Permit Appendix B.2
MS4 Permit Annual Report Form

This Annual Report is due no later than April 4 of each year, beginning in Calendar Year 2022, and reflects the relevant reporting period, beginning in 2021. See Permit Part 6.4.2

Annual Reports and any attachments must be sent to EPA and IDEQ by U.S. Postal Mail to the following addresses:

U.S. EPA, Region 10
Enforcement and Compliance Assurance Division
Attn: Surface Water Enforcement Section
1200 6th Avenue, Suite 155 - Mail Code 20-C04
Seattle, Washington 98101-3188

Regional Administrator
Idaho Department of Environmental Quality
Attn: Water Quality Program
Boise Regional Office
1445 N. Orchard St.
Boise, ID 83706

Complete Sections 1 through IV. Do not leave any questions blank.

MS4 Permittee Name/Organization:	Ada County Highway District
NPDES Permit Number:	IDS028185

Indicate Annual Report Number & Reporting Period:

- ○ **Year 1 Reporting Period:** Feb. 1, 2021 – Jan. 31, 2022 – **Annual Report Due Date:** April 4, 2022
- ◉ **Year 2 Reporting Period:** Feb. 1, 2022 – Jan. 31, 2023 – **Annual Report Due Date:** April 4, 2023
- ○ **Year 3 Reporting Period:** Feb. 1, 2023 – Jan. 31, 2024 – **Annual Report Due Date:** April 4, 2024
- ○ **Year 4 Reporting Period:** Feb. 1, 2024 – Jan. 31, 2025 – **Annual Report Due Date:** April 4, 2025
- ○ **Year 5 Reporting Period:** Feb. 1, 2025 – Jan. 31, 2026 – **Annual Report Due Date:** Jan 30, 2026
- ○ Other

Certification: *"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 have no personal knowledge that the information submitted is other than 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."*

Signature:	
Printed Name:	Bruce Wong
Title:	Director
Date:	30 Mar 2023

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Section I. General Information

MS4 Facility Site Name: Ada County Highway District MS4

MS4 Facility Organization Formal Name: Ada County Highway District

MS4 Facility Contact Name: Erica Anderson Maguire

Title: Environmental Manager

MS4 Contact Telephone: 208-387-6254

MS4 Contact Email Address: emaguire@achdidaho.org

MS4 Facility Contact Type (all that apply): ☐ Owner ☐ Operator ☑ Main Contact

MS4 Facility Site Address: 1301 North Orchard Street, Suite 200

MS4 Facility Site City, State, Zip Code: Boise, ID, 83706

MS4 Facility Site Mailing Address: ***if different from above*** 3775 Adams St, Garden City, ID, 83714

Is the MS4 Facility Site Located On Tribal Land? ◯ **Yes** ◉ **No**

MS4 Facility Jurisdiction Type (check all that apply):

- ☐ Federal
- ☐ State
- ☐ College or University
- ☐ State Highway Department
- ☐ Municipal:
- ☑ County
- ☐ City or Town
- ☑ Highway District
- ☐ Tribal
- ☐ Other

List All Receiving Water(s) For the MS4 Discharges:

See Attachment A of this report for Phase II receiving waters and ownership.

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Section II. Permittee Responsibility:
Please answer all questions. If the answer is "No," or "Not Applicable" and no other direction is provided, use the Comments field at the end of this section to explain the reason and the expected date(s) that the requirement will be met, and/or to explain why the requirement does not apply.

1. **This Permittee organization shares implementation responsibility for Permit compliance with one or more Permittees.**
   ○ *Yes* ◉ *No* ○ *Not Applicable*

   Is the agreement between the Permittees described/cited in the Stormwater Management Program (SWMP) Document?
   ○ *Yes* ○ *No* ◉ *Not Applicable*

2. **This Permittee organization shares implementation responsibility for Permit compliance with one or more outside (non-Permittee) entities.**

   Is the agreement with these other entity(ies) described/cited in the SWMP Document?
   ○ *Yes* ◉ *No* ○ *Not Applicable*

3. **This Permittee organization maintains relevant ordinances or other regulatory mechanisms to control pollutant discharges into and from the MS4 to meet the requirements of this GP**.
   ◉ *Yes* ○ *No* ○ *Not Applicable*

   (If "No," use the Comment field to specify on overall progress to adopt adequate ordinances or utilizing available regulatory mechanisms.)

4. **This Permittee organization's SWMP Document is posted on a publicly accessible website**.
   ◉ *Yes*

   Identify the URL for the webpage where the SWMP Document can be accessed:

   http://https://www.achdidaho.org/Documents/Engineering/Stormwater/StormwaterManagemement
   ○ *No*
   ○ *Not Applicable*

5. *(Year 3 Annual Report only):* **This Permittee organization's SWMP Document been updated to describe the implementation of the selected Monitoring/Assessment and/or Pollutant Reduction activities cited in Permit Part 4.**
   ○ *Yes*

   Identify the webpage address where the SWMP Document can be accessed:

   http://
   ○ *No*
   ◉ *Not Applicable*

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6. **This Permittee organization regularly tracks certain activities to set priorities and assess compliance with the Permit requirements.**

(●) *Yes* ( ) *No* ( ) *Not Applicable*

7. During the reporting period, responsibility for SMWP implementation has changed due to a Transfer of Ownership or Operational Authority over a geographic portion of the MS4.

This Permittee's SWMP Document has been updated to reflect these changes in responsibility for any new or transferred areas served by the MS4.

( ) *Yes*

If yes, use the Comments field to provide a brief statement summarizing the change in ownership or operational authority.

(●) *No*

( ) *Not Applicable*

Section II Comments:

See Attachment B - Phase II MS4 Permit Annual Report Responses *1, *2, and *7.

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Section III. Status of SWMP Control Measures
Please answer all questions for each SWMP control measure and associated component activity. In the Comments field, cite any relevant information and/or statistics that helps illustrate the Permittee's implementation of the required action/activity.

If the answer is "No," use the Comments field to explain the reason, and outline the expected dates that the requirement will be met.

If the requirement does not apply to the Permittee's organization, mark "NA" and explain why it does not apply in the Comments field.

Public Education, Outreach and Involvement Program (Permit Part 3.1)

8. **This Permittee organization conducts an education, outreach, and public involvement program based on stormwater issues of significance in the Permittee's jurisdiction.**

- (●) *Yes, this organization conducts the education, outreach, and involvement activities required by the Permit*
- ( ) *Yes, this organization works through contract with other entities to conduct the education, outreach, and involvement activities required by the Permit*
- ( ) *No*
- ( ) *Not Applicable*

9. **Target Audience: During the reporting period, this Permittee organization focused its education, outreach, and public involvement messages to the following audience(s):**

- [✔] ***General Public*** *(including homeowners, homeowner's associations, landscapers, and property managers)*
- [✔] ***Business/Industrial/Commercial/Institutions*** *(including home based and mobile businesses)*
- [✔] ***Construction/Development*** *(e.g., Engineers, Contractors, Developers, Landscape Architects, Site Design Professionals)*
- [✔] ***Elected Officials, Land Use Policy and Planning Staff***
- [ ] Other *(describe in Comments section below)*

10. **Topics: During the reporting period, this Permittee organization focused its education, outreach, and public involvement messages on the following topics** *(select all that apply):*

- [✔] General impacts of stormwater flows into surface water, and appropriate actions to prevent adverse impacts;
- [✔] Impacts from impervious surfaces, techniques to avoid adverse impacts;
- [✔] Yard care techniques protective of water quality, such as composting;
- [ ] Proper use, application & storage of pesticides, herbicides, and fertilizers;

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- [x] Litter & trash control and recycling programs;
- [x] BMPs for power washing, carpet cleaning, auto repair &maintenance;
- [x] Low Impact Development/green infrastructure techniques, including site design, pervious paving, retention of mature trees/vegetation, landscaping and vegetative buffers;
- [x] Maintenance of landscape features providing water quality benefits;
- [x] Stormwater treatment and volume control practices;
- [x] Technical standards for stormwater site plans; including appropriate selection, installation, and use of required construction site control measures
- [x] Source control BMPs and environmental stewardship;
- [x] Impacts of illicit discharges and how to report them;
- [x] Actions and opportunities for pet waste control/disposal,
- [x] Water wise landscaping, water conservation, water efficiency
- [ ] BMPs for use and storage of automotive chemicals, hazardous cleaning supplies, vehicle wash soaps and other hazardous materials;

11. During the reporting period, this Permittee organization began and/or continued distribution of the selected messages/activities to the intended target audience.

(●) *Yes*

Please summarize the message/activity conducted during the reporting period in the Comments section below.

( ) *No*

Note: Permit Part 3.1.3 requires Permittees to conduct at least eight (8) educational messages or activities no later than ***January 31, 2026.***

( ) *Not Applicable*

12. During this reporting period, this Permittee organization assessed, or participated in efforts to assess, the understanding and adoption of intended behaviors by the target audience.

( ) *Yes; In the Comments section below, please summarize efforts to assess the selected education, outreach and public involvement activities conducted during the reporting period. If information is available, describe how this information is used to improve the education/outreach efforts.*

(●) *No*

( ) *Not Applicable*

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13. During this reporting period, this Permittee organization offered (or worked with others to offer) training/education regarding construction site runoff control measures to site operators working in the Permittee's jurisdiction.

(●) *Yes*

( ) *No*

Note: Permit Part 3.1.7.1 requires Permittees to offer outreach/training on construction site control measures at least twice during the permit term, no later than ***January 31, 2026.***

( ) *Not Applicable*

14. During this reporting period, this Permittee organization offered (or worked with others to offer) training/education regarding permanent stormwater controls to audiences working in the Permittee's jurisdiction.

(●) *Yes*

( ) *No*

Note: Permit Part 3.1.7.2 requires Permittees to offer outreach/training on permanent stormwater controls at least twice during the permit term, no later than ***January 31, 2026.***

( ) *Not Applicable*

15. This Permittee organization maintains and promotes a publicly-accessible website that provides current SWMP-related information cited in Permit Part 3.1.8. This website was recently updated prior to submitting this Report.

(●) *Yes*

URL for the Permittee's webpage:

http:// https://www.achdidaho.org/Documents/Engineering/Stormwater/StormwaterManagememementPlanPhaseII.pdf

( ) *No*

( ) *Not Applicable*

Comments on Public Education, Outreach, and Involvement Program:
Use this Comments field to explain or discuss unique implementation schedules, summarize nature of the education, outreach, and public involvement activities conducted during the reporting period

See Attachment B - Phase II MS4 Annual Report Responses, *9, *11-*14.

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Illicit Discharge Detection and Elimination Program (Permit Part 3.2)

16. **To the extent allowable pursuant to authority granted under Idaho law, this Permittee organization conducts and enforces a program to detect and eliminate illicit discharges into the MS4.**

- ◉ *Yes*
- ○ *No*

  *Note: Permit Part 3.2 requires Permittees to revise and update their existing programs as necessary to comply with Permit Parts 3.2.2 through 3.2.9 no later than **August 4, 2025.***

- ○ *Not Applicable*

17. **This Permittee organization maintains a current MS4 Map and Outfall Inventory as described in Permit Part 3.2.2.**

- ◉ *Yes*
- ○ *No*

  *Note: Permit Part 3.2 requires Permittees to update their Map(s) and Inventory no later than **August 4, 2025.***

- ○ *Not Applicable*

18. **To the extent allowable pursuant to authority granted under Idaho law, this Permittee organization prohibits non-storm water discharges into the MS4 (*except those identified in Permit Part 2.4*) through an ordinance or other regulatory mechanism.**

- ◉ *Yes – if yes, please provide citation/web address to the ordinance/regulatory mechanism:*

  https://www.achdidaho.org/Documents/ACHDpolicyManual/7000to9000/Section8000_DrainageStormwaterManagement.pdf (Section 8006 - Legal Authority for Stormwater Management)

- ○ *No*

  *Note: Permit Part 3.2 requires Permittees to revise and update their existing programs as necessary no later than **August 4, 2025.***

- ○ *Not Applicable*

19. **This Permittee organization maintains a dedicated telephone number, email address, and/or other means for the public to report illicit discharges,**

- ◉ *Yes – if yes, please provide phone number/web address:*

  Stormwater Pollution Hotline: 208-395-8888, ACHD Tell Us: https://www.achdidaho.org/AboutACHD/contactUs.aspx

- ○ *No*

  *Note: Permit Part 3.2 requires Permittees to revise and update their existing programs as necessary no later than **August 4, 2025.***

- ○ *Not Applicable*

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20. **This Permittee organization responds and investigates illicit discharge complaints or reports within two working days.**

- (●) *Yes*
- ( ) *No*

  Note: Permit Part 3.2 requires Permittees to revise and update their existing programs as necessary no later than ***August 4, 2025.***

- ( ) *Not Applicable*

21. **Number of Public Complaints/Reports Received During this Reporting Period:**

~~8~~

22. **Number of Illicit Discharge Complaints/Reports Investigated through field visits, sampling or other follow-up action** 18

23. **Number of Illicit Discharge Complaints/Reports Resolved** 18

24. **This Permittee organization conducts a dry weather analytical and field screening monitoring program to identify non-stormwater flows from MS4 outfalls.**

(●) *Yes* ( ) *No* ( ) *Not Applicable*

25. **During the reporting period, this Permittee organization used its written protocols to prioritize and identify MS4 outfalls for dry weather discharge investigation.**

(●) *Yes* ( ) *No* ( ) *Not Applicable*

26. **Total Number of MS4 Outfalls in the Permittee's jurisdiction of the Permit Area:**

408

27. **During the reporting period, this Permittee organization completed visual dry weather screening on at least 50 MS4 outfalls.**

- (●) *Yes*
- ( ) *No* – Total # of outfalls screened in this jurisdiction was less than 50
- ( ) *Not Applicable*

28. **Of the 50 outfalls screened during the reporting period:**

How many outfalls were discharging during dry weather? 15

How many of these identified dry weather discharges were sampled or otherwise investigated to determine the discharge source? 10

How many of the identified dry weather discharges resulted in the Permittee action to address and eliminate the discharge source? 0

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29. **During this reporting period, how many of the Permittee's MS4 outfalls have been identified as having dry weather flows caused by irrigation return flow or ground water seepage?**
Number of outfalls identified this reporting period 0
Total number of MS4 outfalls identified to date, as having dry weather flows from irrigation or groundwater seepage 13

Note: Permit Part 3.2.6 requires Permittees to provide a complete list of MS4 outfalls locations identified as having dry weather flows caused by irrigation return flow or ground water seepage as part of the Permit Renewal Application no later than ***August 4, 2025.***

30. **This Permittee organization maintains written spill response procedures and coordinates appropriate spill prevention, containment and response activities with other organizations in the Permit Area to ensure maximum water quality protection at all times.**

(●) *Yes* ( ) *No* ( ) *Not Applicable*

31. **This Permittee organization coordinates with appropriate local entities to educate employees and the public of the proper management and disposal or recycling of used oil, vehicle fluids, toxic materials, and other household hazardous wastes.**

(●) *Yes* ( ) *No* ( ) *Not Applicable*

32. **This Permittee organization's staff responsible for investigating, identifying and eliminating illicit discharges, spills, and illicit connections into the MS4 are trained to conduct such activities**

(●) *Yes* ( ) *No* ( ) *Not Applicable*

Comments on Illicit Discharge Detection and Elimination Program:
Use this Comments field to explain any unique implementation schedules, highlight investigation results or follow-up actions, discuss subsequent enforcement actions, etc. that were conducted during the relevant reporting period.

See Attachment B - Phase II MS4 Permit Annual Report Responses,*21-*31.

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Construction Site Runoff Control Program (Permit Part 3.3)

33. This Permittee organization uses an ordinance or other regulatory mechanism to require erosion, sediment, and waste material management controls at construction project site activity that results in land disturbance of one (1) or more acres and discharges to the MS4.

- (●) *Yes*
- ( ) *No*

  *Note: Permit Part 3.3 requires Permittees to update their construction site runoff control requirements no later than **August 4, 2025.***

- ( ) *Not Applicable*

34. This Permittee organization requires construction site operators to submit construction site plans for projects disturbing one (1) or more acres for Permittee review.

- (●) *Yes*
- ( ) *No*

  *Note: Permit Part 3.3 requires Permittees to update their construction site runoff control requirements no later than **August 4, 2025.***

- ( ) *Not Applicable*

35. This Permittee organization inspects construction sites that disturb one (1) or more acres to ensure compliance with applicable requirements for erosion, sediment and waste material management controls.

- (●) *Yes*
- ( ) *No*

  *Note: Permit Part 3.3 requires Permittees to update their construction site runoff control requirements no later than **August 4, 2025.***

- ( ) *Not Applicable*

36. This Permittee organization inspects construction sites using an inspection prioritization system.

- (●) *Yes*
- ( ) *No*

  *Note: Permit Part 3.3 requires Permittees to update their construction site runoff control requirements no later than **August 4, 2025.***

- ( ) *Not Applicable*

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37. **This Permittee organization implements a written escalating enforcement response policy or plan (ERP) for construction site runoff control.**

- (●) *Yes*
- ( ) *No*

  Note: Permit Part 3.3 requires Permittees to update their construction site runoff control requirements no later than ***August 4, 2025.***

- ( ) *Not Applicable*

38. This Permittee organization ensures that all persons responsible for preconstruction site plan review, site inspections, and enforcement of construction site runoff control requirements are appropriately trained to conduct such activities – specifically, this organization provides orientation and training for new staff working on construction runoff control issues within the first six (6) months of employment.

- (●) *Yes*
- ( ) *No*

  Note: Permit Part 3.3 requires Permittees to update their construction site runoff control requirements no later than ***August 4, 2025.***

- ( ) *Not Applicable*

Comments on Construction Site Runoff Control:
Use this Comments field to explain unique implementation schedules, summarize the number of site inspections, follow-up actions, and/or any subsequent enforcement actions, etc that were conducted during the relevant reporting period.

See Attachment B - Phase II MS4 Permit Annual Report Responses, *37 and Construction Site Runoff Control Program.

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Post Construction Stormwater Management in New Development & Redevelopment (Permit Part 3.4)

39. Through ordinance or other regulatory mechanism, this Permittee organization requires the installation and long-term maintenance of permanent stormwater controls at new development and redevelopment project sites that result from land disturbance greater than or equal to 1 acre and that discharges to the MS4.

The required stormwater controls must be sufficient to retain onsite the runoff volume produced from a 24-hour 95th percentile storm event, and/or require runoff treatment sufficient to attain an equal or greater level of water quality benefit as this onsite retention standard.

(●) *Yes*

Please cite to the ordinance containing the permanent stormwater control requirements:

https://www.achdidaho.org/Documents/ACHDpolicyManual/7000to9000/Section8000_DrainageStormwaterManagement.pdf (Section 8007.2)

( ) *No*

Note: Permit Part 3.4 requires Permittees to update their permanent stormwater control requirements no later than ***August 4, 2025.***

( ) *Not Applicable*

40. This Permittee organization requires permanent storm water controls through written specifications.

(●) *Yes*

Please cite to the document containing the permanent stormwater control requirements:

www.achdidaho.org/Documents/ACHDpolicyManual/7000to9000/Section8200_StormwaterDesignManual.pdf

( ) *No*

Note: Permit Part 3.4 requires Permittees to update their permanent stormwater control requirements no later than ***August 4, 2025.***

( ) *Not Applicable*

41. This Permittee organization requires preconstruction site plan review and approval for permanent storm water controls at new development and redevelopment sites that result in land disturbance of one or more acres and discharge to the MS4.

(●) *Yes*

( ) *No*

Note: Permit Part 3.4 requires Permittees to update their permanent stormwater control requirements no later than ***August 4, 2025.***

( ) *Not Applicable*

42. This Permittee organization has identified high priority locations in the jurisdiction where the Permittee regularly inspects the installation, and long-term operation, of permanent stormwater controls.

- ○ *Yes*
- ◉ *No*

  *Note: Permit Part 3.4 requires Permittees to update their permanent stormwater control requirements no later than **August 4, 2025.***

- ○ *Not Applicable*

43. This Permittee organization has an enforcement strategy to ensure and maintain the functional integrity of permanent stormwater controls within this jurisdiction.

- ◉ *Yes*
- ○ *No*

  *Note: Permit Part 3.4 requires Permittees to update their permanent stormwater control requirements no later than **August 4, 2025.***

- ○ *Not Applicable*

44. This Permittee organization uses a database inventory to track and manage the operational condition of permanent stormwater controls within this jurisdiction.

- ◉ *Yes*
- ○ *No*

  *Note: Permit Part 3.4 requires Permittees to update their permanent stormwater control requirements no later than **August 4, 2025.***

- ○ *Not Applicable*

45. This Permittee organization requires enforceable and transferable O&M Agreements, where parties other than this Permittee organization are responsible for operation and maintenance of permanent storm water controls?

- ◉ *Yes*
- ○ *No - Note: Permit Part 3.4 requires Permittees to update their permanent stormwater control requirements no later than **August 4, 2025.***
- ○ *Not Applicable*

46. This Permittee organization ensures that all persons responsible for reviewing site plans for permanent stormwater controls and/or for inspecting the installation and operation of permanent controls are trained to conduct such activities

- ◉ *Yes*
- ○ *No - Note: Permit Part 3.4 requires Permittees to update their permanent stormwater control requirements no later than **August 4, 2025.***
- ○ *Not Applicable*

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Comments on Post Construction Stormwater Management in New Development and Redevelopment

Use this Comments field as necessary to explain any unique implementation schedules, summarize inspections, actions, etc. that were conducted during the relevant reporting period.

See Attachment B - Phase II MS4 Permit Annual Report Report Responses, *42 and Inspection and Maintenance Activities.

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Pollution Prevention/Good Housekeeping for MS4 Operations (Permit Part 3.5)

47. This Permittee organization inspects all MS4 catch basins and inlets in the jurisdiction at least once every five years and takes appropriate maintenance or cleaning action based on those inspections.

- ○ *Yes*
- ○ *No – Permittee uses an alternate inspection & maintenance schedule as outlined in the SWMP Document.*
- ◉ *No*

  Note: Permit Part 3.5 requires Permittees to update their pollution prevention and good housekeeping *as needed to properly operate and maintain their MS4s no later than* ***August 4, 2025.***

- ○ *Not Applicable*

Total Number of catch basins and inlets inspected this reporting period 2,367.0

48. This Permittee organization operates and maintains Streets, Roads, Highways and/or Parking Lots in its jurisdiction in a manner that protects water quality and reduces the discharge of pollutants through the MS4.

- ◉ *Yes*
- ○ *No*

  Note: Permit Part 3.5 requires Permittees to update their requirements pollution prevention/good housekeeping for MS4 Operations no later than ***August 4, 2025.***

- ○ *Not Applicable*

49. This Permittee organization operates all street/road maintenance material storage locations in a manner that prevents pollutants in stormwater runoff from discharging to the MS4 or into any receiving waterbody. A description of each Material Storage Location is included in the SWMP Document, as required by Permit Part 3.5.4

- ○ *Yes*
- ○ *No*

  Note: Permit Part 3.5 requires Permittees to update their requirements pollution prevention/good housekeeping for MS4 Operations no later than ***August 4, 2025.***

- ◉ *Not Applicable*

50. This Permittee organization sweeps all areas of the jurisdiction that discharge to the MS4 at least once annually. A description of the street sweeping program, as required by Permit Part 3.5.5, is included in the SWMP Document.

- ○ *Yes*
- ◉ *No*

  Note: Permit Part 3.5 requires Permittees to update their requirements pollution prevention/good housekeeping for MS4 Operations no later than ***August 4, 2025.***

- ○ *Not Applicable*

51. This Permittee organization has reviewed its operation and maintenance activities for the types of activities listed below and confirms that all such activities are conducted in a manner that protects water quality and reduces the discharge of pollutants through the MS4. Municipal Activities to be addressed include: *grounds/park and open space maintenance operations; fleet maintenance and vehicle washing operations; building maintenance; snow disposal site operation and maintenance; solid waste transfer activities; municipal golf course maintenance; materials storage; hazardous materials storage; used oil recycling; and spill control and prevention measures for municipal refueling facilities.*

- ◉ *Yes*
- ○ *No*

  Note: Permit Part 3.5 requires Permittees to update their requirements pollution prevention/good housekeeping for MS4 Operations no later than ***August 4, 2025.***

- ○ *Not Applicable*

52. **This Permittee organization ensures appropriate practices to reduce the discharge of pollutants to the MS4 associated with the application, storage and disposal of pesticides, herbicides and fertilizers. All employees or contractors applying pesticides, etc. are instructed to follow all label requirements, including those regarding application methods, rates, number of applications allowed, and disposal of the pesticide/herbicide/fertilizer and rinsate.**

- ◉ *Yes*
- ○ *No*

  Note: Permit Part 3.5 requires Permittees to update their requirements pollution prevention/good housekeeping for MS4 Operations no later than ***August 4, 2025.***

- ○ *Not Applicable*

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53. This Permittee organization uses site specific Storm Water Pollution Prevention Plans for all Permittee-owned material storage facilities, heavy equipment storage areas, and maintenance yards located in the Permit Area.

- ○ *Yes*
- ○ *No*

  *Note: Permit Part 3.5 requires Permittees to update their requirements pollution prevention/good housekeeping for MS4 Operations no later than **August 4, 2025.***

- ◉ *Not Applicable*

54. This Permittee organization ensures that all persons responsible for municipal operations and maintenance activities are trained to conduct such activities

- ◉ *Yes*
- ○ *No*

  *Note: Permit Part 3.5 requires Permittees to update their requirements pollution prevention/good housekeeping for MS4 Operations no later than **August 4, 2025.***

- ○ *Not Applicable*

Comments on Pollution Prevention/Good Housekeeping for MS4 Operations
Use this Comments field as necessary to explain any unique implementation schedules, summarize inspections, actions, etc. that were conducted during the relevant reporting period

See Attachment B - Phase II MS4 Permit Annual Report Responses, *47-*52.

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Section IV. SPECIAL CONDITIONS FOR DISCHARGES TO IMPAIRED WATERS
Provide a current status report regarding the development of any required Monitoring/Assessment Plan and implementation of pollutant reduction activities as required by Permit Part 4.

55. ***Permit Part 4 - Narrative Status Report:***

See Attachment B - Phase II MS4 Permit Annual Report Responses, Section IV. Special Conditions for Discharges to Impaired Waters:
- Monitoring /Assessment Activities (Permit Part 4.2); and
- Pollutant Reduction Activities (PRA) Progress (Permit Part 4.3).

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Section V. Response To Excursions Above Idaho Water Quality Standards

56. During this or any prior reporting period, did the Permittee submit written notification to EPA and IDEQ regarding MS4 discharge that are causing or contributing to an excursion above the WQS as directed by Permit Part 5.1?

- ○ *Yes – if yes, proceed to Q.56*
- ◉ *No*
- ○ *Not Applicable*

57. During this or any prior reporting period, did the Permittee submit an Adaptive Management Report to EPA and IDEQ, as directed by Permit Part 5.2?

- ○ *Yes – if yes, proceed to Q.57*
- ◉ *No*
- ○ *Not Applicable*

58. Provide a summary of the Permittee's efforts to date that address the MS4 discharges contributing to the original water quality excursion, including the results of any monitoring, assessment, or evaluation efforts conducted during the reporting period.

Not Applicable.

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59. List any attachments submitted as part of this Annual Report:

Attachment A - Phase II Receiving Waters and Outfall Ownership
Attachment B - Phase II MS4 Permit Annual Report Form Responses
Attachment C - Phase II Public Education and Outreach and Involvement Program
Attachment D - Dry Weather Outfall Inspection Summary, Map, and Analytical Results - Reporting Year 2
Attachment E - CSDC Enforcement Response Policy
Attachment F - Erosion and Sediment Control Reviews, Inspections, and Map
Attachment G - Phase II ACHD-Owned Vegetated Basins, Bioretention Swales, and GSI Program Updates
Attachment H - Phase II Stormwater Outfall Monitoring Summary

Attachment A: Phase II Receiving Waters and Outfall Ownership

Phase II Permit Area Receiving Waters and Outfall Ownership WY2022

RECEIVING WATER	OUTFALL OWNERSHIP		OUTFALL TOTAL
	ACHD	NON-ACHD	
Ballentine Canal	3	1	4
Boise River	0	1	1
Boller Lateral	4	0	4
Bresheres Lateral	3	0	3
Creason Lateral	6	3	9
Cunningham Lateral	1	0	1
Downey Sublateral	4	0	4
Dry Creek	5	2	7
Dry Creek Canal	6	7	13
Dry Creek Lateral	9	0	9
Eagle Drain	19	14	33
Eightmile Creek	15	8	23
Eightmile Lateral	0	1	1
Evans Drain	2	11	13
Farmers Union Canal	2	0	2
Finch Lateral	4	0	4
Fivemile Creek	43	32	75
Fivemile Creek Lateral	2	0	2
Graham Gilbert Canal	4	0	4
Gruber Lateral	4	12	16
Hardin Drain	2	0	2
Hon Lateral	1	0	1
Jackson Drain	12	7	19
Jackson Drain Waste Ditch	1	0	1
Jackson Stub Drain	20	0	20
Kennedy Lateral	0	1	1
Lateral 10A	2	4	6
Lateral 16	8	1	9
Mason-Catlin Canal	7	0	7
Milk Lateral	1	0	1
New York Canal	8	1	9
Ninemile Creek	60	33	93
North Slough	1	0	1
Onweiler Lateral	1	0	1
Paris Lateral	1	0	1
Purdam Gulch Drain	1	0	1
Ridenbaugh Canal	3	14	17
Rutledge Lateral	4	2	6
Safford Sublateral	1	3	4
Settler's Canal	6	0	6
Sky Pilot Drain	2	0	2
Snider Lateral	2	0	2
South Slough	7	3	10
Spoils Bank Canal	3	0	3
Tenmile Creek	28	45	73
Tenmile Feeder Canal	13	0	13
Tenmile Sub Drain	4	12	16
Thurman Drain	2	0	2
Thurman Mill Canal	19	4	23
Thurman Mill Drain	0	1	1
Unnamed	50	0	50
Wood Lateral	2	0	2
Total 52	**408**	**223**	**631**

Attachment B: Phase II MS4 Permit Annual Report Responses

ATTACHMENT B

PHASE II MS4 PERMIT ANNUAL REPORT RESPONSES

List All Receiving Water(s) For the MS4 Discharges:

See Attachment A of this report for Phase II permit area receiving waters and outfall ownership.

Section II. Permittee Responsibility:
Please answer all questions. If the answer is "No," or "Not Applicable" and no other direction is provided, use the Comments field at the end of this section to explain the reason and the expected date(s) that the requirement will be met, and/or to explain why the requirement does not apply.

*1 - ACHD is the sole Permittee under NPDES Permit #IDS028185.

*2 - ACHD works cooperatively with other State and local entities as described in ACHD's Stormwater Management Program (SWMP) Table 9, Coordinated Compliance Activities.

*7 - ACHD implements the Phase I and Phase II SWMPs throughout Ada County. City annexations, if any, are evaluated annually and mapping updated. Whereas City boundaries may change slightly, this does not impact ACHD's overall jurisdiction and implementation of control measures.

Section III. Status of SWMP Control Measures
Please answer all questions for each SWMP control measure and associated component activity. In the Comments field, cite any relevant information and/or statistics that helps illustrate the Permittee's implementation of the required action/activity.

If the answer is "No," use the Comments field to explain the reason, and outline the expected dates that the requirement will be met.

If the requirement does not apply to the Permittee's organization, mark "NA" and explain why it does not apply in the Comments field.

Public Education, Outreach and Involvement Program (Permit Part 3.1)

Comments on Public Education, Outreach, and Involvement Program:
Use this Comments field to explain or discuss unique implementation schedules, summarize nature of the education, outreach, and public involvement activities conducted during the reporting period

*9 – Check mark specifies elected officials were target audience, not land use policy and planning staff.

*11– ACHD staff address education and outreach on stormwater topics through daily interactions with the public, contractors, and other agencies throughout Ada County. The primary methods of distributing stormwater education materials are through verbal communication, websites, and fact sheets. The ACHD maintains an inventory of fact sheets that address the following topics:

- General stormwater education.
- Permanent stormwater control maintenance and inspection.
- Best management practices for construction activities, dewatering, landscape maintenance, sidewalk and street cleaning, automobile maintenance, pest control, and mobile businesses; and
- Identification and reporting of stormwater pollution.

Fact sheets are available on the ACHD website and PDF files are frequently emailed or distributed to the public via hardcopy in response to questions and complaints. ACHD distributes seasonal education and outreach topics via social media tools like Facebook, Nextdoor, and Twitter. A summary of the 2022-2023 Phase II social media education and outreach is available in Attachment C of this report. Additionally, county wide education, outreach, and public involvement resources are developed and distributed through the Phase I NPDES permittee partnership called Partners for Clean Water. The Partners for Clean Water public education and outreach distribution includes the use of bus wraps, magazine and radio ads, and social media. More information on ACHD's public education and outreach efforts is described in the Phase II SWMP, Section 5.1.

*12 – According to Phase II Permit schedule, start of Public Education and Outreach on Stormwater Impacts (Permit Part 3.1) activities was February 1, 2022. Assessment of stormwater public education and outreach understanding will be reported in subsequent report years. Assessment strategies for consideration include pilot programs, neighborhood focus groups, training assessments, and social media quizzes/polls.

*13 – The ACHD coordinates with the City of Boise to provide Erosion and Sediment Control Responsible Person training for internal and external customers.

*14 – The ACHD offers educational and technical resources to residents, homeowner's associations, property management groups, and the design, construction and development communities. These resources address design, inspection, maintenance, and identification of permanent stormwater controls and include ACHD Policy 8200 – Stormwater Design Manual, Inspection Checklist for Basins and Swales, and Caring for Neighborhood Basins and Swales factsheet. Distribution of permanent stormwater control resources is typically conducted verbally and by email and ACHD provides access to the ACHD Policy Manual and factsheets on the ACHD website.

Illicit Discharge Detection and Elimination Program (Permit Part 3.2)

Comments on Illicit Discharge Detection and Elimination Program:
Use this Comments field to explain any unique implementation schedules, highlight investigation results or follow-up actions, discuss subsequent enforcement actions, etc. that were conducted during the relevant reporting period.

*21 - Only 8 of the 18 illicit discharge or potential illicit discharge complaints received in the Phase II permit area originated from the public. The remaining complaints were received from ACHD staff and/or routed through other agencies/departments.

*22 &*23 - A location map depicting where the illicit discharges occurred, a list of complaints received, and a summary of follow-up actions taken are included in Appendix E of the Phase II SWMP. Table 11 in the Phase II SWMP summarizes complaints received by pollutant type and category.

*26 – The Phase II permit area outfall inventory and map is included in the Phase II SWMP, Appendix D.

*28 – A total of 100 outfalls were screened during the reporting period. Fifteen of the 100 outfalls were flowing during dry weather inspection and ten of the 15 were sampled. A map of the outfalls sampled, outfall inspection summary, and analytical results for reporting year 2 (February 1, 2022 – January 31, 2023) are provided in this annual report, Attachment D.

*29 - Phase II MS4 outfall locations with confirmed irrigation or groundwater dry weather flows are listed in the Phase II SWMP, Appendix D.

*31 - ACHD provides educational Fact Sheets to the public and directs the public to the Partners for Clean Water website (https://www.partnersforcleanwater.org/) and ACHD's website (http://www.achdidaho.org/Departments/Engineering/Stormwater/pubOutreach.aspx) for information on proper waste disposal and pollution prevention measures for routine activities around the home and yard. ACHD has developed several waste material collection, storage, and disposal planning and guidance documents for internal staff for ACHD facilities such as the Cloverdale Waste Management Plan, Adams Waste Management Plan, and ACHD site specific stormwater management pollution prevention plans. The ACHD Maintenance and Operations Stormwater Best Management Practices (BMPs) Manual was developed to document the BMPs used by ACHD Maintenance and Traffic Operations staff depending on the work activity being performed and as a training resource for new Maintenance and Operations staff.

Construction Site Runoff Control Program (Permit Part 3.3)

Comments on Construction Site Runoff Control:
Use this Comments field to explain unique implementation schedules, summarize the number of site inspections, follow-up actions, and/or any subsequent enforcement actions, etc that were conducted during the relevant reporting period.

*37 – The Construction Site Discharge Control (CSDC) Enforcement Response Policy (ERP) was revised in May 2022 and approved by the ACHD Commission in September 2022 for incorporation into the CSDC Program and ACHD Policy. The CSDC ERP is available in this annual report, Attachment E.

ACHD implements the Construction Site Runoff Control Program county-wide. In reporting year 2022-2023, 73 construction site erosion and sediment control (ESC) inspections were conducted in the Phase II permit area by ACHD staff or an ACHD contractor. Of the 73 inspections conducted, 58 did not require additional follow-up actions and 15 required corrective actions by the construction site responsible person. ACHD did not issue any Notice of Violations as a result of these inspections.

In Ada County, outside the Phase I or Phase II permitted areas, more than 2.5 times the number of ESC plan reviews (191) were performed and more than 5.5 times as many ESC inspections (409) were conducted compared to the activities inside the Phase II area. Attachment F to this annual report provides a summary of ESC plan reviews and inspections by month and a map illustrating the location of these activities.

Post Construction Stormwater Management in New Development & Redevelopment (Permit Part 3.4)

Comments on Post Construction Stormwater Management in New Development and Redevelopment

Use this Comments field as necessary to explain any unique implementation schedules, summarize inspections, actions, etc. that were conducted during the relevant reporting period.

*42 - ACHD has not specifically identified permanent stormwater controls (PSCs) at new development and redevelopment sites (of at least one or more acres) as "high priority" for annual inspection. Development of this SWMP control measure will be implemented as required in Permit Part 3.4.5. no later than August 4, 2025.

A description of ACHD's current compliance activities for plan review, inspections, and maintenance of PSCs are summarized in the Phase II SWMP, Section 5.4.2. Inspection of PSCs varies depending on several factors. These factors include stage of development (under construction or existing), if the PSC can be inspected from the surface or subsurface, and ownership of the PSC.

Inspection and Maintenance Activities

ACHD Subdivision Inspectors perform inspections on PSCs under construction in new subdivisions during three periods: construction/installation, post construction, and at the end of the two-year warranty period. ACHD will not accept roadways within a subdivision unless PSCs are functioning as designed. During reporting year 2022-2023, 159 PSC related inspections were conducted within the Phase II permit area by Subdivision Inspection staff. ACHD Project Inspectors also perform inspections on ACHD capital projects. The inspections focus on ensuring the PSC is installed/constructed according to the ACHD capital project design plans.

Maintenance staff perform ongoing maintenance and inspection of existing PSCs in the ACHD right-of-way. Stormwater facilities such as storm drain inlets, pipes, sand and grease traps, and ACHD-owned basins are maintained according to ACHD designated maintenance areas (228 in Ada County). Privately-owned surface PSCs that accept right-of-way runoff, such as basins and swales, are inspected and maintained on a complaint basis and as needed. Drainage maintenance activities performed by ACHD crews during reporting year 2022-2023 are detailed in the Phase II SWMP, Table 15.

Since 2017, ACHD has included Green Stormwater Infrastructure (GSI) BMPs into ACHD's stormwater management design standards and programmed funding for GSI implementation. All new, rebuilt, and retrofitted ACHD stormwater basins are vegetated to mitigate stormwater pollutants and GSI opportunities are explored for all new roadway projects. In the Phase II Permit area, ACHD owns and actively manages 13 vegetated basins and bioretention swales listed in Attachment G, Table 1, of this annual report. In reporting year 2022-2023, ACHD continued development and implementation of the GSI Program through piloting and refining strategies and processes to improve the success of newly constructed GSI facilities and basin retrofits. ACHD GSI projects and recent GSI program updates are highlighted in Attachment G of this report. More information on activities ACHD conducts to address requirements for post-construction stormwater management for new development and redevelopment is described in the Phase II SWMP, Section 5.4.

Pollution Prevention/Good Housekeeping for MS4 Operations (Permit Part 3.5)

Comments on Pollution Prevention/Good Housekeeping for MS4 Operations
Use this Comments field as necessary to explain any unique implementation schedules, summarize inspections, actions, etc. that were conducted during the relevant reporting period

*47 - ACHD implements a county-wide inspection and cleaning program. The program is conducted according to ACHD designated maintenance areas (228 in Ada County). Inspection and cleaning are completed in one maintenance area before moving to another or on a complaint basis. In reporting year 2022-2023, a total of 2,367 storm drain inlets and catch basins were inspected or cleaned in the Phase II area including 510 MS4 connected inlets and catch basins representing approximately 18% of the Phase II MS4 connected inlets and catch basins in ACHD's inventory. A summary of drainage maintenance activities conducted by ACHD crews during reporting year 2022-2023 is listed in Table 15, Phase II SWMP.

