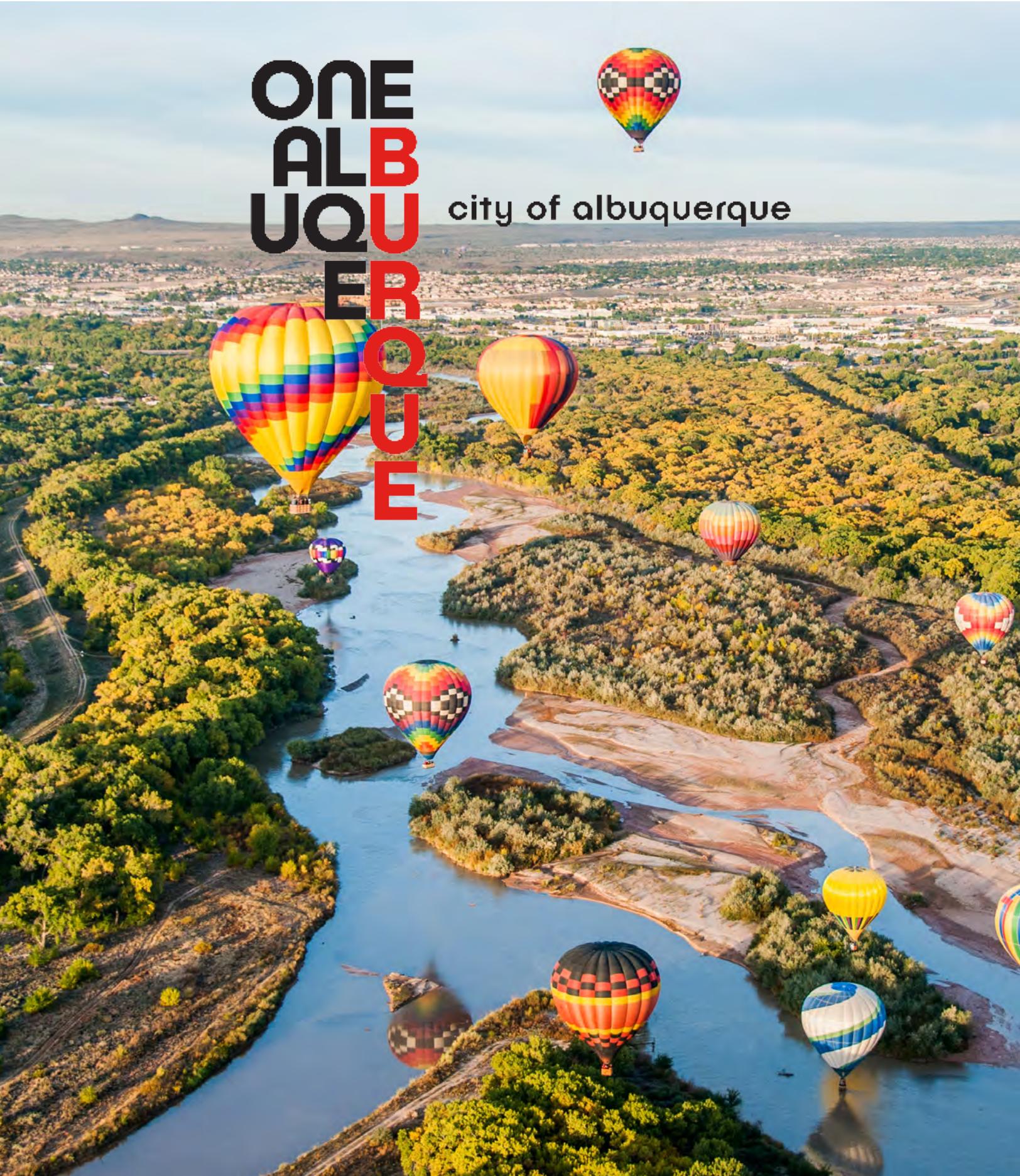


6/17/2023	TCRP, Carlito Springs	Master Naturalist presentation re: stormwater and watershed restoration; geology and hydrogeology	Stormwater, watershed restoration, invasive plant species; geology and hydrogeology of the Sandia Mtns	Stormwater/ Hydrogeology	Ciudad SWCD, TCWC organization members	25	Estimate
6/22/2023	Raymond G. Sanchez Community Center	Comprehensive Plan Community Update – North Valley and District 4	Comprehensive Plan community meeting, Staff offered general support for Q&A for environmental issues	Stormwater/ Water Conservation / Hydrogeology / Review & Permitting		40	Estimate
6/23/2023	Alvarado Square	Comprehensive Plan Community Update – Business Community	Comprehensive Plan community meeting, Staff offered general support for Q&A for environmental issues	Stormwater/ Water Conservation / Hydrogeology / Review & Permitting		40	Estimate
6/27/2023	Online	Comprehensive Plan Community Update - All areas Hybrid Meeting	Comprehensive Plan community meeting, Staff offered general support for Q&A for environmental issues	Stormwater/ Water Conservation / Hydrogeology / Review & Permitting		40	Estimate



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 2023:

City of Albuquerque MS4 Training:

SWPPP: 148 employees
SPCC: 184 employees

COA Parks and Open Space

Planting Numbers for this fiscal year

Groups: 30

Estimated – 50 Classes that made up the groups

RiverXChange Numbers for this year:

Youth: 1,044

Pre-Lesson Students Served: 914

Classrooms: 45

Classrooms: 45

Adults: 271

Pole Planting Students Served: 886

Pole Planting Adults Served: 152

Pole Planting Trees: 482

Visitor Services Projects

(annual projects, Saturday volunteer days and scout groups)

156 youth and 567 adults = 723

Total hours = 3,615

Visitor Center

Total Volunteers: 881

Total Volunteer hours = 6,069 (does not include clean-up)

NMDA Conference – 1,060 attendees

Materials distributed:

- 150 Reduce Pollution at Home Brochures/Rack Cards
- 100 Fog Brochures
- 150 New Pet Brochures
- 60 Poop Fairy Rack Cards
- 100 Oval Poop Stickers
- 100 KeeptheRioGrand Bumper Stickers
- 20 Old Version Scoop the Poop Bumper Stickers
- 50 Dogs w Poop bags
- 100 City of ABQ water drops
- 75 Poop Emoji Masks

COA Solid Waste Department

Community Volunteer Events

- Fixit Clinic – 47 participants, 15 volunteers
- Company's Comin' – 662 participants (13.5 tons of trash collected)
- One Albuquerque Cleanup Day – 718 participants (18.02 tons of trash collected)
- Junk Jog – 75 participants, 9 volunteers (4.74 tons of trash collected)
- HHW Collection Event – 22,191 lbs. of HHW (and 4,691.66 lbs. of non-regulated solid waste) from 309 residents
- Treecycling – 48.5 tons or 6,461 trees
- Recyclothes – 4.2 tons of clothing collected

Social Media Outreach



(X, formerly Twitter)

178,434 impressions, 4,321 engagements



Facebook

126,786 impressions, 9,165 engagements



Instagram

124,871 impressions, 4,267 engagements



Planting Numbers for 2021–2022

Trees Planted

Date	School	Adults	Students	Trees	Date	Group	Adults	Students	Trees		
12.15.22	Bel Air	5	37	18	3.2.23	La Mesa	5	38	40		
12.16.22	Mission Avenue	3	31	25	3.3.23	La Mesa	4	33	44		
1.12.23	Zia	10	38	25	3.8.23	Holy Ghost 5th and 6th grades	3	33	17		
1.13.23	Puesta del Sol	3	32	8	3.9.23	Cochiti	15	35	43		
1.19.23	North Valley Academy	6	29	14	3.10.23	Lavaland/Monte Vista	5	37	41		
1.20.23	Puesta/North Valley	7	44	17	3.11.23	UNM/ Peace Corps	46	22	46		
1.24.23	Holy Ghost 5th and 6th grades	Cancelled–to be rescheduled			3.12.23	Jewish Community	15	8	14		
1.25.23	Puesta del Sol	4	39	16	3.14.23	John Baker Elementary	Cancelled–to be rescheduled				
1.26.23	Seven Bar	6	41	16	3.16.23	Martin Luther Kink	4	58	35		
1.27.23	Seven Bar	4	28	12	3.17.23	Martin Luther Kink	Cancelled–to be rescheduled				
2.2.23	San Antonio	12	48	13	3.29.23	Cottonwood Classic High	3	20	14		
2.3.23	John Baker	11	42	10	3.30.23	Holy Ghost 7th and 8th grades	2	32	100		
2.9.23	San Antonio/ Chaparral	11	51	11	3.31.23	John Baker Elementary	9	35	14		
2.10.23	Monte Vista	12	45	19	TOTALS				-	-	-
2.11.23	UNM Peace Corps	23	4	29	<p>Groups: 30 Estimated – 50 Classes that made up the groups Youth 1,044, Adults 271</p> <p>Trees 754 (Cottonwood and Black Willow) Trees Remaining in troughs – 54</p> <p>RiverXChange Numbers Specifically: Pre-Lesson Students Served: 914 Classrooms: 45 Pole Planting Students Served: 886 Pole Planting Adults Served: 152 Pole Planting Trees: 482</p>						
2.15.23	Holy Ghost 7th and 8th grades	Cancelled–to be rescheduled									
2.16.23	Valle Vista	5	40	25							
2.17.23	Chaparral	10	51	16							
2.18.23	Sandia Civitans	18	4	38							
2.22.23	Cottonwood Classic High	Cancelled–to be rescheduled									
2.23.23	Maggie Cordova Elementary	5	44	18							
2.24.23	Maggie Cordova Elementary	5	45	16							



Total Waste Diverted

		FY22 Total HHW (lbs) Diverted from Landfill																
Calendar Year	Month	Recycled Waste																
		Reuse Center	RC0014 Waste Oil	RC5056 Motor Fluids	RC0016 Lead Acid Batteries	RC6006 Mercury	ACT15687 Household Paint, xylene, toluene etc	RC0011 Aerosols	RC7485 Alkaline Batteries	RC7486 Lithium Batteries	RC6254 NiCad Batteries	ACT46232 Compact Bulbs, CFL	ACT46233 HID Lamps	ACT46235 4 Foot Lamps	RC7658 8 Foot Lamps	ACT50491 Non PCB Ballast	ACT58121 Fire Extinguisher	ACT58246 Fertilizer
2021	Jul	2,250		26,721	2,100	26		2,932	1,128				321			300		
	Aug	1,530		15,085				1,414	322			164	120	116	30			
	Sep	1,134		11,197				1,775	200	245	450	120	155	71				
	Oct	1,530		24,741				1,189	455			240	120	46			100	
	Nov	1,290	180	12,866	2,000			1,980	1,100			180		62				
	Dec	798		11,210				550		300				40				
MID YEAR		8,532	180	101,820	4,100	26	0	9,840	3,205	545	614	981	0	547	147	300	100	0
2022	Jan	1,128		7,680				550	300			120		20				
	Feb	1,206		9,150					300	250			64	31				
	Mar	1,866		18,340	1,200			2,500	800	500		100	41	25	250	200		
	Apr	2,250		16,530			1,630	1,200			275	100	59				250	
	May	2,472		19,465	480		550	1,550				260					180	
	Jun	3,012		20,265			5,950	1,000								250	150	
TOTAL (lbs)		20,466	180	193,250	5,780	26	8,130	16,640	4,605	1,295	889	1,561	0	731	203	800	880	0

* Misc = Compact Bulbs, 4 ft lamps, Ballast, PCB Capacitors, Carbides, Phosphides, Fertilizers, CO2 Cylinders, etc...

TOTAL	345,540
TOTAL Recycled Waste	227,832
% Recycled	65.9%

PO Amount:	\$1,000,500.00
Paid Amount:	\$954,466.81
Amount left on PO:	\$46,033.19

PO# DSW0016901
PO# DSW0022306

* Information on this report is gathered from the Reuse forms sent by mail from ACT and the breakdown of items processed list sent by email monthly by Nicole Gwash

Sent for Destruction									TOTAL	Total Pounds Recycled	Tons Recycled	Total Destroyed	Amount Paid
RC0012 Acids	RC0013 Bases	RC0015 Flamables Toxics Incenerated	RC6002 Toxic-Solid (Poisons)	RC7129 Compressed Gas	RC7182 Oxidizers	ACT145226 Pesticides Liquid Toxic	Misc*	TOTAL					
1,119	2,407	137	1,209			2,261		42,965	July	35,832	17.92	3.57	\$105,924.00
1,646	10,985		930	362		1,547		34,251	August	18,781	9.39	7.74	\$91,903.31
1,985	860		816	180		1,414		20,602	September	15,347	7.67	2.63	\$86,831.00
2,858	8,838		600	100		3,904		44,721	October	28,421	14.21	8.15	\$85,161.75
3,160	7,190		710	110		1,700		32,528	November	19,658	9.83	6.44	\$72,841.00
1,260	1,230					2,400		17,788	December	12,898	6.45	2.45	\$59,653.00
12,028	31,510	137	4,265	0	0	0	0	192,855					
2,085	3,500					1,050		16,433	January	9,798	4.90	3.32	\$66,513.25
1,200	1,903		1,000	233		1,000		16,337	February	11,001	5.50	2.67	\$47,311.00
980	390		500	100		1,500		29,292	March	25,822	12.91	1.74	\$64,536.25
580	180		550			550		24,154	April	22,294	11.15	0.93	\$83,559.75
2,375	705		950			1,100		30,087	May	24,957	12.48	2.57	\$86,074.75
1,855	850		1,100			1,950		36,382	June	30,627	15.31	2.88	\$104,157.75
21,103	39,038	137	8,365	0	0	0	0	345,540		255,436	127.72	34.32	\$954,466.81

City of Albuquerque and Bernalillo County: Public Participation Numbers

Household Hazardous Waste Collection Participation											
July 2021- June 2022											
Month	Participants w/Unknown Location or Not Enough Info to Geocode	Total	Orphaned waste at facility	City Participants (City + No Match or Not Enough Info)	County Participants	Out of County	Out of County Breakdown	County Percentage	Monthly Cost	Light Bulbs (add on to monthly cost)	Total Cumulative Cost
Jul-22	141	1465	0	1271	191	3	3-Sandoval County	13.0%	\$95,225.00	\$2,146.75	\$97,371.75
Aug-22	128	1344	0	1162	178	4	4-Sandoval County	13.2%	\$87,360.00	\$2,537.75	\$89,897.75
Sep-22	136	1248	0	1083	163	2	2-Sandoval County	13.1%	\$81,120.00	\$891.50	\$82,011.50
Oct-22	143	1101	0	954	146	1	1-Sandoval County	13.3%	\$71,565.00	\$2,788.75	\$74,353.75
Nov-22	90	865	0	751	110	4	4-Sandoval County	12.7%	\$56,225.00	\$503.25	\$56,728.25
Dec-22	115	820	0	705	115	0	-	14.0%	\$53,300.00	\$1,469.50	\$54,769.50
Jul-Dec 2022	753	6843	0	5,926	903	14	-	13.2%	\$444,795.00	\$10,337.50	\$455,132.50
Jan-23	76	833	0	710	121	2	2-Sandoval County	14.5%	\$54,145.00	\$1,065	\$55,210.00
Feb-23	169	718	0	624	94	0	-	13.1%	\$46,670.00	\$1,475	\$48,145.25
Mar-23	288	1014	0	913	101	0	-	10.0%	\$65,910.00	\$6,000	\$71,910.00
Apr-23	378	1232	0	1115	117	0	-	9.5%	\$80,080.00	\$1,286	\$81,366.00
May-23	404	1359	0	1223	136	0	-	10.0%	\$88,335.00	\$1,158	\$89,492.75
Jun-23	476	1532	0	1,371	161	0	-	10.5%	\$99,580.00	\$1,446	\$101,026.00
Jan-Jun 2023	1,791	6,688	0	5,956	730	2	-	10.9%	\$434,720.00	\$12,430	\$447,150.00
FY23 Total	2,544	13,531	0	11,882	1,633	16		12.1%	\$879,515.00	\$22,768	\$902,282.50
				Participant Total (other than orphaned)		13,531					
Monthly Average	1128										
Participant Fee	\$	65.00									
FY23 Budget	\$	1,000,000.00									
Remaining Balance	\$	97,717.50									
								Participants	Percentage	Cost	
BERNCO Participation to date								1,633	12.1%	\$106,145	
Unknown or Not Enough Info to Geocode (costs absorbed by COA)								2,544	18.80%	\$165,360	

All information in this report comes from ACT—Nichole Gwash (NGwash@ACTEnviro.com) by email. She will send an invoice, a list of residents (which must then be sent to Ben Sanborn for geocoding), a list of items processed, and any logs for drums and light bulbs & tubes.



Silt/Trash/Debris/Vegetation Removed from Arroyos & Catch Basins

Silt/Trash/Debris/Vegetation Removed from Arroyos & Catch Basins																	
Cerro Colorado Landfill																	
2022 ▶	July	August	September	October	November	December	2023 ▶	January	February	March	April	May	June				
	Trips	Trips	Trips	Trips	Trips	Trips			Trips	Trips	Trips	Trips	Trips	Trips	TOTAL	Trips	Qty.
Tandem	13	7	15	7	6	7		9	4	26	14	8	16	TOTAL	132	1,320.0 cubic yards	
Bobtail	0	15	1	0	0	0		0	0	4	5	0	2	TOTAL	27	162.0 cubic yards	
TOTALS	13	22	16	7	6	7		9	4	30	19	8	18	TOTAL	159	1,482.0 cubic yards	
															One (1) Tandem Load is approximated to equal:		9.0 cubic yards
															One (1) Bobtail Load is approximated to equal:		6.0 cubic yards
Southwest Landfill																	
2022 ▶	July	August	September	October	November	December	2023 ▶	January	February	March	April	May	June				
	Trips	Trips	Trips	Trips	Trips	Trips			Trips	Trips	Trips	Trips	Trips	Trips	TOTAL	Trips	Qty.
Tandem	0	0	0	0	0	0		0	0	0	0	0	0	TOTAL	0	0.0 cubic yards	
Bobtail	0	0	0	0	0	0		0	0	0	0	0	0	TOTAL	0	0.0 cubic yards	
TOTALS	0	0	0	0	0	0		0	0	0	0	0	0	TOTAL	0	0.0 cubic yards	
															TOTAL For Fiscal Year 2023 Both Landfills:		1,482.0 cubic yards
															FY-2022 Cubic Yardage Totals Reported:		3,712.0 cubic yards



Fiscal Year 2023

Data Entered has been acquired from Supervisors' Section Spreadsheets which are based on Landfill Ticket Data

Reported In Calendar Year	Reporting Month	Reporting Section City East Side Sweeping		Reporting Section City West Side Sweeping		Reporting Section City Trouble Shooters		Reporting Section *Storms & Arroyos Sections	
		Tons	Cubic Yards	Tons	Cubic Yards	Tons	Cubic Yards	Tons	Cubic Yards
2022	July	297.65	240.00	242.29	260.00	11.65	52.00	94.23	130.00
2022	August	177.61	180.00	286.41	270.00	17.51	58.00	98.28	160.00
2022	September	161.12	170.00	167.63	200.00	24.52	52.00	150.56	156.00
2022	October	209.20	220.00	168.18	190.00	9.89	48.00	63.02	70.00
2022	November	160.19	240.00	191.58	270.00	35.97	46.00	21.45	60.00
2022	December	264.59	370.00	223.55	330.00	20.80	50.00	45.68	70.00
2023	January	160.47	200.00	306.71	330.00	78.99	94.00	72.32	90.00
2023	February	150.00	180.00	121.94	190.00	6.39	70.00	9.22	40.00
2023	March	228.56	230.00	223.69	250.00	20.81	60.00	282.40	284.00
2023	April	184.11	200.00	153.66	210.00	4.83	36.00	113.84	170.00
2023	May	196.56	250.00	176.50	230.00	10.73	58.00	94.48	80.00
2023	June	204.82	220.00	103.76	156.00	34.68	98.00	94.72	172.00
Section's Totals For FY2023 ▶		<u>City East Side Sweeping</u>		<u>City West Side Sweeping</u>		<u>City Trouble Shooters</u>		<u>*Storms & Arroyos Sections</u>	
		Tons	Cubic Yards	Tons	Cubic Yards	Tons	Cubic Yards	Tons	Cubic Yards
		2,394.88	2,700.00	2,365.90	2,886.00	276.77	722.00	1,140.20	1,482.00
		\$71,846.40		\$70,977.00		\$8,338.50		\$34,206.00	

		Cost Paid Per	Total Paid
		Ton	FY-2023
COA / DMD / SMD Trouble Shooters & East & West Side Sweeper Section's Combined Total Tons Reported for Fiscal Year 2023:	5,037.55 Tons	\$30.00	\$151,126.50
COA / DMD / SMD Trouble Shooters & East & West Side Sweeper Section's Combined Total Cubic Yards Reported for Fiscal Year 2023:	6,308.00 Cubic Yards		

		Cost Paid Per	Total Paid
		Ton	FY-2023
COA / DMD / SMD Storm & Arroyo Maintenance Section's Combined Total Tons Reported for Fiscal Year 2023:	1,140.20 Tons	\$30.00	\$34,206.00
COA / DMD / SMD Storm & Arroyo Maintenance Section's Combined Total Cubic Yards Reported for Fiscal Year 2023:	1,482.00 Cubic Yards		

		Cost Paid Per	Total Paid
		Ton	FY-2023
All Four Reporting Sections Combined Total Tons Reported for Fiscal Year 2023:	6,177.75 Tons	\$30.00	\$185,332.50
All Four Reporting Sections Combined Total Cubic Yards Reported for Fiscal Year 2023:	7,790.00 Cubic Yards		





1. Household Hazardous Waste Program Background

Stormwater discharges in Bernalillo County are regulated under the Clean Water Act. Bernalillo County is authorized to discharge stormwater under the National Pollutant Discharge Elimination System (NPDES) Watershed-Based Municipal Separate Storm Sewer System (MS4) General Permit No. NMR04A00 (Permit) for the Middle Rio Grande Watershed (MRG), which was issued on December 22, 2014. The purpose of the permit is to protect and improve stormwater quality in the MRG. Under Part 1.D.5.e(iv) of the Permit, the permittee is required to develop, update, and implement a household hazardous waste collection program. In cooperation with the City of Albuquerque (COA), Bernalillo County and the COA established the Household Hazardous Waste (HHW) Collection Program, which meets this requirement. This report summarizes fiscal year 2023 (FY23) HHW collection events and the HHW overall program.

Each calendar year the County's zoning enforcement department identifies neighborhoods for clean ups and residential collection events based on field observations and records of complaints regarding trash and abandoned waste. As part of the residential waste collection event planning process, the Bernalillo County Solid Waste section drafts and distributes a proposed schedule of events to the Zoning, Solid Waste, and Natural Resource Services (NRS) sections. Approximately 20 events are scheduled for spring, summer, and fall each year.

The NRS section selects on average eight to ten residential waste collection events to provide HHW collection and disposal opportunities; in FY23 NRS was able to host six events. Once the HHW collection event schedule is finalized, the county coordinates logistics with the HHW contractor. Only residential HHW is accepted at these events, no commercial HHW is accepted. Sharps, biological waste, and tires are not accepted at these events. A list of accepted HHW items can be found on the county's website here: <https://www.bernco.gov/public-works/public-works-services/trash-recycling/household-hazardous-waste>. Selection of residential waste collection event locations including HHW collection and disposal are based on previous years data regarding the amount of waste, number of participants, and frequency of HHW events conducted in the area. Number and frequency of illicit discharge complaints by geographic area may also be used to determine location of an HHW event.

Bernalillo County has operated an HHW program since 1992, prior to issuance of the NPDES Stormwater Discharge Permit. In 2015 the NRS section took over management of the HHW collection event program. The annual budget for this program is \$46,844. However, this budget is not fully allotted to the HHW collection program as it also includes costs to address abandoned or orphaned waste in unincorporated Bernalillo County.

The Bernalillo County NRS contract for a HHW contractor went out to bid during FY23 through a formal Request for Proposal (RFP) process. The HHW contract terms were amended during this RFP process to alleviate mobilization costs for the HHW contractor. The contract was updated to include a flat compensation of \$1,950 per event, plus a \$65 per customer charge after 20 customers have used the HHW services. The county received bids from two contractors – ACT Environmental (ACT) and Clean Harbors Inc. Clean Harbors was selected as the low bidder through the RFP evaluation process and awarded a four-year contract to serve as the contractor for HHW clean-up events as well as the on-call contractor to respond to incidents of illegal dumping and illicit discharge of potentially hazardous materials. Transition to the new contractor for these services occurred during FY23.

Prior to an HHW collection event, NRS staff coordinate with the HHW contractor. One to two county NRS employees are present at the event to collect information regarding HHW disposal and to provide educational materials to residents. Information collected prior to FY 2020 included resident address, general type and amount of waste, and screening for non-permissible or commercial waste. In FY 2021 the information collected changed to only include name, license plate number, and address. A copy of the educational materials provided to residents is included in **Appendix A**. Following the event, NRS staff provide the number of event participants to the HHW contractor staff for billing purposes. HHW



contractor staff sort and assemble the HHW material for proper disposal and provide a copy of the provisional waste manifest(s) to the County. Following disposal of the HHW, the contractor sends the final manifest to the County, including an adjusted invoice based on the mobilization fee and the number of participants. **Appendix B** provides a contact list for the NRS HHW collection program. **Appendix C** is a summary of clean-up events for FY23.

Outside of the HHW collection events, ACT Environmental provides a permanent drop-off site for hazardous waste year-round for both the City of Albuquerque and Bernalillo County residents. This facility is located at 6137 Edith Blvd NE, where ACT accepts waste on Mondays, Wednesdays, and Fridays from 8:30 am to 4:30 pm and Saturdays from 8 am to 3 pm. The City of Albuquerque maintains the contract with ACT, and through an Intergovernmental Service Agreement (ISA) with Bernalillo County, allows unincorporated County residents to utilize the ACT disposal and recycling facility. Via the ISA, the County contributes \$90,000 per year for 2,000 county resident uses per year. Additional uses by residents of the unincorporated county, above this number, are charged to the County by the City at a pre-negotiated rate (typically \$65 to \$70 per use.) The number of allowed uses under the lump sum annual charge, and the per additional use costs, are subject to annual contract negotiations between the City and the County.

Resident address and zip code information collected at the ACT facility is used to determine the amount of the annual reimbursement requested by the COA. The weights of materials dropped off by residents of the unincorporated county is not explicitly tracked. For report purposes, the annual number of unincorporated County residents utilizing the facility as reported by ACT has been provided (**Appendix D**). The total weight of HHW materials disposed of at the ACT facility by unincorporated county residents is estimated by multiplying the total weight of all HHW materials for FY23 by the percentage of customers from the unincorporated county.

2. Summary of FY23 Household Hazardous Waste Collection Events

In FY23, Bernalillo County hosted six HHW weekend collection events in association with the general waste collection events. During the six events, 184 individuals participated and 10,289 pounds of HHW were collected (Table 1). FY23 HHW collection events consisted of two events held in the South Valley, one event in the North Albuquerque Acres area and three events in the East Mountains (Figure 1). Participation rates at these events ranged from 8 to 58 individuals and an average of 30.7 participants per event and 1,715 pounds of HHW materials per event. A sample NRS data collection sheet is included in **Appendix E**.

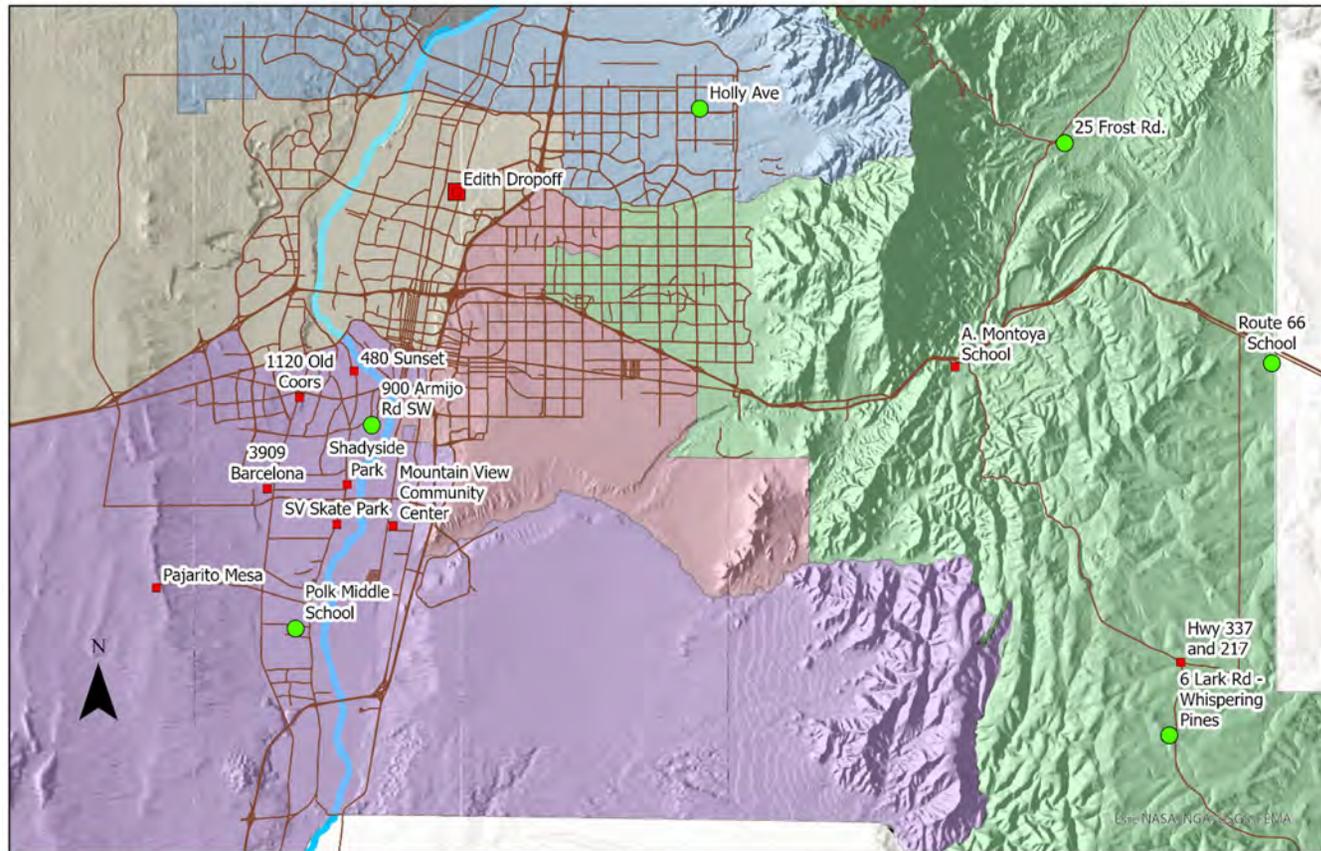
In FY23, ACT reported 13,531 residents using its services to dispose of HHW at their permanent facility at 6137 Edith Blvd NE. Of the total residents, 1,633 reported as living in the unincorporated county, making up 12.1% of all users, at a cost of \$106,145 (\$65/user). Total waste accepted at the ACT facility for FY23 was 345,540 pounds for all users. The estimated weight of HHW material contributed by county residents is 41,810 pounds (Figure 6).



Table 1. FY2022 Household Hazardous Waste Collection Event Summary

Event Location	Event Date	Number of Participants	NON RCRA Haz Waste (Bulbs)	NON DOT Regulated (CF Bulbs)	Corrosive liquids (HCL, H3PO4)	Corrosive liquids	Aerosols	Batteries (Wet Non spillable)	Mercury	Latex paint	NON DOT Regulated Material (Soap, Oil, Antifreeze)	Pesticides (liquid)	Paint Related Material	Oxidizing solid (Ca Hypochlorite)	Pesticides (Solid)	Batteries (Dry Sealed)	Flammable liquids	Lithium Batteries	Total HHW (pounds)
25 Frost Rd Sandia Park	7/9/22	58	15	--	15	35	140	65	--	800	1400	--	--	65	135	119	400	7	3196
6 Lark Rd. Tijeras	7/23/2022	17	7	--	25	--	65	--	--	--	750	35	--	9	--	75	400	5	1371
2220 Raymac Rd SW Albuquerque	10/8/2022	16	--	--	--	--	250	15	--	--	--	--	--	--	--	--	50	--	315
900 Armijo Rd. SW Albuquerque	4/22/2023	8	--	--	--	--	1	282	--	--	197	45	264	2	--	226	--	--	1017
10401 Holly Ave NE Albuquerque	5/20/2022	56	15	34	23	74	136	29	5	813	468	326	564	4	98	45	--	--	2634
805 Barton Rd. Edgewood	6/24/2023	29	33	--	8	--	15	261	--	--	917	185	337	--	--	--	--	--	1756
<i>Total (pounds)</i>		184	70	34	71	109	607	652	5	1613	3732	591	1165	80	233	465	850	12	10289

Figure 1 Location of HHW collection events. FY23 HHW event locations are represented by green circles; red circles indicate past HHW event locations. The permanent HHW collection site managed by ACT is shown by the red square.



Household Hazardous Waste
Collection Sites
Bernalillo County FY 2023

- HHW Collections Site**
- Historic sites
 - FY23 Sites
 - ACT Edith Drop-Off Site

- District and Comissioner**
- 1 - Barbara Baca
 - 2 - Steven Michael Quezada

- 3 - Adriann Barboa
- 4 - Walt Benson
- 5 - Eric C. Olivas

3. HHW Historical Trend Analysis

Data analysis for fiscal years 2013-2023 is provided in **Figures 2-5**. Collection data prior to 2013 is not available. **Figures 2 and 3** present HHW total weight and participation for events conducted at East Mountain locations and North Albuquerque Acres. **Figures 4 and 5** present HHW total weight and participation for events held in the South Valley.

Events conducted in the East Mountains area and North Albuquerque Acres generally have greater participation rates and volume of waste collected, justifying focus of collection efforts in these areas. Events in the South Valley generally are not as well attended. Additional outreach and education efforts in the South Valley may be needed to increase participation rates.

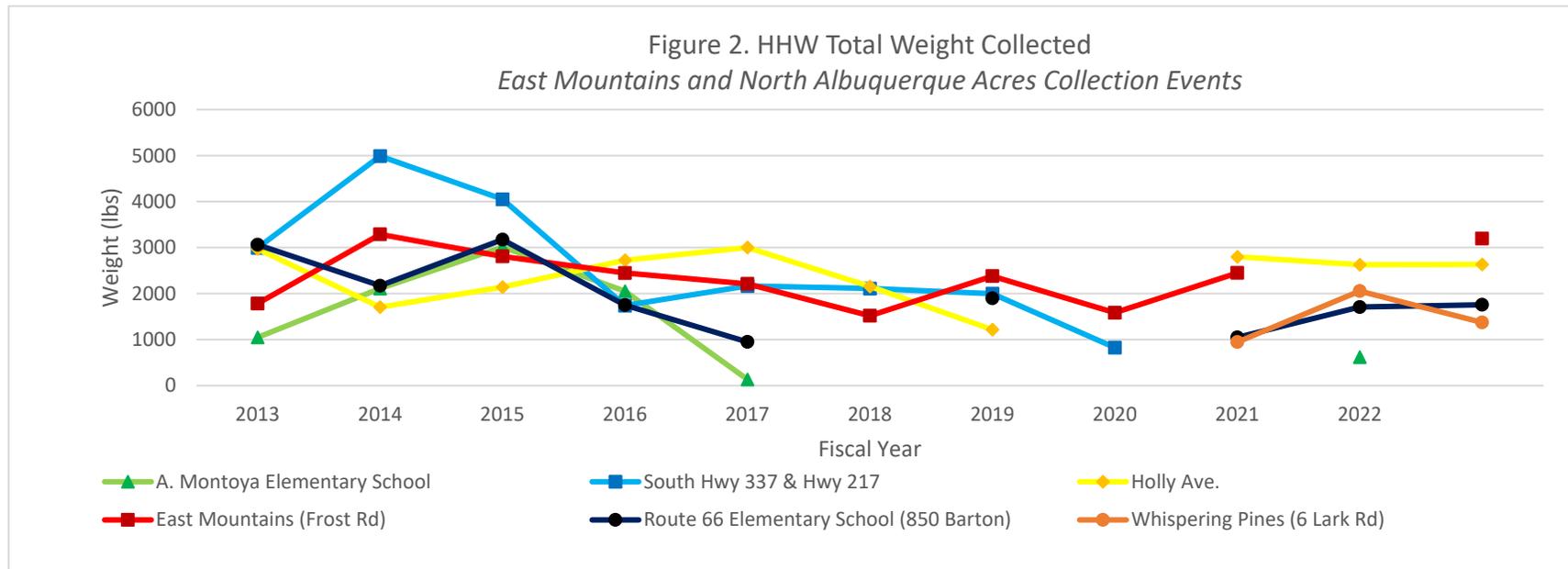
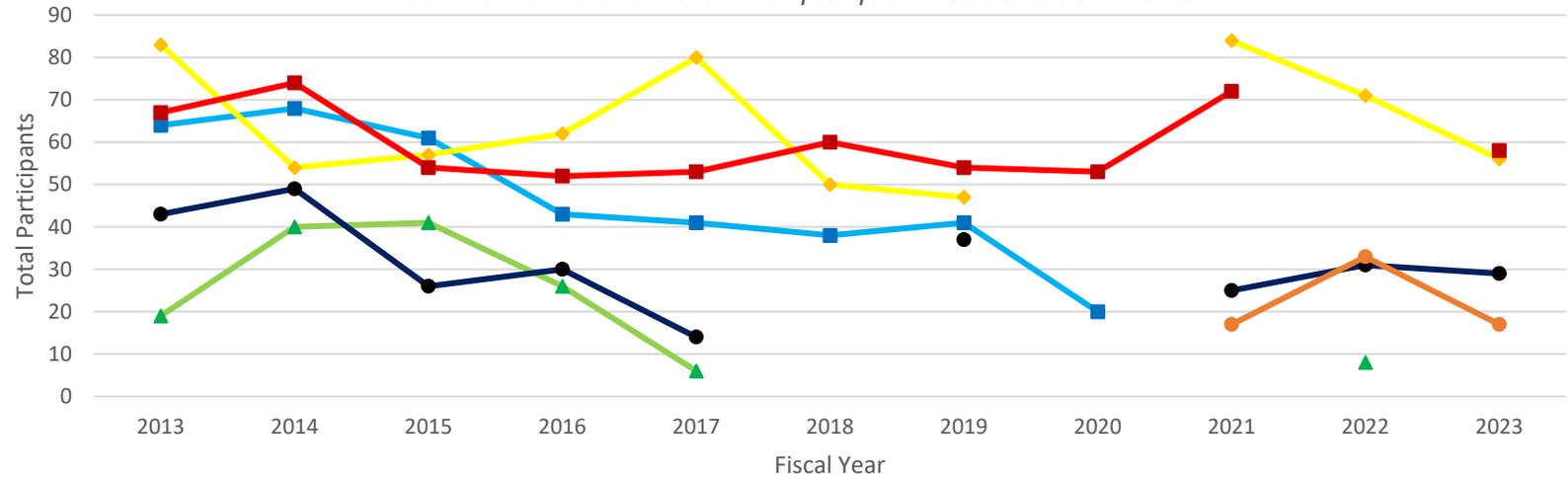


Figure 3. HHW Event Participation
East Mountains and North Albuquerque Acres Collection Events



▲ A. Montoya Elementary School

■ East Mountains (Frost Rd)

■ South Hwy 337 & Hwy 217

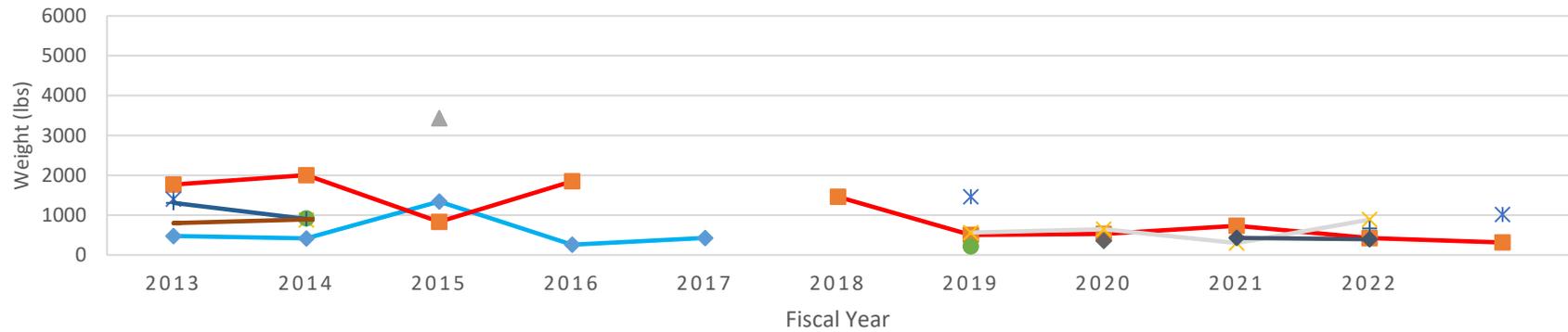
● Route 66 Elementary School (850 Barton)

◆ Holly Ave.

