Stormwater Management Program

NPDES Permit #IDS028207

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Contents

ACRONYMS

AHDS Associated Highway District Standards
BMP Best Management Practice
CFR Code of Federal Regulations
CGP Construction General Permit CWA Clean Water Act
EPA Environmental Protection Agency
ERP Enforcement Response Policy
ESHD East Side Highway District
GIS Geographic Information System
IDDE Illicit Discharge Detection & Elimination
IDEQ Idaho Department of Environmental Quality
LHD Lakes Highway District
µg/L Micrograms per Liter
mg/L Milligrams per Liter
MEP Maximum Extent Practicable
MS4 Municipal Separate Storm Sewer System
NPDES National Pollutant Discharge Elimination System
O&M Operations & Maintenance
ORI Outfall Reconnaissance Inventory
PCB Polychlorinated Biphenyls
PFHD Post Falls Highway District
SEEP Stormwater & Erosion Education Program
SWMP Storm Water Management Program
TMDL Total Maximum Daily Load
US United States
USACE United States Army Corps of Engineers
WLA Wasteload Allocations
WOTUS Waters of the United States
WQS Water Quality Standards

DEFINITIONS

Best Management Practice (BMP): Schedules of activities, prohibition of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also mean treatment requirements operating procedures, and practices to control, runoff, spillage, or leads, sludge, or waste disposal, or drainage from raw material storages. See 40 CFR 122.2 and 122.44(k). For the purposes of the NPDES Permit, BMP broadly refers to any type of structural or non-structural practice or activity undertaken by the Permittee in the course of implementing its SWMP.

Code of Federal Regulations (CFR): The official annual compilation of all regulations and rules promulgated during the previous year by the agencies of the United States government, combined with all the previously issued regulations and rules of those agencies that are still in effect.

Construction General Permit (CGP): The current available version of EPA's MPDES General Permit for Stormwater Discharges for Construction Activities in Idaho, Permit No. IDR12-0000. EPA's CGP is posted on EPA's website at www.epa.gov/npdes/stormwater/gcp.

Construction Activity: Includes, but is not limited to, clearing, grading, excavation, and other site preparation work related to the construction of residential buildings and non-residential buildings, and heavy construction (e.g., highways, streets, bridges, tunnels, pipelines, transmission lines, and industrial non-building structures).

Coeur d'Alene Urbanized Area (NPDES Permit Area): Defined by the decennial census data from Year 2000 and Year 2010. An urbanized area is the densely settled core of census tracts and/or census blocks that have a population of at least 50,000, along with adjacent territory containing non-residential urban land uses as well as territory with low population density included to link outlying densely settled territory with the densely settled core. It is a calculation used by the Bureau of Census to determine the geographic boundaries of the most heavily developed and dense urban areas. Once a small MS4 is designated into the program based on the UA boundaries, it cannot be waived from the program if in subsequent UA calculation the small MS4 is no longer with the UA boundaries. The following websites are for the Census 2000 and Census 2010 UA maps, respectively:
http://www2.census.gov/geo/maps/urbanarea/uaoutline/UA2000/ua18451/ua18451_01.pdf
http://www2.census.gov/geo/maps/dc10map/UAUC_RefMap/ua/ua18451_coeur_dalene_id/

2020 Census Bureau maps are still not available, but are in final rule as of September 2023.

Clean Water Act (CWA): (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Public Law 92-500, as amended by Public Law 95-217, Public Law 95-576, Public Law 96-483, and Public Law 97-117, 33 U.S.C. § 1251 et seq. [40 CFR §122.2].

Discharge of a Pollutant: any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person

which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger" [40 CFR §122.2].

Erosion: The process of carrying away soil particles by the action of water.

Hazardous Materials: Defined at IDAPA 58.01.02.010.47 and means a material or combination of materials which, when discharged in any quantity into state waters, presents a substantial present or potential hazard to human health, the public health, or the environment. Unless otherwise specified, published guides such as Quality Criteria for Water (1976) by EPA, Water Quality Criteria (Second Edition, 1963) by the state of California Water Quality Control Board, their subsequent revisions, and more recent research papers, regulations and guidelines will be used in identifying individual and specific materials and in evaluating the tolerances of the identified materials for the beneficial uses indicated.

Impaired Waters: Any water body that does not meet applicable water quality standards for one or more beneficial uses by one or more pollutants. For the purposes of this Permit, impaired water includes any water body that IDEQ includes in its 2014 Integrated Report, as a "Category 4a" water of the state for which a total maximum daily load has been completed and approved; as a "Category 4b" water of the state that have pollution control requirements in place other than a TMDL and are expected to meet standards; and/or as a "Category 5" water of the state where a TMDL is necessary. The term impaired water also includes any interstate surface water body that originates in Idaho and flows into Washington that the Washington Department of Ecology categorizes as Category 4a, 4b, or 5 in its latest Water Quality Assessment 305(b) Report and 303(d) List as approved by EPA on July 22, 2016.

Illicit Connections: Include, but are not limited to, pipes, drains, open channels, or other conveyances that have the potential to allow an illicit discharge to enter the MS4.

Illicit Discharge: Any discharge to a municipal storm sewer that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges from firefighting activities. See 40 CFR 122.26(b)(2).

Interconnection: The point (excluding sheet flow over impervious surfaces) where the Permittee's MS4 discharges to another MS4 or other storm sewer system, through which the discharge is eventually conveyed to a water of the United States. Interconnections shall be treated similarly to outfalls throughout the Permit.

MS4 (Municipal Separate Storm Sewer System): Is used in the NPDES Permit to refer to 'Small Municipal Separate Storm Sewer System' as defined in 40 CFR 122.26(b)(16). The term, as used in the context of the NPDES Permit, refers to those portions of the municipal separate storm sewer systems owned and/or operated by the entities named herein. See also Municipal Separate Storm Sewer and Small MS4.

Municipality: A city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA.

Municipal Separate Storm Sewer: Defined in 40 CFR §122.26(b)(8) and means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of the United States; (ii) Designed or used for collecting or conveying stormwater; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR §122.2.

National Pollutant Discharge Elimination System (NPDES): The national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of CWA [40 CFR §122.2].

Outfall: Defined at 40 CFR §122.26(b)(9) means a point source (see definition below) at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers or pipes, tunnels, or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

Permanent Stormwater Controls, or Practices, Permanent Controls, and/or Post-Construction Stormwater Management Controls: Structural and non-structural controls that are designed to treat or control pollutants in stormwater runoff on a permanent basis.

Permit: For the purposes of this document, means North Idaho Highway Districts MS4 NPDES Permit.

Pollutant: Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials [except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. § 2011 et seq.)], heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water [40 CFR §122.2].

Pollutant(s) of Concern: For the purposes of the NPDES Permit, any pollutant identified by IDEQ or WDOE as a cause of impairment of any water body that receives MS4 discharges authorized under the NPDES Permit. See also “impaired water.”

Post-Construction Stormwater Management Controls or “Permanent Stormwater Controls”: Controls designed to treat or control runoff on a permanent basis once construction is complete.

Redevelopment: For the purposes of the NPDES Permit, the alteration , renewal or restoration of any developed land or property that results in land disturbance of one acre or more, or less than one acre that is part of a common plan of development of sale that exceeds one acre, and that has one of the following characteristics: land that currently has an existing structure, such as buildings or houses; or land that is currently covered with an impervious surface, such as a parking lot or roof; or land that is currently degraded and is covered with sand, gravel, stones, or other non-vegetative covering.

Storm Event: For the purposes of the NPDES Permit, means a precipitation event that results in an

actual discharge from the outfall, and which follows the preceding measurable storm event by at least 48 hours (2 days).

Stormwater and Storm Water Runoff: As used in the NPDES Permit, means stormwater runoff, snow melt runoff, and surface runoff and drainage, and is defined at 40 CFR §122.26(b)(13). "Stormwater" means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels, or pipes into a defined surface water channel or a constructed infiltration facility.

Stormwater Control Measure or Stormwater Management Program Control Measure: The physical, structural, and/or managerial measures that, when used singly or in combination, reduce the downstream quality and quantity impacts of storm water runoff. Also, stormwater control measures means a permit term or condition used to prevent or control the discharge of pollutants. This may include a schedule of activities, prohibition of practices, maintenance procedures, or other management practices. Stormwater control measures may include, but are not limited to, treatment requirements; operating procedures; practices to control plant site runoff, spillage, leaks, sludge, or waste disposal; or drainage from raw material storage. See best management practices (BMPs). Minimum stormwater control measures are defined 40 CFR §122.34(b).

Stormwater Management Practice or Stormwater Management Control: Practices that manage stormwater, including structural and vegetative components of a storm water system.

Stormwater Management Program (SWMP): A comprehensive program to manage the quality of storm water discharged from the municipal separate storm sewer system. For the purposes of the NPDES Permit, the SWMP consists of the actions and activities conducted by the Permittees as required by the NPDES Permit and described in the Permittees' SWMP Document. A "SWMP Document" is the written summary describing the unique and/or cooperative means by which an individual Permittee or entity implements the specific stormwater management control measures required by the NPDES Permit within their jurisdiction.

Small Municipal Separate Storm Sewer System or Small MS4: Defined at 40 CFR 122.26(b)(16) and (17), respectively, and means all separate storm sewers that are: (i) owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) not defined as "large" or "medium" municipal separate storm sewer systems pursuant to 40 CFR 122.26(b)(4) and (b)(7), or designated under paragraph 40 CFR 122.26(a)(1)(v); and (iii) includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

Total Maximum Daily Load (TMDL): the sum of the individual wasteload allocations for point sources, load allocations (LAs) for non-point sources, and natural background. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality [IDAPA 58.012.02.010.100].

Toxic Substance: Defined at IDAPA 58.01.02.010.102, and means any substance, material or disease-causing agent, or a combination thereof, which after discharge to waters of the State and upon exposure, ingestion, inhalation or assimilation into any organism (including humans), either directly from the environment or indirectly by ingestion through food chains, will cause death, disease, behavioral abnormalities, malignancy, genetic mutation, physiological abnormalities (including malfunctions in reproduction) or physical deformations in affected organisms or their offspring. Toxic substances include, but are not limited to, the one hundred twenty-six (126) priority pollutants identified by the EPA pursuant to Section 307(a) of the federal Clean Water Act.

Treatment: The reduction and removal of pollutants from stormwater.

Uncontaminated: For the purposes of the NPDES Permit, means that the MS4 discharge does not:

- result in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 117.21 or 40 CFR 302.6 at any time since November 16, 1987; or
- result in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 110.6 at any time since November 16, 1987; or
- contribute to a violation or exceedance of an applicable Idaho Water Quality Standard.

Waters of the United States or Waters of the US:

- All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters, including interstate “wetlands;”
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, “wetlands,” sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
    - Which are or could be used by interstate or foreign travelers for recreational or other purposes;
    - From which fish or shellfish are or could be taken and soldi n interstate or foreign commerce; or
    - Which are used or could be used for industrial purposes by industries in interstate commerce;
- All impoundments of water otherwise defined as waters of the United States under this definition;
- Tributaries of waters identified in paragraphs (a) through (d) of this definition;
- The territorial sea; and
- Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition [40 CFR §122.2].

1. BASIC SWMP INFORMATION

This Storm Water Management Program (SWMP) Document was developed originally by Ruen-Yeager & Associates, Inc. on behalf of the Lakes, Post Falls, and East Side Highway Districts (North Idaho Highway Districts) and updated by Welch Comer Engineers to describe the activities and control measures conducted to meet the terms and conditions of NPDES Permit # IDS028207.

1.1. Staff Organization

This document contains information pertaining to a Storm Water Management Program for the East Side Highway District. The personnel responsible for implementing the SWMP are the respective Highway District Director of Highways. East Side Highway District Director of Highways is Ben Weymouth, PE.

The Associated Highway Districts of Kootenai County consist of the East Side, Lakes, Post Falls, and Worley Highway Districts. The East Side, Lakes, and Post Falls Highway Districts are joint permittees under NPDES Permit #IDS028207. However, each Highway District is independently responsible for MS4 permit compliance, operates independent of the other, and has established mapped boundaries, with individual elected Board of Commissioners.

This SWMP was developed under agreement between the participating Associated Highway Districts of Kootenai County to be adopted as a management program tool to provide guidance and track progress of respective Highway District MS4s under the joint NPDES permit.

1.2. Receiving Waters

The waterbodies identified in Table 1 receive storm water discharges from the East Side Highway District MS4.

Table 1 Receiving Water Summary

Receiving Waterbody Segments	WQS Classification	Impairment or Pollutant of Concern	TMDLs? (Yes/No)	Applicable WLAs (Yes/No)	No. of Discharging Outfalls
Coeur d'Alene Lake	Category 5 (303d listed)	Cadmium, lead, and zinc	No	No	3
Fernan Lake	Category 4A	Total Phosphorus	Yes	Yes	7

1.3. SWMP Information and Statistics

East Side Highway District will track the following information to set priorities and assess permit compliance:

Public Education and Outreach – Events performed in respect to Public Education and Outreach will be documented. Any questionnaires administered during outreach will be recorded and analyzed for effectiveness.

Illicit Discharge Detection and Elimination – East Side Highway District is always monitoring for illicit discharges in its district as they make daily travel through the District.

- MS4 Maps and Outfall Inventory have been developed and refined for East Side Highway District to more accurately depict point source discharges to East Side Highway District MS4 jurisdiction.

- Dry Weather Outfall Screening – All outfalls were observed during July through September dry season and any outfalls with flows were tested for pH; total chlorine; surfactants; total phenols; E. coli; total phosphorus; turbidity; temperature and suspended solids. Test results will be documented and will provide a baseline for future identification or investigation of recurring illicit discharges.

- Annual training is documented and performed for the staff of each Highway District to identify and respond to illicit discharges and for good housekeeping and best management practices.

Construction Site Stormwater Runoff Control – East Side Highway District requires erosion control, sediment control, and waste material management controls for any projects within their MS4 jurisdiction. Any projects disturbing one or more acres are required to obtain NPDES coverage under the current Idaho Construction General Permit.

- East Side Highway District will log the nature and number of inspections, follow up actions, and subsequent enforcement actions.

Post-Construction Stormwater Management for New Development and Redevelopment – East Side Highway District will require the installation and long-term maintenance of permanent stormwater controls at new development and redevelopment project sites within their MS4 boundary that result in land disturbance of greater than or equal to one (1) acre.

- The Highway Districts will perform plan reviews and approval of permanent stormwater controls.

Pollution Prevention/Good Housekeeping for MS4 Operations – East Side Highway District does not have any facilities, yards, or material stockpile areas within the MS4 boundary. However, they do still adhere to and require best management practices within their facilities.

- East Side Highway District will maintain records reflecting their catch basin and inlet inspection and cleaning.

- East Side Highway District will maintain a schedule for street sweeping in the MS4 area streets every spring as soon as weather permits.

- East Side Highway District began a spring reminder in 2021 to all registered trash pick-up groups to schedule their trash pick-ups in the months of May.

- East Side Highway District conducts and documents annual staff training sessions concerning pollution prevention, proper BMP's, good housekeeping practices, and illegal discharge and detection information.

- East Side Highway District also performs public outreach, including workshops, fliers, and media, etc. These outreach methods are detailed throughout this SWMP.

- East Side Highway District maintains a website containing information on their MS4.

Street Sweeping – East Side Highway District completed street sweeping each spring and logs when the sweeping occurs. A map of the street sweeping schedule for 2023 is in the appendix.

1.4. Transfer of Ownership, Operational Authority, or Responsibility for SWMP Implementation

There are no Transfers of Ownership, Operational Authorities, or responsibilities for SWMP implementation. Each permitted Highway District is responsible for its own MS4 jurisdiction.

2. MAP OF THE SEPARATE STORM SEWER SYSTEM

The East Side MS4 Outfall Map is in the appendix. The ESHD maintains ten (10) MS4 Outfalls within the Coeur d'Alene Urbanized Area. The primary receiving waters are Fernan Lake and Coeur d'Alene Lake. The full dry weather inspection memo, inspection reports, and additional photos are in the appendix.

2024 Dry Weather Monitoring Photos

Outfall 1

Outfall 2

Outfall 3

Outfall 4

Outfall 5

Outfall 6

Outfall 7

Outfall 8

Outfall 9

Outfall 10

3. TARGETING POLLUTANTS OF CONCERN

3.1. Monitoring/Assessment of MS4 Discharges to Impaired Waters

A monitoring and assessment plan was developed and submitted in September 2022. In addition to dry weather monitoring, ESHD must monitor and assess the impairment pollutants discharging to Coeur d'Alene Lake. The four pollutants, cadmium, lead, zinc, and phosphorus will be sampled at outfalls annually, if possible, as described in the implementation schedule in Section 4, four times per calendar year, with at least one sample collected in either September or October. (Note, the mitigation in one locations was completed in late October 2023 and it was not possible to collect a sample in September/October 2023.) Mitigation in the second location has not yet been implemented.
If a pollutant reduction project has been implemented, then sampling will take place both upstream and downstream of the project to aid in the assessment of pollutant reduction. Impaired waters sampling will be done via grab bags, using identical sampling and handling methods as the dry weather procedures described in Section 2 of this Plan. As stated by the Permit, ESHD will use methods that can achieve EPA maximum minimum levels less than or equal to those specified below and determine threshold levels based on existing state water quality standards. Pollutants and corresponding threshold and minimum levels are shown in Table 3-1 and the sampling analysis is described in Table 3-2. After sampling, samples will be placed in a temperature-controlled container and given to the Contract Laboratory as soon as possible after testing. Sampling and preservation methods are detailed in the QAPP. Refer to the QAPP and Monitoring and Assessment Plan in the appendix.