ACHD is committed to compliance and data collection necessary to optimize efficiency and effectiveness of this program. Since May 2022, ACHD has worked with a consultant to evaluate the inlet cleaning and inspection program with the goal of increasing efficiency and effectiveness of the program through a maintenance prioritization and implementation schedule to meet Permit requirements. A technical memo documenting the findings of the evaluation was completed in December 2022 (step 1) and a Catch Basin and Inlet Inspection and Prioritization and Implementation plan (Plan) was completed in February 2023 (step 2). Key outcomes of this evaluation that will increase operation efficiency and effectiveness in 2023 are 1) inlet prioritization based on connection to the MS4 (more work concentrated in high priority areas), 2) development of an ArcGIS Field Maps Application (field app) tailored for inspection and cleaning operations, and 3) dedicated inspection staff to achieve a 50/50 split in inspection and cleaning time. Plan and field app implementation began in March 2023. Next steps include the development of ArcGIS dashboards to readily view implementation data and adaptive management meetings to evaluate new data and make adjustments, if needed, to ensure compliance.

*49 and *53 – Currently, all ACHD material storage yards and maintenance yards are located outside the Phase II Permit area.

*50 – ACHD is excited to report that reporting year 2022-2023 was the first year ACHD was able to analyze a year-long record of electronic sweeping data based on automated vehicle locating (AVL) systems installed on five of the seven ACHD sweepers that operate in the Phase II permit area. The AVL data is obtained using global positioning system (GPS) satellites and enables staff to calculate the frequency of sweeping based on areas that discharge to the MS4 or directly to wasters of the U.S. (Permit Part 3.5.5.1). Based on AVL data from five sweepers that operated during the complete reporting year 2022-2023, 87% of the Phase II MS4 connected roadways were swept at least once. Two of the sweepers operating in the Phase II permit area were added to the ACHD fleet between March and June 2022. Although these sweepers have been operating, AVL was not installed on the brooms, so location data is not available. AVL systems are scheduled to be installed on the new equipment and ACHD will adjust procedures to ensure future additions to the sweeper fleet are scheduled for AVL installation before being deployed. ACHD will be conducting an evaluation of the sweeping program and updating the ACHD Street Sweeping Plan. This evaluation will build upon the inlet prioritization analyses and lessons learned through the inlet inspection and cleaning evaluation described in question 47. Similar to the inlet inspection and cleaning program, the goal of the sweeping program is to meet

compliance goals by increasing effectiveness and efficiencies in operation. A description of the street sweeping plan will be available in the Phase II SWMP no later than August 4, 2025.

*51 and *52 - Section 5.5 of the Phase II SWMP describes activities ACHD implements to address pollution prevention and good housekeeping for MS4 operations. Winter maintenance materials and fertilizer, herbicide, and pesticide usage are presented in Table 17 and Table 18, respectively. ACHD will review, update, and develop planning and guidance documents and implement as needed to ensure ACHD's stormwater infrastructure and management program includes the required SWMP control measure components described in Permit Sections 3.5.2 through 3.5.10.

Section IV. SPECIAL CONDITIONS FOR DISCHARGES TO IMPAIRED WATERS
Provide a current status report regarding the development of any required Monitoring/Assessment Plan and implementation of pollutant reduction activities as required by Permit Part 4.

55. ***Permit Part 4 - Narrative Status Report:***

Monitoring/Assessment Activities (Permit Part 4.2)

In reporting year two (February 1, 2022 – January 31, 2022), ACHD implemented the Phase II Monitoring and Assessment Plan which includes wet weather and dry weather monitoring. Data associated with wet weather monitoring is summarized in the NPDES Phase II Stormwater Outfall Monitoring Summary available in Attachment H of this report. Dry weather outfall Inspection summary, map, and analytical Results for reporting year two are available in Attachment D of this report.

Pollutant Reduction Activities (PRA) Progress (Permit Part 4.3)

PRA#1 – Meridian Stormwater Mitigation – E. State Avenue

The Meridian Stormwater Mitigation project is designed to reduce impairment pollutants from the MS4 discharging into Fivemile Creek through the development of a vegetated stormwater basin to be constructed at 639 E. State Avenue. A project timeline and details of the PRA is described in the Phase II SWMP, Section 3.2 and Table 7. The following is a summary of highlights toward project completion accomplished during reporting year two:

- Wet weather monitoring was conducted at the State Monitoring Station as described in the Phase II Monitoring and Assessment Plan available at https://www.achdidaho.org/Documents/Engineering/Stormwater/MonitoringAssessmentPlanPhaseII.pdf.
- Wet weather monitoring results are provided in the Phase II Stormwater Outfall Monitoring Summary available in Attachment H of this report.
- A consultant was hired to work with ACHD staff to design the stormwater mitigation facility and a construction schedule was developed.
- Fifty percent construction plans have been completed and ACHD has provided comments.
- Project is on schedule and construction is anticipated to begin summer 2023.

PRA#2 – Reutzel Drive Stormwater Basin

The Reutzel Drive Stormwater Basin is designed to reduce pollutants discharging from the MS4 to Eightmile Creek. A project timeline and details of the PRA is described in the Phase II SWMP, Section 3.2 and Table 8. This PRA proposal was submitted to IDEQ on January 27, 2023. ACHD is awaiting IDEQ's authorization (Permit Section 2.6.4). A contractor has been selected and a construction schedule developed. Construction of the stormwater basin is anticipated to begin summer 2023.

58. Provide a summary of the Permittee's efforts to date that address the MS4 discharges contributing to the original water quality excursion, including the results of any monitoring, assessment, or evaluation efforts conducted during the reporting period.

Not Applicable.

59. List any attachments submitted as part of the Annual Report:

Attachment A - Phase II Receiving Waters and Outfall Ownership
Attachment B – Phase II MS4 Permit Annual Report Form Responses
Attachment C – Phase II Public Education and Outreach Social Media Summary
Attachment D - Dry Weather Outfall Inspection Summary, Map, and Analytical Results - Reporting Year 2
Attachment E - CSDC Enforcement Response Policy
Attachment F - Erosion and Sediment Control Reviews, Inspections, and Map
Attachment G – Phase II ACHD-Owned Vegetated Basins, Bioretention Swales, and GSI Program Updates
Attachment H – Phase II Stormwater Outfall Monitoring Summary

Attachment C: Phase II Public Education and Outreach Social Media Summary

2022-2023 Education and Outreach Social Media Summary

R Ada County Highway District
Public Information Officer Rachel Bjornestad • Edited 19 Dec

Chippy went off the beaten path today to do some COLD reconnaissance at the Boise River. You may notice he's a little more prepared for an underwater adventure this year. Did you know that the storm drain system is directly connected to our local waterways? That's right! The river where we enjoy rafting, floating, and fishing throughout the year is also where many of our storm drain outfalls lead.
ACHD is committed to protecting and maintaining the storm drain system and downstream waterways from pollutants that enter the storm drain system. But we need YOUR help! Join us on this important mission by protecting the storm drain system where you live and work by properly disposing of common waste materials like yard litter, pet waste, trash, and household hazardous waste. We all have a job in protecting our local waterways so remember "only rain in the storm drain."
More information on how you can help:
https://www.achdidaho.org/Departments/Engineering/Stormwater/pubOutreach.aspx
Note: All winter river diving should be left to the elves, as they are acclimated to extreme cold temperatures. Do not attempt.

Posted to **Subscribers of Ada County Highway District**

Nextdoor
35,429 Impressions

Facebook
908 Impressions
863 Reach

Twitter
601 Impressions

Ada County Highway District
Digital Media Coordinator Emma Bowers • 11 Oct

The weather is cooling down, so here are a few reminders to safely discharge your pool and hot tub water in a way that will protect our local waterways. If approved by your city's pretreatment department, you can discharge directly into the sanitary sewer. Give them a call for permission and information on how to safely do so.

City of Meridian: 208-888-4433
City of Boise: 208-608-7150
City of Kuna: 208-922-5546
City of Eagle: 208-939-6813
City of Star: 208-286-7388
City of Garden City: 208-472-2949

If discharging into the sanitary sewer isn't an option, stop adding chemicals and wait until chlorine levels have dissipated (at least a week). Once levels are clear, discharge the water directly into landscaped areas, avoiding close proximity to neighbors, surface waters or storm drain systems.

If draining into a sanitary sewer or landscape area is not feasible or not permitted, please contact Ada County Highway District's Environmental Department at 208-387-6268 for additional information.

PLEASE NOTE: Discharge of saltwater or filter back flushing to the storm drain or surface waters is prohibited.

Posted to **Subscribers of Ada County Highway District**

Nextdoor
6,797 Impressions

Facebook
832 Reach

Twitter
367 Impressions

Ada County Highway District
Digital Media Coordinator Emma Bowers • 24 May

One of our Art Contest winners, Clara, stopped by ACHD headquarters yesterday. We were thrilled to show her this brand new sweeper wrapped with her very own artwork. Clara's piece "Clean is Always in Season" is the perfect addition to this sweeper truck that helps to keep our roadways clean, protecting the storm drain system and ultimately our waterways. The art contest committee loved Clara's artwork and message. Be sure to watch for Clara's artwork moving about Ada County in the future! Congratulations, Clara!

Posted to **Subscribers of Ada County Highway District**

Nextdoor
5,278 Impressions

Facebook
1,982 Reach

Twitter
247 Impressions

Ada County Highway District
Digital Media Coordinator Emma Bowers • 22 Apr

HAPPY EARTH DAY! Have you seen this fish marker next to your storm drain? These markers are a reminder that whatever enters the storm drain flows directly to local waterways. Help keep our local waterways clean of pollutants: pick up pet waste, use lawn chemicals sparingly, prevent irrigation runoff from your yard, and do not dump anything in the storm drain!

Want to help mark storm drains in your neighborhood? Call us at 208-387-6250.

If you see any illegal dumping, please contact the Stormwater Pollution Hotline at 208-395-8888.

Posted to **Subscribers of Ada County Highway District**

Nextdoor
5,682 Impressions

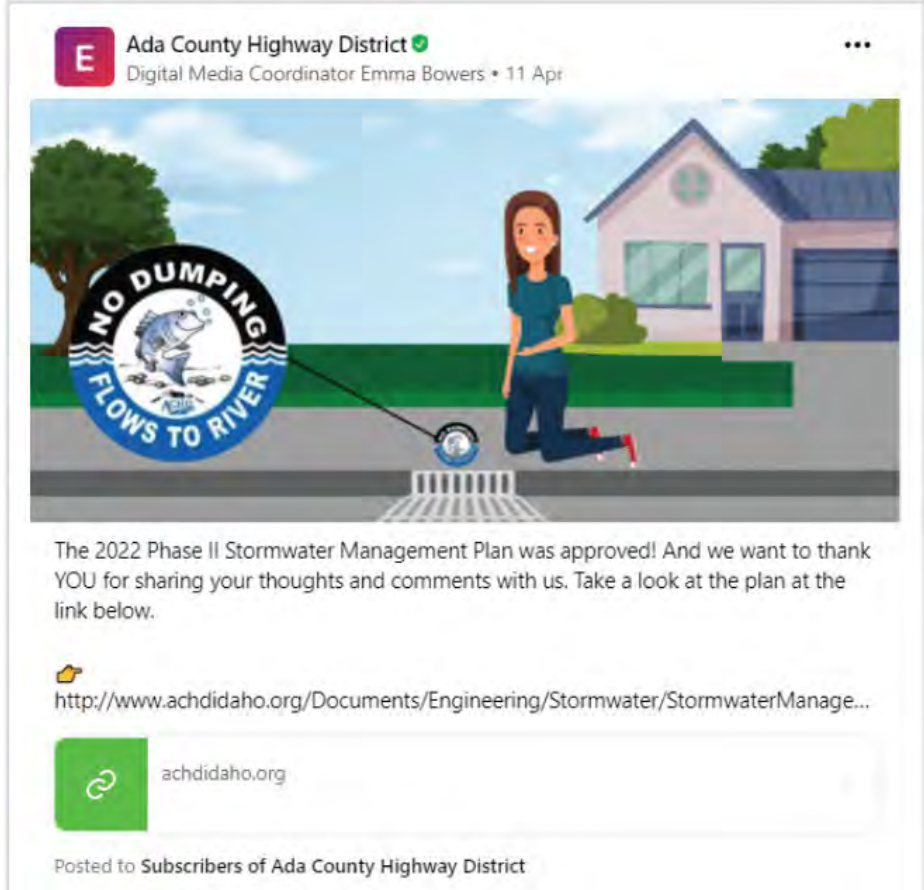
Facebook
471 Reach

Twitter
344 Impressions

Nextdoor
3,726 Impressions

Facebook
2,605 Reach

Twitter
450 Impressions



Nextdoor
5,428 Impressions

Facebook
494 Reach

Twitter
232 Impressions

ACHD NEWS

For Immediate Release

Contact Information: Rachel Bjornestad, Public Information Officer

208-387-6107 or communications@achdidaho.org

Weigh in on ACHD's Phase II Stormwater Management Plan

ADA COUNTY — The Ada County Highway District is looking for feedback on proposed additions to the Phase II Stormwater Management Plan.

The Phase II Stormwater Management Plan documents the activities ACHD uses to reduce the discharge of pollutants from the storm drain system to local waterways in the cities of Meridian, Eagle, and Unincorporated Ada County.

Each year, ACHD reviews and updates the stormwater management plan to ensure the District meets permit requirements. Your participation and feedback will help ACHD better understand the stormwater activities that are valuable to Ada County residents.

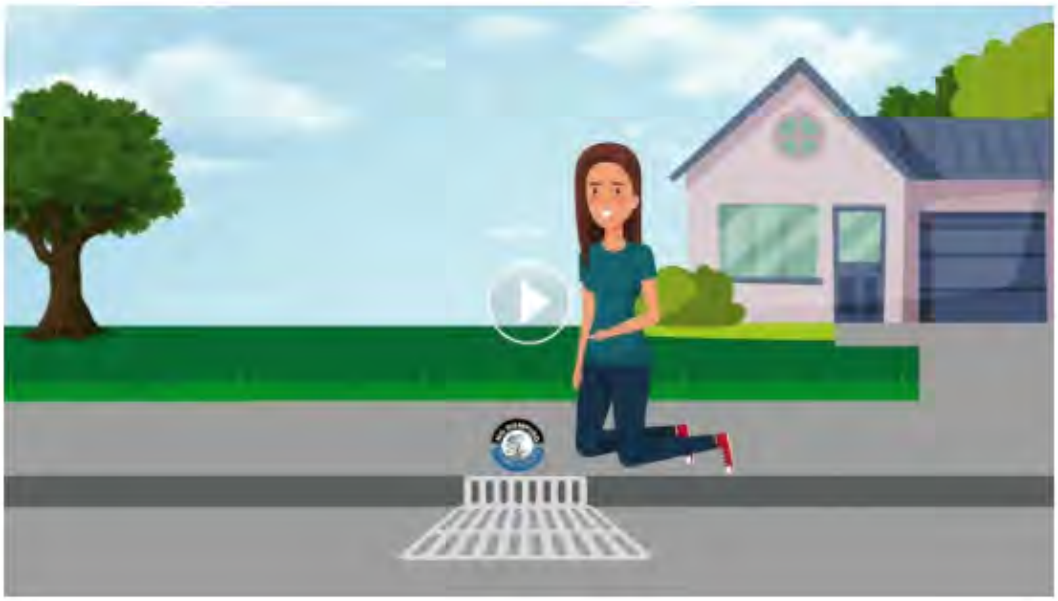
The four proposed stormwater activities include developing additional public awareness resources, holding an annual storm drain marking event, implementing GPS based tracking of street sweeping activities, and implementing a street sweeping map and schedule.

You can find more information on stormwater and the proposed stormwater activities through the video in the link below.

While comments are always welcome, the survey will close March 22.

Subscribe to our email list.

Tell us what you think about proposed stormwater activities!



ACHD is seeking your feedback on proposed stormwater activites for the **Phase II Stormwater Management Plan**. Proposed activities include:

- Developing additional public awareness resources
- Hosting annual storm drain marking events
- Implementing GPS based tracking of street sweeping activities
- Developing a street sweeping map and schedule

Find more information on stormwater and the proposed activities by watching the video. After watching the video tell us what you think! Your participation and feedback will help ACHD better understand the stormwater activities that are valuable to Ada County residents.

While your comments are always welcome they can be best utilized if received by March 22, 2022.

Take the Survey!

Attachment D: Dry Weather Outfall Inspection Summary, Map, and Analytical Results – Reporting Year 2

Dry Weather Outfall Inspection Summary February 1, 2022 - January 31, 2023

#	Outfall ID	Receiving Water	Pipe Diameter	Inspection Date	Structure condition	Flow	Samples Collected?[1]
1	2n1e04_002	Unnamed	0	10/18/2022	Good	None	No
2	2n1e11_001	Hon Lateral	15	10/18/2022	Poor	None	No
3	3n1e05_003	South Slough	12	1/3/2023	Poor	None	No
4	3n1e06_003	Fivemile Creek	12	2/4/2022 3/22/2022 7/1/2022 8/16/2022 10/27/2022	Good Good Good Good Good	None None Yes Yes Yes	No No No Yes Yes
5	3n1e06_027	Jackson Stub Drain	12	10/20/2022	Good	None	No
6	3n1e06_028	Jackson Stub Drain	18	10/20/2022	Good	None	No
7	3n1e06_036	Finch Lateral	12	1/3/2023	Good	None	No
8	3n1e06_044	Jackson Stub Drain	12	10/20/2022	Good	None	No
9	3n1e06_049	Jackson Stub Drain	12	10/20/2022	Good	None	No
10	3n1e07_003	Fivemile Creek	15	2/4/2022 3/22/2022 7/1/2022 10/21/2022	Good Good Good Good	None None None None	No No No No
11	3n1e07_009	Jackson Drain	18	2/4/2022 3/22/2022 7/1/2022 7/18/2022 10/27/2022	Good Good Good Good Good	None None Yes Yes None	No No No Yes No
12	3n1e07_015	Fivemile Creek	18	1/3/2023	Good	None	No
13	3n1e08_020	Gruber Lateral	12	1/3/2023	Good	None	No
14	3n1e09_011	Evans Drain	12	1/3/2023	Good	None	No
15	3n1e16_002	Fivemile Creek	8	1/3/2023	Good	None	No
16	3n1e16_012	Eightmile Creek	36	8/4/2022	Good	None	No
17	3n1e17_005	Fivemile Creek	12	10/18/2022	Good	None	No
18	3n1e18_018	Ninemile Creek	12	2/4/2022 3/22/2022 8/16/2022 10/27/2022	Good Good Good Good	None None Yes None	No No Yes No
19	3n1e19_006	Tenmile Creek	12	8/4/2022	Good	None	No
20	3n1e19_019	Tenmile Creek	18	3/22/2022 8/16/2022 10/27/2022	Good Good Good	None None None	No No No
21	3n1e19_022	Tenmile Creek	10	8/4/2022	Good	None	No
22	3n1e19_028	Ninemile Creek	18	3/22/2022 8/4/2022 1/18/2023	Good -- Fair	None None None	No No No
23	3n1e19_030	Ninemile Creek	12	8/4/2022	Good	None	No
24	3n1e20_004	Ninemile Creek	12	8/4/2022	Good	None	No
25	3n1e20_011	Ninemile Creek	12	3/22/2022 8/4/2022 12/7/2022	Good Good Good	None Yes None	No No No
26	3n1e21_008	Eightmile Creek	12	8/4/2022	--	None	No
27	3n1e25_003	Tenmile Feeder Canal	15	10/18/2022	--	None	No

#	Outfall ID	Receiving Water	Pipe Diameter	Inspection Date	Structure condition	Flow	Samples Collected?[1]
28	3n1e25_005	Tenmile Feeder Canal	12	10/18/2022	Good	None	No
29	3n1e25_008	New York Canal	12	10/18/2022	Good	None	No
30	3n1e27_003	Eightmile Creek	12	10/18/2022	Good	None	No
31	3n1e27_005	Eightmile Creek	12	10/18/2022	Good	None	No
32	3n1e27_008	Tenmile Feeder Canal	12	10/18/2022	Fair	None	No
33	3n1e27_009	Unnamed	12	10/18/2022	Good	None	No
34	3n1e28_002	Ninemile Creek	8	10/10/2022	Good	None	No
35	3n1e28_003	Ninemile Creek	15	10/18/2022	Good	None	No
36	3n1e34_004	Ninemile Creek	12	10/18/2022	Good	None	No
37	3n1e34_006	Ninemile Creek	12	10/18/2022	Good	None	No
38	3n1e34_008	Ninemile Creek	18	10/18/2022	Good	None	No
39	3n1e34_009	Ninemile Creek	18	10/10/2022 12/7/2022	Good Good	None None	No No
40	3n1e34_012	Ninemile Creek	0	10/10/2022	Good	None	No
41	3n1e35_006	Unnamed	12	10/18/2022 12/7/2022	Good Good	None None	No No
42	3n1e36_004	New York Canal	12	10/18/2022	Good	None	No
43	3n1w01_001	Fivemile Creek	18	10/19/2022	Good	None	No
44	3n1w01_006	Fivemile Creek	12	4/28/2022 7/1/2022 8/10/2022 11/15/2022 12/20/2022	Good Good Good Good Good	Yes Yes Yes Yes Yes	Yes No Yes No Yes
45	3n1w01_017	Creason Lateral	12	10/19/2022	Good	None	No
46	3n1w01_019	Creason Lateral	8	10/19/2022	Good	None	No
47	3n1w01_033	Unnamed	0	10/19/2022	Good	None	No
48	3n1w02_005	Ninemile Creek	12	10/19/2022	Good	None	No
49	3n1w02_007	Ninemile Creek	12	4/29/2022 7/1/2022 8/10/2022 10/19/2022	Good Good Good Good	None Yes None None	No No No No
50	3n1w02_008	Ninemile Creek	12	10/19/2022	Fair	None	No
51	3n1w02_009	Ninemile Creek	8	10/19/2022	Good	None	No
52	3n1w02_010	Ninemile Creek	24	4/29/2022 5/17/2022 10/19/2022 11/15/2022	Good Good -- Good	Yes Yes Yes None	No Yes No No
53	3n1w02_013	Ninemile Creek	12	10/19/2022	Good	None	No
54	3n1w02_015	Ninemile Creek	12	11/15/2022	Good	None	No
55	3n1w03_016	Rutledge Lateral	12	4/29/2022 7/1/2022 11/15/2022	Good Good Good	None Yes None	No No No
56	3n1w10_016	Tenmile Creek	12	11/15/2022	Good	None	No
57	3n1w10_018	Tenmile Creek	12	11/15/2022	Good	None	No
58	3n1w10_019	Tenmile Creek	12	4/29/2022 7/1/2022 12/20/2022	Good Good Good	None None None	No No No
59	3n1w11_003	Tenmile Sub Drain	12	12/7/2022	Good	None	No
60	3n1w11_007	Ninemile Creek	10	12/7/2022	Poor	None	No

#	Outfall ID	Receiving Water	Pipe Diameter	Inspection Date	Structure condition	Flow	Samples Collected?[1]
61	3n1w11_016	Ninemile Creek	18	7/1/2022 12/7/2022 12/20/2022	Good Good Good	Yes Yes Yes	No No No
62	3n1w12_009	Ninemile Creek	12	1/3/2023	Good	None	No
63	3n1w12_015	Ninemile Creek	12	12/7/2022	Good	None	No
64	3n1w12_017	Ninemile Creek	12	1/3/2023	Good	None	No
65	3n1w12_018	Ninemile Creek	24	8/16/2022 12/7/2022	-- Good	None None	No No
66	3n1w12_022	Unnamed	18	1/3/2023	Good	None	No
67	3n1w13_019	Tenmile Creek	12	12/7/2022	Good	None	No
68	3n1w13_026	Tenmile Creek	12	12/7/2022	Poor	None	No
69	3n1w13_029	Tenmile Creek	8	12/7/2022	Good	None	No
70	3n1w13_031	Tenmile Creek	10	8/15/2022 11/1/2022	Good Good	Yes None	Yes No
71	3n1w24_007	Ridenbaugh Canal	11	12/7/2022	Good	None	No
72	4n1e04_001	Dry Creek	6	12/19/2022	Good	None	No
73	4n1e04_009	Unnamed	12	12/19/2022	Good	None	No
74	4n1e05_001	Dry Creek	0	12/19/2022	Good	None	No
75	4n1e07_010	Bresheres Lateral	12	12/16/2022	Good	None	No
76	4n1e08_004	Dry Creek	12	12/19/2022	Good	None	No
77	4n1e08_007	Unnamed	0	12/16/2022	Good	None	No
78	4n1e09_019	Ballentine Canal	0	12/16/2022	Good	None	No
79	4n1e09_030	Lateral 16	18	12/16/2022	Good	None	No
80	4n1e09_034	Eagle Drain	12	12/16/2022	Good	None	No
81	4n1e09_036	Lateral 16	12	12/19/2022	Good	None	No
82	4n1e10_001	Spoils Bank Canal	12	12/16/2022	Good	None	No
83	4n1e15_008	Eagle Drain	12	12/16/2022	Good	None	No
84	4n1e16_001	Eagle Drain	15	10/17/2022	Good	None	No
85	4n1e16_007	Ballentine Canal	12	10/17/2022 10/27/2022	-- Good	Yes Yes	No No
86	4n1e16_008	Ballentine Canal	12	10/17/2022	Good	None	No
87	4n1e19_005	Thurman Mill Canal	12	10/17/2022	Good	None	No
88	4n1e20_001	Thurman Drain	12	8/16/2022 10/27/2022	Good Good	Yes None	Yes No
89	4n1e20_017	Thurman Mill Canal	12	10/17/2022	--	None	No
90	4n1e26_020	Thurman Mill Canal	12	1/3/2023	Good	None	No
91	4n1w35_002	Fivemile Creek	18	4/28/2022 7/1/2022 7/18/2022 11/15/2022 12/20/2022 1/4/2023 1/17/2023 1/23/2023 1/26/2023 1/20/2023 2/2/2023	Good Good Good Good Good Good Good Good Good Good Good	None Yes Yes Yes None Yes Yes Yes None None None	No No Yes No No Yes Yes Yes No No No
92	4n1w35_007	Fivemile Creek	12	7/1/2022 11/15/2022	Good Good	None None	No No

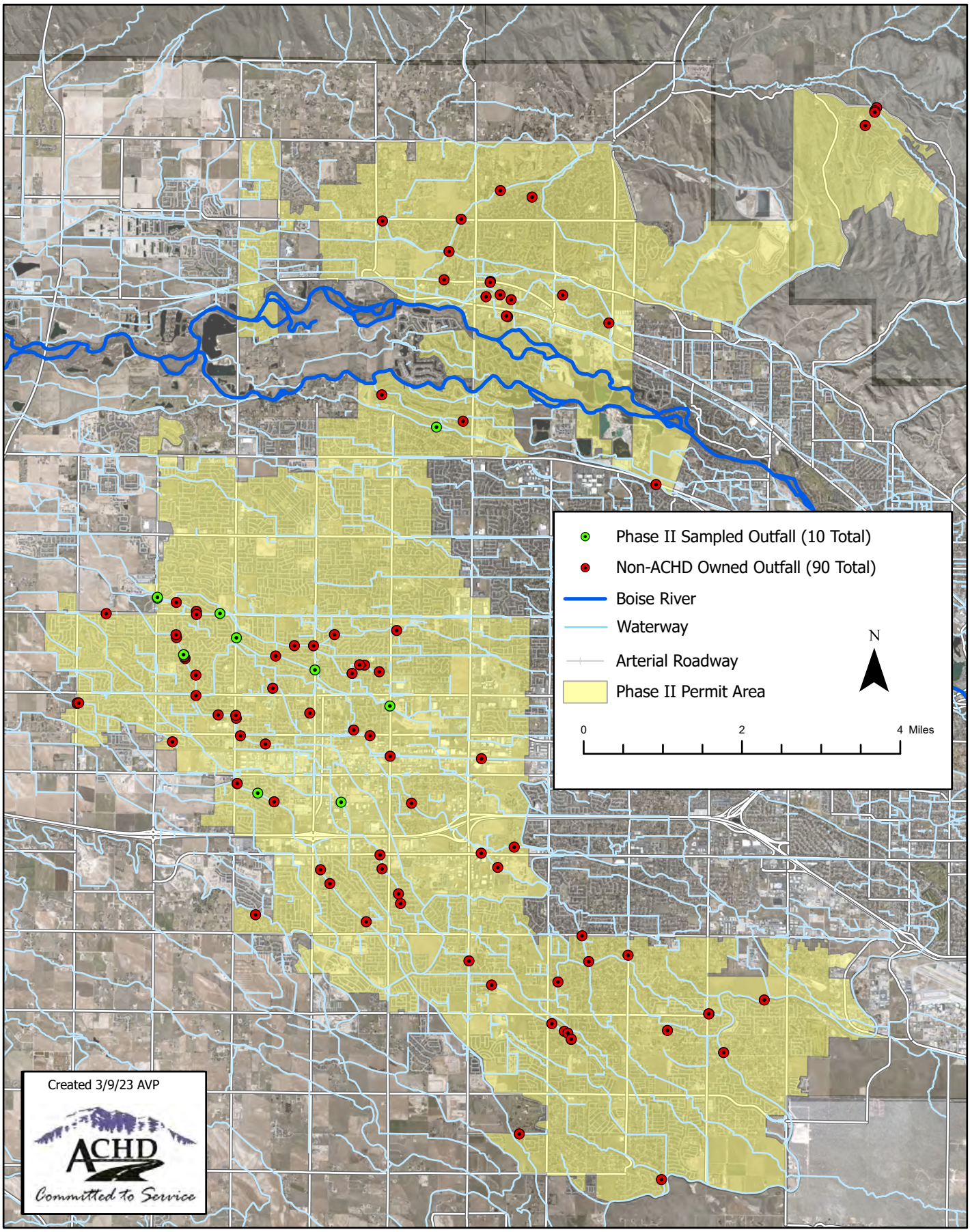
#	Outfall ID	Receiving Water	Pipe Diameter	Inspection Date	Structure condition	Flow	Samples Collected?[1]
93	4n1w35_012	Fivemile Creek	15	11/15/2022	Good	None	No
94	4n1w35_013	Fivemile Creek	12	8/18/2022 11/15/2022 12/8/2022	Good Good Good	Yes Yes Yes	Yes No Yes
95	4n1w35_014	Fivemile Creek	48	5/17/2022 11/15/2022	Good Good	Yes None	Yes No
96	4n1w35_019	Fivemile Creek Lateral	18	11/15/2022	Good	None	No
97	5n2e31_001	Dry Creek Lateral	15	12/19/2022	Good	None	No
98	5n2e31_002	Dry Creek Lateral	15	12/19/2022	Good	None	No
99	5n2e31_006	Dry Creek Lateral	12	12/19/2022	Good	None	No
100	5n2e32_002	Dry Creek	12	12/19/2022	Good	None	No

Notes

-- No data available

[1]Results from sampled sites are found in the Analytical Results Table in Attachment D.

Phase II Inspected and Sampled Outfalls
February 1, 2022 - January 31, 2023



Dry Weather Outfall Analytical Results

Screening Period	Outfall ID	Receiving Water	Date	Land Use	Drainage Area	Field Parameters								Laboratory Analyses				
						Temp	DO	pH	Cond.	Turbidity	Cl	Cu	Phenols	Surfactants	TSS	DOP	TP	Ecoli
					acre	°C	mg/L	SU	uS	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	MPN/100mL
Pre Irrigation Time Period 3/6/2022 - 4/30/2022	3n1w01_006	Fivemile Creek	4/28/2022	Res.- Old	13.5	15.39	7.88	**6.23**	606.1	0.84	<0.01	<0.01	<0.01	**0.02**	<0.900	**0.181**	**0.190**	<1.0
Irrigation Time Period 5/1/2022 - 9/30/2022	3n1w02_010	Ninemile Creek	5/17/2022	Res. - New	41.6	13.1	8.75	**6.48**	266.53	8.31	<0.01	<0.01	<0.01	<0.01	11.5	**0.0723**	**0.0973**	52.1
	4n1w35_014	Fivemile Creek	5/17/2022	Res. - New	63.11	15.74	8.72	7.68	103.98	2.17	<0.01	<0.01	<0.01	**0.01**	1.03	**0.0739**	**0.0896**	12.0
	3n1e07_009	Jackson Drain	7/18/2022	Roadway	7.7	18.81	8.35	**5.13**	**23.29**	6.28	<0.01	<0.01	<0.01	**0.02**	5.83	0.0206	0.0257	248.1
	4n1w35_002	Fivemile Creek	7/18/2022	Res. - New, Roadway	18	18.83	**3.51**	6.71	151.56	2.38	<0.01	<0.01	<0.01	<0.01	2.7	**0.186**	**0.235**	201.4
	3n1w01_006	Fivemile Creek	8/10/2022	Res.- Old	13.5	**22.17**	**4.77**	7.54	264.38	0.87	<0.01	<0.01	<0.01	**0.02**	14.7	**0.176**	**0.202**	42.8
	3n1w13_031	Tenmile Creek	8/15/2022	Res. - New	94.16	**23.78**	**5.47**	6.75	258.37	1.71	<0.01	<0.01	<0.01	**0.01**	6.87	**0.273**	**0.294**	6.3
	3n1e18_018	Ninemile Creek	8/16/2022	Roadway	0.56	17.75	8.05	8.15	91.8	0.76	<0.01	<0.01	<0.01	**0.01**	<0.900	**0.0740**	**0.0714**	<1.0
	3n1e06_003	Fivemile Creek	8/16/2022	Roadway	3	**21.3**	6.71	7.55	225.71	0.46	<0.01	<0.01	<0.01	**0.02**	<0.900	**0.129**	**0.131**	1.0
	4n1e20_001	Thurman Drain	8/16/2022	Res. - New	81	**21.92**	7.97	8.24	89.39	3.95	<0.01	<0.01	<0.01	**0.02**	2.77	**0.132**	**0.200**	66.3
	4n1w35_013	Fivemile Creek	8/18/2022	Res. - New	18	**20.12**	6.63	7.75	341.82	0.69	<0.01	<0.01	<0.01	**0.01**	<0.900	**0.478**	**0.497**	5.2
Post-Irrigation Time Period 10/1/2022 - 1/31/2023	3n1e06_003	Fivemile Creek	10/27/2022	Roadway	3	13.67	8.92	7.29	785.5	0.31	<0.01	<0.01	<0.01	<0.01	<0.900	**0.163**	**0.172**	2.0
	4n1w35_013	Fivemile Creek	12/8/2022	Res. - New	18	13.48	8.65	7.15	386.79	0.19	<0.01	<0.01	<0.01	**0.024**	1.23	**0.367**	**0.425**	<1.0
	3n1w01_006	Fivemile Creek	12/20/2022	Res.- Old	13.5	13.93	**4.61**	7.01	253.11	0.13	<0.01	<0.01	<0.01	<0.01	<0.900	**0.185**	**0.197**	<1.0
	4n1w35_002	Fivemile Creek	1/4/2023	Res. - New, Roadway	18	7.69	8.79	**6.4**	343.92	41.6	<0.01	<0.01	<0.01	**0.01**	40.2	**0.201**	**0.232**	**410.6**
	4n1w35_002	Fivemile Creek	1/17/2023	Res. - New, Roadway	18	--	--	--	--	--	--	--	--	--	--	--	--	**>2419.6**
	4n1w35_002	Fivemile Creek	1/23/2023	Res. - New, Roadway	18	--	--	--	--	--	--	--	--	--	--	--	--	**1299.7**
Benchmark						<19	<6	6.5 - 9	50-1500	<50	<0.011	<1	<21	0	<80	<0.07	<0.07	<406
Evaluation Point						--	--	--	< 55 / >1350	>45	0.0099	0.9	18.9	>0	72	0.063	0.063	365.4

Notes

-- No data available

Red *values indicate a detection above the benchmark level.*

4n1w35_002 - Geomean was not calculated because outfall was not flowing at necessary collection times.

No samples collected during Post Irrigation Time Period 2/1/2022 - 3/5/2022

Attachment E: Construction Site Discharge Control Enforcement Response Policy

CONSTRUCTION SITE DISCHARGE CONTROL ENFORCEMENT RESPONSE POLICY

ADA COUNTY HIGHWAY DISTRICT
3775 ADAMS STREET
GARDEN CITY IDAHO 83714
PHONE: 208-387-6264
FAX: 208-387-6391

(REVISED MAY 2022)

TABLE OF CONTENTS

LIST OF TABLES

ACRONYMS

ACHD	Ada County Highway District
BMP	Best Management Practice
CGP	Construction General Permit
CSDC	Construction Site Discharge Control
ERP	Enforcement Response Policy
ESC	Erosion Sediment Control
IDDE	Illicit Discharge Detection Elimination
IDEQ	Idaho Department of Environmental Quality
IPDES	Idaho Pollutant Discharge Elimination System Discharge Permit
NOV	Notice of Violation
NPDES	National Pollution Discharge Elimination System
ROW	Right of Way
RP	Responsible Person
SWO	Stop Work Order
SWPPP	Stormwater Pollution Prevention Plan
SWQS	Stormwater Quality Specialist

1. INTRODUCTION

This Construction Site Discharge Control (CSDC) Enforcement Response Policy (ERP) provides guidance to Ada County Highway District (ACHD) staff who respond to non-compliance issues with relation to the CSDC Program and related ACHD Policies. The following document outlines the CSDC Program, ACHD's legal authority, staff roles and duties, factors influencing enforcement actions, and type of enforcement actions and processes. The approach described in this document is based on a tiered system of enforcement.

1.1 PURPOSE

ACHD implements and enforces the CSDC Program throughout Ada County to fulfill National Pollutant Discharge Elimination System Permit (NPDES Permit) requirements. ACHD is regulated through a NPDES Phase I Permit (IDS027561) that covers the Boise and Garden City area and a Phase II NPDES Permit (IDS0281185) that covers the cities of Eagle, Meridian, and urbanized Ada County. To comply with the NPDES Permits, ACHD must develop, implement, and maintain a written escalating ERP or plan appropriate to its organization's CSDC Program (NPDES Permit 3.3.6). The ERP must:

- Address enforcement of construction site runoff controls for all construction projects in ACHD's jurisdictions, to the extent allowable under Idaho state law (NPDES Permit 3.3.6.1).
- Describe ACHD's potential response to violations with appropriate educational or enforcement responses (NPDES Permit 3.3.6.2).
- Address repeat violations through progressively stricter responses, as needed, to achieve compliance (NPDES Permit 3.3.6.2).
- Describe how ACHD will use its available techniques to ensure compliance, such as: verbal warnings; written notices; escalated enforcement measures such as stop work orders, monetary penalties; and/or other escalating measures to the extent allowable under Idaho state law (NPDES Permit 3.3.6.2).

1.2 CONSTRUCTION SITE DISCHARGE CONTROL PROGRAM OVERVIEW

ACHD implements the CSDC Program through ACHD Policy (Policy) 6000, Permits and Inspection, and Policy 8300, Construction Site Discharge Control Program. Any person who desires to perform any work on a highway or public right-of-way (ROW) or encroaches on a highway or public ROW shall first apply for and obtain a Temporary Highway Use Permit or "permit" through ACHD (Policy 6007.1.1). Additionally, any person desiring to develop and construct a new subdivision which will have infrastructure dedicated to ACHD shall, prior to commencing work, be required to enter into a Subdivision Inspection Agreement and a Subdivision Improvement Agreement (Policy 6007.19.1). The contractor performing the work shall be required to obtain a permit pursuant to Policy (Policy 6007.19.2). All permit applicants must provide an approved Erosion and Sediment Control (ESC) Plan for the proposed work before a permit can be obtained by the applicant (Policy 8303.1). An ESC Plan means a plan, either a Small Project ESC Plan or a Site Specific ESC Plan, containing provisions, at a minimum, addressing material containment, pollutant spill prevention and setting forth best management practices (BMPs) to be utilized during construction activity or land disturbing activity. Site Specific ESC Plans must be reviewed by ACHD for completeness before the plan is approved. All permit applicants must also designate a Responsible Person (RP) who serves as the point of contact for all ESC issues. A RP means any person with operational control over

site activities and day-to-day operational control of the approved ESC Plan requirements and permit conditions at the site of any construction activity or land disturbing activity who has received certification from the City of Boise.

The permittee must comply with the standards outlined in Policy 8300. Additionally, the permittee must comply with the approved ESC Plan and all conditions of the permit. The following actions constitute a non-compliance issue:

- Failure to meet any requirement of Policy or approved ESC Plan.
- Allowing or causing a condition that threatens to injure public health, the environment, or public or private property.
- Failure to correct ineffective erosion, sediment, and pollutant control measures after being notified via a Notice of Violation to do so.

Typical construction site violations are related to the following situations:

- Poor project phasing and sequencing.
- Inappropriate concrete washout discharges.
- Unstabilized construction entrances and parking areas.
- Failure to stabilize bare areas.
- Lack of slope protection (mulch/straw, vegetation, silt fencing, etc.).
- Unauthorized activities near intermittent and perennial streams and wetlands.
- Sediment trackout onto paved ROW.
- Poorly planned trenching operations.
- Lack of inlet and outlet protection.
- Non-functional sediment basins and traps.
- Airborne dust.
- Inappropriate housekeeping practices.
- Inadequate documentation and recordkeeping.