● Whispering Pines (6 Lark Rd)



Figure 4. HHW Total Weight
South Valley Collection Events



- SV Pride Day (1120 S. Coors)
- Polk Middle School (Raymac)
- 3909 Barcelona SW Behind Firestation
- MVCC/Rio Bravo
- 900 Armijo Rd SW
- 480 Sunset Rd
- SV Skate Park
- Shadyside Park
- Pajarito Rd SW
- 7003 Coors Blvd (Dennison Park)



Figures 6 and 7 present total collection weight and participation data for all the HHW mini collection events since 2013 and from the permanent ACT HHW drop-off site since 2014.

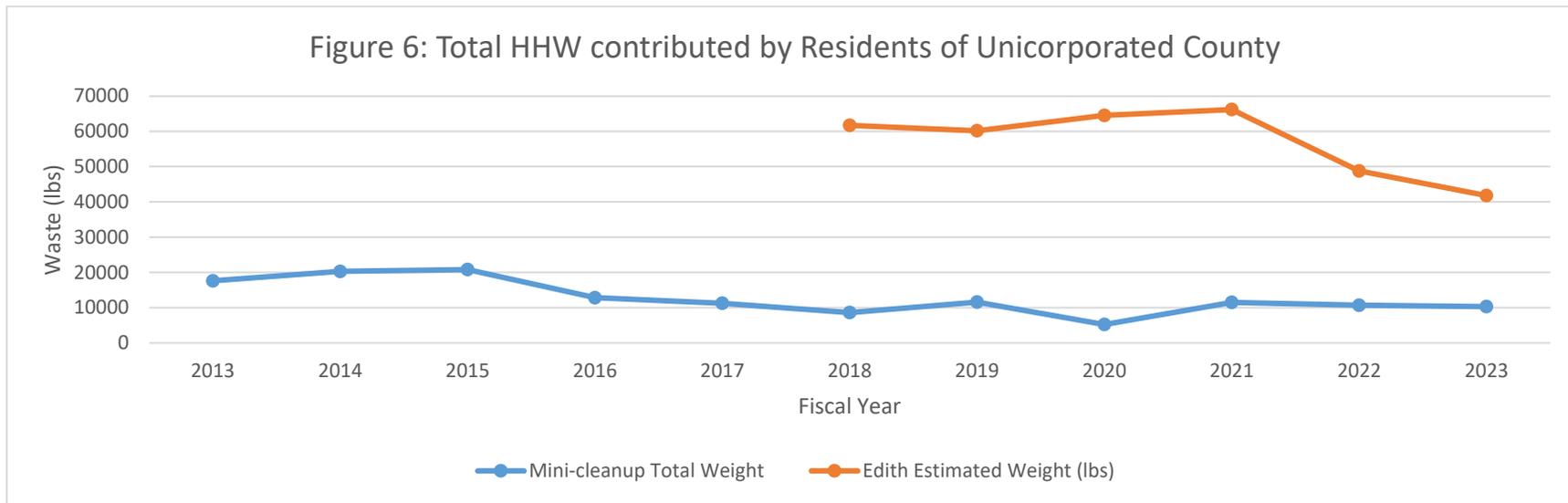
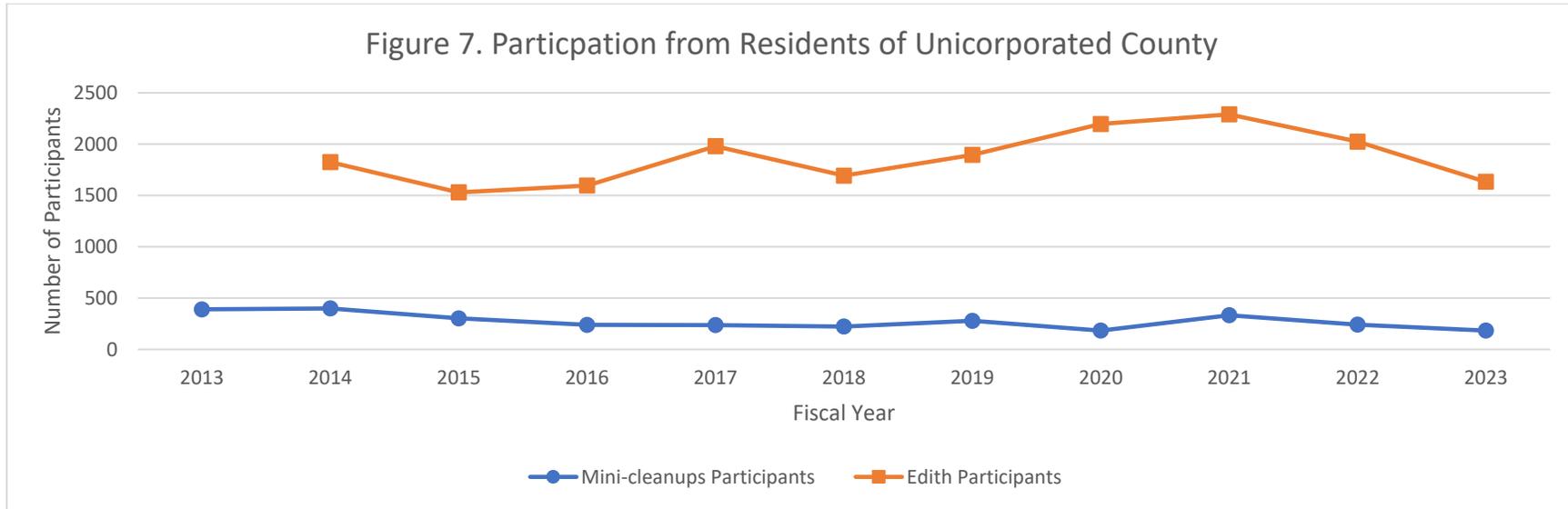




Figure 7. Participation from Residents of Unincorporated County



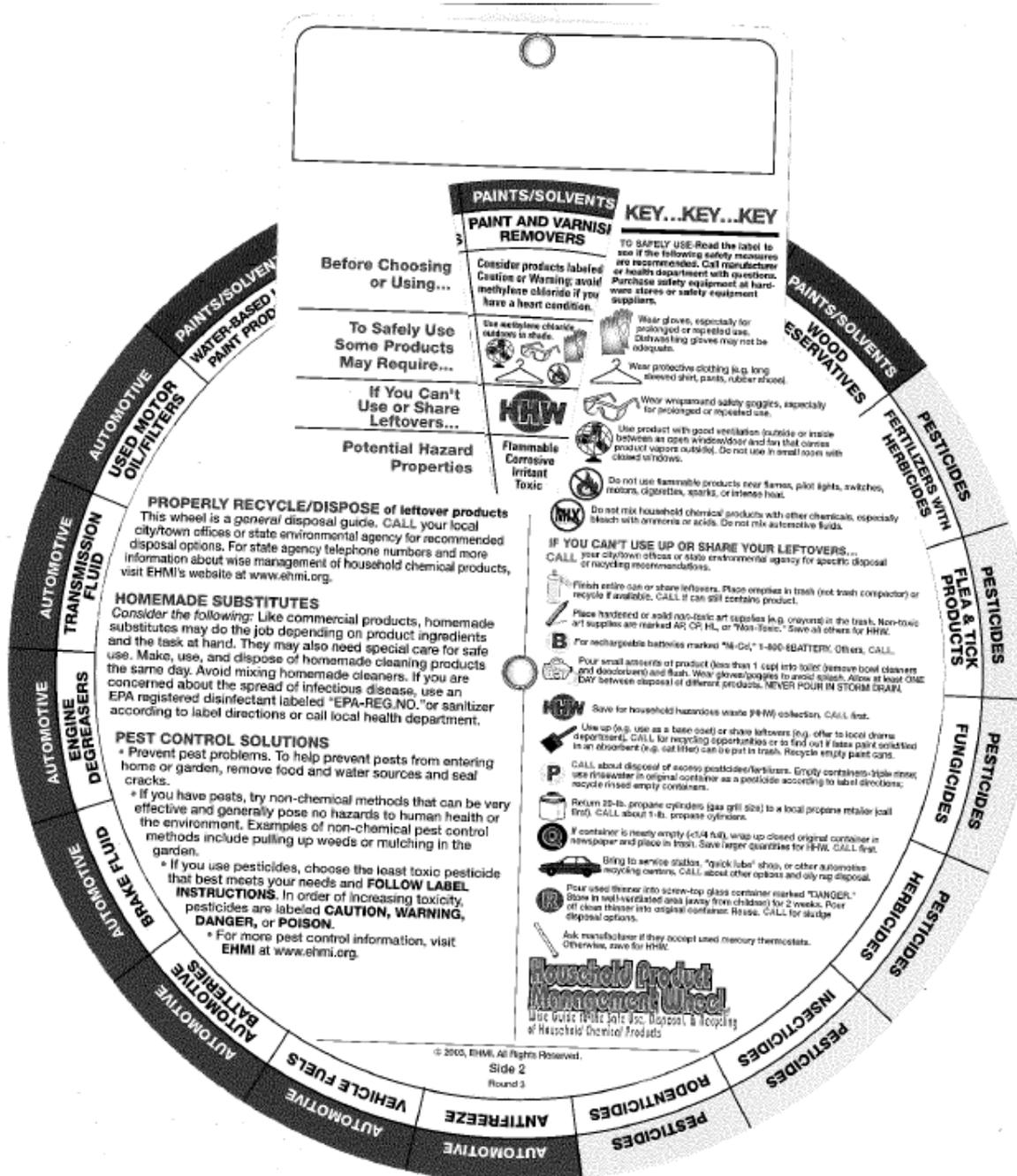


County of Bernalillo
State of New Mexico
Natural Resource Services

Appendix A
Educational Materials

 Distributed by: Water Resources Program
Infrastructure Planning & Geo-Resources
Public Works Division
2400 Broadway SE - Bldg. N, Albuquerque, NM 87102
(505) 848-1500
Email: info@berncoco.gov • Website: http://www.berncoco.gov





As stormwater flows over driveways, lawns, and sidewalks, it picks up debris, chemicals, dirt, and other pollutants. Stormwater can flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water. Polluted runoff is the nation's greatest threat to clean water.



By practicing healthy household habits, homeowners can keep common pollutants like pesticides, pet waste, grass clippings, and automotive fluids off the ground and out of stormwater. Adopt these healthy household habits and help protect lakes, streams, rivers, wetlands, and coastal waters. Remember to share the habits with your neighbors!

Healthy Household Habits for Clean Water

Vehicle and Garage

- Use a commercial car wash or wash your car on a lawn or other unpaved surface to minimize the amount of dirty, soapy water flowing into the storm drain and eventually into your local waterbody.



- Check your car, boat, motorcycle, and other machinery and equipment for leaks and spills. Make repairs as soon as possible. Clean up spilled fluids with an absorbent material like kitty litter or sand, and don't rinse the spills into a nearby storm drain. Remember to properly dispose of the absorbent material.

Lawn and Garden

- Recycle used oil and other automotive fluids at participating service stations. Don't dump these chemicals down the storm drain or dispose of them in your trash.
- Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Avoid application if the forecast calls for rain; otherwise, chemicals will be washed into your local stream.
- Select native plants and grasses that are drought- and pest-resistant. Native plants require less water, fertilizer, and pesticides.
- Sweep up yard debris, rather than hosing down areas. Compost or recycle yard waste when possible.
- Don't overwater your lawn. Water during the cool times of the day, and don't let water run off into the storm drain.
- Cover piles of dirt and mulch being used in landscaping projects to prevent these pollutants from blowing or washing off your yard and into local waterbodies. Vegetate bare spots in your yard to prevent soil erosion.

Home Repair and Improvement

- Before beginning an outdoor project, locate the nearest storm drains and protect them from debris and other materials.
- Sweep up and properly dispose of construction debris such as concrete and mortar.
- Use hazardous substances like paints, solvents, and cleaners in the smallest amounts possible, and follow the directions on the label. Clean up spills immediately and dispose of the waste safely. Store substances properly to avoid leaks and spills.
- Purchase and use nontoxic, biodegradable, recycled, and recyclable products whenever possible.
- Clean paint brushes in a sink, not outdoors. Filter and reuse paint thinner when using oil-based paints. Properly dispose of excess paints through a household hazardous waste collection program, or donate unused paint to local organizations.
- Reduce the amount of paved area and increase the amount of vegetated area in your yard. Use native plants in your landscaping to reduce the need for watering during dry periods. Consider directing downspouts away from paved surfaces onto lawns and other measures to increase infiltration and reduce polluted runoff.



Household Stormwater Pollution Prevention



Pet Waste

- 💧 **ALWAYS** pick up and properly dispose of pet waste
- 💧 Bacteria from pet waste, specifically E. coli, can be transported to the river via stormwater. It is one of the biggest concerns in the Rio Grande.

Vehicle and Garage

- 💧 Inspect vehicles and repair leaks **IMMEDIATELY**
- 💧 Clean up spilled fluids with an absorbent and sweeping – not hosing
- 💧 Recycle automotive fluids – **NEVER** pour down storm drains

Lawn and Garden

- 💧 Only use fertilizers and pesticides as needed – **NEVER** exceed manufacturer application rates – sweep up spills
- 💧 Select native plants to reduce water, fertilizer, and pesticide/herbicide use
- 💧 Yard waste and applied chemicals should **NEVER** enter ditches, streets, or storm drains

Home Activities

- 💧 **NEVER** pour grease down drains – it can cause clogged lines, septic system issues, and surfacing sewage
- 💧 Septic systems should be inspected every 3 years, and pumped every 3-5 years
- 💧 Use nontoxic, biodegradable, and recycled/recyclable products
- 💧 Properly dispose of used paint, solvents, cleaners, fertilizers, pesticides, etc.



*See Back of Pamphlet

Recycling and Disposal of Household Waste

Household Hazardous Waste Collection Center

6137 Edith Blvd NE / (505) 349 - 5220

Most household hazardous waste is accepted, including:

- ⊗ Used Oil
- ⊗ Antifreeze
- ⊗ Fuel
- ⊗ Degreasers
- ⊗ Batteries
- ⊗ Paint
- ⊗ Fertilizers
- ⊗ Pesticides
- ⊗ Herbicides
- ⊗ Fluorescent Bulbs



Solid Waste Disposal Centers

Don Reservoir Convenience Center - 117 114th SW / (505) 836 - 8757 (No trailers)

Eagle Rock Convenience Center - 6301 Eagle Rock NE / (505) 857 - 8318

East Mountain Transfer Station - 711 NM-333 / (505) 281-9110

Montessa Park Convenience Center - 3512 Los Picaros SE / (505) 873 - 6607

Southwest Landfill - 6201 Escarpment Rd SW / (505) 242-2020

For a minimal fee (call for details) will accept most:

- ⊗ Yard Waste
- ⊗ Excess Trash
- ⊗ Large Trash Items





Appendix B

HHW Contacts

Name	Agency	Role	Number	Email
Bobby Mullin	BernCo NRS	Coordinator	(505) 468-1357	rmullin@bernco.gov
Kali Bronson	BernCo NRS	Manager	(505) 364-3532	kbronson@bernco.gov
Melanie Thornton	ACT	Manager	(505) 445-9400	MThornton@ACTEnviro.com
Gabriel Villescas	BernCo O&M	Coordinator	(505) 220-4475	gvillescas@bernco.gov
Chris Miller	Clean Harbors	Manager	(602) 462-2309	Miller.Christopher3@cleanharbors.com



Appendix C

FY23 Mini Cleanup Event Schedule

FY 2023 Bernalillo County Community Clean-up Events	
Date	Location
July 9, 2022	25 Frost Rd. Sandia Park, NM – Bernalillo County Fire Station 46
July 23, 2022	6 Lark Rd. Tijeras, NM – Whispering Pines Senior Meal Center
Oct 8, 2022	2220 Raymac Rd SW. – Polk Middle School
April 22, 2023	900 Armijo Rd SW Albuquerque
May 20, 2023	10401 Holly Ave. NE, Albuquerque
June 24, 2023	805 Barton Rd. Edgewood - Rt. 66 Elementary



Appendix F

Bernalillo County Solid Waste Outreach

- Eleven (11) community area cleanups were hosted throughout the county, with 307.06 tons of trash collected.
- There were 312 illegal dumpsites reported and cleaned up by County Solid Waste staff

Bernalillo County conducted outreach at the following community events, reaching an estimated 8,500 county residents:

- East Mountain Celebration September 25, 2022
- South Valley Pride Day April 23, 2022
- Evening in Paradise June 3, 2023

Handouts included but were not limited to:

- 2,000 Carlos Coyote Books, teaching local youth on importance of preventing illegal dumping, recycling and littering
- 500 Keep BernCo Beautiful coloring books and Pencils
- 500 re-usable tote bags.

The County continues it's outreach marketing campaigns through the following actions:

Marketing Campaigns				
Dates of Campaign	Type of Media (Radio, Print, Digital, Television)	Call to Action	Estimated Audience	Cost
September 3-18 and October 8-23, 2022	KRQE Brand Builder	Illegal Dumping	450,000	\$ 3,390
March 1-14 and April 16-30, 2023	KRQE Brand Builder	Illegal Dumping	450,000	\$ 4,940
April 1 -May 28, 2023	Digital Billboards, TV advertising, & Digital advertising	Illegal dumping, large item pick-up	1,632,000	\$ 30,654.88
April 15 - June 11, 2023	Digital Billboards, TV advertising, & Digital advertising	Scrap tire recycling	1,632,000	\$ 30,180.78
May 29-July 9, 2023	Digital Billboards, Movie Theater Advertising, & Digital advertisng	Illegal dumping, large item pick-up, and scrap tire recycling	4,689,702	\$ 32,440.29
May 12-June 30, 2023	Broadcast TV	Recycle by numbers	992,000	\$ 4,315.39
May 12-June 30, 2023	Hulu and YouTube video ads	Recycle by numbers	272,000	\$ 4,999
			Total	Total
			9,667,702	\$107,530.34

Mid Rio Grande Stormwater Quality Team



In fiscal year 2023, the Stormwater Quality Team attended the annual Corrales Harvest Festival, a rural community just north of Albuquerque, the Doggie Dash and Dawdle, an event that fundraises on behalf of the local Animal Humane.



Additionally, the group attended a number of community events in Albuquerque's South Valley and West Side. During each event educational rack cards and various promotional products were distributed.

The team also produced a Spanish section of the KeepTheRioGrand.com website.



And finally, the team created custom content and posts on Facebook.



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 FY23, the Village saw 21 residential grading and drainage plans prior to issuing building permits. There were four Commercial Site Plans that incorporated drainage (primarily retention ponding) into their designs. One was the Village of Corrales administration complex, which added a new swale on the north side of the property along with the two existing retention areas.

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 8,500 dog poop bags in/near the Bosque, and an additional 500 bags at the other location, greatly reducing the amount of dog waste otherwise in danger of polluting the acequias, canals or Rio Grande.

The glass recycling area continues to be amazingly successful. From April of 2022 through August 14, 2023, the Village has recycled 93.63 TONS of glass.

The Village is continuing the twice-a-year (spring and fall) community “Clean-Up” days, accepting non-hazardous 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.

This year it was reported to the Village that a vehicle had leaked a significant amount of fluid along a public right-of-way, Tierra Encantada. Public Works used absorbents to clean up as much as possible.



Village of Los Ranchos

Los Ranchos does not have a municipal storm sewer system. Grading and drainage plans are required for most residential and commercial construction within the Village, and Site Development Plans are additionally required for major subdivisions and new commercial construction. Permeable pavement elements have been incorporated throughout the Fourth Street redevelopment area in Los Ranchos, which provide multiple benefits such as reducing flooding and erosion and enhancing groundwater recharge. The next phase of the Fourth Street Project, from Pueblo Solano Rd NW to Ortega Rd

NW, will include elements that address stormwater and drainage concerns within that phase. Our Code Enforcement Officer regularly works with citizens throughout the year to address trash removal and inoperable vehicle issues, which helps reduce harmful fluid runoff entering the groundwater. This year, staff participated in educational outreach activities as part of the Stormwater Quality Team, including distributing materials at the Pueblo of Isleta Safety Fair. Educational materials are available year-round at Village Hall.



San Isidro Day Blessing of the Waters, Los Ranchos

Drainage Facility Clean-up Schedule

Cleanup takes place during December, January, and February every year.
 Schedule is based on a 5 day work week (Monday thru Friday), schedule also accounts for City Observed Holidays.

<u>ID</u>	<u>District</u>	<u>Name</u>	<u>Location</u>	<u>Current Condition</u>	<u>Date of Last Inspection</u>	<u>Compliance Resolution</u>	<u>Actual Start</u>	<u>Actual Completion</u>
73	6	Fire Station 7 Channel	641 Rockaway Blvd NE	Fair; Less than 1 large garbage bag of trash; lots of tree's, 5 bunches together; approx. 12-18in depth of sediment buildup, partially submerged with sediment.	6/14/2022	Remove Trees and trash	12/1/2022	12/5/2022
630	6	U17, Blk 153, Lot 9 Pond	924 Saratoga DR NE	Good; Trace amounts of trash; excessive weeds; 0-6in depth of sediment buildup.	6/27/2022	Remove weeds, trash and debris	12/8/2022	12/9/2022
629	6	U17, Blk 67, Lot 9 Pond	917 Saratoga DR	Good; Traces amounts of trash; a few trees; 0-6in depth of sediment buildup.	6/27/2022	Remove Trees, trash and debris	12/8/2022	12/9/2022
54	2	NH14, Blk 6, PAR B east Pond	9999 Cherry Rd NE	Fair; Trace amounts of trash; approx. 12-18in depth of sediment buildup, fully submerged with sediment.	6/13/2022	Remove accumulated sediment	12/12/2022	12/16/2022
631	3	U17, Blk 63, Lot 13 Libra	5153 Libra Rd NE	Good; Trace amounts of trash; approx. 3 large mature trees; approx. 0-6in depth of sediment buildup.	6/27/2022	Remove Trees and trash	12/19/2022	12/19/2022
624	1	WAPR, Blk B, PAR A Wallen Park	109 Landing Trail NE	Good; Less than 1 large garbage bag of trash; A few mature trees; approx. 0-6in depth of sediment buildup.	6/27/2022	Remove Trees, trash and debris	12/20/2022	12/21/2022
611	4	LM, Blk 8, PAR C1 Park Pond	400 Colorado Mountain Rd NE	Good; Less than 1 large garbage bag of trash; +10 mature trees; More than 50% full(water); approx. 0-6in depth of sediment buildup, fully submerged in water.	6/27/2022	Remove Trees, trash and debris	12/21/2022	1/18/2023
596	3	2501 King Blvd Det Pond	2501 King Blvd NE	Fair; Trace amounts of trash; a couple mature trees, and a few juvenile trees; approx. 0-6in depth of sediment buildup.	6/24/2022	Remove Trees	1/19/2023	1/19/2023
177	4	CG, Blk 2, TR B1 Pond	3397 St. Andrews DR SE	Good; Trace amounts of trash; A few trees and bushes; approx. 6-12in depth of sediment buildup.	6/23/2022	Remove Trees and Bushes, trash and debris	1/20/2023	1/20/2023

<u>ID</u>	<u>District</u>	<u>Name</u>	<u>Location</u>	<u>Current Condition</u>	<u>Date of Last Inspection</u>	<u>Compliance Resolution</u>	<u>Actual Start</u>	<u>Actual Completion</u>
85	3	CR, Blk 1, PAR B Ret Pond	4900 Chaco Loop NE	Less than 1 large garbage bag of trash; minor juvenile trees in bottom; Washed-out.	6/7/2022	Remove Trees and trash; Back-fill wash-out.	1/20/2023	1/20/2023
81	3	CCCEH, Blk E, PAR D Pres	3791 NM Highway 528 NE	Poor; More than 3cu of trash; excessive trees; approx. 6-12in depth of sediment buildup; partially submerged with sediment.	6/14/2022	Remove Trees, trash and debris	1/27/2023	2/1/2023
1098	3	HAWK, PAR 5A1 Main Pond	4601 Patriot Rd NE	Fair; Less than 1 large garbage bag of trash; excessive trees; partially submerged with sediment.	6/24/2022	Remove Trees, trash and debris	1/31/2023	2/9/2023
620	3	HGHR, Blk 5, PAR B Corner	3973 Rancher Loop NE	Fair; Less than 1 large garbage bag of trash; excessive brushes.	6/24/2022	Remove Bushes, trash and debris	1/23/2023	1/24/2023
186	2	U21, Blk 12 PAR BB Pond	1501 Wilpet Ave NE	Good; Trace amounts of trash; partially submerged with sediment; erosion; approx. 6-12in depth of sediment buildup. Partially submerged with sediment.	6/24/2022	Slope Erosion.	1/24/2023	1/24/2023
29	4	CHR, Blk 1, PAR C1 Pond	3501 High Resort Blvd SE	Good; Approx. 0-6in depth of sediment buildup.	6/9/2022	Remove Trash and debris.	1/24/2023	1/25/2023
140	2	NMED16, Blk 7, PAR C Pond	9999 King Blvd NE	Fair; Trace amounts of trash; approx. 0-6in depth of sediment buildup; partially submerged with sediment.	6/16/2022	Remove Trash and debris.	1/24/2023	1/24/2023
155	3	ECD, PAR PD4 Encantado Channel	5905 Kennard Rd NE	Fair; Trace amounts of trash; excessive bushes; approx. 6-12in depth of sediment buildup; partially submerged with sediment.	6/21/2022	Remove Trash and debris.	2/22/2023	2/24/2023
36	1	SPW, Blk 1, PAR A Pond	9999 Wexford Rd SE	Fair; Less than 1 large garbage bag; trees blocking inlet/outlets; erosion by inlet ;0-6in depth of sediment buildup; partially submerged with sediment.	6/9/2022	Remove Trees, trash and debris, backfill.	12/5/2022	12/15/2022

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
7/1-6/15/23	Staff Illegal Dumpsite Cleanup	Multiple Mesa/Open Space spots roadways - 11 acres	7	3316000	0	0	0	0	0	0		
7/1-6/15/23	City facility recycling	City Hall and Fire stations 1-6	0	0	11,400	0	0	0	0	0		Waste Management to MRF
7/1 - 5/30/23	WM At Your Door Collection	Multiple Residences/ residential waste	0	0	0	0	31908	0	0	27943	Residential Hazardous Waste	Waste Management
7/1-5/30/23	Monthly WM Free Res Landfill	NA	0	2371240	0	0	0	0	0	0		
7/16/2022	HP Illegal Dumpsite Cleanup	Multiple Mesa/Open Space spots roadways - 3 acres	3	32000	0	0	0	0	0	0		
9/24/2022	Rally in the Desert Cleanup	Multiple Mesa/Open Space spots roadways - 12	4	78000	0	0	0	0	0	0		
12/26-1/9/23	Tree Cycling	NA	0	0	0	0	0	0	0	14,300	mulched Christmas trees	PNM mulched/Citizens took mulch
Mar-Apr/2023	Clean Campus Contest	Puesta del Sol Elementary School - 22 acres	0	320	0	0	0	0	0	0		
4/18-4/19/23	HP Earth Week Cleanup	Areas and road around City Center - 5 acres	2.5	960	0	0	0	0	0	0		
5/13/2023	Great American Cleanup	Multiple roadways (14)	14	8000	0	0	0	0	0	0		
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		
30.5					11400	0	31908	0	0	42243		
Total Waste Collected (lbs)												
5892071												
Total Waste to Landfill (lbs)					Total Waste Diverted from the Landfill (lbs)							
5806520					85551							

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
0	16	0	0	0	0	
Total # of Receptacles						
16						

Illegal Dumping		
# of Illegal Dumping Sites Reported	# of Illegal Dumping Sites Cleared	# of Tires Collected
82	69	42

Children's Water Festival

Rio Rancho, 2022

ONE WATER

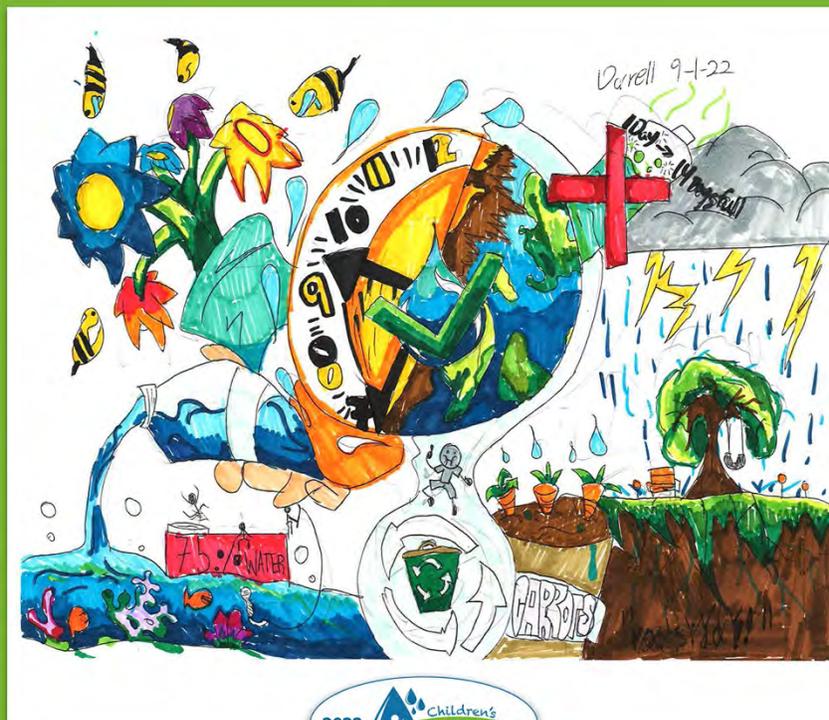


Table of Contents

Executive Summary 3

Introduction 3

Purpose and Intent 3

Funding 4

Festival Cost4

Sponsorships5

Steering Committee..... 5

Design of Festival 6

Pre-Festival Activities.....6

Rio Rancho Children’s Water Festival Event..... 6

Post-Festival Activities7

Schools Attending the Festival 8

Festival Presentations..... 9

Volunteers..... 9

Lessons Learned 10

Steering Committee Comments from the Festival10

Festival Event 12

Appendix A - Working Timeline..... 12

Appendix B – Festival Presentations..... 13

Appendix C - Post Test 20

Appendix D – Student Post-Tests Scores 22

Executive Summary

The 2022 Children’s Water Festival (Festival) was held on Monday, October 24th and Tuesday, October 25th at the Rio Rancho Events Center in Rio Rancho. Due to the pandemic, this was the first time that the Festival had been held since 2019. 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. This year, a decision was made to invite fifth grade students as the Festival curriculum better fit into the schools’ science learning objectives. Additionally, students from one-half of the Rio Rancho elementary schools students attended, and the other half of the Rio Rancho elementary schools will attend in 2023. Over 505 students from 21 classrooms, from Maggie Cordova, Martin Luther King, Puesta del Sol, Rio Rancho and Joe Harris elementary schools participated. Each class attend three 30-minute presentations. Twelve hands-on presentations taught water-related ideas and concepts to the students.

The Festival had 49 presenters/associates and 16 volunteers to guide the classes to the assigned activity.

The twelve presentations represented sixteen 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, 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 61% to 88% correct on the questions. A more detailed breakdown is found in Student Post-test Scores section.

The Festival costs an estimated \$23,000 each year. 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: Jacobs, Waste Management, Southern Sandoval County Arroyo Flood Control Authority, Carollo, Resource Wise, Bohannon Huston, AUI, and RMCI.

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 2022 Festival; the eleventh 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 Event Center and about 505 students attended from 21 fifth grade classrooms from Rio Rancho Public Schools. The event was held on Monday, October 24th and Tuesday, October 25th.

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 505 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 2020 update to the Water Resources Management Plan (Plan), details water efficiencies and water conservation measures to be taken by the City to better manage the existing water supplies. Policy E.4 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, updated August 2017, and amended October 2019. 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.

Funding

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 so there is no pipe and drape

rental. A new bus company was used this year because there has been issues in the past with 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	\$3,435.70
Buses (Herrera Coaches)	\$9,659.30
T-shirts with art/logos (550 shirts)	\$4,990.00
Thank you cards	168.00
Fiscal Administration	\$1,000.00
Committee members thank you gifts	\$200.00
Total	\$22,533.25

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
- City of Rio Rancho’s Parks Department
- Sandoval County Master Gardeners
- 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.
- Teachers received resource kit materials that included the T-shirts and miscellaneous items donated by our sponsors (e.g., pens, rulers.).

Rio Rancho Children's Water Festival Event



Students at the “Rio Grande Bosque Water Cycle” activity.

- The Water Festival was held from 9:45 a.m. through 11:55 a.m.
- Students attending the Festival boarded buses at 9:15 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 30 minutes and topics included: water quality, water conservation, water cycle, wastewater, ecosystems, and built water infrastructure.
- All students received a Festival T-shirt. Darell Montoya from Mr. Bales's class at Rio Rancho Elementary, was the winner of the T-shirt student artwork contest. His design was displayed on the front of the T-shirt and Festival sponsor logos were on the back.



Darell Montoya– T-shirt artwork winner from Mr. Bales's
Rio Rancho 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
Maggie Cordova Elementary	4
Martin Luther King Elementary	4
Puesta del Sol Elementary	5
Rio Rancho Elementary	4
Joe Harris Elementary	4
Totals	21

Festival Presentations



“Leaky Faucet” activity. Students learn about how much water can be wasted due to unrepaired leaks.

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 their background checked prior to interaction with the students.

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	Could have been better	Need to prioritize meetings with the teachers to give them an overview of the Festival.
Transportation	Went great	Need to know right away if any child needs ADA access.
Presentations	Presenters were enthusiastic	Make sure presenters are aware of the time commitment. 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. Think about a "treasure map" for the kids.
Transition between presentations	Average – could have been better	More detailed trainings for guides. The guides need to stand out (maybe dress more festive or wear vests). Kids should stay at current stations until end of allotted time.
Food	Good overall	Fewer breakfast burritos on Monday and more on Tuesday.
Logistics (Public safety, RREC)	Good overall	Need sign in sheets for Master Gardeners. Utilize the facility more and make it more festive (colors/lights/sound-system). Have more water stations.
Break (20 minutes)	Good idea but a little confusing to guides	Maybe get one more presenter next time so we can stagger the breaks. Maybe shorten the break to 10 minutes.
T-shirts	Above average	Order more mediums and fewer smalls next year. Get logos to the printer early next year.

Training of guides/teachers, etc.	Could be better	No students should be by themselves. They need to be accompanied by teachers.
General		Clean up the VIP list ahead of next year's Festival. Have a media person help with medial release. Have a Water Festival webpage (need to discuss with city management). Need a "thank you" banner for the sponsors.

Action Items:

- Do a teacher survey
- Administer post-test (GoogleDocs)
- Need to replenish the supply of SWAG – bags, fans, etc.



Festival layout.



Festival Event

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

We did not have a dedicated photographer this year and there was a low return of the photo release forms from the parents. Because of this, we did not take very many photos. Many of the photographs of students in Appendix C are from prior years.

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 – Design poster with the theme
- July 30 – Reach out to presenters
- August 1 – PO for RR Sponsorship
- August 1 – PO for Buses
- August 8 – RR schools starts
- 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 11 – Pick up T Shirts
- October 15 - Email layout to RREC
- October 18 – Meeting to pack bags
- October 18 – Drop off bags this week
- October 24th and 25th – Water Festival
- October 28 – Remind teachers about post-test pickup
- November 30 - Pick up post-tests

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 correlation of the presentation with the Next Generation Science Standards (NGSS), 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.

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



Flash Flooding

For the 2022 water festival our activity was to demonstrate several ways flash flooding can occur utilizing our flood model. We allowed the kids to use a pitcher of water to demonstrate rainfall and how rain-rate affects flash flooding. The model used 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 had 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 demonstrated 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
Kerry Jones (505) 243-0702 kerry.jones@noaa.gov

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.

Rio Rancho Public Schools
Lou Cusimano (505) 975-0326

lou.cusimano@rrps.net



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

Wendell McCall (505) 891-5017

wmccall@rrnm.gov



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

New Mexico Past and Present

Students learn where water comes from (the water cycle), where water is today in New Mexico, and what they can do to protect and conserve water. The students then become detectives using fossils to discover where water occurred in the past in New Mexico.