Indicator Constituent	Threshold Level
Cadmium	1.3 (µg/L) CMC 0.6 (µg/L) CCC
Lead	65 (µg/L) CMC 2.5 (µg/L) CCC
Zinc	120 (µg/L) CMC 120 (µg/L) CMC
Total Phosphorus	0.08 mg/L

Pollutant Reduction Activities
The permit requires ESHD to implement two pollutant reduction activities to both reduce and quantify pollutant loading.

POLLUTION REDUCTION ACTIVITY #1: BIOCHAR SOCKS
Biochar is a carbon-rich material produced by a pyrolysis, the process of heating of biomass in the absence of oxygen. Research suggests biochar as a low-cost tool for biological remediation. The biochar socks consist of rice husk biochar, lined in plastic fabric. Research indicates biochar has the capacity to absorb phosphorous and heavy metals, while sequestering carbon and improving soil quality. Biochar socks have the potential to reduce for cadmium, lead, zinc, and total phosphorous discharging to Waters of the US. Refer to Northwest Carbon, Inc. for detail on the products and technology at https://northwestcarboninc.com.

Place a sufficient length and amount of biochar sock at a selected outfall to Coeur d'Alene Lake in the ESHD Permit area. The amount of biochar used and placement location will be determined based on the

velocity of flow and size of the outfall. Pollutant load testing will occur at two locations at each outfall, above and below stream of the biochar socks. Biochar socks will be checked four times yearly, in coordination with the impaired waters sampling schedule. Socks should be maintained and replaced as needed. The project aims to reduce cadmium, lead, zinc, and total phosphorous pollutant loadings discharging into Coeur d'Alene Lake. Interim progress will be summarized and reported yearly in the Annual Report and summarized in the final report at the end of the permit term. (NOTE: This method was not implemented in 2023. Rather, East Side Highway District is attempting to determine if these are effective by looking at Post Falls Highway District's implementation. If effective, ESHD will install in 2024 and being wet weather monitoring.)

It has been determined through testing in Post Falls Highway District that the biochar socks are not removing pollutants as intended. Therefore, East Side Highway District intends to modify their Mitigation and Assessment plan to change the mitigation to one that stabilizes the ditch and allows for settlement of the runoff. They intend to install this mitigation in fall 2024, but this had not occurred by the time this report was written.

POLLUTION REDUCTION ACTIVITY #2: MARMOT TRAIL DITCH STABILIZATION

Marmot Trail has a deep, steep ditch with little erosion control. This ditch eventually drains to outfall #8 into Coeur d'Alene Lake. In October 2023, the Highway District armored the ditch with rip rap. The project armored the sides and bottom of the roadside ditch with basalt rip rap to reduce future erosion of soils. The project has funds from the Leading Idaho grant to purchase the rip rap and plans to install the rip rap with District staff. The extents of the rip rap will be limited by the funding; however, the areas with the highest potential for erosion will be targeted.

The project aims to reduce cadmium, lead, zinc, and total phosphorous pollutant loadings discharging into Coeur d'Alene Lake. The desired outcome of this pollutant reduction activity is to reduce the pollutant loadings of discharging waters by a quantifiable amount by the end of the Permit term. Interim progress will be summarized and reported yearly in the Annual Report. At the time of this report, wet weather monitoring was attempted but not completed. After installation, attempts to pull samples were not possible because the drainages were dry even during rain events.

POLLUTION REDUCTION UPSTREAM OF THE MS4 BOUNDARY

In fall 2022, the Highway District installed rip rap upstream of the MS4 boundary on 1,700 feet of French Gulch Road (approximately 5050 to 5634 E French Gulch Road). This ditch has high flows during runoff events and had erosion problems. Though not inside the MS4 boundary, this project shows the Highway District's effort in reducing erosion and, thereby, pollutants into the Fernan Lake and Coeur d'Alene Lake.

IMPLEMENTATION SCHEDULE

The schedule for implementing the dry weather inspections, wet weather monitoring, and pollutant reduction activities is proposed as follows:

Timeframe	Activity
November 2022 & June 2023	Test for pollutants in all three outfalls (8, 9, 10) to Coeur d'Alene Lake within the permit area.
Fall 2023	Install ditch armoring project on Marmot Trail.
Spring – Summer 2023	Determine at which outfall to implement the biochar socks (9 or 10).
July/August	Conduct dry weather inspections.
Fall 2023	Install pollutant reduction project No. 1.
September/October (starting 2023) **November/December (starting 2023)** **March/April 2024 (starting 2024)** **May/June 2024 (starting 2024)**	Conduct wet weather sampling and testing at outfalls where pollutant reduction projects were implemented.

At outfall 8, the stormwater samples were collected by Welch Comer staff directly upstream and downstream of the pollutant reduction activities. The stormwater samples were delivered to Accurate Testing Labs, same day of sample collection. The samples were tests for cadmium, lead, phosphorus (total), and zinc pollutants. The tables below summarize the upstream and downstream test results as well as the change in concentration for each pollutant caused by the upstream improvements. See the memo in the appendix for more detail on locations. The samples were taken upstream and downstream of the mitigation and also taken where Idaho Transportation Departments' I-90 runoff enters the Highway District's jurisdiction.

East Side Highway District: Outfall 8 Testing Results								
Analyte	Test 1- Uptream of Wattle	Test 2- Downstream of Wattle	Test 3- Downstream, Infiltrating Area	Result (Difference)	% Reduction	Unit	Method	PQL
Cadmium	ND	ND	ND	ND	-	ug/L	SM 3120B	.5
Phosphorus, Total	0.288	0.256	0.145	0.143	50%	mg/L	EPA 365.1	0.004
Lead	6.08	5.94	3.00	3.08	51%	ug/L	SM 3120B	0.5
Zinc	55.00	52.80	31.80	23.2	42%	ug/L	SM 3120B	0.5

Idaho Transportation Department							
Analyte	Result (Upstream)	Result (Downstream)	Result (Difference)	% Reduction	Unit	Method	PQL
Cadmium	ND	ND	ND	-	ug/L	SM 3120B	0.5
Phosphorus, Total	0.353	0.359	-0.006	-2%	mg/L	EPA 365.1	0.004
Lead	7.49	7.24	0.25	3%	ug/L	SM 3120B	0.5
Zinc	65.40	72.50	-7.1	-11%	ug/L	SM 3120B	0.5

Tests indicate that cadmium is not a pollutant of concern in this area because it was not detected at all. Phosphorus levels are much higher than water quality thresholds, but it reduced by 50% where ESHD mitigated. Both lead and zinc were detected, but below the water quality thresholds and both were significantly reduced by the mitigation the Highway District installed.

Tests were also conducted in wet weather in 2024, but the results were not available at the time of this report.

4. LEGAL AUTHORITY AND ENFORCEMENT

East Side Highway District has no ordinance authority under Idaho Code and must rely on the authority of Kootenai County, Idaho Department of Environmental Quality, and Panhandle Health for enforcement.

East Side Highway District relies on the following legal authorities.	
To prohibit and eliminate illicit discharges to the MS4.	**Kootenai County, Idaho Department of Environmental Quality, Panhandle Health**
To control the discharge of spills, dumping or disposal of materials other than stormwater to the MS4.	**Kootenai County, Idaho Department of Environmental Quality, Panhandle Health**
To control the discharge of storm water and pollutants from land disturbance and development, both during the construction phase and after site stabilization has been achieved.	**Kootenai County**
To control the contribution of pollutants from one MS4 to another interconnected MS4.	**Idaho Department of Environmental Quality**
To require local compliance with such requirements.	**Kootenai County, Idaho Department of Environmental Quality, Panhandle Health**
To carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with the Permit.	**Idaho Department of Environmental Quality**

5. STORM WATER CONTROL MEASURES TO REDUCE POLLUTANTS TO THE MAXIMUM EXTENT PRACTICABLE

The following sections describe East Side Highway District's program to reduce pollutants in the MS4 discharges to the maximum extent practicable, as required by Permit Part 3. Each section summarizes the mandatory program and describes how East Side Highway District meets each program component.

5.1. Construction Site Runoff Control

To control the discharge of storm water and pollutants from land disturbance during the construction phase East Side Highway District must:

- ✓ Require appropriate erosion, sediment, and waste management requirements for construction site activity that results in land disturbance of 1 acre or more.
- ✓ Establish installation and use guidelines for required erosion/sediment/waste management during all phases of construction site activity.
- ✓ At a minimum, review preconstruction site plans for construction sites that will result in land disturbance of one (1) or more acres, using a checklist or similar process to consider and address potential water quality impacts from the site activities.
- ✓ Inspect and enforce erosion, sediment, and waste management requirements on construction sites.
- ✓ Establish an inspection prioritization plan.
- ✓ Establish an enforcement response policy.
- ✓ Ensure that Permittee staff is trained to conduct these activities.

Staff Training

Date	Entities	Training Topics
2010 & 2011	LHD	Municipal Storm Water Pollution Prevention Training (Storm Watch)
2013	LHD & PFHD	Presentation by LHD's consulting engineer regarding MS4 areas and IDDE; video titled "Rain Check: Storm Water Pollution Prevention for MS4's"; Q&A session
December 22, 2014	LHD & PFHD	Annual Staff Training
December 11, 2015	LHD, PFHD, & ESHD	Annual Staff Training
November 29, 2016	LHD, PFHD, & ESHD	Annual Staff Training: BMPs, IDDE, "Rain Check" Videos
December 14, 2017	LHD, PFHD, & ESHD	Annual Staff Training: BMPs, Good Housekeeping, IDDE
December 7, 2018	LHD, PFHD, & ESHD	Annual Staff Training: BMPs, Good Housekeeping, IDDE
December 18, 2019	LHD, PFHD, & ESHD	Annual Staff Training: BMPs, Good Housekeeping, IDDE
September 28, 2021	ESHD	Annual Staff Training: BMPs, Good Housekeeping, IDDE
September 7, 2022	ESHD	Annual Staff Training: BMPs, Good Housekeeping, IDDE
Fall 2023	ESHD	Annual Staff Training: BMPs, Good Housekeeping, IDDE
Fall 2024	ESHD	Annual Staff Training: BMPs, Good Housekeeping, IDDE

The training materials and sign-in sheet are provided in the appendix.

Requirements for Construction Site Operators Disturbing >1 Acre

The East Side Highway District is aware of the NPDES Construction General Permit and complies with permit requirements for its own projects. The East Side Highway District will also assist with review & monitoring of private construction projects that have the potential to discharge to its MS4. The District also tracks approach and utility permits within the MS4 and distributes information regarding storm water BMPs to those projects located in the MS4 at the time of permit issuance.

Process of Informing Construction Project Proponents to Obtain the NPDES CGP Coverage for Sites Disturbing >1 Acre

The East Side Highway District continues its public education and outreach program through a partnership with SEEP in order to meet its requirements for distributing information to local construction site operators.

Enforcement of Local Erosion, Sediment, and Waste Management Control Requirements for sites Disturbing >1 Acre

The East Side Highway District is in compliance to the best of the District's legal authority. The East Side Highway District does not have ordinance authority but will notify Kootenai County and EPA if it becomes aware of potential violations of the Construction General Permit and/or the Kootenai County Site Disturbance Ordinance.

Prioritization of Inspection of Construction Sites:

- Highest Priority – Projects with one acre or more of disturbance and with potential to discharge to East Side Highway District MS4 jurisdiction.

- Medium Priority – Projects with less than one area of disturbance and potential to discharge to East Side Highway District MS4 jurisdiction.

- Lower Priority – Projects that have no potential to discharge to East Side Highway District MS4 jurisdiction.

East Side Highway District will log the nature and number of inspections, follow up actions, and subsequent enforcement actions. The Construction Site Inspection log is included in the appendix.

Enforcement Response Policy

The North Idaho Highway Districts will continue to refer enforcement policy instances to the authorities listed in Section 4.

Planned Activities for 2025

East Side Highway District will do the following during the 2024 calendar year:

- Continue to develop, discuss with the Associated Highway District supervisors and commissioners, and adopt when finalized the NPDES related standards approved for inclusion in the next Associated Highway Districts of Kootenai County Highway Standards.
- Comply with CGP requirements for East Side Highway District constructed projects.

- Review erosion control plans as part of its review process for private projects under East Side Highway District jurisdiction.
- As part of the road inspection process for new private projects, ensure that the appropriate level of erosion control is in place during construction.
- Educate staff on construction storm water discharges and direct staff to keep an eye on construction storm water discharges from private projects during road maintenance activities and maintenance rounds.
- Document and report to IDEQ and Kootenai County any detected illegal construction storm water discharges.
- The District will track approach and utility permits within the MS4 and at the time of permit issuance will distribute Seep Field Guides regarding storm water BMPs to those projects located in the MS4.

5.2. Storm Water Management for Areas of New Development and Redevelopment

To control the discharge of storm water and pollutants from land disturbance and development, after construction is completed, East Side, Post Falls, and East Side Highway Districts must:

- ✓ Require the installation and long-term maintenance of permanent storm water controls at new development and redevelopment project sites that result from land disturbance of 1 acre or more.
    - Permanent storm water controls must be sufficient to retain onsite the runoff volume produced from a 24-hour, 95th percentile storm event; or sufficient to provide the level of pollutant removal greater than the pollutant removal expected by using onsite retention of runoff volume produced from a 24 hour, 95th percentile storm event.
    - Alternatively, storm water treatment requirements must be required that can attain an equal or greater level of water quality benefits as onsite retention of storm water discharges from new development and redevelopment sites.
    - Other alternatives may be allowed for projects to meet the onsite retention requirement at a particular project site based on technical infeasibility, and/or site constraints.
- ✓ Establish proper installation and use guidelines for permanent storm water controls – the Permittee may establish different types of controls for different types and/or sizes of site development activity.
- ✓ At a minimum, review and approve preconstruction plans for permanent storm water controls at new development and redevelopment sites that result from land disturbance of one (1) or more acres
- ✓ Periodically inspect “high priority” permanent storm water controls for proper installation and operation, using an inspection prioritization system
- ✓ Maintain an inspection prioritization plan and enforcement response policy,
- ✓ Maintain a database inventory to track and manage the operational condition of permanent storm water controls
- ✓ Ensure the appropriate Permittee staff is trained to conduct these activities.

East Side Highway District

Implement and Enforce Installation Requirements of Permanent Sites

Ordinances are already in place through Kootenai County and the City of Coeur d'Alene that require post-construction storm water controls for significant private construction projects in the East Side Highway District's jurisdiction. East Side Highway District design and construction practices have historically followed the principals of the ordinances. The East Side Highway District maintains all drainage facilities within its right-of-way and provides plan review of postconstruction storm water designs for projects within its jurisdiction.

Prioritization of Permanent Stormwater Controls

- Highest Priority – Projects with one acre or more of disturbance and with potential to discharge to East Side Highway District MS4 jurisdiction.
- Medium Priority – Projects with less than one area of disturbance and potential to discharge to East Side Highway District MS4 jurisdiction.
- Lower Priority – Projects that have no potential to discharge to East Side Highway District MS4 jurisdiction.
- The Highway Districts will log the nature and number of inspections, follow up actions, and subsequent enforcement actions.

Enforcement Response Policy

As stated previously, ESHD does not have ordinance authority. Therefore, the District will notify Kootenai County, IDEQ and Panhandle Health if it becomes aware of any potential violations.

Tracking of Operation & Maintenance of Permanent Controls

East Side Highway District staff provide the Operations & Maintenance for permanent stormwater controls within their own jurisdiction. As the Outfall maps are revised to include all permanent stormwater controls, a tracking sheet will be developed to track the Operations & Maintenance activities. It is anticipated this task to be completed by 2024.

Planned Activities for 2025

Since ESHD's authority is limited to road rights-of-way accepted into the District, future work on this item will include:

- Continue efforts to advocate NPDES standards to be included in the Associated Highway
- Districts Highway Standards.
- Continue to follow local storm water management design principles for East Side Highway
- District constructed projects.
- Provide installation inspection of storm water controls for private projects within the right-of-way
- and those facilities off the right-of-way that discharge to the MS4.
- Continue maintaining all drainage facilities within the right-of-way.
- Monitor private storm water facilities off the right-of-way that discharge to the MS4. Notify the
- owner and/or appropriate regulatory entity if the facility is not being maintained or is not
- functioning properly.