2. LEGAL AUTHORITY

ACHD is the governing agency responsible for construction and maintenance of all local roads, including the storm drain system, in Ada County, Idaho. ACHD's legal authority is based upon the laws of the State of Idaho. Specific authority is found in Title 40, Idaho Code, Chapters 13 and 14 https://legislature.idaho.gov/statutesrules/idstat/title40/. Because of the limited purpose of ACHD, as defined by the State Code, such legal authorities and provisions are interpreted as intended for facilities and operation and maintenance within the jurisdictional right-of-way of ACHD. ACHD does not provide police or enforcement power and must rely on the powers of municipal government. Specific legal authority granted to ACHD through state code includes the following:

- **Powers and Duties of Highway Commissioners, Idaho Code 40-1406** ACHD Commissioners are empowered to pass ordinances, rules, and regulations as necessary for carrying into effect or discharging all powers and duties conferred to a Countywide highway district by state code. https://legislature.idaho.gov/statutesrules/idstat/title40/t40ch14/

- **Drainage Authority, Idaho Code 40-1451(1)(d)**
  ACHD has authority over drainage where it is necessary for motorist safety or necessary for right-of-way maintenance. This code provision limits the extent and nature of authority in which ACHD is empowered.
  https://legislature.idaho.gov/statutesrules/idstat/title40/t40ch14/
- **Subdivision Plat Review, Acceptance and Approval, Idaho Code 40-1415(6)**
  Subdivision plats are required to be submitted to ACHD for acceptance and approval for highway design, drainage provisions, and traffic conditions.
  https://legislature.idaho.gov/statutesrules/idstat/Title40/T40CH14/SECT40-1415/
- **Common Law Authority**
  ACHD has certain common law authority to control discharges of stormwater into any storm drains which are located within the public right-of-way by means of ACHD's control and owner's interest in the public right-of-way.
- **Authority as a Municipal Corporation**
  ACHD may have certain inherent authority as a municipal corporation by virtue of its ordinance authority to regulate discharges of stormwater into ACHD's stormwater system.

3. DISCOVERY OF NON-COMPLIANCE

ACHD staff conduct regular inspections of all permitted construction activities. Subdivision, Bridge, Project, and Zone Inspectors perform a variety of construction related inspections. These staff members, who spend the most time observing these sites, may identify and follow up on CSDC violations observed at their inspection sites. These inspectors shall discuss the observations with the site operator and specify compliance requirements. They may also issue an Informal Notice (see *Section 5.1*) and document the observed conditions. Documentation is necessary in the event that a higher level of enforcement becomes necessary. Typically, if further CSDC enforcement or guidance is needed, the inspectors will request assistance from a Stormwater Quality Specialist (SWQS).

As a part of the CSDC Program, a SWQS or an ACHD Erosion Control Contractor performs regular site inspections to ensure construction site operators are following CSDC Program and Policy requirements. The inspection frequency is based upon project prioritization ratings calculated during the initial ESC Plan review process. All sites over 1 acre are inspected at least once every 6 months over the permit period.

ACHD staff may also receive CSDC complaints from external sources. Outside agencies and departments who observe or are notified of an issue on an ACHD permitted project may contact ACHD administrative staff or the SWQS directly to report an issue. ACHD staff may receive public complaints in person, over the phone, or through reporting tools such as TellUs or the Stormwater Pollution Hotline. All reports should be investigated. If the complaint is in regard to an ACHD Capital Project, depending on the severity, the Project Inspector, the Capital Projects Construction Coordinator, or the Capital Projects Construction Supervisor will be contacted depending on who is lead of the respective project. If a complaint is found to not involve an ACHD permitted construction activity, the complaint is handled through ACHD's Illicit Discharge Detection and Elimination Program or referred to the appropriate entity. For resolution, the initial reporter should be informed once the reported issue has been addressed.

4. FACTORS INFLUENCING ENFORCEMENT ACTIONS

The approach to making a violation determination involves using the language in Policy and/or permit conditions as a guide to determine whether the information collected demonstrates that a violation has occurred. CSDC compliance determinations must be based solely on the factual information collected and professional judgment.

A determination of the appropriate enforcement action is based on the nature and severity of the CSDC violation and other relevant factors. These factors, relating to the impact of the violation and to the responsible party are summarized in Section 4.1 and Section 4.2, respectively. The relevant factors must be considered when a violation has occurred to promote consistent and timely use of enforcement remedies. A summary of CSDC risk categories, compliance areas, and indicators is provided in *Table 1*.

4.1 FACTORS RELATING TO IMPACT OF VIOLATION

- Magnitude of the violation.
- Imminent endangerment to human health/welfare or to the environment.
- Duration of the violation.
- Effect of the violation on the receiving water.
- Whether circumstances beyond the control of the responsible party exist, such as unpredictable accidents or unexpected acts of nature.
- Causes a violation of the NPDES permit.
- Has a toxic effect on the aquatic life uses of the receiving water body?

4.2 FACTORS RELATING TO RESONSIBLE PARTY

- Compliance history of the responsible party.
- Economic benefit realized by the responsible party while operating in non-compliance with the requirements.
- Chronic violations by responsible party.
- Good faith of the responsible party.
- Honest intention to remedy non-compliance coupled with actions that support intention.

Table 1: Summary of CSDC Risk Categories, Compliance Areas, and Indicators

Risk Category	Compliance Area	Lower Risk Indicators	Higher Risk Indicators
Site Conditions	Environment-ally Sensitive Sites	• Site slopes <10% • Waterways not immediately adjacent to or within site	• Site slopes>10% • Waterways within 50’ of site • Project on Brownfield Site • Project discharges to 303d impaired waterway
Site Operator	Compliance History	• Operator is usually in compliance with rules • Operator responds to notes within time frame • Operator is cooperative and not argumentative	• Operator has multiple violations • Operator frequently misses compliance deadlines • Operator is uncooperative, argumentative

Risk Category	Compliance Area	Lower Risk Indicators	Higher Risk Indicators
Administrative Requirements	Permit Coverage	• Operator has obtained Permit coverage through ACHD and has an approved ESC Plan	• Operator has not obtained Permit coverage through ACHD and does not have an approved ESC Plan
BMP Installation	Plan BMP Installation	• All BMPs listed on the approved ESC Plan are in place. • BMPs are installed correctly	• All BMPs listed on the approved ESC Plan are not in place. • BMPs are not installed correctly
	Plan BMP Adequacy	• BMPs are functioning properly • BMPs are adequately controlling stormwater • Erosion and sedimentation issues are minimal • Additional BMPs are not required	• BMPs are functioning poorly • BMPs are not controlling stormwater • Excessive erosion • Additional BMPs are needed to manage the site
BMP Maintenance	BMP Maintenance	• BMPs are maintained • Sediment buildup at BMPs is not excessive • Erosion prevention BMPs fully functional	• BMPs require substantial maintenance • Excessive sediment ate BMPs notes • Poor erosion prevention
Housekeeping	Materials Management	• Materials that may leach pollutants are covered • Materials stored away from drainage system	• Materials leaching pollutant are not covered • Materials stored near storm drain inlets
	Waste Management	• Solid waste collected and stored properly • Concrete, other washwater managed properly	• Poorly managed solid waste, litter present • Washwater on ground or discharged illegally
	Spill Prevention	• Spill prevention practices and material present	• Fuel, oil, or other spills observed
Offsite Discharges	Sediment in Waterway	• No sediment discharges through dewatering or above ground flows to waterways	• Sediment discharges to waterways observed
	Sediment on Ground	• No sediment discharges to offsite areas	• Mud/sediment track-out observed on paved roads
	Airborne Dust	• No observable dust leaving the site	• Airborne dust leaving the site
Project Completion	Site Closeout	• All bare areas stabilized • Vegetation is at least 70% density • All temporary BMPs removed	• Bare areas observed on site • Vegetation is less than 70% density • Temporary BMPs still present

5. TYPE OF ENFORCMENT ACTIONS

In the event of non-compliance, ACHD shall proceed with enforcement action (Policy 8310) described in detail in this section. Enforcement actions are intended to be commensurate with the violation. Minor violations are typically handled through Informal Notices. Major violations are addressed, in order of increasing severity, by issuance of a Notice of Violation, Administrative Fines, Stop Work Order and/or Administrative Cost Recovery. ACHD's enforcement actions are provided in order of escalation in the CSDC ERP flow chart located in *Appendix A*. If the severity of the situation warrants it, ACHD may escalate the enforcement as quickly as needed.

5.1 INFORMAL NOTICE

ACHD shall issue an Informal Notice to the project RP for minor violations. An Informal Notice may be issued verbally or non-verbally (e.g., during sampling and/or inspection visits, over a telephone call, in an informal meeting, or through email). Informal Notices should: 1) identify noncompliant conditions to construction site personnel, 2) provide information on the action(s) needed to bring the situation into compliance, and 3) specify a deadline (1-3 days) for completing compliance activities.

5.2 NOTICE OF VIOLATION

More serious violations, including disregard of an Informal Notice or failing to make corrective actions within the specified compliance period, are subject to a written Notice of Violation (NOV). NOVs are formal written notices to the RP found violating ACHD policy or permit requirements. An NOV is required prior to the issuance of an Administrative Fine.

NOVs include the name and address of the RP, the observed violation, the date and time of the violation, the location, compliance action(s) required, deadline for required compliance (1-2 days), and the signature of a SWQS or inspector. The standard compliance deadlines for BMP violations are listed in *Table 2*. The NOV, example provided in *Appendix B*, is presented to the RP, through hand delivery, mail, email, or other means. A NOV Fact Sheet (*Appendix C*) should be provided to all first-time offenders.

NOVs are entered into TRAKiT, a workflow management tool, with documentation of site conditions, photographs, plans, maps, and/or other items as appropriate. The procedure to enter this information into TRAKiT is provided in *Appendix D*. Inspection staff can see if an NOV has been attached to the TRAKiT project file. However, all ACHD staff involved in the day-today oversite of the project should be notified of any enforcement action above an informal notice. An inspector may hold off on other non-CSDC inspections of the site until the violation has been resolved.

Table 2: BMP Compliance Deadlines per Violation Type

BMP Issue	Violation	Compliance Deadline
Drop Inlet Protection	BMP Not Present	24 Hours
	BMP Inadequate	24 Hours
	BMP Not Maintained	End of business
Spill Containment	BMP Not Present	48 Hours
	BMP Inadequate	24 Hours
	BMP Not Maintained	48 Hours
Dust Abatement	BMP Not Present	End of business
	BMP Inadequate	End of business
	BMP Not Maintained	End of business
Construction Entrance	BMP Not Present	48 Hours
	BMP Inadequate	48 Hours
	BMP Not Maintained	48 Hours
Slope Stabilization	BMP Not Present	72 Hours
	BMP Inadequate	48 Hours
	BMP Not Maintained	End of business
Erosion Control	BMP Not Present	48 Hours
	BMP Inadequate	48 Hours
	BMP Not Maintained	End of business

BMP Issue	Violation	Compliance Deadline
Sediment Control	BMP Not Present	24 Hours
	BMP Inadequate	24 Hours
	BMP Not Maintained	End of business

5.3 ADMINISTRATIVE FINES

If the RP does not correct all CSDC violations by the deadline provided on an issued NOV, ACHD may issue an administrative fine to the permit holder. Administrative fines provide funds for compliance investigations and subsequent contract management that may be necessary to correct deficient work. The issuance of administrative fines is limited to violation types listed in the most current ACHD Approved Fee Schedule. Violation types applicable to the CSDC Program are listed in *Table 3*. This fee, in total, may be recovered by ACHD by making claim against the Permittee's Surety Bond posted in accordance with the provisions of Policy 6007.7.

Table 3: CSDC Violations and Associated Fees

Violation	Associated Fee
Working without a permit (Policy 6007.4.3)	$500.00
Unacceptable debris or material on the Construction Site Within the ROW (Policy 6007.12.5)	$250.00 per instance not to exceed two instances per day
Failure to cover and properly secure all loads of gravel, sand, dirt, landscape bark or other loose material (Policy 6007.12.6)	$250.00 per instance not to exceed two instances per day
Failure to stop work (Policy 6007.18.3)	$2,000.00 Per day

Note: Associated Fees listed refer to the maximum allowed amount. Reduced amounts shall be determined at the discretion of the Deputy Director.

5.4 STOP WORK ORDER

A Stop Work Order (SWO) may be issued for a violation deemed significant enough to warrant immediate action, failure to correct a problem, or repeated violations. A SWO written on a NOV is effective immediately. A SWO should be presented and documented in the same manner as an NOV. Revoking the Temporary Use Permit is equivalent to a SWO (Policy 8311). ACHD may issue a temporary or permanent injunction in an emergency situation (Policy 6007.21.4).

5.5 ADMINISTRATIVE COST RECOVERY

ACHD can initiate corrective action and assess the actual and administrative costs against the permit holder (Policy 6007.25). The violator may be required to pay all costs of investigation, administrative overhead, out-of-pocket expenses, the cost of administrative hearings, the costs of suit, and reasonable attorney's fees. If the RP makes no reasonable effort to correct the violation, or if the situation is an emergency, the ACHD may initiate the corrective action and assess the actual and administrative costs against the permit holder. Additionally, with coordination of ACHD Permit staff, the permit holder's bond can be sought or revoked to pay for cleanup costs and to prevent the contractor from starting new jobs within ACHD ROW.

6. JOINT AND/OR OUTSIDE ENFORCEMENT AUTHORITY

The municipal governments of Boise and Garden City do have specific stormwater ordinances related to illicit discharge and construction site discharge control to address enforcement authority requirements within their jurisdictions. Additionally, ACHD (and the other Phase I NPDES Permittees) have Interagency Agreements for the Enforcement of Stormwater Management in Boise City and Garden City included in *Appendix E* of this ERP.

- **City of Boise**
  Ordinance (Chapter 9-14-2– Erosion Control Regulations and Requirements
  https://codelibrary.amlegal.com/codes/boiseid/latest/boise_id/0-0-0-11668
- **Garden City**
  Ordinance (Chapter 15, 4-15-2) – Erosion Control Regulations and Requirements
  https://www.codepublishing.com/ID/GardenCity/html/GardenCity04/GardenCity0415.html#4-15

The municipal governments of Meridian, Eagle, and Ada County do not have specific stormwater ordinances related to illicit discharge and construction site discharge control. However, these entities do have the following general nuisance related ordinances that can be used to assist ACHD in addressing stormwater related issues.

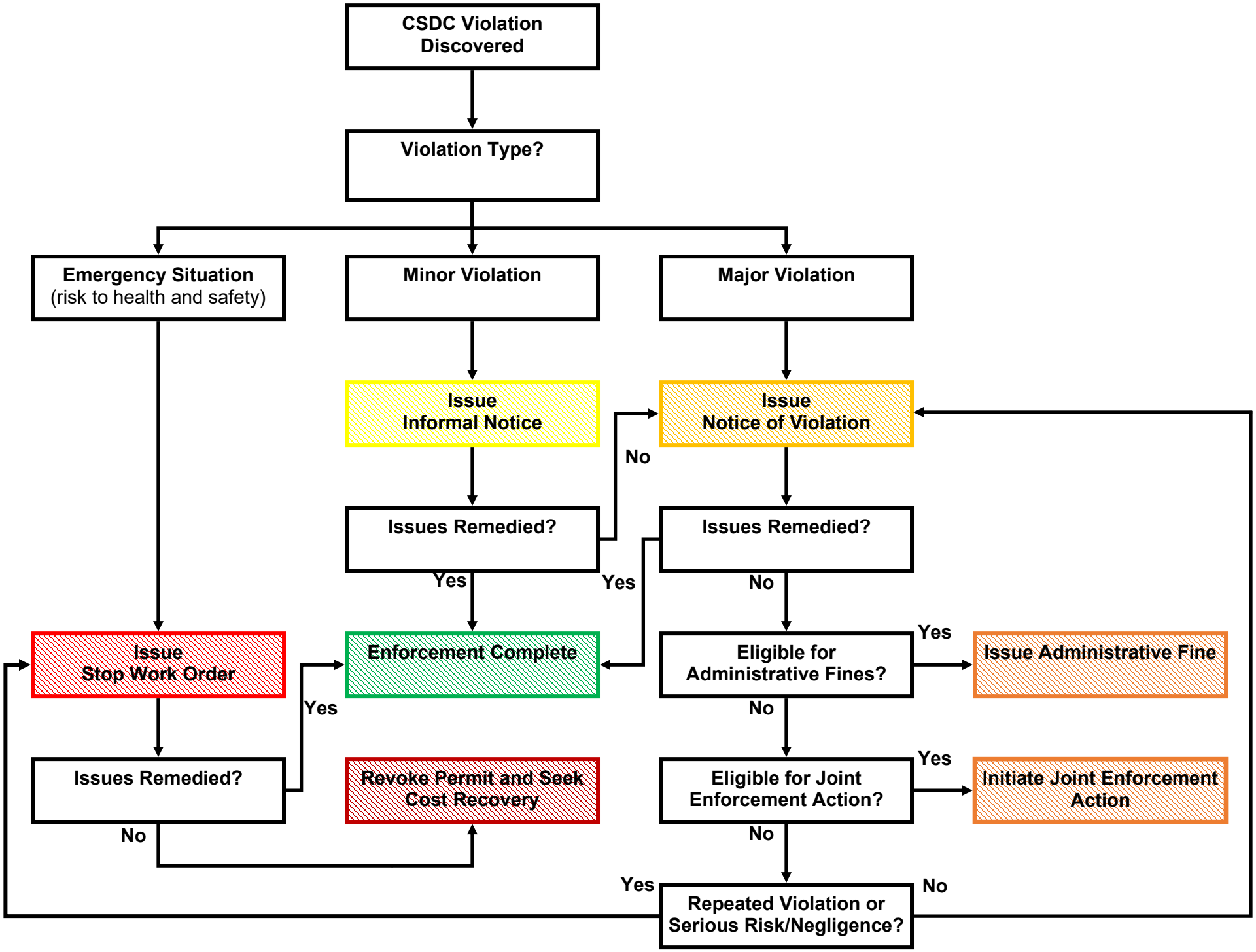
- **City of Eagle**
  Ordinance No. 4-1-4 – General Nuisance; Procedures and Penalties
  https://codelibrary.amlegal.com/codes/eagleid/latest/eagle_id/0-0-0-1193
- **City of Meridian**
  Ordinance (Chapter 2, 4-2-1) - Public Health and Safety, Nuisances
  https://library.municode.com/id/meridian/codes/code_of_ordinances?nodeId=TIT4PUHESA_CH2NU
- **Ada County**
  Ordinance No. 5-2-4-2B – Deposit of Waste or Lighted Material on Public Ways
  https://codelibrary.amlegal.com/codes/adacountyid/latest/adacounty_id/0-0-0-1423

7. CONSTRUCTION GENERAL PERMIT VIOLATION REFERRAL

For construction projects which are subject to the Idaho Pollutant Discharge Elimination System Discharge Permit (IPDES) Construction General Permit (CGP) and do not respond to educational efforts and joint enforcement actions, ACHD may provide to Idaho Department of Environmental Quality (IDEQ) information regarding the construction project. This applies to projects where operators cannot demonstrate that they have appropriate IPDES permit coverage and/or site operators are deemed by ACHD as not complying with CGP requirements. Information may be submitted to an IDEQ CGP Compliance Officer and include, at a minimum, the following information:

- Construction project location and description.
- Name and contact information of project owner/ operator.
- Estimated construction project disturbance size.
- An account of information provided by the Permittee to the project owner/ operator regarding NPDES filing requirements.

APPENDIX A – CSDC ERP FLOW CHART


CSDC Violation Discovered
Violation Type?
Emergency Situation (risk to health and safety)
Minor Violation
Major Violation
Issue Informal Notice
Issue Notice of Violation
No
Issues Remedied?
Issues Remedied?
Yes
Yes
No
Issue Stop Work Order
Enforcement Complete
Eligible for Administrative Fines?
Yes
Issue Administrative Fine
Yes
No
Issues Remedied?
Revoke Permit and Seek Cost Recovery
Eligible for Joint Enforcement Action?
Yes
Initiate Joint Enforcement Action
No
No
Yes
Yes
Repeated Violation or Serious Risk/Negligence?
No

APPENDIX B – NOTICE OF VIOLATION

NOTICE OF VIOLATION 1955

DATE & TIME	
PERMIT NUMBER	
PERMITTEE	
RESPONSIBLE PERSON	**PHONE**
ACHD INSPECTOR (PRINT)	**PHONE**

MARK ALL AREAS WHERE BMPS ARE NOT PRESENT, INADEQUATE, OR NOT MAINTAINED. PROVIDE SPECIFIC DETAILS IN THE COMMENT SECTION AS NEEDED. GIVE A COPY OF THIS DOCUMENT TO THE RESPONSIBLE PERSON LISTED ON THE ACHD PERMIT.	BMP not present	BMP inadequate	BMP not maintained
STORM DRAIN INLET			
SPILL PREVENTION/ CONTAINMENT			
DUST ABATEMENT			
CONSTRUCTION ENTRANCE			
SLOPE STABILIZATION			
EROSION CONTROL			
SEDIMENT CONTROL			

COMMENTS:

SIGNATURE OF ACHD INSPECTOR	
COMPLIANCE DEADLINE	

RE-INSPECTION

DATE & TIME	**COMPLIANCE** Y☐ N☐
SIGNATURE OF ACHD INSPECTOR	

SECTION 8310 OF ACHD POLICY MANUAL - ENFORCEMENT/STOP WORK ORDER INDEPENDENT

In the event the provisions set forth under the Approved Site Plan have not been met, the Responsible Person will be given a written notice of the violation and a time period in which to correct the deficiencies causing the violation. If the corrections have not been made within the designated time period or additional violations occur, District may issue a stop work order. ACHD may issue a stop work order solely for failure to comply with the Approved Site Plan, regardless of any other violation that may or may not have occurred under the Temporary Highway Use Permit.

APPENDIX C – NOTICE OF VIOLATION FACT SHEET

Why are NOVs issued?

- Provide consistent notification of deficiencies on ACHD permitted work.
- Provide the contractor with written notice and a time period in which to correct the violation of the approved erosion and sediment control plan.
- Requirement of ACHD's IPDES Permit with Idaho Department of Environmental Quality.

NOTICE OF VIOLATION 1955

DATE & TIME

PERMIT NUMBER

PERMITTEE

RESPONSIBLE PERSON PHONE

ACHD INSPECTOR (PRINT) PHONE

MARK ALL AREAS WHERE BMPS ARE NOT PRESENT, INADEQUATE, OR NOT MAINTAINED. PROVIDE SPECIFIC DETAILS IN THE COMMENT SECTION AS NEEDED. GIVE A COPY OF THIS DOCUMENT TO THE RESPONSIBLE PERSON LISTED ON THE ACHD PERMIT.

	BMP not present	BMP inadequate	BMP not maintained
STORM DRAIN INLET			
SPILL PREVENTION/ CONTAINMENT			
DUST ABATEMENT			
CONSTRUCTION ENTRANCE			
SLOPE STABILIZATION			
EROSION CONTROL			
SEDIMENT CONTROL			

COMMENTS:

SIGNATURE OF ACHD INSPECTOR

COMPLIANCE DEADLINE

RE-INSPECTION

DATE & TIME COMPLIANCE Y☐ N☐

SIGNATURE OF ACHD INSPECTOR

SECTION 8310 OF ACHD POLICY MANUAL - ENFORCEMENT/STOP WORK ORDER INDEPENDENT

In the event the provisions set forth under the Approved Site Plan have not been met, the Responsible Person will be given a written notice of the violation and a time period in which to correct the deficiencies causing the violation. If the corrections have not been made within the designated time period or additional violations occur, District may issue a stop work order. ACHD may issue a stop work order solely for failure to comply with the Approved Site Plan, regardless of any other violation that may or may not have occurred under the Temporary Highway Use Permit.

Who will receive an NOV?

Any violation of the approved erosion and sediment control plan will result in the receipt of a NOV. All permitted work in the ACHD right-of-way may be inspected. NOVs are issued to the Responsible Person listed on the project's permit.

Does this cost me anything?

- If the violation is corrected by the compliance deadline noted on the NOV, there will be no additional costs.
- If the violation continues, administrative fines may be applicable per the most recent Fee Schedule.
- If ACHD is forced to correct the problem, funds will be recovered from the permittee.

What if I do not correct the problem?

- If the violation continues or additional violations occur, ACHD may issue a stop work order.
- If violations continue to occur, the District may start proceedings to revoke a permit.

What if I have questions?

- If you have questions about a particular NOV, contact the inspector listed on the NOV.
- If you have question about the Construction Site Discharge Control Program, contact an ACHD Stormwater Quality Specialist, at 208-387-6264.
- Copies of ACHD Policies 6000 and 8300 are available at Construction Services permitting desk and online at http://www.achdidaho.org/

APPENDIX D – NOV PROCEDURE GUIDENCE

APPENDIX E – INTERAGENCY AGREEMENTS FOR THE ENFORCEMENT OF STORMWATER MANAGEMENT

Attachment F: Erosion and Sediment Control Inspections, Reviews, and Map

Table 1. ESC Inspections Performed and Notice of Violations Issued
ACHD Phase II Permit Area, Idaho
February 1, 2022 – January 31, 2023

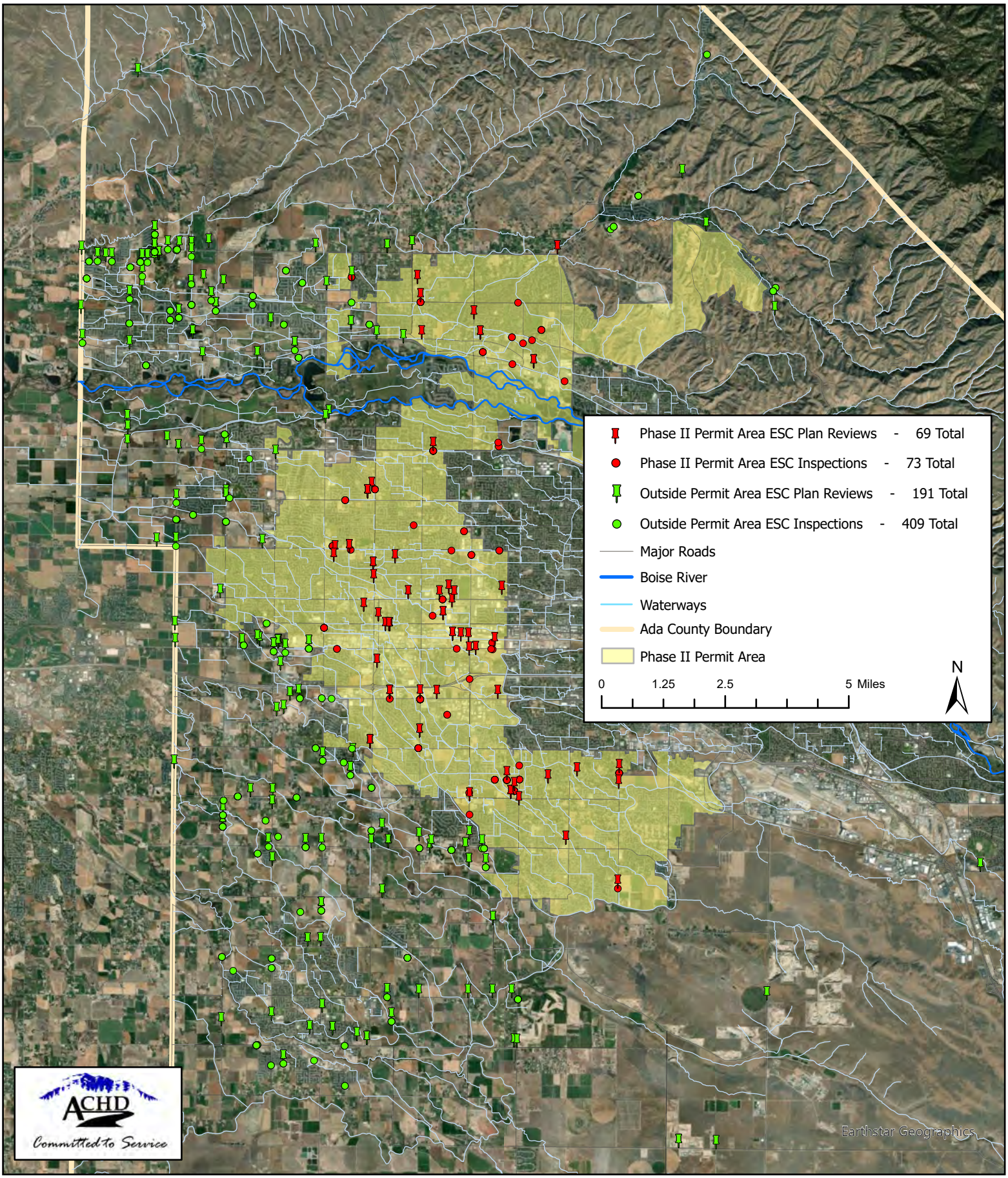
ACTIVITY	TOTAL
ESC Inspections[1]	73
Capital Project SWPPP[2] Inspections	35
Notice of Violations Issued	0

[1]ESC Inspections Performed by ACHD Environmental staff and contracted inspection staff.
[2]Stormwater Pollution Prevention Plan

Table 2. ESC Plan Review, Inspection, and Notice of Violation Summary by Month
ACHD Phase II Permit Area, Idaho
February 1, 2022 – January 31, 2023

MONTH	SITE SPECIFIC PLANS REVIEWED	SITE SPECIFIC PLANS WITH DEFICIENCIES	ESC INSPECTIONS COMPLETED	NOTICE OF VIOLATIONS ISSUED
February	6	1	7	0
March	7	1	10	0
April	6	1	3	0
May	3	0	6	0
June	3	0	8	0
July	6	4	2	0
August	10	1	9	0
September	8	2	5	0
October	5	2	3	0
November	4	0	6	0
December	6	2	7	0
January	5	1	7	0
Total	69	15	73	0

Erosion and Sediment Control (ESC) Plan Review and Site Inspections
February 1, 2022 - January 31, 2023



Attachment G: Phase II ACHD-Owned Vegetated Basins, Bioretention Swales, and GSI Program Updates

Table 1. Phase II ACHD-Owned Vegetated Basins and Bioretention Swales 2016 – 2023

STORMWATER FACILITY ID	FACILITY TYPE	NEAREST INTERSECTION	AREA (SQFT)	YEAR BUILT	STRUCTURAL RETROFIT DATE	VEGETATION RETROFIT DATE	NEW GSI VEGETATION INSTALLATION DATE	CITY
Basin 77	Detention-Dry	S Linder Rd and W Barrett	14,500	1993	-	2018	-	Meridian
Basin 79	Detention-Dry	N. Meridian Rd & W. Woodbury Dr.	6,807	1991	2020	2020	-	Meridian
Basin 274	Detention-Dry	S Meridian Rd & E Overland Rd	13,298	2002	-	2019	-	Meridian
Basin 492	Detention-Wet	N Linder Rd & W Ustick Rd	50,060	2009	2018	2019	-	Meridian
Basin 604	Retention-Dry	W Rattlesnake Crt & W Rattlesnake Dr	15,889	2011	-	2019	-	Meridian
Basin 630	Retention-Dry	W. Ustick Rd & N. Chatterton Wy	26,906	2012	-	2019	-	Meridian
Basin 673	Retention-Dry	N Ten Mile Rd & S Ten Mile Rd	24,819	2013	-	2018	-	Meridian
Basin 692	Retention-Wet	N Edgewood Ln and E Hill Rd	41,153	2011	-	2018	-	Eagle
Basin 1424	Retention-Wet	N Meridian Rd & James Court Dr	5,315	2020	-	-	2020	Meridian
Cole Swales	Bioretention Swales	S. Cole Rd & Middle Fork St	4,352	2020	-	-	2020	*Boise
Meridian Swales	Bioretention Swales	N. Meridian Rd, W. Cherry Ln to E. Ustick Rd	4,457	2020	-	-	2020	Meridian
Franklin Swales	Bioretention Swales	S Auto Dr & W Franklin Rd	32,401	2018	-	2017	-	Meridian
Ten Mile Swales	Bioretention Swales	N. Ten Mile Rd, W. Ustick to W. McMillian Rd	24,782	2020	-	-	2020	Meridian

*Urbanized Ada County

Table 2. GSI Projects Designed or Constructed 2022 - 2023

PROJECT NAME	GSI TYPE	GSI COUNT	DESIGNED	CONSTRUCTED	AREA TREATED (ACRES)
Pine Basin (1322)	Detention - Wet	1	2020	2022	1.50
Meridian E. State Ave SW Mitigation Basin	Detention - Wet	1	2023	TBD	*34.82
Ten Mile & Victory	Retention-Dry	1	2021	2022	11.86
Avenue C, Main St to 4th St (Kuna)	Premeable Pavers	4	2021	2023	0.33

*Drainage area

Table 3. Phase II ACHD GSI Program Updates 2022 - 2023

GSI PROGRAM AREA	GSI PROGRAM ACTIVITY	DESCRIPTION
Planning and Design	Basin Retrofit and Vegetation Plan	Update in progress to match current goals, objectives, and procedural practices.
	Basin Retrofit Priority List	Developing a prioritization system and facility evaluation criteria for facilities constructed prior to 2019.
	Integrated Vegetation Management Guide	Updated to include desirable and non-desirable species found within vegetated GSIs. A total of 295 species were added. (87 Non-desirable species and 208 desirable species.)
	GSI Designs	Evaluating basin and bioretention swale designs and making design adjustments per project to improve stormwater management. Future work will include design specification updates to ACHD Policy 8200.
Facility Maintenance	Stormwater Vegetation Management Contract	Expanded maintenance tasks and altered maintenance timing to improve plant health, aesthetics, and functional capability of GSIs.
	Seasonal Photos of Facilities	Developing site specific maps denoting the location and direction of where to take the seasonal photos to improve our ability to visually track the effects of management techniques over time and helps to determine overall success and site completion status.
Inventory	Permeable Paving Inventory	Locating and mapping all ACHD maintained permeable paving structures.
	Permeable Paving Inspection Manual	Developing site inspection methods and frequency for evaluating existing permeable pavers to direct maintenance needs.
	Permeable Paving Maintenance Plan	Developing maintenance methods and frequency for maintaining permeable pavers.

Attachment H: Phase II Stormwater Outfall Monitoring Summary

NPDES Phase II:
Stormwater Outfall Monitoring Summary Permit Year 2

Prepared for
Ada County Highway District
Boise, Idaho

March 2023

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List of Tables

Section 1

Introduction

The Environmental Protection Agency Region 10 reissued a Municipal Separate Storm Sewer System Phase II National Pollutant Discharge Elimination System (NPDES) Permit (Permit), effective February 1, 2021, to Ada County Highway District (ACHD). According to Permit Part 6.2.1, Monitoring/Assessment Plan and Objectives, ACHD must implement the Phase II Monitoring and Assessment Plan (Plan) (ACHD, 2021). The following summary covers the wet weather monitoring completed during Permit Year 2 (February 1, 2022–January 31, 2023), which represents the first year of wet weather monitoring under the new Permit cycle.

The Plan was developed in line with the Quality Assurance Project Plan for NPDES Stormwater Permit Monitoring (QAPP) (ACHD, 2022) and describes ACHD's approach to wet weather discharge monitoring. Specific details regarding site characteristics, equipment, data collection, sample handling procedures, analytical methods, and quality assurance/quality control (QA/QC) methodology are found in the Plan.

During Permit Year 2, data collection included precipitation, flow, and water quality samples. One outfall monitoring site (State) was monitored for flow and water quality. The water quality samples were collected from wet weather discharges and included grab samples with corresponding field parameters and composite samples, which were collected throughout the duration of a storm. Additionally, one rain gauge site (Chrisfield) was maintained to provide localized precipitation data.

Section 2

Monitoring Station, Equipment, and Sample Type

This section provides details on the monitoring equipment used to characterize stormwater flows from the State watershed. The State monitoring station is equipped with a flowmeter to record continuous water level, velocity, flow, and temperature data, and a sampler to collect flow-weighted composite samples. Precipitation data is recorded at the Chrisfield rain gauge approximately 1.5 miles from the State monitoring station. Table 2-1 depicts the equipment used for data collection. A vicinity map illustrating the watershed, location of the Chrisfield rain gauge, and State monitoring station is found in Figure 1.

Table 2-1. Monitoring Station Equipment

Sampler type	ISCO 6712
Flowmeter type	ISCO 2100 Series
Reference rain gauge	Chrisfield
Rain gauge equipment type	Global Water tipping bucket/ISCO 2105 modem

The sample types collected during Permit Year 2 include grab samples and flow-weighted composite samples. Grab samples represent a discrete measurement (or single point in time) from the storm discharge while composite samples represent the entire discharge. The sample types are outlined below, and more detailed descriptions are provided in the Plan.

Grab samples are manually collected into a sample collection bottle and are submitted to the City of Boise Water Quality Laboratory (WQL) for *E. coli* analysis. Concurrent field parameter measurements are recorded using an In-Situ smarTROLL or In-Situ Aqua TROLL multiparameter device.

Flow-weighted composite samples are collected using an automatic sampler, which works in conjunction with a flowmeter. Prior to a sampled storm event, the flowmeter is programmed with a site- and event-specific volume based on the expected total precipitation. The estimated volume is referred to as a "trigger volume." When the flowmeter records the trigger volume amount, it triggers the sampler to take a subsample. Each subsample is deposited into a 15-liter carboy, resulting in a flow-proportional composite sample. Composite samples are submitted to the WQL and split for analysis. Table 2-2 identifies the constituents that are collected by grab samples and as flow-weighted composite samples.

Table 2-2. Sample Collection Types for Analyzed Constituents

Constituent	Analysis
Ammonia	C
Total Kjeldahl nitrogen (TKN)	C
Nitrate + Nitrite	C
5-day biological oxygen demand (BOD_5)	C

Table 2-2. Sample Collection Types for Analyzed Constituents	
Constituent	**Analysis**
Chemical oxygen demand (COD)	C
Total dissolved solids (TDS)	C
Turbidity	C
Arsenic (As), total	C
Cadmium (Cd), total and dissolved	C
Copper (Cu), dissolved	C
Lead (Pb), total and dissolved	C
Mercury (Hg), total	C
Zinc (Zn), dissolved	C
Hardness (as calcium carbonate [$CaCO_3$])	C
Total phosphorus (TP)	C
Orthophosphate	C
Total suspended solids (TSS)	C
E. coli	G
Conductivity	G, f
Dissolved oxygen (DO)	G, f
Temperature	G, f*
pH	G, f
Flow/discharge volume	f

Notes:

C = Constituent analysis is conducted using a composite sample.

G = Constituent analysis is conducted using a grab sample.

f = Analysis is conducted in the field.

f = Temperature is recorded during field parameter measurement and is recorded continuously by the flowmeter.*

Section 3

Stormwater Outfall Monitoring Results

Wet weather stormwater samples were collected according to the procedures listed in the Plan. ACHD aims to collect three accepted (unqualified) grab and composite samples during each Permit year. In Permit Year 2, this goal was met by collecting samples from four separate storm events. A summary of the four storm event dates and sample types is shown in Table 3-1 below. Storm setup and sampling information is included in Table 1.

Storm Event Reports are written following every stormwater sampling event to monitor the status of the project and discuss the analytical results from the samples. The reports include details about the storm and weather monitoring, water quality results from the samples collected, and a hydrograph developed from recorded flow data at the monitoring station. The hydrograph also includes the composite subsample and grab sample times along with the hourly rainfall recorded at local rain gauges. Additionally, notes and recommendations are included and document any issues that may have occurred. Individual Storm Event Reports for the four successful events during Permit Year 2 are included in Appendix C.

Table 3-1. Storm Events and Sample Types

February 14, 2022	G [a], C
March 15, 2022	G, C, FD, FB
April 4, 2022	G
October 22, 2022	G, C, FD, FB

Notes:

C = composite sample.

G = grab sample.

FD = field duplicate

FB = field blank

[a] E. coli *sample is qualified due to exceeded holding time.*

3.1 Wet Weather Analytical Results

The following assessment provides minimum and maximum measured values for Permit Year 2. Qualified data are included in the range of measured/reported values. All constituents exceeded the laboratory minimum detection limit, with the exception of dissolved cadmium, which was not detected in any samples. Comprehensive analytical results for monitored storm events are presented in Tables 2 and 3. The reported concentrations for selected impairment pollutants (*E. coli*, TSS, TDS, turbidity, nitrate + nitrite, ammonia, TKN, TP, and orthophosphate) are shown graphically in Figures 2–5.

Dissolved Oxygen and Oxygen Demand

- DO ranged from 6.27 to 9.08 milligrams per liter (mg/L).
- BOD_5 concentrations ranged from 19.2 to 86.5 mg/L.

- COD concentrations ranged from 156 to 216 mg/L.

pH, Temperature, Conductivity, and Hardness

- pH values ranged from 6.33 to 6.99 standard units.
- Temperature ranged from 7.65 to 16.0 degrees Celsius.
- Conductivity ranged from 185.9 to 947.3 micro-Siemens per centimeter.
- Hardness ranged from 53.8 to 147 mg/L as CaCO3.

Bacteria

- *E. coli* ranged from 7.5 to 50 most probable number per 100 milliliters (MPN/100mL).

Sediment

- Turbidity ranged from 76.2 to 157 nephelometric turbidity units (NTU).
- TSS ranged from 121 to 138 mg/L.
- TDS ranged from 148 to 554 mg/L.