New Mexico Museum of Natural History and Science

Mike Sanchez (505) 841-2583

michael.sanchez1@state.nm.us



Rio Grande Bosque Water Cycle

In the semi-arid climate of New Mexico, our scarce precipitation limits the quantity of water available for use by plants, animals and humans. Students become water molecules traveling through a water cycle. The presentation emphasizes, with evidence and cause and effect, why we need to consider all water users when making water-use decisions.

Rio Grande Nature Center

Tanja George (505) 344-7240

Tanja.George@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



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

Sustainable Tomorrow

WM of New Mexico hosted 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 stepped 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 was to get the material (noted on the basketball) into the correct bucket – either Recycle, Reuse or Reduce. In action, the game offered 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
Laila Amerman

lamerman@wm.com

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.superteacher tools.com/jeopardy/usergames/Jan201205/game1327973751.php>

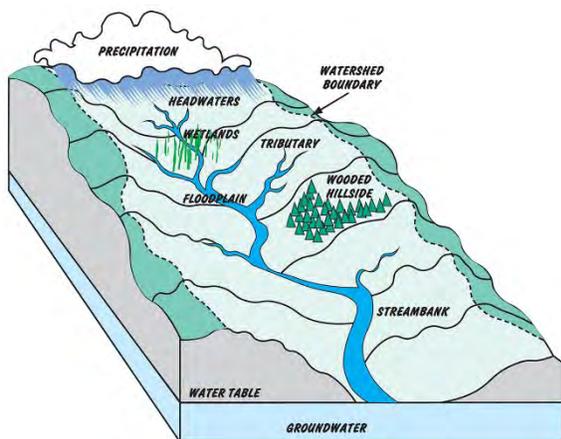
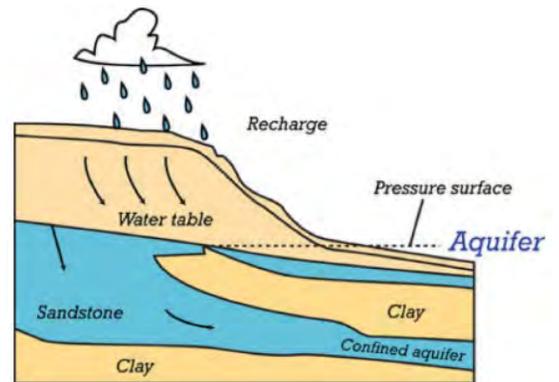
Appendix C - Post Test

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.

Unfortunately, with staff changes, we were unable to access the Google Forms test so paper Post tests were sent to the schools. The tests were written in Google Forms to be used next year and diagrams and pictures were added.

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

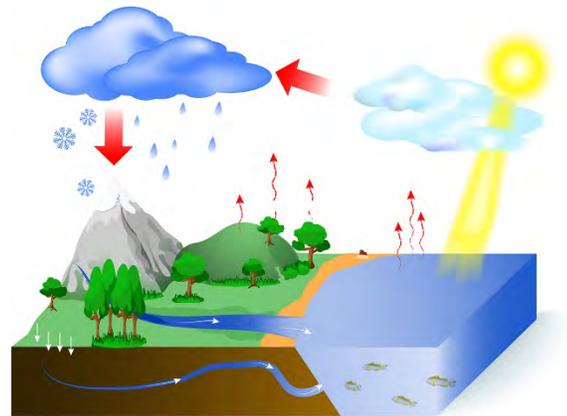


3. A **watershed** is an area of land that drains all the streams and rainfall to a common outlet such as the outflow of a reservoir, mouth of a bay, or any point along a stream channel. Is the following statement true or false: We all live in a watershed?
 - a) False
 - b) True

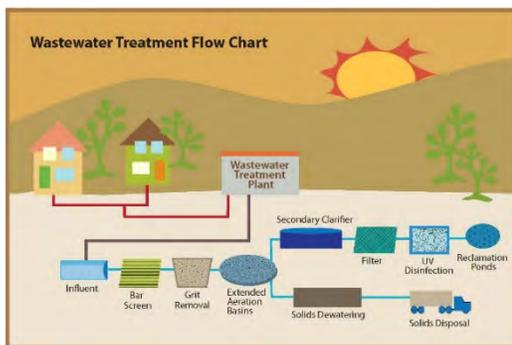
4. Everyone in Rio Rancho uses, on average, about 65 gallons of water per person per day. If you have four people in your home, what is your family's daily average water use?
 - a) 260 gallons of water per day
 - b) 200 gallons of water per day
 - c) 2,600 gallons of water per day

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 Post-Tests Scores

The following table shows the percentage of correct answers on both the pre and post-test. Because most of the answers were provided using Google Forms, there was no way to distinguish answers by class or school. Not every teacher from every school provided pre and post-tests. The questions are in the same order as in Appendix C.

Question	Elementary School Name					Average
	Cordova	Puesta del Sol	ML King	Joe Harris	Rio Rancho	
Makes river dirty	73	74	61	74	84	73
Where DW comes from	75	77	71	78	77	76
Watershed	69	68	86	65	48	67
How much water	77	68	75	83	87	78
Water important to life	87	75	82	83	85	82
Water cycle	47	48	71	78	60	61
Protect water	95	84	93	83	86	88
Wastewater	78	78	68	87	78	78

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.



Ciudad Soil & Water Conservation District

Non RX Stormwater Presentations 2022

Date	Times	RR or ES	Event	Presenter(s)	Visitors
4.23.2022	9:00am–12:00pm	RR	RiverXchange Community Day	Erin, Steve, Salema	10
6.4.2022	9:00am–12:00pm	RR	BernCo Master Naturalist Presentation	Steve, Erin	25
6.11.2022	9:00am–12:00pm	RR	GHH	BernCo OSD	12
6.13.2022	9:00am–12:00pm	RR	Shady Lakes	Erin, Steve, Jaren (Nature Niños)	45
6.18.2022	9:00am–12:00pm	RR	Phil Chacon Park	COA OSD – Nature in Your Neighborhood	did not attend
6.13.2022	10:00am–1:00pm	RR	Shady Lakes: Nature Niños Summer Camp	Steve, Jaren, Saleema (Nature Niños)	40
6.23&25.2022	6:00–7:30pm 9:00–11:00am		Residential Rainwater Harvesting 2.0 (Online & In-person at GHH)	Jim	45
6.30.2022	10:00am–1:00pm	RR	Shady Lakes: Nature Niños Summer Camp	Steve, Jaren, Saleema	75
7.16.2022	9:00am–12:00pm	RR	Alamosa Community Center	Erin, Steve (COA OSD – Nature in Your Neighborhood)	35
7.25.2022	10:00am–1:00pm	RR	Shady Lakes: Nature Niños Summer Camp	Erin, Steve	75
7.30.2022	9:00am–2:00pm	RR	Isleta Environmental Fair	Steve Glass, Tom Allen Jaren Peplinski	75
8.22 & 24.2022	10:00am–2:00pm & 9:00am–11:00pm	RR	UNM Welcome Back Days	Kolt, Thomas, Steve, Erin	100
8.27.2022	9:00am–12:00pm	ES	TBD	COA OSD- Nature in Your Neighborhood	
8.27.2022	9:00am–1:00pm	RR	Santa Ana Environmental Fair	Jaren, Theresa	
9.24.2022	9:00am–12:00pm	RR	TBD	Erin, Steve (COA OSD – Nature in Your Neighborhood)	





3rd Quarter Report 2022-2023

January- March

Submitted by: Education Manager
Erin Blaz

The RiverXchange Team: Erin Blaz, Theresa Aragon, Astrid Mooney

Participating Schools:

FUNDER	MRGSQT		SSCAFCA	
	SCHOOL - Number of classes	Number of Students	SCHOOL - Number of classes	Number of Students
Title 1 school	La Mesa - 4	58	MLK* - 4	113
	Valle Vista* - 2	43	Maggie Cordova* - 4	100
	Seven Bar* - 3	45		
	John Baker- 2	41		
	Zia* - 2	40	OUTDOOR EQUITY FUND	
	Monte Vista - 3	48	Puesta del Sol* - 5	105
	Cochiti* - 2	47		
	North Valley Academy - 3	50		
	Mission Ave*- 2	54		
	Bel-Air* - 2	46		
	Lavaland* - 1	20		
	San Antonito - 3	71		
	Chaparral* - 3	87		
TOTALS	32	650	13	318
RX Total Classes	45	RX Total Students	968	

Summary:

3rd Quarter: January- March are typically very active months for RiverXchange participants and staff. Pole planting with CABQ OSD occurs weekly, presentations are in full swing and this year, teachers were provided with a six week-long action project support campaign via weekly emails that contained summaries of each stage of the Earth Force process and resources. Theresa Aragon also developed and taught a new Agriculture lesson for APS classes since RiverXchange still has not found a partner with the capacity to serve the number of APS classes enrolled. The lesson focused on food waste, virtual water, and water conservation and was very much enjoyed by the classes. By the end of March, all but 2 RRPS classes had completed all the field trips. These field trips are rescheduled for May in partnership with Talking Talons Youth Leadership EPA field trips at the Tijeras Bio-Zone Education Center, along with Backyard Refuge and includes a stewardship component to help restore the Tijeras Creek riparian zone.

Mid-year: The 2nd quarter activities focused on scheduling and confirming presentations and the field trips; tracking presentations and scheduling reminder emails; and organizing the Earth Force *environmental action civics* process into an online classroom format on Canvas for teachers.

RiverXchange® remains focused on building meaningful watershed experiences for New Mexico students this year and has returned to a fully in person program for 2022-2023.

The agreement with the Middle Rio Grande Stormwater Quality Team (MRGSQT), including the contributions from Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA), provides funding for 38 classes this year. At the suggestion by SSCAFCA, Ciudad Soil and Water Conservation District (SWCD) applied for additional funds to support RiverXchange this year through the Outdoor Equity Fund Grant, and Ciudad SWCD was



Mid-year: Staff are working on guidance and criteria for awards to be released in January.

Task 12: Collect and analyze teacher feedback.

Complete by May 2023. Status: **approaching**

Staff will revise the teacher feedback form and offer it to teachers by the end of April.

Task 13: Create, print and mail thank you cards to in-kind partners and certificates of recognition to teachers.

Complete during June 2023. Status: **approaching**

We will maintain correspondence with our in-kind partners throughout the school year and send thank you notes as needed.

Task 14: Reporting to sponsors.

3rd quarter report by April 2023. Final report by June 2023.



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Additionally, the Outdoor Equity Grant experienced some hold-ups in the procedure around securing the agreement for the grant, so one school - Puesta del Sol, only came on just at the end of September once we were able to confirm the grant. Around late September most schools had fully confirmed their participating classrooms in RiverXchange, with two schools confirming classes that still did not have a teacher. The other teachers at these schools desired for those students to participate in the program and offered to support those classes until they were assigned a teacher.

Of the 16 schools participating this year, 6 are completely new schools to RiverXchange - Bel Air, Mission Ave., Lavaland, San Antonito, Chaparral and Puesta del Sol.

Task 2: Review and revise curriculum.

Complete by September 2022. Status: **completed.**

RiverXchange staff are proud of this program's continued ability to meet the unique needs of 5th grade teachers in our region. Many elementary teachers suggest that they are the least comfortable teaching science subjects and others reflect that the district purchased science curriculum doesn't provide the same quality of experiences as RiverXchange. One of our most long-standing RiverXchange teachers shared with us that their school consistently scored higher than average on science testing scores and accounts that to their participation in RiverXchange.

This year the RiverXchange [website](#) was significantly updated in effort to improve participating teachers familiarity with, understanding of, and successful use of the RiverXchange curriculum, which is unlike many standard curricula as it blends outside presenters and field experiences with project-based learning. The RiverXchange website now reflects how the curriculum is broken down into 3 areas of study (and the comparative activities and associated leaders of those activities): Understanding a Watershed (Teacher-led, ensures the foundation of



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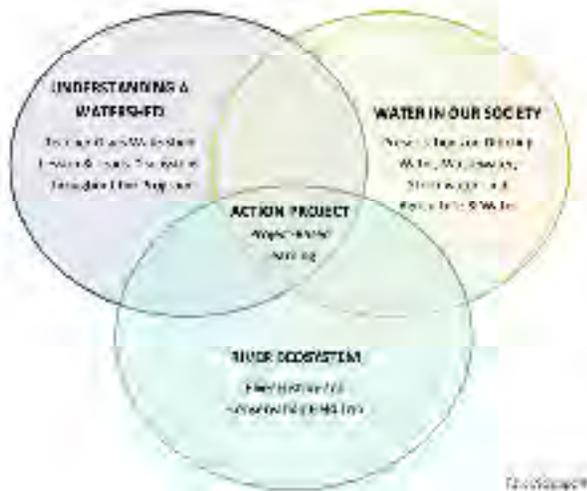
understanding a watershed with a Shower Curtain Watershed lesson or similar activity), Water in Our Society (Presentations with various agencies and presenters) and The River Ecosystem (Pre-lesson and field trip hosted by City of Albuquerque Open Space). These study areas have been defined in RiverXchange for many years through the Big Water Questions, which are suggested reflection prompts for students throughout the program. Using these three areas of study proved to be helpful in introducing RiverXchange to new teachers and refreshing experienced ones.

Most importantly, linking these 3 areas of study together is the Action Project. Using Project-based learning as a means to support student engagement in meaningful action in their watershed, the Action Project is a critical element of the RiverXchange curriculum. In its second year of delivery, previously called the capstone project, The Action Project aims to become a significant professional development opportunity for teachers as a means to deliver high quality STEM and civic engagement through project-based learning in their classroom. Students will benefit from the Action Project by acquiring a multitude of skills that are required to take meaningful action for watershed health. From interviewing stakeholders, collecting data, researching history, policy and practices around an issue, to reporting on and advocating for change through action, the Action Project will build on the core content of RiverXchange and help students understand what it takes to inspire, demand or be a leader for effective change.



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Task 3: Set teacher workshop dates and locations, review training agenda, order curriculum materials, and conduct workshops.

Complete by October 2022. Status: **completed.**

Two teacher workshops were held this year on September 23 and September 30 at the Open Space Visitor Center, with a total of 31 teachers in attendance. Teachers from Chaparral, San

Antonito and Puesta del Sol were unable to attend due to late registration to the program, however staff met with these teachers outside of the workshop to train them on the program and schedule their presentations.

This year’s workshops featured BEMP educators Laura Pages and Annie Montes, who facilitated an activity called “Dabbling in Data.” In this activity, groundwater table data is recorded on graphs for multiple years to see seasonal trends and observe periods of drought or heavier than normal snowmelt or precipitation as a means to discuss the relationship between weather patterns, groundwater and ecosystem health. Highlighting BEMP as a collaborative partner with Ciudad SWCD and RiverXchange was helpful for teachers to see how our program fits into the larger landscape of watershed education in our community and how students will eventually build on RiverXchange in future outdoor and environmental education experiences.

The workshop also focused on the framework for The Action Project with teachers, with discussion in small groups on how to implement the project in the classroom. Reflections from that discussion was shared in the larger group, and while feedback was positive and enthusiastic,



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it demonstrated the need for even more clear and direct guidance on the framework, which was helpful for staff to understand so we can find a way to meet that need.

Task 4: Review Action Project format and reporting system.

Goal: Complete by September 2022. Status: **in process**

3rd quarter: With around half of the teachers present on the CANVAS platform to explore and utilize the Earth Force process, it was decided to do a six week email campaign to encourage teacher participation in the Action Project, continuing to use the Earth Force process as the guide. These emails also served as a reminder for the deadline to submit summaries of the action projects, along with guiding questions for submissions, and the award prizes (pizza party gift certificates for the first 10 classes to submit). Submissions were due March 17 before spring break and 10 teachers submitted videos or recordings of their students answering questions about their projects.

Mid-year: In October, Erin Blaz attended the North American Association of Environmental Education’s national conference in Tucson, AZ. At this conference, Ms. Blaz was introduced to Earth Force and their “Environmental Action Civics” process. This process is a fully developed framework for completing an action project and aligns with the RiverXchange Action Project Framework that was in development on our end. Earth Force freely shares its process for educational purposes and the integration of this process into RiverXchange has been discussed with their team. While our original framework for the Action Project included 5 steps and guiding questions, the Earth Force process has 6 steps with adjoining lesson plans, videos, activity templates, and helpful tips for each step. An overview of the Earth Force Resources can be found [here](#).



The project reporting system is in development. We are using a free online learning management system called Canvas to post the Earth Force Learning Process, much like an online class for teachers to follow and implement the process. Canvas allows teachers to upload content such as media files, which we are hoping to obtain for the Children's Radio Hour show which will feature RiverXchange classes for their Earth Day segment.

Task 5: Review, update and distribute pre-survey to all classes before presentations begin and track completion.

Begin August 2022. On-going through Dec 2023. Status: **completed**.

This year's survey was updated slightly with a change to the possible answers being narrowed to mostly True, False or I haven't learned this yet. Rather than allowing students to only show a scaled response that either shows correct or incorrect knowledge, we are attempting to offer "I haven't learned this yet" as a strategy to show authentic learning in post-survey.

The Pre-Survey can be viewed from : www.riverxchange.com/Survey

Task 6: Monitor, coordinate and provide support to teachers for Action Projects.

Begin December 2022. On-going through May 2023. Status: **approaching**.

3rd Quarter: As stated above, a six week email campaign was delivered to all teachers; each week focused on one of the six stages of the Earth Force process with supporting resources. As the Earth Force process is new to RiverXchange, we wanted to present the resources in a few different ways to increase access, while also being cautious of overwhelming teachers with emails and information. Additionally, RiverXchange staff meet with Earth Force representatives to discuss best practices for delivering Earth Force and getting action project reports or



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summaries by students and teachers. RiverXchange staff was also invited to participate in the Earth Force Train the Trainer program in June, which offers a \$500 stipend for participation and demonstration of Earth Force implementation.

Mid year: Staff is making every effort to ensure teachers have easy access to the Earth Force materials as guidance for the Action Project. On November 30, staff hosted an Action Project Discussion on Zoom to review the Earth Force process, orient teachers to the Canvas classroom and show how to upload recordings of students reporting on their projects. Sixteen teachers attended this discussion and 19 teachers have joined the Canvas classroom.

Task 7: Coordinate field trips.

Begin September 2022. On-going through May 2023. Status: **in process.**

Field trip coordination is in progress with our main point person, Ellie Althoff, from CABQ-OSD. Ellie will continue to offer a field trip pre-lesson this year, focused on the River of Change from the Bosque Education Guide. Ellie is coordinating the field trips so that she will offer the pre-lesson the same week as the pole planting field trip. This is an exciting addition to the program as students will be taking immediate action by pole planting native trees after they learn about the impacts of flood control measures on the Bosque and riparian ecosystem of the Rio Grande. Field trips will begin in December and run through March on Thursdays and Fridays.

3rd Quarter: This year the pole planting took place in two locations. For January and February we planted at the Shining River Open Space, just south of Paseo del Norte on the east side of the



Rio Grande. For March we moved to Gabaldon, just north of the 1-40 and east of the river. This location change was unique, and reflected new staffing at CABQ-OSD, however the desire to ensure a positive experience for everyone was consistent with prior years. The Shining River planting location was extremely challenging for students, adults and staff. The holes were extremely sandy, which meant they were hard to dig out with the hand augers and collapsed often. Most students struggled to get one tree in over the course of the field trip. Although it was challenging, it was possibly even more rewarding once they finished that one, hard-earned tree. Classes that planted in March still voiced an equal number of complaints over the hard work, even though they were able to get up to 4 trees in the ground per group! It goes to show that it is less about the number of trees they get and more about teaching perseverance with the students. It was also noticeable that many classes came to the pole planting with increased understanding of the flood control and management strategies that impact the Bosque ecosystem which informed why they were there, due to the pre-field trip lesson with CABQ-OSD.

Mid-year: Two field trips took place in December in the Bosque off of Paseo del Norte and Rio Grande. 68 students attended and 43 cottonwoods were planted. This site has been confirmed for January plantings, but Open Space is still evaluating the best location for Feb and March plantings. This is unique as most years OSD confirms all pole planting locations at once. Bus costs have increased significantly and staff is working on finding the best vendors to service the field trips.

Task 8: Coordinate classroom guest speakers.

Begin September 2022. On-going through May 2023. Status: **in process.**



With the program moving to in-person presentations this year, coordinating and getting presenters back on board took a little extra effort as some had not presented for the last two years as they offered a video recording of the presentation instead (i.e. Rio Rancho Utilities, Sandia Labs). Additionally, both APS and RRPS required different levels of background checks. Ample notice was given to those presenters in order to complete those requirements.

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Drinking Water and Wastewater Presenters - Ellie Garcia & Rhea Trotman from ABCWUA
Stormwater - Sandia Labs, Leads- John Kay and Nora Wintermute and other various presenters.
Agriculture- Still TBD, BernCo Coop Ext can not serve the 32 classes. We are working to find a solution, as this continues to be a challenging presentation to fill in Albuquerque.
Field Trips and Pre-Lesson, Ellie Althoff and Kyle Bality of CABQ-OSD

RRPS

Drinking Water and Wastewater Presenters - Ellie Garcia. ABCWUA educators generously offered to cover RRPS this year, as the CoRR Utility dept was not yet ready due to new staff and capacity issues.
Stormwater - John Stomp and Andy Edmondson at SSCAFCA
Agriculture- Steve Lucero and Rachel Zweig, Sandoval County Coop Ext.
Field Trips and Pre-Lesson, Ellie Althoff and Kyle Bality of CABQ-OSD

3rd quarter: As is common with such a busy time of presentations, coordination of reschedules between presenters and classes probably happens the most during the 3rd quarter. Theresa Aragon managed these communications smoothly, while also designing a new agriculture + water lesson and teaching it to every APS class in RiverXchange. This was possible due to field



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trip leader funds that weren't utilized now that all pole planting field trips are for two classes at a time, rather than some being for one class only, which reduces the number of total field trips.

Mid-year: All presentations, except Agriculture for APS have been scheduled and confirmed with presenters and classrooms. RiverXchange staff are exploring options to present the Agriculture themselves, as it may be more efficient time and budget wise than seeking new partnerships with little time left to schedule.

Task 9: Review and track Action Project progress

Begin December 2022. On-going through May 2023. Status: **in process.**

3rd quarter: While the initial CANVAS participation by teachers in the 2nd quarter was encouraging, staff have only had one teacher upload any action project recording information on this platform. With Theresa visiting many classes in APS for the Agriculture Presentation and supporting the Pre-Lesson in RRPS, she was able to talk to teachers directly to encourage submissions and take videos herself to submit to the Children's Radio Hour. We were able to gather videos and voice recordings from 10 classes. This is definitely an area that needs evaluation and improvement, as it is difficult to retrieve details about each classroom's project as we are not really there to capture their work.

Mid-year: Staff have shared with teachers the importance of documenting the action projects along the process and have designated a place to upload recordings, documents or pictures to the Canvas classroom. The Canvas platform became accessible to teachers at the end of November and with December being a busy month, we expect to see more to report on in the 3rd quarter.



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Task 10: Distribute post-survey to classes after they complete presentations and field trip, complete metrics evaluation and review.

Begin February 2023. On-going through April 2023. Status: **approaching.**

3rd quarter: A few classes have completed their presentations and post-surveys are being distributed.

Task 11: Review Action Projects for RiverXchange Excellence and award winners.

April 2023. Status: **approaching.**

3rd quarter: This year, in collaboration with the Children's Radio Hour, we are featuring students discussing their Action Projects on the Earth Day show in April. Our initial intention was to incentivize the classes with a feature on the Children's Radio Hour as an award for teachers to submit their projects. However, as a result of few audio and video submissions received, we separated the pizza party awards and radio feature to boost overall project submissions by the deadline. In addition to the awards incentive, teachers were given the opportunity to submit their progress gradually and were encouraged to seek assistance from RiverXchange staff throughout each step of the Earth Force process. The weekly Earth Force email campaign was key in reinvigorating participation in sharing class's Action Projects and delivering specific criteria to the teachers with the flexibility of incorporating their own process.

While presentations in the classroom began, students started making connections to the big water questions and how it relates to problems they were noticing in their own community. Many students jumped into action and started brainstorming their Action Projects by interviewing staff and students about the environmental issues they are trying to solve.



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Mid-year: Staff are working on guidance and criteria for awards to be released in January.

Task 12: Collect and analyze teacher feedback.

Complete by May 2023. Status: **approaching**

Staff will revise the teacher feedback form and offer it to teachers by the end of April.

Task 13: Create, print and mail thank you cards to in-kind partners and certificates of recognition to teachers.

Complete during June 2023. Status: **approaching**

We will maintain correspondence with our in-kind partners throughout the school year and send thank you notes as needed.

Task 14: Reporting to sponsors.

3rd quarter report by April 2023. Final report by June 2023.





Mid-year Report 2022-2023

October-December

Submitted by: Education Manager
Erin Blaz

The RiverXchange Team: Erin Blaz, Theresa Aragon, Astrid Mooney

Participating Schools:

FUNDER	MRGSQT		SSCAFCA	
	SCHOOL - Number of classes	Number of Students	SCHOOL - Number of classes	Number of Students
Title 1 school	La Mesa - 4	58	MLK* - 4	113
	Valle Vista* - 2	43	Maggie Cordova* - 4	100
	Seven Bar* - 3	45		
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TOTALS	32	650	13	318
RX Total Classes	45	RX Total Students	968	

Summary:

Mid-year: The 2nd quarter activities focused on scheduling and confirming presentations and the field trips; tracking presentations and scheduling reminder emails; and organizing the Earth Force *environmental action civics* process into an online classroom format on Canvas for teachers.

RiverXchange® remains focused on building meaningful watershed experiences for New Mexico students this year and has returned to a fully in person program for 2022-2023.

The agreement with the Middle Rio Grande Stormwater Quality Team (MRGSQT), including the contributions from Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA), provides funding for 38 classes this year. At the suggestion by SSCAFCA, Ciudad Soil and Water Conservation District (SWCD) applied for additional funds to support RiverXchange this year through the Outdoor Equity Fund Grant, and Ciudad SWCD was successfully awarded the full request of \$9,650.00 to support additional classes. The Outdoor Equity Funding also supports a review of practices for equity and inclusion in our program as well as the strengthening of those practices. In total, by the end of September the final numbers are 45 classes, with 968 students participating. Twelve out of the sixteen schools are designated Title I.

Additionally, during the 1st quarter Ciudad SWCD employed Jessica “Saleema” Robinson as an Education Assistant to support our education programs. During the first quarter Saleema supported curriculum development for RiverXchange. Due to other opportunities, Saleema’s time with Ciudad was short lived. However we were able to hire Theresa Aragon, a biologist and educator, to fulfill a role as Education Coordinator. Theresa has provided direct



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coordination and planning support for RiverXchange and remains employed with Ciudad SWCD.

Task 1: Recruit and select NM classes.

Complete by September 2022. Status: **completed.**

This year's recruitment for RiverXchange was met with a few obstacles. We found this year that many teachers' positions were changed at the beginning of the semester and in some schools all members of the prior 5th grade teaching cohort were in new positions. This made it difficult to predict how many classes from some schools would be joining RiverXchange, and if some schools would return at all. Colinas del Norte and Sandia Vista, both of whom have been with RiverXchange for at least 4 or more years and had significant teacher turnover, did not respond to our invitations to the program. As a result of the teacher scramble that ensued at the beginning of the year, RiverXchange staff reached out to presenters to see if they had contacts with schools that would be good candidates for RiverXchange. This proved to be a worthy effort because we were met with great interest, and only had to put two schools on the waitlist. Additionally, the Outdoor Equity Grant experienced some hold-ups in the procedure around securing the agreement for the grant, so one school - Puesta del Sol, only came on just at the end of September once we were able to confirm the grant. Around late September most schools had fully confirmed their participating classrooms in RiverXchange, with two schools confirming classes that still did not have a teacher. The other teachers at these schools desired for those students to participate in the program and offered to support those classes until they were assigned a teacher.

Of the 16 schools participating this year, 6 are completely new schools to RiverXchange - Bel Air, Mission Ave., Lavaland, San Antonito, Chaparral and Puesta del Sol.



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Task 2: Review and revise curriculum.

Complete by September 2022. Status: **completed.**

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This year the RiverXchange [website](#) was significantly updated in effort to improve participating teachers familiarity with, understanding of, and successful use of the RiverXchange curriculum, which is unlike many standard curricula as it blends outside presenters and field experiences with project-based learning. The RiverXchange website now reflects how the curriculum is broken down into 3 areas of study (and the comparative activities and associated leaders of those activities): Understanding a Watershed (Teacher-led, ensures the foundation of understanding a watershed with a Shower Curtain Watershed lesson or similar activity), Water in Our Society (Presentations with various agencies and presenters) and The River Ecosystem (Pre-lesson and field trip hosted by City of Albuquerque Open Space). These study areas have been defined in RiverXchange for many years through the Big Water Questions, which are suggested reflection prompts for students throughout the program. Using these three areas of study proved to be helpful in introducing RiverXchange to new teachers and refreshing experienced ones.



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Most importantly, linking these 3 areas of study together is the Action Project. Using Project-based learning as a means to support student engagement in meaningful action in their watershed, the Action Project is a critical element of the RiverXchange curriculum. In its second year of delivery, previously called the capstone project, The Action Project aims to become a significant professional development opportunity for teachers as a means to deliver

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Task 3: Set teacher workshop dates and locations, review training agenda, order curriculum materials, and conduct workshops.

Complete by October 2022. Status: **completed.**

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however staff met with these teachers outside of the workshop to train them on the program and schedule their presentations.

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The workshop also focused on the framework for The Action Project with teachers, with discussion in small groups on how to implement the project in the classroom. Reflections from that discussion was shared in the larger group, and while feedback was positive and enthusiastic, it demonstrated the need for even more clear and direct guidance on the framework, which was helpful for staff to understand so we can find a way to meet that need.

Task 4: Review Action Project format and reporting system.

Goal: Complete by September 2022. Status: **in process**

Mid-year: In October, Erin Blaz attended the North American Association of Environmental Education's national conference in Tucson, AZ. At this conference, Ms. Blaz was introduced to Earth Force and their "Environmental Action Civics" process. This process is a fully developed framework for completing an action project and aligns with the RiverXchange Action Project Framework that was in development on our end. Earth Force freely shares its process for educational purposes and the integration of this process into RiverXchange has been discussed



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Discussion on Zoom to review the Earth Force process, orient teachers to the Canvas classroom and show how to upload recordings of students reporting on their projects. Sixteen teachers attended this discussion and 19 teachers have joined the Canvas classroom.

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Field trip coordination is in progress with our main point person, Ellie Althoff, from CABQ-OSD. Ellie will continue to offer a field trip pre-lesson this year, focused on the River of Change from the Bosque Education Guide. Ellie is coordinating the field trips so that she will offer the pre-lesson the same week as the pole planting field trip. This is an exciting addition to the program as students will be taking immediate action by pole planting native trees after they learn about the impacts of flood control measures on the Bosque and riparian ecosystem of the Rio Grande. Field trips will begin in December and run through March on Thursdays and Fridays.

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Stormwater - John Stomp and Andy Edmondson at SSCAFCA

Agriculture- Steve Lucero and Rachel Zweig, Sandoval County Coop Ext.

Field Trips and Pre-Lesson, Ellie Althoff and Kyle Bality of CABQ-OSD

Mid-year: All presentations, except Agriculture for APS have been scheduled and confirmed with presenters and classrooms. RiverXchange staff are exploring options to present the



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Agriculture themselves, as it may be more efficient time and budget wise than seeking new partnerships with little time left to schedule.

Task 9: Review and track Action Project progress

Begin December 2022. On-going through May 2023. Status: **in process.**

Tracking and reporting will begin in December.

Mid-year: Staff have shared with teachers the importance of documenting the action projects along the process and have designated a place to upload recordings, documents or pictures to the Canvas classroom. The Canvas platform became accessible to teachers at the end of November and with December being a busy month, we expect to see more to report on in the 3rd quarter.

Task 10: Distribute post-survey to classes after they complete presentations and field trip, complete metrics evaluation and review.

Begin February 2023. On-going through April 2023. Status: **approaching.**

Post- surveys will be distributed as soon as classes finish their presentations and field trip.

Task 11: Review Action Projects for RiverXchange Excellence and award winners.

April 2023. Status: **approaching.**

This year, in collaboration with the Children's Radio Hour, we are hoping to feature students discussing their Action Projects on the Earth Day show in April.



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Mid-year: Staff are working on guidance and criteria for awards to be released in January.

Task 12: Collect and analyze teacher feedback.

Complete by May 2023. Status: approaching

Staff will revise the teacher feedback form and offer it to teachers by the end of April.

Task 13: Create, print and mail thank you cards to in-kind partners and certificates of recognition to teachers.

Complete during June 2023. Status: approaching

We will maintain correspondence with our in-kind partners throughout the school year and send thank you notes as needed.

Task 14: Reporting to sponsors.

Midyear report by January 31, 2023. Final report by June 1, 2023.



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Meaningful Watershed Education
5th grade
2023 Report

Presented by:

Ciudad Soil & Water Conservation District

Erin Blaz, Education Manager

Theresa Aragon, Education Coordinator

July 2022-June 2023

CONTENTS

<u>SUMMARY</u>	3
MS4 Permit Compliance	
<u>2022-2023 PROGRAM OVERVIEW</u>	4
Program Management and Financial Support	4
Program Components	6
Deliverables	8
<u>EVALUATION</u>	13
Teacher Feedback	13
Action Project Engagement	15
Student Surveys	18
Metric/Graphs	19
Appendix A: History	26
Appendix B: Program Photos	27
Appendix C: Agriculture Lesson	28

SUMMARY

This year, funding enabled 45 NM classes in 16 schools (1012 students and 49 teachers) to participate in the *completely in-person* RiverXchange® program. 38 classes were funded by MRSGSQT and SSCAFCA for the program and 5 classes were funded by the Outdoor Equity Fund. Twelve of the sixteen schools we served were Title 1. All program costs and coordination are provided free of charge to teachers. The program required a total of \$65,622 in cash (\$57,950 from MRSGSQT in cash and \$7,672 from Outdoor Equity Fund in cash) and generated a total match valued at \$140,673.00 in the form of in-kind contributions including teacher workshop attendance, presenter time and travel, as well as volunteer time from students and adults on the field trips to plant 473 trees in the bosque. Student Action Projects reached a total of 6,239 (last year was 3,090) community members about stormwater and watershed health related topics. Since 2007, we have served over 20,166 students!

MS4 Permit Compliance

The RiverXchange program meets a number of education and public engagement requirements set forth in the EPA Municipal Separate Storm Sewer System Permit No. NMR04A000.

Summary of Education and Outreach requirements met:

- Proper Disposal of Oil, Household Hazardous Waste ✓
- Proper Disposal of Pesticides, Herbicides, and Fertilizers ✓
- Impaired Waters in the city/state ✓
- Pet Waste Management ✓
- Watershed Management ✓

Classroom Education on Stormwater

- Distributes educational materials to schools. ✓
- Provides classes, seminars, and workshops for schools to participate in municipal-sponsored storm water educational training. ✓
- Sponsors stormwater workshops for teachers. ✓
- Awards certificates and give other types of recognition to schools that participate in municipal-sponsored stormwater workshops or events. ✓
- Earth Day Event ✓
 - Children's Radio Hour Earth Day show featuring RiverXchange students

2022-2023 PROGRAM OVERVIEW

I. Program Management and Financial Support

The program timeframe was July 1, 2022 through June 30, 2023. All components including fundraising, design, planning, implementation, and analysis were carried out by employees and contractors of Ciudad Soil & Water Conservation District, including:

Erin Blaz

Jenny Lloyd-Strovas

Astrid Hueglin

Saleema Robinson

Theresa Aragon

SPONSORS

- Southern Sandoval County Arroyo and Flood Control Authority (SSCAFCA)
- Middle Rio Grande Stormwater Quality Team (MRGSQT)
- Outdoor Equity Fund, New Mexico Outdoor Recreation Division

Sponsors provided a total of \$65,622.61.00 in cash.

MRGSQT - \$39,650.00 | SSCAFCA - \$18,300.00 | Outdoor Equity Fund - \$7,672.61

Program expenses included:

- Technology services
- Office and educational supplies
- Teacher workshop materials and food
- Coordination services (planning, implementing and assessing all program components)
- Bus funding
- Substitute funding

This year, the program featured the following components:

- Optional standards-based curriculum including hands on science, math, and social studies lessons, as well as writing assignments
- Teacher training on curriculum and Action Project implementation
- Ongoing Action Project implementation support and Action Project monitoring
- End of year teacher survey

- Pre and post student surveys
- Coordination of at least four guest speakers into the classroom
- Coordination of an in person field trip to the local river or important watershed feature
- Field trip leadership and activity planning with City of Albuquerque Open Space

IN-KIND PARTNERS

- Albuquerque Water Utility Authority
- City of Albuquerque – Open Space Division
- Sandia Labs
- Sandoval County Cooperative Extension
- SSCAFCA

In-Kind contributions totaled \$140,673.00

In-kind contributions included teacher attendance at the teacher training, guest speaker travel, prep and presentation times. The City of Albuquerque continued offering a pre- field trip lesson presentation to classrooms. Additionally, in-kind match was able to return to a pre-2020 range due to the allowance of pole planting field trips, where student and adult time and trees are counted as match through volunteer time and materials.

PARTICIPANT SELECTION

All 45 participating NM classes were fifth grade classes, distributed as follows:

FUNDER	MRGSQT		SSCAFCA	
	SCHOOL - Number of classes	Number of Students	SCHOOL - Number of classes	Number of Students
Title 1 school	La Mesa - 4	77	MLK* - 4	115
	Valle Vista* - 2	43	Maggie Cordova* - 4	100
	Seven Bar* - 3	45		
	John Baker- 2	41		

	Zia*- 2	40	OUTDOOR EQUITY FUND	
	Monte Vista - 3	71	Puesta del Sol* - 5	105
	Cochiti* - 2	47		
	North Valley Academy - 3	50		
	Mission Ave*- 2	54		
	Bel-Air* - 2	46		
	Lavaland* - 1	20		
	San Antonito - 3	71		
	Chaparral* - 3	87		
TOTALS	32	692	13	320
RX Total Classes	45	RX Total Students	1012	

II. Program Components

Mission

The mission of RiverXchange is to deepen students' and teachers' understanding and appreciation for their local river ecosystem and watershed, motivate participants to protect local water resources by conserving water and keeping their source water clean, and to provide a high quality, high impact outreach opportunity for funders and in-kind contributors.