5.3. Pollution Prevention/Good Housekeeping for MS4 Operations

To properly operate and maintain the MS4, and its facilities using prudent pollution prevention and good housekeeping, East Side Highway Districts must:

- ✓ Maintain a current Map of the MS4, including an inventory of all Outfalls and other features.
- ✓ Inspect catch basins and inlets at least once every five years. using an inspection prioritization plan.
- ✓ Maintain or clean catch basins based on those inspections.
- ✓ If applicable, maintain Operation and Maintenance (O&M) Procedures for Streets, Roads, Highways and Parking Lots.
- ✓ If applicable, inventory and manage Street/Road Maintenance Materials
- ✓ If applicable, implement a Street, Road, Highway and Parking Lot Sweeping Management Plan;
- ✓ Maintain O&M Procedures for Other Municipal Areas and Activities to protect water quality;
- ✓ Use best practices to reduce the discharge of pollutants to the MS4 associated with the Permittee's application and storage of pesticides, herbicides and fertilizers;
- ✓ Develop site-specific Pollution Prevention Plans for Permittee-owned facilities;
- ✓ Work cooperatively with other entities to control litter on a regular basis;
- ✓ Ensure the appropriate Permittee staff is trained to conduct these activities.

Operations & Maintenance Requirements

East Side Highway District maintenance staff attended a training session on December 11, 2015, and November 29, 2016, December 14, 2017,
December 7, 2018, December 18, 2019, September 30,2021, and in fall 2023.

The District Operations & Maintenance has been improved through annual training on the Highway District's winter maintenance and snow removal policy. The District will continue to perform street sweeping in the MS4 area this spring and early summer. The Operations & Maintenance procedures have been developed and the District believes this is adequate to cover the requirement for a Stormwater Pollution Prevention Plan for its maintenance facility, since the facility is outside of the MS4 boundary.

Inlet/Catch Basin Inspections & Maintenance

As East Side Highway District improves and completes their outfall map to include catch basins, an inspection and maintenance schedule will be developed and implemented to meet the requirements of catch basin inspection and cleaning at least once per five years.

Last Review/Update of Inspection and Maintenance Schedules

East Side Highway District will implement a yearly checklist (see attached) of Pollution Prevention and Good Housekeeping Practices and intends to incorporate this inspection into its 2024 activities.

Material Storage Locations

The East Side Highway District Maintenance yards are located outside of the Coeur d'Alene Urbanized Area and MS4 Boundary. Therefore, action contained in Section 3.5.4 is not specifically required. No

further action will be taken under this permit.

Sweeping Management Plan
East Side Highway District spring and summer maintenance efforts include street sweeping in the MS4 boundary. ESHD will include their Street Sweeping Management Plan in the SWMP no later than April 3, 2025. The map of 2024 street sweeping activities is included in the appendix.

Planned Activities for 2025

- Conduct another training session for East Side Highway District employees in 2023 on good housekeeping, BMPs, and illicit discharge detection.
- Send additional staff members to SEEP certification classes

5.4. Illicit Discharge Detection and Elimination

To prohibit and eliminate illicit discharges to the MS4, East Side Highway District must:

- ✓ Enforce an ordinance that effectively prohibits illicit discharges into the MS4.
- ✓ Respond to Complaints or Reports of illicit Discharges from the Public.
- ✓ Keep Track of Complaints/Reports, and any Response Actions Taken.
- ✓ Conduct MS4 outfall screening inspections during dry weather.
- ✓ Follow-up to determine the source of a recurring illicit discharge identified as a result of complaints, or of the dry weather screening investigations within thirty (30) days.
- ✓ Take appropriate action to address the source of an ongoing illicit discharge.
- ✓ Prevent and Respond to Spills to the MS4, as appropriate.
- ✓ Coordinate with other entities for the proper disposal of used oil and toxic materials.
- ✓ Ensure the appropriate Permittee staff is trained to conduct these activities.

Illicit Discharge Policies
The Highway District's will monitor MS4 areas for illicit discharges in accordance with the Illicit Discharge and Spill Response Plan (see attached). Examples of illicit discharges that the District will be looking for include:

- Sanitary sewage or drain field effluent running over the surface into a ditch,
- Paint or oil dumped into a ditch or storm drain,
- A shop floor drain discharging to a ditch,
- Turbid construction site runoff,
- Other harmful pollutants (use common sense).

The Highway Districts have also developed a Spill Response Procedure detailing the actions to be taken when an illicit discharge is detected by a District employee:

1. Be Safe: Identify the pollutant and determine if it is safe to remain in the area and if safety equipment is needed
2. Stop the Source: If the source is readily identifiable and can be stopped quickly and safely, do so.
3. Notify: Dial 911 if you deem it an emergency.
4. Report the spill to your supervisor.
5. Notify the following agencies:
    - Kootenai Fire and Rescue: (208) 772-8500

- Kootenai County Sheriff's Office: (208) 446-1850 for chemical spills
- Idaho Department of Environmental Quality: (208) 769-1422 for wastewater discharges
- Kootenai County Building and Planning Department: (208) 446-1070 for minor sediment discharges and code violations.

6. Protect Stormwater: If it can be safely done, while help is on the way, confine the spill with sandbags, berms, diversion ditches, etc.
7. Assist with Clean Up: Remain on site and assist by providing materials, labor and equipment as directed by the authority agency. Examples include sand, gravel, the District's Spill Kit, etc. Communicate with the authority agency and make sure that they are aware of concerns for protecting downstream surface water.
8. Notify EPA within 24 hours at (206) 553-1846.
9. Report: Supervisor to write a summary report of the incident and file it with SWMP monitoring records. Submit a copy of the report to EPA and IDEQ within 30 days.

The Dry Weather Outfall Screening procedures are as follows:

Task	Description
Dry Weather Field Inspections	Outfall Reconnaissance Inventory (ORI) – MS4's shall be visited at a minimum of one time during the months of July through September.
Dry Weather Quality Testing	At a minimum, if the inspector observes actual flow from an MS4 outfall, during dry weather, he/she should specifically note any observed color, odor, clarity, floating solids, foam, sheen, suspended or settled solids or other indicators of pollution. Additional water quality testing may also be warranted. If deemed necessary by the permit coordinator, obtain a sample kit from Accurate Testing Labs in Hayden or other approved source and sample for parameters identified.
Analysis of Water Quality Data	Compare background tests to dry weather sampling results, if water present during dry weather inspections.
Reporting	Prepare a technical memo identifying the following: • Work performed • Results from Water Quality Testing • Illicit Discharge Detected, Reported and Results

The dry weather screening memo with inspection reports, photos, and test results are included in the appendix.

Conditional Allowance of Non-Stormwater Discharges

The District does not have ordinance authority and it is not aware of any existing local conditions on non-storm water discharges. If the District observes what it deems to be repeated violations of state surface water quality standards (IDAPA 58.01.02.200), it will notify EPA and IDEQ for enforcement assistance.

Some examples of allowable non-storm water discharges that may not need to be addressed include:

- Water line flushing
- Irrigation water
- Discharges from potable water sources

- Foundation drains
- Air-conditioning condensate
- Individual residence car wash water
- Dechlorinated swimming pool discharges
- Street wash water
- Groundwater

Targeting of Outfall Screening During Dry Weather
The highest priority in most programs is to find any continuous and intermittent sewage discharges to the storm drain system. A range of monitoring techniques can be used to find sewage discharges. In general, monitoring techniques are used to find problem areas and then trace the problem back up the stream or pipe to identify the ultimate generating site or connection. Monitoring can sometimes pick up other types of illicit discharge that occur on a continuous or intermittent basis (e.g., wash water and liquid wastes). Monitoring techniques are classified into three major groups:

- Outfall Reconnaissance Inventory
- Indicator Monitoring at Storm Water Outfalls and In-stream
- Tracking Discharges to their Source

All outfalls within the ESHD's MS4 boundaries will be inspected and photographed on an annual basis.

Response to Illicit Discharges, Typical Complaints, and Other Findings
Responsibilities for illicit discharge detection and typical illicit discharge inspection type are as follows:

Tasks	Jurisdictional Authority	Responsible Parties
Inspection of Potential Illicit Discharge within Public Road Right-of-Way	ESHD	ESHD
Inspection of Potential Illicit Discharge from a Private Property	County	County
Repair/Cleanup of Illicit Discharge within Public Right-of-Way	ESHD / County HazMat / Sewer District	ESHD / County HazMat
Enforcement	County	County

All actions relating to illicit discharge detection will be recorded in a database administered by East Side Highway District. The database will be organized by MS4 outfall and will contain information such as: the outfalls inspected, any complaints received, and tests conducted. Illicit discharge detection activities will also be documented on the storm sewer system map.
If an illicit discharge is identified, the Highway District will notify EPA within 24 hours by phone at (206) 553-1846, and provide a written report within 5 days (see Permit Part 7.9).

Outfall Screening During Dry Weather
East Side Highway District conducts annual dry weather screening of all outfalls within the District (see Dry Weather Monitoring Plan and East Side Highway District Dry Weather Report 2024 in attachments).

All outfalls, accept outfall 3 and outfall 5, were dry at the time of inspection. Outfall 3 and outfall 5 contained discharge during dry weather inspections and was tested for water quality. Outfall 3 also contained discharge during the 2022 and 2023 dry weather inspections. All samples were taken by Welch Comer staff and tested by Accurate Testing Labs, LLC. Results of the water quality samples are as follows:

East Side Highway District Dry Inspection Discharge Testing Results						
	E. COLI BACTERIA (MPN/100mL)	TOTAL RESIDUAL CHLORINE (mg/L)	TOTAL PHOSPHORUS (mg/L)	pH	PHENOLICS (mg/L)	TOTAL SUSPENDED SOLIDS (mg/L)
PQL	1	0.01	0.001	6.5-9.0	0.05	1
OUTFALL 3	53.6	ND	0.030	7.93	ND	8
OUTFALL 5	>2,420	0.02	0.056	7.99	ND	12

Note: If the RESULT is 'ND' (Not Detected) or 'Absent', that means the concentration is less than the PQL (Practical Quantitation Limit for this method). See attached test results for method and analyst information. Refer to enclosed test results for method and analyst information.

Outfall 3

Outfall 3 had only a trickle of runoff during the dry weather inspection.

E Coli, phosphorous, total suspended solids, chlorine, and pH samples were taken on July 16th.

E. Coli was detected in 2023. The amount detected in 2023 is lower than the threshold. The amount detected in 2024 is also lower than the threshold of 126 MPG/100mL. There are residences uphill from the culvert, but the slope between the homes and the culvert is vegetated and rock armored. If the runoff was a cross-connection to septic, we would expect the E. Coli values to be higher. It appears that the runoff is likely groundwater but should be monitored to see if the E. Coli persists.

Chorine was not detected in 2022 or 2023, nor was it detected in 2024.

Phosphorus was detected in 2022 and 2023 in concentrations that exceed the water quality trigger of 8.0 µg/L or 9 µg/L listed for various locations in the 2009 Coeur d'Alene Lake Management Plan. In 2024, the phosphorus detected was 0.03 mg/L, which is equivalent to 30 µg/L and exceeds the water quality trigger.

The pH was 7.93 and is in the acceptable range of 6.5 – 9.

Phenolics was not detected in 2023 nor 2024.

Total suspended solids was not detected in 2023, but was detected at 8 mg/L in 2024. It is not clear how the test relates to the trigger of 25 NTUs. The inspector noted that there were pine needles in the culvert that should be cleaned out.

Outfall 5

Outfall 5 had only a trickle of runoff during the dry weather inspection on July 16th.

E.Coli was detected at 2,420 MPN/100mL. Though exceeding the threshold of 126 MPG/100mL, if there were a cross connection to septic we would expect much higher readings. Rather the E.Coli is likely occurring in the forested areas. Chlorine was minimally detected at 0.02 mg/L. The inspector noted a slight odor, so this location should be monitored and retested in 2025 to see if the issue persists.

Phosphorus was detected at 0.056 mg/L, which is 56 µg/L and exceeds the water quality trigger of 8.0 µg/L or 9 µg/L listed for various locations in the 2009 Coeur d'Alene Lake Management Plan.

The pH is 7.99 and in the acceptable range of 6.5 – 9.

Phenolics was not detected in 2023 nor 2024.

Total suspended solids were detected at 12 mg/L in 2024. It is not clear how the test relates to the trigger of 25 NTUs. The inspector noted that outfall was heavily vegetated and likely contributing to both phosphorus and suspended solids.

Planned Activities for 2024

The East Side Highway District will do the following during the 2024 calendar year:

- Visually monitor the MS4 area during routine maintenance rounds.
- Screen all outfalls during July-September in accordance with the Dry Weather Screening Plan.

- Conduct additional screening in spring and fall during maintenance and monitoring.
- Document and report detected illicit discharges to Kootenai County, EPA and IDEQ in accordance with the Spill Response Plan.

5.5. Education, Outreach, and Public Involvement

To educate and involve members of the public to learn about pollutants in storm water and similarly significant issues, East Side Highway District must conduct, or contract with other entities to conduct, an ongoing education, outreach, and public involvement program. The Highway District must also comply with applicable State and local public notice requirements when implementing any public involvement activities.

Within one year of the Permit effective date, LHD, PFHD, and ESHD must, at a minimum:

- ✓ Select at least one audience and focus its efforts on conveying relevant messages
- ✓ Distribute and/or offer at least eight (8) educational messages or activities over the permit term to selected audience(s)
- ✓ Begin to assess, and track, activities to gauge the audience's understanding of the relevant messages and adoption of appropriate behaviors.
- ✓ Target specific educational material to the construction/engineering/design community regarding construction site runoff control and permanent storm water controls.
- ✓ Maintain and advertise a publicly accessible website to provide all relevant SWMP materials.

East Side Highway District will track the Public Education and Outreach efforts during the permit term and provide reports in the Annual Reports. The permit requires at least 8 educational messages or activities during the permit term. The permit requires an effort to assess the understanding of the relevant messages and adoption of appropriate behaviors by the target audience.

The North Idaho Highway Districts have already established a public education and outreach program during the last permit term, and they will continue to build upon through this permit term.

The target audiences have been children and families with the following outreach efforts:

Earth Day – We had a booth with interactive activity for children and families who attended the Earth Day event on April 20, 2024. The booth educated students about stormwater drainage systems and groundwater. Students learned where drinking water comes from, the definition of groundwater and stormwater, and how to prevent and reduce stormwater pollution. Photos from the event are below.

Silverwood Physics & Science Day – Local middle and high schools from Eastern Washington and North Idaho traveled to Silverwood Amusement Park to participate in Science and Physics Day on May 23, 2024, while also enjoying the amusement park. Students took part in educational activities such as visiting the stormwater education booth, creating rollercoaster models, and measuring area using a circle. Together with the IDEQ and the City of Coeur d'Alene, a representative from the Highway District ran the stormwater education booth. The booth educated students about stormwater drainage systems and groundwater. Students learned where drinking water comes from, the definition of groundwater and stormwater, and how to prevent and reduce stormwater pollution. Photos from the event are below.

Information on the Website
A flyer was placed on the website prior to Earth Day. The excerpts from the website are included in the appendix.

In 2015, East Side Highway District along with Post Falls Highway District and East Side Highway District, wrote a letter of support and agreed to co-fund a "Learning Station" for the University of Idaho grant application to develop the "Cleaner. Water. Faster: Bi-State Interpretive Clean Water Trail" Interpretive Trail for the four corners area in Coeur d'Alene. The University of Idaho was successful in securing the grant. The design of the "Learning Station" was completed in 2018 and was installed by the City of Coeur d'Alene in the spring of 2019. The "Learning Station" for the Storm Water Pollution Prevention Interpretive Trail Project will be maintained as a cooperative effort with East Side Highway District, Post Falls Highway District, and East Side Highway District (see picture of Learning Station in attached).
The Highway Districts were approached with an opportunity to develop a PSA through the University of Idaho's "Cleaner. Water. Faster." grant. On September 19, 2017, the video was filmed and in October of 2018 the video was completed and published on YouTube and linked by the University of Idaho website. The video has also been posted to the Lakes Highway District website.

To supplement our Public Outreach Stormwater Demonstrations, the three Highway Districts along with the City of Coeur d'Alene designed and produced two large banner displays for stormwater and pollution prevention education purposes. You can see the banners in the photos above.