Nitrogen

- Ammonia ranged from 1.41 to 1.69 mg/L as N.
- Nitrate + nitrite ranged from 0.378 to 0.586 mg/L as N.
- TKN ranged from 3.20 to 4.69 mg/L.

Phosphorus

- TP ranged from 0.407 to 0.679 mg/L.
- Orthophosphate ranged from 0.171 to 0.457 mg/L as P.

Metals

- Total arsenic ranged from 2.8 micrograms per liter (µg/L) to 7.4 µg/L.
- Dissolved cadmium concentrations did not exceed the method detection limit (MDL) of < 0.0250 µg/L.
- Total cadmium ranged from 0.11 to 0.14 µg/L.
- Dissolved copper ranged from 3.6 to 7.7 µg/L.
- Dissolved lead ranged from 0.10 to 0.19 µg/L.
- Total lead ranged from 0.10 to 0.19 µg/L.
- Total mercury ranged from 0.0120 to 0.0167 µg/L.
- Dissolved zinc ranged from 22.0 to 24.4 µg/L.

3.2 Monitored Event Pollutant Loading Results

Laboratory analytical results and stormwater discharge volumes measured at the flowmeter were used to calculate pollutant loading estimates for TSS, TP, ammonia, nitrate + nitrite, and TKN. Table 4 presents the estimated pollutant loading of the constituents for each monitored storm and Figure 6 shows the loading results graphically. A summary of the ranges of loading in pounds (lbs) as calculated for the storm events monitored during Permit Year 2 is presented below.

- TSS loading estimates ranged from 13.5 to 62.7 lbs.
- TP loading estimates ranged from 0.048 to 0.308 lbs.
- Ammonia loading estimates ranged from 0.168 to 0.768 as N.
- Nitrate + nitrite loading estimates ranged from 0.059 to 0.252 lbs as N.

- TKN loading estimates ranged from 0.430 to 2.13 lbs.

3.3 Precipitation Results

Precipitation data from the Chrisfield rain gauge were used to validate all targeted storm events during Permit Year 2. Precipitation data for each of the targeted storms can be found in Table 1, and monthly precipitation during Permit Year 2 is shown in Figure 7.

3.4 Flow and Temperature Results

Continuous flow and temperature were recorded by the flowmeter installed at the State monitoring station. The data, which were measured at 15-minute intervals, represent the wet and dry weather discharges recorded from the sensor installed at the invert of the storm drain pipe. Figure 8 is a graph depicting Permit Year 2 temperature and flow.

Section 4

Quality Assurance/Quality Control

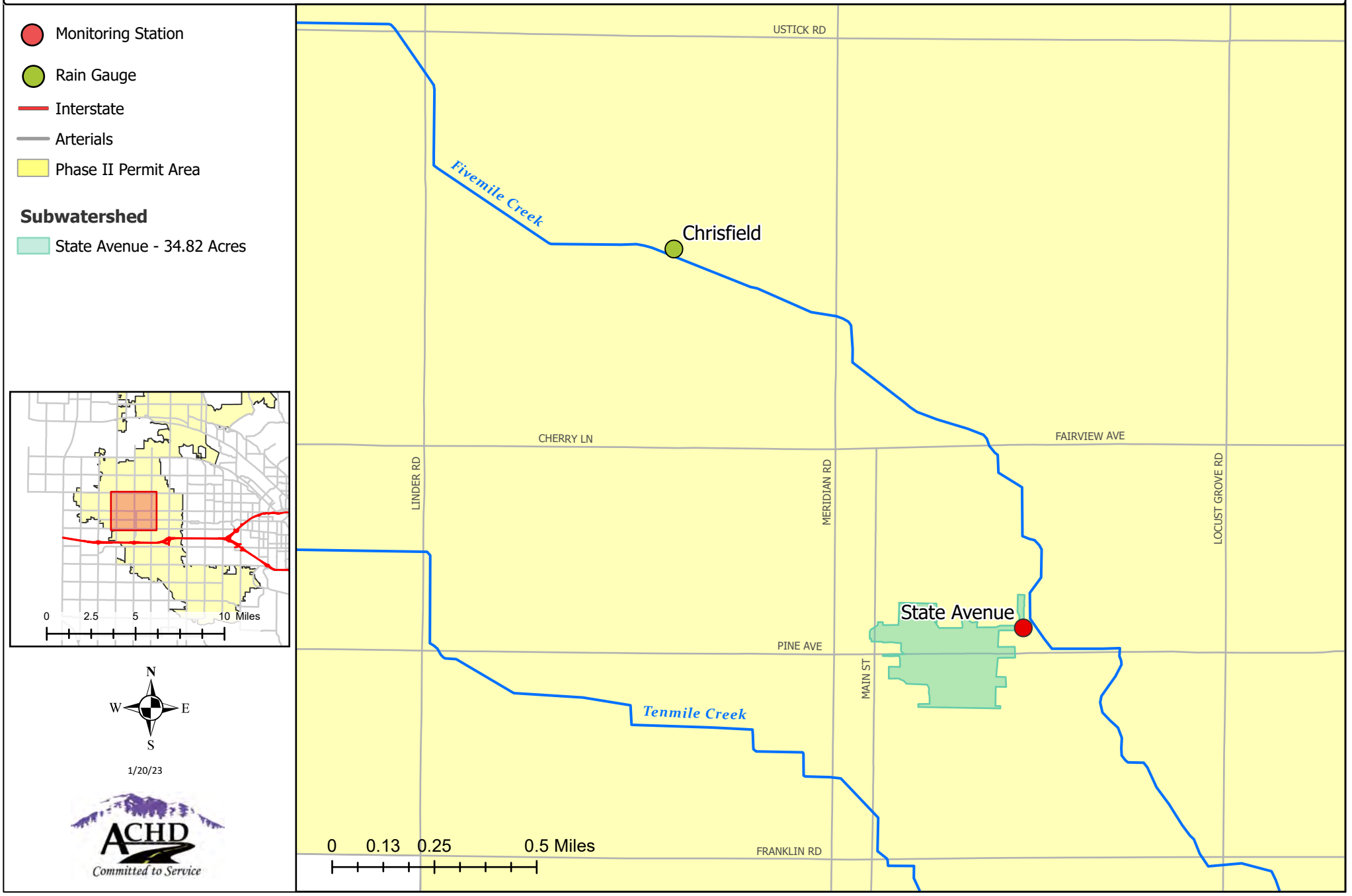
A combination of QA/QC measures is used to verify and validate program data and results. These measures are outlined in the QAPP and the Plan. During Permit Year 2, QC samples consisted of field QC samples and laboratory QC samples. Field QC sample intervals followed a predetermined schedule included in the Plan. Laboratory QC sample results are outlined in each analytical report included in the Storm Event Reports in Appendix C. A summary of QC sample results is in Table 5.

Following each monitored storm event, a data validation checklist is completed to evaluate the analytical and field parameter results. These checklists are used to compare monitoring methods and all monitoring data collected against performance criteria established to meet the data quality objective described in the QAPP. For Permit Year 2, one laboratory analytical result was qualified and is denoted in Table 4.

During routine monitoring station maintenance on August 25, 2022, an equipment blank and a rinsate blank were collected. Dissolved copper was detected in the rinsate blank. Dissolved copper concentrations detected in the stormwater composite samples were greater than five times the concentration detected in the rinsate blank; therefore, the samples remain unqualified.

Appendix A: Figures

Figure 1. Vicinity Map
Phase II NPDES Monitoring Locations



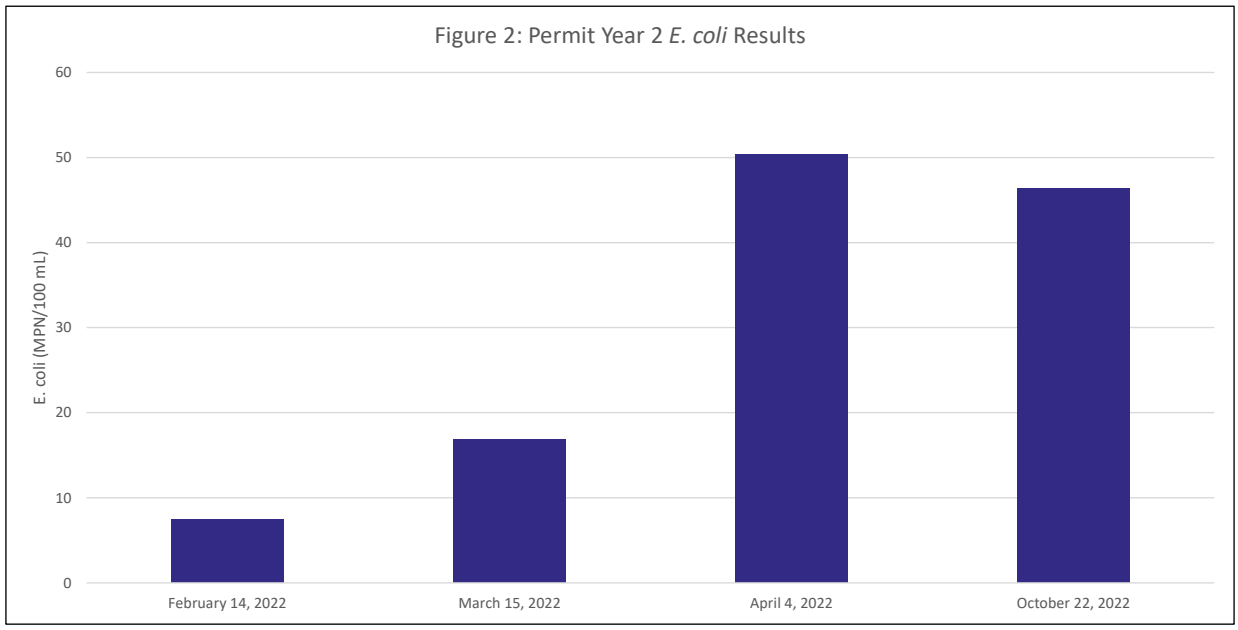


Figure 2: Permit Year 2 E. coli Results
E. coli (MPN/100 mL)
60
50
40
30
20
10
0
February 14, 2022
March 15, 2022
April 4, 2022
October 22, 2022

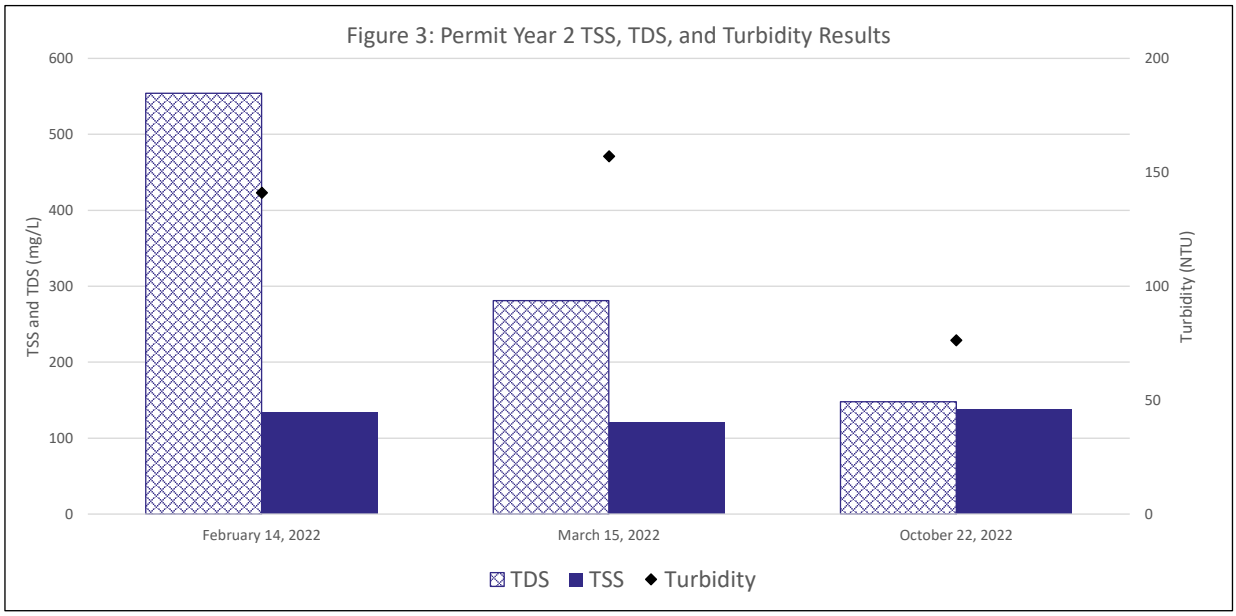


Figure 3: Permit Year 2 TSS, TDS, and Turbidity Results
TSS and TDS (mg/L)
600
500
400
300
200
100
0
Turbidity (NTU)
200
150
100
50
0
February 14, 2022
March 15, 2022
October 22, 2022
TDS
TSS
Turbidity

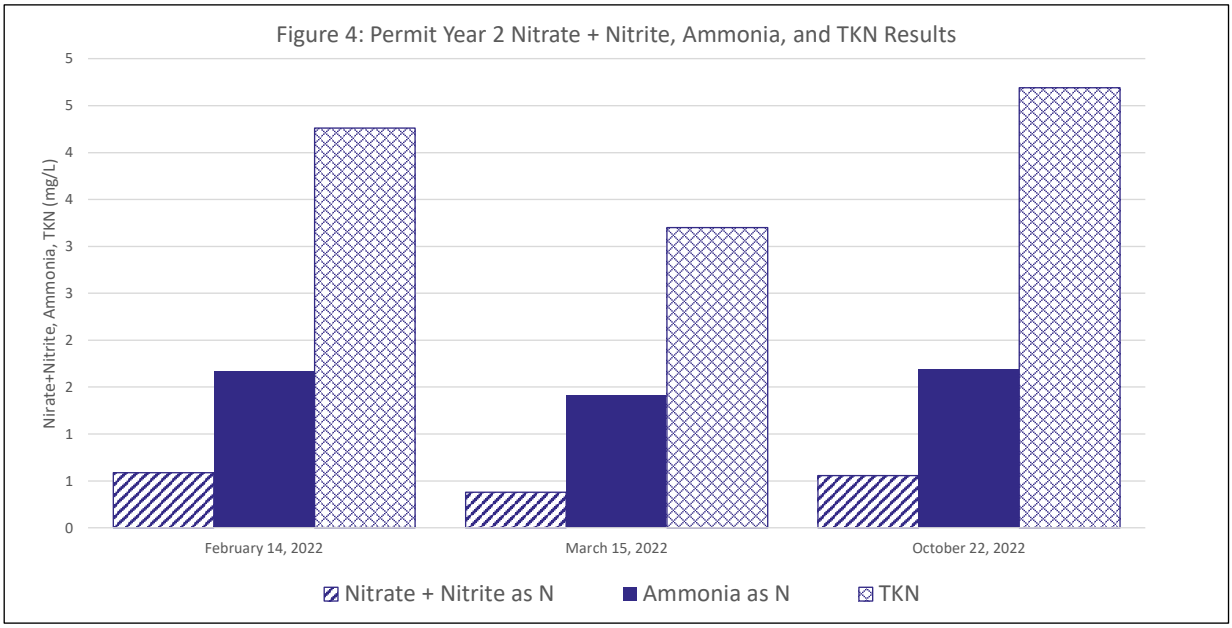


Figure 4: Permit Year 2 Nitrate + Nitrite, Ammonia, and TKN Results
Nirate+Nitrite, Ammonia, TKN (mg/L)
5
5
4
4
3
3
2
2
1
1
0
February 14, 2022
March 15, 2022
October 22, 2022
Nitrate + Nitrite as N
Ammonia as N
TKN

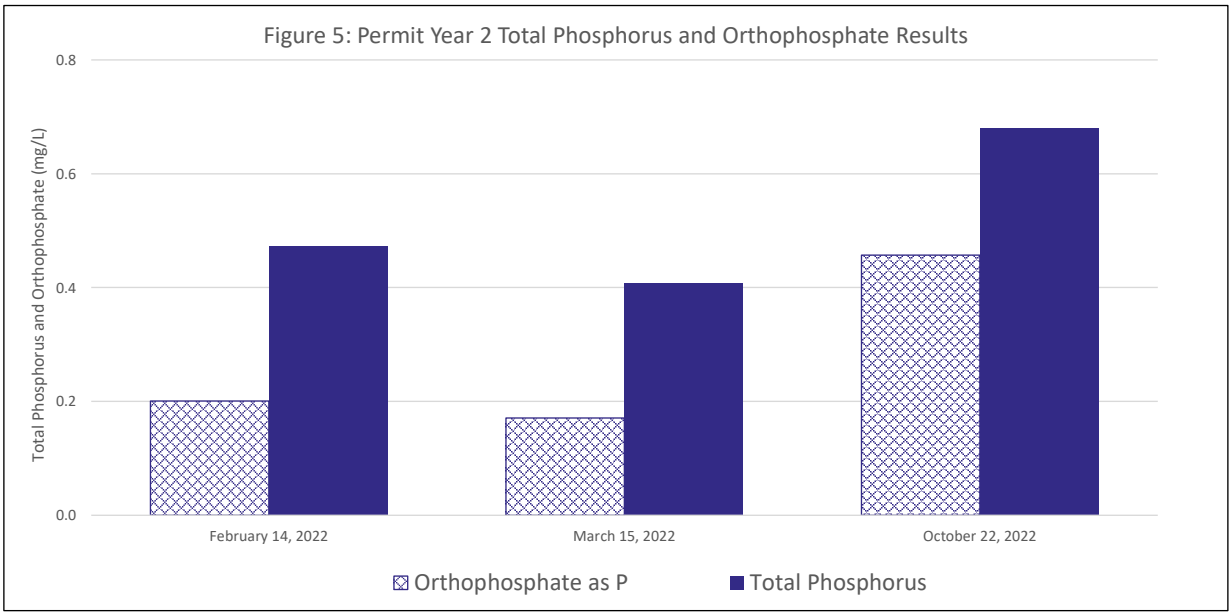


Figure 5: Permit Year 2 Total Phosphorus and Orthophosphate Results
Total Phosphorus and Orthophosphate (mg/L)
0.8
0.6
0.4
0.2
0.0
February 14, 2022
March 15, 2022
October 22, 2022
Orthophosphate as P
Total Phosphorus

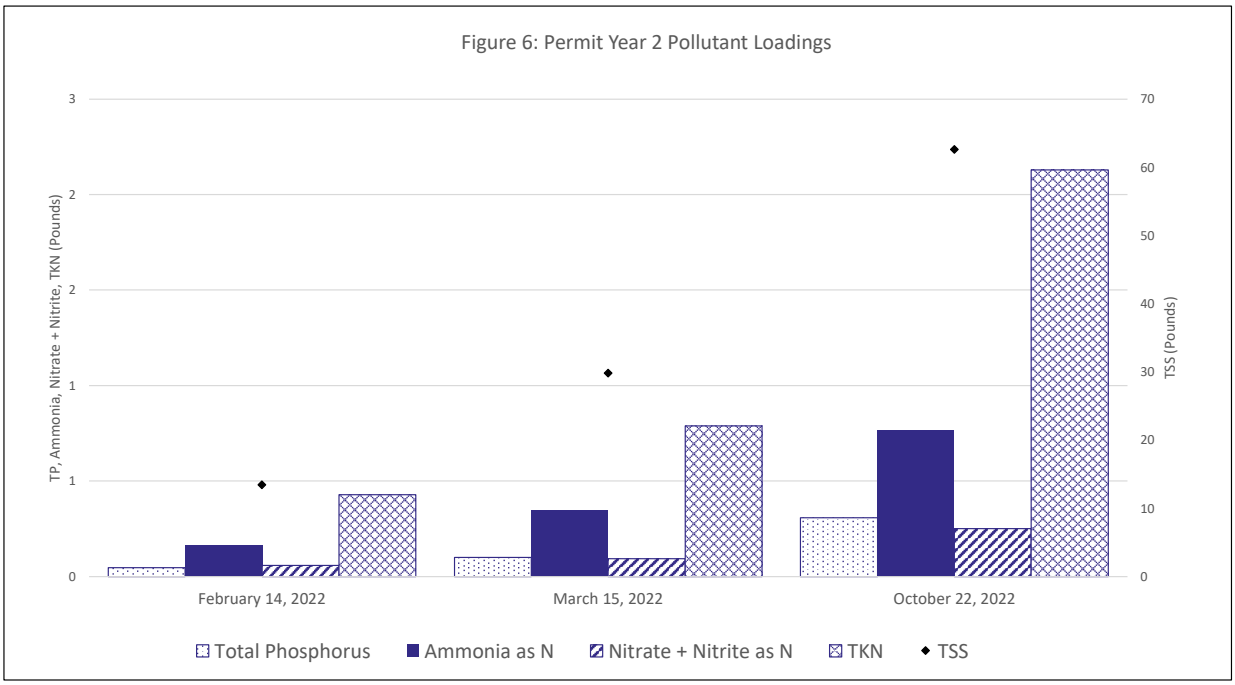


Figure 6: Permit Year 2 Pollutant Loadings
TP, Ammonia, Nitrate + Nitrite, TKN (Pounds)
TSS (Pounds)
0
1
1
2
2
3
0
10
20
30
40
50
60
70
February 14, 2022
March 15, 2022
October 22, 2022
Total Phosphorus
Ammonia as N
Nitrate + Nitrite as N
TKN
TSS

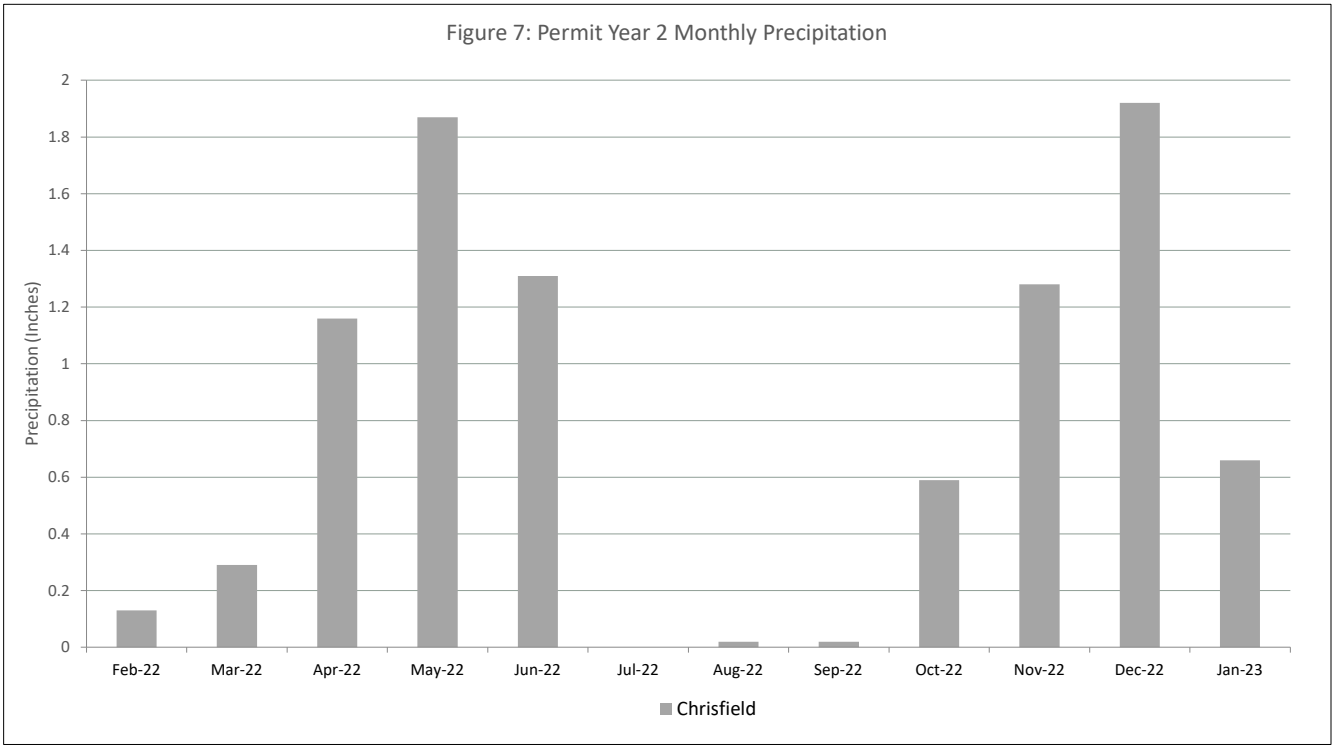
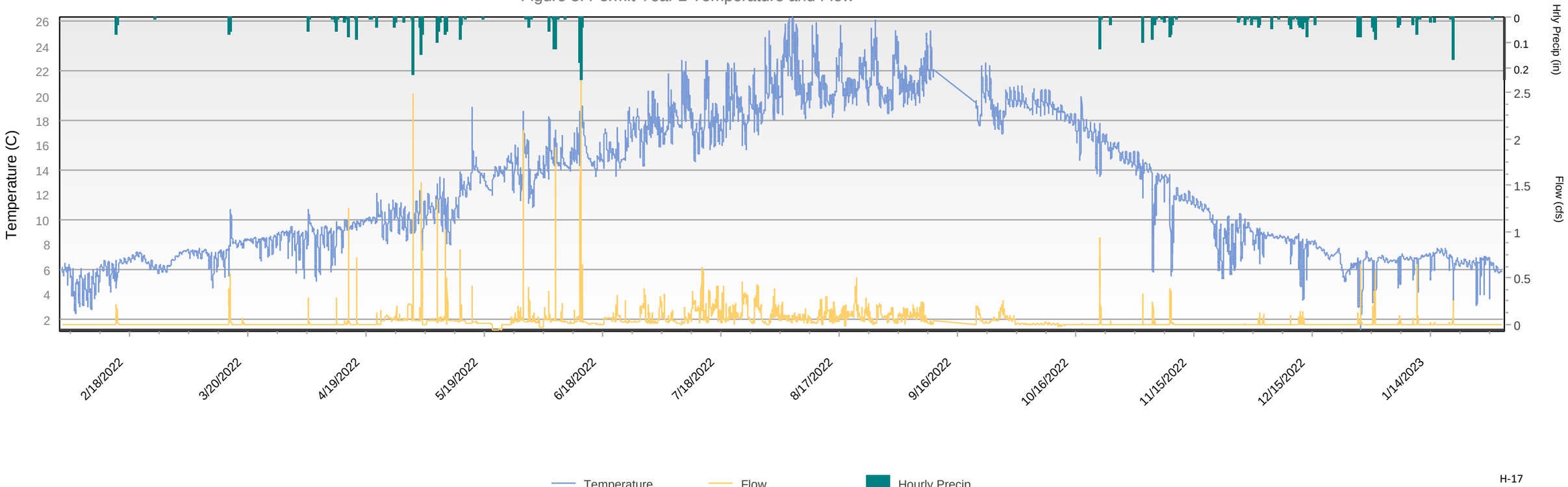


Figure 7: Permit Year 2 Monthly Precipitation
Precipitation (Inches)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Feb-22
Mar-22
Apr-22
May-22
Jun-22
Jul-22
Aug-22
Sep-22
Oct-22
Nov-22
Dec-22
Jan-23
Chrisfield

Figure 8. Permit Year 2 Temperature and Flow



Appendix B: Tables

Table 1. Monitored Storms and Samples Collected		
Event Date	Sampling Information	State
February 14, 2022	Grab samples collected and submitted?	YES
	Composite samples collected and submitted?	YES
	Trigger volume	122 ft^3
	Sampler enable condition (in)	Level > 1.5
	Percent of storm flow sampled	98%
	Composite sample duration (hrs.)	10.0
	Storm precipitation (in)	0.12
March 15, 2022	Grab samples collected and submitted?	YES
	Composite samples collected and submitted?	YES
	Trigger volume	211 ft^3
	Sampler enable condition (in)	Level > 1.5
	Percent of storm flow sampled	99%
	Composite sample duration (hrs.)	10.0
	Storm precipitation (in)	0.29
April 4, 2022	Grab samples collected and submitted?	YES
	Composite samples collected and submitted?	NO
	Trigger volume	–
	Sampler enable condition (in)	–
	Percent of storm flow sampled	–
	Composite sample duration (hrs.)	–
	Storm precipitation (in)	0.15
October 22, 2022	Grab samples collected and submitted?	YES
	Composite samples collected and submitted?	YES
	Trigger volume	419 ft^3
	Sampler enable condition (in)	Level > 1.5
	Percent of storm flow sampled	97%
	Composite sample duration (hrs.)	5.5
	Storm precipitation (in)	0.52

Notes:

-- = No data

Table 2. Field Parameter Results				
Event Date	Field Parameters			
	Dissolved Oxygen	pH	Conductivity	Temperature
	mg/L	S.U.	uS/cm	C
February 14, 2022	9.08	6.38	947.3	7.65
March 15, 2022	9.07	6.33	702.7	7.88
April 4, 2022	8.66	6.99	340.7	11.28
October 22, 2022	6.27	6.80	185.9	15.96

Table 3. Analytical Results

Event Date	Sample ID	Analytical Parameters																		
		E. coli	BOD_5	COD	Hardness as $CaCO_3$	Turbidity	TSS	TDS	Total Phosphorus	Orthophosphate as P	Ammonia as N	Nitrate + Nitrite as N	TKN	Arsenic, total	Cadmium, dissolved	Cadmium, total	Copper, dissolved	Lead, dissolved	Lead, total	Mercury, total	Zinc, dissolved
		MPN/100 mL	mg/L	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
February 14, 2022	220214-18-WG/WC	7.5[1J]	32.6	172	147	141	134	554	0.472	0.201	1.67	0.586	4.26	7.4	< 0.0250	0.14	3.6	0.14	6.3	0.0154	24.6
March 15, 2022	220315-18-WG/WC	16.9	19.2	156	91.9	157	121	281	0.407	0.171	1.41	0.378	3.20	3.6	< 0.0250	0.11	4.0	0.10	5.9	0.0167	22.0
April 4, 2022	220404-18-WG	50.4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
October 22, 2022	221022-18-WG/WC	46.4	86.5	216	53.8	76.2	138	148	0.679	0.457	1.69	0.555	4.69	2.8	< 0.0250	0.12	7.7	0.19	6.60	0.0120	24.4

Notes:

– = No data

[1J] Sample is qualified due to an exceeded holding time.

Table 4. Event Loading in Pounds					
Event Date	TSS	Total Phosphorus	Ammonia as N	Nitrate + Nitrite as N	TKN
February 14, 2022	13.5	0.048	0.168	0.0591	0.430
March 15, 2022	29.9	0.100	0.348	0.0933	0.790
October 22, 2022	62.7	0.308	0.768	0.252	2.13

Table 5. QC Sample Results

Event Date	Parent Sample	Sample ID	QC Sample Type	Analytical Parameters																				
				E. coli	BOD_5	COD	Hardness as $CaCO_3$	Turbidity	TSS	TDS	Total Phosphorus	Orthophosphate as P	Ammonia as N	Nitrate + Nitrite as N	TKN	Arsenic, total	Cadmium, dissolved	Cadmium, total	Copper, dissolved	Lead, dissolved	Lead, total	Mercury, total	Zinc, dissolved
				mpn/100 mL	mg/L	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
March 15, 2022	State Grab	220315-18-001	Field blank	< 1.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	State Grab	220315-18-101	Field duplicate	21	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	Calculated parent/duplicate RPD			**4.5%**	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
October 10, 2022	State Grab	221010-18-001	Field blank	< 1.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	State Grab	221010-18-101	Field duplicate	56	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	Calculated parent/duplicate RPD			**3.0%**	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
August 25, 2022	–	220825-18-004	Rinsate blank	–	< 2.00	< 13.0	< 0.115	< 0.3	< 0.900	< 25.0	< 6.00E-3	< 2.00E-3	< 0.0350	< 0.0250	< 0.100	< 0.0400	< 0.0250	< 0.0250	0.27	< 0.0500	< 0.0500	< 0.0100	< 0.780
August 25, 2022	–	220825-18-003	Equipment blank	–	< 2.00	< 13.0	< 0.115	< 0.3	< 0.900	< 25.0	< 6.00E-3	< 2.00E-3	< 0.0350	< 0.0250	< 0.100	< 0.0400	< 0.0250	< 0.0250	< 0.150	< 0.0500	< 0.0500	< 0.0100	< 0.780
Allowable RPD				40%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%

– = No data

Appendix C: Storm Event Reports

Technical Memorandum

1290 W. Myrtle St. Suite 340
Boise, ID 83702

Phone: 208-389-7700

Prepared for: Ada County Highway District

Project Title: NPDES SW Mgmt Support 2022

Project No.: 158096

Technical Memorandum

Subject: ACHD Phase II Storm Event Report for February 14, 2022

Date: April 4, 2022

To: Tammy Lightle

Cc: Monica Lowe

From: Shannon Kronz, Project Engineer

Prepared by: Shannon Kronz, Project Engineer

Reviewed by: Erin Cox, Project Manager

Limitations:

This document was prepared solely for ACHD in accordance with professional standards at the time the services were performed and in accordance with the contract between ACHD and Brown and Caldwell dated January 20, 2022. This document is governed by the specific scope of work authorized by ACHD; it is not intended to be relied upon by any other party except for regulatory authorities contemplated by the scope of work. We have relied on information or instructions provided by ACHD and other parties and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.

Section 1: Introduction

The EPA Region 10 reissued a Municipal Separate Storm Sewer System Phase II National Pollutant Discharge Elimination System Permit (NPDES Permit), effective February 1, 2021, to Ada County Highway District (Permittee). Under the NPDES Permit, the Permittee is required to continue to conduct wet weather stormwater outfall monitoring. One Phase II outfall monitoring site (State) has been established. At the monitoring site, a minimum of three composite and three grab samples must be collected during the permit period (February 1, 2022 – January 31, 2023) for permit compliance. The following storm event report summarizes the stormwater sampling results from the February 14, 2022, storm event.

Section 2: Project Status

During the February 14th stormwater sampling event, one grab and one composite sample were collected. Three grab and two composite samples are still required for this permit period for Phase II Stormwater Outfall Monitoring. Table 1-1 summarizes the sample types collected to date and how many more are still needed during this permit period.

Table 1-1. Project Status

Date	State
February 14, 2022	G[1], C
Still need:	3G, 2C

Notes:

C = composite sample.

G = grab sample.

[1] E. coli grab sample is qualified due to an exceeded hold time.

Section 3: Storm Event Summary

The February 14, 2022, storm event and the subsequent preparation and sampling efforts are detailed in the following sections.

3.1 Storm Detail

A detailed summary of the forecast on which monitoring decisions were based is included below. The sampling event communication form from February 14, 2022, is included in Attachment A for reference.

Monday, February 22, 2022

- The National Weather Service issued a forecast for widespread rain in the Boise area Monday evening on the morning of Monday, February 14. Rainshadowing was not expected. The chance of precipitation was 80 percent with precipitation totals between 0.10” and 0.20”.
- Setup was accomplished Monday afternoon. An expected precipitation depth of 0.11 inch was used to set the trigger volume.
- Heavy rain started at 6:30 pm and continued over the next hour. Around 9:15 pm, another wave of rain started and continued over the next hour.
- The local rain gauge recorded 0.12 in of total precipitation.

Flow measurements and precipitation data are listed in Table 1 along with a sampling event summary. Hydrographs showing flow, rain, and sample collection data are included in Attachment B.

3.2 Sampling Summary

State monitoring station was set up the afternoon of Monday, February 14, to collect flow-proportional composite samples during the storm. A site-specific velocity cutoff volume was calculated and programmed into the flowmeter. Setup and sampling information is summarized in Table 1. The field forms completed during setup/shut down and sampling can be found in Appendix D.

Grab Samples

One, two-member team mobilized to collect the stormwater runoff grab sample and verify operation of the automatic sampling equipment on the evening of February 14, 2022. The grab sample was submitted to the West Boise Water Quality Lab (WQL) at 2127 on February 14. Results for the grab sample, including field parameter and analytical data, are detailed in Table 2. Laboratory analytical reports are included in Attachment C.

Composite Samples

A composite sample was collected at the State monitoring station. The volume of the composite sample submitted was sufficient for all parameters. The composite sample was submitted to the WQL on February 15 at 0902. Analytical results are included in Table 2. Pollutant loading estimates for the event are included in Table 3.

Section 4: Quality Assurance/Quality Control

Data quality objectives for this storm were evaluated and tracked using the data validation review checklist included in Attachment A. The E. coli grab sample was qualified due to an exceeded hold time at the WQL. The E. Coli grab sample was submitted to the WQL at 2127 on February 14, 2022 and analyzed for E. coli at 0806 on February 15, 2022, which exceeded the 8-hr hold time. All other acceptance and performance criteria for analytical and non-analytical data were met for this storm event.

Data Tables

Table 1. Sampling and Flow Summary	
	State
Grab samples collected and submitted?	YES
Composite samples collected and submitted?	YES
Trigger volume (ft^3)	122
Sampler enable condition (in)	level > 1.5
Runoff start date/time	2/14/22 18:36
Grab sample collection date/time	2/14/22 20:50
Composite sample stop date/time	2/15/22 5:09
Runoff stop date/time	2/15/22 6:00
Volume of discharge sampled (ft^3)	1,586
Total runoff volume (ft^3)	1,616
Percent of storm flow sampled (%)	98%
Composite sample duration (hrs)	10
Storm Precipitation (in)	0.12
Referenced Rain Gauge	Chrisfield
Sampler messages (counts): Success	13
Number of composite bottles filled	1
Composite sample volume (Approx.; ml)	8,000

Notes:

Table 2. Field and Analytical Data Summary - Wet Samples

Monitoring Station	Sample Date	Sample ID Grab	Field Parameters				Analytical Parameters																				
			Dissolved Oxygen	pH	Conductivity	Temperature	E. coli	Sample ID Composite	BOD_5	COD	Hardness as CaCO3	Turbidity	TSS	TDS	Total Phosphorus	Dissolved Orthophosphate, as P	Ammonia	Nitrate + Nitrite (N)	TKN	Arsenic, total	Cadmium, dissolved	Cadmium, total	Copper, dissolved	Lead, dissolved	Lead, total	Mercury, total	Zinc, dissolved
			mg/L	S.U.	uS/cm	C	mpn/100 mL		mg/L	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
State	2/14/2022	220214-18-WG	9.08	6.38	947.3	7.65	7.5[1]	220214-18-WC	32.6	172	147	141	134	554	0.472	0.201	1.67	0.586	4.26	7.4	<0.0250	0.14	3.6	0.14	6.3	0.0154	24.6

Notes:

[1] Sample is qualified due to an exeeded hold time.

Table 3. Event Pollutant Loading Estimates in Pounds						
Monitoring Station	Event Date	TSS	Total Phosphorus	Ammonia	Nitrate + Nitrite (N)	TKN
State	2/14/2022	13.5	0.048	0.168	0.0591	0.430

Notes:

Attachment A: Supplemental Documents

Sampling Event Communication Form

Data Validation Checklist

Runoff Calculation Worksheet

SAMPLING EVENT COMMUNICATION FORM

Date: 14 Feb 2022 **Time:** 7:44 AM **Initials:** TL

Sampling Event Determination

Is there a targeted sampling event expected during the next 36 hours?
(Or, if it is Friday, is a targeted event expected before 5:00 PM on Monday?)

(●) Yes ( ) Maybe ( ) No

If YES or MAYBE, then call BC. Include discussion of reasons for "Maybe" below.

- [x] Date and Time of Expected Event — 2/14 4pm - 2/15 12am
- [x] Expected Amount of Precipitation
- [x] Percent Chance of Precipitation — 80% 0.17"

Targeted Stations & Samples

Americana	Main	Lucky	AS-6	Whitewater
[x] Grab	[x] Grab	[x] Grab	[x] Grab	[x] Grab
[x] Composite	[x] Composite	[x] Composite	[x] Composite	[x] Composite

Phase II
State
- [x] Grab
- [x] Composite

Type of Forecasted Precipitation

- [ ] Light Rain
- [x] Rain
- [ ] Scattered Showers
- [ ] Thunder Showers
- [ ] Snow Melt
- [ ] Rain on Snow
- [ ] Other (Describe below)

Reasons for Not Targeting a Forecasted Storm or Targeting Selected Stations/Samples

- [ ] Equipment Concerns (Describe below)
- [ ] Holiday
- [ ] Other (Describe below)
- [ ] Waiting on Antecedent Dry Period.

Expires:

Comments

Past 72 hr precip: 0.00"
I spoke with Les at NWS. The models are in very good agreement on timing and totals. It is looking like the cold front will arrive around 6pm, and produce moderate to heavy precip until about 8pm. The precip is widespread with no chance of rainshadowing. Models are predicting between 0.10" and 0.20". After 8pm, the rain will become a rain/snow mix but due to warm ground temps, it will melt as soon as it hits the ground.