Curriculum

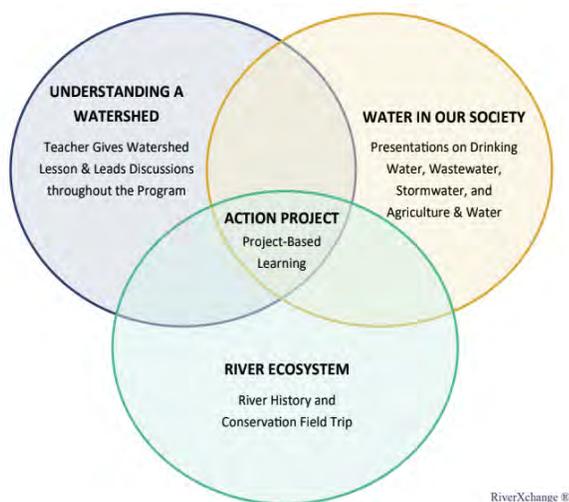
The core curriculum of RiverXchange® is delivered through a series of in-class presentations provided by our partner agencies that are guided by the “Big Water Questions” that aim to build an understanding of watershed health. Additionally the field trip, in partnership with City of Albuquerque Open Space, has remained a core component of our program by offering students the opportunity to participate directly in a restoration project to understand the value of action and stewardship as a community effort. The conservation field trip also offers an opportunity for participating students, who

come from diverse backgrounds and have varied relationships with the outdoors, a chance to connect with an important, local watershed feature and build a connection to their local river. Furthermore, beyond the core components of RiverXchange®, the program also supports a more robust understanding of watershed health through teacher facilitation of the Action Projects and other additional lessons that are demonstrated at the teacher workshop.

In the summer of 2022, the RiverXchange website was updated to reflect the current program framework, teacher resources and expectations, and the Action Project guidelines. The framework is aligned with the Big Water Questions and is broken down as such:

(1) Understanding a Watershed: Teacher-led lesson introduces the concept of a watershed; a

lesson is provided for teachers to implement on their own in their classroom ideally before any presentations start.



(2) Water in Our Society: The in-class presentations on drinking water, wastewater, stormwater and agriculture and water provide a foundation for understanding water use, resources concerns and conservation practices in our society.

(3) River Ecosystem: The field trip pre-lesson and conservation field trip help students build a relationship to the Rio Grande as a riparian ecosystem that has been disrupted by flood control management and understand local actions to remediate

those impacts.

The Big Water Questions

The Big Water Questions help students to meet the RiverXchange® learning objectives and demonstrate competency in the science standards, but ultimately they are the foundation for becoming critical thinkers, problem solvers and water protectors!

Understanding a Watershed

- Is every place in the world part of a watershed?
- Where does your community's stormwater go?
- How can surface water become polluted?
- How does the water cycle relate to weather?
- How are groundwater and surface water connected?
- How can groundwater become polluted?
- What actions can all of us take to keep water clean?

Water in Our Society

- In what ways does our society use water?
- Where does your community's drinking water come from?
- Does everyone have the right to use as much water as they want?
- Where does your community's wastewater go?
- What actions can all of us take to conserve water?

River Ecosystem

- How does water affect living things in an ecosystem?
- What role do forests play in a watershed?
- What role do wetlands play in a watershed?
- What are some of the ways scientists can determine the health of a river, lake, bay or ocean?
- What actions can all of us take to improve the health of our ecosystem?

III. Deliverables

A review of this year's program delivery follows.

A. TEACHER WORKSHOP

Two teacher workshops were held this year on September 23 and September 30 at the Open Space Visitor Center, with a total of 31 teachers in attendance. Teachers from Chaparral, San Antonito and Puesta del Sol were unable to attend due to late registration to the program, however staff met with these teachers outside of the workshop to train them on the program and schedule their presentations.

This year's workshops featured BEMP educators Laura Pages and Annie Montes, who facilitated an activity called "Dabbling in Data." In this activity, groundwater table data is recorded on graphs for multiple years to see seasonal trends and observe periods of drought or heavier than normal snowmelt or precipitation as a means to discuss the relationship between weather patterns, groundwater and ecosystem health. Highlighting BEMP as a collaborative partner with Ciudad SWCD and RiverXchange was helpful for teachers to see how our program fits into the larger landscape of watershed education in our community and how students will eventually build on RiverXchange in future outdoor and environmental education experiences.

The workshop also focused on the framework for The Action Project with teachers, with discussion in small groups on how to implement the project in the classroom. Reflections from that discussion was shared in the larger group, and while feedback was positive and enthusiastic, it demonstrated the need for even more clear and direct guidance on the framework, which was helpful for staff to understand.

B. CORE PROGRAM

PARTNER AGENCY PRESENTATIONS

Drinking Water, Wastewater, Stormwater, and Agriculture & Water

APS

Rhea Trotman and Ellie Garcia from the Albuquerque Bernalillo County Water Utility Authority provided the drinking water (leaky faucet) and wastewater (what scientists do with #1 and #2) presentations. A team of Sandia Labs employees provided the stormwater presentation (non-point source enviroscape). Bernalillo County Cooperative Extension was unable to serve the total number of APS classes this year for the agriculture presentation. Although they offered to do up to 8, it was determined that RiverXchange staff would be the best to fill in this year and cover all the classes to reduce the logistics and provide cohesive lessons. This year the agriculture presentation focused on food waste and water conservation and was very well-received by students and teachers alike (lesson plan in Appendix XX).

RRPS

Rhea Trotman and Ellie Garcia from the Albuquerque Bernalillo County Water Utility Authority also provided the drinking water (leaky faucet) and wastewater (what scientists do with #1 and #2) presentations for RRPS. John Stomp and Andy Edmondson from SSCAFCA provided the stormwater presentation (non-point source enviroscape). Steve Lucero, Nicole Lujan and Rachel Zweig of Sandoval County Cooperative Extension provided the agriculture presentation.

FIELD TRIP

Field Trip Pre-lesson

City of Albuquerque Open Space Division Educator Ellie Althoff provided significant support to students understanding the “why” behind planting cottonwoods and willows in the Bosque by offering the Bosque Education Guide’s River of Change presentation. This lesson explores a storyline of the Rio Grande History by discussing the pre-settlement ecology of the Middle Rio Grande; flood control impacts due to colonization and non-native settlement of the Middle Rio Grande Valley; and finally restoration and mitigation strategies for flood control impacts on the ecosystem.

Pole Planting

A total of 886 students and 152 adults attended pole planting field trips from APS and RRPS. With the support of Albuquerque Open Space, 473 total trees were planted in an area of the Bosque at two locations in the Bosque- Shining River and Gabaldon Trailhead. Images of students pole planting are in Appendix XXXX. The Shining River location was extremely sandy and students had a very difficult time digging out the pre-drilled holes with the hand augers, as the holes frequently collapsed with sand. As a result, some student groups only planted one tree a day. The general standard is 2-4 trees per day per student group. Regardless, it was an extremely successful year with all classes participating in a field trip on, and only 2 being rescheduled to a non-pole planting event.

Tijeras Bio-Zone Education Center (TBEC)

Our last pole planting field trip was scheduled with MLK for March 17, but due to a spring snow storm school was canceled for MLK. Since there were no longer any pole planting dates available, MLK was offered to participate in another field trip experience Ciudad SWCD was taking part in with Talking Talons Youth Leadership's EPA Watershed Stewards grant. This event was in May and students took part in learning about the Albuquerque Backyard Refuge Program, doing a habitat study on site, a rolling river presentation, reptile presentation and nature hike.

PRESENTATION TOTALS

Program presentations were completed as follows:

Agriculture: 45/45

Stormwater: 45/45

Wastewater: 45/45

Drinking Water: 45/45

Pre-field Trip Lesson: 45/45

Field Trips by class

Pole Planting: 43/43

Tijeras Bio-Zone Education Center: 2/2

C. ACTION PROJECT

This concludes the second year the RiverXchange has implemented the Action Project component to support meaningful connections between RiverXchange students, their greater community and watershed health. The Action Projects continue to provide a fun and engaging opportunity for students to learn about and advocate for their watershed. To reach this goal, students and teachers work together to create a project that includes aspects of conservation and stewardship in their local community. Building off of last year's "Capstone Project" framework, RiverXchange staff created a 5 step framework for taking action, with each step having specific guidance on how to accomplish each step. The steps were (1) Identify a Problem, (2) Develop a Plan, (3) Take Action, (4) Reflect and (5) Celebrate.

The Action Project Framework was introduced at the teacher workshop, with time for teachers to work in groups to determine an initial plan of how they would accomplish each step. During their group presentations on planning for the action project, it was clear to RiverXchange staff their were going to be diverse methods and approaches, varying from the depth of the process (minimal to extensive), engagement of students in the design process (none to extensive), and level of impact (classroom only to school wide). This was valuable information and was especially pertinent to Erin Blaz at the NAAEE (North American Association of Environmental Education) National Conference in October 2022 when she was introduced to [EarthForce](#), a national program that support "Environmental Action Civics (EAC)" through an action project framework similar to what RiverXchange staff were newly implementing. Earth Force is a highly-regarded

nation-wide program and as recently as 2016 Albuquerque hosted an Earth Force representative. The program's civic process for taking environmental action has been implemented, updated and practiced since 1989. The Earth Force mission is also to support educators like RiverXchange staff in reaching more teachers and providing effective training. Since December of 2022, RiverXchange staff have met with Earth Force program managers bi-monthly to discuss how to best implement the Earth Force process into RiverXchange. In June 2023, RiverXchange staff took an Earth Force training and will work with a cohort of similar educators and programs to work on bringing best practices in environmental action civics to participating teachers.

The Earth Force process (6 Steps) is very similar to the Action Project Guidelines (5 Steps) RiverXchange teachers were trained on at the teacher workshop. RiverXchange staff introduced the Earth Force EAC process to teachers in November, and used a variety of methods to share Earth Force resources and engage teachers with EarthForce throughout the school year. We provided a (1) short 30 minute online live training session over zoom that was recorded and shared (16 teachers attended), (2) we created a Canvas (a learning management system) classroom with RiverXchange specific documents for each step of the Earth Force EAC process that paired with our core curriculum, and (3) we sent weekly emails across six weeks starting in January with these resources as well. The Canvas website was intended to be a place where teachers could upload progress on their action projects and connect with other teachers, and ultimately a place where RiverXchange staff could track progress and completed action projects. To entice classrooms to take part in the action project in a timely manner, RiverXchange staff created an awards system for projects with the first 10 classes who met the criteria for submissions to receive a pizza party.

In January, RiverXchange staff developed and shared Action Project Awards criteria, listed below, to encourage submissions of Action Project document:

- Submissions must be received by MARCH 17 to be considered for the pizza party (we will still allow for submission past this date and encourage everyone to share no matter when they are turned in)
- Submissions should at minimum describe the project and have some reflection on the process. Please use the questions on the next page to prompt student reflection on their action project.
- At least one audio or video recording is submitted.

CHILDREN'S RADIO HOUR

An unique opportunity was presented to teachers this year to have their classes featured on our locally produced Children's Radio Hour, which is broadcasted on 140 stations worldwide. The goal was to have students featured discussing their action projects. Approximately 6 classes were featured on the and the broadcasting was aired on Earth Day 2022 with a focus on rivers. A recording of the broadcast can be found at: <https://www.childrenshour.org/earth-day-rivers/>. Student recordings were sourced from teachers and taken by RiverXchange staff when in contact with the classes at field trips or presentations. RiverXchange staff will continue to find ways to acknowledge students' work on the action projects through local publications and media.

D. Justice, Equity, Diversity and Inclusion

The Outdoor Equity Funding received this year included support to implement best equity practices into the program, with the goal to better understand and value individual and cultural relationships to nature and the outdoors as a means to improve our program's pedagogy. RiverXchange takes a scientific and factual approach to discussing water resource topics, but the field of environmental education continues to emphasize the importance of cultural and relational values in outdoor learning. In other words, our work isn't just about getting students outside, but how we relate to them in the program and relate them to the outdoors. Two approaches were taken to meet our goal of implementing best practices for equity in the outdoors - the implementation of the Earth Force process and staff professional development in a Justice Equity, Diversity and Inclusion (JEDI) 101 course offered by the SouthEast Environmental Education Association. Cultural responsiveness and environmental justice is built throughout the Earth Force's Process of 'Environmental Action Civics.' From the start students and teachers are prompted to take a community inventory and discuss strengths and areas of concern in their community relating to watershed health. As students progress, they work in committees based on their interests and skills, meet with stakeholders and/or potential collaborators and are pushed to reflect deeply to determine the best course of action before they even begin to take action or make a request for change. These are skills that are critical for making informed decisions to solve problems of today and tomorrow, as they are rooted in community knowledge and resources. We look forward to seeing how the integration of the Earth Force process improves the depth to which students can take meaningful action within the RiverXchange program.

The JEDI 101 course that staff participated in was a series of six zoom sessions with a cohort from across the US paired with homework assignments. The course was aimed at building a foundation for justice, equity, diversity and inclusion within an organization and challenged participants to see and define the way current forms of oppression (i.e. ideological, institutional, interpersonal, internal) are present in everyday systems all around us and how we can disrupt these systems in the field of environmental education in order to improve. It concluded with an action step, which for our staff was to discuss creating definitions with our board of supervisors for important terms related to JEDI in order to create future policies and guidelines for our education, outreach and programs.

EVALUATION

I. TEACHER FEEDBACK

Teacher feedback is an invaluable resource for program evaluation and it continues to help us understand how RiverXchange® helps teachers reach their goals and provide feedback on ways to better support their classroom objectives. This year's feedback continues to reinforce that RiverXchange® remains relevant and impactful in curriculum and content. Feedback demonstrates the RiverXchange

program is highly valued by teachers for its ability to provide hands-on and experiential activities that introduce students to local watershed issues, reconnect them to the natural world, and demonstrate career opportunities in the science and conservation fields. RiverXchange® continues to be an evolving and beneficial curriculum that teachers use to stimulate the personal and collective growth of their students by encouraging them to use teamwork, adaptability, and communication skills to engage in and build an understanding in complex and new topics.

In addition, the Action Project has provided an additional opportunity for teachers and students to engage their greater school community in environmental civic action to improve learning that occurs in the program through education, research, and community service. Feedback also demonstrates the RiverXchange® continues to be valued for its ability to bring community science in the classroom and teach about water resources issues, while addressing specific changes in environmental problems students wish to improve.

Additionally, when asked to share what successes teachers and the students had with integrating the Action Project, teachers reported that students really enjoyed creating deeper connections to water issues through direct action. Teachers described how their students used the action project to educate others about environmental issues, organize campus-wide clean-ups, and build interactive models to demonstrate key watershed science concepts. Some teachers noted they used the Action Project to assess if students achieved the NM Stem Ready/Next Generation Science Standards and 62% of teachers say RiverXchange is very effective in helping students achieve these standards.

Lastly, when asked how RiverXchange® could be improved to support teachers in future years, some teachers reported difficulty implementing the Earth Force process as an additional objective in their curriculum. Teachers also indicated that they would benefit from more direct education on how the pole planting field trip ties into their water conservation efforts prior to the trip.

Below are a few highlights from the teachers:

What are the greatest learning outcomes for your class as participants in RiverXchange®?

Students understood that they have a part in our planet's future. They feel empowered to make changes when they see injustice.- Ryan, Lavaland ES

My students were able to write letters to politicians explaining why our water resources were so important in Albuquerque, and they were able to share ideas for solving these problems. - Wicks, Bel-Air ES

The successes we had in completing our action project was honoring student voices. Students were able to be active participants/leaders in creating the project. - Martinez, Valle Vista ES

Our entire school felt the impact of our trash pick up project. Our class was recognized on a nearly weekly basis for our contribution to our school's overall environment. - Rogers, North Valley Academy ES

It was very beneficial and all the presentations were informative and engaging! - Agena, Puesta del Sol ES

Students and staff really enjoy learning about where we live and how what we choose to do or not do can affect our environment. - Beer, Cochiti ES

This was an outstanding experience and my class and I loved every minute of it. Erin and her helpers were all amazing leaders and patient with all of the requirements our large classes put on them. Loved the field experience, loved the push-in lessons, and loved all the supplemental lessons we were provided. Well-done Xchange peeps!!!! - Cordova, Chaparral ES

This was a great program and one of the few times my students worked together. - Deschenie, Monte Vista ES

Please share any feedback you have concerning your experience with the program this year.

It was great this year--the presentations were engaging and fun! - Harness, Monte Vista ES

I really enjoyed how easy it was to follow. - Gallegos, Maggie Cordova ES

I really feel that everyone at RiverXchange went above and beyond to provide us with a quality environmental education. I know this may be asking a lot, but I feel that regular check-ins would be beneficial to build a stronger connection between students and their environmental gurus at RiverXchange. - Rogers, North Valley Academy ES

I think it is great that there are programs that help students be advocates for their environment. - Ryan, Lavaland ES

I think the first year is challenging to keep up with all the presentations and project. I believe now that I know what to expect, next year will be easier. - Lopez, Chaparral ES

Overall RiverXchange is helpful in engaging ways for students to learn valuable lessons. - Martinez, Valle Vista ES

I do not have any suggestions at this time :) y'all are awesome! - Butler, Zia ES

II. ACTION PROJECT ENGAGEMENT

In RiverXchange, our goal is that students not only understand their local watershed but that they use their voice to advocate for conservation and proper management of watershed health in their community.

However documenting and evaluating teacher and students success in this process has its challenges since staff are not working alongside the classes throughout their action project. Therefore we rely on teachers to provide us updates and documentation (pictures, audio, and videos) of this process in their classroom. To improve documentation of action projects staff created what we hoped to be a manageable set of criteria and guidance for providing that documentation to our team. Staff communicated to teachers that there were multiple ways to share this documentation: (1) via the Canvas site online (2) through our email communication (3) thumb drives and (4) through project descriptions on the teacher feedback form. As the school year progressed, we found that teachers were not very active on Canvas. However the weekly Earth Force email campaign in January helped reinvigorate participation in the Action project and deliver specific guidance to the teachers with the flexibility of incorporating their own process into their curriculum.

During the month of March 10 teachers submitted documentation of their action projects and met the criteria for a RiverXchange Excellence award and pizza party. These projects all identified a need for change and addressed this issue with considerations of the community inventory (step 1 of Earth Force) and involved some collaboration outside of their classroom (i.e. school admin, other grades, whole school). The submissions demonstrated various kinds of participation in the process based on teacher and student interest and capacity. The method of asking for change ranged from delivering presentations to other classes, informational posters, announcements, letters to local businesses and campus-wide, grade-level or weekly campus clean ups.

Beyond the impact to the students, the projects engaged the local community. When asked who in the community the class Action Project reached, teachers shared that often entire grade levels, students' families, and in some cases the whole school were reached during the course of the project. Students also expressed wanting to increase their reach to the greater public outside the school community. In total, teachers reported reaching 6,239 additional community members with their projects.

The challenging circumstances of obtaining consistent participation in the action project process, especially from teachers new to RiverXchange, has allowed us a valuable opportunity to adjust our teacher workshop materials next year. Many teachers found it difficult to incorporate the new Earth Force process after they already planned out their yearly curriculum and viewed the Action Project as an addition to their lesson plans. Next year, we will focus on helping teachers integrate the Earth Force Action Projects into their lessons to make more meaningful connections while exceeding national standards in all school subjects.

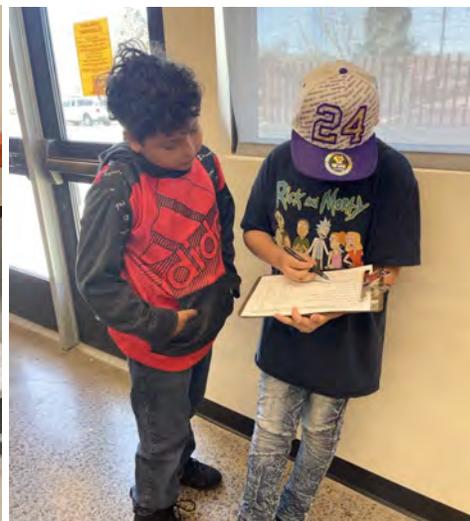
Overall, the majority of teachers appreciated the hands-on and outdoor education focus of the Action Project criteria and felt their students gained meaningful experiences in the process.

Action Project Images

Campus Clean Up & Poster Campaign- La Mesa Elementary



Food Waste study with all grade levels- Lavaland Elementary



III. STUDENT SURVEYS

A key component of RiverXchange is its measurable goals relating to student performance. We collected quantitative data on student performance by way of a pre and post survey and qualitative data by observing the work submitted via the Action Projects. The survey includes questions that relate to environmental attitudes and behaviors as well as knowledge gained relating to our learning objectives.

Pre/Post Program Survey

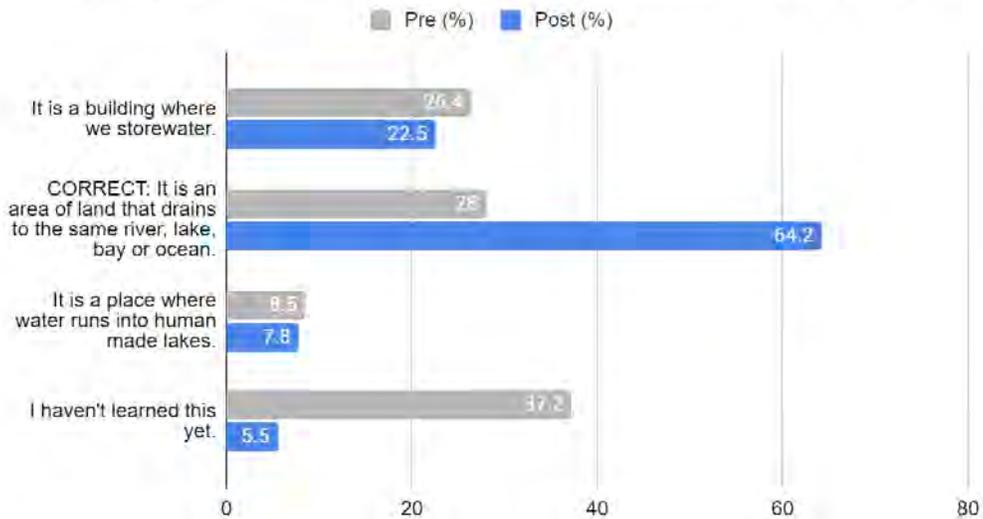
This year, 826 students completed the pre-survey and 587 completed the post-survey. We continue to refine the survey and our programming year after year based on teacher feedback and metrics gathered from these surveys.

This year's metrics demonstrate an improvement in student understanding of watershed health topics post the RiverXchange program; specifically:

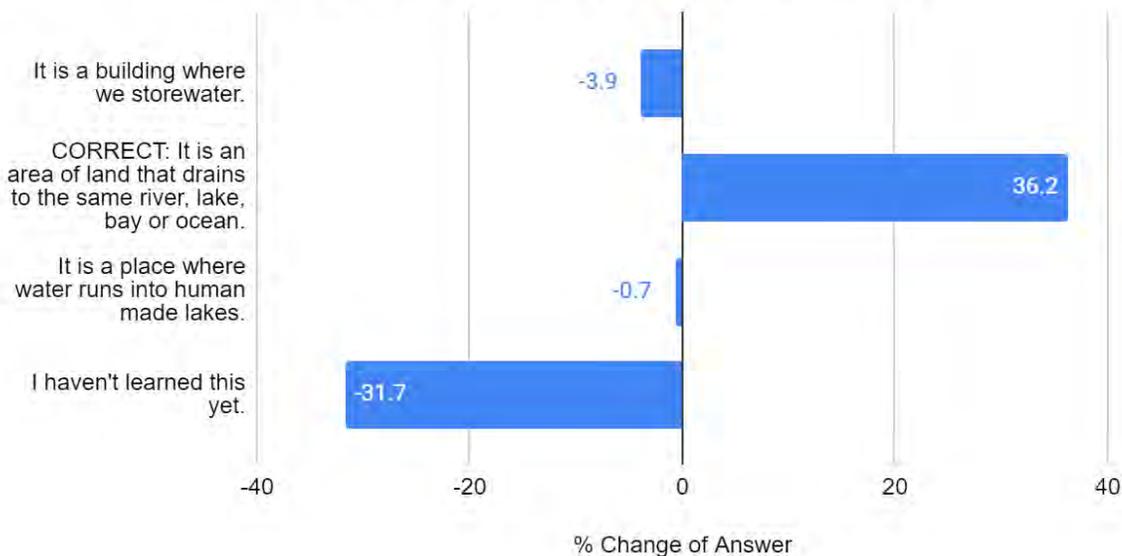
- **36.2%** more students can correctly define a watershed, with a total of 64% of students correctly defining a watershed after the program.
- **32%** more students know that “everyone lives in a watershed” after the program.
- **19%** more students understand that stormwater is polluted by human activities; a total of 75% of students agree that stormwater is polluted by human activities after the program.
- **28.8%** of students can correctly define stormwater after the program.
- **63%** of all students identify picking up dog poop as highly impactful for improving watershed health.
- **24%** more students correctly identify that pesticides, herbicides, and fertilizers are a concern in stormwater.

2022-2023 Evaluation / Metrics Results & Percent Change Graphs

What is the correct definition of "watershed?" (RX 22-23)

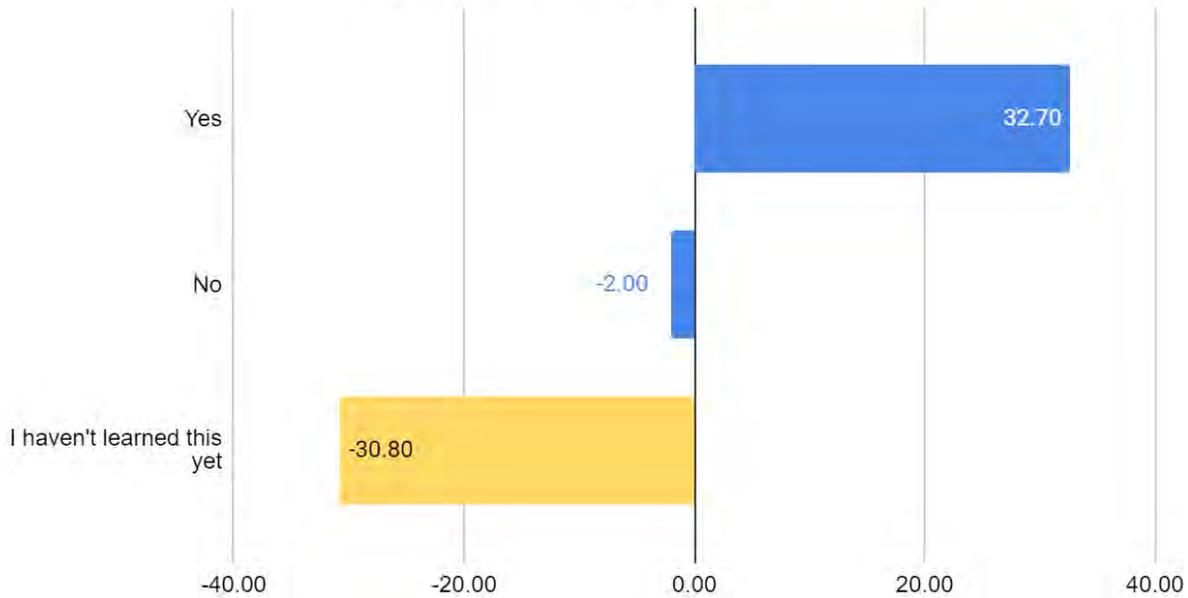


What is the correct definition of "watershed"? (% Change in Answer from Pre to Post Test - RX 22-23)

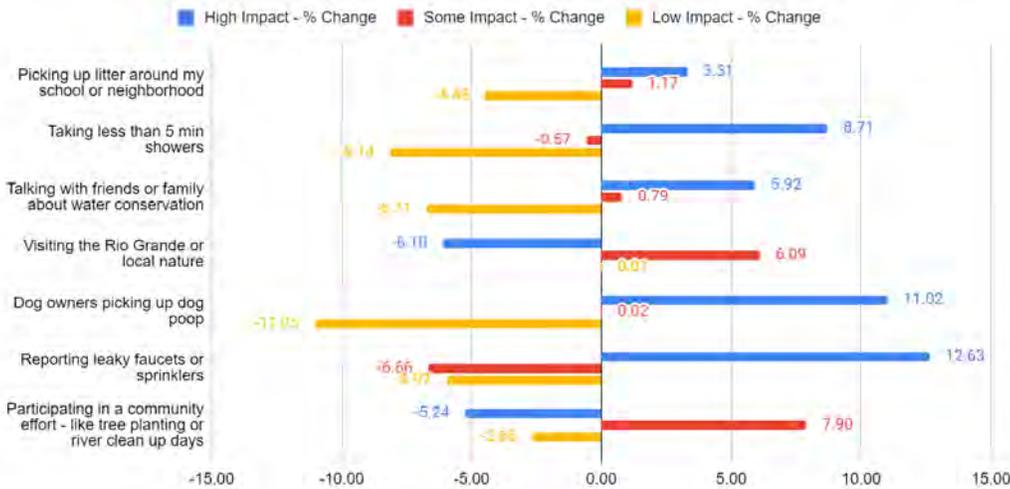


Teachers were given a shower curtain lesson to make a watershed. It was noted on the website and broken down in the curriculum description so the teachers understood that it was a requirement. 51% of teachers who responded on the teacher feedback survey said they did an introductory watershed lesson, 40% said they used the shower curtain lesson provided by RiverXchange.

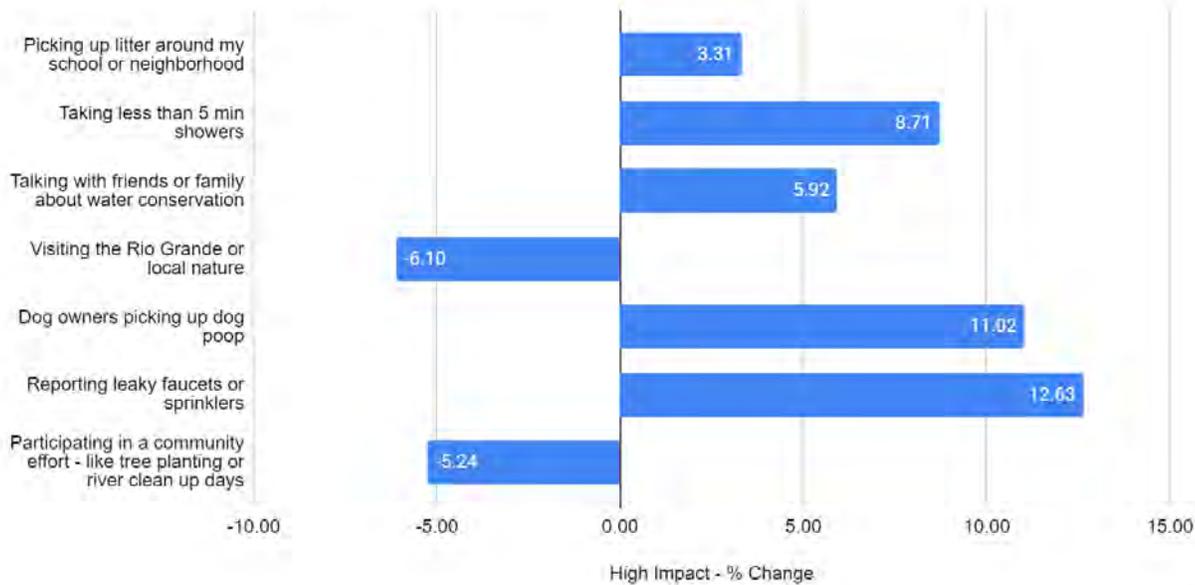
Does everyone live in a watershed? (% Change in answer from Pre to Post Test - RX 22-23)



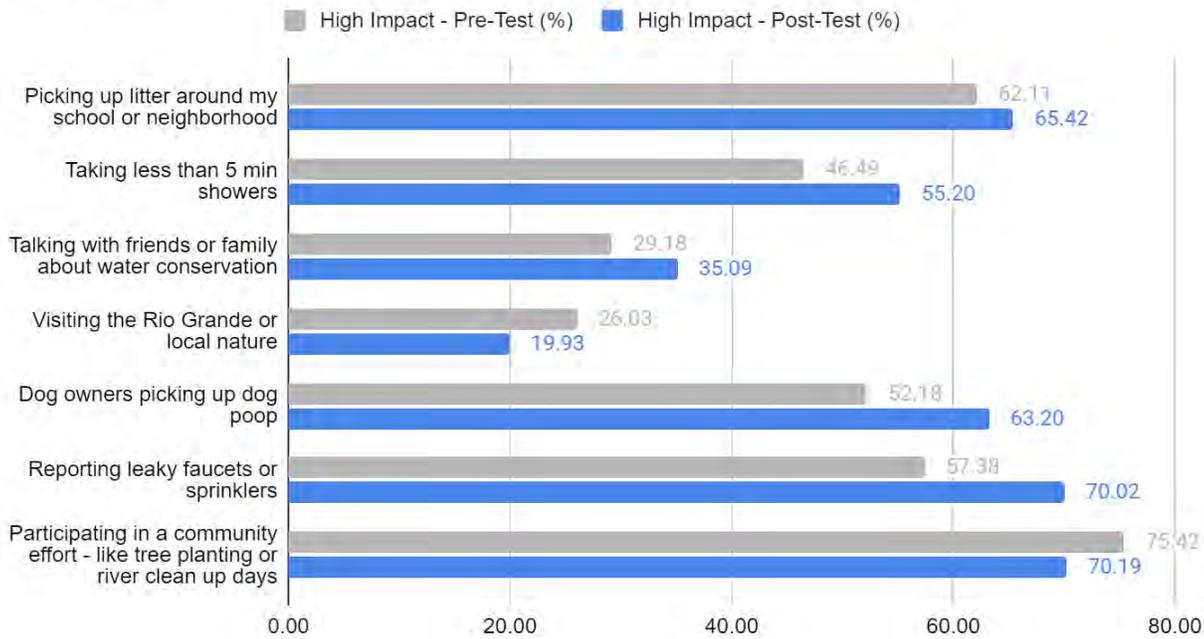
In your opinion, how important/impactful are the following actions in helping to conserve and protect our water (choose the level of importance/impact that applies for each statement). (% Change from Pre to Post Test RX 22-23)



High Impact - % Change vs. In your opinion, how important/impactful are the following actions in helping to conserve and protect our water (choose the level of importance/impact that applies for each statement):

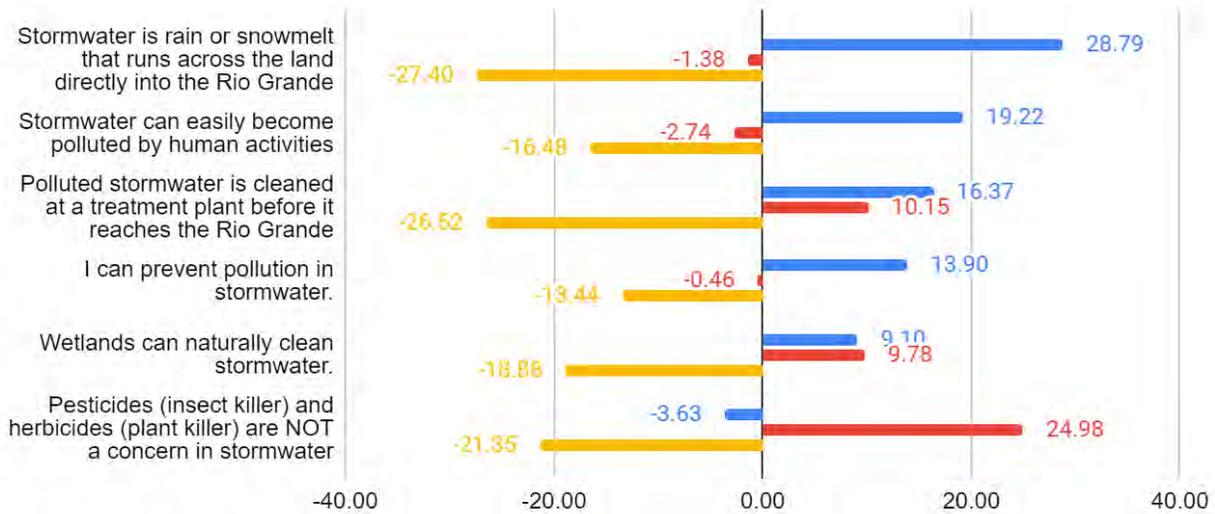


High Impact - Pre-Test (%) and High Impact - Post-Test (%)

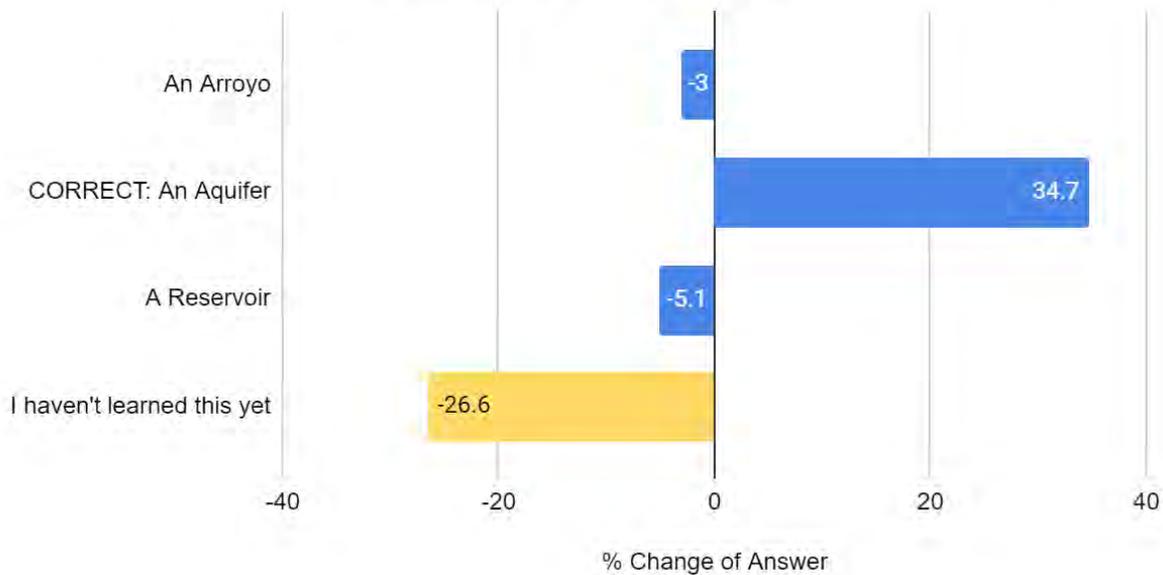


Please select the correct answer about the following statements about stormwater: (% Change in Pre to Post Test- RX 22-23)