Planned Activities for 2024
East Side Highway District plans to perform the following Public Outreach and Education during the 2023 calendar year:

- Earth Day Stormwater booth
- Ramsey Elementary Field Trip Stormwater Pollution Prevention Presentation
- Silverwood Physics and Science Day Stormwater Pollution Prevention Presentation
- One public information brochure on the website.
- SEEP Field Guides distributed to all Contractors and Permit Applicants

6. UNIQUE PROVISIONS SPECIFIC TO LAKES, POST FALLS, AND EAST SIDE HIGHWAY DISTRICTS

6.1. Annual Compliance Evaluation

The annual report that is required by Part 6.4.2 of the NPDES Permit is accessible on the East Side Highway District website at www.East Sidehighwaydistrict.com

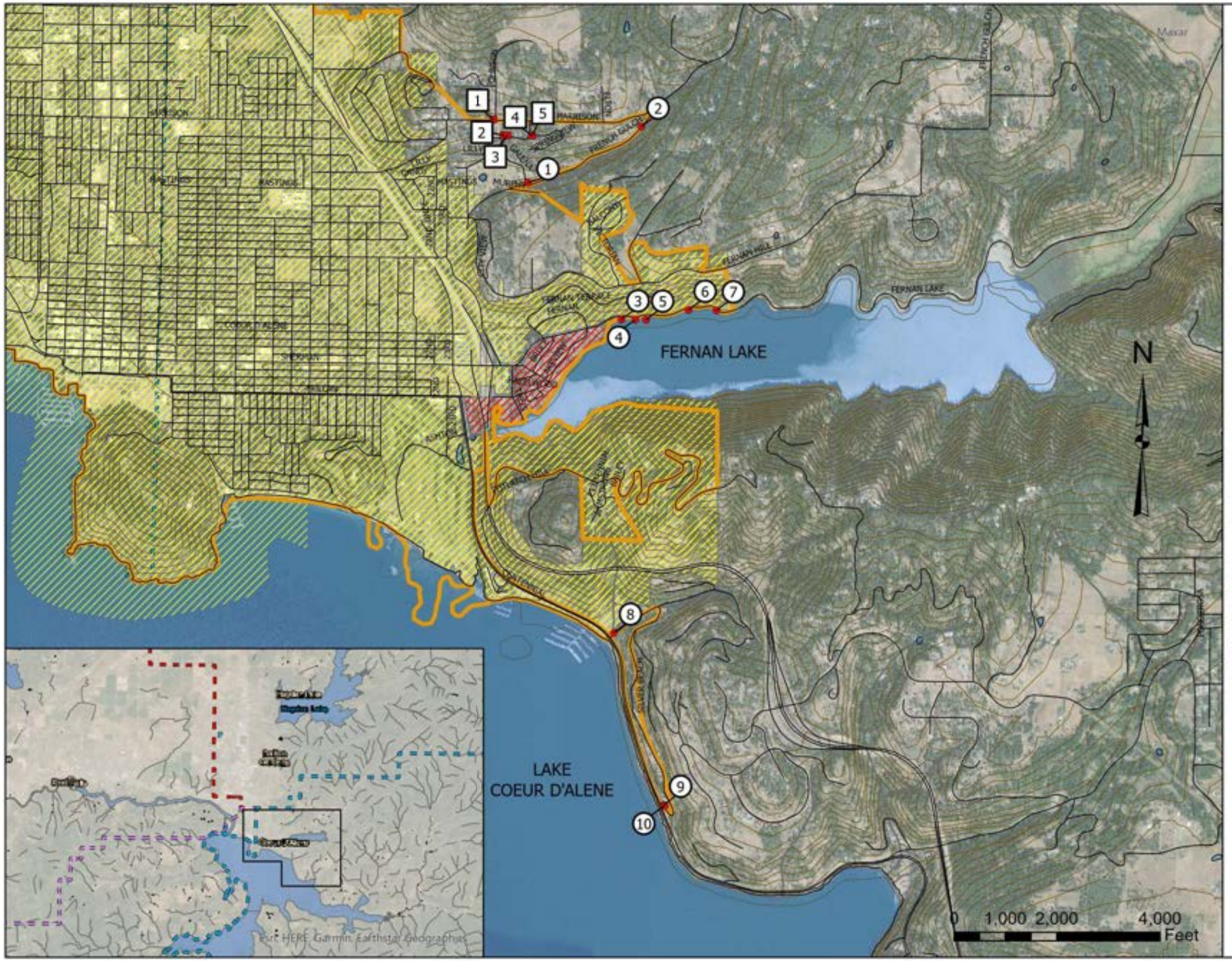
6.2. Alternative Control Measure Requests

No requests were made for Alternative Control Measures.

6.3. Adaptive Management Actions

There are no adaptive management actions to date.

APPENDIX



EAST SIDE HIGHWAY DISTRICT
KOOTENAI COUNTY IDAHO

OUTFALL TABLE

MAP NO.	LATITUDE	LONGITUDE	OUTFALL DESCRIPTION
1	47.683056	-116.747778	18" CULVERT
2	47.686111	-116.738889	18" CULVERT
3	47.675833	-116.740278	24" CMP CULVERT
4	47.675833	-116.739167	24" CMP CULVERT
5	47.675833	-116.738333	24" CMP CULVERT
6	47.676389	-116.735	24" CMP CULVERT
7	47.676389	-116.732778	24" CMP CULVERT
8	47.659167	-116.740556	48" CMP CULVERT
9	47.650001	-116.736667	24" STEEL CULVERT
10	47.65	-116.736389	18" CMP CULVERT

CATCH BASIN TABLE

MAP NO.	LATITUDE	LONGITUDE	OUTFALL DESCRIPTION
1	47.686389	-116.750556	CATCH BASIN
2	47.685556	-116.749722	CATCH BASIN
3	47.685556	-116.749444	CATCH BASIN
4	47.685556	-116.7475	CATCH BASIN
5	47.685556	-116.7475	CATCH BASIN

NOTE: LATITUDE & LONGITUDE WERE RECALCULATED FROM SOURCE. SKEWED COORDINATES POTENTIALLY CAUSED BY HANDHELD GPS USE UNDER TREE CANOPY.

LEGEND

- OUTFALL POINTS
- CATCH BASINS
- CITY OF COEUR D'ALENE
- CITY OF FERNAN LAKE
- 2020 CENSUS DEFINED URBANIZED AREA
- HIGHWAY #3 (EASTSIDE-71)

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EAST SIDE HIGHWAY DISTRICT

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) MAP

Sources:
ESRI Basemaps, Idaho Tax Commission GIS, Kootenai County GIS, IDWR GIS,

PROJECT NO : 41348.02
DRAWN BY : .....AMC
FILENAME : .....20220518_PFHD_OutfallLocations
DATE : 09-20-2022

Monitoring and Assessment Plan

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MONITORING & ASSESSMENT PLAN

FOR

EAST SIDE HIGHWAY DISTRICT
NPDES PERMIT #IDS028207

SUBMITTED TO THE
ENVIRONMENTAL PROTECTION AGENCY & IDAHO DEPT OF ENVIRONMENTAL QUALITY

SEPTEMBER 2022

WELCH-COMER
ENGINEERS | SURVEYORS

Table of Contents

MONITORING & ASSESSMENT PLAN FOR:

EAST SIDE HIGHWAY DISTRICT

1. INTRODUCTION

1.1. PURPOSE

The Monitoring and Assessment Plan (Plan) defines the East Side Highway District's (ESHD) approach for quantifying and identifying pollutant loadings from the municipal separate storm sewer system (MS4) as required by the North Idaho Highway District National Pollutant Discharge Elimination System Municipal Stormwater Permit #IDS028207 (Permit). This Plan serves as a Monitoring and Assessment Plan required by Permit Part 4 Special Conditions for Discharges to Impaired Waters and Permit Part 4.2 Monitoring/Assessment Activities.

ESHD has 11 outfalls that fall under the Permit and those are shown in Appendix A. Three of these outfalls discharge into Coeur d'Alene, while the rest discharge to Fernan Lake.

1.2. OBJECTIVES

This plan is designed to assist in meeting the following objectives:

- Detect and identify dry weather flows, illicit discharges, and illegal connections.
- Monitor cadmium, zinc, lead, and total phosphorous loadings from MS4s into Coeur d'Alene Lake.
- Develop two pollutant reduction activities and quantify the estimated pollutant reduction accomplished during the permit term.

2. DRY WEATHER DISCHARGE MONITORING

2.1. DRY WEATHER OUTFALL SCREENING PROCESS

ESHD must conduct visual dry weather screenings of all MS4 outfalls annually in accordance with the Permit. The outfall screening process requires visual inspection and when flow is present, water quality testing and source tracing. Water quality data collection will be accomplished through sample bottles and analytical methods. Sample bottles will be collected for laboratory analysis by the Contract Laboratory.

2.2. VISUAL DRY WEATHER INSPECTIONS

Prior to dry weather outfall screening, it cannot have rained more than 0.1 inches in the last 72 hours. A GPS device will be used to accurately report the location of outfalls and possible illicit discharge. A visual dry inspection consists of description of the outfall pipe and surrounding area. If outfall access is restricted, the outfall should be checked at the first point of accessibility upstream of the outfall location. Note this location in the notes section of the report. The following information will be collected for each outfall, annually.

- Location in terms of identifying landmarks such as nearby streets and receiving water
- Time since last rain event; estimated quantity of last rain event
- Weather description

- Site description
- Description and condition of outfall
- Flow estimation
- Visual observations (e.g., odor, color, clarity, floatable, deposits/stains, vegetation condition, structural condition, presence of trash, and biology)
- Photographs of outfall and any features useful to reporting

After completing the discharge monitoring procedures, the Permittees must identify the source and take appropriate action to eliminate the flows to the extent allowable pursuant to authority granted under Idaho law. If the discharge was deemed an immediate public threat, document the responding agency and type of discharge. Reports shall be obtained from the responding agency. Illicit Discharges must be reported to EPA and IDEQ within 24-hours from the time ESHD becomes aware. It is important to document each discharge response, regardless of whether actual discharge was determined.

2.3. Dry Weather Flow Sampling Procedures

Samples will be collected using grab sampling methods from a point near the center of flow of the outfall. Results of sampling must be compared to the trigger threshold levels and/or as shown below in Table 2-1. All threshold levels were found based on the *Idaho Department of Environmental Quality 58.01.02 -Water Quality Standards*. Sampling will be collected for each indicator as shown in Table 2-1. After sampling, samples will be placed in a temperature-controlled container and given to the Contract Laboratory as soon as possible after testing. Sampling and preservation methods are detailed in the QAPP.

Table 2-1: Sampling Threshold Levels

Indicator Constituent	Threshold Level
pH	6.5 - 9.0
Total Chlorine	0.019 mg/L CMC 0.011 mg/L CCC
Total Phenols*	3.8 mg/L
E. Coli	410 MPN/100 mL
Total Phosphorus**	0.08 mg/L
Turbidity	Cannot exceed 50 NTUs (2 on severity index)

*Obtained from Page 67, in Idaho Human Health Criteria: https://www2.deq.idaho.gov/admin/LEIA/api/document/download/14640

**Obtained from Page 65, in Coeur d'Alene LMP: https://www2.deq.idaho.gov/admin/LEIA/api/document/download/11122

Turbidity/TSS will be measured by visual inspection by a relative severity index of 1(slight cloudiness), 2 (cloudy), and 3 (opaque) measurements for visual inspections will be record on Outfall Inspection Report (See QAPP in Appendix B).

2.4. Dry weather Flow Follow up

Within thirty days of its detection, ESHD must reinvestigate recurring illicit discharges identified as a result of complaints or dry weather discharge monitoring to determine the source of such discharge. Permittees must take appropriate action to address and eliminate the source of an ongoing illicit discharge within sixty days of its detection, to the extent allowable under Idaho law.

3. Impaired Waters Monitoring

3.1. Impaired Waters Sampling Locations

In addition to dry weather monitoring, ESHD must monitor and assess the impairment pollutants discharging to Coeur d'Alene Lake. The four pollutants, cadmium, lead, zinc, and phosphorus will be sampled at outfalls annually as described in the implementation schedule in Section 4, four times per calendar year, with at least one sample collected in either September or October. If a pollutant reduction project has been implemented, then sampling will take place both upstream and downstream of the project to aid in the assessment of pollutant reduction.

3.2. Impaired Waters Sampling Procedures

Impaired waters sampling will be done via grab bags, using identical sampling and handling methods as the dry weather procedures described in Section 2 of this Plan. As stated by the Permit, ESHD will use methods that can achieve EPA maximum minimum levels less than or equal to those specified below and determine threshold levels based on existing state water quality standards. Pollutants and corresponding threshold and minimum levels are shown in Table 3-1 and the sampling analysis is described in Table 3-2. After sampling, samples will be placed in a temperature-controlled container and given to the Contract Laboratory as soon as possible after testing. Sampling and preservation methods are detailed in the QAPP.

Table 3-1: Sampling Threshold Levels

Indicator Constituent	Threshold Level
Cadmium	1.3 (µg/L) CMC 0.6 (µg/L) CCC
Lead	65 (µg/L) CMC 2.5 (µg/L) CCC
Zinc	120 (µg/L) CMC 120 (µg/L) CMC
Total Phosphorus	0.08 mg/L

3.3. Impaired Waters Reporting and Data Use

The collected pollutant loading data will be used to assess the viability of the pollutant reduction activities described in Section 4 of this Plan. An Impaired Waters Inspection Report, attached in the QAPP in Appendix B, will be filled out per sampling location. Information found

in impaired waters monitoring will be summarized yearly in Annual Report and in the final report at the end of the permit period.

4. Pollution Reduction Activities

The Permit requires, ESHD must implement two pollutant reduction activities to both reduce and quantify pollutant loading.

4.1. Pollution Reduction Activity #1: Biochar Socks

4.1.1. Introduction

Biochar is a carbon-rich material produced by a pyrolysis, the process of heating of biomass in the absence of oxygen. Research suggests biochar as a low-cost tool for biological remediation. The biochar socks consist of rice husk biochar, lined in plastic fabric. Research indicates biochar has the capacity to absorb phosphorous and heavy metals, while sequestering carbon and improving soil quality. Biochar socks will the potential to reduce for cadmium, lead, zinc, and total phosphorous discharging to Waters of the US. Refer to Northwest Carbon, Inc. for detail on the products and technology at https://northwestcarboninc.com.

4.1.2. Project Description

Place a sufficient length and amount of biochar sock at a selected outfall to Coeur d'Alene Lake in the ESHD Permit area. The amount of biochar used and placement location will be determined based on the velocity of flow and size of the outfall. Pollutant load testing will occur at two locations at each outfall, above and below stream of the biochar socks. Biochar socks will be checked four times yearly, in coordination with the impaired waters sampling schedule. Socks should be maintained and replaced as needed.

4.1.3. Desired Outcome

The project aims to reduce cadmium, lead, zinc, and total phosphorous pollutant loadings discharging into Coeur d'Alene Lake.

4.1.4. Reporting

Interim progress will be summarized and reported yearly in the Annual Report and summarized in the final report at the end of the permit term.

4.2. Pollution Reduction Activity #2: Marmot Trail Ditch Stabilization

4.2.1. Introduction

Marmot Trail has a deep, steep ditch with little erosion control. This ditch eventually drains to outfall #8 into Coeur d'Alene Lake. The Highway District plans to armor the ditch with rip rap.

4.2.2. Project Description

The project will armor the sides and bottom of the roadside ditch with basalt rip rap to reduce future erosion of soils. The project has funds from the Leading Idaho grant to purchase the rip rap and plans to install the rip rap with District staff. The extents of the rip rap will be limited by the funding; however, the areas with the highest potential for erosion will be targeted.

4.2.3. Desired Outcome

The project aims to reduce cadmium, lead, zinc, and total phosphorous pollutant loadings discharging into Coeur d'Alene Lake. The desired outcome of this pollutant reduction activity is to reduce the pollutant loadings of discharging waters by a quantifiable amount by the end of the Permit term.

4.2.4. Reporting

Interim progress will be summarized and reported yearly in the Annual Report.