NWS Forecast for: Boise ID
Issued by: National Weather Service Boise, ID
Last Update: 4:32 am MST Feb 14, 2022

Today: A 20 percent chance of showers and thunderstorms after 11am. Mostly cloudy, with a high near 54. Light southeast wind increasing to 9 to 14 mph in the afternoon.
Tonight: Rain showers before 8pm, then rain and snow showers between 8pm and 11pm, then a slight chance of snow showers after 11pm. Some thunder is also possible. Low around 30. West northwest wind 5 to 11 mph. Chance of precipitation is 80%. New snow accumulation of less than a half inch possible.
Tuesday: Mostly sunny, with a high near 45. Northwest wind 6 to 14 mph.
Tuesday Night: Mostly clear, with a low around 28. Northwest wind 10 to 15 mph becoming light in the evening.
Wednesday: Mostly sunny, with a high near 44. Light north northwest wind becoming northwest 6 to 11 mph in the morning. Winds could gust as high as 20 mph.
Wednesday Night: Mostly clear, with a low around 26.
Thursday: Sunny, with a high near 48.
Thursday Night: Mostly clear, with a low around 29.
Friday: Mostly sunny, with a high near 50.
Friday Night: Mostly clear, with a low around 29.
Saturday: Mostly sunny, with a high near 50.
Saturday Night: Mostly cloudy, with a low around 33.
Sunday: A slight chance of rain and snow showers. Mostly cloudy, with a high near 48. Chance of precipitation is 20%.

Area Forecast Discussion
National Weather Service Boise ID
340 AM MST Mon Feb 14 2022

.SHORT TERM...Today through Wednesday night...A trough over the Gulf of Alaska will move southeastward into the Pacific NW today and weaken as it moves inland. Temperatures today will be quite mild, with values in the upper 50s to low 60s across eastern OR and into the 50s possible across the Treasure Valley ahead of the cold front. Wind gusts ahead of the system will increase to SW 20-30 mph across eastern OR, and 10-20 mph elsewhere this afternoon. **The cold front associated with this system will move into** eastern Oregon between Noon and 3 pm PST, reach McCall, **Boise, and the Owyhees between 4 pm and 7 pm MST**, and reach Fairfield and the western Magic Valley between 8 pm and 11 pm MST. **The cold front will bring showers, brief wind gusts up to 45 mph, and a slight chance of thunderstorms. Snow levels will start out around 6000-6500ft before lowering to the valley floors behind the front as precipitation tapers off.** Snow accumulations of 2-4 inches generally across the mountains with a dusting of snow possible (localized amounts up to an inch) in the valleys below 4000ft. Tuesday will be dry across most of the region, except lingering snow showers over the mountains. Temperatures will be 3-5 degrees cooler behind the cold front on Tuesday, with brisk northwest winds of 10-20 mph during the afternoon. Another shortwave moves south along the Rockies on Wednesday, with isolated snow showers on Wednesday afternoon. Minimal accumulations expected. Temperatures will be 3-5 degrees below normal.

.LONG TERM...Thursday through Monday...A push of moisture will follow the departure of the upper level trough on Wednesday. Though most moisture should generally be west of the forecast area, guidance suggests mountain snowfall for the West Central and Boise Mountains through the evening. Once this push of moisture clears the area, a drier northwest flow will be present through Thursday. **Another disturbance moving through the Pacific Northwest could impact the area as early as Friday, though guidance varies on timing.** The slower guidance have the system arriving with increased moisture by Saturday morning. This slower solution could produce showers for eastern Oregon, with activity spreading east through the day. **Most guidance in better agreement with arrival of another system by Sunday, though vary in precipitation placement and intensity.** Temperatures start the forecast period slightly above normal, with values cooling to near normal by Sunday.

Storm Event QA/QC Checklist

STORM DATE: 220214				Circle one: Phase I Phase II
A. Event and Data Completeness	**Yes**	**No**	**N/A**	**Notes**
1. Field data sheets filled out completely and clearly	X			
2. Field parameters reviewed, and any problems/issues addressed	X			
3. All samples collected as specified	X			
4. All samples delivered to lab promptly (review chain of custody rpts)	X			
5. Inconsistencies/clarifications discussed with sampling team member	X			safety briefing form reminder
6. All analytical reports from lab received	X			
B. Validation and Verification Methods	**Yes**	**No**	**N/A**	**Notes**
1. Outliers and unexpected values discussed with lab			X	
2. Appropriate analytical methods used	X			
3. All lab QA samples were within method acceptance criteria	X			
4. All samples reviewed and data qualifiers assigned if needed	X			
5. Data quality objective achieved	X			

C. Specific Storm and Sample QA/QC Criteria	Storm/Sample Value	Program Criteria	Met	Qualify	Reject	Notes
1. Precipitation (inches)	0.12	> 0.10 in.	X			
2. Antecedent dry period (hours)	0.00 in 72hrs	< 0.11 in. in 72 hrs	X			
3. Days since last sampling event	>30 days	>= 30 days	X			
4. Sampled amount as % of total run-off	94 %	>= 75%	X			
5. Ecoli sample holding time	11 hrs	<=8 hrs: no qualifier >8 and <=16 hrs.: qualify >16 hrs.: reject		X		
6. Filtering of samples for dissolved parameter analysis	4hrs	<= 24 hrs: no qualifier > 24 hrs.: reject	X			

D. Notes:

E.coli sample qualified b/c of exceeded holdtime

Reviewed by Tamara Lightle **Date** 03.11.2022 **Approved by** Monica Love **Date** 3/14/22

Storm Runoff Estimates and Trigger Volumes

ACHD Storm Water Monitoring Water Year 2022

Simple Method

Expected Precipitation Depth =	0.11	in
Square Feet per Acre =	43560	ft^2/ac
Inches per Foot=	12	in/ft
Aliquots per Sample=	17	

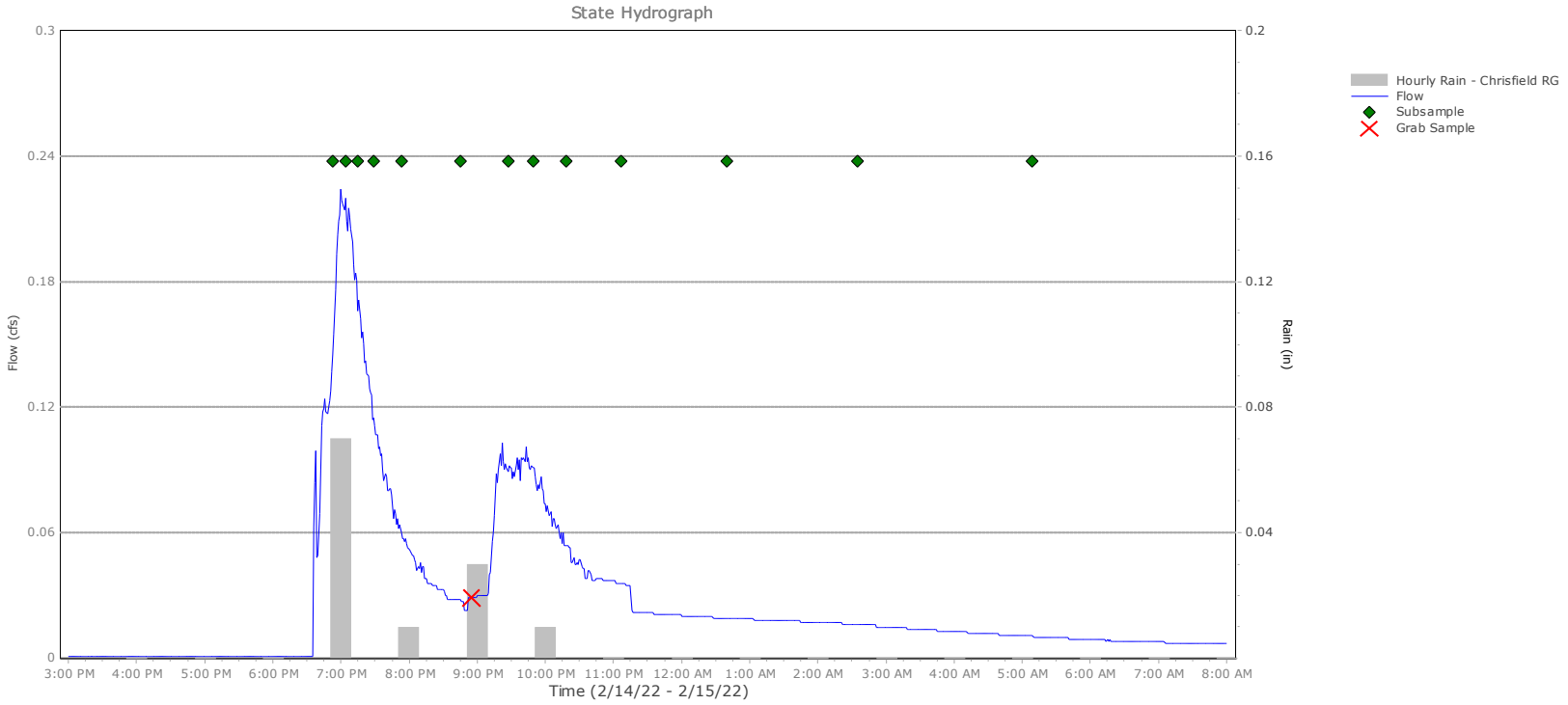
Step 1. Enter runoff coefficients in yellow cells.
Step 2. Enter expected precipitation depth in inches in blue cell.
Step 3. Read trigger volumes (**bold**) in green cells.

Site	Area (ac)	Using RC Based on Land Use			Using Manually-entered RC		
		RC	Expected Vol. (ft^3)	Trigger Vol. (ft^3)	RC	Expected Vol. (ft^3)	Trigger Vol. (ft^3)
#3 Lucky	105	0.401	16813	**989**	0.157	6582.46	**387**
#11 Whitewater	498	0.437	86898	**5112**	0.116	23066.76	**1357**
#12 Main	79	0.437	13785	**811**	0.246	7760.00	**456**
#14 Americana	875	0.446	155827	**9166**	0.144	50311.80	**2960**
#206 AS_6	204	0.257	20935	**1231**	0.046	3747.03	**221**
#18 State	34	0.419	5688	**335**	0.144	1954.97	**122**
Theoretical	80	0.200	6389		0.000		

NOTES: 1. Land usage data, watershed area, and % imp are from ACHD 2013 GIS analysis.

Runoff Coefficient = Runoff Volume (ft^3) ÷ [Storm Depth (ft) x Area (ft^2)]
all values taken from historically corrected runoff coefficents
total acreage*total precip = total runoff (unit conversion factor from acre inches to cubic feet 3630)
Measured runoff
RC = measured runoff / total runoff

Attachment B: Storm Event Hydrographs


State Hydrograph
Flow (cfs)
Rain (in)
0.3
0.24
0.18
0.12
0.06
0
0.2
0.16
0.12
0.08
0.04
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
Time (2/14/22 - 2/15/22)
Hourly Rain - Chrisfield RG
Flow
Subsample
Grab Sample

Attachment C: Storm Event Analytical Reports

Report Date: 02/22/2022 14:47

Boise City Public Works
Water Quality Laboratory
11818 Joplin Road
Boise, Idaho 83714-1076
Telephone (208) 608-7240
Fax (208) 608-7319

Samples in this Report

Lab ID	Sample	Sample Description	Matrix	Qualifiers	Date Sampled	Date Received
AC00190-01	ACST2B	220214-18-WG	Water		02/14/2022	02/15/2022

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Report Date: 02/22/2022 14:47

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Analysis Report

Location:	ACST2B	Location Description:	220214-18-WG
Date/Time Collected:	02/14/2022 20:50		
Lab Number:	AC00190-01	Sample Collector:	SMK
Sample Type:	Grab	Sample Matrix:	Water

Analyte Name	Batch	Result	Units	Adjusted MDL *	Method MDL	Analysis Method Reference	Prepared Time	Analysis Time	Analyst Initials	Qual
Microbiology										
E. Coli	B220572	7.5	MPN/100 mL	1.0	1.0	IDEXX - Colilert	02/15/22 07:56	2/16/22 8:06	ALN	H
Wet Chemistry										
Chlorine Screen	B220575	Absent				SM 4500-CL G-2000 mod	02/15/22	2/15/22 7:29	ASE	

* The reported adjusted "MDL" is sample-specific. The analysis MDL as defined by 40 CFR pt 136 App.B. was corrected for dilution, dry weight, or method-defined ML.

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Quality Control Report

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Microbiology									
Batch: B220572									
Blank (B220572-BLK1)									
E. Coli	Absent						02/16/2022	ALN	
LCS (B220572-BS1)									
E. Coli				Present			02/16/2022	ALN	
Duplicate (B220572-DUP1)	Source ID: WB01660-06								
E. Coli					Pass	128	02/16/2022	ALN	

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Notes and Definitions

Item	Definition
H	Hold time Exceeded.

Method Reference Acronyms

Colilert	Colilert, IDEXX Laboratories, Inc.
EPA	Manual of Methods for Chemical Analysis of Water and Wastes, USEPA
GS	USGS Techniques of Water-Resources Investigations
HH	Hach Spectrophotometer Procedures Manual
SM	Standard Methods for the Examination of Water and Wastewater
SW	Test methods for Evaluating Solid Waste, SW-846

for JFK

Janet Finegan-Kelly
Water Quality Laboratory Manager

Stephen Quintero or Azubike Emenari
QA/QC Coordinator

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Ada County Highway District

Attn: Monica Lowe
7775 Adams Street
Garden City, Idaho 83714–6418
Tel. (208) 387–6255
Fax (208) 387–6391
Purchase Order: 63058182
Project: Stormwater-PII
Sampler(s): Tammy Lightle
Shannon Kranz

Lab# AC00190	Begin Date	End Date	Begin Time	End Time	Sample Identification	Sampler Initials	Matrix: Water	Type: Grab	Type: Composite	BOD_5 - SM 5210 B	COD - Hach 8000	TSS - SM 2540 D	TDS - SM 2540 C	TKN - EPA 351.2	TP - EPA 200.7	Orthophosphate - EPA 365.1	Total As, Cd, Pb - EPA 200.8	Diss. Cd Cu, Pb, Zn - EPA 200.8	Total Hg - EPA 245.2	E. Coli - IDEXX Colilert	Turbidity - EPA 180.1	Hardness - EPA 200.7	NO_3+NO_2 - EPA 353.2	NH_3 - SM 4500 NH_3 - D	Total Containers (H-43)
-01	2/14/22	2/14/22	20:50		220214-18-WG	SMK	X	X											X						1

Relinquished by (sign)	Date & Time Transferred	Received by (sign)	Comments/Special Instructions:
Shannon Kranz	2/14/22 21:27	2-15-22 0645	Please dilute

AC00190

AC00189 etc

AC00190

Report Date: 03/08/2022 11:38

Boise City Public Works
Water Quality Laboratory
11818 Joplin Road
Boise, Idaho 83714-1076
Telephone (208) 608-7240
Fax (208) 608-7319

Samples in this Report

Lab ID	Sample	Sample Description	Matrix	Qualifiers	Date Sampled	Date Received
AC00191-01	ACST2C	220214-18-WC	Water		02/15/2022	02/15/2022

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Report Date: 03/08/2022 11:38

Boise City Public Works
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Boise, Idaho 83714-1076
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Fax (208) 608-7319

Analysis Report

Location:	ACST2C	Location Description:	220214-18-WC
Date/Time Collected:	02/14/2022 18:53 - 02/15/2022 05:09		
Lab Number:	AC00191-01	Sample Collector:	SMK
Sample Type:	Composite	Sample Matrix:	Water

Analyte Name	Batch	Result	Units	Adjusted MDL *	Method MDL	Analysis Method Reference	Prepared Time	Analysis Time	Analyst Initials	Qual
Wet Chemistry										
Ammonia, as N	B220594	1670	ug/L	35.0	35.0	SM 4500-NH3 D-2011	02/16/22	2/16/22 12:04	ALN	
BOD5	B220580	32.6	mg/L	2.00	2.00	SM 5210 B-2011	02/15/22	2/20/22 10:26	BAK	
COD	B220605	172	mg/L	13.0	13.0	HH 8000, Standard Method 5220 D	02/15/22	2/15/22 12:00	GKH	
Nitrate-Nitrite, as N	B220705	0.586	mg/L	0.0250	0.0250	EPA 353.2, Rev. 2.0 (1993)	02/24/22	2/24/22 11:50	JAL	
TKN	B220668	4.26	mg/L	0.100	0.100	EPA 351.2, 10-107-06-2-M (Equivalent)	02/22/22	2/23/22 9:31	ALN	
Total Dissolved Solids	B220624	554	mg/L	25.0	25.0	SM 2540 C-2011	02/17/22	2/18/22 10:09	JAL	
Total Suspended Solids	B220578	134	mg/L	0.900	0.900	SM 2540 D-2011	02/15/22	2/15/22 12:34	HAL	
Turbidity	B220584	141	NTU	3.0	0.3	EPA 180.1, Rev. 2.0 (1993)	02/15/22	2/15/22 12:53	JAL	D
Dissolved Wet Chemistry										
Orthophosphate, as P	B220606	0.201	mg/L	2.00E-3	2.00E-3	EPA 365.1, Rev. 2.0 (1993)	02/16/22	2/16/22 13:28	JAL	
Total Metals										
Mercury	B220766	0.0154	ug/L	0.0100	0.0100	EPA 245.2	03/02/22	3/3/22 9:17	SAS	
Arsenic	B220733	7.4	ug/L	0.040	0.040	EPA 200.8	02/26/22	2/27/22 14:43	DMW	
Cadmium	B220733	0.14	ug/L	0.025	0.025	EPA 200.8	02/26/22	2/27/22 14:43	DMW	
Calcium	B220615	21300	ug/L	46.0	46.0	EPA 200.7	02/17/22	2/23/22 13:38	EDM	
Lead	B220733	6.3	ug/L	0.050	0.050	EPA 200.8	02/26/22	2/27/22 14:43	DMW	
Magnesium	B220615	22900	ug/L	50.0	50.0	EPA 200.7	02/17/22	2/23/22 13:38	EDM	
Phosphorus as P	B220615	0.472	mg/L	6.00E-3	6.00E-3	EPA 200.7	02/17/22	2/23/22 13:38	EDM	
Hardness	B220615	147	mg/L	0.115	0.115	EPA 200.7	02/17/22	2/23/22 13:38	EDM	
Dissolved Metals										
Cadmium	B220630	<0.0250	ug/L	0.025	0.025	EPA 200.8	02/18/22	2/18/22 12:41	DMW	U
Copper	B220630	3.6	ug/L	0.15	0.15	EPA 200.8	02/18/22	2/18/22 12:41	DMW	
Lead	B220630	0.14	ug/L	0.050	0.050	EPA 200.8	02/18/22	2/18/22 12:41	DMW	
Zinc	B220630	24.6	ug/L	0.78	0.78	EPA 200.8	02/18/22	2/18/22 12:41	DMW	

* The reported adjusted "MDL" is sample-specific. The analysis MDL as defined by 40 CFR pt 136 App.B. was corrected for dilution, dry weight, or method-defined ML.

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Boise City Public Works
Water Quality Laboratory
11818 Joplin Road
Boise, Idaho 83714-1076
Telephone (208) 608-7240
Fax (208) 608-7319

Quality Control Report

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Wet Chemistry									
Batch: B220578									
Blank (B220578-BLK1)									
Total Suspended Solids	<0.9	mg/L					02/15/2022	HAL	U
LCS (B220578-BS1)									
Total Suspended Solids			99.5	90-110			02/15/2022	HAL	
Duplicate (B220578-DUP1) Source ID: BB01871-01									
Total Suspended Solids					3.04	20	02/15/2022	HAL	
Batch: B220580									
Blank (B220580-BLK1)									
BOD5	<2	mg/L					02/20/2022	BAK	U
LCS (B220580-BS1)									
BOD5			96.0	84.6-115.4			02/20/2022	BAK	
LCS (B220580-BS2)									
BOD5			93.7	84.6-115.4			02/20/2022	BAK	
Duplicate (B220580-DUP1) Source ID: BB01894-01									
BOD5					1.16	30	02/20/2022	BAK	D
Batch: B220584									
Blank (B220584-BLK1)									
Turbidity	<0.3	NTU					02/15/2022	JAL	U
LCS (B220584-BS1)									
Turbidity			99.8	90-110			02/15/2022	JAL	
Duplicate (B220584-DUP1) Source ID: AC00191-01									
Turbidity					1.19	25	02/15/2022	JAL	D
Batch: B220594									
Blank (B220594-BLK1)									
Ammonia, as N	<35	ug/L					02/16/2022	ALN	U
LCS (B220594-BS1)									
Ammonia, as N			102	90-110			02/16/2022	ALN	
Duplicate (B220594-DUP1) Source ID: BB01860-01									
Ammonia, as N					5.44	10	02/16/2022	ALN	
Matrix Spike (B220594-MS1) Source ID: BB01860-01									
Ammonia, as N			104	80-120			02/16/2022	ALN	
Matrix Spike Dup (B220594-MSD1) Source ID: BB01860-01									
Ammonia, as N			95.0	80-120	5.40	10	02/16/2022	ALN	

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Quality Control Report
(Continued)

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Wet Chemistry (Continued)									
Batch: B220605									
Blank (B220605-BLK1)									
COD	<13	mg/L					02/15/2022	GKH	U
LCS (B220605-BS1)									
COD			96.3	90-110			02/15/2022	GKH	
Duplicate (B220605-DUP1) Source ID: AC00191-01									
COD					NR	10	02/15/2022	GKH	
Batch: B220624									
Blank (B220624-BLK1)									
Total Dissolved Solids	<25	mg/L					02/18/2022	JAL	U
LCS (B220624-BS1)									
Total Dissolved Solids			97.7	90-110			02/18/2022	JAL	
Duplicate (B220624-DUP1) Source ID: EN00026-01									
Total Dissolved Solids					0.964	10	02/18/2022	JAL	
Batch: B220668									
Blank (B220668-BLK1)									
TKN	<0.1	mg/L					02/23/2022	ALN	U
Blank (B220668-BLK2)									
TKN	<0.1	mg/L					02/23/2022	ALN	U
LCS (B220668-BS1)									
TKN			97.1	80-120			02/23/2022	ALN	
LCS (B220668-BS2)									
TKN			98.4	80-120			02/23/2022	ALN	
Duplicate (B220668-DUP1) Source ID: AC00191-01									
TKN					5.57	20	02/23/2022	ALN	
Duplicate (B220668-DUP3) Source ID: BB01890-01									
TKN					10.1	20	02/23/2022	ALN	D
Matrix Spike (B220668-MS1) Source ID: AC00191-01									
TKN			110	80-120			02/23/2022	ALN	
Matrix Spike (B220668-MS3) Source ID: BB01890-01									
TKN			92.5	80-120			02/23/2022	ALN	D
Matrix Spike Dup (B220668-MSD1) Source ID: AC00191-01									
TKN			91.2	80-120	10.2	20	02/23/2022	ALN	
Matrix Spike Dup (B220668-MSD3) Source ID: BB01890-01									
TKN			90.9	80-120	0.459	20	02/23/2022	ALN	D

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Quality Control Report
(Continued)

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Wet Chemistry (Continued)									
Batch: B220705									
Blank (B220705-BLK1)									
Nitrate-Nitrite, as N	<0.025	mg/L					02/24/2022	JAL	U
LCS (B220705-BS1)									
Nitrate-Nitrite, as N			101	90-110			02/24/2022	JAL	
Duplicate (B220705-DUP1) Source ID: AC00191-01									
Nitrate-Nitrite, as N					0.488	10	02/24/2022	JAL	
Duplicate (B220705-DUP2) Source ID: WR00017-02									
Nitrate-Nitrite, as N					0.385	10	02/24/2022	JAL	
Matrix Spike (B220705-MS1) Source ID: AC00191-01									
Nitrate-Nitrite, as N			98.7	90-110			02/24/2022	JAL	
Matrix Spike (B220705-MS2) Source ID: WR00017-02									
Nitrate-Nitrite, as N			101	90-110			02/24/2022	JAL	
Matrix Spike Dup (B220705-MSD1) Source ID: AC00191-01									
Nitrate-Nitrite, as N			98.4	90-110	0.176	10	02/24/2022	JAL	
Matrix Spike Dup (B220705-MSD2) Source ID: WR00017-02									
Nitrate-Nitrite, as N			99.6	90-110	0.362	10	02/24/2022	JAL	
Dissolved Wet Chemistry									
Batch: B220606									
Blank (B220606-BLK1)									
Orthophosphate, as P	<0.002	mg/L					02/16/2022	JAL	U
Blank (B220606-BLK2)									
Orthophosphate, as P	<0.002	mg/L					02/16/2022	JAL	U
LCS (B220606-BS1)									
Orthophosphate, as P			102	90-110			02/16/2022	JAL	
LCS (B220606-BS2)									
Orthophosphate, as P			99.2	90-110			02/16/2022	JAL	
Duplicate (B220606-DUP1) Source ID: AC00191-01									
Orthophosphate, as P					1.65	10	02/16/2022	JAL	
Duplicate (B220606-DUP2) Source ID: WB01662-05									
Orthophosphate, as P					1.11	10	02/16/2022	JAL	D
Matrix Spike (B220606-MS1) Source ID: AC00191-01									
Orthophosphate, as P			106	90-110			02/16/2022	JAL	
Matrix Spike (B220606-MS2) Source ID: WB01662-05									
Orthophosphate, as P			108	90-110			02/16/2022	JAL	D
Matrix Spike Dup (B220606-MSD1) Source ID: AC00191-01									
Orthophosphate, as P			108	90-110	0.628	10	02/16/2022	JAL	
Matrix Spike Dup (B220606-MSD2) Source ID: WB01662-05									
Orthophosphate, as P			106	90-110	0.456	10	02/16/2022	JAL	D

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Quality Control Report
(Continued)

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Total Metals									
Batch: B220615									
Blank (B220615-BLK1)									
Calcium	<46	ug/L					02/23/2022	EDM	U
Magnesium	<50	ug/L					02/23/2022	EDM	U
Phosphorus as P	<0.006	mg/L					02/23/2022	EDM	U
LCS (B220615-BS1)									
Calcium			98.3	85-115			02/23/2022	EDM	
Magnesium			99.3	85-115			02/23/2022	EDM	
Phosphorus as P			106	85-115			02/23/2022	EDM	
Duplicate (B220615-DUP1) Source ID: AC00191-01									
Calcium					0.180	20	02/23/2022	EDM	
Magnesium					1.65	20	02/23/2022	EDM	
Phosphorus as P					0.250	20	02/23/2022	EDM	
Matrix Spike (B220615-MS1) Source ID: AC00191-01									
Calcium			99.4	70-130			02/23/2022	EDM	
Magnesium			102	70-130			02/23/2022	EDM	
Phosphorus as P			110	70-130			02/23/2022	EDM	
Matrix Spike Dup (B220615-MSD1) Source ID: AC00191-01									
Calcium			97.9	70-130	0.828	20	02/23/2022	EDM	
Magnesium			100	70-130	0.772	20	02/23/2022	EDM	
Phosphorus as P			109	70-130	0.292	20	02/23/2022	EDM	
Batch: B220733									
Blank (B220733-BLK1)									
Arsenic	<0.040	ug/L					02/27/2022	DMW	U
Cadmium	<0.025	ug/L					02/27/2022	DMW	U
Lead	<0.050	ug/L					02/27/2022	DMW	U
LCS (B220733-BS1)									
Arsenic			102	85-115			02/27/2022	DMW	
Cadmium			103	85-115			02/27/2022	DMW	
Lead			104	85-115			02/27/2022	DMW	
Duplicate (B220733-DUP1) Source ID: NP00037-07									
Arsenic					1.60	20	02/27/2022	DMW	
Cadmium					1.48	20	02/27/2022	DMW	
Lead					0.0574	20	02/27/2022	DMW	
Matrix Spike (B220733-MS1) Source ID: NP00037-07									
Arsenic			105	70-130			02/27/2022	DMW	
Cadmium			103	70-130			02/27/2022	DMW	
Lead			100	70-130			02/27/2022	DMW	
Matrix Spike Dup (B220733-MSD1) Source ID: NP00037-07									
Arsenic			108	70-130	2.22	20	02/27/2022	DMW	
Cadmium			104	70-130	1.28	20	02/27/2022	DMW	
Lead			102	70-130	1.57	20	02/27/2022	DMW	

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Quality Control Report
(Continued)

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Total Metals (Continued)									
Batch: B220766									
Blank (B220766-BLK1)									
Mercury	<0.01	ug/L					03/03/2022	SAS	U
LCS (B220766-BS1)									
Mercury			98.5	85-115			03/03/2022	SAS	
Duplicate (B220766-DUP1) Source ID: WR00016-04									
Mercury					NR	20	03/03/2022	SAS	
Matrix Spike (B220766-MS1) Source ID: WR00016-04									
Mercury			104	70-130			03/03/2022	SAS	
Matrix Spike Dup (B220766-MSD1) Source ID: WR00016-04									
Mercury			99.9	70-130	3.52	20	03/03/2022	SAS	
Dissolved Metals									
Batch: B220630									
Blank (B220630-BLK1)									
Cadmium	<0.025	ug/L					02/18/2022	DMW	U
Copper	<0.15	ug/L					02/18/2022	DMW	U
Lead	<0.050	ug/L					02/18/2022	DMW	U
Zinc	<0.78	ug/L					02/18/2022	DMW	U
LCS (B220630-BS1)									
Cadmium			100	85-115			02/18/2022	DMW	
Copper			106	85-115			02/18/2022	DMW	
Lead			100	85-115			02/18/2022	DMW	
Zinc			99.1	85-115			02/18/2022	DMW	
Duplicate (B220630-DUP1) Source ID: NP00037-02									
Cadmium					NR	10	02/18/2022	DMW	U
Copper					0.332	10	02/18/2022	DMW	
Lead					3.35	10	02/18/2022	DMW	
Zinc					0.264	10	02/18/2022	DMW	
Matrix Spike (B220630-MS1) Source ID: NP00037-02									
Cadmium			99.2	70-130			02/18/2022	DMW	
Copper			97.2	70-130			02/18/2022	DMW	
Lead			94.5	70-130			02/18/2022	DMW	
Zinc			94.6	70-130			02/18/2022	DMW	
Matrix Spike Dup (B220630-MSD1) Source ID: NP00037-02									
Cadmium			100	70-130	1.21	10	02/18/2022	DMW	
Copper			99.7	70-130	2.37	10	02/18/2022	DMW	
Lead			97.0	70-130	2.67	10	02/18/2022	DMW	
Zinc			95.5	70-130	0.839	10	02/18/2022	DMW	

The contents of this report apply to the sample(s) analyzed in accordance with the Chain of Custody document.
No duplication of this report is allowed, except in its entirety

Report Date: 03/08/2022 11:38

Boise City Public Works
Water Quality Laboratory
11818 Joplin Road
Boise, Idaho 83714-1076
Telephone (208) 608-7240
Fax (208) 608-7319

Notes and Definitions

Item	Definition
D	Data reported from a dilution
U	Analyte included in the analysis, but not detected

Method Reference Acronyms

Colilert	Colilert, IDEXX Laboratories, Inc.
EPA	Manual of Methods for Chemical Analysis of Water and Wastes, USEPA
GS	USGS Techniques of Water-Resources Investigations
HH	Hach Spectrophotometer Procedures Manual
SM	Standard Methods for the Examination of Water and Wastewater
SW	Test methods for Evaluating Solid Waste, SW-846

for JFK

Janet Finegan-Kelly
Water Quality Laboratory Manager

Stephen Quintero or Azubike Emenari
QA/QC Coordinator

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Ada County Highway District

Attn: Monica Lowe
3775 Adams Street
Garden City, Idaho 83714–6418
Tel. (208) 387–6255
Fax (208) 387–6391

Purchase Order: 63058182
Project: Stormwater-PII
Sampler(s): Tammy Lightle
Shannon Kranz

Lab# AC00191	Begin Date	End Date	Begin Time	End Time	Sample Identification	Sampler Initials	Matrix: Water	Type: Grab	Type: Composite	BOD_5 - SM 5210 B	COD - Hach 8000	TSS - SM 2540 D	TDS - SM 2540 C	TKN - EPA 351.2	TP - EPA 200.7	Orthophosphate - EPA 365.1	Total As, Cd, Pb - EPA 200.8	Diss. Cd Cu, Pb, Zn - EPA 200.8	Total Hg - EPA 245.2	E. Coli - IDEXX Colilert	Turbidity - EPA 180.1	Hardness - EPA 200.7	NO_3+NO_2 - EPA 353.2	NH_3 - SM 4500 NH_3 - D	H-52 Total Containers
-01	2/14/22	2/15/22	18:53	0509	220214-18-WC	SMK	X		X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	1

Relinquished by (sign)	Date & Time Transferred	Received by (sign)	Comments/Special Instructions:
Shannon Kranz	2/15/22 0902	April Hoffer 2-15-22 0903	

AC00191

AC00191

Attachment D: Field Forms

Set Up/ Shut Down Form – ISCO

STATION: State

SET UP

Personnel: TLL, SMK

Date/Time On-Site: 2·14·22 15:22

Time	Level (in)	Flow (cfs)	Velocity (fps)	Battery (V)
1041	0.475	0.001	0.102	12.205
Downloaded to:	—			
Enable Condition:	Level > 1.5" hysteresis = 0.9			
Flow Pulse Interval:	122 cf			

On-Site

- ☑ Replace flowmeter battery, install sampler battery
- ☑ Perform decon. cycle
- ☑ Install 15L sample bottle, with ice
- ☑ Leave bottle lid at site, in a clean re-sealable plastic bag
- ☑ Set Sampler program parameters
- ☑ Check date/time on Sampler
- ☑ Verify all cable and tubing connections
- ☐ Verify Sampler Program is running

Flowlink (Refer to Flowlink Instructions, if needed)

- ☒ Direct or Remote; Date/time 2/14 1037
- ☒ Retrieve data and review recent flow history
- ☒ Change Wireless Power Control to Storm Event
- ☒ Change Data Storage Rates to 1 minute for Level, Velocity, Total Flow, and Flow Rate
- ☒ Enable Sampler: On Trigger, and set Sampler Enable equation
- ☒ Set Sampler Pacing to Flow Paced, and set trigger volume

Comments:

SHUT DOWN

Personnel: TLL

Date/Time On-Site: N/A

Time	Level (in)	Flow (cfs)	Velocity (fps)	Battery (V)
Downloaded to:				

On-Site

- ☐ Replace flowmeter battery
- ☒ Remove battery from sampler

Flowlink (Refer to Flowlink Instructions, if needed)

- ☒ Direct or Remote; Date/time 02.17.22 / 1438
- ☒ Retrieve data
- ☒ Change Wireless Power Control to Dry Weather
- ☒ Change Data Storage Rates to 15 minutes for Level, Velocity, Total Flow, and Flow Rate
- ☒ Enable Sampler: Never

Comments:

Composite Sample Collection

STATION: State
Personnel: SMK, TLL

Bottle 1 **of** 1
Date/Time On-Site: 2/15/22 0837

☑ Halt Sampler program	
☒ Put lid on sample bottle; label sample bottle	
Sample ID:	220214-18-WC -WC
Approx Sample Volume (mL):	8000 mL
Clarity (ex. Clear, Cloudy, Silty):	Cloudy
Color (ex. Clear, Gray, Tan, Brown, Black):	Brown
QA/QC Sample ID:	-103 (Time: 1200)

Subsample Information

Trigger #	Date/Time	Sampler Message/ Subsample Result	Trigger #	Date/Time	Sampler Message/ Subsample Result
1	2/14/22 18:53	Success	13	↓ 0509	↓ ~~End~~ Success
2	2/14/22 19:04		14		
3	19:15		15		
4	19:29		16		
5	19:53		17		
6	20:45		18		
7	21:27		19		
8	21:49		20		
9	22:18		21		
10	↓ 23:07		22		
11	2/15/22 00:40		23		
12	↓ 02:35	↓	24		

Comments:

If sampling is complete:	**If continuing sampling (sample bottle change-out):**
☒ Power off sampler ☒ Verify flowmeter is running ☒ Add ice to sample transport cooler ☒ Complete COC form; arrange transport to lab	☐ Keep flowmeter running ☐ Install new 15L bottle; add ice ☐ Restart program from beginning **Date/Time Restarted:** _____ ☐ Verify running

Liquid Height vs. Approximate Sample Volume Conversion Chart

Liquid Height	Sample Volume	Liquid Height	Sample Volume	Liquid Height	Sample Volume	Liquid Height	Sample Volume	Liquid Height	Sample Volume
0.5"	400 mL	**3.0"**	3500 mL	**5.5"**	~~7250 mL~~	**8.0"**	11000 mL	**10.5"**	14750 mL
1.0"	800 mL	**3.5"**	4250 mL	**6.0"**	8000 mL	**8.5"**	11750 mL	**11.0"**	15500 mL
1.5"	1400 mL	**4.0"**	5000 mL	**6.5"**	8750 mL	**9.0"**	12500 mL	**11.5"**	16250 mL
2.0"	2000 mL	**4.5"**	5750 mL	**7.0"**	9500 mL	**9.5"**	13250 mL	**After 12"**	1" = 1500 mL
2.5"	2750 mL	**5.0"**	6500 mL	**7.5"**	10250 mL	**10.0"**	14000 mL	**Lab min**	8,000 mL

Grab Sample Data Form

STATION: State

Personnel: JL, SMK **Date/Time On-Site:** 2/14/22 2040

Flow Meter Current Status						
Time	Level (in)	Flow (cfs)	Velocity (fps)	Battery (V)	Flow Start (date/time)	Rainfall (in)

Grab Information				
	Sample ID	Date	Time	Labeled?
Site *E.Coli*	220214-18 -WG	2/14	2050	☒
Field Duplicate *E.Coli*	-101			☐
Field Blank *E.Coli*	-001			☐

*Note: time on bottle for QC samples is 1200

Field Parameters					
Meter number	Time	Temp (C)	D.O. (mg/L)	pH (S.U.)	SpCond (uS/cm)
MP07	2055	7.05	9.08	6.38	947.3

Sampler Current Status	
First Subsample Date/Time	
Last Subsample Date/Time	
# of Subsamples taken	7

Comments:

1290 W. Myrtle St. Suite 340
Boise, ID 83702

Phone: 208-389-7700

Prepared for: Ada County Highway District

Project Title: NPDES SW Mgmt Support 2022

Project No.: 158096

Technical Memorandum

Subject: ACHD Phase II Storm Event Report for March 15, 2022

Date: May 24, 2022

To: Tammy Lightle

Cc: Monica Lowe

From: Shannon Kronz, Project Engineer

Prepared by: Shannon Kronz, Project Engineer

Reviewed by: Erin Cox, Project Manager

Section 1: Introduction

The EPA Region 10 reissued a Municipal Separate Storm Sewer System Phase II National Pollutant Discharge Elimination System Permit (NPDES Permit), effective February 1, 2021, to Ada County Highway District (Permittee). Under the NPDES Permit, the Permittee is required to continue to conduct wet weather stormwater outfall monitoring. One outfall monitoring site (State) has been established. At the monitoring site, a minimum of three composite and three grab samples will be collected during the permit period (February 1, 2022 – January 31, 2022). Per NPDES Permit requirements, one of the stormwater samples must be collected during the September – October time frame. The following storm event report summarizes the stormwater sampling results from the March 15, 2022 storm event.

Section 2: Project Status

Table 1-1 is a summary of the sample types collected to date for water year 2022 Phase II Stormwater Outfall Monitoring.

Table 1-1. Project Status

Date	State
February 14, 2022	G[1], C
March 15, 2022	G, C
Collected:	1G, 2C

Notes:

C = composite sample.

G = grab sample.

[1] Sample is qualified due to excess holding time.

After the March 15, 2022 storm event, ACHD still needs to collect two grab samples and one composite sample from the Phase II monitoring site.

Section 3: Storm Event Summary

The March 15, 2022 storm event and the subsequent preparation and sampling efforts are detailed in the following sections.

3.1 Storm Detail

A detailed summary of the forecast on which monitoring decisions were based is included below. The sampling event communication form that describes the forecast and summarizes the decision-making process from March 14, 2022 is included in Attachment A for reference.

Monday, March 14, 2022

- The afternoon of Monday, March 14, 2022 the National Weather Service issued a forecast for widespread rain in the Boise area. A slight chance of rainshadowing was expected. The chance of precipitation was 100% percent, with a total of 0.30 inch of precipitation forecasted.

- Setup was accomplished on Monday, March 14, 2022. An expected precipitation depth of 0.19 inch was used to set the trigger volume at the monitoring station.

Tuesday, March 15, 2022

- Rain started around 0830 and continued until 1100. A second wave started around 1600 and continued until 1700.
- The local rain gauge recorded 0.29 inch of total precipitation.

Flow measurements and precipitation data are summarized in Table 1 along with a sampling summary. The hydrograph showing flow, rain, and sample collection data is included in Attachment B.

3.2 Sampling Summary

State monitoring station was set up the afternoon of Monday, March 14, 2022 to collect a flow proportional composite sample during the storm. A sample enable condition was programmed into the flowmeter. Setup and sampling information is included in Table 1. The field forms completed during setup/shut down and sampling can be found in Appendix D.

Grab Samples

One, two-member team mobilized to collect a stormwater runoff grab sample and verify operation of the automatic sampling equipment on the morning of March 15, 2022. The grab sample was submitted to the West Boise Water Quality Lab (WQL) at 1035 on March 15, 2022. Results for the grab sample, including field parameter and analytical data, are included in Table 2. Laboratory analytical reports are included in Attachment C.