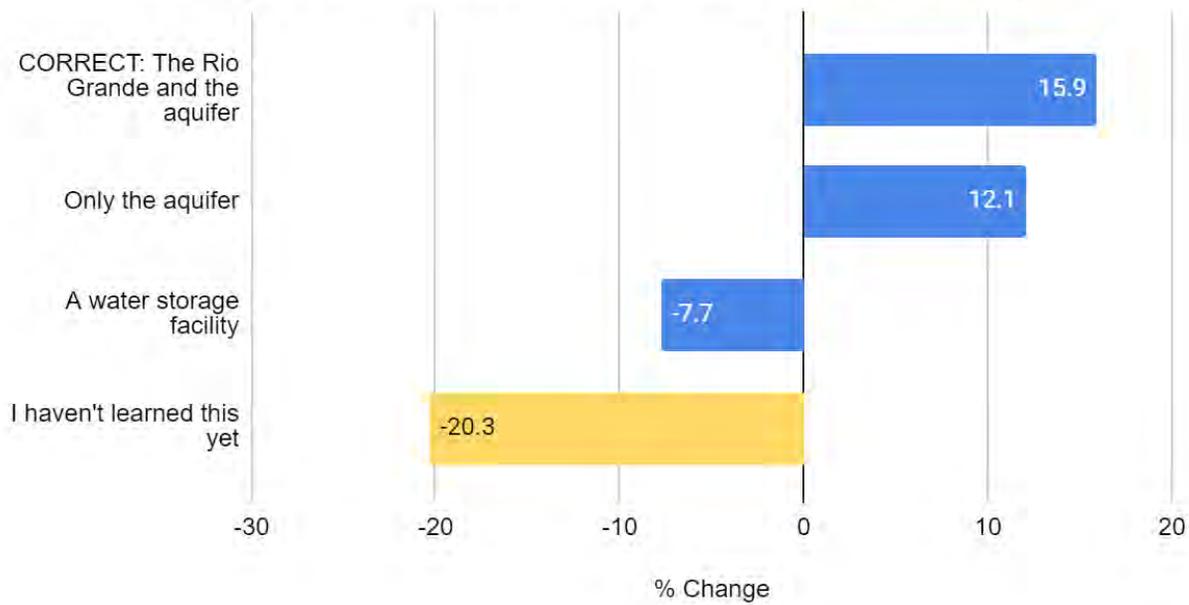
■ Yes, that is true - % Change
 ■ No, that is not true - % Change
 ■ I haven't learned this yet - % Change



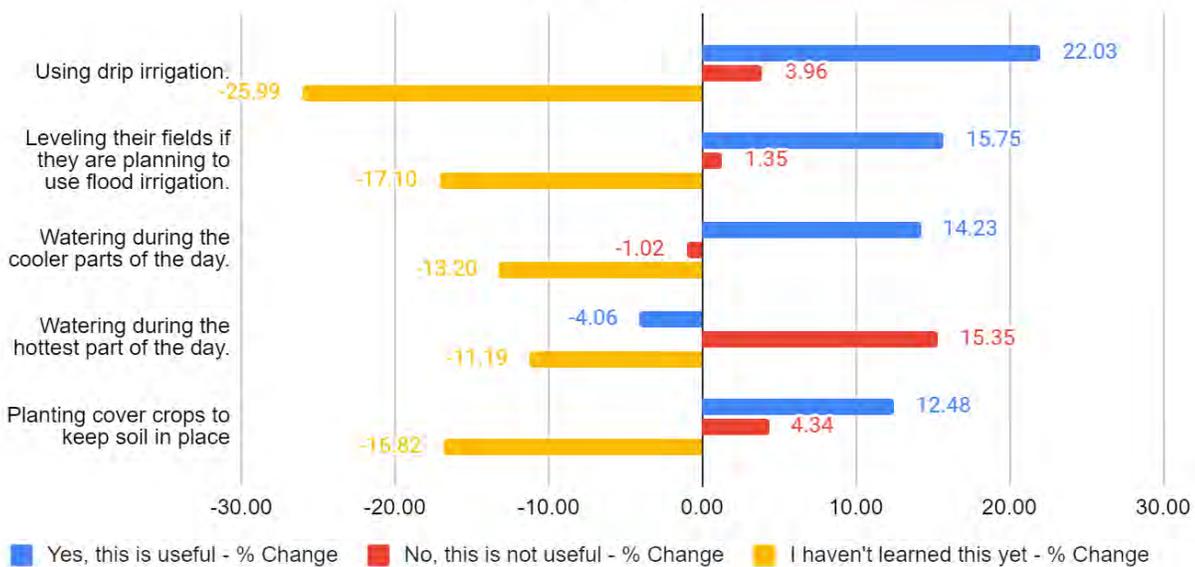
A source of clean water deep underground is called: (% Change from Pre-Post Test - RX 22-23)



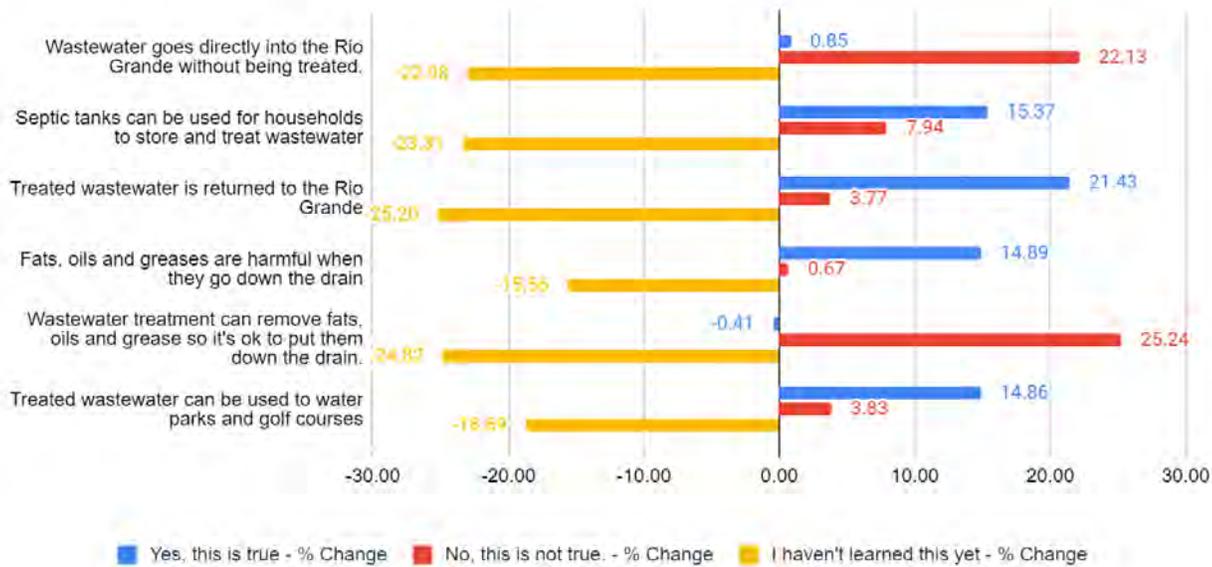
From what direct source(s) does your city, get their drinking water? (% Change in answers from Pre to Post Test - RX 22-23)



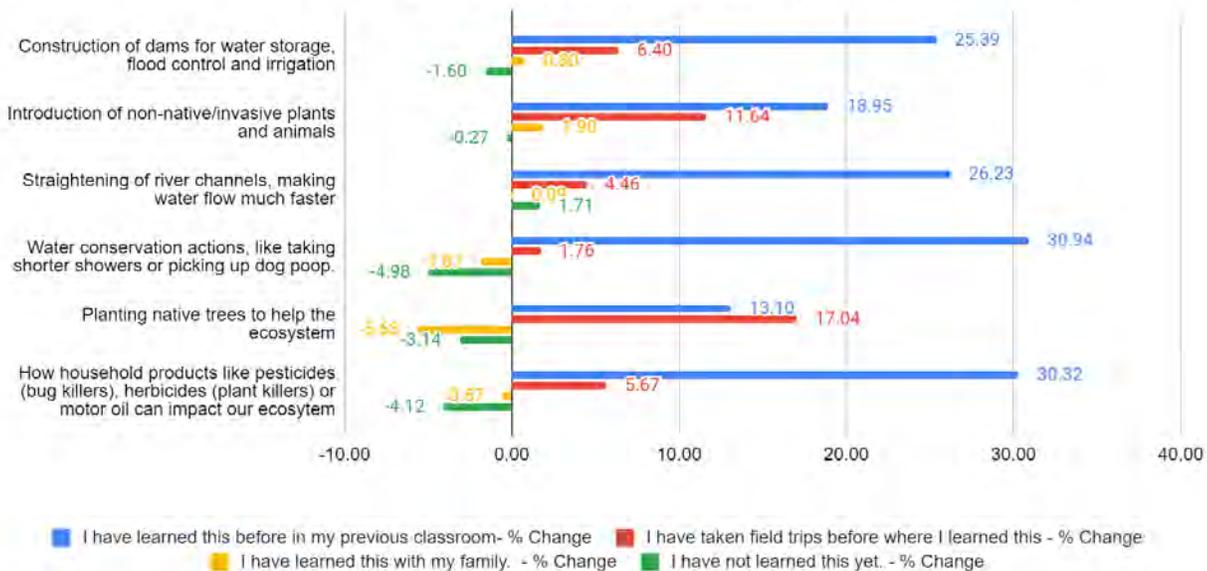
Please select which methods are or are not useful for farmers to conserve water. (% Change in answers from Pre to Post Test - RX 22-23)



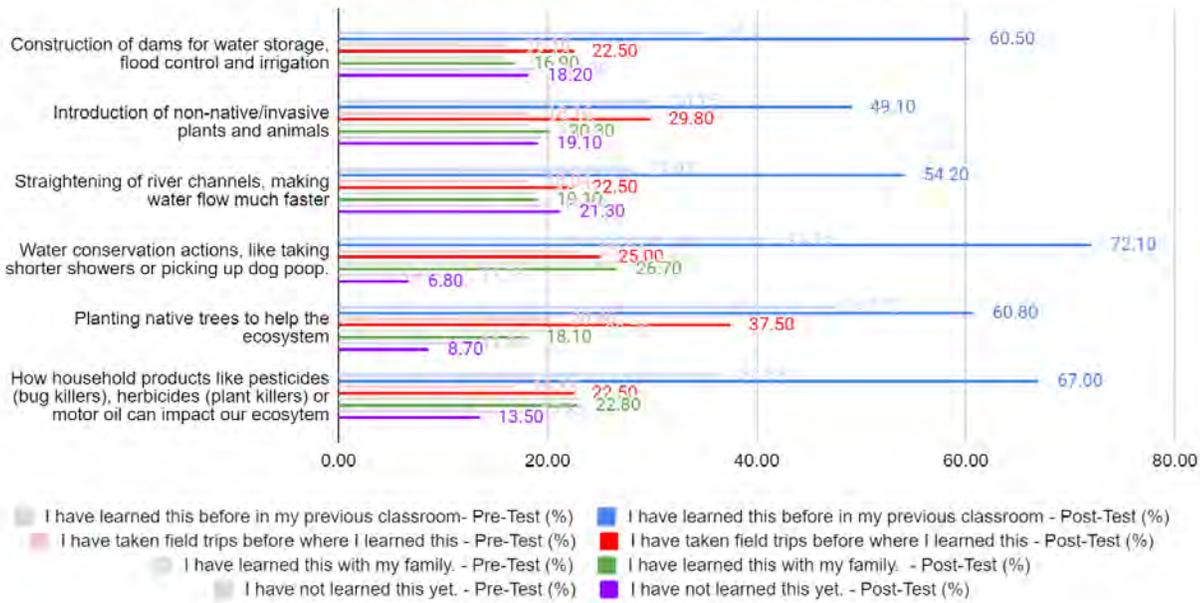
Select what you know about wastewater (water that goes down drains after being used in buildings like homes, schools or shops): (% of Change in answers from Pre to Post Test - RX 22-23)



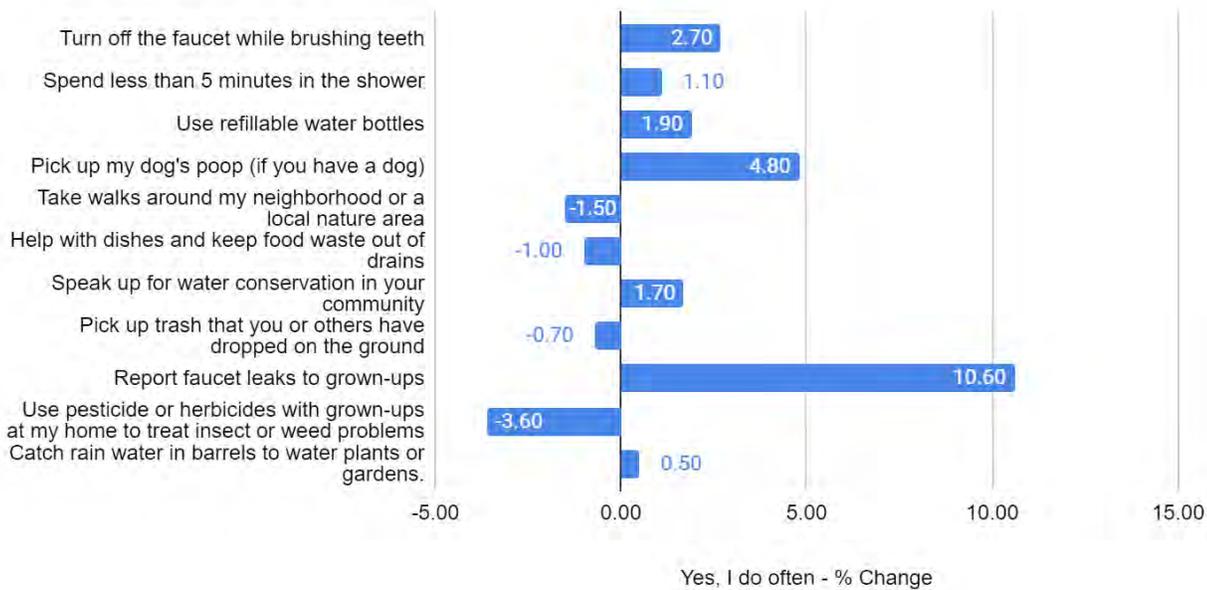
Humans have changed our local ecosystem quite a lot. Help us understand the ways you have learned about the following. Select all that apply. (% of Change in answers from Pre to Post Test-RX 22-23)



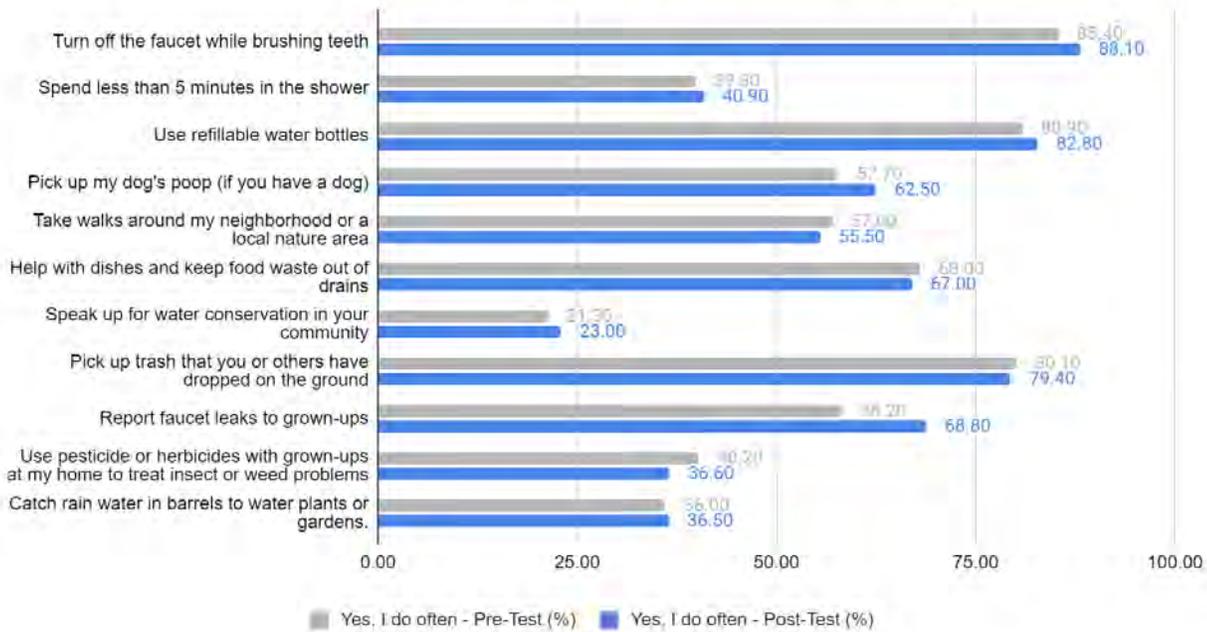
Humans have changed our local ecosystem quite a lot. Help us understand the ways you have learned about the following. Select all that apply. (RX 22-23)



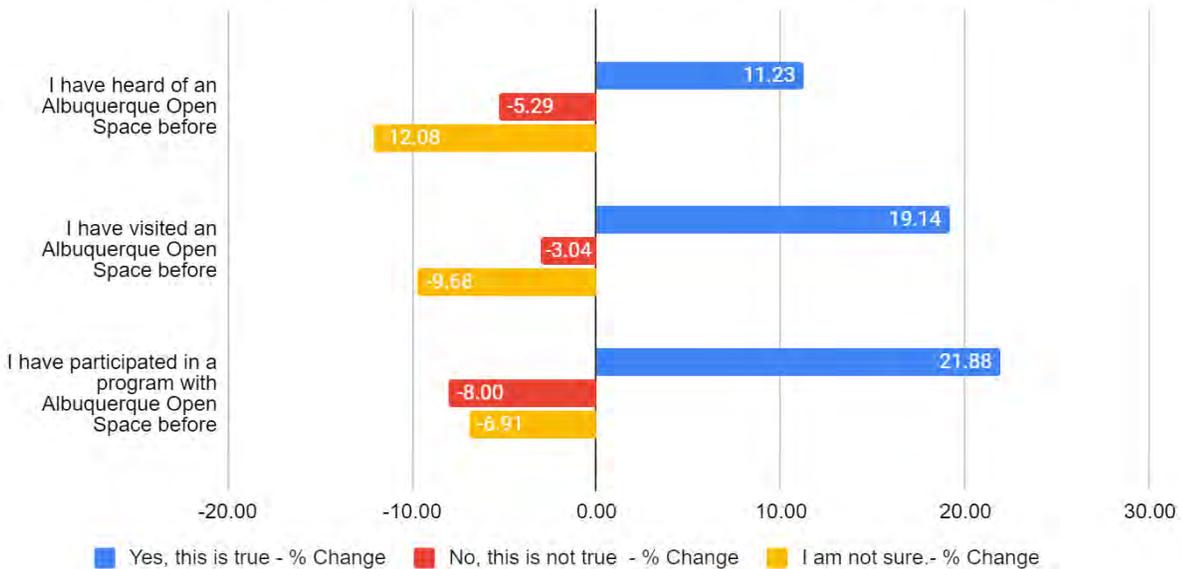
Please select all the things you do often: (% of change in answers from Pre to Post Test - RX 22-23)



Please select all the things you do often: (RX 22-23)



During RiverXchange® you will take a field trip to an area of the Bosque managed by Albuquerque Open Space. Please help us understand your previous experience with Albuquerque Open Space. (% of change in answ...



Appendix A: Background

As producers of children's water festivals and other grade K12 water resources outreach in NM since 2007, the RiverXchange program creators observed early on that NM elementary teachers rarely incorporated water concepts in the classroom beyond what is required by the state (e.g., water cycle), and that most elementary teachers considered "water" strictly as a science topic. While teachers personally acknowledged the importance of conserving water and keeping source water clean, they continued to find that upper elementary students had little or no understanding of major water resources topics unless the teacher specifically integrated a wide range of water topics into the curriculum. For this reason, as well as successful festival work with upper elementary students, this age level was selected as the focus for the RiverXchange program.

RiverXchange was created to provide a free program that is fun, interesting, and easy to integrate into the normal curriculum. The hope was to motivate participants to explore water resources topics in depth. The program was originally designed to be carried out over eight months so that students spend more time developing a sense of pride and personal connection to their own river ecosystem, as well as a personal connection to a distant river ecosystem and the students who live near it. Today RiverXchange runs over the course of 3-4 months, as a response to the challenges of implementing a year-long curriculum with the ongoing demands on teachers and students time and requirements for testing and other curriculum.

RiverXchange began in 2007 as a pilot project of Experiential EE, LLC (under a services agreement with the New Mexico Water Conservation Alliance) and the National Great Rivers Research and Education Center, featuring partnerships between two fourth grade classes in Albuquerque, NM, and two fifth grade classes in Godfrey, IL. A curriculum was developed, a field trip to the river was coordinated, and partner classes "met" three times during the year via video tele-conferencing to present what they had learned.

After the pilot project, RiverXchange transitioned to a web-based technology called a wiki. This enabled the program to overcome limitations such as the high cost, availability, and time zone logistical issues associated with video teleconferencing – and easily involve more classes. The curriculum was updated to incorporate the writing component and classroom guest speakers were introduced to reduce teacher workload and bring up-to-date technical information into the classroom. In 2017, the program switched to a blogging platform called Kidblog and in 2021 Kidblog rebranded to Fanschool. Due to the inundation of technology from virtual learning in the global pandemic and the continued barriers to connecting classes on Kidblog/Fanschool, RiverXchange piloted integrating a Capstone Project into the program instead of the blog in 2021-2022.

In 2012, ownership of RiverXchange transferred to Amy White of Orilla Consulting, LLC, who managed the program through July 2015. In August 2015, RiverXchange became part of the Ciudad Soil & Water Conservation District. In 2020, ownership and the trademark registration of RiverXchange® was transferred fully to Ciudad Soil and Water Conservation. Since 2007, we have served over 20,166 students!

Appendix B: Photos

2022 Teacher Workshop at Open Space Visitor Center



Pole Planting Field Trips



Appendix C

Agriculture Presentation for 5th grade RiverXchange

1. What are we trying to teach students in this activity?

Food waste is an immense contributor to water scarcity so we need to make changes in our habits of misuse of our food in order to reduce our water consumption.

- The majority of freshwater (70% total) on Earth is used for agriculture. Agriculture is necessary and requires many natural resources to produce food and materials we need. The resources to produce the food we eat is very limited and most of what is wasted, ends up in the landfill.
 - How can we reduce our food waste and what other options do we have to prevent it from entering the landfill?

If students understand the limited amount of water that is usable, their urgency for change will increase.

- 97% of water on Earth is saltwater and unavailable for use by society. Students will learn about salinity and the difficulty of removing solvents from water to understand why the “Water World” has a limited source of usable water. Of all the water in the world only 0.003% of that water is available to use for drinking, hygiene, industry and agriculture and of that 0.003%, 70% of it is used for agriculture.

2. How can we tie this activity to our teaching goals:

Learning Objectives	Methods (models, observations, visuals, discussions, activities)
Only 3% of the water on Earth is freshwater and not all of that 3% is available to use.	Using models to demonstrate: <ul style="list-style-type: none"> ● 71% of Earth is water. 97% is saltwater. 3% is Freshwater Visuals/ <u>Drop in the Bucket</u> Activity <ul style="list-style-type: none"> ○ Start with Earth’s total water in Large cylinder (100%), Large cylinder (salt water in oceans -pour 97%), 2 Small cylinders (fresh water divide 2% (frozen in glaciers/ice caps-use globe, 1% in aquifers), pipette drop is the clean, usable water available to be shared with the world’s plants/animals. ○ Show salinity and discuss the difficulty in separating salt from water.
Majority of usable water is used for agriculture. (70% of total usable water)	Discussion <ul style="list-style-type: none"> ● Introduce and define agriculture ● Farmers depend on the water cycle and climate for their crops. ● <i>What is Virtual Water?</i> - water we can’t see that is used to create the items we consume, wear, use from start to finished product ● <i>How much food do we waste globally or in the U.S.?</i> 40% of food grown ends up in a landfill. ● Other precious resources are used in agriculture as well.
	Using models we aim to demonstrate:

<p>Food waste is a major contributor to water waste and we don't see most of the water used to produce food.</p>	<ul style="list-style-type: none"> • Creating a typical lunch using laminated cards with each food item to show how many gallons of virtual water is needed to create that lunch. • Calculate with the students how much water was wasted when the food is not fully consumed. Ex: you only ate half your meal and threw out the leftovers. <p>Discussion:</p> <ul style="list-style-type: none"> • Water is used to create the food we need to survive. Machines to process crops/ livestock, electricity, water/food to feed the animals, cleaning process of used water, transportation, etc all use water.
<p>What are ways we can reduce food waste to help conserve water and other precious resources used for agriculture?</p>	<ul style="list-style-type: none"> • Talk about the importance of being responsible about planning their meals to minimize food waste. <ul style="list-style-type: none"> ○ Meal planning ○ Work leftovers into meal planning ○ <u>Serving smaller portions with the option of adding more to prevent over serving and wasting.</u> ○ Consuming less meat (refer to : Practice “Meatless Mondays” • Discuss the benefits of composting v. landfill

3. How can we tie this activity to standards?

Performance Expectation	Disciplinary Core Ideas
<p>3-ESS2-1 Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.</p> <p>3-ESS2-2 Obtain and combine information to describe climates in different regions of the world.</p>	<p>ESS2.C: The roles of water in Earth's surface processes</p> <p>ESS2.D: Weather and climate</p>
<p>5-ESS3 Earth and Human Activity</p>	<p>ESS3.C: Human impact on Earth systems</p>

<p>What we do (Science and Engineering Practices)</p>	<p>How we think (Crosscutting Concepts)</p>
--	--

Developing and Using Models	Patterns
Analyzing and Interpreting Data	Cause and Effect
Using Mathematics and Computational Thinking	Scale, Proportion and Quantity
Constructing Explanations	Structure and Function
Engaging in Argument from Evidence	Systems and Systems Models
	Stability and Change

4. How should this activity be organized?

I. (10 min) Introduction

Hi everyone, I'm ----- with Ciudad SWCD and I'm here with the awesome program you are in this year called RiverXchange; a program where you get to learn about your local environment, our watershed and ways you can do to protect and conserve water (define conservation). Reference prior knowledge from RX presentations they have received to tie together and ask them about highlights/questions that arose during those presentations (Stormwater, Wastewater, Drinking water).

1. **Open Presentation/Assess Prior Knowledge** - Ask if they know where their water comes from and how much water we have to use.
2. "First let's get a discussion going..."
 - "How many of you used water before you came to school?(raise hands) How did you use it?"
 - Typical Answers: Drink with breakfast, brushed teeth, restroom, for the dog/plants, shower, wash hands, toilet
 - "Okay, you're thinking about physical water use and that's great! How did you get that water?"
 - Water bottle, faucet...
 - "In what other ways did you use water that you didn't get out of the faucet?" "Did you eat? Did you wear clothes today? Did you turn on your lights?"
 - "Yes, all of those things used WATER but not in the ways you might think. We call this Virtual Water."
 - Where do you think all this water comes from? Where do you get your water? How is it cleaned? Recall Wastewater, Stormwater presentations. Our local watershed provides freshwater to the Rio Grande. (Rio Rancho = Aquifer)
 - Can we all agree it is important to conserve our clean water for all plants and animals to use?

II. (20 min) Drop in the Bucket Activity

We are known as the water planet. So why are we always worried we are running out of water? Do you know how much water on Earth is usable?

Part A: (5 minutes) *Discussion*. We are going to learn about how the tiny amount of water available to us is used. Can this used water be reused again? Let's see how that looks...

1. Review the Water Cycle - precipitation, evaporation, condensation

- Important to remember that water can't be created or destroyed. We are drinking the same water dinosaurs used! (If they have done Pole Planting, express that the soil we dug through is also years and years of layers as well).
- We have to keep what we have clean.

2. Introduce and Define Agriculture

- Out of all the water on Earth, only a drop of that in comparison is usable for humans. The majority of that drop is used in Agriculture. Agriculture is another word for farming, growing and harvesting crops and raising animals.

Part B: (15 minutes) *Presenter led-activity*

Drop in Bucket Activity

Supplies:

- Graduated cylinder set (250 ml, 50ml, 10ml)
- Pipette
- Blue food coloring (or other natural alt)
- Globe
- Salt
- Mason Jar
- Cinnamon
- printed/ laminated pie charts
- Water

Learning Objectives: Only 3% of the water on Earth is freshwater and not all of that 3% is available to use. Majority of usable water is used for agriculture. (70% of total usable water)

1. Let's take a look at how much water a "drop" is when you compare all the water on Earth.

Steps:

- A. Display globe and spin around to point out where water is located. **"So, what's the problem? That doesn't seem like we're hurting for water with all that!"**
- B. Take a straw and pretend to draw out all the water from the globe and then "transfer" that water from the straw to the largest, 250mL graduated cylinder and fill it up. **"Imagine that this jar is holding all of the water on Earth."**
- C. Ask students, **"Now, has anyone ever gone for a swim in the ocean and tasted the water?" Why can't we drink this water? "The water in the ocean has too much salt for us to use."**
- D. Let's look at how much is ocean water and how much is fresh. *Pour 250mL with water up to 250 mL to represent the total water on Earth.

- E. Quickly demonstrate salinity by pouring water into two glasses and have a volunteer add a few sprinkles of salt to the water, stir. In the second glass, another student will add cinnamon to represent soil/dirt to water and stir.
- F. Discuss solutions/ salinity with the jar of water and tell the kids we will look back later to see if we can separate the water and salt. -To conclude the presentation, students will observe the separation of the cinnamon and water compared to the dissolved salt in water.
- G. Refer back and tell them the largest bodies of ocean water are not able to be used. Next, pour 7.5 mL into 10 ml graduated cylinder to represent all fresh water on Earth. **“Now this is what we have that is usable (the 7.5 mL of “freshwater” in the 10 mL cylinder. Where does this usable water come from again? Is any of it stuck where we can’t access it?”**
- H. Discuss glaciers, ice caps and aquifers using the globe (2% of total water on Earth). Pour 5mL of the 7.5 mL into the 50 mL cylinder. **“Now, this is not very much, right? “What if I told you we still can’t use all of this water?? Where else do you think water might be stuck?”**
- I. Pour 2.5 mL from the 5 mL (~1% of total water on Earth) into the 50 mL cylinder for aquifers, atmosphere/water cycle, organisms. **“Okay, now does THIS represent the amount of water we have to use for our food, clothes, necessities?”**
- J. Pipette “the drop representing the total amount of freshwater available for use by humans” from the 50mL and remind students that this small amount is what we use for household/hygiene, car washes, yards, pools, our animals, etc PLUS, we share this amount with nature, big industries, energy companies, agriculture, etc. **“Look at what we have left. This is the tiny amount we have to share with each other;not in the US, not in Albuquerque; this is all of the entire WORLD for all our wants, needs, extras, please can I just haves... How does this make you feel?”**

2. Introduce and define Agriculture. Briefly remind them of the basic water cycle model-call on students for answers.

- a. Local farmers rely on precipitation (rain and snow pack that feeds the Rio Grande) and groundwater (charged by the Rio Grande) for crops and livestock.
- b. New Mexico producers grow a variety of crops. Crops grown in New Mexico are often exported. Food we eat here is often imported but still requires water from other regions and sources like the Colorado River. No matter where our food comes from it requires water to grow.

III. (20 min) Food waste is water waste

Part A (5 min): *Discussion.* The food we eat requires valuable and scarce water to produce. How much water is needed to make the food we eat (i.e. virtual water)? What goes into making our food - farm and livestock?

Learning Objective: Food waste is a major contributor to water waste and we don't see most of the water used to produce food.

1. **“When we need to eat, we go to the store, the farmer’s market, maybe a restaurant, right? It’s easy, it’s convenient and it’s ready for us to eat. What went into making the food we are buying?”**
 - a) Student responses:
 - i) Farmers use water to grow our fruits and vegetables as well as to power their tractors and equipment.
 - ii) Ranchers feed their livestock and give them lots of water.
 - iii) Machines to process the food into cereal, burger patties, soup, etc.
 - iv) Trucks to deliver food to communities.
2. **Virtual Water is water that is used to produce the food we eat. For example, it takes 660 gallons of water to make one hamburger with bun, lettuce and tomato**

Part B: (10 min) Group Activity.

My Eyes are Bigger than My Stomach: Let’s Build a Meal

Supplies:

- Laminated meal cards with virtual water quantities on back
- Pencils and paper for math

1. **“I’m going to let you build a meal that you would see in the cafeteria or your lunch box and we are going to calculate approximately how much water it takes to make that meal. Let’s get into groups of 4.”**
 - A. Each group will pick ingredients from the tray to make a meal:
 - a. Fruit/ Veggie Smoothie: 557 gallons of water
 - i. Cucumber: 42, Leafy Greens: 28, Orange: 67, Banana: 95, Peach: 109, Mango: 216
 - b. Burger and Fries
 - i. Tomato: 26 gallons of water to make 1 pound, Lettuce: 28, Cheese: 381, Beef: 1,847, Potato: 34 *bun and oil?
 - c. Chicken and Rice
 - i. Cabbage: 28, Rice: 299, Chicken: 518 *water to clean/ cook
 - d. Spaghetti with meatballs
 - i. Tomato: 26 gallons of water to make 1 pound, Pasta (dry): 222, Cheese: 381, Beef: 1,847
 - e. Veg Spaghetti

- i. Tomato: 26 gallons of water to make 1 pound, Pasta (dry): 222, Cheese: 381

2. **“On the back of your ingredients, you will find how much water went into producing the meal for your group. Calculate how many gallons of water it took to grow or process that meal. What ingredients are missing from your cards?”** Discuss the oil, water, seasoning that goes into making the meal.
3. **In your groups, calculate how much water is WASTED if you only finish half your meal and throw the rest away.**
4. **Okay, now, raise your hand if you always finish everything you served yourself.”**
 - A. So what about the food we waste when we don't finish a meal or forget about the food to eat in the fridge?
 - B. Where do you dispose of your leftovers?
 - C. Has anyone used a compost or maybe you've heard of composting but aren't quite sure what it is or why it's used? Compost turns food waste into soil.

Part C: (5 min) Discussion.

Learning Objective: What are ways we can reduce food waste to help conserve water and other precious resources used for agriculture?

Discuss the build up of waste in our landfills and how we can reduce the pollution in our urban areas. What is the impact of ourselves as individuals? Take it further - think about other ways to have an impact... Packaging, processing, convenience.

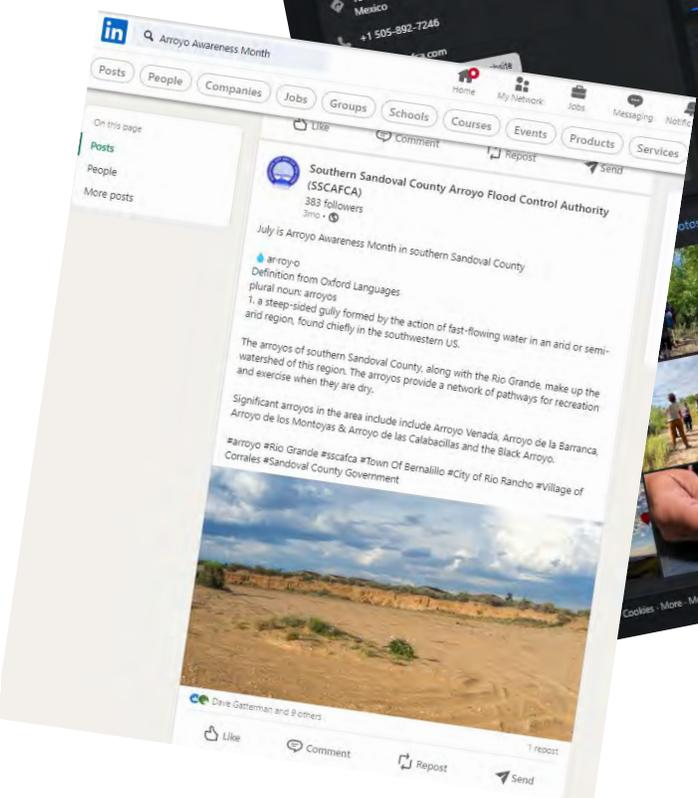
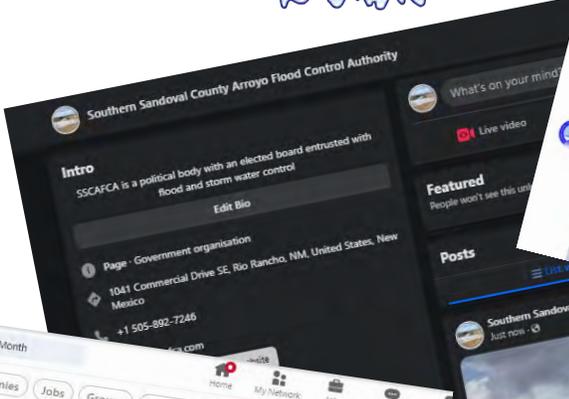
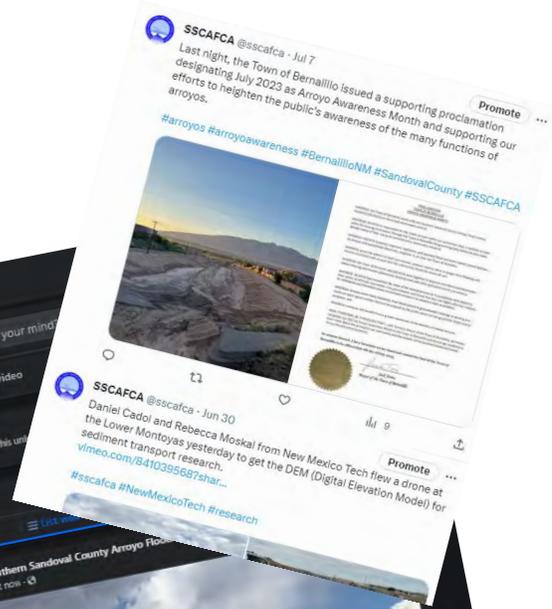
1. **What might be ways we could reduce food waste? What power do we have to create change?**
 - A. By buying only what we need.
 - B. Taking small portions
 - C. Choosing meatless Mondays to reduce meat consumption.
 - D. Creating a compost to prevent so much food going to the landfills.
 - E. Buying directly from growers at farmer's markets, etc to reduce transportation and processing.
 - F. Educating others like our families and communities.