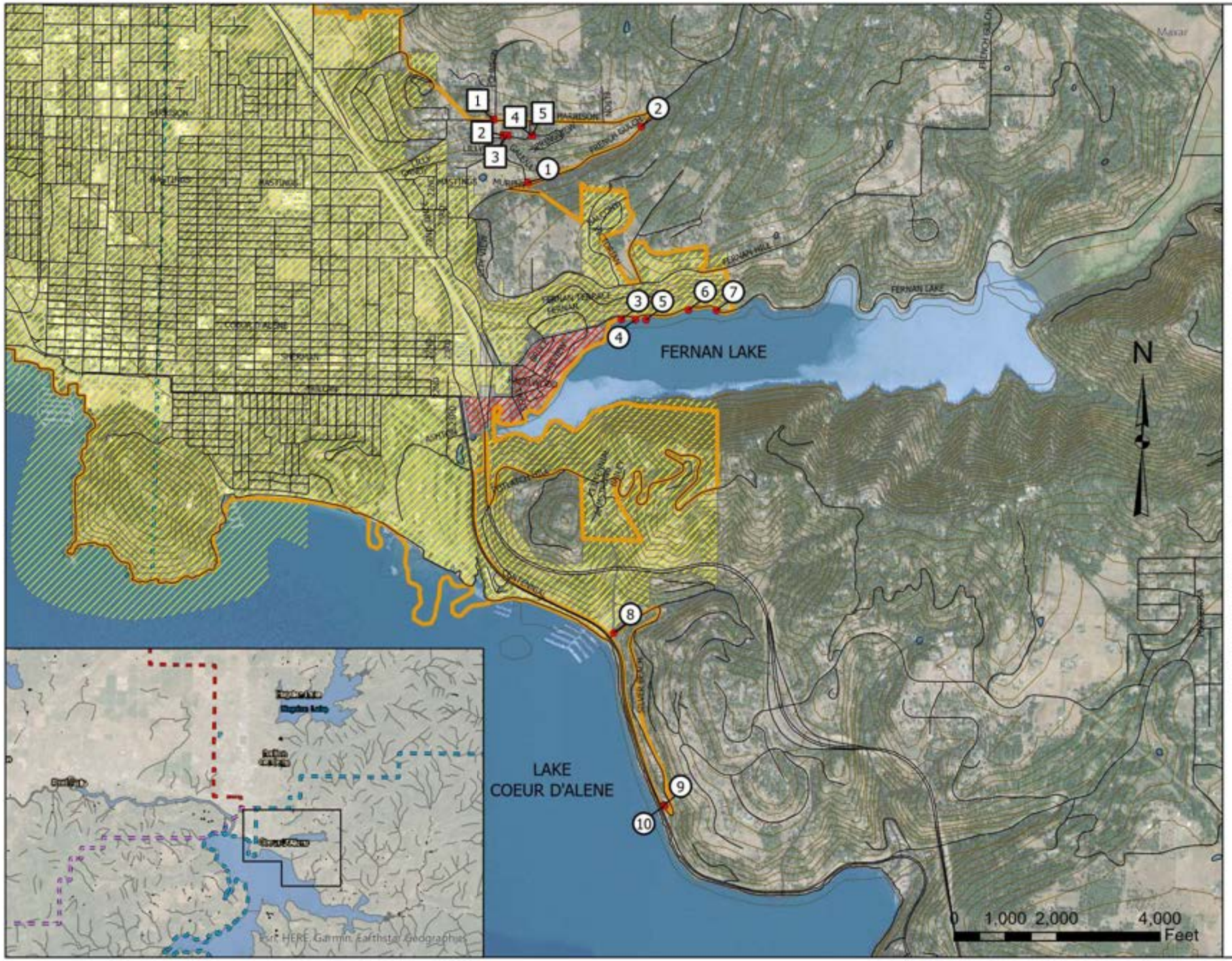
5. IMPLEMENTATION SCHEDULE

The schedule for implementing the dry weather inspections, wet weather monitoring, and pollutant reduction activities is proposed as follows:

Timeframe	Activity
September/October 2022	Test for pollutants in all three outfalls (8, 9, 10) to Coeur d'Alene Lake within the permit area.
Fall 2022	Install ditch armoring project on Marmot Trail.
Spring – Summer 2023	Determine at which outfall to implement the biochar socks (9 or 10).
Summer 2023	Install pollutant reduction projects.
July/August	Conduct dry weather inspections.
September/October (starting 2023) November/December (starting 2023) March/April 2024 (starting 2024) May/June 2024 (starting 2024)	Conduct wet weather sampling and testing at outfalls where pollutant reduction projects were implemented.

APPENDIX A

OUTFALL MAP



EAST SIDE HIGHWAY DISTRICT
KOOTENAI COUNTY IDAHO

OUTFALL TABLE

MAP NO.	LATITUDE	LONGITUDE	OUTFALL DESCRIPTION
1	47.683056	-116.747778	18" CULVERT
2	47.686111	-116.738889	18" CULVERT
3	47.675833	-116.740278	24" CMP CULVERT
4	47.675833	-116.739167	24" CMP CULVERT
5	47.675833	-116.738333	24" CMP CULVERT
6	47.676389	-116.735	24" CMP CULVERT
7	47.676389	-116.732778	24" CMP CULVERT
8	47.659167	-116.740556	48" CMP CULVERT
9	47.650001	-116.736667	24" STEEL CULVERT
10	47.65	-116.736389	18" CMP CULVERT

CATCH BASIN TABLE

MAP NO.	LATITUDE	LONGITUDE	OUTFALL DESCRIPTION
1	47.686389	-116.750556	CATCH BASIN
2	47.685556	-116.749722	CATCH BASIN
3	47.685556	-116.749444	CATCH BASIN
4	47.685556	-116.7475	CATCH BASIN
5	47.685556	-116.7475	CATCH BASIN

NOTE: LATITUDE & LONGITUDE WERE RECALCULATED FROM SOURCE. SKEWED COORDINATES POTENTIALLY CAUSED BY HANDHELD GPS USE UNDER TREE CANOPY.

LEGEND

- OUTFALL POINTS
- CATCH BASINS
- CITY OF COEUR D'ALENE
- CITY OF FERNAN LAKE
- 2020 CENSUS DEFINED URBANIZED AREA
- HIGHWAY #3 (EASTSIDE-71)

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www.welchcomer.com 208-664-9382

EAST SIDE HIGHWAY DISTRICT

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) MAP

Sources:
ESRI Basemaps, Idaho Tax Commission GIS, Kootenai County GIS, IDWR GIS,

PROJECT NO : 41348.02
DRAWN BY : .....AMC
FILENAME : .....20220518_PFHD_OutfallLocations
DATE : 09-20-2022

APPENDIX B

QUALITY ASSURANCE PROJECT PLAN (QAPP)

www.welchcomer.com

WELCH COMER

O: 208-664-9382
F: 208-664-5946

330 E. Lakeside Avenue, Suite 101
Coeur d'Alene, ID 83814

QUALITY ASSURANCE PROJECT PLAN (QAPP)

FOR

EAST SIDE HIGHWAY DISTRICT & POST FALLS HIGHWAY DISTRICT

NPDES PERMIT #IDS028207

SUBMITTED TO THE
ENVIRONMENTAL PROTECTION AGENCY & IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY

SEPTEMBER 2022

WELCH-COMER
ENGINEERS | SURVEYORS

Table of Contents

QUALITY ASSURANCE PROJECT PLAN FOR:

NORTH IDAHO HIGHWAY DISTRICTS

1. PROJECT MANAGEMENT

1.1. DISTRIBUTION LIST

All recipients on the distribution list will be issues copies of the Quality Assurance Project Plan (QAPP) as provided in Table 1-1. Major revisions to the QAPP will cause a reissue in full to all persons on the distribution list. Minor revisions to the QAPP will be addressed by issuing revised pages on an as-need basis.

Table 1-1 Distribution List

Name	Contact Information
Welch Comer Engineers	330 E Lakeside Ave, Ste 101 Coeur d'Alene, ID 83814
East Side Highway District	Ben Weymouth, Director of Highways 6095 E Mullan Trail Rd Coeur d'Alene, ID 83814 (208) 765-4714
Post Falls Highway District	Michael Lenz, Director of Highways 5629 E Seltice Way Post Falls, Idaho 83854
Accurate Testing Labs, LLC	7950 Meadowlark Way, Coeur d'Alene, ID 83815
Idaho DEQ Regional Office	Mathew Colling, IPDES Compliance Officer IDEQ Coeur d'Alene Regional Office 2110 Ironwood Parkway, Coeur d'Alene, ID 838814 (208)666-4639
US EPA, Region 10	Daniel D. Opalski EPA, Water Division Director 1200 Sixth Avenue Seattle, Washington 98101

1.2. PURPOSE AND PROJECT/TASK ORGANIZATION

The purpose of this Quality Assurance Project Plan (QAPP) is to describe the requirements and quality assurance activities of the Monitoring and Assessment Plan operations performed under the North Idaho Highway District National Pollutant Discharge Elimination System Municipal Stormwater Permit #IDS028207 (Permit). It describes the scope of monitoring, the organization and persons involved, the data quality objectives, the monitoring procedures, and the specific quality control measures to be employed. All QAPP activities are implemented to

determine whether the results of the sampling and monitoring performed are the right type, quantity, and quality to satisfy the requirements of the permit.

This QAPP is intended to be used in conjunction with the Permittees' Monitoring and Assessment Plan (Plan). The Permittees are East Side Highway District (ESHD) and Post Falls Highway District (PFHD). QAPP EPA requirements are addressed in either this QAPP or the Plan of each Permittee.

1.3. Intended Use of Data

The data collected as required by the Permit, is used to assess and monitor the environmental health of the Permit area's associated Waters of the United States. Data will be used by the Permittee, IDEQ, and the Environmental Protection Agency (EPA) to determine whether the MS4s of the Permit Area are in compliance with the provisions of the Clean Water Act.

1.4. Documentation and Records

Documentation for all permit-required monitoring, sampling, and analyses conducted according to this QAPP is summarized in Table 1-5. The generated documentation will be stored electronically on computer database. All Permit relates records will be maintained for a minimum of five years or until the date of the next permit renewal, whichever is sooner.

Table 1-2: Required Monitoring and Sample Analysis

Monitoring and Sample Analysis	Documentation	Disposition of Documentation
Dry Weather Monitoring Samples	Chain of custody record for each sampling event. Laboratory analyses results sheets from laboratory	Hard copies are transferred to electronic excel files inputted after each sampling event. Annual report compilation of all sampling events
Impaired Waters Monitoring Samples	Chain of custody record for each sampling event. Laboratory analyses results sheets from laboratory	Hard copies are transferred to electronic excel files inputted after each sampling event. Annual report compilation of all sampling events
Outfall Inspection Report	Chain of custody record for each sampling event. Laboratory analyses results sheets from laboratory	Hard copies are transferred to electronic excel files inputted after each sampling event. Annual report compilation of all sampling events
Impaired Waters Sampling Report	Chain of custody record for each sampling event. Laboratory analyses results sheets from laboratory	Hard copies are transferred to electronic excel files inputted after each sampling event. Annual report compilation of all sampling events

2. Data Generation and Acquisition

2.1. Sampling Locations

Sampling locations are listed within Section 2.2 of each permittee's respective Monitoring and Assessment Plan for dry weather and impaired waters monitoring. Locations have been chosen based on MS4 outfall locations discharging into the Waters of the United States

2.2. Sampling Methods

Samples will be collected using grab sampling methods from a point near the center of flow of the outfall. Grab sampling techniques include but are not limited to: wearing appropriate PPE, filling container to brim with care as to not flush out preservatives if applicable, and protection from foreign debris entering into container. More sampling procedures are described in Sections 2 and 3 of the Plan for each permittee.

Sampling will be collected for each indicator as shown in Table 2-1. After sampling, samples will be placed in a temperature-controlled container and given to the Contract Laboratory as soon as possible after testing.

2.3. Instruments/Equipment Testing, Inspection and Maintenance

To minimize downtime of measurement systems, all instruments and equipment must be maintained in working condition and inspected before and after use by visual inspection. The supplies required for this QAPP are obtained through the contract laboratory. Necessary reagent and calibration standard of appropriate grade and unexpired shelf life are used. Samples must be collected, transported, and analyzed per the requirements and procedures as presented in Table 2-1 below.

Table 2-1: Sample Analysis

Indicator	Container Type	Sample Volume	Analytical Method	Preservation Requirements	Hold Time
pH	Plastic	120 mL	SM4500 -H B	None	Immediately
Total Chlorine	Plastic	120 mL	SM4500-Cl	None	Immediately
Total Phenols	Amber Glass	1000 mL	420.1	Sulfuric Acid	28 Days
E Coli	Plastic	120-150 mL	Colilert QT	Sodium Thiosulfate/ 4°C	30 Hours
Total Phosphorus	Plastic	500 mL	EPA 365.4	Sulfuric Acid	28 Days
Turbidity	Visual	NA	NA	NA	NA
Suspended Solids	Plastic	500 mL	SM2540D	None	7 Days
Cadmium	Plastic	1000 mL	EPA 200.8	Nitric Acid	6 Months
Lead	Plastic	1000 mL	EPA 200.8	Nitric Acid	6 Months

Zinc	Plastic	1000 mL	EPA 200.8	Nitric Acid	6 Months
Total Phosphorus	Plastic	500 mL	EPA 365.4	Sulfuric Acid	28 Days

2.4. Sample Handling and Custody

Samples are collected by monitoring staff under the supervision of the Sampling and Monitoring Supervisor. Samples are labeled, preserved, and packaged as specified by the sampling procedures outlined in each Permittee's respective Monitoring and Assessment Plan. The Outfall Inspection Report form and Impaired Waters field sample sheet (see Appendix) are used to document information pertaining to each sampling event at each location. The packing of samples prior to shipping to the contract laboratory is described in the Plan for each Permittee. Transport time is minimized to ensure that samples reach the laboratory without exceeding holding times and to reduce exposure to temperature variations. Sample delivery is coordinated in advance with the laboratory and laboratory instructions and procedures are followed. All sampling material is obtained through the contract laboratory.

For each sample taken, a chain of custody (COC) form (found in Appendix C) is completed. The COC form is necessary to ensure sample integrity from the time of sample collection through data reporting. This includes the ability to trace possession and handling of the sample from the time of collection through the final disposition. The COC form accompanies each sample or group of samples and includes who it was delivered by, the delivery date and time, sample identification, the time of collection and identifies who collected the sample and analysis to be performed. This form includes the sample name, an ID code, date of sample collection and receipt, and analyses to be performed.

Throughout all sample collection and analysis activities, the Permittees must use the EPA-approved and chain-of-custody procedures described in Requirements for Quality Assurance Project Plans (EPA/QA/R-5) and Guidance for Quality Assurance Project Plans (EPA/QA/G-5). Copies of these documents can be found at https://www.epa.gov/sites/default/files/2015-06/documents/g5-final.pdf.

2.5. Data Management

All field data forms are completed by the operator who performed the test. The Monitoring Supervisor electronically stores all data from monitoring processes on computer database. To ensure uniform data are reported, results are to be expressed in the appropriate number of significant figures and rounded correctly.

2.6. Reports

Once the sampling has been completed and all sample results have been received, sampling results pertinent to the permit shall be prepared and included in the annual report. The report will then be finalized and submitted to IDEQ and EPA for review.

APPENDIX A

OUTFALL INSPECTION REPORT

Stormwater Outfalls

Watershed/Subshed:	**Assessed By:**
Outfall ID:	**Date of Last Rainfall:** **Rainfall Quantity:**
Date: **Time:**	

TYPE	MATERIAL	SHAPE		SUBMERGED	GENERAL OBSERVATIONS
☐ Closed Pipe	☐ Concrete ☐ PVC/Plastic ☐ Metal ☐ Brick ☐ Other:	☐ Circular ☐ Other:	☐ Single ☐ Double	In Water: ☐ No ☐ Partially ☐ Fully With Sediment: ☐ No ☐ Partially ☐ Fully	
☐ Open Channel	☐ Concrete ☐ Earthen ☐ Other:	☐ Trapezoid: ☐ Parabolic: ☐ Other:			
Flow	☐ None ☐ Trickle ☐ Moderate ☐ Substantial ☐ Estimate Flow Rate _____				

FOR BOTH FLOWING and NON-FLOWING OUTFALLS:

INDICATOR	DESCRIPTION		COMMENTS
☐ Pipe Condition	☐ Chip/Cracked ☐ Peeling Paint	☐ Corrosion ☐ Other: _____	
☐ Odor	☐ Gas ☐ Sulfide	☐ Sewage ☐ Other: _____	
☐ Deposits/Stains	☐ Oily ☐ Paint	☐ Flow Line ☐ Iron	
☐ Vegetation	☐ Normal ☐ Excessive	☐ Inhibited	

FOR FLOWING OUTFALLS:

INDICATOR	DESCRIPTION		RELATIVE SEVERITY INDEX		
☐ Odor	☐ Sewage ☐ Sulfide ☐ Petroleum/Gas	☐ Rancid/Sour ☐ Other: _____	☐ 1 – Faint	☐ 2 – Easily Detected	☐ 3 – Noticeable from a Distance
☐ Color	☐ Color ☐ Orange ☐ Brown	☐ Grey ☐ Other: _____	☐ 1 – Trace Colors	☐ 2 – Faint Colors	☐ 3 – Clearly Visible
☐ Turbidity	_____ NTU's	☐ Sample Collected	☐ 1 – Slight Cloudiness	☐ 2 – Cloudy	☐ 3 - Opaque
☐ Floatables (not including trash)	☐ Sewage ☐ Iron	☐ Suds ☐ Petroleum (oil sheen)	☐ 1 – Few/Slight	☐ 2 – Some; indication of origin	☐ 3 - Many

Photos

APPENDIX B

IMPAIRED WATERS INSPECTION REPORT

Impaired Waters Inspection Report

Highway District:	**Assessed By:**
Discharging Waterbody:	**Date of Last Rainfall:** **Rainfall Quantity:** **Weather:**
Location:	
Coordinates:	
Date: **Time:**	

POLLUTANT REDUCTION ACTIVITY CONDITION:

ACTIVITY	CONDITION		COMMENTS
☐ Biochar Sock	☐ Good ☐ Fair ☐ Poor	☐ Missing ☐ Teared ☐ Clogged/Covered	
☐ Infiltration Facility	☐ Good ☐ Fair ☐ Poor	☐ Dead ☐ Erosion ☐ Flooding	

OUTFALL DESCRIPTION:

INDICATOR	DESCRIPTION		
☐ Turbidity	☐ 1 – Slight Cloudiness	☐ 2 – Cloudy	☐ 3 - Opaque
☐ Flow	☐ Present/Measurable ☐ Present/Minimal ☐ None		
☐ Other			

SAMPLING:

SAMPLE	LOCATION	COMMENTS
☐ Prior to Outfall and Pollution Reduction Activities	☐ Upstream: _____ft ☐ Other: _____	
☐ At Outfall	☐ At center of flow ☐ Other: _____	

Photos

APPENDIX C

CHAIN OF CUSTODY FORM

Chain of Custody

Accurate Testing Labs 7950 Meadowlark Way | Coeur d'Alene, ID 83815 | Phone: (208) 762-8378 | Fax: (208) 762-9082
E-mail: mueller@accuratetesting.com | Internet: http://www.accuratetesting.com

Results & Invoice to:

Name: _____

Address: _____

_____

Phone: _____ Fax: _____

Reporting Requirements:

Preliminary: FAX ☐ Verbal ☐ by: ___/___/___

Final Report: FAX ☐ Verbal ☐ by: ___/___/___

Rushes: 48 hrs.☐ Other:☐

_____

Name of Sampler:

_____

Project Information:

Project Name: _____

Project Number: _____

Purchase Order Number: _____

Lab #	Sample ID	Date	Time	Matrix	NO. OF CONTAINERS	ANALYSIS REQUEST												Remarks/Sample Conditions

Relinquished by:	Date Time	Received by:	Date Time

Chain of Custody Seals
☐ Yes ☐ No ☐ N/A
☐ UPS ☐ FedEx
☐ Bus ☐ Hand

Training Documentation

2024 ANNUAL TRAINING MS4 PERMIT
EAST SIDE HIGHWAY DISTRICT

SIGN-IN SHEET

Date: 10/1/2024 Time: 6:30 PM Location: Sub 1 (Mallan Trail, CdA)

NAME	JOB TITLE	INITIAL IF IN ATTENDANCE
Dave Yerian	Deputy Dir.	DY.
Doug Combs	Mechanic	DC
Rick Stewart	Foreman	RS
John Arnold	Equip Operator	JA
Ross Kimball	Equip operator	RK
Justin Carlton	Equip operator	JC
Ben Weymouth	Director	BW

2024 ANNUAL TRAINING MS4 PERMIT
EAST SIDE HIGHWAY DISTRICT

SIGN-IN SHEET

Date: Time: Location:

NAME	JOB TITLE	INITIAL IF IN ATTENDANCE
Cody Kraack	Foreman	CK
Tucker Day	Crew	TD
Wilson Benning	Crew	WB
Blake Charles	Crew	BC
wilbenning@gmail.com		

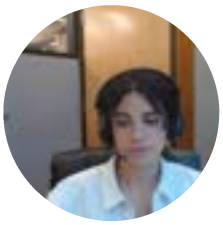
2024 ANNUAL TRAINING MS4 PERMIT
EAST SIDE HIGHWAY DISTRICT

SIGN-IN SHEET

Date: Time: Location:

NAME	JOB TITLE	INITIAL IF IN ATTENDANCE
CHAD THOMSON	CREW	CT
Shane Cook	CREW	SC
Tom Chrisfield	Crew	T-C
ANDY PARRIS	CREW	A
Kevin Renner	foreman	KR

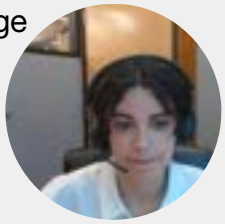
Stormwater Management Training



1

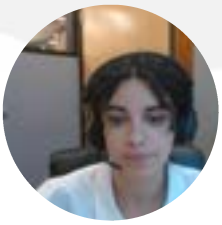
OVERVIEW

- MS4 introduction and permit
- Stormwater Management Program (SWMP)
- Identifying Illicit Discharge
- Responding to Illicit Discharge
- Best Management Practices



2

MS4 PERMIT

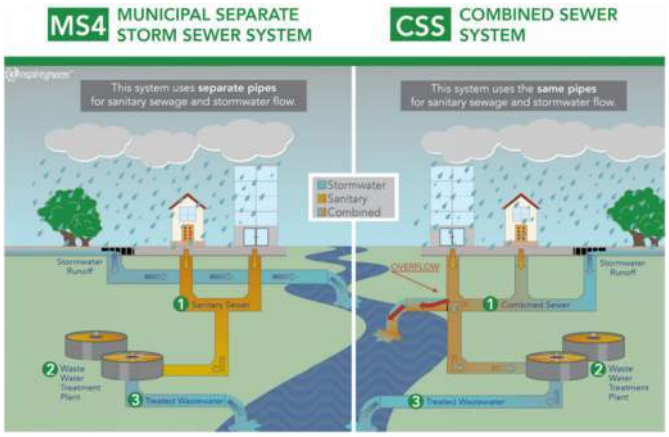


- National Pollutants Discharge Elimination System (NPDES) permit program for Municipal Separate Storm Sewer (MS4s)
- Goal is to reduce the discharge of pollutants into waterways
- Issued by the EPA
- Developed as a result of the Clean Water Act (1972)
- Administrated by the Idaho DEQ
- Allows MS4's to discharge stormwater to waterways
- Must be clear, specific, measurable, enforceable
- Keeps water uncontaminated

3

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4s)

A publicly owned conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains that collects or conveys stormwater and discharges to surface waters of the State



WELCH-COMER ENGINEERS | SURVEYORS

4

MS4 ROAD DRAINAGE SYSTEMS

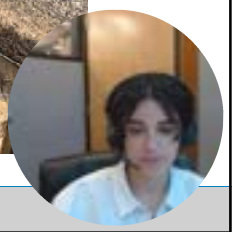
- Catch basins
- Ditches
- Curb & Gutter
- Culverts
- Drainage Swales
- Snow storage

WELCH-COMER ENGINEERS | SURVEYORS

5

MS4 IMPORTANCE TO OPERATORS

- Anything inside your right of way
- Within the MS4 boundary (urbanized areas)
- Anything that collects stormwater
- Outfalls to the waterways



WELCH-COMER ENGINEERS | SURVEYORS

6

STORMWATER MANAGEMENT PROGRAM

All operators of Regulated MS4s must implement and enforce a Storm Water Management Program (SWMP) to

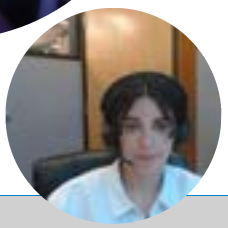
- Reduce pollutants to the maximum extent practicable
- Protect Water Quality
- Satisfy the appropriate water quality requirements of the Clean Water Act

WELCH-COMER ENGINEERS | SURVEYORS

7

SWMP REQUIREMENTS

- Public Education and Outreach
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post-Construction Stormwater Management
- Pollution Prevention/Good Housekeeping



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8

SWMP EDUCATIONAL REQUIREMENT

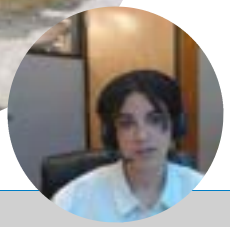
"Permittees' construction inspectors, maintenance field staff, and code compliance officers must be sufficiently trained to conduct dry weather screening activities and to respond to reports of illicit discharges and spills into the MS4."

"Permittees must ensure that all persons responsible for the stormwater infrastructure management and O&M activities as required by this Part are trained or otherwise qualified to conduct such activities."

9

ILLICIT DISCHARGE

- Illicit Discharge-Any discharge to a MS4 that is not composed entirely of stormwater; except discharges pursuant to a NPDES permit and from firefighting. MS4s are not designed to process this sort of discharge.
- Illicit Connection- A physical connection to an MS4 that primarily conveys non-stormwater discharges
  - Sewer connections
  - Floor drains
  - Inlets



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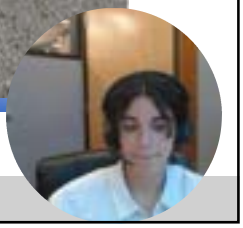
STORMWATER POLLUTANTS

- The term pollutant is defined very broadly in the Clean Water Act includes any type of industrial, municipal, and agricultural waste discharged into water such as:
  - Litter
  - Pesticides
  - Oils and Grease
  - Sewage and grey water
  - Fertilizers
  - Household chemicals
  - Soil erosion
  - Nutrients



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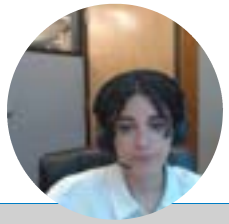
IMPACT OF ILLICIT DISCHARGE

- Rainwater from storm events flows to surface water bodies
- Contaminate drinking water
- Damage wildlife
- Keeping pollution out of stormwater protects our waterways



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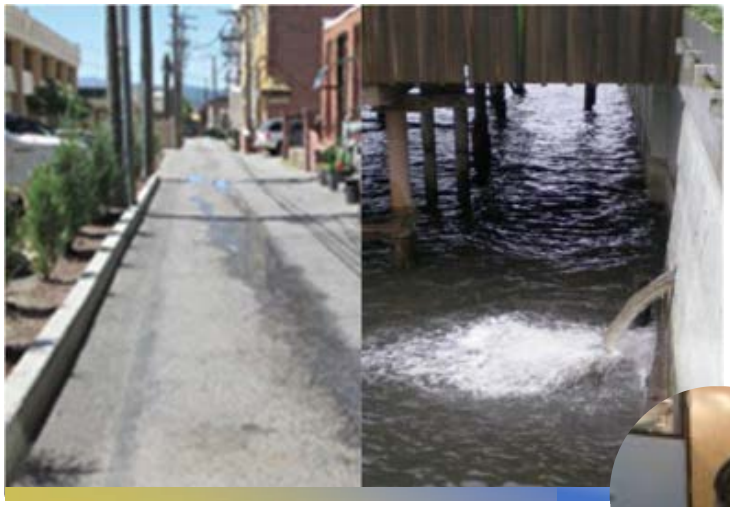
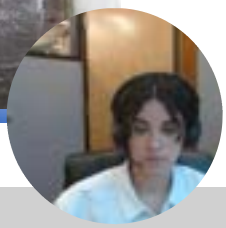
SIGNS OF ILLICT DISCHARGE: DRY WEATHER FLOW

- A storm drain with measurable flow during dry weather
  - Dry - has rained less than 0.1 inches in 72 hours
- Exceptions
  - Ground water
  - Irrigation
  - Footing drains
- Perform illicit discharge screening during dry weather





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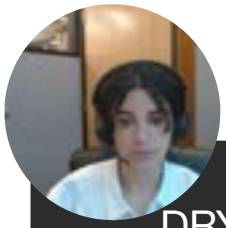
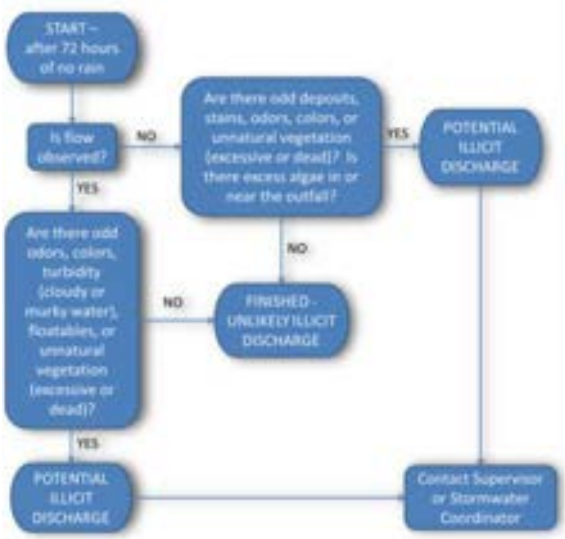


DRY WEATHER SCREENING FOR ILLICIT DISCHARGE



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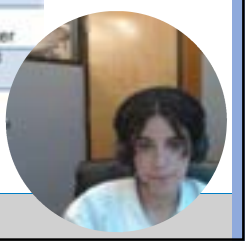
Look for any colors, stains, or deposits

Color	Possible Sources
Yellow	• Chemical, textile, tanning plants
Brown	• Construction activities • Meat packing facilities • Printing facilities • Concrete, metal, stone operations • Agricultural land
Tan to light brown	• Construction activities • Suspended sediments • Agricultural land
Light to dark brown	• Decaying organic matter from soil, leaves, or other vegetation
Green (pea green, bright green, blue-green, brown-green)	• Chemical plants, textiles • Algae or plankton bloom • Antifreeze • Fertilizer
Gray (milky/dirty dishwater, gray-black)	• Dairies/ food processing • Sewage discharge • Concrete wash-outs
Milky white	• Paint, lime, grease, concrete • Swimming pool filter backwash • Concrete wash-outs
Clear black	• Sulfuric acid spill • Turnover of oxygen-depleted water
Red, purple, blue, black	• Fabric dyes, inks from paper and cardboard manufacturers
Red	• Meat packing/processing



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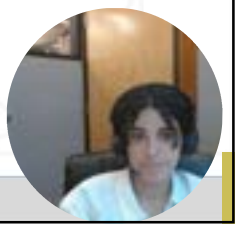
SIGNS OF ILLICIT DISCHARGE: VEGETATION

- Stressed or dead vegetation
- Overgrown or excessive algae



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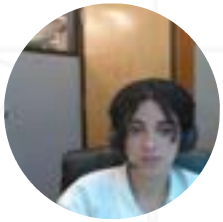
SIGNS OF ILLICIT DISCHARGE: SUDS/FOAM, SMELL



Sewage	▪ Sanitary wastewater from cross-connection with the drainage system ▪ Septic tank/ failing septic system
Rotten Eggs (sulfide)	▪ Stale sanitary wastewater ▪ Meat processing plants/ canneries/ dairies ▪ Decomposing organic matter
Gas or Oil	▪ Gas stations ▪ Vehicle maintenance operations ▪ Illegal disposal ▪ Industrial operations: refineries/ manufacturing
Sharp, pungent	▪ Chemicals ▪ Pesticides
Rancid, sour	▪ Food processing facilities ▪ Dairies

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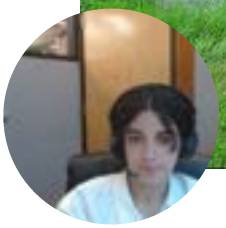

COMMON ILLITICT DISCHARGE:

FAILED SEPTIC, SEDIMENT, OILS

- Septic
  - Foul odor
  - Pools of water near drain field
  - Unusually bright green water or grass
  - Algae blooms in nearby water
- Sediment
  - Bare soils or banks with no erosion fencing
  - Sediment tracking
  - Muddy discharge from an outfall
- Sheen

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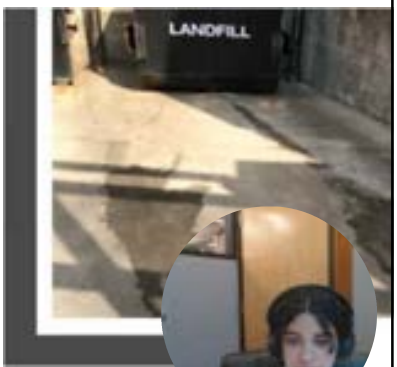

- COMMON ILLICIT DISCHARGE: OILS, FLOOR CLEANERS, DUMPSTERS
- Look for leaking liquids and overfills.

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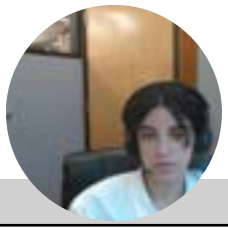
COMMON ILLICIT DISCHARGES: CONCRETE, PAINT, DRYWALL



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COMMON ILLICIT DISCHARGES: SEDIMENT/EROSION

- Bare soils or banks with no erosion fencing.
- Muddy discharge from an outfall.