Composite Samples

A composite sample was collected at State monitoring station. The volume of the composite sample submitted was sufficient for all parameters. The composite sample was submitted to the WQL on March 15, 2022 at 2127. Analytical results are included in Table 2. Pollutant loading estimates for the event are included in Table 3.

Section 4: Quality Assurance/Quality Control

A summary of quality control (QC) samples collected during the March 15, 2022, storm event is presented below in Table 3-1. A field blank and a field duplicate were collected from the State monitoring station. Analytical results for these samples are included in Table 4.

Table 3-1. QC Samples

Sample ID	Sample Type	Parent Sample	Conclusions
220315-18-001	Field Blank	State Grab	No E. coli detection was reported in the field blank.
220315-18-101	Field Duplicate	State Grab	Relative percent difference was within the acceptable range.

Data quality objectives for this storm were evaluated and tracked using the data validation review checklist included in Attachment A. Acceptance and performance criteria for analytical and non-analytical data were met for this storm event.

Data Tables

Table 1. Sampling and Flow Summary	
	State
Grab samples collected and submitted?	YES
Composite samples collected and submitted?	YES
Trigger volume	211 ft^3
Sampler enable condition (in)	Level > 1.5
Runoff start time	08:37
Grab sample collection time	9:50
Composite sample stop time	18:48
Runoff stop time	19:28
Volume of discharge sampled (ft^3)	3,905
Total runoff volume (ft^3)	3,956
Percent of storm flow sampled (%)	99%
Composite sample duration (hrs)	10
Storm Precipitation (in)	0.29
Referenced Rain Gauge	Chrisfield
Sampler messages (counts): Success	19
Number of composite bottles filled	1
Composite sample volume (Approx.; ml)	11,750

Table 2. Field and Analytical Data Summary - Wet Samples

Monitoring Station	Sample Date	Sample ID Grab	Field Parameters				Analytical Parameters																				
			Dissolved Oxygen	pH	Conductivity	Temperature	E. coli	Sample ID Composite	BOD_5	COD	Hardness as CaCO3	Turbidity	TSS	TDS	Total Phosphorus	Dissolved Orthophosphate, as P	Ammonia	Nitrate + Nitrite (N)	TKN	Arsenic, total	Cadmium, dissolved	Cadmium, total	Copper, dissolved	Lead, dissolved	Lead, total	Mercury, total	Zinc, dissolved
			mg/L	S.U.	uS/cm	C	mpn/100 mL		mg/L	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
State	3/15/2022	220315-18-WG	9.07	6.33	702.69	7.88	16.9	220315-18-WC	19.2	156	91.9	157	121	281	0.407	0.171	1.41	0.378	3.20	3.6	<0.0250	0.11	4.0	0.100	5.9	0.0167	22.0

Table 3. Event Pollutant Loading Estimates in Pounds						
Monitoring Station	Event Date	TSS	Total Phosphorus	Ammonia	Nitrate + Nitrite (N)	TKN
State	3/15/2022	29.9	0.100	0.348	0.093	0.790

Table 4. QC Sample Summary				
Date	Parent Sample	Sample ID	Type	E. coli
				mpn/100 mL
3/15/2022	220315-18-WG	220315-18-001	Field Blank	<1.0
3/15/2022	220315-18-WG	220315-18-101	Field Duplicate	20.6
Calculated parent/duplicate RPD				4%
Allowable RPD				40%

Attachment A: Supplemental Documents

Sampling Event Communication Form

Data Validation Checklist

Runoff Calculation Worksheet

SAMPLING EVENT COMMUNICATION FORM

Date: 14 Mar 2022 **Time:** 7:48 AM **Initials:** TL

Sampling Event Determination

Is there a targeted sampling event expected during the next 36 hours?
(Or, if it is Friday, is a targeted event expected before 5:00 PM on Monday?)

(●) Yes ( ) Maybe ( ) No

If YES or MAYBE, then call BC. Include discussion of reasons for "Maybe" below.

- [x] Date and Time of Expected Event — 3/15 6am - 6pm
- [x] Expected Amount of Precipitation
- [x] Percent Chance of Precipitation — 100%, 0.30"

Targeted Stations & Samples

Americana	Main	Lucky	AS-6	Whitewater
[x] Grab	[x] Grab	[x] Grab	[x] Grab	[x] Grab
[x] Composite	[x] Composite	[x] Composite	[x] Composite	[x] Composite

Phase II

State

- [x] Grab
- [x] Composite

Type of Forecasted Precipitation

- [ ] Light Rain
- [x] Rain
- [ ] Scattered Showers
- [ ] Thunder Showers
- [ ] Snow Melt
- [ ] Rain on Snow
- [ ] Other (Describe below)

Reasons for Not Targeting a Forecasted Storm or Targeting Selected Stations/Samples

- [ ] Equipment Concerns (Describe below)
- [ ] Holiday
- [ ] Other (Describe below)
- [ ] Waiting on Antecedent Dry Period. Expires:

Comments

Past 72 hr precip: 0.00"
I talked with Anna at NWS. The Storm will begin tomorrow morning between 6am-8am. Slight chance of rainshadowing at the beginning but will be quickly overcome because there is plenty of moisture in the atmosphere. The models are in good agreement on totals being around 0.30", with 0.15-0.20 from 6am - noon.

NWS Forecast for: Boise ID
Issued by: National Weather Service Boise, ID
Last Update: 3:11 am MDT Mar 14, 2022

Today: Partly sunny, with a high near 57. Light east southeast wind becoming southeast 5 to 10 mph in the afternoon.
Tonight: A 30 percent chance of rain after midnight. Mostly cloudy, with a low around 44. East southeast wind 11 to 14 mph.
Tuesday: Rain. High near 54. Southeast wind 7 to 9 mph. Chance of precipitation is 100%. New precipitation amounts between a quarter and half of an inch possible.
Tuesday Night: Rain likely before midnight. Mostly cloudy, with a low around 34. Southwest wind around 5 mph becoming light and variable. Chance of precipitation is 60%.
Wednesday: Partly sunny, with a high near 53. Light north northwest wind becoming northwest 5 to 10 mph in the afternoon.
Wednesday Night: Mostly clear, with a low around 31.
Thursday: Mostly sunny, with a high near 57.
Thursday Night: Mostly cloudy, with a low around 37.
Friday: Partly sunny, with a high near 62.
Friday Night: Mostly cloudy, with a low around 41.
Saturday: A 30 percent chance of rain. Mostly cloudy, with a high near 64.
Saturday Night: Rain likely. Cloudy, with a low around 38. Chance of precipitation is 60%.
Sunday: A 40 percent chance of rain. Mostly cloudy, with a high near 53.

Area Forecast Discussion
National Weather Service Boise ID
302 AM MDT Mon Mar 14 2022

.SHORT TERM...Today through Wednesday night...Drier, warmer conditions expected across the forecast area today under a ridge. Expect some gusty wind across the area, especially eastern Oregon beginning this afternoon. The next approaching trough will begin to impact the region Monday evening, with a few showers noted across eastern Oregon and into the West Central Mountains of Idaho. **The stronger moisture push will make its arrival Tuesday morning, with more widespread moisture across the area.** Snow levels will be around 6000-7000 ft, resulting in some mountain snow and rain otherwise. **Shower activity will continue into Wednesday morning with activity weakening generally from west to east Wednesday.** Snowfall of 4 to 8 inches anticipated over the higher terrain, with **rain amounts up to around 0.30" for the lower elevations.** Gusty to breezy winds will accompany this system, with winds weakening as the system departs on Wednesday. Drier, though cooler conditions then expected Wednesday.

.LONG TERM...Thursday through Monday...A weak ridge will move over the region on Thursday, bringing dry conditions and normal temperatures for the region. Zonal flow will continue through Friday and a shortwave trough to the north will bring areas of precipitation to higher elevations in Baker County and Harney County in Oregon and the Owyhee and West Central Mountains in Idaho. The relatively zonal flow will ensure temperatures remain slightly above normal through the rest of the week. Models still depict a deep upper level trough moving through the region this weekend. Uncertainty still remains on the timing of arrival and accumulation of precipitation for the region, but widespread precipitation is expected on Sunday. Snow levels will drop from 5000-6000 feet MSL to 3000-4000 feet MSL on Sunday. Breezy northwest winds will strengthen through Sunday afternoon after frontal passage. Precipitation will move out of the region on Monday, with some lingering snow showers on Monday in the West Central Mountains.

Storm Event QA/QC Checklist

STORM DATE: 220315				Circle one: Phase I Phase II
A. Event and Data Completeness	**Yes**	**No**	**N/A**	**Notes**
1. Field data sheets filled out completely and clearly	X			
2. Field parameters reviewed, and any problems/issues addressed	X			
3. All samples collected as specified	X			
4. All samples delivered to lab promptly (review chain of custody rpts)	X			
5. Inconsistencies/clarifications discussed with sampling team member	X			
6. All analytical reports from lab received	X			
B. Validation and Verification Methods	**Yes**	**No**	**N/A**	**Notes**
1. Outliers and unexpected values discussed with lab			X	
2. Appropriate analytical methods used	X			
3. All lab QA samples were within method acceptance criteria	X			
4. All samples reviewed and data qualifiers assigned if needed	X			
5. Data quality objective achieved	X			

C. Specific Storm and Sample QA/QC Criteria	Storm/Sample Value	Program Criteria	Met	Qualify	Reject	Notes
1. Precipitation (inches)	0.29	> 0.10 in.	X			
2. Antecedent dry period (hours)	720	< 0.11 in. in 72 hrs	X			
3. Days since last sampling event	30 days	>= 30 days	X			
4. Sampled amount as % of total run-off	99	>= 75%	X			
5. Ecoli sample holding time	2 hrs	<=8 hrs: no qualifier >8 and <=16 hrs.: qualify >16 hrs.: reject	X			
6. Filtering of samples for dissolved parameter analysis	15 hrs	<= 24 hrs: no qualifier > 24 hrs.: reject	X			

D. Notes:

Reviewed by Tamara Lykta **Date** 04.20.22

Approved by Monica L Love **Date** 4/27/22

Storm Runoff Estimates and Trigger Volumes

ACHD Storm Water Monitoring Water Year 2022

Simple Method

Expected Precipitation Depth =	0.11	in
Square Feet per Acre =	43560	ft^2/ac
Inches per Foot=	12	in/ft
Aliquots per Sample=	17	

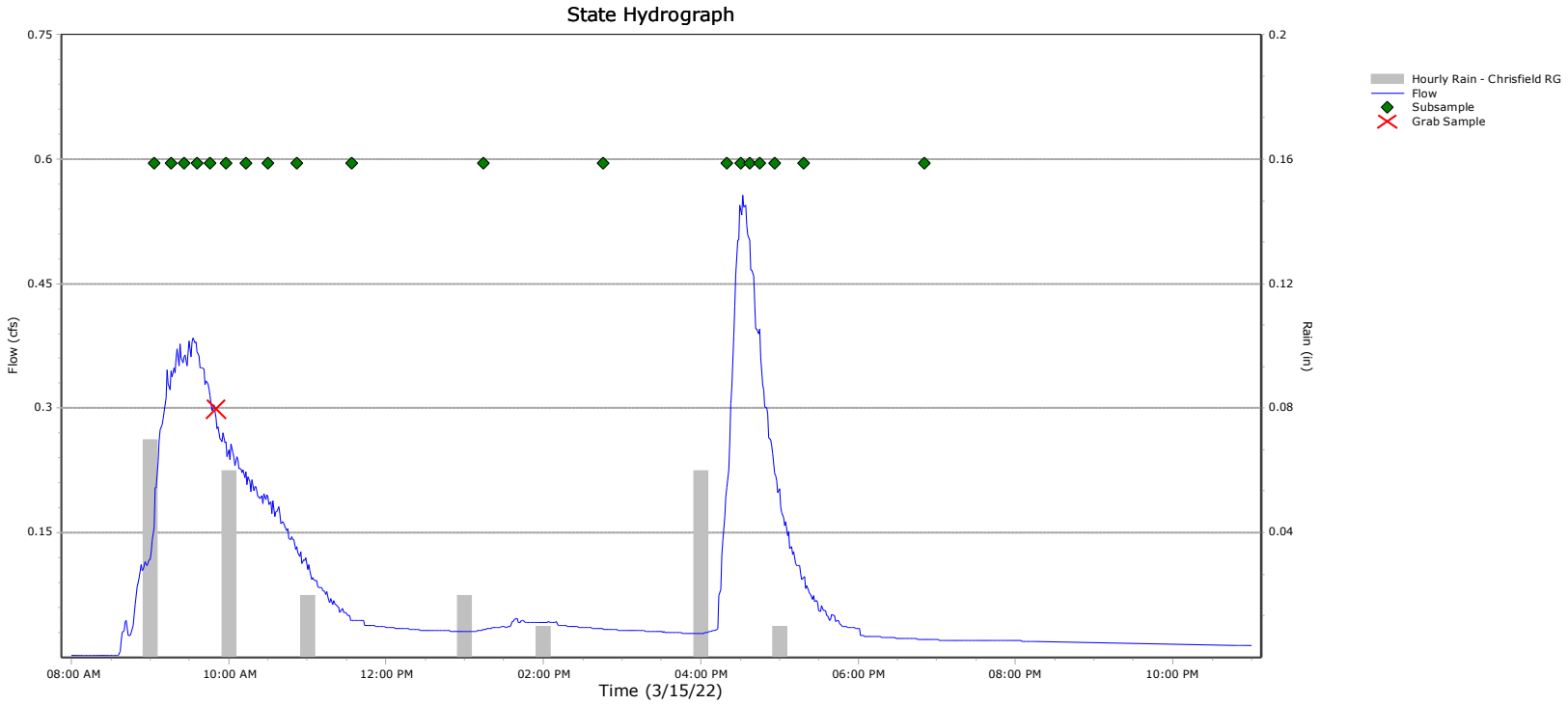
Step 1. Enter runoff coefficients in yellow cells.
Step 2. Enter expected precipitation depth in inches in blue cell.
Step 3. Read trigger volumes (**bold**) in green cells.

Site	Area (ac)	Using RC Based on Land Use			Using Manually-entered RC		
		RC	Expected Vol. (ft^3)	Trigger Vol. (ft^3)	RC	Expected Vol. (ft^3)	Trigger Vol. (ft^3)
#3 Lucky	105	0.401	16813	**989**	0.157	6582.46	**387**
#11 Whitewater	498	0.437	86898	**5112**	0.116	23066.76	**1357**
#12 Main	79	0.437	13785	**811**	0.246	7760.00	**456**
#14 Americana	875	0.446	155827	**9166**	0.144	50311.80	**2960**
#206 AS_6	204	0.257	20935	**1231**	0.046	3747.03	**221**
#18 State	34	0.419	5688	**335**	0.144	1954.97	**122**
Theoretical	80	0.200	6389		0.000		

NOTES: 1. Land usage data, watershed area, and % imp are from ACHD 2013 GIS analysis.

Runoff Coefficient = Runoff Volume (ft^3) ÷ [Storm Depth (ft) x Area (ft^2)]
all values taken from historically corrected runoff coefficents
total acreage*total precip = total runoff (unit conversion factor from acre inches to cubic feet 3630)
Measured runoff
RC = measured runoff / total runoff

Attachment B: Storm Event Hydrograph


State Hydrograph
0.75
0.6
0.45
0.3
0.15
0.2
0.16
0.12
0.08
0.04
Flow (cfs)
Rain (in)
08:00 AM
10:00 AM
12:00 PM
02:00 PM
04:00 PM
06:00 PM
08:00 PM
10:00 PM
Time (3/15/22)
Hourly Rain - Chrisfield RG
Flow
Subsample
Grab Sample

Attachment C: Storm Event Analytical Reports

Report Date: 04/06/2022 15:30

Boise City Public Works
Water Quality Laboratory
11818 Joplin Road
Boise, Idaho 83714-1076
Telephone (208) 608-7240
Fax (208) 608-7319

Samples in this Report

Lab ID	Sample	Sample Description	Matrix	Qualifiers	Date Sampled	Date Received
AC00194-01	ACST2B	220315-18-WG	Water		03/15/2022	03/15/2022
AC00194-02	ACST2B	220315-18-101	Water		03/15/2022	03/15/2022
AC00194-03	ACST2B	220315-18-001	Water		03/15/2022	03/15/2022

The contents of this report apply to the sample(s) analyzed in accordance with the Chain of Custody document.
No duplication of this report is allowed, except in its entirety

Report Date: 04/06/2022 15:30

Boise City Public Works
Water Quality Laboratory
11818 Joplin Road
Boise, Idaho 83714-1076
Telephone (208) 608-7240
Fax (208) 608-7319

Analysis Report

Location:	ACST2B	Location Description:	220315-18-WG
Date/Time Collected:	03/15/2022 09:50		
Lab Number:	AC00194-01	Sample Collector:	JJE
Sample Type:	Grab	Sample Matrix:	Water

Analyte Name	Batch	Result	Units	Adjusted MDL *	Method MDL	Analysis Method Reference	Prepared Time	Analysis Time	Analyst Initials	Qual
Microbiology										
E. Coli	B220950	16.9	MPN/100 mL	1.0	1.0	IDEXX - Colilert	03/15/22 11:34	3/16/22 11:35	LRF	
Wet Chemistry										
Chlorine Screen	B220986	Absent				SM 4500-CL G-2000 mod	03/16/22	3/16/22 11:03	LRF	

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Report Date: 04/06/2022 15:30

Boise City Public Works
Water Quality Laboratory
11818 Joplin Road
Boise, Idaho 83714-1076
Telephone (208) 608-7240
Fax (208) 608-7319

Analysis Report

Location:	ACST2B	Location Description:	220315-18-101
Date/Time Collected:	03/15/2022 09:50		
Lab Number:	AC00194-02	Sample Collector:	JJE
Sample Type:	Grab	Sample Matrix:	Water

Analyte Name	Batch	Result	Units	Adjusted MDL *	Method MDL	Analysis Method Reference	Prepared Time	Analysis Time	Analyst Initials	Qual
Microbiology										
E. Coli	B220950	20.6	MPN/100 mL	1.0	1.0	IDEXX - Colilert	03/15/22 11:34	3/16/22 11:35	LRF	
Wet Chemistry										
Chlorine Screen	B220986	Absent				SM 4500-CL G-2000 mod	03/16/22	3/16/22 11:03	LRF	

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Analysis Report

Location:	ACST2B	Location Description:	220315-18-001
Date/Time Collected:	03/15/2022 09:50		
Lab Number:	AC00194-03	Sample Collector:	JJE
Sample Type:	Grab	Sample Matrix:	Water

Analyte Name	Batch	Result	Units	Adjusted MDL *	Method MDL	Analysis Method Reference	Prepared Time	Analysis Time	Analyst Initials	Qual
Microbiology										
E. Coli	B220950	<1.0	MPN/100 mL	1.0	1.0	IDEXX - Colilert	03/15/22 11:34	3/16/22 11:35	LRF	U
Wet Chemistry										
Chlorine Screen	B220986	Absent				SM 4500-CL G-2000 mod	03/16/22	3/16/22 11:03	LRF	

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Quality Control Report

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Microbiology									
Batch: B220950									
Blank (B220950-BLK1)									
E. Coli	Absent						03/16/2022	LRF	
LCS (B220950-BS1)									
E. Coli				Present			03/16/2022	LRF	
Duplicate (B220950-DUP1)	Source ID: WB01719-06								
E. Coli					Pass	128	03/16/2022	LRF	
Duplicate (B220950-DUP2)	Source ID: AC00194-01								
E. Coli					Pass	128	03/16/2022	LRF	

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Notes and Definitions

Item	Definition
U	Analyte included in the analysis, but not detected

Method Reference Acronyms

Colilert	Colilert, IDEXX Laboratories, Inc.
EPA	Manual of Methods for Chemical Analysis of Water and Wastes, USEPA
GS	USGS Techniques of Water-Resources Investigations
HH	Hach Spectrophotometer Procedures Manual
SM	Standard Methods for the Examination of Water and Wastewater
SW	Test methods for Evaluating Solid Waste, SW-846

for JFK

Janet Finegan-Kelly
Water Quality Laboratory Manager

Stephen Quintero or Azubike Emenari
QA/QC Coordinator

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Ada County Highway District

Attn: Monica Lowe
3775 Adams Street
Garden City, Idaho 83714–6418
Tel. (208) 387–6255
Fax (208) 387–6391

Purchase Order: 63058182
Project: Stormwater-PII
Sampler(s): J. Ekhoff
K. Fairburn

Lab#	Begin Date	End Date	Begin Time	End Time	Sample Identification	Sampler Initials	Matrix: Water	Type: Grab	Type: Composite	BOD_5 - SM 5210 B	COD - Hach 8000	TSS - SM 2540 D	TDS - SM 2540 C	TKN - EPA 351.2	TP - EPA 200.7	Orthophosphate - EPA 365.1	Total As, Cd, Pb - EPA 200.8	Diss. Cd Cu, Pb, Zn - EPA 200.8	Total Hg - EPA 245.2	E. Coli - IDEXX Colilert	Turbidity - EPA 180.1	Hardness - EPA 200.7	NO_3+NO_2 - EPA 353.2	NH_3 - SM 4500 NH_3 - D	H-78 Total Containers
AC00194-01	3/15/22		0950		220315-18-WG1	JJE	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	1
-02	"		"		220315-18-101	JJE	"	X		"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	1
-03	"		"		220315-18-001	JJE	"	X		"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	1

Relinquished by (sign)	Date & Time Transferred	Received by (sign)	Comments/Special Instructions:
[signature]	3/15/22 1055	[signature] 1035 3/15/22	#AC00194

Report Date: 04/04/2022 09:09

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Water Quality Laboratory
11818 Joplin Road
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Samples in this Report

Lab ID	Sample	Sample Description	Matrix	Qualifiers	Date Sampled	Date Received
AC00196-01	ACST2C	220315-18-WC	Water		03/15/2022	03/16/2022

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Analysis Report

Location:	ACST2C	Location Description:	220315-18-WC
Date/Time Collected:	03/15/2022 09:01 - 03/15/2022 18:48		
Lab Number:	AC00196-01	Sample Collector:	S.K
Sample Type:	Composite	Sample Matrix:	Water

Analyte Name	Batch	Result	Units	Adjusted MDL *	Method MDL	Analysis Method Reference	Prepared Time	Analysis Time	Analyst Initials	Qual
Wet Chemistry										
Ammonia, as N	B221097	1410	ug/L	35.0	35.0	SM 4500-NH3 D-2011	03/24/22	3/24/22 13:03	ALN	
BOD5	B220980	19.2	mg/L	2.00	2.00	SM 5210 B-2011	03/16/22	3/21/22 10:14	ASE	
COD	B220979	156	mg/L	13.0	13.0	HH 8000, Standard Method 5220 D	03/16/22	3/16/22 13:08	MER	
Nitrate-Nitrite, as N	B220985	0.378	mg/L	0.0250	0.0250	EPA 353.2, Rev. 2.0 (1993)	03/16/22	3/16/22 15:04	JAL	
TKN	B221170	3.20	mg/L	0.100	0.100	EPA 351.2, 10-107-06-2-M (Equivalent)	03/29/22	3/30/22 9:57	ALN	
Total Dissolved Solids	B221011	281	mg/L	25.0	25.0	SM 2540 C-2011	03/17/22	3/19/22 8:49	LRF	
Total Suspended Solids	B220971	121	mg/L	0.900	0.900	SM 2540 D-2011	03/16/22	3/16/22 12:36	CJP	
Turbidity	B220976	157	NTU	3.0	0.3	EPA 180.1, Rev. 2.0 (1993)	03/16/22	3/16/22 10:44	LRF	D
Dissolved Wet Chemistry										
Orthophosphate, as P	B220981	0.171	mg/L	2.00E-3	2.00E-3	EPA 365.1, Rev. 2.0 (1993)	03/16/22	3/16/22 11:31	JAL	
Total Metals										
Mercury	B221180	0.0167	ug/L	0.0100	0.0100	EPA 245.2	03/30/22	3/31/22 8:43	SAS	
Arsenic	B221038	3.6	ug/L	0.040	0.040	EPA 200.8	03/20/22	3/23/22 14:43	DMW	
Cadmium	B221038	0.11	ug/L	0.025	0.025	EPA 200.8	03/20/22	3/23/22 14:43	DMW	
Calcium	B221019	14300	ug/L	46.0	46.0	EPA 200.7	03/18/22	3/24/22 12:13	AMO	
Lead	B221038	5.9	ug/L	0.050	0.050	EPA 200.8	03/20/22	3/23/22 14:43	DMW	
Magnesium	B221019	13600	ug/L	50.0	50.0	EPA 200.7	03/18/22	3/24/22 12:13	AMO	
Phosphorus as P	B221019	0.407	mg/L	6.00E-3	6.00E-3	EPA 200.7	03/18/22	3/24/22 12:13	AMO	
Hardness	B221019	91.9	mg/L	0.115	0.115	EPA 200.7	03/18/22	3/24/22 12:13	AMO	
Dissolved Metals										
Cadmium	B221012	<0.0250	ug/L	0.025	0.025	EPA 200.8	03/18/22	3/18/22 14:32	DMW	U
Copper	B221012	4.0	ug/L	0.15	0.15	EPA 200.8	03/18/22	3/18/22 14:32	DMW	
Lead	B221012	0.100	ug/L	0.050	0.050	EPA 200.8	03/18/22	3/18/22 14:32	DMW	
Zinc	B221012	22.0	ug/L	0.78	0.78	EPA 200.8	03/18/22	3/18/22 14:32	DMW	

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Boise City Public Works
Water Quality Laboratory
11818 Joplin Road
Boise, Idaho 83714-1076
Telephone (208) 608-7240
Fax (208) 608-7319

Quality Control Report

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Wet Chemistry									
Batch: B220971									
Blank (B220971-BLK1)									
Total Suspended Solids	<0.9	mg/L					03/16/2022	CJP	U
LCS (B220971-BS1)									
Total Suspended Solids			98.7	90-110			03/16/2022	CJP	
Duplicate (B220971-DUP1)	Source ID: LS01074-02								
Total Suspended Solids					2.59	20	03/16/2022	CJP	
Duplicate (B220971-DUP2)	Source ID: WB01721-07								
Total Suspended Solids					0.243	20	03/16/2022	CJP	
Batch: B220976									
Blank (B220976-BLK1)									
Turbidity	<0.3	NTU					03/16/2022	LRF	U
LCS (B220976-BS1)									
Turbidity			100	90-110			03/16/2022	LRF	
Duplicate (B220976-DUP1)	Source ID: AC00196-01								
Turbidity					5.38	25	03/16/2022	LRF	D
Batch: B220979									
Blank (B220979-BLK1)									
COD	<13	mg/L					03/16/2022	MER	U
LCS (B220979-BS1)									
COD			99.0	90-110			03/16/2022	MER	
Batch: B220980									
Blank (B220980-BLK1)									
BOD5	<2	mg/L					03/21/2022	ASE	U
LCS (B220980-BS1)									
BOD5			113	84.6-115.4			03/21/2022	ASE	
LCS (B220980-BS2)									
BOD5			106	84.6-115.4			03/21/2022	ASE	
Duplicate (B220980-DUP1)	Source ID: BB01951-01								
BOD5					5.34	30	03/21/2022	ASE	D
Duplicate (B220980-DUP2)	Source ID: LS01074-02								
BOD5					8.33	30	03/21/2022	ASE	

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Quality Control Report
(Continued)

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Wet Chemistry (Continued)									
Batch: B220985									
Blank (B220985-BLK1)									
Nitrate-Nitrite, as N	<0.025	mg/L					03/16/2022	JAL	U
Blank (B220985-BLK2)									
Nitrate-Nitrite, as N	<0.025	mg/L					03/16/2022	JAL	U
LCS (B220985-BS1)									
Nitrate-Nitrite, as N			98.2	90-110			03/16/2022	JAL	
LCS (B220985-BS2)									
Nitrate-Nitrite, as N			98.6	90-110			03/16/2022	JAL	
Duplicate (B220985-DUP1) Source ID: AC00196-01									
Nitrate-Nitrite, as N					0.103	10	03/16/2022	JAL	
Duplicate (B220985-DUP2) Source ID: BB01903-01									
Nitrate-Nitrite, as N					0.306	10	03/16/2022	JAL	
Duplicate (B220985-DUP3) Source ID: BB01943-01									
Nitrate-Nitrite, as N					0.208	10	03/16/2022	JAL	
Duplicate (B220985-DUP4) Source ID: LS01071-02									
Nitrate-Nitrite, as N					NR	10	03/16/2022	JAL	
Matrix Spike (B220985-MS1) Source ID: AC00196-01									
Nitrate-Nitrite, as N			94.7	90-110			03/16/2022	JAL	
Matrix Spike (B220985-MS2) Source ID: BB01903-01									
Nitrate-Nitrite, as N			95.8	90-110			03/16/2022	JAL	
Matrix Spike (B220985-MS3) Source ID: BB01943-01									
Nitrate-Nitrite, as N			96.6	90-110			03/16/2022	JAL	
Matrix Spike (B220985-MS4) Source ID: LS01071-02									
Nitrate-Nitrite, as N			99.0	90-110			03/16/2022	JAL	
Matrix Spike Dup (B220985-MSD1) Source ID: AC00196-01									
Nitrate-Nitrite, as N			95.6	90-110	0.613	10	03/16/2022	JAL	
Matrix Spike Dup (B220985-MSD2) Source ID: BB01903-01									
Nitrate-Nitrite, as N			96.0	90-110	0.179	10	03/16/2022	JAL	
Matrix Spike Dup (B220985-MSD3) Source ID: BB01943-01									
Nitrate-Nitrite, as N			96.4	90-110	0.0907	10	03/16/2022	JAL	
Matrix Spike Dup (B220985-MSD4) Source ID: LS01071-02									
Nitrate-Nitrite, as N			98.3	90-110	0.749	10	03/16/2022	JAL	

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Quality Control Report
(Continued)

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Wet Chemistry (Continued)									
Batch: B221011									
Blank (B221011-BLK1)									
Total Dissolved Solids	<25	mg/L					03/19/2022	LRF	U
LCS (B221011-BS1)									
Total Dissolved Solids			94.8	90-110			03/19/2022	LRF	
Duplicate (B221011-DUP1) Source ID: AC00196-01									
Total Dissolved Solids					0.356	10	03/19/2022	LRF	
Batch: B221097									
Blank (B221097-BLK1)									
Ammonia, as N	<35	ug/L					03/24/2022	ALN	U
Blank (B221097-BLK2)									
Ammonia, as N	<35	ug/L					03/24/2022	ALN	U
LCS (B221097-BS1)									
Ammonia, as N			100	90-110			03/24/2022	ALN	
LCS (B221097-BS2)									
Ammonia, as N			105	90-110			03/24/2022	ALN	
Duplicate (B221097-DUP1) Source ID: BB01943-01									
Ammonia, as N					0.713	10	03/24/2022	ALN	
Duplicate (B221097-DUP2) Source ID: EP00127-02									
Ammonia, as N					0.178	10	03/24/2022	ALN	D
Duplicate (B221097-DUP3) Source ID: BB01952-01									
Ammonia, as N					1.43	10	03/24/2022	ALN	
Matrix Spike (B221097-MS1) Source ID: BB01943-01									
Ammonia, as N			103	80-120			03/24/2022	ALN	
Matrix Spike (B221097-MS2) Source ID: EP00127-02									
Ammonia, as N			109	80-120			03/24/2022	ALN	D
Matrix Spike (B221097-MS3) Source ID: BB01952-01									
Ammonia, as N			109	80-120			03/24/2022	ALN	
Matrix Spike Dup (B221097-MSD1) Source ID: BB01943-01									
Ammonia, as N			105	80-120	1.53	10	03/24/2022	ALN	
Matrix Spike Dup (B221097-MSD2) Source ID: EP00127-02									
Ammonia, as N			109	80-120	0.169	10	03/24/2022	ALN	D
Matrix Spike Dup (B221097-MSD3) Source ID: BB01952-01									
Ammonia, as N			114	80-120	3.91	10	03/24/2022	ALN	

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Quality Control Report
(Continued)

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Wet Chemistry (Continued)									
Batch: B221170									
Blank (B221170-BLK1)									
TKN	<0.1	mg/L					03/30/2022	ALN	U
Blank (B221170-BLK2)									
TKN	<0.1	mg/L					03/30/2022	ALN	U
LCS (B221170-BS1)									
TKN			104	80-120			03/30/2022	ALN	
LCS (B221170-BS2)									
TKN			103	80-120			03/30/2022	ALN	
Duplicate (B221170-DUP1) Source ID: AC00196-01									
TKN					0.502	20	03/30/2022	ALN	
Duplicate (B221170-DUP2) Source ID: BB01954-01									
TKN					13.8	20	03/30/2022	ALN	D
Duplicate (B221170-DUP3) Source ID: NP00039-01									
TKN					0.848	20	03/30/2022	ALN	
Matrix Spike (B221170-MS1) Source ID: AC00196-01									
TKN			101	80-120			03/30/2022	ALN	
Matrix Spike (B221170-MS2) Source ID: BB01954-01									
TKN			113	80-120			03/30/2022	ALN	D
Matrix Spike (B221170-MS3) Source ID: NP00039-01									
TKN			103	80-120			03/30/2022	ALN	
Matrix Spike Dup (B221170-MSD1) Source ID: AC00196-01									
TKN			103	80-120	0.792	20	03/30/2022	ALN	
Matrix Spike Dup (B221170-MSD2) Source ID: BB01954-01									
TKN			110	80-120	0.842	20	03/30/2022	ALN	D
Matrix Spike Dup (B221170-MSD3) Source ID: NP00039-01									
TKN			93.6	80-120	2.23	20	03/30/2022	ALN	

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Quality Control Report
(Continued)

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Dissolved Wet Chemistry									
Batch: B220981									
Blank (B220981-BLK1)									
Orthophosphate, as P	<0.002	mg/L					03/16/2022	JAL	U
LCS (B220981-BS1)									
Orthophosphate, as P			96.2	90-110			03/16/2022	JAL	
Duplicate (B220981-DUP1) Source ID: AC00197-04									
Orthophosphate, as P					0.477	10	03/16/2022	JAL	
Duplicate (B220981-DUP2) Source ID: WB01721-05									
Orthophosphate, as P					0.285	10	03/16/2022	JAL	D
Matrix Spike (B220981-MS1) Source ID: AC00197-04									
Orthophosphate, as P			104	90-110			03/16/2022	JAL	
Matrix Spike (B220981-MS2) Source ID: WB01721-05									
Orthophosphate, as P			102	90-110			03/16/2022	JAL	D
Matrix Spike Dup (B220981-MSD1) Source ID: AC00197-04									
Orthophosphate, as P			100	90-110	1.10	10	03/16/2022	JAL	
Matrix Spike Dup (B220981-MSD2) Source ID: WB01721-05									
Orthophosphate, as P			102	90-110	0.231	10	03/16/2022	JAL	D

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Quality Control Report
(Continued)

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Total Metals									
Batch: B221019									
Blank (B221019-BLK1)									
Calcium	<46	ug/L					03/24/2022	AMO	U
Magnesium	<50	ug/L					03/24/2022	AMO	U
Phosphorus as P	<0.006	mg/L					03/24/2022	AMO	U
LCS (B221019-BS1)									
Calcium			100	85-115			03/24/2022	AMO	
Magnesium			102	85-115			03/24/2022	AMO	
Phosphorus as P			108	85-115			03/24/2022	AMO	
Duplicate (B221019-DUP1) Source ID: AC00197-04									
Calcium					2.72	20	03/24/2022	AMO	
Magnesium					3.19	20	03/24/2022	AMO	
Phosphorus as P					1.09	20	03/24/2022	AMO	
Duplicate (B221019-DUP2) Source ID: ME00166-06									
Calcium					1.19	20	03/24/2022	AMO	
Magnesium					0.635	20	03/24/2022	AMO	
Phosphorus as P					1.71	20	03/24/2022	AMO	
Matrix Spike (B221019-MS1) Source ID: AC00197-04									
Calcium			96.0	70-130			03/24/2022	AMO	
Magnesium			98.6	70-130			03/24/2022	AMO	
Phosphorus as P			106	70-130			03/24/2022	AMO	
Matrix Spike (B221019-MS2) Source ID: ME00166-06									
Calcium			95.1	70-130			03/24/2022	AMO	
Magnesium			100	70-130			03/24/2022	AMO	
Phosphorus as P			113	70-130			03/24/2022	AMO	
Matrix Spike Dup (B221019-MSD1) Source ID: AC00197-04									
Calcium			93.8	70-130	1.21	20	03/24/2022	AMO	
Magnesium			96.8	70-130	1.25	20	03/24/2022	AMO	
Phosphorus as P			109	70-130	2.19	20	03/24/2022	AMO	
Matrix Spike Dup (B221019-MSD2) Source ID: ME00166-06									
Calcium			95.7	70-130	0.269	20	03/24/2022	AMO	
Magnesium			100	70-130	0.175	20	03/24/2022	AMO	
Phosphorus as P			112	70-130	1.39	20	03/24/2022	AMO	

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Boise City Public Works
Water Quality Laboratory
11818 Joplin Road
Boise, Idaho 83714-1076
Telephone (208) 608-7240
Fax (208) 608-7319

Quality Control Report
(Continued)

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Total Metals (Continued)									
Batch: B221038									
Blank (B221038-BLK1)									
Arsenic	<0.040	ug/L					03/23/2022	DMW	U
Cadmium	<0.025	ug/L					03/23/2022	DMW	U
Lead	<0.050	ug/L					03/23/2022	DMW	U
LCS (B221038-BS1)									
Arsenic			103	85-115			03/23/2022	DMW	
Cadmium			103	85-115			03/23/2022	DMW	
Lead			105	85-115			03/23/2022	DMW	
Duplicate (B221038-DUP1) Source ID: AC00196-01									
Arsenic					2.59	20	03/23/2022	DMW	
Cadmium					4.43	20	03/23/2022	DMW	
Lead					1.43	20	03/23/2022	DMW	
Matrix Spike (B221038-MS1) Source ID: AC00196-01									
Arsenic			104	70-130			03/23/2022	DMW	
Cadmium			102	70-130			03/23/2022	DMW	
Lead			96.8	70-130			03/23/2022	DMW	
Matrix Spike Dup (B221038-MSD1) Source ID: AC00196-01									
Arsenic			102	70-130	1.38	20	03/23/2022	DMW	
Cadmium			103	70-130	0.784	20	03/23/2022	DMW	
Lead			95.7	70-130	0.737	20	03/23/2022	DMW	
Batch: B221180									
Blank (B221180-BLK1)									
Mercury	<0.01	ug/L					03/31/2022	SAS	U
LCS (B221180-BS1)									
Mercury			104	85-115			03/31/2022	SAS	
Duplicate (B221180-DUP1) Source ID: WR00020-03									
Mercury					NR	20	03/31/2022	SAS	U
Duplicate (B221180-DUP2) Source ID: AC00197-03									
Mercury					29.0	20	03/31/2022	SAS	QC-02
Matrix Spike (B221180-MS1) Source ID: WR00020-03									
Mercury			95.3	70-130			03/31/2022	SAS	
Matrix Spike (B221180-MS2) Source ID: AC00197-03									
Mercury			94.4	70-130			03/31/2022	SAS	
Matrix Spike Dup (B221180-MSD1) Source ID: WR00020-03									
Mercury			92.9	70-130	2.32	20	03/31/2022	SAS	
Matrix Spike Dup (B221180-MSD2) Source ID: AC00197-03									
Mercury			99.3	70-130	3.88	20	03/31/2022	SAS	

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Quality Control Report
(Continued)

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Dissolved Metals									
Batch: B221012									
Blank (B221012-BLK1)									
Cadmium	<0.025	ug/L					03/18/2022	DMW	U
Copper	<0.15	ug/L					03/18/2022	DMW	U
Lead	<0.050	ug/L					03/18/2022	DMW	U
Zinc	<0.78	ug/L					03/18/2022	DMW	U
LCS (B221012-BS1)									
Cadmium			100	85-115			03/18/2022	DMW	
Copper			101	85-115			03/18/2022	DMW	
Lead			100	85-115			03/18/2022	DMW	
Zinc			98.9	85-115			03/18/2022	DMW	
Duplicate (B221012-DUP1) Source ID: AC00196-01									
Cadmium					NR	10	03/18/2022	DMW	U
Copper					0.0170	10	03/18/2022	DMW	
Lead					0.103	10	03/18/2022	DMW	
Zinc					0.0124	10	03/18/2022	DMW	
Matrix Spike (B221012-MS1) Source ID: AC00196-01									
Cadmium			97.6	70-130			03/18/2022	DMW	
Copper			97.3	70-130			03/18/2022	DMW	
Lead			95.3	70-130			03/18/2022	DMW	
Zinc			103	70-130			03/18/2022	DMW	
Matrix Spike Dup (B221012-MSD1) Source ID: AC00196-01									
Cadmium			96.4	70-130	1.28	10	03/18/2022	DMW	
Copper			96.1	70-130	0.905	10	03/18/2022	DMW	
Lead			94.3	70-130	1.02	10	03/18/2022	DMW	
Zinc			104	70-130	0.457	10	03/18/2022	DMW	