IV. Conclusion (10min)

- What do you think this means for our environment and watershed - the Middle Rio Grande?

The water we drink comes from our watershed. Animals and plants also depend on this water. That's why it's important that we conserve what little water we have to use. We need to be responsible with the food that is not consumed so it doesn't end up in the landfill.

Share the Message



SSCAFCA shares social media messages from the Mid Rio Grande Stormwater Quality Team on our own Social Media pages. We also post and place our own Stormwater Quality Messaging on our social media pages.





Arroyo Awareness Month July, 2023

Heightening the public's awareness
of the many functions of arroyos.



RESOLUTION 2023-05
DECLARATION OF ARROYO AWARENESS MONTH, JULY 2023

WHEREAS, authority is granted to the SSCAFCA Board of Directors to make and pass resolutions and orders on behalf of the Authority not repugnant to the provisions of the Southern Sandoval County Flood Control Act (72-19-1 to 72-19-10, NMSA 1978);

WHEREAS, the Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA) is an independent corporate political body with an elected board of directors;

WHEREAS, SSCAFCA is responsible for the major arroyos within our jurisdiction and in addition to their use for moving stormwater through the drainage system strives to also make people aware of their use as an amenity and a community resource;

WHEREAS, SSCAFCA acquires, improves, maintains, and operates flood and storm water control facilities on arroyos and watersheds that enter, originate in, or cross our area of authority;

WHEREAS, SSCAFCA works together with the communities within its jurisdiction to educate individuals and businesses about reducing stormwater pollution by keeping trash and other pollutants out of our arroyos;

WHEREAS, given the pattern of brief, but intense, summer storms, there is danger from flooding and erosion associated with arroyos that the community should be aware of;

WHEREAS, SSCAFCA has researched the value of the natural arroyos in its jurisdiction with regard to their ability to infiltrate stormwater into groundwater and found that they are highly effective conduits for infiltration;

WHEREAS, SSCAFCA wishes to maintain arroyos in their natural state, wherever possible, with little or no structural improvement, allowing infiltration; and

WHEREAS, everyone will benefit from a greater awareness of the benefits of natural arroyos.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE SOUTHERN SANDOVAL COUNTY ARROYO FLOOD CONTROL AUTHORITY THAT

VILLAGE OF CORRALES
PROCLAMATION NO. 23-06
DESIGNATING JULY 2023 AS ARROYO AWARENESS MONTH IN THE VILLAGE OF CORRALES

WHEREAS, The Village of Corrales works with the Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA) on flood and stormwater control; and

WHEREAS, SSCAFCA is responsible for the major arroyos within our jurisdiction and, in addition to their utility for moving stormwater through the Village of Corrales, the Governing Body wishes to also make people aware of their use as an amenity and a community resource; and

WHEREAS, SSCAFCA acquires, improves, maintains, and operates flood and storm water control facilities on arroyos and watersheds that enter, originate in, or cross the Village of Corrales; and

WHEREAS, Given the pattern of brief, but intense, summer storms, there is danger from flooding and erosion associated with arroyos that the community should be aware of; and

WHEREAS, The Village of Corrales and SSCAFCA work together to educate individuals and businesses about reducing stormwater pollution by keeping trash and other pollutants out of our arroyos; and

WHEREAS, SSCAFCA has researched the value of the natural arroyos in its jurisdiction with regard to their ability to infiltrate stormwater into groundwater and found that they are highly effective conduits for infiltration and therefore strives to maintain arroyos in as natural a state as possible; and

WHEREAS, Arroyos serve many functions, from flood control to groundwater recharge to serving as a multi-use open space corridor that can be enjoyed by the public when not being used for flood control purposes; and

WHEREAS, Everyone will benefit from a greater awareness of the benefits of natural arroyos.

NOW, THEREFORE, I James F. Fahey, Jr, Mayor of the Village of Corrales, do hereby recognize July 2023 as Arroyo Awareness Month in the Village of Corrales and encourage residents to learn more about the arroyos in our community and the mission of the Southern Sandoval County Arroyo Flood Control Authority.

EDUCATION OUTREACH & ENGAGEMENT



Tour of the HJC for members of the Meadowlark Senior Center



Talking to the Sandoval County Master Gardners



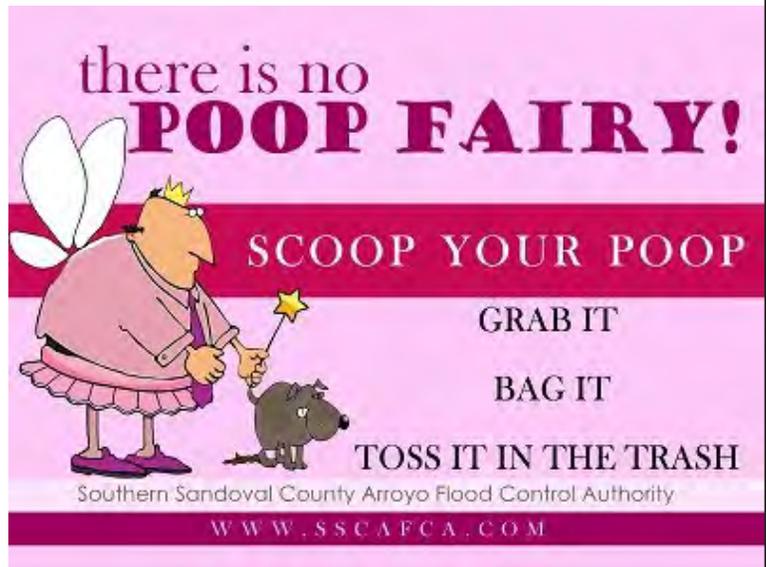
Meeting with the Mariposa homeowners Association

EDUCATION OUTREACH & ENGAGEMENT



Stormwater Presentation

Multiple presentations at Rio Rancho Public Schools



Yard Signs available upon request

Clean, repair and deliver the Stormwater Kiosk to various locations

HARVEY JONES CHANNEL OUTFALL

A low-impact development project which leveraged treated wastewater effluent and stormwater to establish a wetland on the banks of the Rio Grande

WETLANDS ARE AMONG THE MOST EFFECTIVE IN TERMS OF POLLUTANT REMOVAL AND ALSO OFFER AESTHETIC AND HABITAT VALUE.



Arroyo Classroom

Mid-year report 2022-2023

October-December

Submitted by: Education Manager
Erin Blaz

The Arroyo Classroom Team: Erin Blaz, Theresa Aragon, Astrid Mooney

Participating Schools:

	SCHOOL	Number of classes	Number of Students
Title I*	Enchanted Hills Elem.	6	126
	Martin Luther King Elem.*	5	100
	Sandia Vista Elem.	6	141
	Maggie Cordova Elem.*	6	119
	Cielo Azul Elem.*	5	108
	Puesta del Sol Elem.*	5	103
	Colinas del Norte*	5	107
	TOTALS	38	804

Task 1: Recruit and select classes.

Complete by September 2022. Status: **completed.**

Recruitment was exciting this year as all the schools we reached out responded with interest in the program, including Cielo Azul who did not participate in 2021-2022. Arroyo Classroom participants generally include the whole 3rd grade cohort, so offering the program to a school means that serving the whole grade level doesn't always line up exactly with the number of classes we target in our agreement with MRGSQT & SSCAFCA. This year, as class sizes and teachers shuffled around much like RiverXchange, we ended up with 38 classes and 804 students. Since this is 3 more classes than the 35 in our agreement with the funders and we compensate presenters for all 4 presentations in this program, Ciudad SWCD is working to figure out a solution to the budget increase for presentations that will need to be covered. Ciudad SWCD will propose solutions to the funders before any budget adjustments are made.

Task 2: Review and revise evaluation and curriculum.

Complete by September 2022. Status: **completed.**

The pre and post survey was revised, with a few slight changes to reflect our guest speakers program this year. The answer option "I haven't learned this yet" was also added to the Arroyo Classroom survey, as it was the RiverXchange survey.

Task 3: Coordinate classroom guest speakers.

Begin September 2022. On-going through May 2023. Status: **in process.**

All presentations are resuming in person programming this year. All presentations have been fully scheduled.

This year Hawks Aloft will be the only outside contractor for the program. Hawks Aloft is a great partner for this presentation as they have a team of educators and a variety of birds for the presentation. Unfortunately, they have informed us that in future years they will not be able to perform this service at the current compensation rate.

Justin Stevenson of RD Wildlife and our Bat presenter has confirmed he is unavailable this year, but hopes to resume involvement in the program in the future. Theresa Aragon, a biologist and educator, now formally employed with Ciudad SWCD, offered a Reptile/Arthropod presentation for Arroyo Classroom last year with Nature Matters and so she will be offering a similar presentation this year.



The Watershed presentation and Arroyo Walk/Field trip will be offered by Erin Blaz. Arroyo Walks have been scheduled in the fall this year to ensure they are completed (in case any pandemic related issues change school policies) and to explore if holding the walk first has any benefits on the following presentations.

Mid-year: All presentations have been scheduled. We met some challenges this year with scheduling the Bird presentations with Hawks Aloft. Once everything was scheduled and Hawks Aloft reviewed the schedule, they notified us that most of the presentation times would need to be moved to reduce the gaps between presentations as this was not ideal for the well-being of the birds, or the time required by staff. Theresa had to go back to these schools and move the times around, which proved to be difficult for some schools as their schedules are very limited in openings. Once everything was rescheduled, Hawks Aloft approved the final updated schedule. All other presentations are conducted by Ciudad education staff, so we are able to provide more flexibility with teachers' school schedules and gaps between presentation times.

During the second quarter, all 38 classes received their first presentation - which was either the Arroyo Walk or Watershed presentation (if weather was not good). 24 classes received the Bird presentation and 20 class received the Reptile presentation.

Task 4: Collect and analyze teacher feedback.

Complete by May 2022. Status: **approaching.**

Staff will revise teacher feedback form and submit to teachers at the end of the program.

Task 5: Reporting to sponsors.

Midyear report by January 31, 2022.

Final report by June 1, 2022.



Arroyo Classroom

2022-2023 Final Report

submitted by
Theresa Aragon & Erin Blaz, CSWCD
July 2022- June 2023

SUMMARY

The Arroyo Classroom program utilizes our natural arroyos as outdoor classrooms and brings local animals into the classroom to motivate 3rd graders to appreciate and protect the arroyos as important wildlife habitat. Orilla Consulting, LLC developed the program in 2012 and initially implemented the program for 7 classes at Maggie Cordova Elementary in Rio Rancho. In 2013, the program grew to serve 20 classes. On July 1st, 2015, Orilla Consulting, LLC transferred the program to Ciudad Soil and Water Conservation District as part of the larger education and outreach efforts throughout Bernalillo and Sandoval Counties. In the 2022-2023 school year, we served 38 classes within Rio Rancho Public Schools, reaching 39 teachers and approximately 804 students with 2,680 hours of program time.

Participating Schools

SCHOOL	Number of classes	Number of Students
*Title 1 school		
Enchanted Hills Elem.	6	126
Martin Luther King Elem.*	5	100
Sandia Vista Elem.	7	141
Maggie Cordova Elem.*	6	119
Cielo Azul Elem.*	5	108
Puesta del Sol Elem.*	5	103
Colinas Del Norte*	5	107
TOTALS	39	804

Sponsor

- Southern Sandoval County Arroyo and Flood Control Authority (SSCAFCA)

Sponsor provided a total of \$22,050.00 in cash.

Deliverables:

All presentations were offered in person and completed.

- Watershed Presentations: 38:38
- Arroyo Walk: 38:38
- Bird Presentations: 37:38 (Teacher scheduling conflicts and cancellations prevented one presentation from being completed)
- Reptile & Arthropod Presentations: 38:38

Program Description

Essential Questions: What is a watershed and how does water move across it? What important functions do arroyos provide for humans and other creatures? In what ways can we enjoy arroyos safely and learn new things?

- Students characterize arroyos as ecosystems as well as drains
- Students identify arroyo features that support wildlife
- Students describe the plants, animals, birds, insects and other organisms that depend on the arroyo ecosystem
- Students explain the ways in which arroyos receive water, their benefits and the dangers of arroyos
- Students recite the rules for arroyo safety

The program consists of a four-part series of lessons, based on grade-level science standards and addressing areas of interest to SSCAFCA, such as reptiles, burrowing owls and other birds of prey, ATV use, pet waste, and arroyo safety. Erin Blaz and Theresa Aragon with Ciudad SWCD, delivered three of the lessons – an introductory lesson about watersheds, reptiles & arthropods as important wildlife in and around arroyos, and an arroyo walk that centered on native plants and animals.. Hawks Aloft provided bird presentations which included two birds of prey at each lesson and took careful consideration of cultural sensitivities to owls by partnering with staff in advance for each class.

This year the watershed lesson expounded on the water cycle and aimed for students to recognize how water moves across topographic maps. Students made predictions about how water falling on a raised land mass would travel differently than water on a flat plain and the path it will take.

Students used crumpled paper, multi-colored markers (representing water and pollutants) and a spray bottle to demonstrate how water moves through a watershed and carries pollutants along its path. In summary, this lesson introduced the concept of a watershed to students, demonstrated how surface water becomes polluted through various human impacts, and discussed the importance of keeping our arroyos clean. (Appendix A)

The arroyo walk this year began with a walk to an arroyo near the school to observe plants, animals, evidence of animals like scat and tracks, any visible human impacts and demonstrate the draining power of arroyos into the Rio Grande. We also observed tire tracks in the arroyos and talked about not using motorized vehicles in arroyos, as they are not permitted or allowed in the arroyos, and discussed the impacts of illegal dumping in arroyos. In the second part of the walking field trip we discussed desert plant adaptations and the desert climate. The lesson explored specific native plants in the arroyo habitat and how they cope with little surface water availability and precipitation, extreme temperatures (especially heat) and a windy, arid climate. We discussed the different types of adaptations plant leaves have as we observed the “hairs” on some, the thin leaf shapes and different leaf margins. Finally, using animal tracks and scat guides, the students enjoyed partnering in groups for a scavenger hunt to find evidence of different animals and shared their findings with the rest of the class.

Evaluation

Teachers overwhelmingly say they look forward to participating in Arroyo Classroom to teach about local ecology and conservation issues, incorporate more science in the classroom, to offer experiential learning opportunities and to offer learning opportunities within the community to their students. They find the presentations to be uniquely engaging and meaningful for their students. Teachers find that Arroyo Classroom is complementary to other 3rd grade units of study such as life cycles and animal and plant adaptations. The animal presentations were a hit, as in years past. This year, the students were offered a hands-on animal presentation by having the opportunity to hold hatchling box turtles, live insects and insect collections. With in-person learning resuming this year, it was extremely encouraging to see how valued Arroyo Classroom was after a period away from field trips and in-person presentations.

Survey Summary

This is the sixth year that we have administered the pre and post-surveys for Arroyo Classroom. Based on feedback from last year, as well as the inclusion of arthropods and more reptiles in the presentations, we made some adjustments to the pre and post-surveys to reflect the content of the program. The survey questions included “Yes” and “No” questions as well as questions with three response options; “Yes, that is true,” “No, that is not true,” and “I have not learned that yet.” This change allowed us to evaluate the growth in learning from the beginning of the program to the end, with students identifying by a large percentage that they felt confident in their responses by the end of the program.

This year we had 555 pre-survey responses and 534 post-survey responses. We were pleased with the amount of responses as compared to previous years and the help of email reminders to teachers to have their students complete the surveys greatly improved participation. A brief summary

of findings from the survey metrics tells us that after the Arroyo Classroom:

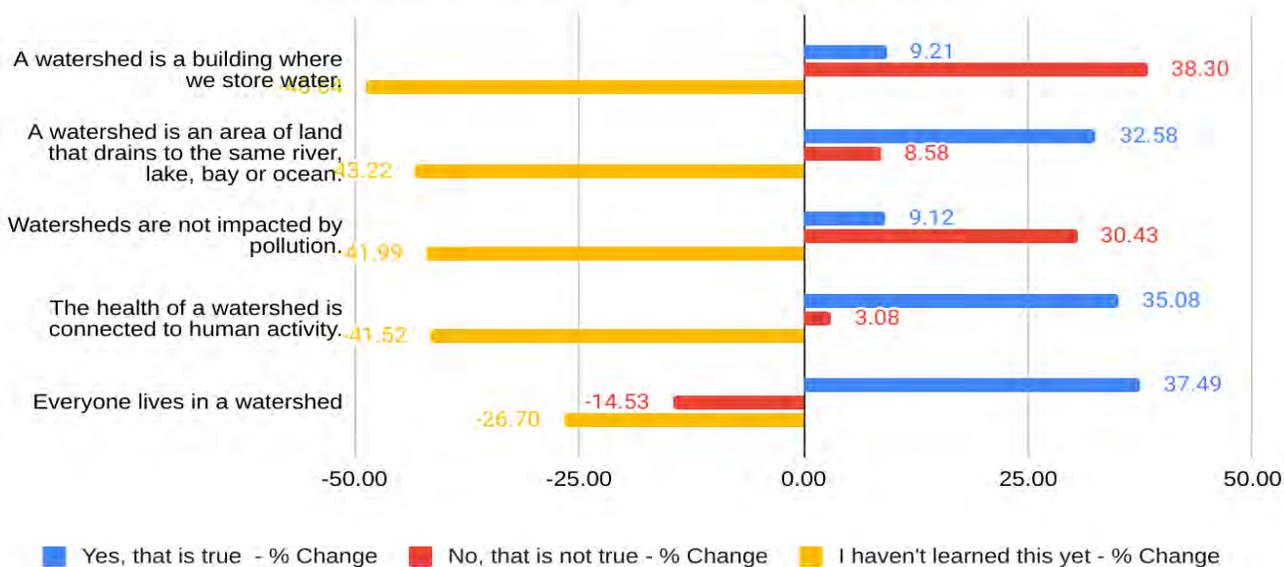
- 32.5% more students can correctly define a watershed
- 37% more students know that “everyone lives in a watershed”
- 35% more students say that the health of a watershed is connected to human activity
- 31% more students say that dog poop impacts arroyo health
- 23% more students identify that pesticides and herbicides impact arroyo health
- 23% more students correctly identify that natural arroyos are wildlife habitat

Survey Metrics:

Arroyo Classroom Metrics / Evaluation 2022-2023

Item 1: Watersheds

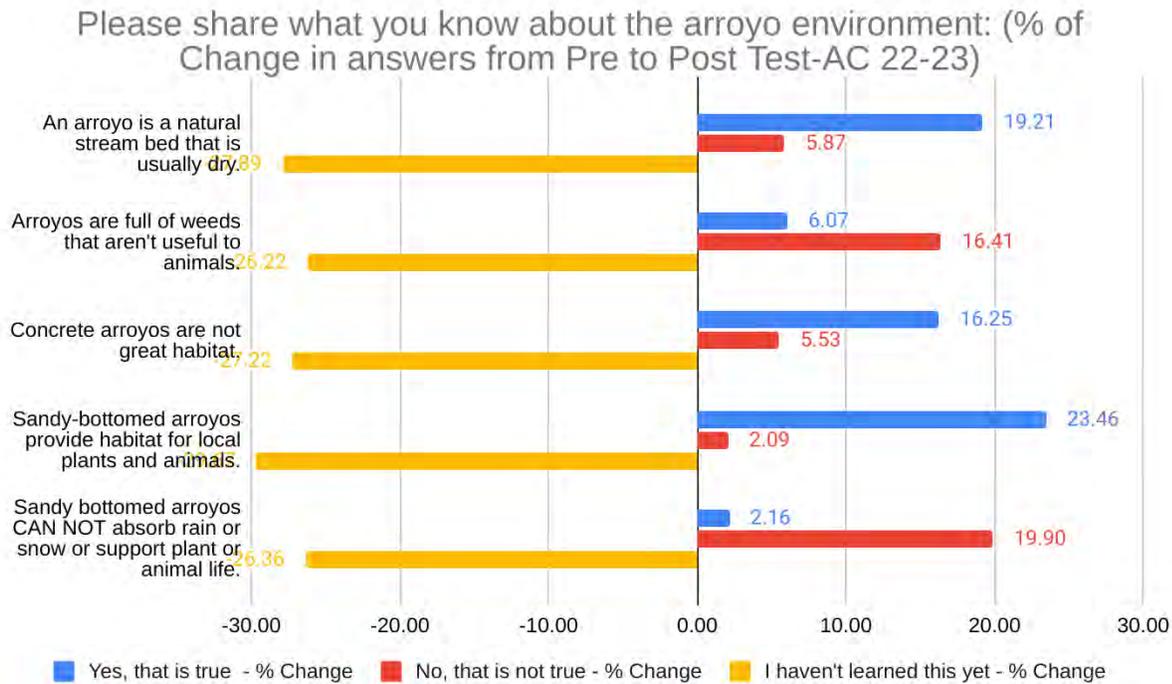
Please share what you know about a watershed: (% of Change in answers from Pre to Post Test-AC 22-23)



The decrease in incorrect response “building where we store water” and an increase in correct response for “area of land that drains” had great responses to show that students can clearly define a watershed.

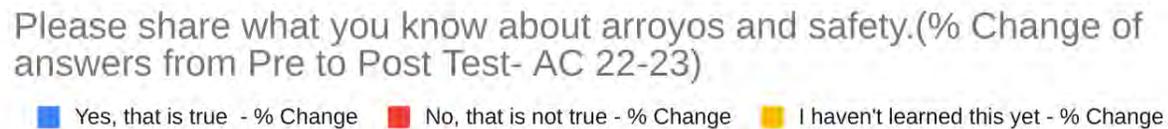
The small increase for the incorrect response for Watersheds are not impacted by pollution” was not as expected, however, there may have been confusion with the wording of the question. We will consider rephrasing “human impact on watershed” next year. Students did show an understanding of human impact in the next question of the “health of a watershed connected to human activity.”

Item 2: Arroyo Environment



Students shifted from many “I haven’t learned this yet” responses to having a much better understanding of what an arroyo is and the huge benefits of natural, sandy arroyos in their environment. There was a lot of positive growth in learning about arroyos.

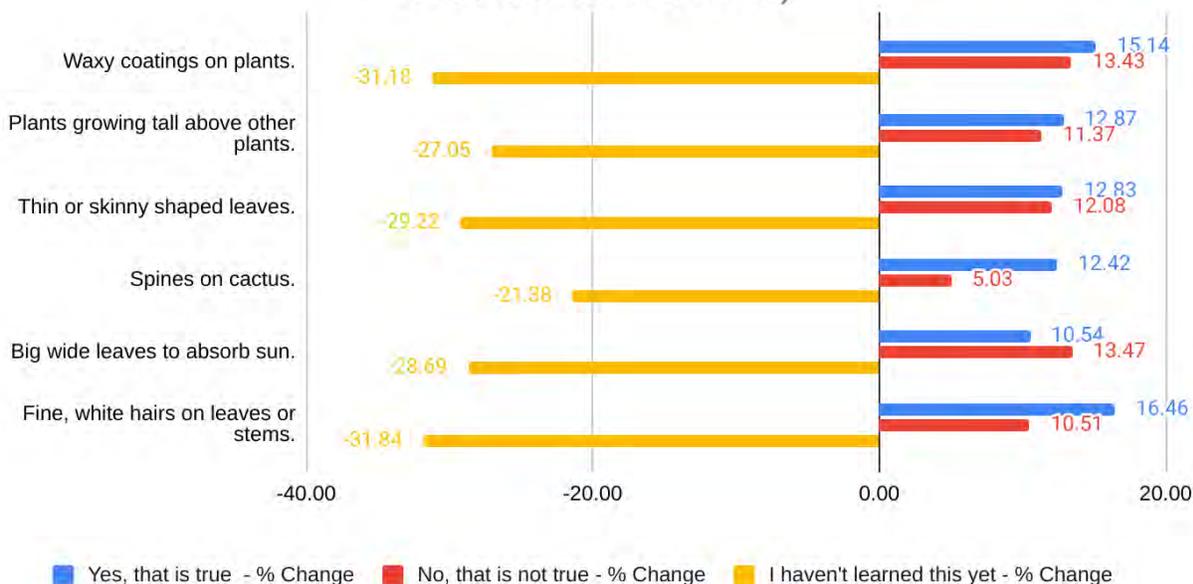
Item 3: Arroyo Safety



The % of change from pre-survey “I haven’t learned this yet” to the post-survey responses and an increase in correct responses are great indicators of growth in all areas of arroyo safety. The “Arroyos are never safe to be in” may have been confusing and we will consider rewording this question to specify what type of arroyos are safe and under what conditions are they safe. The correct answer is clearly understood by the students since their response to safety in sandy arroyos was that it is safe under good weather conditions. While there was a greater increase in “True-Arroyos are never safe” responses, this may also demonstrate family safety practices and behaviors that aren’t swayed easily by education.

Item 4: Adaptations to desert

Adaptations help wildlife and plants survive in the desert. Which of the following are adaptations in desert plants? (% of Change in answers from Pre to Post Test-AC 22-23)



Although there is a large percentage of change from “I haven’t learned this yet,” the students seem divided on whether or not the correct response is true or false.

It’s great that the students recalled that the fine “hairs” on plants are adaptations to deserts since many of the students asked about this when they were observing plants during their Arroyo Walk field trips! There is opportunity to provide more directed lessons next year on plant adaptations based on the close true and false answers.

Item 5: Pollution

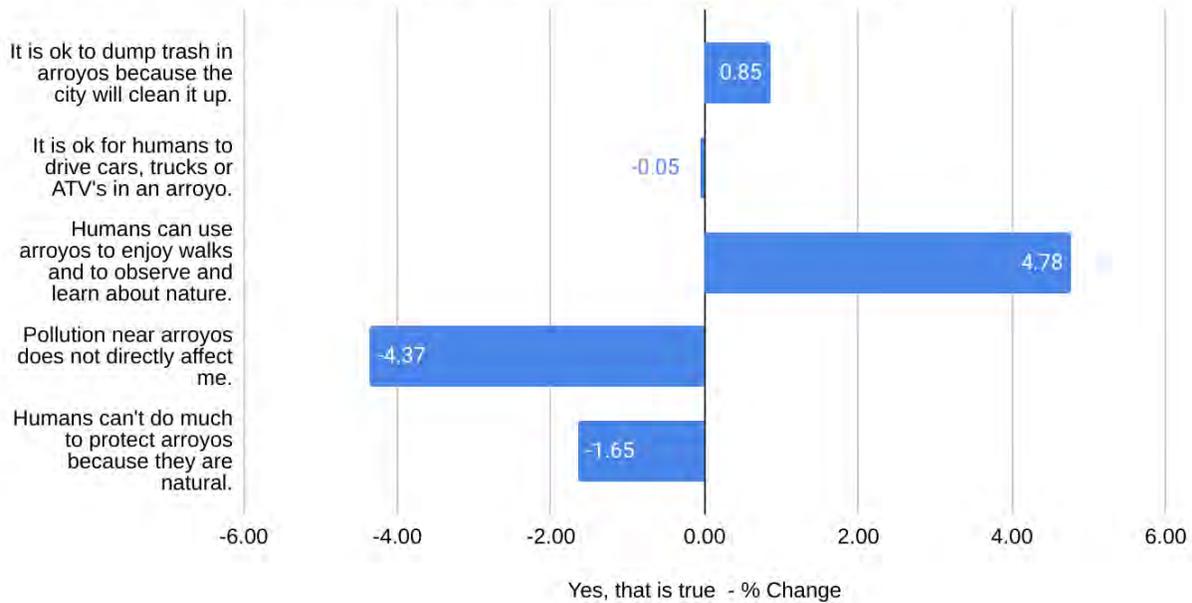
Which of the following are forms of pollution that can impact arroyos nearby:
 (% of Change in answers from Pre to Post Test-AC 22-23)



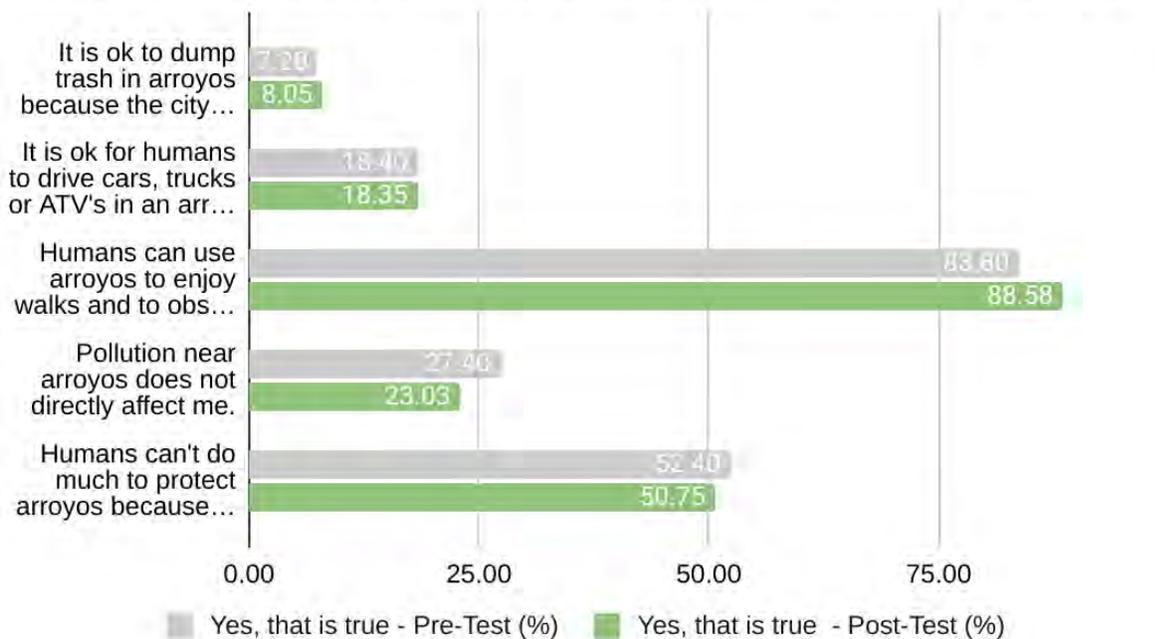
There is such positive growth in understanding how pollution impacts arroyos. Rather than thinking of arroyos as just another place trash piles up and relating that to need to only do a litter pick up, they are making connections between the health of our overall watershed by what lands in the arroyos.

Item 6: Human Use

Select all that is true about arroyos and human use. (% of Change in answer from Pre to Post Test-AC 22-23)



Select all that is true about arroyos and human use. (AC 22-23)



Approximately 1/3 of students (Both pre and post-survey) believe it is okay to drive through arroyos but that might be due to the high number of people doing it without a lot of discussion around why that may impact the wildlife who use these areas as habitat and space.

Although there is a slight increase in the percentage of change of students who think the city will clean up the trash in the arroyos, the actual number started low at only 40/ 555 students and increased by 3 total students.

Including a more direct discussion of how to share our space responsibly is a consideration for next year.

Activity Guide for 3rd Grade – Building a Watershed

1. What are we trying to teach students in this activity?

A watershed is an area of land where all the water flows (or sheds) into a common body of water. We live in the Middle Rio Grande watershed. As water moves downhill, it carries sediments and other materials to the river. Water is a precious resource and we can help improve the quality of the river by picking up after our pets and not littering or throwing trash on the ground.

2. How can we tie this activity to our teaching goals:

Our Goals	Where we can relate our goals to this activity
We all live in a watershed	Use a model to show an understanding of the term “watershed”
Water moves downhill and can carry pollution as it moves across a landscape	Demonstrate the movement of water with the model.
Picking up after our pets and minimizing our trash, and the trash on the ground helps keep our river clean	Talk about the importance of being responsible and how caring for the watershed in this way not only protects the water, but also helps the people and plants and animals that depend on the water as well.

Supplies:

- Copy paper
- Washable markers (blue, red, brown, black)
- Disposable roasting trays
- NM relief map
- Role cards
- We All Live in a Watershed poster
- whiteboard markers
- squirt bottles
- ABCWUA aquifer poster

3. How can we tie this activity to standards?

- Earth’s features are constantly changed by a combination of slow and rapid processes that include erosion and weathering
- Living things cause changes to their environment, some detrimental, some beneficial
- Defining a behavioral, structural challenge and generating possible solutions

3-ESS3-1 Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.*

2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area.

NM Social Studies Standards

Theme 4. Geography 11.

3.23. Identify and use a variety of digital and analog mapping tools to locate places.

Them 4. Geography 12.

3.25. Identify the components of the Earth's biosystems and their makeup.

4. How should this activity be organized?

I. Pre-activity (10-15 minutes)

- How many of you used water before you came to school? How did you use it? Where do you think all this water comes from?
- Has anyone heard of the term “watershed” before? Highlight that it is a compound word. What do you think when you hear this word? Have them give an example of “shed” as a verb. *A watershed is an area of land where all the water sheds into the same body of water, like a river, lake, bay or ocean.*
- Where does the water come from in nature? Rain or snow
- Pull out the NM relief map. Discuss the purpose of a map. Introduce concept of a “key”. Have them help you find ABQ on the map and the Rio Grande. Talk with students about the map/model. Point out the Rio Grande Watershed through the middle of the NM relief map. Where are there mountains and hills? Where do you see rivers and lakes?
- What would happen if we sprayed water on the mountain peaks, what will happen to it? It will flow downhill. Let's find out by making our own model/map, similar to the relief map.
- Introduce water cycle. A water cycle happens on a watershed

II. Build A Watershed Activity (25 min)

Part A: 10 min

- Demonstrate activity while students are sitting.
 - With your imagination, imagine that this piece of paper is a piece of land.
 - Crumple up the piece of paper and then smooth it back out most of the way. Leave it a bit crumpled, showing small ridges (high points) and valleys (low points).
 - Find the ridgelines (tops of the fold lines). Use the blue marker to color along the ridgelines on your “land”. Identify the ridges.
- Pair students (groups of 2), with teachers help. Assign each a number 1-2. Write roles on a whiteboard:

- 1 - Crumpler / Drawer
- 2 - Sprayer / Disposer
- Gathered around their trays, ask students to crumple their paper and draw their ridgelines. Once they are complete - Hands on their hand so we know they are ready for the next step. Announce that students have 30 more seconds when it seems that each group has enough ridgelines.
- What do you think will happen to your land when it “rains”? What will happen to the blue ridge lines? Where will the “rainwater” travel? How does the water cycle happen on your watershed?
- Model for students the distance we want them to aim from as they spray (i.e. the length of your elbow to hand, vertically placed on the tray). And 5 full sprays. (idea: Students can be drill sergeants about the three sprays, acknowledge that sometimes the spray bottles act funny but that we are trusting our classmates to count for themselves to do only five full sprays...).
- Altogether, sprayers squirt your model a few times to create a “rainstorm” over your land. Observe what happens. As your rainfall accumulates, watch the pathways where the excess “rainfall” travels.
- With teachers, walk around to ask each pair to explain what the water is doing and show you rivers and streams in their model.
- Have teachers help pick up all the spray bottles, and ask everyone to place their hands on their head and have a small group discussion about their observations.

Part B: 15 min

- Have pairs switch roles, “disposers” can throw out previous model. Tell students they will keep the same number assigned earlier and tell them what role they will be playing.
 - 1 - Sprayer / Disposer
 - 2 - Crumpler / Drawer

III. What’s In the Water?

Experiment with how “pollutants” might travel through their watersheds.

- With a new piece of “land”, imagine this represents the City of Rio Rancho or the Rio Grande Watershed. Show one of the Watershed posters and point out all the human activity that happens in a watershed (driving cars, making things (manufacturing), farming, walking our dogs, etc.)
- What might be on this land that we wouldn’t want in our water? What is pollution? Have you ever seen it? What does it look like?
- As students share, note the types of pollution on a poster or white board and create a key for groups to use. (Roads/Cars - black, Trash - Green, Dog poop-brown (and/or orange if you have more groups than markers)) Depending on the group, you could also identify Factories - Red
- Before crumpling, have drawers (with their support drawers) mark their papers with the brown, red and black marker to represent farms, factories, houses, streets, dog poop and trash.
- Announce that students have 30 more seconds when it seems that each group has drawn enough. Then ask all students to put their hands on their head. Then have crumplers -crumple paper and then partially smooth it out. Altogether, have sprayers spray the piece of paper.

- What happened to the pollution when it rained? Describe what happened at the highest and lowest point in your watershed. How quickly did it spread? Are there any places on the land where it didn't go?

V. Conclusion (10min)

- What do you think this means for our watershed - the Middle Rio Grande?

The water we drink comes from our watershed. Animals and plants also depend on this water. That's why it's important that we try not to pollute either the water or the land. Anything that pollutes the land will eventually wind up in the water.

- What might be ways we could reduce pollution in our watershed?

By picking up trash and picking up dog poop if we have dogs.

Activity Guide for 3rd Grade – Arroyo Walk (Animal and Plant Adaptations)

1. What are we trying to teach the students in this activity?

Arroyos are cool places where animals live, animals and plants are adapted to live in the desert.

2. How can we tie this activity to our teaching goals:

Our Goals	Where we can relate our goals to this activity
Animals live in arroyos	Look for evidence of animals.
We should visit arroyos carefully	Talk about when it is safe.
Picking up dog poop keeps germs out of our river	We'll probably see poop, talk about how it can make animals sick.

Supplies:

- Thermometers
- Clipboards
- Poster of leaf adaptations
- Wax paper
- Paper towels
- Tape

3. How can we tie this activity to standards?

- Measure energy (temperature change)
- Posing a question, using numerical data, various methods to display results
- Animals and plants have adaptations that improve chances of survival
- Classifying animals and plants
- Living things cause changes to their environment, some detrimental, some beneficial

5. How should this activity be organized?

I. Pre-activity (10 minutes)

- Do you ever visit/play in arroyos? What do you do?
- What are arroyos for? Managing storm water to keep our town from flooding when we get a heavy rain.
Show first flush video.
- Talk about arroyo safety – don't go into arroyos when you see clouds in the sky.
- Because our arroyos are natural, with sandy sides and bottom, they are safer.
- In Albuquerque, the arroyos have concrete sides and water travels so fast, it is really dangerous to ever go in arroyos. Some arroyos come from the canyon where it might be raining but you can't see.
- Our arroyos are home to all kinds of animals and plants, so they are a wonderful place to enjoy nature. What kinds of animals do you think might live in the arroyo?
- Walk out to arroyo

II. Lizard activity (15 min)

- 5min Look for evidence of animals. What kind of evidence? Scat, tracks, holes.
- What kind of animals live in holes (besides snakes)?
- What do you think makes it difficult to live out here? Heat, sunburn, not much water, cold at night. Animals and plants have special **adaptations** (special things about their bodies) that make it easier for them to live in this habitat.