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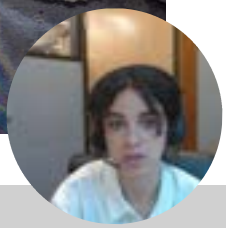
COMMON ILLICIT DISCHARGES: OILS



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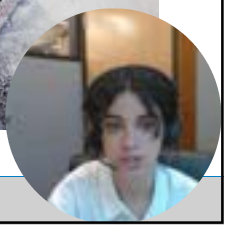
COMMON ILLICIT DISCHARGES: CONCRETE



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COMMON ILLICIT DISCHARGES:LITTER/DEBRIS

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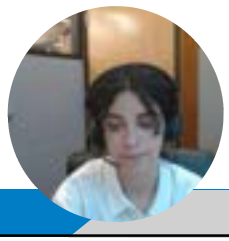
RESPONDING TO ILLICIT DISCHARGE

- Refer to the illicit discharge and spill response plan
- Contact your supervisor
- Documentation
  - Document location and date
  - Take photos
- Stay in Highway District right of way
- In the event of a suspected illicit discharge, it will be the responsibility of the Highway District to:
  - Investigate
  - Discharge Abatement
  - Document the corrective action


ILLICIT DISCHARGE AND SPILL RESPONSE PLAN
FOR

POST FALLS HIGHWAY DISTRICT
LAKES HIGHWAY DISTRICT
AND
EAST SIDE HIGHWAY DISTRICT



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INVESTIGATING ILLICIT DISCHARGE

- Investigate no later than two working days
- If illicit discharge is confirmed
  - If safe, begin process to eliminate
  - If public health concern, perform water sampling or notify local responders
  - If the discharge falls under the jurisdiction of an existing plan, notify the appropriate party
  - Begin abatement process
- If investigation finds no illicit discharge
  - Document results
  - Notify the party that notified the Highway District of the investigation result

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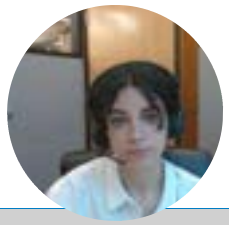
Discharge Abatement(termination)

- If illicit discharge confirmed, perform discharge abatement
- Notify the party responsible
- Educate to prevent further discharge
- If responsible party not available, notify those on the area



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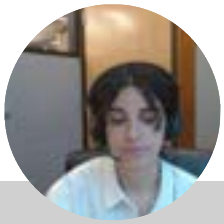
DOCUMENTING ILLICIT DISCHARGE

Regardless of whether an actual discharge was determined, it is important to document each discharge response

At a minimum, the report shall contain the following:

- Time and date of discharge notification
- Time and date that the investigation began/ended
- Time and date the discharge was eliminated (if discovered)
- The responsible party (if discovered)
- Steps taken to eliminate the discharge
- Any environmental impacts
- If discharge was deemed an immediate public threat, document responding agency and discharge type

All investigations will be filed with the Annual Stormwater Report



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ILLICIT DISCHARGE VS SPILLS

Illicit discharge - a discharge of non-stormwater to the storm sewer system

Spill-any release of material that threatens human health or the environment

A spill can become an illicit discharge once it enters the storm sewer system.

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SPILL CONTROL

- Prompt response is the best way to minimize impact
- Spill Preparation
  - Equipment and materials for cleanup
  - Appropriate spill personnel
  - Designate a point of contact
- Train everyone on spill control response actions:
  - What to do
  - Who to call
  - Where is spill equipment

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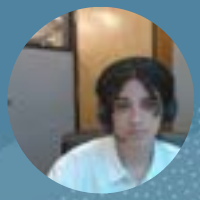
SPILL RESPONSE



Be Safe	Identify the pollutant and determine if it is safe to remain in the area and if safety equipment is needed
Stop the Source	If the source is readily identifiable and can be stopped quickly and safely, do so
Corrective Action	Provide corrective action if spill is within right of way
Communicate	Notify the correct agency and report the spill to your supervisor
Protect Stormwater	If safe, while help is on the way, confine the spill
Assist with Clean Up	Remain on site and assist by providing materials, labor, and equipment as directed by the authority agency
Notify EPA	Notify EPA within 24 hours at (206) 553-1846
Report	Supervisor to write a summary report of the incident and file it with SWMP monitoring records. Submit a copy of the report to EPA and IDEQ within 30 days

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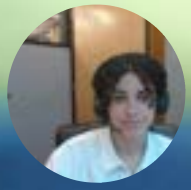
AGENCIES TO NOTIFY FOR SPILLS



- Emergencies-Dial 911
- Flammable Spills-Local Fire District
- Chemical Spills-Kootenai County Sheriff's Office: (208) 446-1850
- Wastewater Issues-Idaho Department of Environmental Quality: (208) 769-1422
- Minor sediment discharge and code violations-Kootenai County Building and Planning Department: (208) 446-1070

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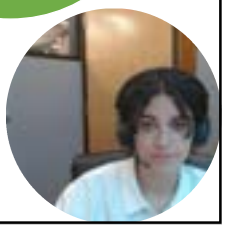
BEST MANAGEMENT PRACTICES (BMPs)

BMPs are schedules of activities, prohibition of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States

For the purposes of the NPDES Permit, BMP broadly refers to any type of structural or non-structural practice or activity undertaken by the permittee to implement an SWMP



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TYPES OF BMPs

- BMPs are either temporary or permanent
  - During design phase
  - During construction phase

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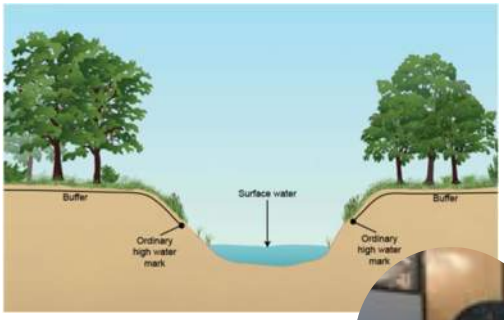
MINIMIZE LAND DISTURBANCE & PROVIDE NATURAL BUFFERS

- Protect sensitive areas such as floodplain, stream buffers, and existing vegetation by planning and clearly marking limits of disturbance prior to construction
- Avoid construction on slopes greater than 15%
- Sites within 50 feet of surface water should consider natural buffers or erosion controls to reduce sediment load



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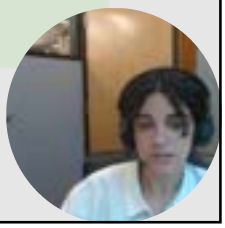
PLAN TO PHASE CONSTRUCTION

Sequence	Stabilize	Reduce	Schedule
Sequence construction activities with installation of controls practices	Disturb only a portion of a site at one time and stabilize before moving on	Reduce the amount and duration of soil exposed	Perform construction in accordance with planned schedule



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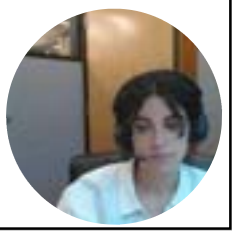
PRESERVE VEGETATION & CONTROL EROSION

- Cover soil in inactive areas and finished slopes, open space, and utility backfills
- Slope roughening
  - Roughens the soil surface to create horizontal grooves running parallel to the contour
  - Should be applied immediately after grading
- Erosion control blankets
- Mulching



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EROSION CONTROL BLANKETS

- A porous net or fibrous sheet laid over ground surface for slope stabilization, erosion control, or stabilizing mulch
- Steps to apply
  - Smooth soil surface
  - Anchor blanket at top of slope
  - Backfill and tamp, anchor ends
  - Roll blanket from top to bottom, not stretching
  - Overlap sides at least four inches
  - Overlap uphill/downhill rolls by three feet
  - Securely staple per instructions

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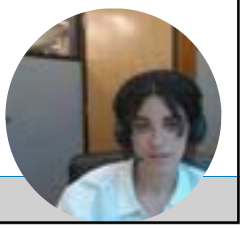
MULCHING

- Immediate, effective, and inexpensive
- Provides timely protection of exposed soils subject to heavy erosion and helps retain moisture
- Choice of materials based on soil type, site conditions, and season
- Hydro mulching/seeding
  - Planting technique that uses wet mixture of mulch fiber and water to stabilize and protect soil, prevent soil compaction, and decrease runoff
  - Mulch mixed in tank and sprayed as a consistent, continuous blanket



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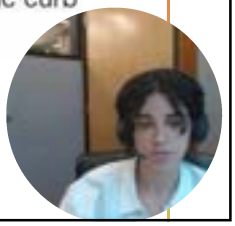
Managing Impervious Surfaces

- Impervious areas that drain directly into drainage systems contribute to stormwater pollution
- Disconnecting or reducing impervious surfaces will decrease runoff and improve infiltration of runoff.
- Disconnect and direct flow to vegetation
- Breakup ridgelines or periodic curb slits



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DUST CONTROL & PREVENTION

- Apply water to dry areas
- Maintain stable entrances and exits with angular stone
- Soil Roughening-tilling or disking perpendicular to wind direction
- Barriers-a wind barrier generally protects soil downwind for a distance ten times height of barrier
- Tackifiers-chemical or organic compounds sprayed on loose soil to hold it in place
- Prevention:
  - Limit amount of bare soil
  - Identify areas where disturbance is not allowed
  - Avoid susceptible areas
  - Cover haul trucks
  - Do not exceed 15 miles per hour when entering or leaving the site

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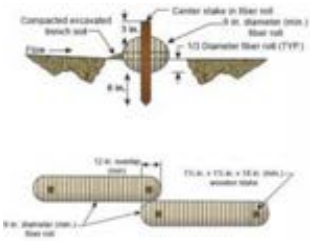
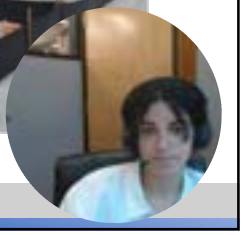
SEDIMENT CONTROL

- Install and maintain controls at perimeters and inlets
- Apply controls at toe, the toe, face and grade break of the slopes
- Buffer strip before waterways, if possible
- Install/maintain silt fence and fiber rolls property





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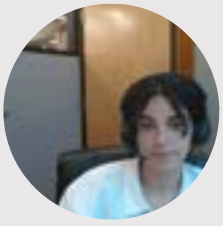
SEDIMENT CONTROL: WATTLE

- Consists of straw, flax, or other similar material bound into a biodegradable tubular plastic
- Intercept runoff, reduce velocity, release runoff as sheet flow, and remove sediment from runoff
- Can be left in place after stabilization



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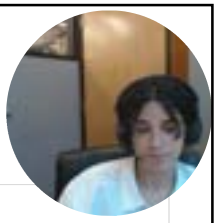
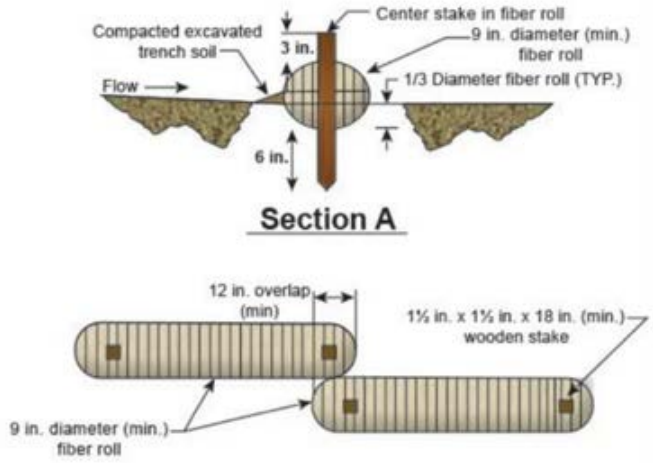
WATTLE INSTALLATION





- Install on contour, perpendicular to flow
- Trench roll 3-4 inches into soil
- Stake ends and along roll at maximum of 4 feet on center
- Adjoin ends by overlapping
- Place in interval of 10-20 feet depending on slope and turn final ends uphill
- Remove sediment if it reaches ½ of roll height
- Install prior to storms and daily during rain events

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SEDIMENT CONTROL: SILT FENCE

- A temporary sediment barrier consisting of filter fabric stretched and attached to supporting posts
- Assist in sediment control by retaining some eroded soil particles and slowing runoff velocity
- Parameters
  - Position fence minimum of 6 feet from toe of slope
  - Install as a close to the contour as possible, turn last 6 feet uphill
  - Key in(bury) bottom six inches, backfill and compact
  - Join fence sections by wrapping ends together
  - Space posts no more than 6 feet apart and drive in at least 16 inches
  - Remove sediment when it reaches one third of height

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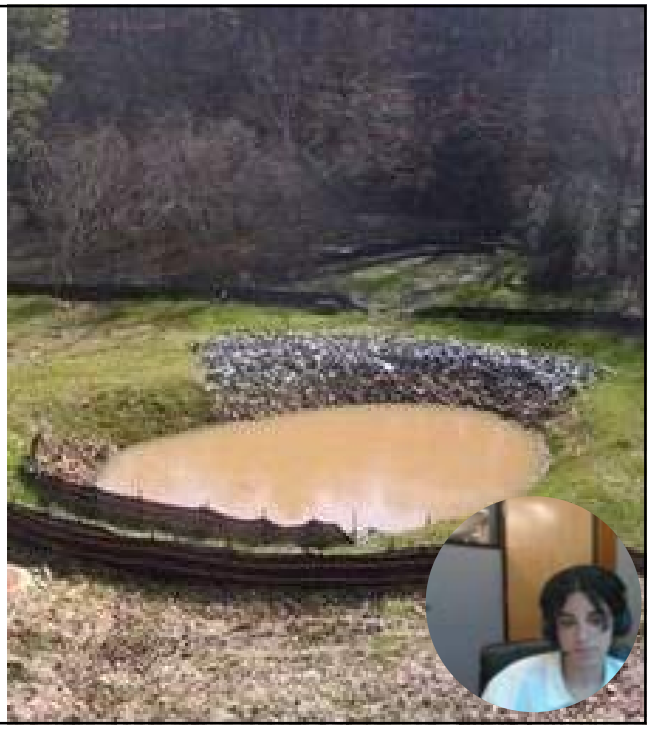
SEDIMENT CONTROL: TRAPS AND BASINS

- Sediment traps
  - Containment areas formed by excavation and/or embankment to intercept sediment-laden runoff and retain sediment
  - Less than 5 acres for smaller drainage areas
- Sediment basins
  - Detains sediment sediment-laden runoff long enough to allow most of sediment to settle
  - Greater than 5 acres for large areas
  - Sizing factors include drainage area, storm potential, settling velocities, and soil loss estimation



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STABILIZING ENTRANCES AND EXITS

- Aggregate pad, underlain with fabric
- Inspect weekly and after rainfall for gravel loss or sediment buildup
- Vehicles should experience two complete tire rotations

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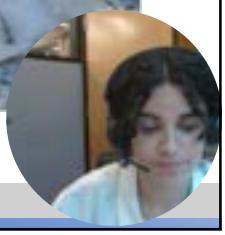
EQUIPMENT MAINTENANCE

- Maintain equipment, checking regularly for leaks
  - When leaks occur clean immediately and dispose of waste properly
- Use drip pans to collect leaks or spills during maintenance activities
- Store equipment and vehicles in designated areas with appropriate BMPs
  - Impervious surface
  - Bermed area
- Wash vehicles in a designated wash area, using power washer to avoid detergents
- Collect wash water if possible



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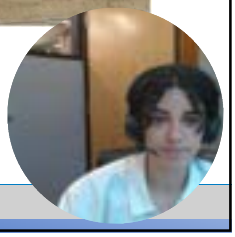
CONCRETE WASHOUT

- Ensure pit is large enough to contain all waste and washout
- Berm containment area so wash water is fully contained
- Allow water discharged into the containment area to infiltrate or evaporate
- Remove and properly dispose of dried cement waste
- Locate at least 50 feet away from storm drains or receiving waters
- Dangers
  - pH of 12, similar to Drano
  - Increased toxicity
  - Contaminates soils, kills plants, and clogs fish gills



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MATERIAL STORAGE

- Label appropriately
- Store materials in covered areas where possible
- All outdoor storage must have adequate lid
- Minimize exposure to precipitation
- Do not stockpile sediment, aggregate, sand, or asphalt near drainage systems (at least 50 feet away)
- Make sure all stockpiled materials have been covered and bermed

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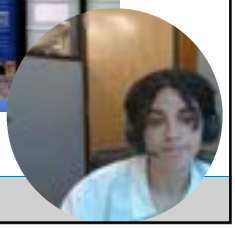
DOUBLE CONTAINMENT

- Chemicals should be stored in watertight containers with double containment
- Chemicals with double containment
  - Fuels
  - Oils
  - Hydraulic fluids



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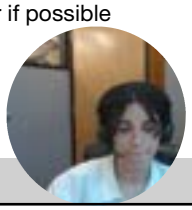
FLEET VEHICLE WASHING

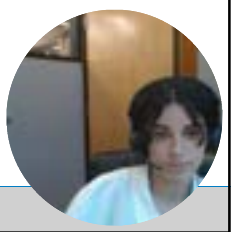
- Washing generates oil, grease, sediment, and metals, as well as cleaning solvents into the wash water
- Perform a dry debris removal, collect, and dispose as solid waste
- Wash vehicles in a designated wash area, using power washer to avoid detergents
- Collect wash water if possible



53

SNOW REMOVAL AND DISPOSAL

- Use upland areas for storage and disposal of snow
- Choose flat pervious areas where melting snow can infiltrate
- Keep snow storage at least 100 feet away from water bodies, wetlands, and public or private drinking water wells
- Remove sediment and debris from dumping areas each spring



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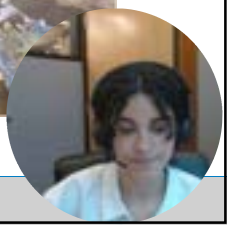
STREET MAINTENANCE

- Pollutants accumulate on streets between storm events and are washed into the drainage system by runoff
- Streets that discharge to receiving waters should have priority in street sweeping and debris removal
- Connected streets with a higher pollution loading should be prioritized and cleaned more frequently

55

WASTE MANAGEMENT & DISPOSAL

- Inspect dumpsters and other waste containers periodically
- Repair or replace leaky dumpsters and containers
- Cover dumpsters and other waste containers
- Never dispose of waste products in storm drain inlets
- Provide adequate number of trash receptacles to avoid overflow
- Prevent disposal of wash water on impervious surfaces, pervious site surfaces, or into storm drain



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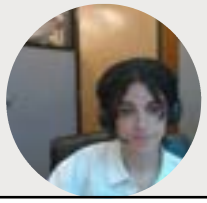
TEMPORARY RESTROOMS

- Position sanitary facilities in convenient locations.
- Avoid discharging or burying untreated raw wastewater.
- Ensure that a licensed service maintains facilities in good working order.
- Stake or secure units to a fixed object, as needed.