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Report Date: 04/04/2022 09:09

Boise City Public Works
Water Quality Laboratory
11818 Joplin Road
Boise, Idaho 83714-1076
Telephone (208) 608-7240
Fax (208) 608-7319

Notes and Definitions

Item	Definition
D	Data reported from a dilution
QC-02	The RPD is greater than the method acceptance criteria. At least one of the values used to calculate the RPD, is less than or equal to the PQL.
U	Analyte included in the analysis, but not detected

Method Reference Acronyms

Colilert	Colilert, IDEXX Laboratories, Inc.
EPA	Manual of Methods for Chemical Analysis of Water and Wastes, USEPA
GS	USGS Techniques of Water-Resources Investigations
HH	Hach Spectrophotometer Procedures Manual
SM	Standard Methods for the Examination of Water and Wastewater
SW	Test methods for Evaluating Solid Waste, SW-846

for JFK

Janet Finegan-Kelly
Water Quality Laboratory Manager

Stephen Quintero or Azubike Emenari
QA/QC Coordinator

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Ada County Highway District

Attn: Monica Lowe
3775 Adams Street
Garden City, Idaho 83714–6418
Tel. (208) 387–6255
Fax (208) 387–6391

Purchase Order: 63058182
Project: Stormwater-PII
Sampler(s): Shannon Krenz
Tammy Lightle

Lab#	Begin Date	End Date	Begin Time	End Time	Sample Identification	Sampler Initials	Matrix: Water	Type: Grab	Type: Composite	BOD_5 - SM 5210 B	COD - Hach 8000	TSS - SM 2540 D	TDS - SM 2540 C	TKN - EPA 351.2	TP - EPA 200.7	Orthophosphate - EPA 365.1	Total As, Cd, Pb - EPA 200.8	Diss. Cd Cu, Pb, Zn - EPA 200.8	Total Hg - EPA 245.2	E. Coli - IDEXX Colilert	Turbidity - EPA 180.1	Hardness - EPA 200.7	NO_3+NO_2 - EPA 353.2	NH_3 - SM 4500 NH_3 - D	H-90 Total Containers
001961-01	3/15/22	3/15/22	0901	1848	220315-18-WC	SK	X		X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	1

Relinquished by (sign)	Date & Time Transferred	Received by (sign)	Comments/Special Instructions:
Shannon Krenz	3/15/22 21:25	[signature]	3-16-22 0650

Arcmis: Arcmis196

Attachment D: Field Forms

Set Up/ Shut Down Form – ISCO

STATION: State

SET UP

Personnel: TLL SMR

Date/Time On-Site: 3/14/22 15:01

Time	Level (in)	Flow (cfs)	Velocity (fps)	Battery (V)
	0.586	0.002		
15 31	[illegible]	[illegible]	0.112	12.636
Downloaded to:				
Enable Condition:	Level > 1.5" , Hysteresis = 1.0"			
Flow Pulse Interval:	211 cf			

On-Site

- ☑ Replace flowmeter battery, install sampler battery
- ☑ Perform decon. cycle
- ☑ Install 15L sample bottle, with ice
- ☑ Leave bottle lid at site, in a clean re-sealable plastic bag
- ☑ Set Sampler program parameters
- ☑ Check date/time on Sampler
- ☑ Verify all cable and tubing connections
- ☑ Verify Sampler Program is running

Flowlink (Refer to Flowlink Instructions, if needed)

- ☒ Direct or Remote; Date/time 3/14 1054
- ☒ Retrieve data and review recent flow history
- ☒ Change Wireless Power Control to Storm Event
- ☒ Change Data Storage Rates to 1 minute for Level, Velocity, Total Flow, and Flow Rate
- ☒ Enable Sampler: On Trigger, and set Sampler Enable equation
- ☒ Set Sampler Pacing to Flow Paced, and set trigger volume

Comments:

* Wireless power @ Chrisfield = Storm Event & changed time
* synced time on state flowmeter

SHUT DOWN

Personnel: TL

Date/Time On-Site:

Time	Level (in)	Flow (cfs)	Velocity (fps)	Battery (V)
Downloaded to:				

On-Site

- ☐ Replace flowmeter battery
- ☒ Remove battery from sampler

Flowlink (Refer to Flowlink Instructions, if needed)

- ☒ Direct or Remote; Date/time 3/18 1122
- ☒ Retrieve data
- ☒ Change Wireless Power Control to Dry Weather
- ☒ Change Data Storage Rates to 15 minutes for Level, Velocity, Total Flow, and Flow Rate
- ☒ Enable Sampler: Never

Comments:

Composite Sample Collection

STATION: State
Personnel: TLC SMK

Bottle 1 **of** 1
Date/Time On-Site: 3/15/22 20:53

☑ Halt Sampler program	
☑ Put lid on sample bottle; label sample bottle	
Sample ID:	220315 - 18 -WC
Approx Sample Volume (mL):	11750
Clarity (ex. Clear, Cloudy, Silty):	Cloudy
Color (ex. Clear, Gray, Tan, Brown, Black):	Gray
QA/QC Sample ID:	-103 (Time: 1200)

Subsample Information

Trigger #	Date/Time	Sampler Message/ Subsample Result	Trigger #	Date/Time	Sampler Message/ Subsample Result
1	3/15 09:01	Success	13	16:18	Success
2	09:14	↓	14	16:28	↓
3	09:24		15	16:35	
4	09:34		16	16:43	
5	09:44		17	16:54	
6	09:56		18	17:16	
7	10:11		19	18:48	
8	10:28		20		
9	10:50		21		
10	11:32		22		
11	13:12		23		
12	14:43	↓	24		

Comments:

If sampling is complete:	**If continuing sampling (sample bottle change-out):**
☒ Power off sampler	☐ Keep flowmeter running
☒ Verify flowmeter is running	☐ Install new 15L bottle; add ice
☒ Add ice to sample transport cooler	☐ Restart program from beginning
☒ Complete COC form; arrange transport to lab	**Date/Time Restarted:** _____
	☐ Verify running

Liquid Height vs. Approximate Sample Volume Conversion Chart

Liquid Height	Sample Volume	Liquid Height	Sample Volume	Liquid Height	Sample Volume	Liquid Height	Sample Volume	Liquid Height	Sample Volume
0.5"	400 mL	**3.0"**	3500 mL	**5.5"**	7250 mL	**8.0"**	11000 mL	**10.5"**	14750 mL
1.0"	800 mL	**3.5"**	4250 mL	**6.0"**	8000 mL	**8.5"**	11750 mL	**11.0"**	15500 mL
1.5"	1400 mL	**4.0"**	5000 mL	**6.5"**	8750 mL	**9.0"**	12500 mL	**11.5"**	16250 mL
2.0"	2000 mL	**4.5"**	5750 mL	**7.0"**	9500 mL	**9.5"**	13250 mL	**After 12"**	1" = 1500 mL
2.5"	2750 mL	**5.0"**	6500 mL	**7.5"**	10250 mL	**10.0"**	14000 mL	**Lab min**	8,000 mL

Form 1
Grab Sample Data Form – PI and PII

STATION: State

Personnel: J. Fikhoff, K. Fairburn **Date/Time On-Site:** 3/15/22 0925

Flow Meter Current Status						
Level (in)	Flow (cfs)	Total Flow (cf)	Velocity (fps)	Battery (V)	Flow Start (date/time)	Rainfall (in)

Grab Information				
	Site ID	Date	Time	Labeled?
Site *E.Coli*	220315-18 -WG	3/15/22	0950	☒
Field Duplicate *E.Coli*	220315-18 -101	↓	0950	☒
Field Blank *E.Coli*	220315-18 -001	↓	0950	☒

Field Parameters						
Meter number	Date	Time	Temp (C)	D.O. (mg/L)	pH (S.U.)	Cond (uS/cm)
MP09	3-15-22	9:55	7.88	9.07	6.33	702.69

Sampler Current Status	
First Subsample Date/Time	
Last Subsample Date/Time	
# of Subsamples taken	

Comments:

Date/Time Off-Site: _____

Revised 200924 TL

1290 W. Myrtle St. Suite 340
Boise, ID 83702

Phone: 208-389-7700

Prepared for: Ada County Highway District

Project Title: NPDES SW Mgmt Support 2022

Project No.: 158096

Technical Memorandum

Subject: ACHD Phase II Storm Event Report for April 4, 2022

Date: June 2, 2022

To: Tammy Lightle

Cc: Monica Lowe

From: Shannon Kronz, Project Engineer

Prepared by: Shannon Kronz, Project Engineer

Reviewed by: Erin Cox, Project Manager

Section 1: Introduction

The EPA Region 10 reissued a Municipal Separate Storm Sewer System Phase II National Pollutant Discharge Elimination System Permit (NPDES Permit), effective February 1, 2021, to Ada County Highway District (Permittee). Under the NPDES Permit, the Permittee is required to continue to conduct wet weather stormwater outfall monitoring. One outfall monitoring site (State) has been established. At the monitoring site, a minimum of three composite and three grab samples will be collected during the permit period (February 1, 2022 – January 31, 2023). Per permit requirements, one of the samples must be collected during the September – October time frame. The following storm event report summarizes the stormwater sampling results from the April 4, 2022 storm event.

Section 2: Project Status

Table 1-1 is a summary of the sample types collected to date for water year 2022 Phase II Stormwater Outfall Monitoring.

Table 1-1. Project Status

Date	State
February 14, 2022	G[1], C
March 15, 2022	G, C
April 4, 2022	G
Collected:	2G, 2C

Notes:

C = composite sample.

G = grab sample.

[1] Sample is qualified due to excess holding time.

After the April 4, 2022 storm event, ACHD still needs to collected one grab and one composite sample from the Phase II monitoring site.

Section 3: Storm Event Summary

The April 4, 2022 storm event and the subsequent preparation and sampling efforts are detailed in the following sections.

3.1 Storm Detail

A detailed summary of the forecast on which monitoring decisions were based is included below. The sampling event communication form that describes the forecast and summarizes the decision-making process from April 4, 2022 is included in Attachment A for reference.

Monday, April 4, 2022

- The National Weather Service issued a forecast for widespread rain in the Boise area on the early morning of April 4, 2022. No chance of rainshadowing was expected. The chance of precipitation was 90% percent, with a precipitation total of 0.11 inch forecasted.
- Rain started around 0800 and continued until 1300.
- The local rain gauge recorded 0.15 inch of total precipitation.

Flow measurements and precipitation data are included in Table 1 along with a sampling summary. The hydrograph showing flow, rain, and sample collection data are included in Attachment B.

3.2 Sampling Summary

Since only a grab sample was taken during the storm event, no setup was necessary. Sampling information is included in Table 1. The field form completed during sampling can be found in Attachment D.

Grab Samples

One, two-member team mobilized to collect a stormwater runoff grab sample during the of April 4, 2022. The grab sample was submitted to the West Boise Water Quality Lab (WQL) at 1203 on April 4th. Results for the grab sample, including field parameter and analytical data, are included in Table 2. Laboratory analytical reports are included in Attachment C.

Section 4: Quality Assurance/Quality Control

Data quality objectives for this storm were evaluated and tracked using the data validation review checklist included in Attachment A. Acceptance and performance criteria for analytical and non-analytical data were met for this storm event.

Data Tables

Table 1. Sampling and Flow Summary	
	State
Grab samples collected and submitted?	YES
Composite samples collected and submitted?	NO
Trigger volume	-
Sampler enable condition (in)	-
Runoff start time	08:51
Grab sample collection time	10:43
Composite sample stop time	-
Runoff stop time	21:15
Volume of discharge sampled (ft^3)	-
Total runoff volume (ft^3)	1,832
Percent of storm flow sampled (%)	-
Composite sample duration (hrs)	-
Storm Precipitation (in)	0.15
Referenced Rain Gauge	Chrisfield
Sampler messages (counts): Success	-
Number of composite bottles filled	-
Composite sample volume (Approx.; ml)	-

Notes:

– = no data.

Table 2. Field and Analytical Data Summary - Wet Samples							
Monitoring Station	Sample Date	Sample ID Grab	Field Parameters				Analytical Parameters
			Dissolved Oxygen	pH	Conductivity	Temperature	E. coli
			mg/L	S.U.	uS/cm	C	mpn/100 mL
State	4/4/2022	220404-18-WG	8.66	6.99	340.66	11.28	50.4

Attachment A: Supplemental Documents

Sampling Event Communication Form

Data Validation Checklist

Runoff Calculation Worksheet

SAMPLING EVENT COMMUNICATION FORM

Date: 4 Apr 2022 **Time:** 7:47 AM **Initials:** TL

Sampling Event Determination

Is there a targeted sampling event expected during the next 36 hours?
(Or, if it is Friday, is a targeted event expected before 5:00 PM on Monday?)

(●) Yes ( ) Maybe ( ) No

If YES or MAYBE, then call BC. Include discussion of reasons for "Maybe" below.

- [x] Date and Time of Expected Event — 4/4/22 7am - 12pm
- [x] Expected Amount of Precipitation
- [x] Percent Chance of Precipitation — 90%, 0.11"

Targeted Stations & Samples

Americana	Main	Lucky	AS-6	Whitewater
[x] Grab	[ ] Grab	[ ] Grab	[ ] Grab	[x] Grab
[ ] Composite	[ ] Composite	[ ] Composite	[ ] Composite	[ ] Composite

Phase II
State
- [x] Grab
- [ ] Composite

Type of Forecasted Precipitation

- [ ] Light Rain
- [x] Rain
- [ ] Scattered Showers
- [ ] Thunder Showers
- [ ] Snow Melt
- [ ] Rain on Snow
- [ ] Other (Describe below)

Reasons for Not Targeting a Forecasted Storm or Targeting Selected Stations/Samples

- [ ] Equipment Concerns (Describe below)
- [ ] Holiday
- [ ] Other (Describe below)
- [ ] Waiting on Antecedent Dry Period. Expires:

Comments

Past 72 hr precip: 0.00"
NWS Forecast for: Boise ID
Issued by: National Weather Service Boise, ID
Last Update: 3:27 am MDT Apr 4, 2022

Wind Advisory

Today: Showers, mainly before noon. High near 60. Light east wind becoming east southeast 5 to 10 mph in the morning. Chance of precipitation is 90%. New precipitation amounts between a tenth and quarter of an inch possible.
Tonight: A slight chance of rain showers before midnight, then a slight chance of rain and snow showers. Mostly cloudy, with a low around 33. Breezy, with a northwest wind 17 to 22 mph decreasing to 11 to 16 mph after midnight. Winds could gust as high as 36 mph. Chance of precipitation is 20%.
Tuesday: Partly sunny, with a high near 49. Breezy, with a west northwest wind 9 to 14 mph increasing to 15 to 20 mph in the afternoon.
Tuesday Night: Mostly clear, with a low around 26. Northwest wind 11 to 16 mph becoming light north northwest after midnight. Winds could gust as high as 25 mph.
Wednesday: Sunny, with a high near 56. Calm wind becoming west northwest around 6 mph in the afternoon.
Wednesday Night: Mostly clear, with a low around 31.
Thursday: Sunny, with a high near 71.
Thursday Night: Mostly clear, with a low around 42.
Friday: Mostly sunny, with a high near 79.
Friday Night: Partly cloudy, with a low around 43.
Saturday: Mostly sunny, with a high near 64.
Saturday Night: Partly cloudy, with a low around 34.
Sunday: Mostly sunny, with a high near 51.

Area Forecast Discussion
National Weather Service Boise ID
415 AM MDT Mon Apr 4 2022

.SHORT TERM...Today through Wednesday night...Winds and precipitation are advancing eastward this morning as a strong Pacific storm moves onshore. On the large scale, little change in the forecast as the axis of a strong upper jet settles over the region today, acting as a conduit to transport deep Pacific moisture into the interior NW. Mountains are still on track to see a widespread 0.4-0.8 inches of liquid with higher mountain peaks approaching an inch. This will stay a wet snow above 5500-6000 feet, so snow totals could approach a foot at higher elevations. Mountain valleys will see snow this morning, mixing with or changing to rain during the afternoon. The current Winter Weather Advisory remains in place, mostly for combination of gusty winds and snow at higher elevations this afternoon and evening. The wet snow and gusty winds (up to 55 mph off valley floors) could lead to tree damage and possible power outages as well.

At lower elevations the best chance of rain is through this morning, though many sites will remain dry as this is mostly an orographic precipitation event. Winds remain on track to be strongest across southeast Oregon, with Harney county and higher terrain of Malheur and Baker county taking the brunt of the wind gusts. Winds ramp up mid-morning and continue into early evening. Expect to see blowing dust with some reduction in visibility, especially downstream of dry lake beds like Harney Lake and the Alvord Desert. In southwest Idaho winds will increase across higher terrain by mid-morning while lagging some in the Snake Plain. A frontal passage and late-day mixing will increase the winds in the Treasure and western Magic valleys in the late afternoon and evening. Winds will remain gusty across s-central Idaho Monday night while showers linger in the mountains.

Storm Event QA/QC Checklist

STORM DATE: 220404				Circle one: Phase I Phase II
A. Event and Data Completeness	**Yes**	**No**	**N/A**	**Notes**
1. Field data sheets filled out completely and clearly	X			
2. Field parameters reviewed, and any problems/issues addressed	X			
3. All samples collected as specified	X			
4. All samples delivered to lab promptly (review chain of custody rpts)	X			
5. Inconsistencies/clarifications discussed with sampling team member			X	
6. All analytical reports from lab received	X			
B. Validation and Verification Methods	**Yes**	**No**	**N/A**	**Notes**
1. Outliers and unexpected values discussed with lab			X	
2. Appropriate analytical methods used	X			
3. All lab QA samples were within method acceptance criteria	X			
4. All samples reviewed and data qualifiers assigned if needed	X			
5. Data quality objective achieved	X			

C. Specific Storm and Sample QA/QC Criteria	Storm/Sample Value	Program Criteria	Met	Qualify	Reject	Notes
1. Precipitation (inches)	0.14	> 0.10 in.	X			
2. Antecedent dry period (hours)	480	< 0.11 in. in 72 hrs	X			
3. Days since last sampling event	20 days	>= 30 days	X			
4. Sampled amount as % of total run-off	N/A	>= 75%				no comp for this event
5. Ecoli sample holding time	2.5 hrs	<=8 hrs: no qualifier >8 and <=16 hrs.: qualify >16 hrs.: reject	X			
6. Filtering of samples for dissolved parameter analysis	N/A	<= 24 hrs: no qualifier > 24 hrs.: reject				

D. Notes:

Reviewed by Tamara Gillette **Date** 05.03.22

Approved by Monica D Lowe **Date** 5/7/22

Storm Runoff Estimates and Trigger Volumes

ACHD Storm Water Monitoring Water Year 2022

Simple Method

Expected Precipitation Depth =	0.11	in
Square Feet per Acre =	43560	ft^2/ac
Inches per Foot=	12	in/ft
Aliquots per Sample=	17	

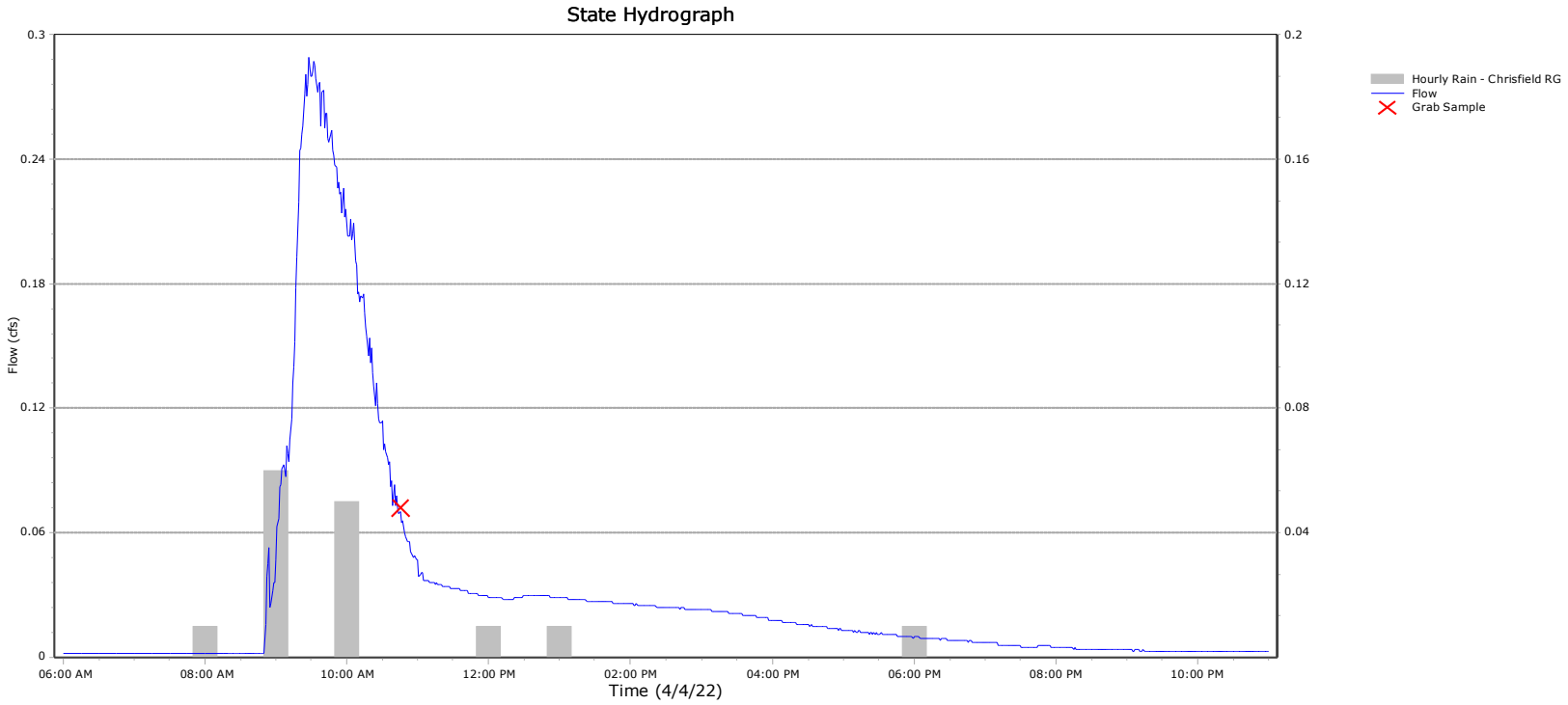
Step 1. Enter runoff coefficients in yellow cells.
Step 2. Enter expected precipitation depth in inches in blue cell.
Step 3. Read trigger volumes (**bold**) in green cells.

Site	Area (ac)	Using RC Based on Land Use			Using Manually-entered RC		
		RC	Expected Vol. (ft^3)	Trigger Vol. (ft^3)	RC	Expected Vol. (ft^3)	Trigger Vol. (ft^3)
#3 Lucky	105	0.401	16813	**989**	0.157	6582.46	**387**
#11 Whitewater	498	0.437	86898	**5112**	0.116	23066.76	**1357**
#12 Main	79	0.437	13785	**811**	0.246	7760.00	**456**
#14 Americana	875	0.446	155827	**9166**	0.144	50311.80	**2960**
#206 AS_6	204	0.257	20935	**1231**	0.046	3747.03	**221**
#18 State	34	0.419	5688	**335**	0.144	1954.97	**122**
Theoretical	80	0.200	6389		0.000		

NOTES: 1. Land usage data, watershed area, and % imp are from ACHD 2013 GIS analysis.

Runoff Coefficient = Runoff Volume (ft^3) ÷ [Storm Depth (ft) x Area (ft^2)]
all values taken from historically corrected runoff coefficents
total acreage*total precip = total runoff (unit conversion factor from acre inches to cubic feet 3630)
Measured runoff
RC = measured runoff / total runoff

Attachment B: Storm Event Hydrograph


State Hydrograph
0.3
0.24
0.18
0.12
0.06
0
0.2
0.16
0.12
0.08
0.04
Flow (cfs)
06:00 AM
08:00 AM
10:00 AM
12:00 PM
02:00 PM
04:00 PM
06:00 PM
08:00 PM
10:00 PM
Time (4/4/22)
Hourly Rain - Chrisfield RG
Flow
Grab Sample

Attachment C: Storm Event Analytical Reports

Report Date: 04/12/2022 11:25

Boise City Public Works
Water Quality Laboratory
11818 Joplin Road
Boise, Idaho 83714-1076
Telephone (208) 608-7240
Fax (208) 608-7319

Samples in this Report

Lab ID	Sample	Sample Description	Matrix	Qualifiers	Date Sampled	Date Received
AC00200-01	ACST2B	220404-18-WG	Water		04/04/2022	04/04/2022

The contents of this report apply to the sample(s) analyzed in accordance with the Chain of Custody document.
No duplication of this report is allowed, except in its entirety

Report Date: 04/12/2022 11:25

Boise City Public Works
Water Quality Laboratory
11818 Joplin Road
Boise, Idaho 83714-1076
Telephone (208) 608-7240
Fax (208) 608-7319

Analysis Report

Location:	ACST2B	Location Description:	220404-18-WG
Date/Time Collected:	04/04/2022 10:43		
Lab Number:	AC00200-01	Sample Collector:	T.L
Sample Type:	Grab	Sample Matrix:	Water

Analyte Name	Batch	Result	Units	Adjusted MDL *	Method MDL	Analysis Method Reference	Prepared Time	Analysis Time	Analyst Initials	Qual
Microbiology										
E. Coli	B221245	50.4	MPN/100 mL	1.0	1.0	IDEXX - Colilert	04/04/22 13:15	4/5/22 13:51	ALG	
Wet Chemistry										
Chlorine Screen	B221255	Absent				SM 4500-CL G-2000 mod	04/04/22	4/4/22 12:43	CJP	

* The reported adjusted "MDL" is sample-specific. The analysis MDL as defined by 40 CFR pt 136 App.B. was corrected for dilution, dry weight, or method-defined ML.

The contents of this report apply to the sample(s) analyzed in accordance with the Chain of Custody document.
No duplication of this report is allowed, except in its entirety

Report Date: 04/12/2022 11:25

Boise City Public Works
Water Quality Laboratory
11818 Joplin Road
Boise, Idaho 83714-1076
Telephone (208) 608-7240
Fax (208) 608-7319

Quality Control Report

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Microbiology									
Batch: B221245									
Blank (B221245-BLK1)									
E. Coli	Absent						04/05/2022	ALG	
LCS (B221245-BS1)									
E. Coli				Present			04/05/2022	ALG	
Duplicate (B221245-DUP1)	Source ID: LS01096-10								
E. Coli					Pass	128	04/05/2022	ALG	
Duplicate (B221245-DUP2)	Source ID: PK00079-01								
E. Coli					ND	128	04/05/2022	ALG	U

The contents of this report apply to the sample(s) analyzed in accordance with the Chain of Custody document.
No duplication of this report is allowed, except in its entirety

Report Date: 04/12/2022 11:25

Boise City Public Works
Water Quality Laboratory
11818 Joplin Road
Boise, Idaho 83714-1076
Telephone (208) 608-7240
Fax (208) 608-7319

Notes and Definitions

Item	Definition
U	Analyte included in the analysis, but not detected

Method Reference Acronyms

Colilert	Colilert, IDEXX Laboratories, Inc.
EPA	Manual of Methods for Chemical Analysis of Water and Wastes, USEPA
GS	USGS Techniques of Water-Resources Investigations
HH	Hach Spectrophotometer Procedures Manual
SM	Standard Methods for the Examination of Water and Wastewater
SW	Test methods for Evaluating Solid Waste, SW-846

for JFK

Janet Finegan-Kelly
Water Quality Laboratory Manager

Stephen Quintero or Azubike Emenari
QA/QC Coordinator

The contents of this report apply to the sample(s) analyzed in accordance with the Chain of Custody document.
No duplication of this report is allowed, except in its entirety

Ada County Highway District

Attn: Monica Lowe
3775 Adams Street
Garden City, Idaho 83714–6418
Tel. (208) 387–6255
Fax (208) 387–6391

Purchase Order: 63058182
Project: Stormwater-PII
Sampler(s): Tamara Lightle
Melissa Jannusch

Lab#	Begin Date	End Date	Begin Time	End Time	Sample Identification	Sampler Initials	Matrix: Water	Type: Grab	Type: Composite	BOD_5 - SM 5210 B	COD - Hach 8000	TSS - SM 2540 D	TDS - SM 2540 C	TKN - EPA 351.2	TP - EPA 200.7	Orthophosphate - EPA 365.1	Total As, Cd, Pb - EPA 200.8	Diss. Cd Cu, Pb, Zn - EPA 200.8	Total Hg - EPA 245.2	E. Coli - IDEXX Colilert	Turbidity - EPA 180.1	Hardness - EPA 200.7	NO_3+NO_2 - EPA 353.2	NH_3 - SM 4500 NH_3 - D	Total Containers
2002002	4/4/22		1043		220404-18-WG	TL	X	X												X					1

Relinquished by (sign)	Date & Time Transferred	Received by (sign)	Comments/Special Instructions:
Tam Lightle	4/4/22 1203	[signature] M. Cg	04/04/22 1205

H-112

coc_wql-pii

#AC002002

WY22

AC002002

Attachment D: Field Forms

Form 1

Grab Sample Data Form – Phase I, Phase II

STATION: State

Personnel: Tammy & Melissa **Date/Time On-Site:** 4-4-2022 10:41

Flow Meter Current Status						
Level (in)	Flow (cfs)	Total Flow (cf)	Velocity (fps)	Battery (V)	Flow Start . (date/time)	Rainfall (in)

Grab Information				
	Site ID	Date	Time	Labeled?
Site *E.Coli*	220404-18 -WG	04-04-2022	10:43	☑
Field Duplicate *E.Coli*	-101			☐
Field Blank *E.Coli*	-001			☐

Field Parameters						
Meter number	Date	Time	Temp (C)	D.O. (mg/L)	pH (S.U.)	Cond (uS/cm)
MP09	04-04-2022	10:46	11.28	8.66	6.99	340.6

Sampler Current Status	
First Subsample Date/Time	
Last Subsample Date/Time	
# of Subsamples taken	

Comments:

Date/Time Off-Site: 04-04-2022 10:48

1290 W. Myrtle St. Suite 340
Boise, ID 83702

Phone: 208-389-7700

Prepared for: Ada County Highway District

Project Title: NPDES SW Mgmt Support WY 2023

Project No.: 159104

Technical Memorandum

Subject: ACHD Phase II Storm Event Report for October 22, 2022

Date: January 19, 2023

To: Tammy Lightle

Cc: Monica Lowe

From: Shannon Kronz, Project Engineer

Prepared by: Shannon Kronz, Project Engineer

Reviewed by: Melissa Jannusch, Project Manager

Section 1: Introduction

The Environmental Protection Agency Region 10 reissued a Municipal Separate Storm Sewer System Phase II National Pollutant Discharge Elimination System Permit (NPDES Permit), effective February 1, 2021, to Ada County Highway District. Under the NPDES Permit, the permittee is required to continue to conduct wet weather stormwater outfall monitoring. One outfall monitoring site (State) has been established for Phase II. At the monitoring site, a minimum of three composite and three grab samples will be collected during the permit reporting period (February 1, 2022–January 31, 2023). Per permit requirements, one of the samples must be collected during the September-October time frame. The following storm event report summarizes the stormwater sampling results from the October 22, 2022, storm event.

Section 2: Project Status

Table 1-1 is a summary of the sample types collected to date for Permit Year 2 Phase II Stormwater Outfall Monitoring.

Table 1-1. Permit Year 2 Project Status

Date	State Site
February 14, 2022	G[1], C
March 15, 2022	G, C
April 4, 2022	G
October 22, 2022	G, C
Collected:	3G, 3C

Notes:

C = composite sample.

G = grab sample.

[1] E. coli *sample is qualified due to exceeded holding time.*

After the October 22, 2022, storm event, Ada County Highway District has completed stormwater sampling from the Phase II monitoring site for Permit Year 2.

Section 3: Storm Event Summary

The October 22, 2022, storm event, including preparation and sampling efforts, is detailed in the following sections.

3.1 Storm Detail

A detailed summary of the forecast on which monitoring decisions were based is included below. The sampling event communication form that describes the forecast and summarizes the decision-making process from October 21, 2022, is included in Attachment A for reference.

Friday, October 21, 2022

- On the morning of October 21, 2022, the National Weather Service issued a forecast for widespread rain in the Boise area, starting the evening of October 21, 2022, and continuing into October 22, 2022. Rain shadowing was not expected. The chance of precipitation was 100 percent, with 0.58 inch of precipitation forecasted.
- Setup was accomplished on October 21, 2022. An expected precipitation depth of 0.30 inch was used to set the trigger volume at the monitoring station.

Saturday, October 22, 2022

- Steady rain started at approximately 2230 on Friday evening and continued until 0600 Saturday, with the heaviest wave between 0300 and 0500.
- Precipitation totaled 0.52 inch at the local rain gauge.

Flow measurements and precipitation data are detailed in Table 1 along with a sampling summary. The hydrograph for the monitoring station showing flow, rain, and sample collection data is included in Attachment B.

3.2 Sampling Summary

The State monitoring station was set up on October 21, 2022, to collect a flow-proportional composite sample during the storm. A site-specific sampler enable condition was calculated and programmed into the flowmeter. Setup and sampling information is included in Table 1. The field forms completed during setup/shutdown and sampling can be found in Attachment C.

Grab Samples

One, two-member team mobilized to collect a stormwater runoff grab sample and verify operation of the automatic sampling equipment around midnight on October 22, 2022. The grab sample was submitted to the West Boise Water Quality Lab at 0127 on October 22, 2022. Results for the grab sample, including field parameter and analytical data, are listed in Table 2. Laboratory analytical reports are included in Attachment D.

Composite Samples

A composite sample was collected at the State monitoring station. The volume of the composite sample submitted was sufficient for all parameters. The composite sample was submitted to the West Boise Water Quality Lab at 1051 on October 22, 2022. Analytical results are included in Table 2. Pollutant loading estimates for the event are included in Table 3.

Section 4: Quality Assurance/Quality Control

A summary of quality control samples collected during the October 22, 2022, storm event is presented below in Table 4-1. A field blank and a field duplicate were collected at the State monitoring station. The analytical results for these samples are included in Table 4.

Table 4-1. Quality Control Samples

Sample ID	Sample Type	Parent Sample	Conclusions
221022-18-001	Field blank	State grab	No *E. coli* detection was reported in the field blank.
221022-18-101	Field duplicate	State grab	Relative percent difference was within the acceptable range.

Data quality objectives for this storm were evaluated and tracked using the data validation review checklist included in Attachment A. Acceptable and performance measures for all analytical and non-analytical criteria were met for this storm event.

Data Tables

Table 1. Sampling and Flow Summary	
	State
Grab samples collected and submitted?	YES
Composite samples collected and submitted?	YES
Trigger volume (ft^3)	419
Sampler enable condition (in)	level > 1.5
Runoff start time	12:52
Grab sample collection time	0:34
Composite sample stop time	6:33
Runoff stop time	9:00
Volume of discharge sampled (ft^3)	7,043
Total runoff volume (ft^3)	7,277
Percent of storm flow sampled (%)	97%
Composite sample duration (hrs)	5.5
Storm Precipitation (in)	0.52
Referenced rain gauge	Chrisfield
Sampler messages (counts): Success	17
Number of composite bottles filled	1
Composite sample volume (Approx.; ml)	10,250

Table 2. Field and Analytical Data Summary

Monitoring Station	Sample Date	Sample ID Grab	Field Parameters				Analytical Parameters																				
			Dissolved Oxygen	pH	Conductivity	Temperature	E. coli	Sample ID Composite	BOD_5	COD	Hardness as $CaCO_3$	Turbidity	TSS	TDS	Total Phosphorus	Orthophosphate as P	Ammonia as N	Nitrate + Nitrite as N	TKN	Arsenic, total	Cadmium, dissolved	Cadmium, total	Copper, dissolved	Lead, dissolved	Lead, total	Mercury, total	Zinc, dissolved
			mg/L	S.U.	uS/cm	C	mpn/100 mL		mg/L	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
State	10/22/2022	221022-18-WG	6.27	6.8	185.9	16.0	46.4	221022-18-WC	86.5	216	53.8	76.2	138	148	0.679	0.457	1.69	0.555	4.69	2.8	<0.0250	0.12	7.7	0.19	6.6	0.012	24.4

Table 3. Event Pollutant Loading Estimates in Pounds						
Monitoring Station	Event Date	TSS	Total Phosphorus	Ammonia as N	Nitrate + Nitrite as N	TKN
State	10/22/2022	62.7	0.308	0.768	0.252	2.13

Table 4. QC Sample Summary				
Date	Parent Sample	Sample ID	Type	E. coli
				mpn/100 mL
10/22/2022	State grab	221022-18-001	Field blank	< 1.0
10/22/2022	State grab	221022-18-101	Field duplicate	55.6
Calculated parent/duplicate RPD				3%
Allowable RPD				40%

Attachment A: Supplemental Documents

Sampling Event Communication Form

Data Validation Checklist

Runoff Calculation Worksheet

SAMPLING EVENT COMMUNICATION FORM

Date: 10/21/2022	Time: 7:52 AM	Initials: TL
Is there a targeted sampling event during the next 36 hours? (Or, if it is Friday, is a targeted event expected before 5:00 PM Monday?)		Yes

Past 72 hr Precip	0.00”
Date and time of expected event	10/21 6pm
Expected amount of precipitation	0.58”
Percent chance of precipitation	100%
Percent chance of >0.10” over 12 hours	95%

NWS Update

I spoke with Anna at NWS this morning. They are very confident that we will get >0.10”. It is looking like we will get a bit of sprinkles coming in starting around 6pm, but the bulk of the rain should be arriving around 11pm-12am, with the heaviest rain from 1am-5am. The totals from 12am – 6am are 0.30” and the totals from 6am on are another 0.20”. The rain is going to be widespread, with little to no chance of rain shadowing. The models are in good agreement, with the median precip amount for the 24 hour period being 0.40”.

Targeted Station & Samples

Lucky	Whitewater	Main	Americana	AS_6	State (Phase II)
☒ Grab	☒ Grab	☒ Grab	☒ Grab	☒ Grab	☒ Grab
☒ Composite	☒ Composite	☒ Composite	☒ Composite	☒ Composite	☒ Composite

Type of Forecasted Precipitation

☐ Light Rain	☒ Rain	☐ Rain on Snow
☐ Scattered Showers	☐ Thunder Showers	☐ Snowmelt
☐ Other:		

Reasons for Not Targeting a Forecasted Storm and/or Stations

☐ Holiday
☐ Waiting on Antecedent Dry Period – Expires:
☐ Equipment Concerns:
☐ Other:

Text Forecast

NWS Forecast for: 2 Miles SW Garden City ID
Issued by: National Weather Service Boise, ID
Last Update: 3:44 am MDT Oct 21, 2022

Today: Mostly sunny, with a high near 67. Calm wind becoming west northwest 5 to 7 mph in the afternoon.
Tonight: Rain. Low around 44. Calm wind becoming south southwest 5 to 9 mph after midnight. Chance of precipitation is 100%. New precipitation amounts between a quarter and half of an inch possible.
Saturday: Showers. Steady temperature around 47. West northwest wind around 14 mph. Chance of precipitation is 80%. New precipitation amounts between a tenth and quarter of an inch possible.
Saturday Night: A 30 percent chance of showers before midnight. Mostly cloudy, with a low around 33. West northwest wind around 9 mph.
Sunday: Mostly sunny, with a high near 51. Northwest wind 8 to 15 mph.
Sunday Night: Mostly clear, with a low around 30.
Monday: A 20 percent chance of showers after noon. Mostly sunny, with a high near 52.
Monday Night: A 40 percent chance of showers, mainly before midnight. Mostly cloudy, with a low around 38.

Tuesday: A 20 percent chance of showers after noon. Mostly cloudy, with a high near 53.
Tuesday Night: A 40 percent chance of showers. Mostly cloudy, with a low around 38.
Wednesday: A 50 percent chance of showers. Mostly cloudy, with a high near 51.
Wednesday Night: A 20 percent chance of showers. Mostly cloudy, with a low around 32.
Thursday: Mostly sunny, with a high near 50.