- How do they get water? From plants, from condensation under rocks.
- How could they avoid heat? Stay in burrows or shade during the day, active at night.
- Some animals love the heat, though! Lizards are cold-blooded, which doesn't mean they are actually cold. It means their body temperature is determined by the environment. They need to absorb heat from their surroundings to function.
- Each student take a thermometer. This is a lizard, and it needs to maintain its body temperature at a certain level: fence lizard 35C (95F), whiptail 38.6C (101F). How can it keep from getting too hot? How can it keep from getting too cold? Lizards regulate their body temperature through behavior.
- Plants do kind of the same thing – hold one palm out flat, one sideways. Which feels hotter? Prickly pear cactus pads grow sideways instead of flat to keep themselves cool!

IV. Plant activity (15 min)

- What do plants need in order to survive? Water, sunlight, air, soil
- What makes it difficult for plants in the desert? It's so hot and there's so little rain.
- How do plants get water? **Show evapotranspiration diagram.** It's kind of like when we're hot, we sweat. But if we lose too much water from sweating we get dehydrated.
- How do they keep cool? Remember prickly pear? **Show pictures of hedgehog and prickly pear cacti.** Desert plants can shade themselves! Hedgehog cactus has lots of spines that shade the surface and also blocks the wind.
- The leaves of many desert plants are **adapted** so that they don't lose too much water.
- Show leaf adaptations poster (fuzzy, small, curled, waxy, green stems but no leaves)

If weather is ok:

- Out in arroyo, we'll do an investigation.
- How many of the plants we see will have these adaptations? Hypothesize.
- To be fair, we can't just pick the plants we like. Standing in one spot, collect the first 6 *different* leaves you see.
- Draw each one, and describe what adaptation it has.
- How many of your 6 leaves have one of the adaptations listed?
- Why don't all have it? Some plants avoid the heat by just growing and producing seed really fast before the weather gets hot, and then they just die off and leave their seeds to grow next year!
- Search for seeds.

If windy, inside activity:

- Let's investigate one way they keep water. **Dab water on board, cover one spot with paper towel, one spot with wax paper.** Which do you think will evaporate faster?
- **Show prickly pear picture.** Make model of prickly pear pad: paper towels with wax paper taped around the outside. **Show cut prickly pear pad.**
- Maybe do experiment: soak wax-covered and non wax-covered leaves in water and time how long they take to dry.

V. Conclusion (10min)

- Arroyos are for flood control, and we shouldn't play in them when clouds are in the sky.
- But they are cool places where animals and plants live, and we can visit when it's clear weather.
- Animals and plants are adapted to live in the desert climate.
- What we do in arroyos affects the plants, and animals' habitats. Should we ride ATVs up the sides? That's something humans do to change our environment for the worse.

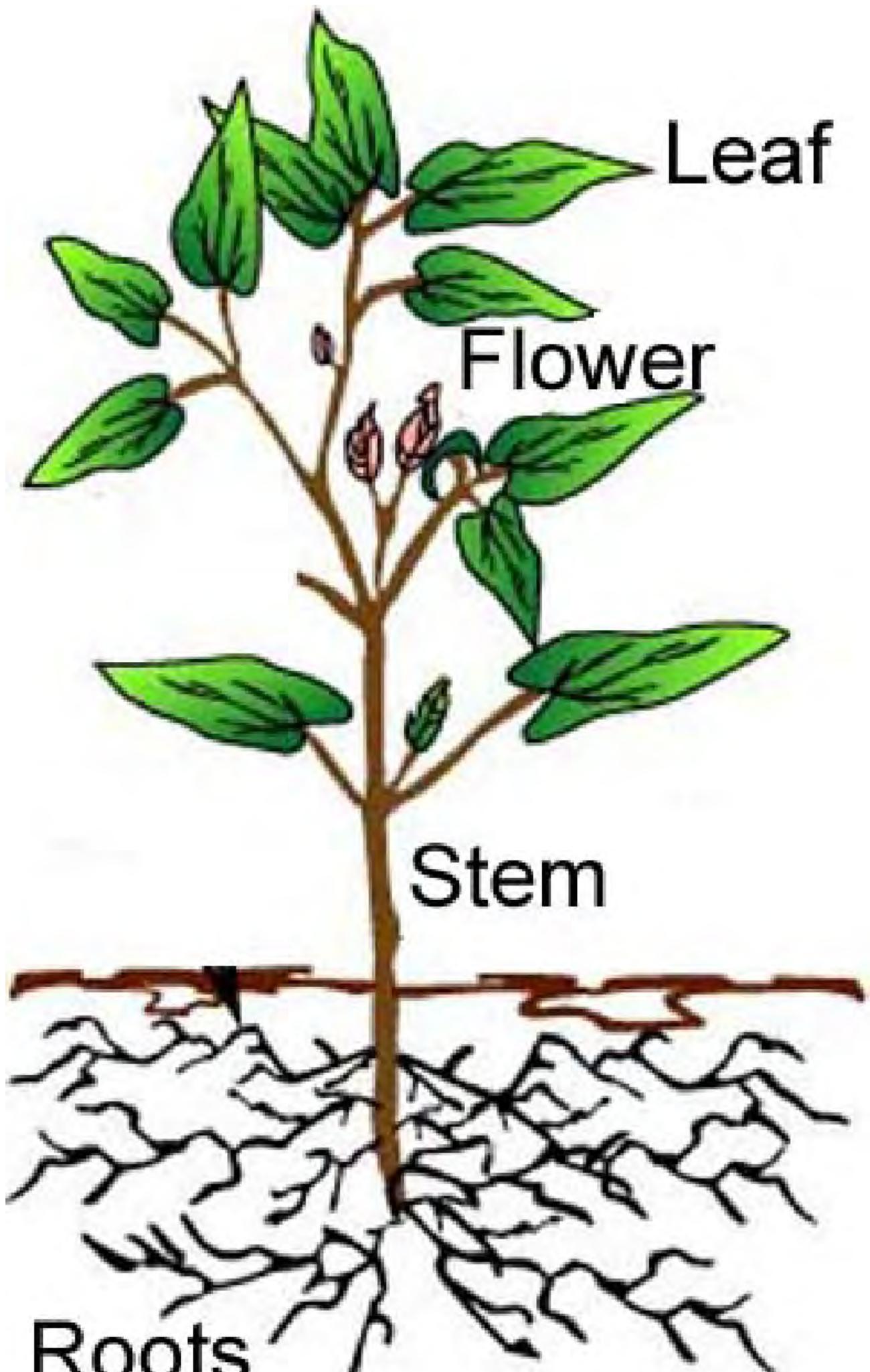
- Picking up dog poop is important because it can make animals sick. Where does the water go when it flows down the arroyo? The Rio Grande! Keeping dog poop out of the river is one way humans can change our environment for the better.
- Walk back to classroom

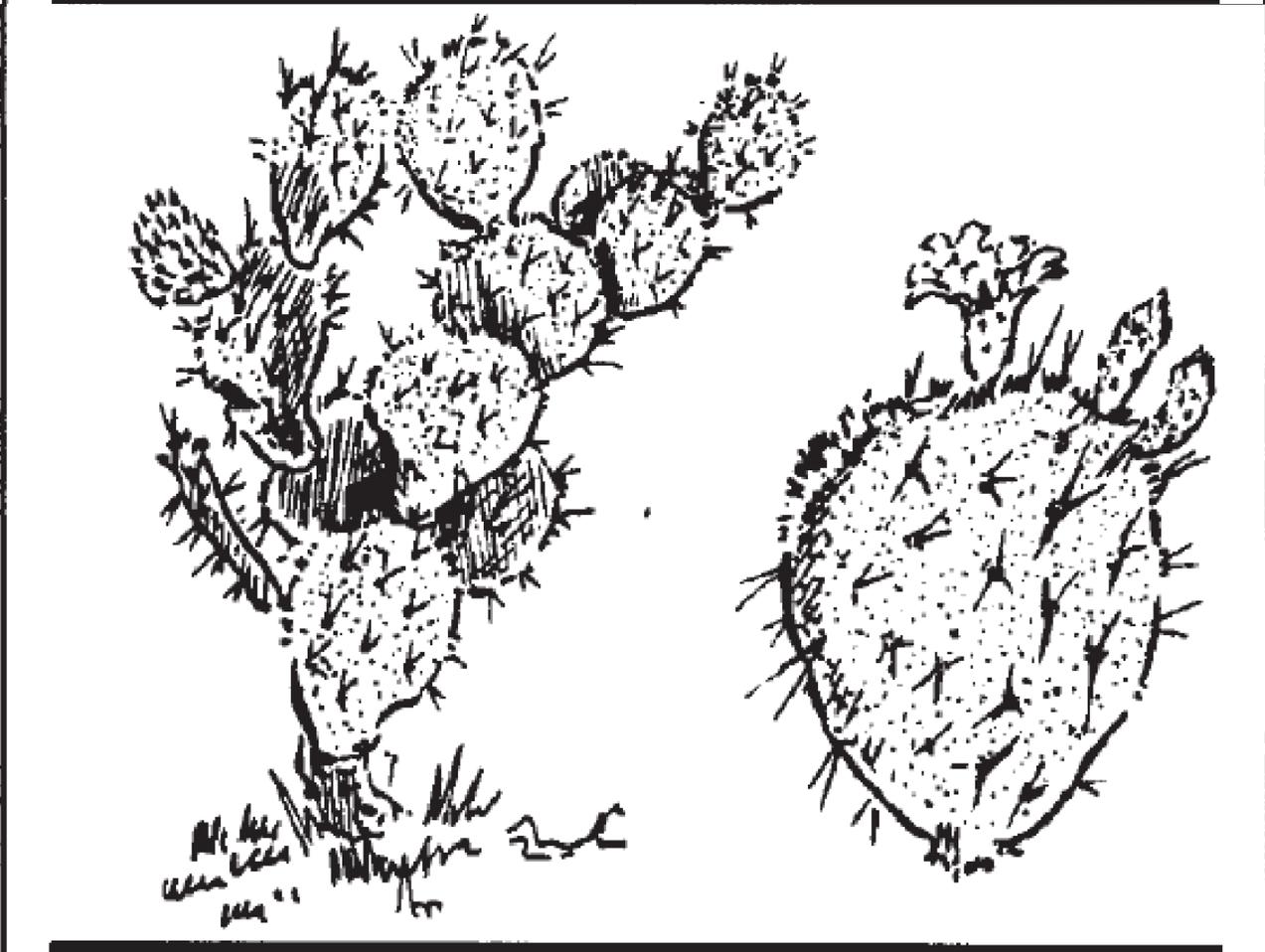
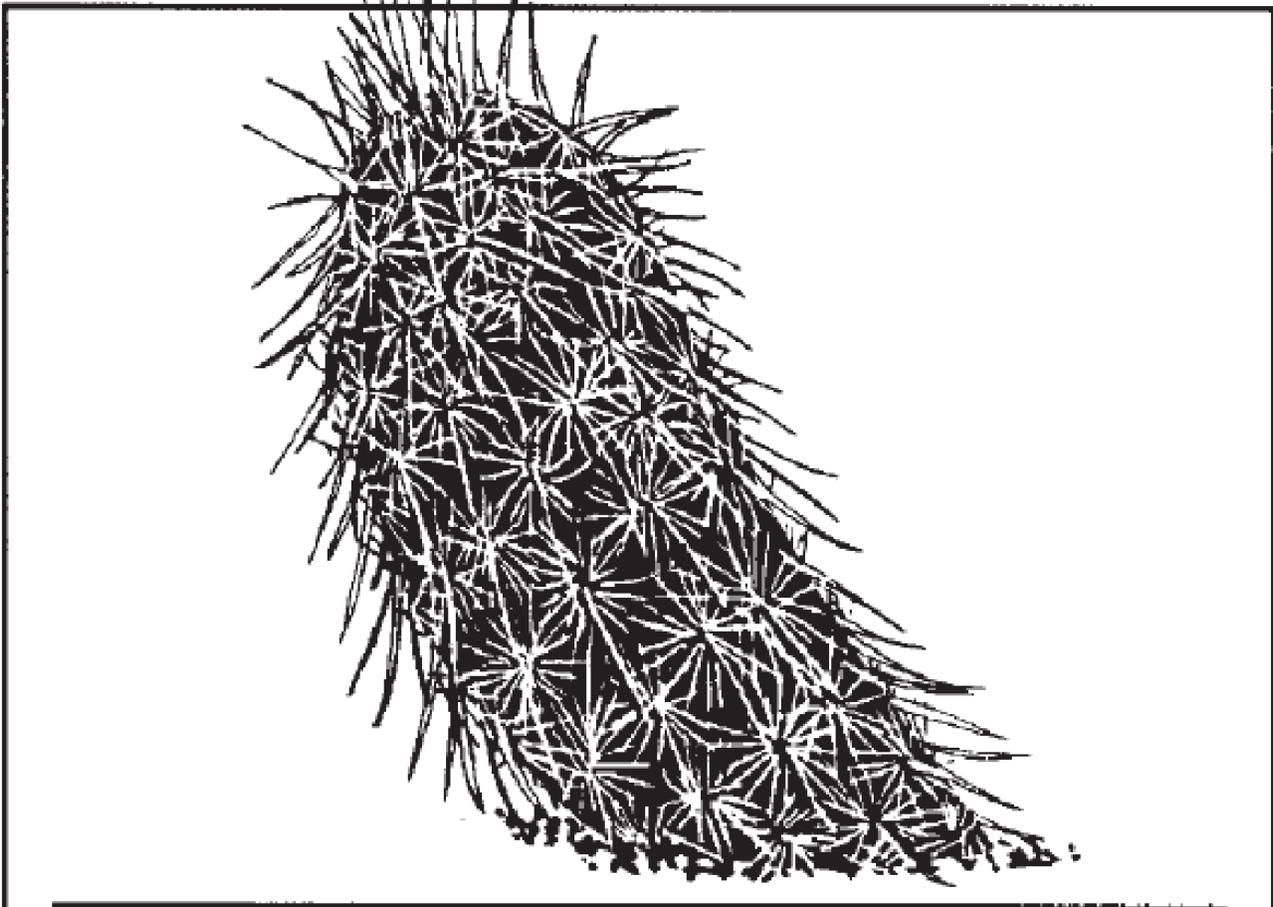
Leaf Adaptations

- 1. Fuzzy leaves or lots of spines**
- 2. Small leaves**
- 3. Curled leaves**
- 4. Waxy leaves**

5.

**Green stems but
no leaves!**







Town of Bernalillo

"The City of Coronado"

From May 2023 to current, the Town of Bernalillo has hosted the educational stormwater kiosk with approximately .5 visitors per day.

In addition, we have distributed stormwater brochures from our of the Planning Department Office and Town Hall reception desk. Approximately 30.

We have also produced newsletter articles in support of stormwater to include the promotion of the kiosk and fats, oils and greases.



Bosque Ecosystem Monitoring Program
in coordination with the Mid Rio Grande
Stormwater Quality Team.

2022 Annual Stormwater Quality Team Technical Report

Submitted December 21, 2022

WORK COMPLETED BY:

Bosque Ecosystem Monitoring Program (BEMP)

MAILING ADDRESS:

Bosque School 4000 Bosque School Road NW Albuquerque, NM 87120

REGARDING BEMP PROFESSIONAL SERVICES AGREEMENT

FOR: Mid Rio Grande Stormwater Quality Team

DATE SUBMITTED:

21 December 2022

Key personnel and contact information:

Amanda Lindell, Office and Contract Manager, amanda.lindell@bemp.org

Kim Eichhorst, Science and Research Director; kimde@unm.edu

Matt Leister, Science Manager; matt.leister@bemp.org

Introduction

Staff from the Bosque Ecosystem Monitoring Program (BEMP) collected data from eight (seven in January) sample locations from north to south along the Rio Grande. Sampling occurred quarterly in 2022 during the months of January, April, July and October. Monitoring objectives were to:

1. Assess *Escherichia coli* concentrations in the river; to see how these levels change flowing into, through, and out of Albuquerque; and how these levels fluctuate temporally over the year.
2. Obtain levels of dissolved oxygen (DO), turbidity, conductivity, temperature, and pH to assist in water quality interpretation and to see how various river inputs may affect these parameters.

Escherichia coli standards

Escherichia coli is a bacteria that has been used as an indicator of fecal contamination of surface water. The presence of *E. coli* in high concentrations can cause human health issues and can also indicate the presence of other harmful pathogens.

The EPA and the State of New Mexico recognize an upper limit for *E. coli* presence in primary contact water as 410 MPN/100 mL. However, limits set by the Pueblo of Isleta, a community just south of Albuquerque, are 88 MPN/100mL due to special usages and hereafter is referred to as the “desired limit” and is the ideal upper limit of *E. coli* concentration for sampled locations.

Sampling strategy

Quarterly sampling took place at eight (seven in January) river sites spanning approximately 26 miles (Table 1, Figure 1). Sampling for seven of the eight locations occurred along the west bank of the Rio Grande. An eighth location, State Land Office (SLO), was collected on the east bank of the Rio Grande across

from the Los Padillas site (Table 1, Figure 1). The northernmost site, Willow Creek, is located on the south side of HWY 550 in northern Rio Rancho and was selected to show the quality of the water entering Albuquerque (Table 1, Figure 1). The southernmost sites, Los Padillas and SLO, are located west of the Valle de Oro National Wildlife Refuge, and below Albuquerque's Southside Wastewater Reclamation Plant, in southern Albuquerque (Table 1, Figure 1). These sites are used to represent the quality of the water leaving Albuquerque. Quarterly sampling occurred upstream to downstream during the months of January*, April, July, and October.

**In January sampling did not occur at the SLO site as this site had not yet been added to the contract.*

Table 1. Sampling location from north to south.

Site Name	Latitude and Longitude	Nearby landmark
Willow Creek	35.295546, -106.581921	South of the HWY 550 Bridge, west riverbank
Corrales	35.208357, -106.622984	Across and slightly downstream of the North Diversion Channel
Bobcat	35.196928, -106.643422	South of Alameda Bridge, west riverbank
Montaño	35.145738, -106.678711	South of Montaño Bridge, west riverbank
Central West	35.089068, -106.681366	North of Central Bridge, west riverbank
Rio Bravo West	35.027410, -106.673757	North of Rio Bravo Bridge, west riverbank
Los Padillas	34.973066, -106.690553	North of I-25 Bridge near Valle de Oro NWR, west riverbank
State Land Office (SLO)	34.970360, -106.688214	North of I-25 Bridge near Valle de Oro NWR, east riverbank

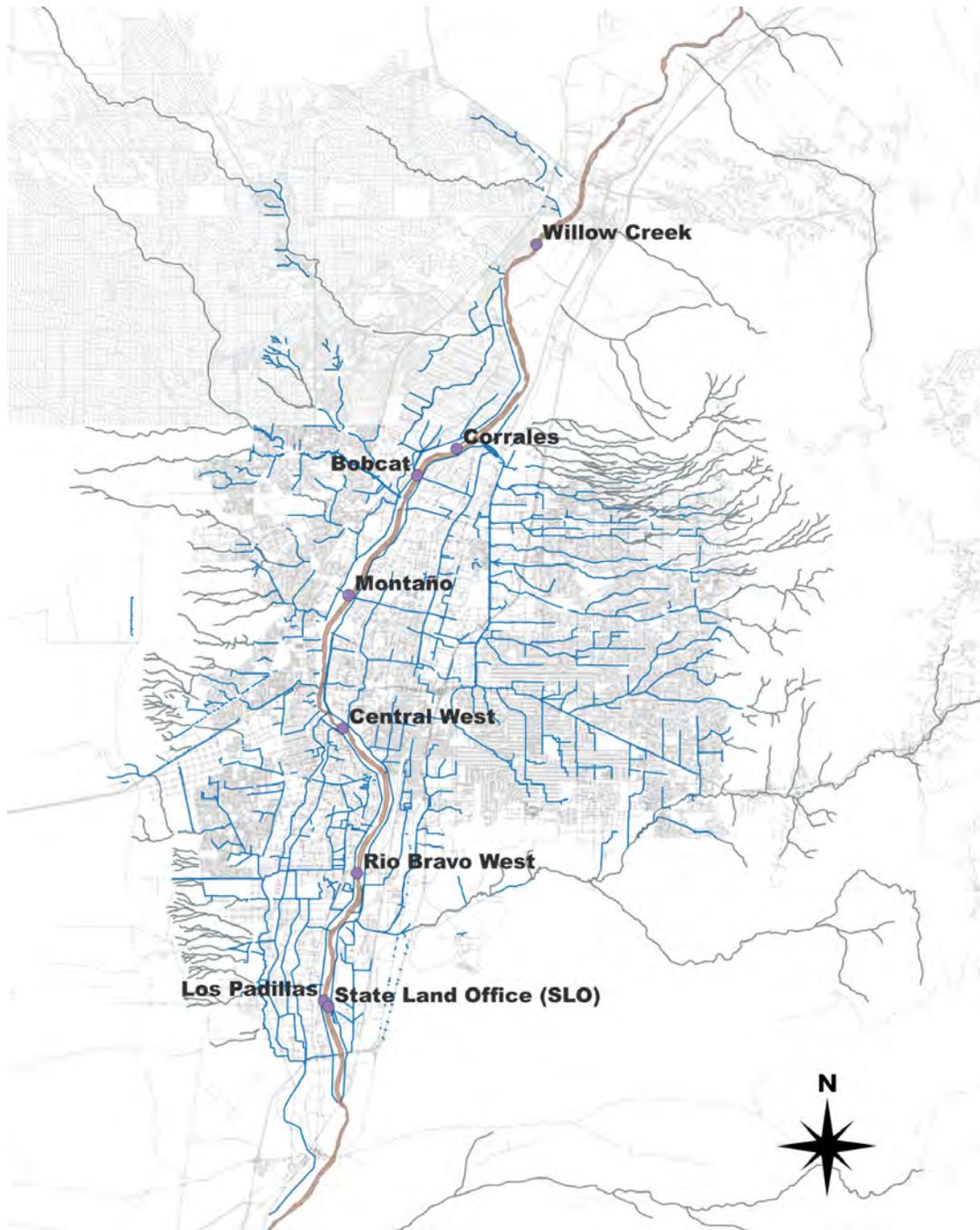


Figure 1. Sampling locations for 2022. Additional GIS layers include arroyos, drains and ditches, city streets, and river center.

Procedures

Prior to sampling, all equipment to be used was calibrated at the University of New Mexico using the manufacturer's protocol. An ice bath was constructed using

a small cooler filled with an ice water slurry and equipped with a digital max/min thermometer to ensure proper holding conditions for *Escherichia coli* samples prior to delivery to the receiving laboratory. River flow was recorded using the USGS Rio Grande central gauge. All sampling and safety equipment were transported to each site by BEMP staff. Upon arrival at each collection site, safe river entry was determined using river flow data, visual inspection of the river, and if necessary, an extendable pole to determine depth. If the river was determined safe to enter, a collecting crew would don waders and personal flotation devices (PFDs) prior to entering the water. The collecting crew would walk in-stream away from the river bank to sample an area of water with adequate mixing. No fewer than two members of the collecting team entered the water at any one time while a minimum of one additional member stayed on shore with a throw rope for safety purposes. If only two crew members are available samples are taken from shore using modified poles and collection cups. Instream field parameters were collected following methodologies established by the New Mexico Environment Department, SOP 9.1 (NMED 2013) and included pH, conductivity, specific conductance, water temperature, and dissolved oxygen. Staff trained in proper *E. coli* collection technique collected samples at each site using gloved hands and specimen cups provided by the analyzing laboratory. Turbidity samples were collected in vials for analysis. Site specific information was collected including air temperature, number of upstream waterfowl, water color, and any unusual odors. Photo documentation of each site was taken with written site name, date, and time of arrival included in the photograph. *E. coli* samples were labeled with site name and collection time using laboratory provided labels and tamper-proof seals were applied. These samples were placed in sealed bags and submerged in the ice bath for transportation. After the final site was collected a “blank” *E. coli* sample was made using proper collection techniques using deionized water. This sample was labeled as “blank”, stored, and transported using the same technique as the river samples. All *E. coli* samples were transported to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico where *E. coli* coliform enumeration analysis was performed.

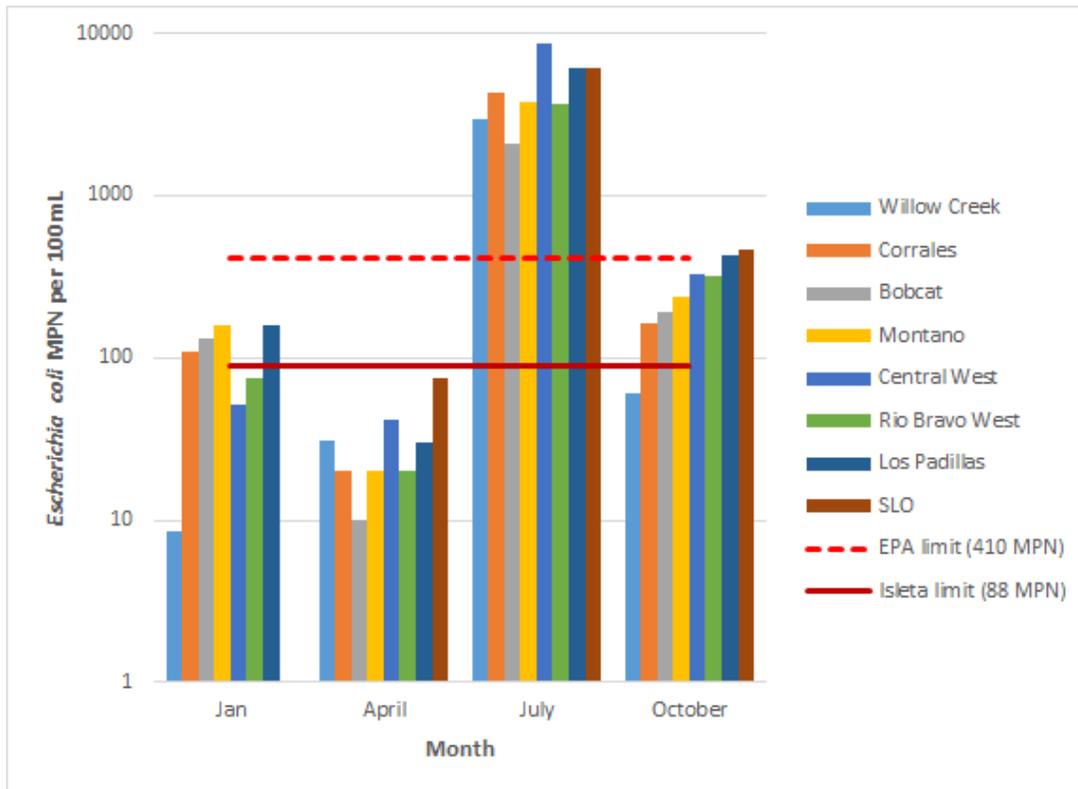


Figure 2a. *Escherichia coli* MPN/100mL on Log 10 scale at sampling sites across months.

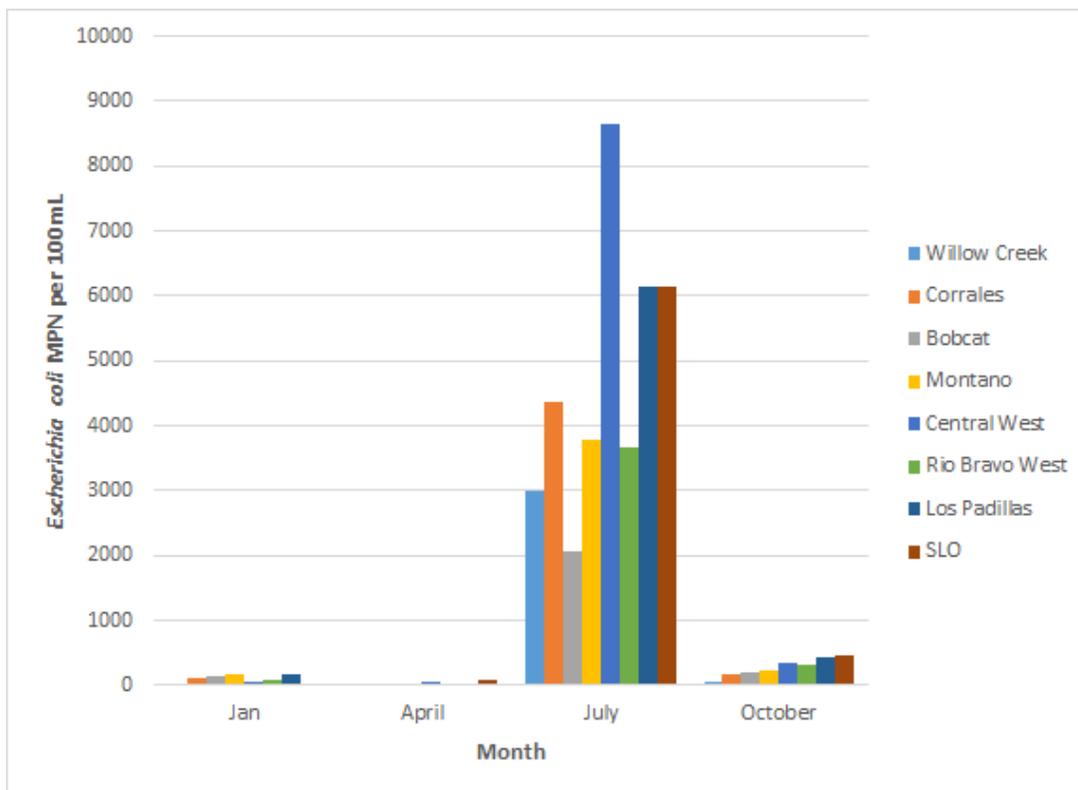


Figure 2b. *Escherichia coli* MPN/100mL at sampling sites across months. Same data as in Figure 2a but on a linear scale.

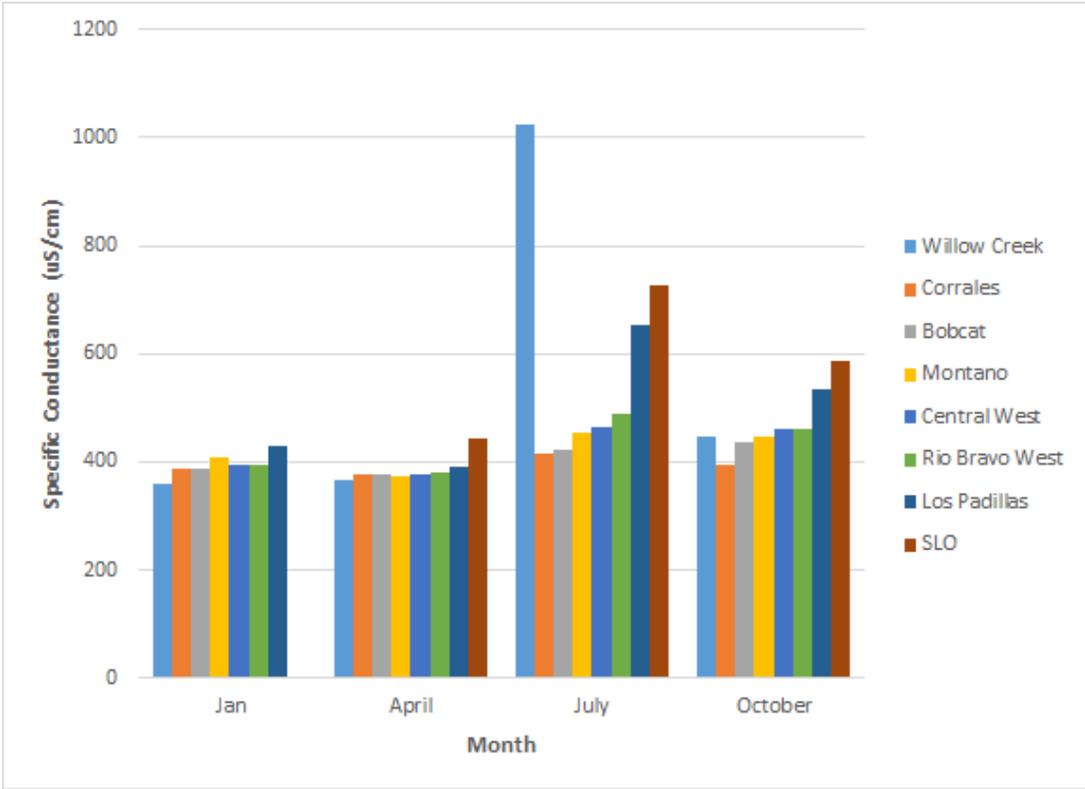


Figure 3. Specific conductance uS/cm measured at sampling sites across months.

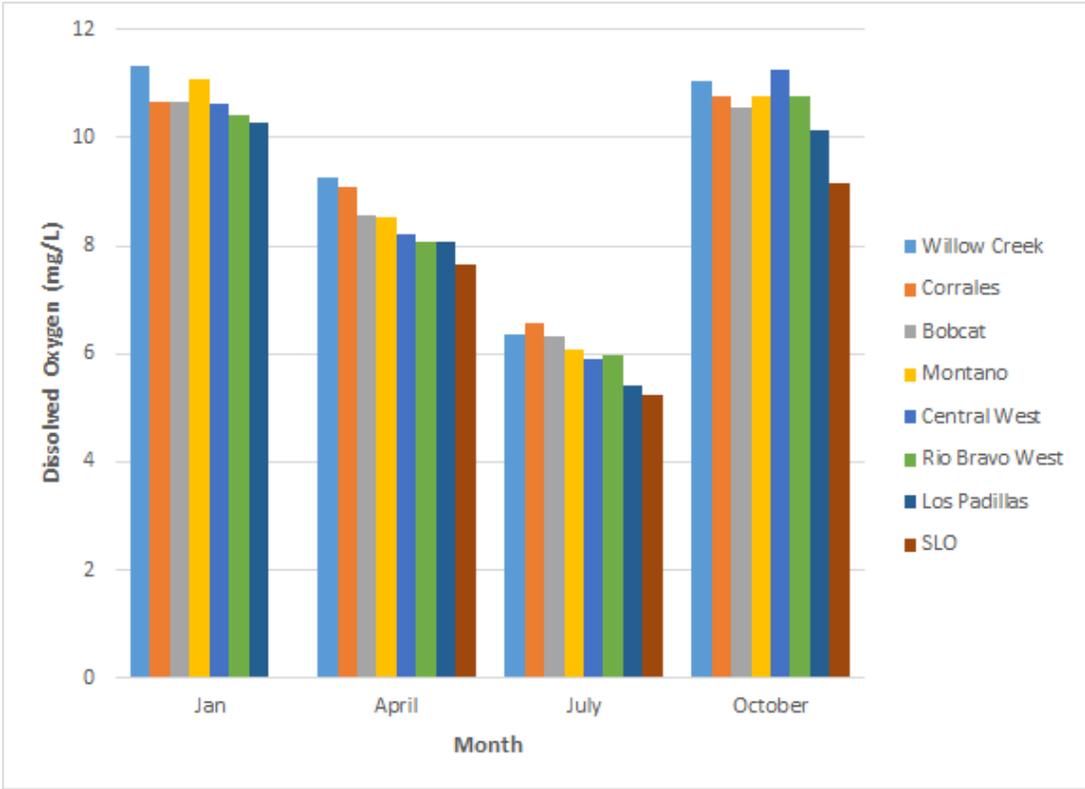


Figure 4. Dissolved oxygen mg/L measured at sampling sites across months.

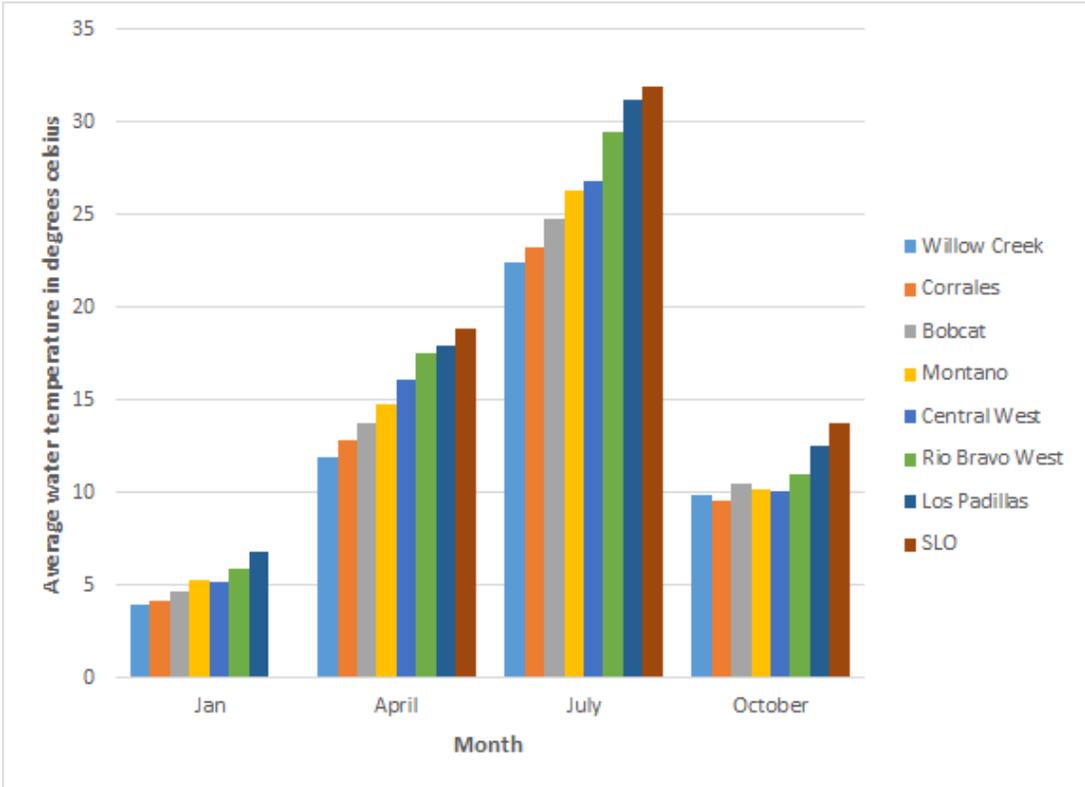


Figure 5. Temperature in degrees Celsius measured at sampling sites across months.