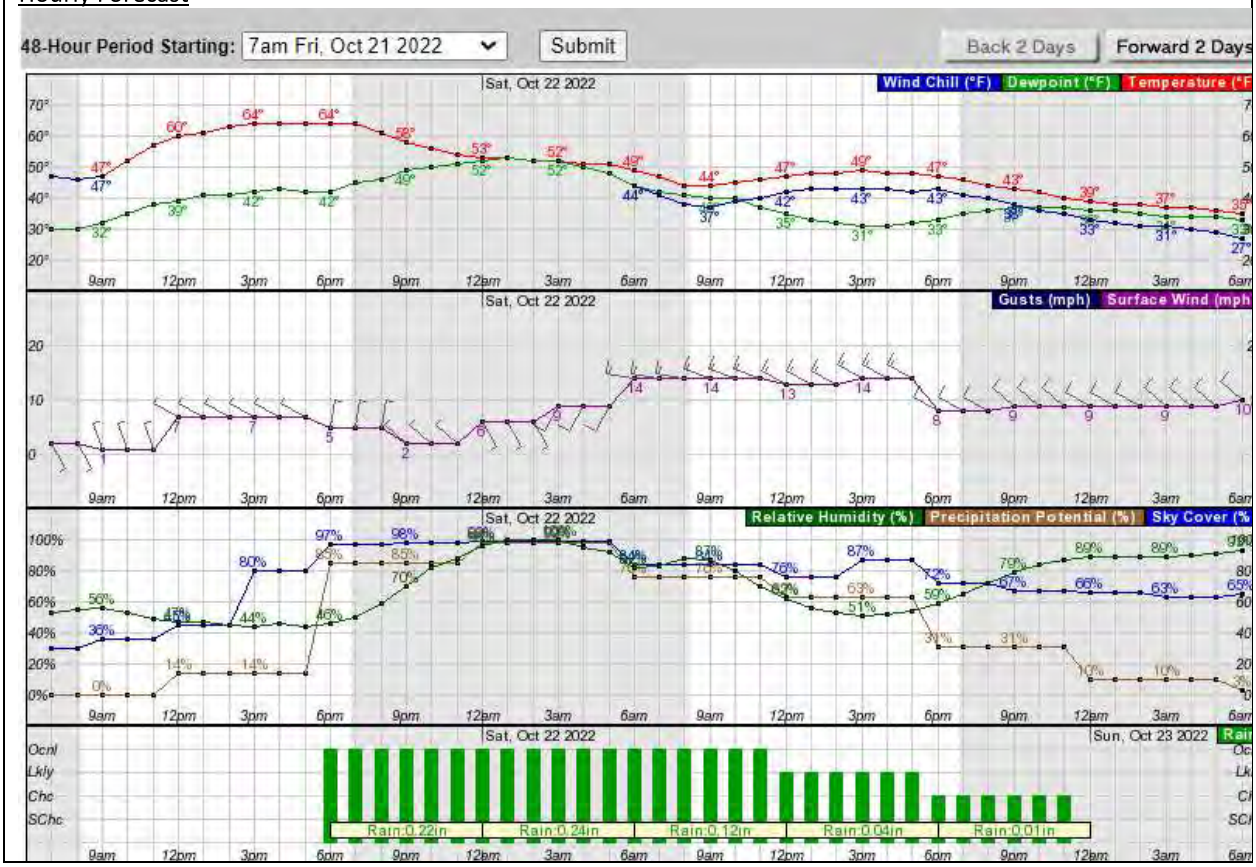
Forecast Discussion
Area Forecast Discussion
National Weather Service Boise ID
333 AM MDT Fri Oct 21 2022

.SHORT TERM...Today through Sunday night...Today will be the last dry and mild day for most of the area before the onset to a significant pattern change to cool wet and windy conditions this weekend. Precipitation will start to develop across the north - mainly from Baker County to the West Central ID Mountains - later this afternoon as **a moist and vigorous low pressure system enters the Pacific Northwest. The precipitation will overspread the area from north to south tonight with widespread rain** and high-elevation snow. Snow levels will lower to around 7000 feet in the north and remain high (above 9000 feet) near the Nevada border. Gusty winds will also develop ahead of a cold front this afternoon. The winds will continue to increase and become windy this evening, and remain windy through Saturday with the passage of a cold front and the arrival of colder air behind it. Winds will be near advisory levels in the higher elevations of Harney/Malhuer County in SE Oregon and Owyhee County in SW Idaho. Snow levels will continue to lower on Saturday, reaching down to 4500-5500 feet. **The widespread precipitation will transition to showers on Saturday** as the cold unstable upper trough settles into the region. Snow accumulations will be mainly confined to the higher elevations above 6000 feet where several inches are expected. **Rain and snow showers will persist through Saturday night with additional light snowfall accumulations above 4500 feet.** Winds will diminish, but it will remain breezy overnight. The upper trough will continue to develop on Sunday while slowly drifting to our east. Snow showers will linger over the higher elevations of SW Idaho, although with little or no additional snow accumulation. Models have ramped up the wind speeds/gusts on Sunday, especially in far SW Idaho. Winds will approach advisory levels in a corridor from south of Boise to the Nevada border. Temperatures will trend colder each day, with highs only in the 40s and 50s in the valleys. Lows Sunday morning will be around 32F in some locations in the Snake Plain, with evening colder temperatures (mid 20s-low 30s) forecast on **Monday morning for the first widespread freeze event this season.**

.LONG TERM...Monday through Friday...**Active weather pattern continues with a weak trough passage on Monday. This will bring mountain snow and valley rain showers.** Snow amounts will be light. A brief break in the precipitation follows for Tuesday as the flow shifts to the west-southwest. Ensembles are split with the

next system mid-week. Deterministic along with about 55% of the ensembles favor another trough passage with the remaining 45% favoring another upper level ridge. Current forecast favors another cold trough passage Wednesday but confidence remains low. A drier conditions follow into the weekend with weak ridging over the Intermountain West. Temperatures will average around 5 degrees below normal.

Hourly Forecast



Storm Event QA/QC Checklist – Phase II

STORM DATE: 221022

A. Event and Data Completeness	Yes	No	N/A	Notes
1. Field data sheets filled out completely and clearly	X			
2. Field parameters reviewed, and any problems/issues addressed	X			
3. All samples collected as specified	X			
4. All samples delivered to lab promptly (review chain of custody rpts)	X			
5. Inconsistencies/clarifications discussed with sampling team member	X			reviewed QC sample times.
6. All analytical reports from lab received	X			

B. Validation and Verification Methods	Yes	No	N/A	Notes
1. Outliers and unexpected values discussed with lab			X	
2. Appropriate analytical methods used	X			
3. All lab QA samples were within method acceptance criteria	X			
4. All samples reviewed and data qualifiers assigned if needed	X			
5. Data quality objective achieved	X			

C. Specific Storm and Sample QA/QC Criteria	Storm/Sample Value	Program Criteria	Met	Qualify	Reject
1. Antecedent dry period (inches in previous 72-hours)	0.00	< 0.11" in 72 hrs	X		
2. Precipitation (inches)	0.52	> 0.10"	X		
3. Sampled amount (% of total run-off)	97	>= 75% or >= 6 hrs: no qualifier >= 50% and <75%: qualify < 50%: reject	X		
4. Composite sample duration (hours)	5.5				
5. Ecoli sample holding time (hours)	7.65	<=8 hrs: no qualifier >8 and <=16 hrs.: qualify >16 hrs.: reject	X		
6. Filtering of samples for dissolved parameter analysis (hours)	6	<= 24 hrs: no qualifier > 24 hrs.: reject	X		

D. Notes

Reviewed by Tamara Wilson **Date** 12.01.22

Approved by Monica Love **Date** 12/2/22

Storm Runoff Estimates and Trigger Volumes

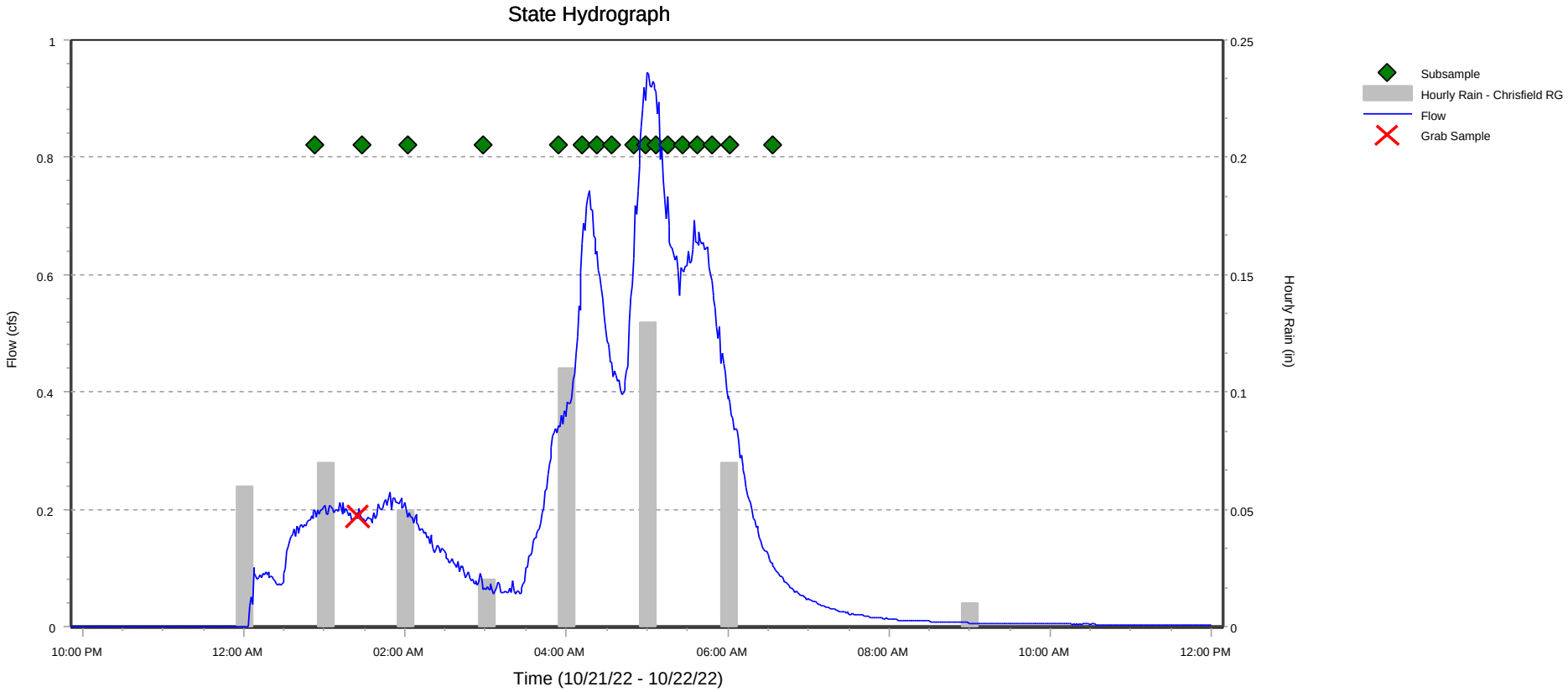
Simple Method

Expected Precipitation Depth =	0.3	in
Square Feet per Acre =	43560	ft^2/ac
Inches per Foot=	12	in/ft
Aliquots per Sample=	17	

Step 1. Enter runoff coefficients in yellow cells.
Step 2. Enter expected precipitation depth in inches in blue cell.
Step 3. Read trigger volumes (**bold**) in green cells.

Site	Area (ac)	Using RC Based on Land Use			Using Manually-entered RC				Used in Field
		RC	Expected Vol. (ft^3)	Trigger Vol. (ft^3)	RC	Expected Vol. (ft^3)	Trigger Vol. (ft^3)	Trigger Vol. (Gal)	Trigger Vol.
State	34	0.419	15514	**970**	0.144	5327	**333**	2491	419 ft^3

Attachment B: Storm Event Hydrograph


State Hydrograph
Flow (cfs)
Hourly Rain (in)
Time (10/21/22 - 10/22/22)
1
0.8
0.6
0.4
0.2
0
0.25
0.2
0.15
0.1
0.05
0
10:00 PM
12:00 AM
02:00 AM
04:00 AM
06:00 AM
08:00 AM
10:00 AM
12:00 PM
Subsample
Hourly Rain - Chrisfield RG
Flow
Grab Sample

Attachment C: Field Form

Set Up/ Shut Down Form – ISCO

STATION: State

SET UP

Personnel: SMK, TLL

Date/Time On-Site: 10/21/22 10:55

Time	Level (in)	Flow (cfs)	Velocity (fps)	Battery (V)
1022	0.222	0	0.063	12.55

Enable Condition:	level > 1.5"
Hysteresis:	1.1"
Flow Pulse Interval:	419 cf

On-Site

- ☑ Replace flowmeter battery, install sampler battery - G
- ☑ Perform decon. cycle
- ☑ Install 15L sample bottle, with ice
- ☑ Leave bottle lid at site, in a clean re-sealable plastic bag
- ☑ Set sampler program parameters
- ☑ Check date/time on sampler
- ☑ Verify all cable and tubing connections
- ☑ Verify sampler program is running

Flowlink (Refer to PG 411 or PG 412, if needed)

- ☒ Direct or Remote; Date/time 10/21 1021
- ☒ Retrieve data and review recent flow history
- ☒ Change Wireless Power Control to Storm Event
- ☒ Change Data Storage Rates to 1 minute for Level, Velocity, Total Flow, and Flow Rate
- ☒ Enable Sampler: On Trigger, and set Sampler Enable equation
- ☒ Set Sampler Pacing to Flow Paced, and set trigger volume

Comments:

SHUT DOWN

Personnel: TLL

Date/Time On-Site: 10.24.22 / 0938

Time	Level (in)	Flow (cfs)	Velocity (fps)	Battery (V)
Downloaded to:				

On-Site

- ☐ Replace flowmeter battery -not needed
- ☒ Remove battery from sampler

Flowlink (Refer to Flowlink Instructions, if needed)

- ☒ Direct or Remote; Date/time 10/25 1033
- ☒ Retrieve data
- ☒ Change Wireless Power Control to Dry Weather
- ☒ Change Data Storage Rates to 15 minutes for Level, Velocity, Total Flow, and Flow Rate
- ☒ Enable Sampler: Never

Comments:

Composite Sample Collection

STATION: State
Personnel: SMK, TLL

Bottle 1 **of** 1
Date/Time On-Site: 10/22/22 10:29

☑ Halt Sampler program	
☑ Put lid on sample bottle; label sample bottle	
Sample ID:	221022 – 18 -WC
Approx Sample Volume (mL):	10,250
Clarity (ex. Clear, Cloudy, Silty):	Cloudy
Color (ex. Clear, Gray, Tan, Brown, Black):	Brown Tan
QA/QC Sample ID:	-103 (Time: 1200)

Subsample Information

Trigger #	Date/Time	Sampler Message/ Subsample Result	Trigger #	Date/Time	Sampler Message/ Subsample Result
1	10/22/22 0052	Success	13	10/22/22 0526	Success
2	0128	↓	14	0537	↓
3	0202		15	0548	
4	0257		16	0602	
5	0354		17	0633	
6	0411		18		
7	0422		19		
8	0434		20		
9	0450		21		
10	0459		22		
11	0507		23		
12	0515	↓	24		

Comments:

If sampling is complete:
- ☒ Power off sampler
- ☐ Verify Flowmeter is running
- ☒ Add ice to sample transport cooler
- ☒ Complete COC form; arrange transport to lab

If continuing sampling (sample bottle change-out):
- ☐ Keep flowmeter running
- ☐ Install new 15L bottle; add ice
- ☐ Restart program from beginning

Date/Time Restarted: _____

- ☐ Verify running

Liquid Height vs. Approximate Sample Volume Conversion Chart

Liquid Height	Sample Volume	Liquid Height	Sample Volume	Liquid Height	Sample Volume	Liquid Height	Sample Volume	Liquid Height	Sample Volume
0.5"	400 mL	**3.0"**	3500 mL	**5.5"**	7250 mL	**8.0"**	11000 mL	**10.5"**	14750 mL
1.0"	800 mL	**3.5"**	4250 mL	**6.0"**	8000 mL	**8.5"**	11750 mL	**11.0"**	15500 mL
1.5"	1400 mL	**4.0"**	5000 mL	**6.5"**	8750 mL	**9.0"**	12500 mL	**11.5"**	16250 mL
2.0"	2000 mL	**4.5"**	5750 mL	**7.0"**	9500 mL	**9.5"**	13250 mL	**After 12"**	1" = 1500 mL
2.5"	2750 mL	**5.0"**	6500 mL	**7.5"**	10250 mL	**10.0"**	14000 mL	**Lab min**	8,000 mL

Grab Sample Data Form

STATION: State

Personnel: Chad HRT **Date/Time On-Site:** 10/22/22 0045

Flow Meter Current Status						
Time	Level (in)	Flow (cfs)	Velocity (fps)	Battery (V)	Flow Start (date/time)	Rainfall (in)

Grab Information				
	Sample ID	Date	Time	Labeled?
Site *E.Coli*	221022-18- -WG	10/22/22	0034	☑
Field Duplicate *E.Coli*	221022-18 -101		0035	☑
Field Blank *E.Coli*	221022-18-001		0037	☑

*Note: time on bottle for QC samples is 1200

Field Parameters					
Meter number	Time	Temp (C)	D.O. (mg/L)	pH (S.U.)	SpCond (uS/cm)
MP09	0046	15.96	6.67	6.8	185.94

Sampler Current Status	
First Subsample Date/Time	
Last Subsample Date/Time	
# of Subsamples taken	

Comments:

Attachment D: Storm Event Analytical Report

Report Date: 11/16/2022 13:32

Boise City Public Works
Water Quality Laboratory
11818 Joplin Road
Boise, Idaho 83714-1076
Telephone (208) 608-7240
Fax (208) 608-7319

Samples in this Report

Lab ID	Sample	Sample Description	Matrix	Qualifiers	Date Sampled	Date Received
AC00261-01	ACST2B	221022-18-WG	Water		10/22/2022	10/22/2022
AC00261-02	ACST2B	221022-18-101	Water		10/22/2022	10/22/2022
AC00261-03	ACST2B	221022-18-001	Water		10/22/2022	10/22/2022

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Report Date: 11/16/2022 13:32

Boise City Public Works
Water Quality Laboratory
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Boise, Idaho 83714-1076
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Fax (208) 608-7319

Analysis Report

Location:	ACST2B	Location Description:	221022-18-WG
Date/Time Collected:	10/22/2022 00:31		
Lab Number:	AC00261-01	Sample Collector:	C.S
Sample Type:	Grab	Sample Matrix:	Water

Analyte Name	Batch	Result	Units	Adjusted MDL *	Method MDL	Analysis Method Reference	Prepared Time	Analysis Time	Analyst Initials	Qual
Microbiology										
E. Coli	B224079	46.4	MPN/100 mL	1.0	1.0	IDEXX - Colilert	10/22/22 08:10	10/23/22 9:35	ASE	
Wet Chemistry										
Chlorine Screen	B224078	Absent				SM 4500-CL G-2000 mod	10/22/22	10/22/22 8:18	MER	

* The reported adjusted "MDL" is sample-specific. The analysis MDL as defined by 40 CFR pt 136 App.B. was corrected for dilution, dry weight, or method-defined ML.

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Analysis Report

Location:	ACST2B	Location Description:	221022-18-101
Date/Time Collected:	10/22/2022 12:00		
Lab Number:	AC00261-02	Sample Collector:	C.S
Sample Type:	Grab	Sample Matrix:	Water

Analyte Name	Batch	Result	Units	Adjusted MDL *	Method MDL	Analysis Method Reference	Prepared Time	Analysis Time	Analyst Initials	Qual
Microbiology										
E. Coli	B224079	55.6	MPN/100 mL	1.0	1.0	IDEXX - Colilert	10/22/22 08:10	10/23/22 9:35	ASE	
Wet Chemistry										
Chlorine Screen	B224078	Absent				SM 4500-CL G-2000 mod	10/22/22	10/22/22 8:18	MER	

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Analysis Report

Location:	ACST2B	Location Description:	221022-18-001
Date/Time Collected:	10/22/2022 12:00		
Lab Number:	AC00261-03	Sample Collector:	C.S
Sample Type:	Grab	Sample Matrix:	Water

Analyte Name	Batch	Result	Units	Adjusted MDL *	Method MDL	Analysis Method Reference	Prepared Time	Analysis Time	Analyst Initials	Qual
Microbiology										
E. Coli	B224079	<1.0	MPN/100 mL	1.0	1.0	IDEXX - Colilert	10/22/22 08:10	10/23/22 9:35	ASE	U
Wet Chemistry										
Chlorine Screen	B224078	Absent				SM 4500-CL G-2000 mod	10/22/22	10/22/22 8:18	MER	

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Quality Control Report

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Microbiology									
Batch: B224079									
Blank (B224079-BLK1)									
E. Coli	Absent						10/23/2022	ASE	
LCS (B224079-BS1)									
E. Coli				Present			10/23/2022	ASE	
Duplicate (B224079-DUP1)	Source ID: AC00260-01								
E. Coli					Pass	128	10/23/2022	ASE	

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Notes and Definitions

Item	Definition
U	Analyte included in the analysis, but not detected

Method Reference Acronyms

Colilert	Colilert, IDEXX Laboratories, Inc.
EPA	Manual of Methods for Chemical Analysis of Water and Wastes, USEPA
GS	USGS Techniques of Water-Resources Investigations
HH	Hach Spectrophotometer Procedures Manual
SM	Standard Methods for the Examination of Water and Wastewater
SW	Test methods for Evaluating Solid Waste, SW-846

for JFK

Janet Finegan-Kelly
Water Quality Laboratory Manager

Stephen Quintero or Azubike Emenari
QA/QC Coordinator

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Ada County Highway District

Attn: Tammy Lightle
3775 Adams Street
Garden City, Idaho 83714–6418
Tel. (208) 387–6255
Fax (208) 387–6391

Purchase Order: 63061762
Project: Stormwater-PII
Sampler(s):

Lab# AC00261	Begin Date	End Date	Begin Time	End Time	Sample Identification	Sampler Initials	Matrix: Water	Type: Grab	Type: Composite	BOD_5 - SM 5210 B	COD - Hach 8000	TSS - SM 2540 D	TDS - SM 2540 C	TKN - EPA 351.2	TP - EPA 200.7	Orthophosphate - EPA 365.1	Total As, Cd, Pb - EPA 200.8	Diss. Cd Cu, Pb, Zn - EPA 200.8	Total Hg - EPA 245.2	E. Coli - IDEXX Colilert	Turbidity - EPA 180.1	Hardness - EPA 200.7	NO_3+NO_2 - EPA 353.2	NH_3 - SM 4500 NH_3 - D	Total Containers
~~Lot~~ -01	10/22	10/22	00:31 @12:00 SK		221022-18-WG	CB	✓	✓												✓					1
~~Lot~~ -02	10/22	10/22	~~00:35~~ 12:00 SK		221022-18-101	CB	✓	✓												✓					1
~~Lot~~ -03	10/22	10/22	~~00:37~~		221022-18-001	CB	✓	✓												✓					1

Relinquished by (sign)	Date & Time Transferred	Received by (sign)	Comments/Special Instructions:
[signature]	10/22/22 127	KHP 10-22-22 1130	AC00261-

Report Date: 11/18/2022 08:22

Boise City Public Works
Water Quality Laboratory
11818 Joplin Road
Boise, Idaho 83714-1076
Telephone (208) 608-7240
Fax (208) 608-7319

Samples in this Report

Lab ID	Sample	Sample Description	Matrix	Qualifiers	Date Sampled	Date Received
AC00259-01	ACST2C	221022-18-WC	Water		10/22/2022	10/22/2022

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Boise City Public Works
Water Quality Laboratory
11818 Joplin Road
Boise, Idaho 83714-1076
Telephone (208) 608-7240
Fax (208) 608-7319

Analysis Report

Location:	ACST2C	Location Description:	221022-18-WC
Date/Time Collected:	10/22/2022 00:52 - 10/22/2022 06:33		
Lab Number:	AC00259-01	Sample Collector:	S.K
Sample Type:	Composite	Sample Matrix:	Water

Analyte Name	Batch	Result	Units	Adjusted MDL *	Method MDL	Analysis Method Reference	Prepared Time	Analysis Time	Analyst Initials	Qual
Wet Chemistry										
Ammonia, as N	B224155	1690	ug/L	35.0	35.0	SM 4500-NH3 D-2011	10/29/22	10/29/22 13:48	GKH	
BOD5	B224082	86.5	mg/L	2.00	2.00	SM 5210 B-2011	10/23/22	10/28/22 10:49	GKH	
COD	B224081	216	mg/L	13.0	13.0	HH 8000, Standard Method 5220 D	10/23/22	10/23/22 12:33	ASE	
Nitrate-Nitrite, as N	B224164	0.555	mg/L	0.0250	0.0250	EPA 353.2, Rev. 2.0 (1993)	10/31/22	10/31/22 11:22	ALN	
TKN	B224112	4.69	mg/L	0.100	0.100	EPA 351.2, 10-107-06-2-M (Equivalent)	10/26/22	10/27/22 9:16	ALN	
Total Dissolved Solids	B224111	148	mg/L	25.0	25.0	SM 2540 C-2011	10/25/22	10/27/22 13:49	ALG	
Total Suspended Solids	B224074	138	mg/L	0.900	0.900	SM 2540 D-2011	10/22/22	10/22/22 14:56	MER	
Turbidity	B224077	76.2	NTU	0.6	0.3	EPA 180.1, Rev. 2.0 (1993)	10/22/22	10/22/22 15:13	KMR	D
Dissolved Wet Chemistry										
Orthophosphate, as P	B224083	0.457	mg/L	2.00E-3	2.00E-3	EPA 365.1, Rev. 2.0 (1993)	10/23/22	10/23/22 13:24	BAK	
Total Metals										
Mercury	B224114	0.0120	ug/L	0.0100	0.0100	EPA 245.2	10/26/22	10/27/22 8:50	SAS	
Arsenic	B224220	2.8	ug/L	0.040	0.040	EPA 200.8	11/06/22	11/9/22 13:30	DMW	
Cadmium	B224220	0.12	ug/L	0.025	0.025	EPA 200.8	11/06/22	11/9/22 13:30	DMW	
Calcium	B224087	15100	ug/L	46.0	46.0	EPA 200.7	10/24/22	10/31/22 15:42	EDM	
Lead	B224220	6.6	ug/L	0.050	0.050	EPA 200.8	11/06/22	11/9/22 13:30	DMW	
Magnesium	B224087	3920	ug/L	50.0	50.0	EPA 200.7	10/24/22	10/31/22 15:42	EDM	
Phosphorus as P	B224087	0.679	mg/L	6.00E-3	6.00E-3	EPA 200.7	10/24/22	10/31/22 15:42	EDM	
Hardness	B224087	53.8	mg/L	0.115	0.115	EPA 200.7	10/24/22	10/31/22 15:42	EDM	
Dissolved Metals										
Cadmium	B224219	<0.0250	ug/L	0.025	0.025	EPA 200.8	11/04/22	11/4/22 14:50	DMW	U
Copper	B224219	7.7	ug/L	0.15	0.15	EPA 200.8	11/04/22	11/4/22 14:50	DMW	
Lead	B224219	0.19	ug/L	0.050	0.050	EPA 200.8	11/04/22	11/4/22 14:50	DMW	
Zinc	B224219	24.4	ug/L	0.78	0.78	EPA 200.8	11/04/22	11/4/22 14:50	DMW	

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Report Date: 11/18/2022 08:22

Boise City Public Works
Water Quality Laboratory
11818 Joplin Road
Boise, Idaho 83714-1076
Telephone (208) 608-7240
Fax (208) 608-7319

Quality Control Report

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Wet Chemistry									
Batch: B224074									
Blank (B224074-BLK1)									
Total Suspended Solids	<0.9	mg/L					10/22/2022	MER	U
LCS (B224074-BS1)									
Total Suspended Solids			102	90-110			10/22/2022	MER	
Duplicate (B224074-DUP1)	Source ID: BB02469-01								
Total Suspended Solids					6.03	20	10/22/2022	MER	
Batch: B224077									
Blank (B224077-BLK1)									
Turbidity	<0.3	NTU					10/22/2022	KMR	U
LCS (B224077-BS2)									
Turbidity			109	90-110			10/22/2022	KMR	
Duplicate (B224077-DUP1)	Source ID: AC00258-01								
Turbidity					2.45	25	10/22/2022	KMR	D
Batch: B224081									
Blank (B224081-BLK1)									
COD	<13	mg/L					10/23/2022	ASE	U
LCS (B224081-BS1)									
COD			99.0	90-110			10/23/2022	ASE	
Duplicate (B224081-DUP1)	Source ID: AC00258-03								
COD					2.03	10	10/23/2022	ASE	
Batch: B224082									
Blank (B224082-BLK1)									
BOD5	<2	mg/L					10/28/2022	GKH	Seed-02, U
LCS (B224082-BS1)									
BOD5			102	84.6-115.4			10/28/2022	GKH	
LCS (B224082-BS2)									
BOD5			107	84.6-115.4			10/28/2022	GKH	
Duplicate (B224082-DUP1)	Source ID: BB02472-01								
BOD5					0.880	30	10/28/2022	GKH	

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Quality Control Report
(Continued)

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Wet Chemistry (Continued)									
Batch: B224111									
Blank (B224111-BLK1)									
Total Dissolved Solids	<25	mg/L					10/27/2022	ALG	U
LCS (B224111-BS1)									
Total Dissolved Solids			99.5	90-110			10/27/2022	ALG	
Duplicate (B224111-DUP1) Source ID: AC00258-01									
Total Dissolved Solids					0.00	10	10/27/2022	ALG	
Batch: B224112									
Blank (B224112-BLK1)									
TKN	<0.1	mg/L					10/27/2022	ALN	U
LCS (B224112-BS1)									
TKN			98.4	80-120			10/27/2022	ALN	
Duplicate (B224112-DUP1) Source ID: AC00258-01									
TKN					1.13	20	10/27/2022	ALN	
Duplicate (B224112-DUP2) Source ID: BB02464-01									
TKN					1.06	20	10/27/2022	ALN	D
Matrix Spike (B224112-MS1) Source ID: AC00258-01									
TKN			115	80-120			10/27/2022	ALN	
Matrix Spike (B224112-MS2) Source ID: BB02464-01									
TKN			104	80-120			10/27/2022	ALN	D
Matrix Spike Dup (B224112-MSD1) Source ID: AC00258-01									
TKN			107	80-120	3.87	20	10/27/2022	ALN	
Matrix Spike Dup (B224112-MSD2) Source ID: BB02464-01									
TKN			111	80-120	2.00	20	10/27/2022	ALN	D
Batch: B224155									
Blank (B224155-BLK1)									
Ammonia, as N	<35	ug/L					10/29/2022	GKH	U
LCS (B224155-BS1)									
Ammonia, as N			99.4	90-110			10/29/2022	GKH	
Duplicate (B224155-DUP1) Source ID: BB02456-01									
Ammonia, as N					8.42	10	10/29/2022	GKH	
Duplicate (B224155-DUP2) Source ID: BB02463-01									
Ammonia, as N					1.55	10	10/29/2022	GKH	D
Matrix Spike (B224155-MS1) Source ID: BB02456-01									
Ammonia, as N			97.2	80-120			10/29/2022	GKH	
Matrix Spike (B224155-MS2) Source ID: BB02463-01									
Ammonia, as N			95.1	80-120			10/29/2022	GKH	D
Matrix Spike Dup (B224155-MSD1) Source ID: BB02456-01									
Ammonia, as N			96.1	80-120	1.03	10	10/29/2022	GKH	
Matrix Spike Dup (B224155-MSD2) Source ID: BB02463-01									
Ammonia, as N			96.5	80-120	1.03	10	10/29/2022	GKH	D

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Quality Control Report
(Continued)

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Wet Chemistry (Continued)									
Batch: B224164									
Blank (B224164-BLK1)									
Nitrate-Nitrite, as N	<0.025	mg/L					10/31/2022	ALN	U
Blank (B224164-BLK2)									
Nitrate-Nitrite, as N	<0.025	mg/L					10/31/2022	ALN	U
LCS (B224164-BS1)									
Nitrate-Nitrite, as N			96.7	90-110			10/31/2022	ALN	
LCS (B224164-BS2)									
Nitrate-Nitrite, as N			97.8	90-110			10/31/2022	ALN	
Duplicate (B224164-DUP1) Source ID: AC00258-01									
Nitrate-Nitrite, as N					0.752	10	10/31/2022	ALN	
Duplicate (B224164-DUP3) Source ID: WB02153-06									
Nitrate-Nitrite, as N					8.54	10	10/31/2022	ALN	
Duplicate (B224164-DUP4) Source ID: BB02456-01RE1									
Nitrate-Nitrite, as N					0.175	10	10/31/2022	ALN	D
Matrix Spike (B224164-MS1) Source ID: AC00258-01									
Nitrate-Nitrite, as N			96.1	90-110			10/31/2022	ALN	
Matrix Spike (B224164-MS3) Source ID: WB02153-06									
Nitrate-Nitrite, as N			97.0	90-110			10/31/2022	ALN	
Matrix Spike (B224164-MS4) Source ID: BB02456-01RE1									
Nitrate-Nitrite, as N			101	90-110			10/31/2022	ALN	D
Matrix Spike (B224164-MS5) Source ID: LS01356-01									
Nitrate-Nitrite, as N			97.5	90-110			10/31/2022	ALN	
Matrix Spike Dup (B224164-MSD1) Source ID: AC00258-01									
Nitrate-Nitrite, as N			96.3	90-110	0.205	10	10/31/2022	ALN	
Matrix Spike Dup (B224164-MSD3) Source ID: WB02153-06									
Nitrate-Nitrite, as N			96.9	90-110	0.0981	10	10/31/2022	ALN	
Matrix Spike Dup (B224164-MSD4) Source ID: BB02456-01RE1									
Nitrate-Nitrite, as N			102	90-110	0.287	10	10/31/2022	ALN	D

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Quality Control Report
(Continued)

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Dissolved Wet Chemistry									
Batch: B224083									
Blank (B224083-BLK1)									
Orthophosphate, as P	<0.002	mg/L					10/23/2022	BAK	U
LCS (B224083-BS1)									
Orthophosphate, as P			96.3	90-110			10/23/2022	BAK	
Duplicate (B224083-DUP1) Source ID: AC00258-03									
Orthophosphate, as P					0.640	10	10/23/2022	BAK	
Matrix Spike (B224083-MS1) Source ID: AC00258-03									
Orthophosphate, as P			106	90-110			10/23/2022	BAK	
Matrix Spike Dup (B224083-MSD1) Source ID: AC00258-03									
Orthophosphate, as P			108	90-110	0.411	10	10/23/2022	BAK	

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Quality Control Report
(Continued)

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Total Metals									
Batch: B224087									
Blank (B224087-BLK1)									
Calcium	<46	ug/L					10/31/2022	EDM	U
Magnesium	<50	ug/L					10/31/2022	EDM	U
Phosphorus as P	<0.006	mg/L					10/31/2022	EDM	U
LCS (B224087-BS1)									
Calcium			97.0	85-115			10/31/2022	EDM	
Magnesium			97.9	85-115			10/31/2022	EDM	
Phosphorus as P			102	85-115			10/31/2022	EDM	
Duplicate (B224087-DUP1) Source ID: AC00259-01									
Calcium					1.80	20	10/31/2022	EDM	
Magnesium					2.03	20	10/31/2022	EDM	
Phosphorus as P					1.06	20	10/31/2022	EDM	
Matrix Spike (B224087-MS1) Source ID: AC00259-01									
Calcium			95.2	70-130			10/31/2022	EDM	
Magnesium			96.2	70-130			10/31/2022	EDM	
Phosphorus as P			103	70-130			10/31/2022	EDM	
Matrix Spike Dup (B224087-MSD1) Source ID: AC00259-01									
Calcium			94.4	70-130	0.556	20	10/31/2022	EDM	
Magnesium			96.3	70-130	0.0244	20	10/31/2022	EDM	
Phosphorus as P			103	70-130	0.327	20	10/31/2022	EDM	
Batch: B224114									
Blank (B224114-BLK1)									
Mercury	<0.01	ug/L					10/27/2022	SAS	U
LCS (B224114-BS1)									
Mercury			99.5	85-115			10/27/2022	SAS	
Duplicate (B224114-DUP1) Source ID: AC00258-01									
Mercury					19.1	20	10/27/2022	SAS	
Matrix Spike (B224114-MS1) Source ID: AC00258-01									
Mercury			101	70-130			10/27/2022	SAS	
Matrix Spike Dup (B224114-MSD1) Source ID: AC00258-01									
Mercury			101	70-130	0.194	20	10/27/2022	SAS	

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Boise City Public Works
Water Quality Laboratory
11818 Joplin Road
Boise, Idaho 83714-1076
Telephone (208) 608-7240
Fax (208) 608-7319

Quality Control Report
(Continued)

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Total Metals (Continued)									
Batch: B224220									
Blank (B224220-BLK1)									
Arsenic	<0.040	ug/L					11/09/2022	DMW	U
Cadmium	<0.025	ug/L					11/09/2022	DMW	U
Lead	<0.050	ug/L					11/09/2022	DMW	U
LCS (B224220-BS1)									
Arsenic			99.5	85-115			11/09/2022	DMW	
Cadmium			100	85-115			11/09/2022	DMW	
Lead			103	85-115			11/09/2022	DMW	
Duplicate (B224220-DUP1) Source ID: AC00258-01									
Arsenic					7.39	20	11/09/2022	DMW	
Cadmium					4.84	20	11/09/2022	DMW	
Lead					6.29	20	11/09/2022	DMW	
Matrix Spike (B224220-MS1) Source ID: AC00258-01									
Arsenic			99.1	70-130			11/09/2022	DMW	
Cadmium			97.8	70-130			11/09/2022	DMW	
Lead			98.9	70-130			11/09/2022	DMW	
Matrix Spike Dup (B224220-MSD1) Source ID: AC00258-01									
Arsenic			103	70-130	3.14	20	11/09/2022	DMW	
Cadmium			102	70-130	4.15	20	11/09/2022	DMW	
Lead			103	70-130	2.95	20	11/09/2022	DMW	

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Quality Control Report
(Continued)

Analyte Name	Method Blank	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Date Analyzed	Analyst Initials	Qualifier
Dissolved Metals									
Batch: B224219									
Blank (B224219-BLK1)									
Cadmium	<0.025	ug/L					11/04/2022	DMW	U
Copper	<0.15	ug/L					11/04/2022	DMW	U
Lead	<0.050	ug/L					11/04/2022	DMW	U
Zinc	<0.78	ug/L					11/04/2022	DMW	U
LCS (B224219-BS1)									
Cadmium			98.7	85-115			11/04/2022	DMW	
Copper			99.9	85-115			11/04/2022	DMW	
Lead			99.4	85-115			11/04/2022	DMW	
Zinc			107	85-115			11/04/2022	DMW	
Duplicate (B224219-DUP1) Source ID: AC00258-01									
Cadmium					NR	10	11/04/2022	DMW	U
Copper					0.778	10	11/04/2022	DMW	
Lead					1.47	10	11/04/2022	DMW	
Zinc					0.677	10	11/04/2022	DMW	
Matrix Spike (B224219-MS1) Source ID: AC00258-01									
Cadmium			97.3	70-130			11/04/2022	DMW	
Copper			97.0	70-130			11/04/2022	DMW	
Lead			97.1	70-130			11/04/2022	DMW	
Zinc			97.5	70-130			11/04/2022	DMW	
Matrix Spike Dup (B224219-MSD1) Source ID: AC00258-01									
Cadmium			94.6	70-130	2.83	10	11/04/2022	DMW	
Copper			93.3	70-130	2.05	10	11/04/2022	DMW	
Lead			93.9	70-130	3.26	10	11/04/2022	DMW	
Zinc			90.2	70-130	1.83	10	11/04/2022	DMW	

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Report Date: 11/18/2022 08:22

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Notes and Definitions

Item	Definition
D	Data reported from a dilution
Seed-02	The seed depletion is less than that recommended by the method.
U	Analyte included in the analysis, but not detected

Method Reference Acronyms

Colilert	Colilert, IDEXX Laboratories, Inc.
EPA	Manual of Methods for Chemical Analysis of Water and Wastes, USEPA
GS	USGS Techniques of Water-Resources Investigations
HH	Hach Spectrophotometer Procedures Manual
SM	Standard Methods for the Examination of Water and Wastewater
SW	Test methods for Evaluating Solid Waste, SW-846

for JFK

Janet Finegan-Kelly
Water Quality Laboratory Manager

Stephen Quintero or Azubike Emenari
QA/QC Coordinator

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Ada County Highway District

Attn: Tammy Lightle
775 Adams Street
Garden City, Idaho 83714–6418
Tel. (208) 387–6255
Fax (208) 387–6391
Purchase Order: ~~63061761~~ 63061762
Project: Stormwater ~~PI~~ PII
Sampler(s): Shannon Kronz, Tammy Lightle

Lab#	Begin Date	End Date	Begin Time	End Time	Sample Identification	Sampler Initials	Matrix: Water	Type: Grab	Type: Composite	BOD_5 - SM 5210 B	COD - Hach 8000	TSS - SM 2540 D	TDS - SM 2540 C	TKN - EPA 351.2	TP - EPA 200.7	Orthophosphate - EPA 365.1	Total As, Cd, Pb - EPA 200.8	Diss. Cd Cu, Pb, Zn - EPA 200.8	Total Hg - EPA 245.2	E. Coli - IDEXX Colilert	Turbidity - EPA 180.1	Hardness - EPA 200.7	NO_3+NO_2 - EPA 353.2	NH_3 - SM 4500 NH_3 - D	Total Containers
C00259-01	10/22/22	10/22/22	0652	0633	221022-18-WC	SK	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	1

Relinquished by (sign)	Date & Time Transferred	Received by (sign)
TLight	10.22.22/1051	MER Magaly 10/22/22 1053

Comments/Special Instructions:

AC00259