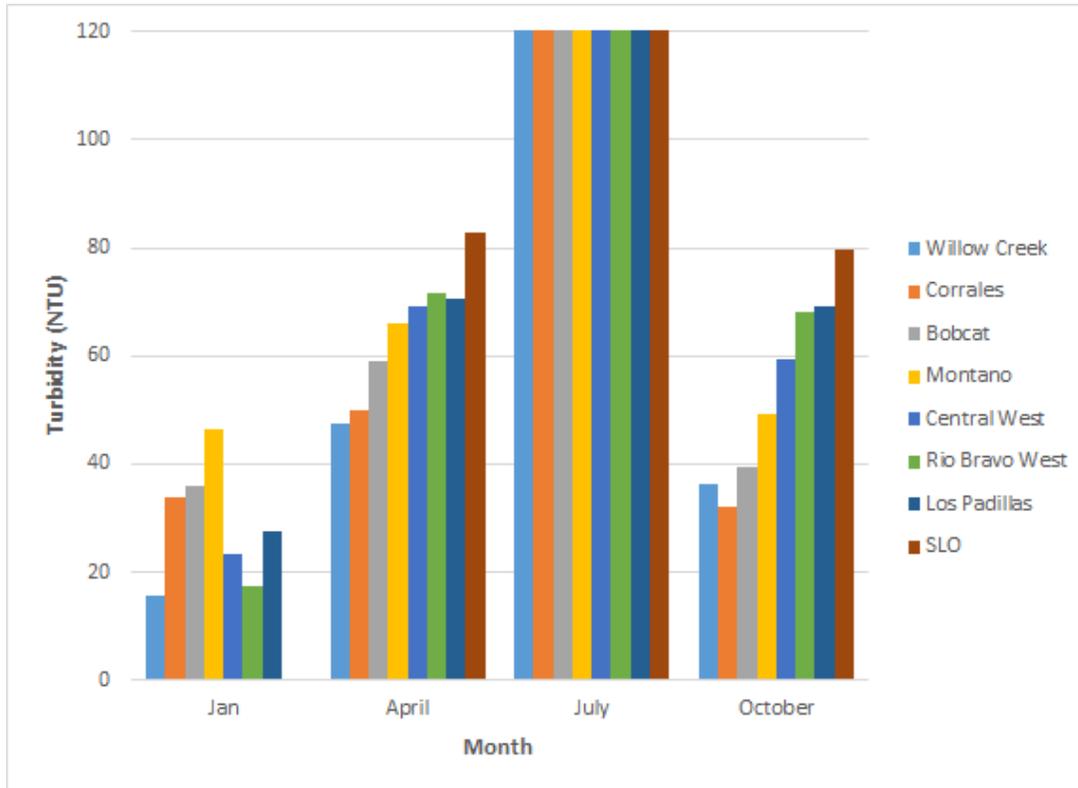


Figure 6. Turbidity (NTU) measured at sampling sites across months. Turbidity in July exceeded the instrument's range resulting in over range values at sample locations.

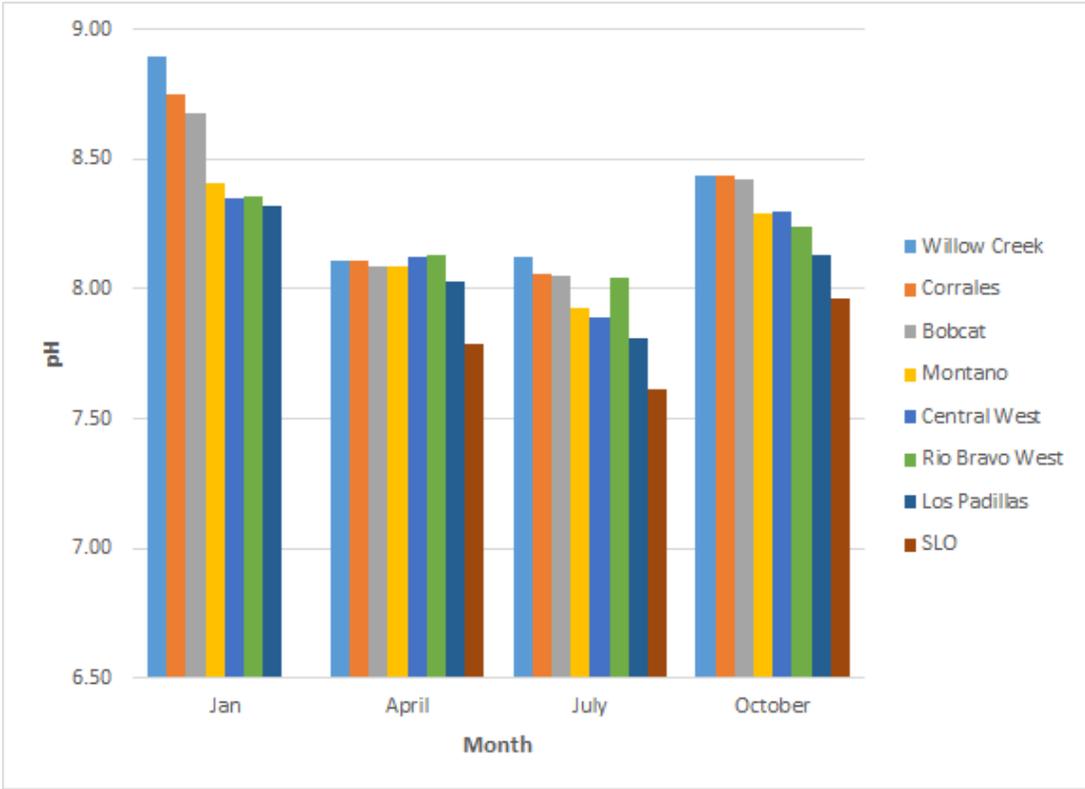


Figure 7. pH measured at the sampling sites across months.

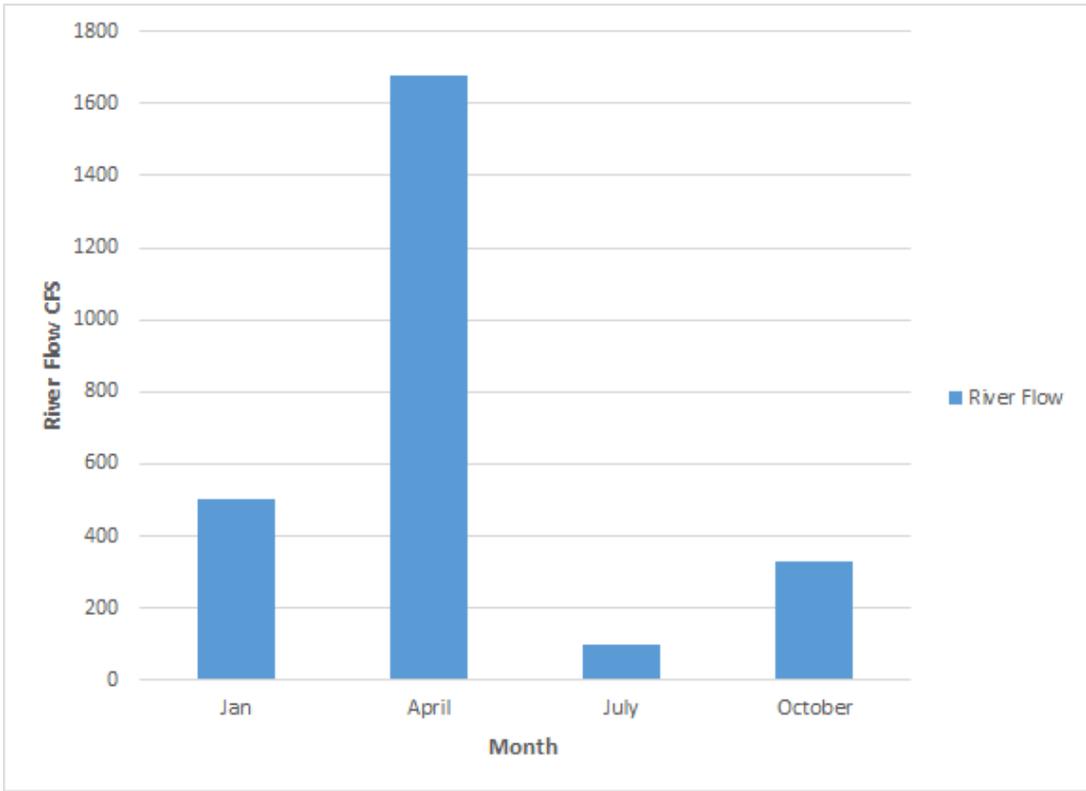


Figure 8. River flow at the Albuquerque gauge across sites.

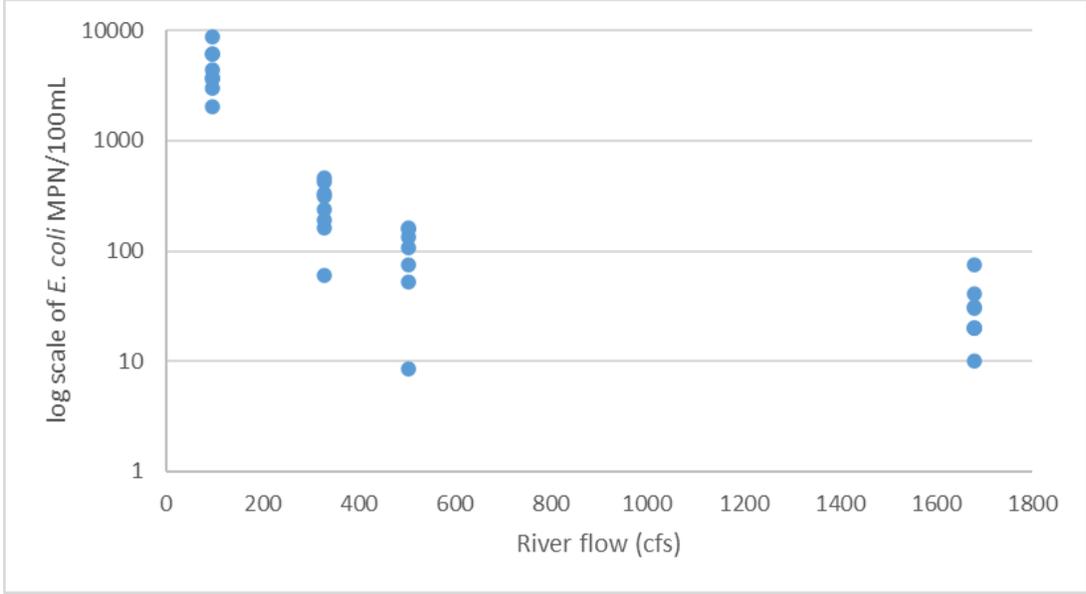


Figure 9. Log scale of *E. coli* vs river flow.

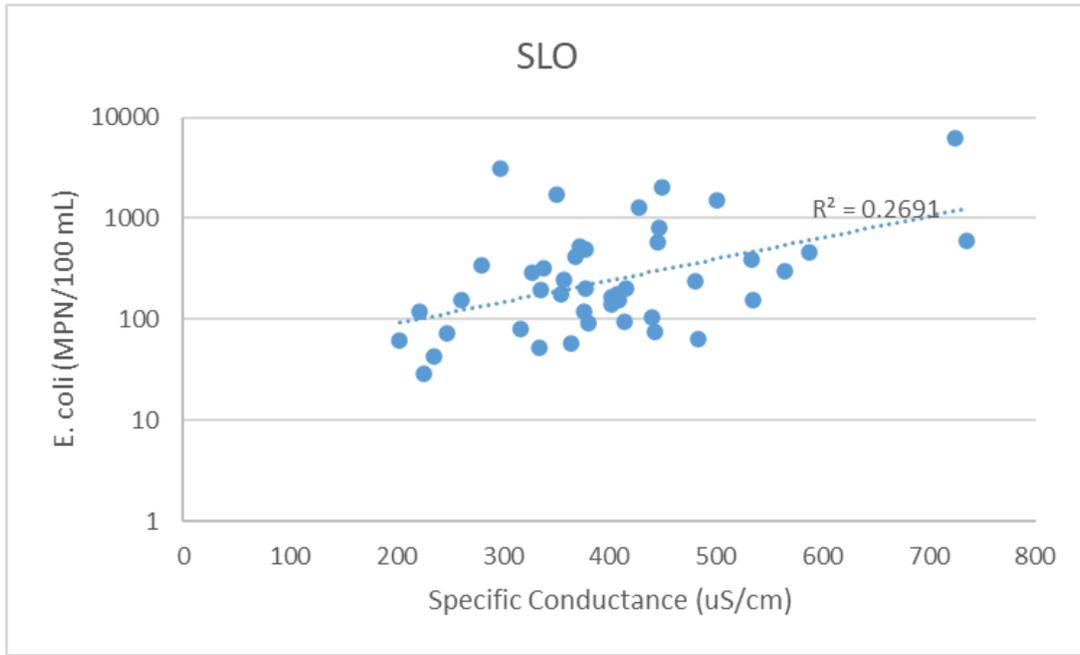


Figure 10. Log scale of *E. coli* vs. specific conductance at the SLO site for 2017-2022.

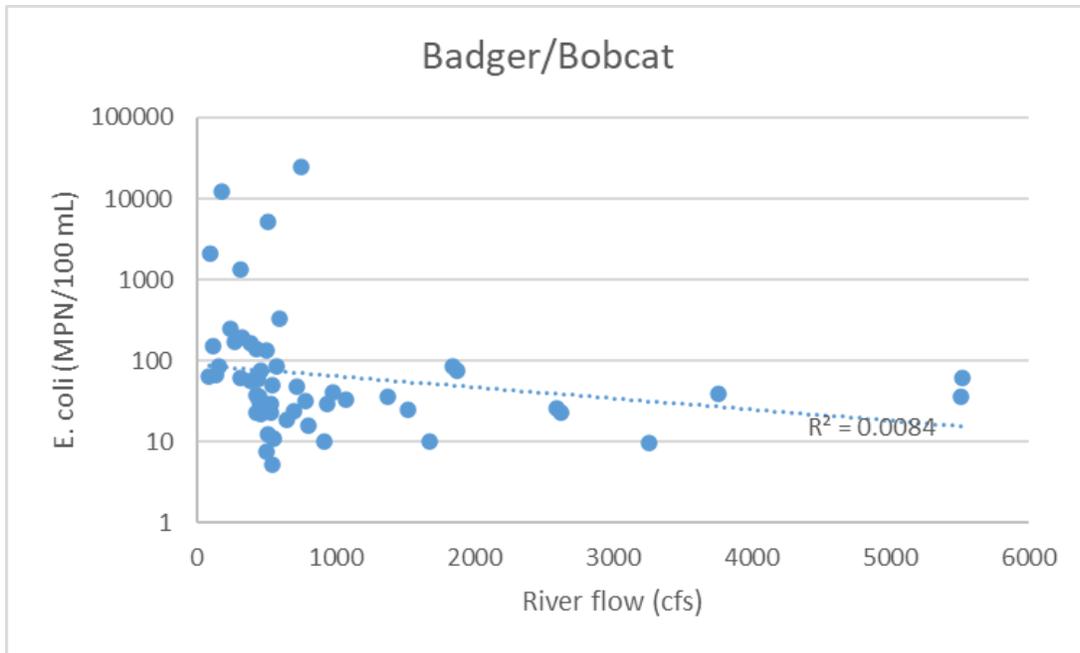


Figure 11. Log scale of *E. coli* vs. river flow at the Badger/Bobcat site (Alameda Bridge) for 2017-2022.

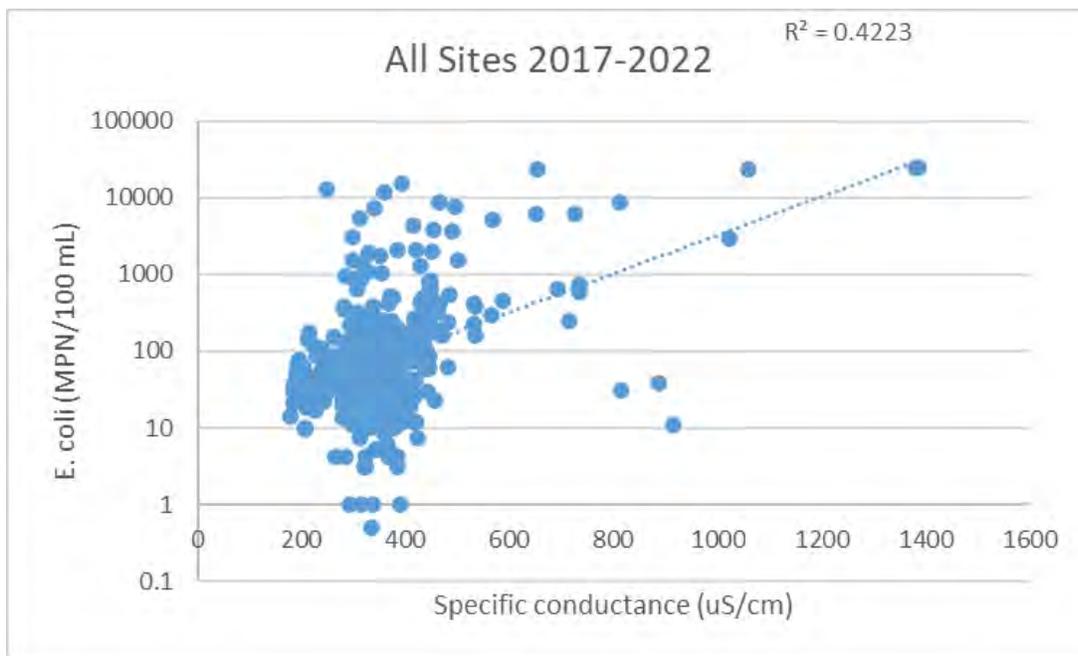


Figure 12. Log scale of *E. coli* vs. specific conductance for all sites from 2017-2022.

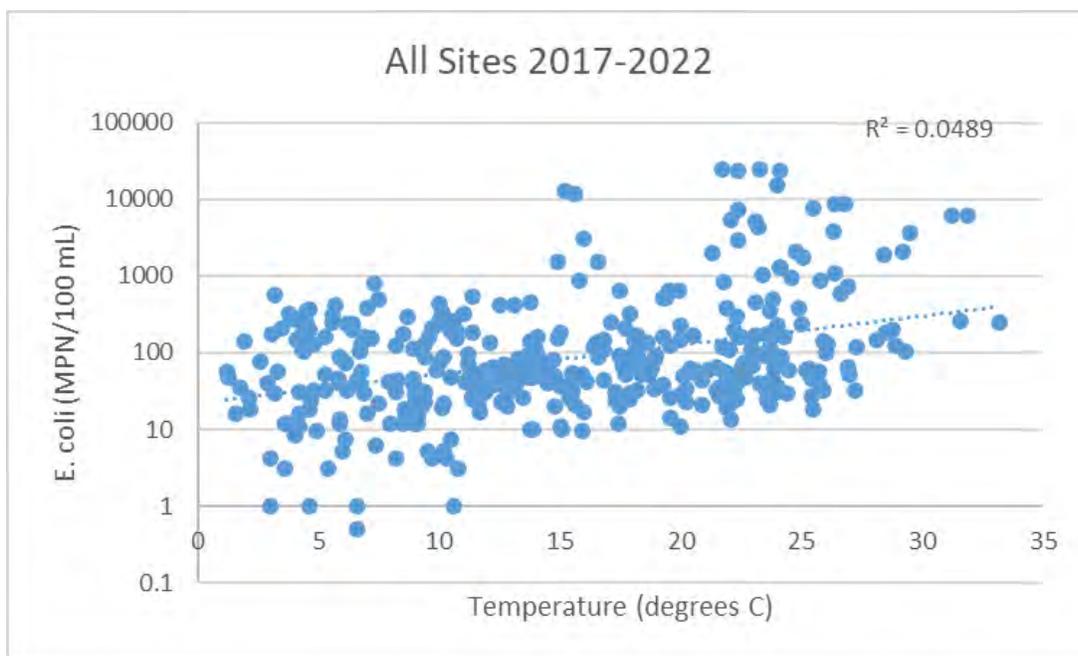


Figure 13. Log scale of *E. coli* vs. water temperature for all sites from 2017-2022.

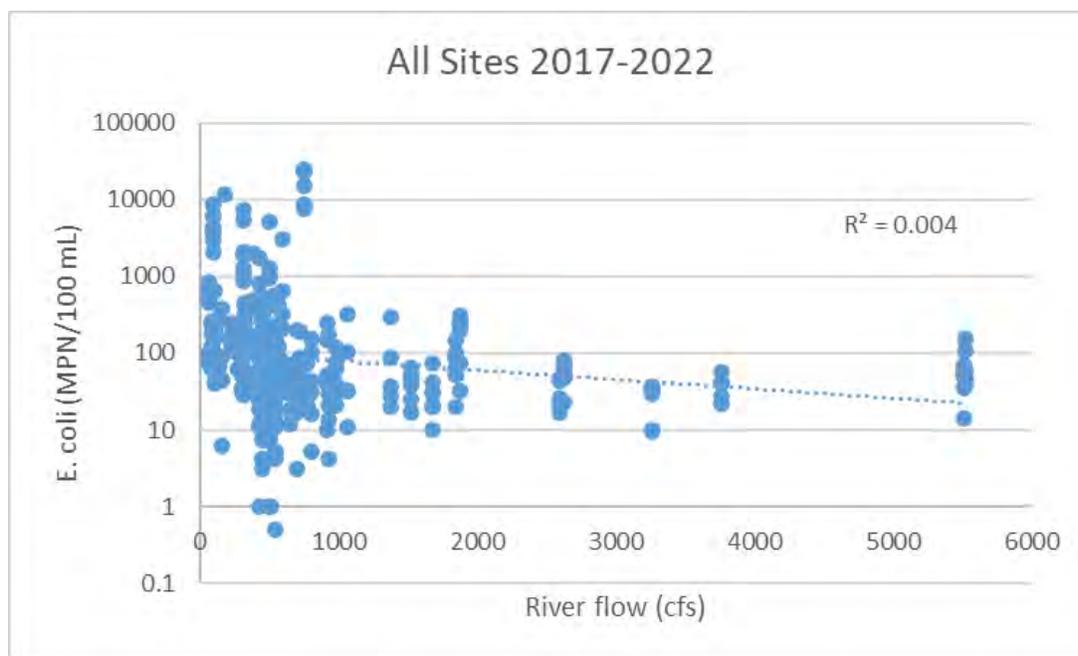


Figure 14. Log scale of *E. coli* vs. river flow for all sites from 2017-2022.

Conclusions

Escherichia coli

Escherichia coli levels exceeded the desired limit of 88 MPN/100 mL on three of the four sampling dates during January, July and October. These levels also exceeded the EPA and state limits of 410 MPN/100 mL on two of those sampling dates in July and October (Figure 2a,b).

The desired limits (88 MPN/100mL) were exceeded in January at Corrales, Bobcat, Montano, and Los Padillas. In July, samples exceeded both desired limits (88 MPN/100mL) and EPA limits (410 MPN/100mL) at all sampling locations. The highest *E. coli* level recorded for July was at Central West with 8,664 MPN/100mL. The lowest *E. coli* level recorded for July was at Bobcat with 2,064 MPN/100mL. In October all sample locations except Willow Creek exceeded the desired limits (88 MPN/100mL) with Los Padillas and SLO exceeding the EPA limits (410 MPN/100mL). The highest recorded *E. coli* level recorded for October was at SLO with 464 MPN/100mL. The lowest *E. coli* level recorded for October was at Willow Creek with 60.5 MPN/100mL.

The extremely high *E. coli* levels seen in July correspond with thunderstorms that occurred in the days preceding the collection. These rain events were responsible for the first rewetting of the Rio Grande after days of river drying in the Albuquerque stretch of the Rio Grande. This demonstrates how precipitation and runoff events can dramatically impact *E. coli* in the Rio Grande (Figure 2a,b). Exceedances disproportionately occurred in southern sites compared to northern sites, with SLO and/or Los Padillas (the southernmost sites, located below Albuquerque's Southside Wastewater Reclamation Plant - SWRP) exceeding the *E. coli* limits in all months that exceedances occurred (Figure 2a,b).

Specific conductance

Specific conductance had a large peak in July at Willow Creek and corresponded to the precipitation events preceding collections. Excluding this one value, Los Padillas and SLO are seen to have the highest specific conductance, deviating from the typical trend seen at other sampling locations. This trend is more pronounced later in the sampling season, most noticeable in July and October (Figure 3).

Dissolved oxygen

Dissolved oxygen (DO) levels are important for the health of aquatic systems and are directly influenced by numerous natural factors including respiration and consumption by aquatic life, salinity, and temperature. The DO levels in 2022 were lowest in July and highest in January and October (Figure 4), inversely related to average water temperature (Figure 5). This indicates that temperature may be the main driver of DO in this system.

Turbidity

Turbidity fluctuated throughout the year, peaking in July when the turbidity of the water exceeded the detection limitations of the equipment resulting in over-range values (Figure 6). This corresponds with the rewetting of the river (and low river flows) occurring from storm events.

pH

pH fluctuated throughout the year; values are seen in Figure 7.

Multi-year analyses

As mentioned in previous reports, specific conductance has the strongest correlation with *E. coli* levels (R^2 0.4223, Figure 12). This relationship is also seen at the site level (Figure 10), though can be driven by outliers. *E. coli* data from this year had a correlation with river flow with a 0.407 R^2 (Figure 9), but when analyzing trends across all sites from 2017-2022, the R^2 was 0.004 (Figure 14). When looking across multiple years within a site, the R^2 between *E. coli* and river flow continued to be low at 0.0084 (Figure 11). Temperature is also a poor predictor of *E. coli* when used alone (Figure 13).

Discussion

Even with reduced sampling, water quality parameters follow similar patterns of seasonal change noted in previous years. The reduced sampling method does miss some peak levels that could be caused by seasonal monsoons and periods of low flow. Season and water source (e.g., runoff) are strong contributors to *E. coli* levels. Temporal variation during typical peak flows (June through August) can be used to assess the typical peak *E. coli* values as well as rate of change by employing more frequent sampling. More frequent sampling in September would allow assessment of the impact of monsoons, if trends continue with late tropical storms occurring in September rather than in July.



Albuquerque Metropolitan Arroyo Flood Control Authority

On April 28th, 2023 AMAFCA presented to a studio class at UNM's school of architecture.

BEAR ARROYO

LANDSCAPE DESIGN GUIDELINES

LA503/403 Urban Typologies Studio

Final Presentation

Monday, May 8th

1:30-3:30 PM

UNM SA+P Room P135

Please join us for a gallery-style review exploring Albuquerque's Bear Arroyo and student ideas to improve recreation access and water quality, while improving habitat and environmental education.



John B. Robert Dam, Juan Tabo Boulevard NE
AMAFCA 1000-year flood control structure



April 6, 2023

Dear AMAFCA,

On behalf of the Land and Water Summit Planning Committee, Ciudad Soil & Water Conservation District would like to take this opportunity to thank you for the generous sponsorship in the amount of \$3,500 that was provided for the 2023 Land and Water Summit Hybrid Conference. As the fiscal manager for the Land and Water Summit, Ciudad SWCD is pleased to report that the AMAFCA charitable **Reservoir Level** sponsor contribution assisted with the planning efforts and implementation of the conference.

Through AMAFCA's sponsorship, the Land and Water Summit hosted a pre-conference field trip with 55 attendees and a conference with 249 registered attendees, 131 in-person and 118 remote viewers, and 20 sponsors receiving 30,481 impressions.

The 2023 Land and Water Summit featured a diverse range of presentations on topics related to building resilient landscapes and societies in the face of environmental challenges. A common theme that emerged was the importance of collaboration with communities in developing strategies for resilience. Presentations on shortage-sharing and water agreements highlighted the need for cooperation and sharing in managing scarce resources. Indigenous resiliency was also a prominent topic, emphasizing the importance of traditional knowledge and analysis in land and water management.

The Land and Water Summit annual conference plays a vital role in continuing education about resource conservation and best practices for safeguarding and enhancing local landscapes. The event could not be possible without AMAFCA's financial contribution. The Land and Water Summit Planning Committee and Ciudad SWCD are immensely grateful for your generous support and sponsorship of the conference.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Steven Glass".

J. Steven Glass
Land and Water Summit Planning Committee, Co-Chair
Ciudad Soil & Water Conservation District, Board Chair

**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.

**Middle Rio Grande Stormwater Quality Team
Annual Member
Cooperative Funding Agreement**

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:

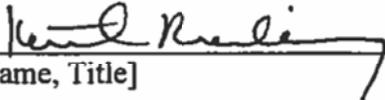
Annual Member Entity:	City of Rio Rancho
Designated Voting Member:	Eugene Pettes 3200 Civic Center Circle NE Rio Rancho, NM 87144 505-891-5045 xpettes@rio-rancho.nm.us
Billing Instructions:	check
Expected Contribution:	\$10,000.00

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



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@rrmm.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.

MIDDLE RIO GRANDE STORMWATER
MS4 COMPLIANCE MONITORING COOPERATIVE
INTERGOVERNMENTAL AGREEMENT
FINAL

5-24-2016

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,

**MIDDLE RIO GRANDE STORMWATER
MS4 COMPLIANCE MONITORING COOPERATIVE
INTERGOVERNMENTAL AGREEMENT
FINAL**

5-24-2016

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

**MIDDLE RIO GRANDE STORMWATER
MS4 COMPLIANCE MONITORING COOPERATIVE
INTERGOVERNMENTAL AGREEMENT
FINAL**

5-24-2016

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,

**MIDDLE RIO GRANDE STORMWATER
MS4 COMPLIANCE MONITORING COOPERATIVE
INTERGOVERNMENTAL AGREEMENT
FINAL**

5-24-2016

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.

MIDDLE RIO GRANDE STORMWATER
MS4 COMPLIANCE MONITORING COOPERATIVE
INTERGOVERNMENTAL AGREEMENT
FINAL

5-24-2016

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.

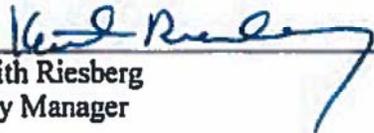
20. **AMENDMENT.** This Agreement may only be altered or amended upon written approval by a majority of the CMC Members.

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.

MIDDLE RIO GRANDE STORMWATER
MS4 COMPLIANCE MONITORING COOPERATIVE
INTERGOVERNMENTAL AGREEMENT
FINAL

5-24-2016

City of Rio Rancho



Keith Riesberg
City Manager

5/27/16

Date

Approved as to Form:



Jennifer Vega-Brown
City Attorney

Date: 5/20/16

Date for of beginning of Fiscal Year: July 1

**MIDDLE RIO GRANDE STORMWATER
MS4 COMPLIANCE MONITORING COOPERATIVE
INTERGOVERNMENTAL AGREEMENT
FINAL**

5-24-2016

**ATTACHMENT I
CONTRIBUTION SCHEDULE**

ATTACHMENT 1

Sampling Cooperative Cost Allocation Determination (CAD) Tool

28-Apr-16

Number	Participant			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
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).

**MIDDLE RIO GRANDE STORMWATER
MS4 TECHNICAL ADVISORY GROUP
FINAL DRAFT**

9-30-13

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-Coordiators 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-Coordiators 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 in subsequent years of this Agreement. The Co-Coordiators 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.

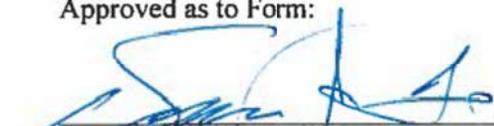
9. This Agreement may be modified in writing at any time upon the mutual agreement of the Parties.

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-Coordiators and approval by the Co-Coordiators shall add the Party to the Agreement.

NOTE: Each approving entity would have a separate signature page

City of Rio Rancho

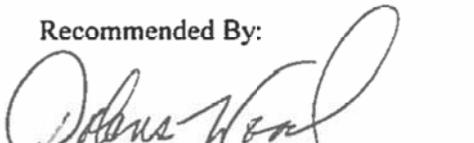
Approved as to Form:



City Attorney

Date: 10/1/13

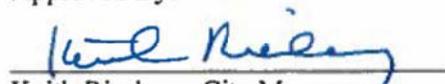
Recommended By:



Dolores Wood, Director

Date: 11.4.13

Approved By:



Keith Riesberg, City Manager

Date: 11/1/13



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@rnm.gov or at 505-891-5045.

Sincerely,

A handwritten signature in dark ink, appearing to read 'David Serrano', is written over a light blue horizontal line.

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

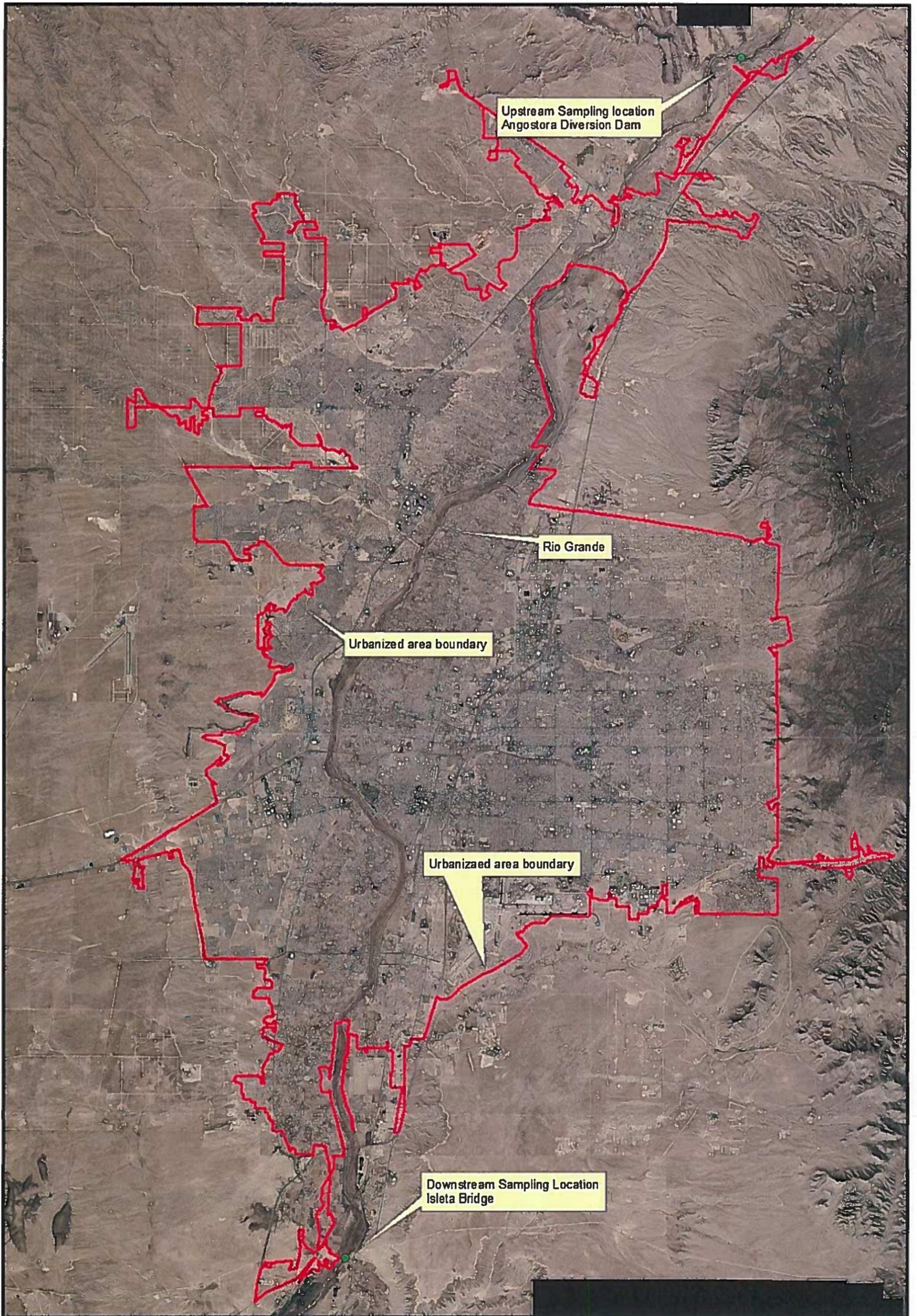
All sampling collection and analysis shall conform to the QAPP to be developed for the sampling program in accordance with Part III.A.5.b and III.Q. of the permit and the methods specified at 40 CRF §136.

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



<p>1 inch = 2.367424 miles</p> <p>0 1 2 Miles</p>	WSB MS4 Sampling Locations	
		Southern Sandoval County Arroyo Flood Control Authority
		Date: November 13, 2015 Attachment 1



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.

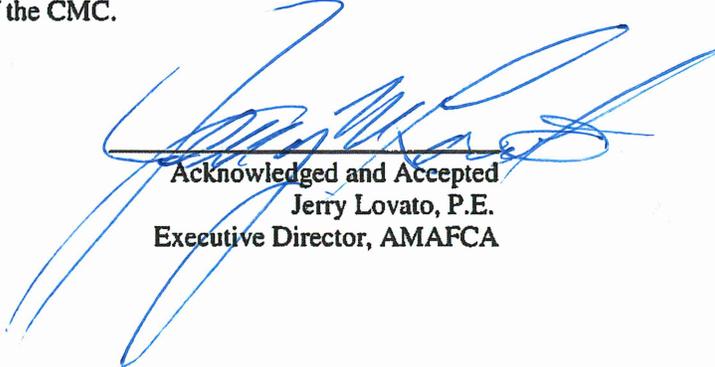
Following discussions between the CMC and the Environmental Protection Agency (EPA), EPA has approved a methodology whereby one member of the CMC will enter data in NetDMR on behalf of any other CMC-member entity. Each CMC-member entity that wishes to participate will delegate authority to the data entry 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
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	7.1 Public Comment
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Public Review and Comment Period

The City of Rio Rancho published a public notice announcing the draft 2022-2023 Annual Report in the *Rio Rancho Observer* on October 19, 2023. 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 30, 2023. 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 2022-2023 reporting period was made available from October 13, 2022 through November 30, 2022.

<https://www.rnm.gov/2184/NPDES-Stormwater-Program>

RIO RANCHO OBSERVER

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Legal Notices-Government

By Rio Rancho Observer | Oct 19, 2023 | Legals

CITY OF RIO RANCHO

PUBLIC NOTICE

The City of Rio Rancho has prepared its 2022-2023 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.

Observer: October 19, 2023

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541 November 24, 2023



PHOTOS: Hobbler Gobbler 2023

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November 23, 2023

Section 8**Signature on Certification of Annual Reports**

8.1 Letter of Delegation



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:

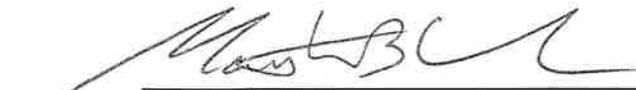
This letter serves to designate either a person or specifically described position as an authorized person for signing reports, storm water pollution prevention plans, certifications or other information requested by the Director or required by the permit. This authorization cannot be used for signing an NPDES permit application (e.g. Notice of Intent (NOI)) in accordance with 40 CFR 122.22. The following person or position is hereby 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.”



Matt Geisel

City Manager

Title

19-Sept-2022

Date