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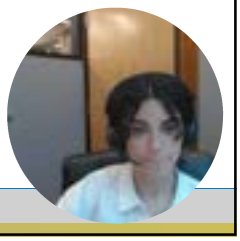
BUILDING AND GROUNDS MAINTENANCE

- Clean up after yourself
- Keep solid waste in containers away from drainage systems
- Perform periodic brooming of maintenance yard, disposing of debris in garbage
- If outdoor pavement cleaning with detergent is required, collect wash water and dispose in indoor sinks or drains for discharge to the sanitary sewer



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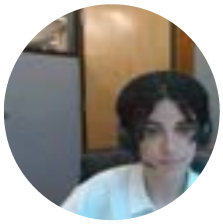
PERMANENT STORMWATER CONTROLS

- Detention Swales
- Filtration Basins
- Ditches
- Culverts



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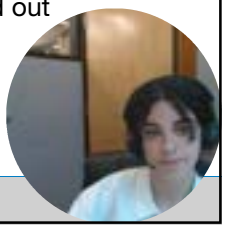
PERMANENT BMP MAINTENANCE

- Trash and debris can accumulate in MS4s and should be maintained as needed
- Ditches need periodic reshaping and reseeding
- Culverts and catch basins must be cleaned out



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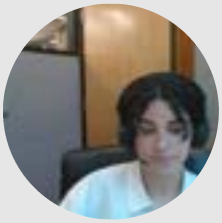
- What is an MS4
- What is illicit discharge and stormwater pollutants
- How to identify and respond to illicit discharge
- Best Management Practices



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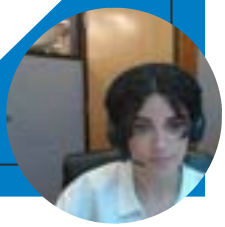
THANK YOU



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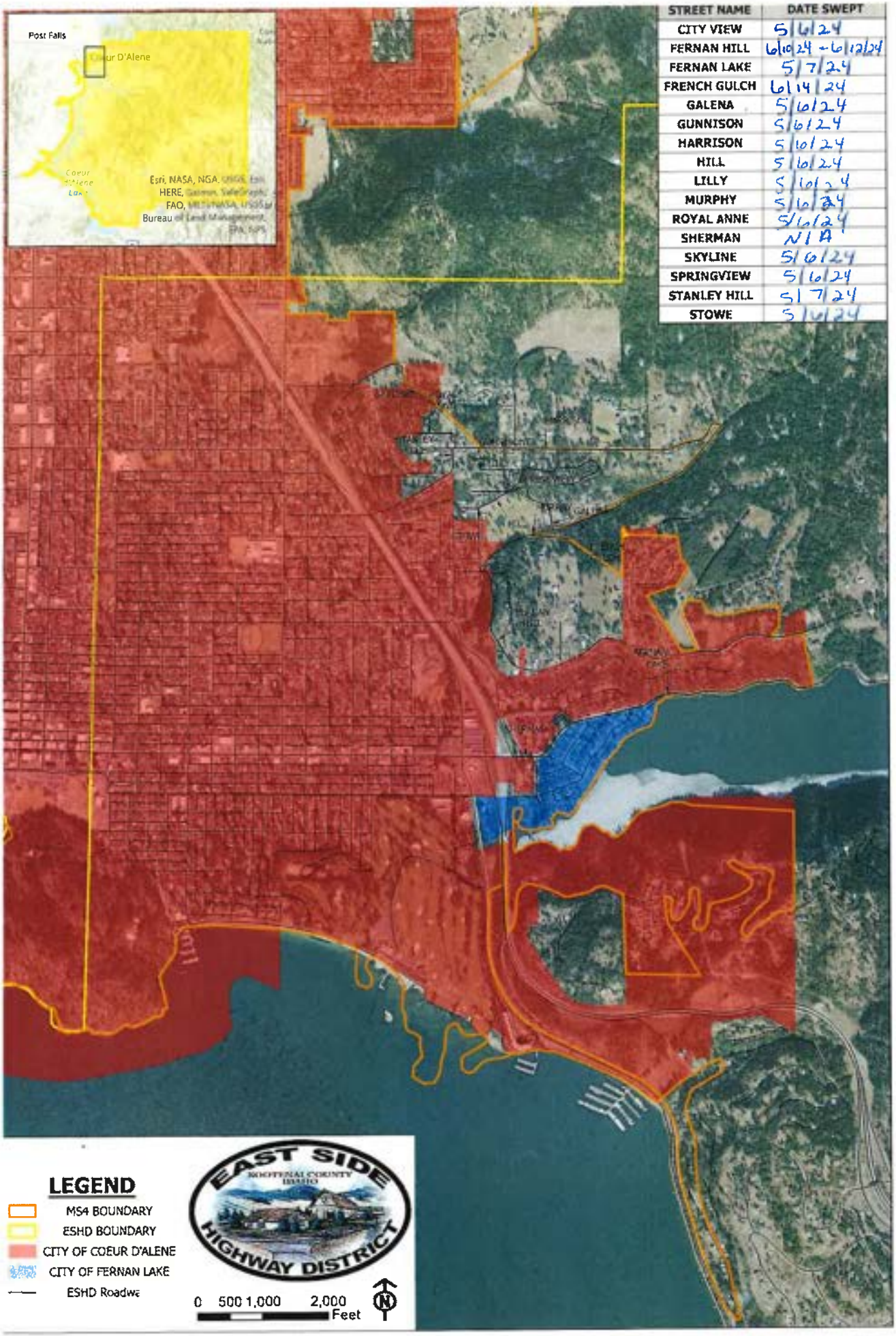
Street Sweeping Map



STREET NAME	DATE SWEPT
CITY VIEW	5/6/24
FERNAN HILL	6/10/24 - 6/12/24
FERNAN LAKE	5/7/24
FRENCH GULCH	6/14/24
GALENA	5/6/24
GUNNISON	5/6/24
HARRISON	5/10/24
HILL	5/10/24
LILLY	5/10/24
MURPHY	5/10/24
ROYAL ANNE	5/10/24
SHERMAN	N/A
SKYLINE	5/6/24
SPRINGVIEW	5/10/24
STANLEY HILL	5/7/24
STOWE	5/10/24

LEGEND

- MS4 BOUNDARY
- ESHD BOUNDARY
- CITY OF COEUR D'ALENE
- CITY OF FERNAN LAKE
- ESHD Roadwa

EAST SIDE HIGHWAY DISTRICT
KOOTENAI COUNTY IDAHO

0 500 1,000 2,000 Feet

N

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EAST SIDE HIGHWAY DISTRICT

DISTRICT ROADWAY MAP WITHIN MS4 BOUNDARIES

Sources:
KCGIS, Kootenai County GIS, IDWR GIS

PROJECT NO: 41348.02
DRAWN BY: AMC

Tracking Log and Checklist

Public Input Tracking Log

Date	Caller	Caller's Number	Comment	Results	Response to Caller
9/6/23			Runoff from driveway at 971 E Geisha.	Coordinated with County Community Development	

Construction Site Inspection Log

Project Name	Project Location	Does Project have SWPPP?
Inspection No.	Inspection Date	Weather at time of Inspection

Describe Present Phase of Construction:

Type of Inspection

☐ Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post Storm Event

Is there evidence of any discharges?

List BMP's in place:

Are there any site conditions that need to be addressed?

Approach Permit Tracking Log

Permit #	Permit Issue Date	Location	MS4 (Y/N)	SEEP CERT (Y/N)	SEEP GUIDE (Y/N)	Inspector	Comments

ROW/Utility Permit Tracking Log

Permit #	Permit Issue Date	Location	Applicant	Permit Start Date	Permit Stop Date	MS4 (Y/N)	SEEP CERT (Y/N)	SEEP GUIDE (Y/N)	Inspector	Comments	AIN #

Pollution Prevention / Good Housekeeping Checklist **(to be performed annually)**		
Date	Item to Check for Good Practices	Comments
	Fleet Maintenance and Vehicle Washing Operations	
	Building Maintenance	
	Snow Management and Snow Disposal Sites	
	Solid Waste Transfer Activities	
	Materials Storage	
	Heavy Equipment Storage Area	
	Hazardous Materials Storage	
	Used Oil Recycling	
	Spill Control & Prevention Measure for Refueling	

SEEP Field Guide Cover

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Illicit Discharge and Spill Response Plan

ILLICIT DISCHARGE AND SPILL RESPONSE PLAN

for

LAKES HIGHWAY DISTRICT
POST FALLS HIGHWAY DISTRICT
AND
EAST SIDE HIGHWAY DISTRICT

PURPOSE

The purpose of the Illicit Discharge and Spill response plan is to provide guidance for:

- Responding to and investigating discharge complaints
- Who to notify in the event of a discharge
- Corrective action needed
- Documentation

This plan is not intended to replace any existing plans that were designed to address cleanup of hazardous material (HAZMAT) or sanitary sewer overflows. This plan will serve as a supplement to those plans and provide guidance for spills that are not included in plans already set in place.

ILLICIT DISCHARGE

DEFINED

40 CFR 122.26(b)(2) defines an illicit discharge as any discharge to an MS4 that is not composed entirely of storm water, except allowable discharges pursuant to an NPDES permit, including those resulting from firefighting activities.

COMMON ILLICIT DISCHARGES

- Sewage and septage flows
- Chemical/Oil
- Car wash wastewaters (non-residential)
- Laundry wastewater (grey water)
- Irrigation water

COMMON CAUSES OF ILLICIT DISCHARGE

- Improper sewer line connections
- Sanitary sewer overflows
- Failing septic systems
- Industrial/Commercial waste discharge
- Accidental spills
- Excess landscaping irrigation water
- Leaking underground storage tanks

HIGHWAY DISTRICT ROLES AND RESPONSIBILITIES

In the event of an illicit discharge, it will be the responsibility of the Highway District with jurisdiction to:

- Investigate the complaint no later than two (2) working days.
- If the investigation confirms an illicit discharge, the Highway District will begin the process of eliminating the discharge. Water sampling shall be performed if there is reason to believe the discharge is considered a public health threat.
- Any discharge that is identified as an immediate threat to public health and safety will be reported to local emergency responders (911). If the investigation determines the discharge falls under another agency's jurisdiction, the Highway District will notify that entity (see Contact List below). Once the investigation confirms an illicit discharge, the Highway District will begin the abatement process. The party responsible for the discharge, once identified, will be notified immediately and will be required to eliminate the illicit discharge. The Highway District will attempt to educate the responsible party to prevent any future discharge. If the responsible party cannot be identified, the Highway District will contact residents and/or businesses near the discharge, in an effort to further educate and prevent future discharges.
- Provide Corrective Action if spill is within Highway District Right-of-Way, use a hazardous spill kit to prevent further discharge
- If the investigation finds no illicit discharge, the investigation results will be documented. In addition, the party that notified the Highway District of a possible discharge will be notified of the investigation results.

It is important to document each discharge response, regardless of whether an actual discharge was determined. At a minimum, an illicit discharge report shall contain the following:

- Time and date of discharge notification
- Time and date that the investigation began/ended
- Time and date the discharge was eliminated (if discovered)
- The responsible party (if discovered)
- Steps taken to eliminate the discharge
- Any environmental impacts

If the discharge was deemed an immediate public threat, document the responding agency and type of discharge (hazardous material, sewage, etc.). Reports shall be obtained from the responding agency.

Illicit Discharges must be reported to EPA by telephone at (206)553-1846 within 24-hours from the time the Permittee becomes aware of the noncompliance (see Permit Section 7.9).

All investigations shall be filed with the Highway District's Annual Stormwater Report, or equivalent.

LOCAL AGENCY CONTACT LIST

AGENCY	**OFFICE**
LAKES HIGHWAY DISTRICT	(208) 772-7527
POST FALLS HIGHWAY DISTRICT	(208) 765-3717
EAST SIDE HIGHWAY DISTRICT	(208) 765-4714
IDAHO STATE POLICE	(208) 772-6055
KOOTENAI COUNTY SHERRIFF	(208) 446-1300
KOOTENAI COUNTY CODE ENFORCEMENT	(208) 446-1075
IDAHO DEP. OF ENVIRONMENTAL QUALITY	(208)769-1422
PANHANDLE HEALTH	(208) 415-5100
COEUR D'ALENE POLICE DEPARTMENT	(208) 769-2320
HAYDEN LAKE POLICE DEPARTMENT	(208) 772-2161
POST FALLS POLICE DEPARTMENT	(208) 773-3517
SPIRIT LAKE POLICE DEPARTMENT	(208) 623-2701

Wet Weather Memo

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F: 208-664-5946
330 E. Lakeside Avenue, Suite 101
Coeur d'Alene, ID 83814

Memorandum

TO: BEN WEYMOUTH, PE

FROM: MELISSA CLEVELAND, P.E.

PRJ. #: 41348.02.02

SUBJECT: ESHD MS4 PERMIT WET WEATHER INSPECTION MEMO

DATE: AUGUST 2, 2024

CC: ESHD COMMISSIONERS

Introduction

We have been actively working on managing the East Side Highway District's MS4 permit. The purpose of this memo is to give you an update on the completed work and to state next steps.

Work to Date

On May 24, 2024, the East Side Highway District MS4 Outfall 8 was inspected in accordance with the North Idaho Highway Districts NPDES MS4 Permit. As outlined in the Permit, Coeur d' Alene Lake is an impaired waterbody that requires additional monitoring to monitor and reduce pollutant loading from discharging outfalls.

Per the 2023 wet weather testing, it was determined that Outfall 8 contained high levels of heavy metal pollutants. To reduce the total pollutants, ESHD stabilized Marmot Trail Ditch with rip rap and rock check dams upstream of Outfall 8.

Results

The stormwater samples were collected by Welch Comer staff directly upstream and downstream of the pollutant reduction activities. The stormwater samples were delivered to Accurate Testing Labs, same day of sample collection. The samples were tests for cadmium, lead, phosphorus (total), and zinc pollutants. The tables below summarize the upstream and downstream test results as well as the change in concentration for each pollutant caused by the upstream improvements. See attached for a map of testing locations.

East Side Highway District: Outfall 8 Testing Results								
Analyte	Test 1- Uptream of Wattle	Test 2- Downstream of Wattle	Test 3- Downstream, Infiltrating Area	Result (Difference)	% Reduction	Unit	Method	PQL
Cadmium	ND	ND	ND	ND	-	ug/L	SM 3120B	.5
Phosphorus, Total	0.288	0.256	0.145	0.143	50%	mg/L	EPA 365.1	0.004
Lead	6.08	5.94	3.00	3.08	51%	ug/L	SM 3120B	0.5
Zinc	55.00	52.80	31.80	23.2	42%	ug/L	SM 3120B	0.5

Outfalls 8, 9, and 10 all had phosphorus levels above the threshold of 8 µg/L, or 0.008 mg/L, as recommended by the 2009 Coeur d'Alene Lake Management Plan. Outfalls 9 and 10 were within the acceptable range provided by IDAPA for lead and zinc and cadmium was not detected in Outfall 9 or 10.

Idaho Transportation Department							
Analyte	Result (Upstream)	Result (Downstream)	Result (Difference)	% Reduction	Unit	Method	PQL
Cadmium	ND	ND	ND	-	ug/L	SM 3120B	0.5
Phosphorus, Total	0.353	0.359	-0.006	-2%	mg/L	EPA 365.1	0.004
Lead	7.49	7.24	0.25	3%	ug/L	SM 3120B	0.5
Zinc	65.40	72.50	-7.1	-11%	ug/L	SM 3120B	0.5

See attached for a copy of the Accurate Testing Lab results.

Outfall 8

Due to no measurable discharge at the outlet, the sample for Outfall 8 was collected upstream via a roadside ditch. Even with high amounts of runoff in the ditch, the actual outlet to the lake was dry. The sample from the ditch near Outfall 8 contained unusually high levels of turbidity noted through visual inspection and unsurprisingly exceeded the thresholds for cadmium, lead, zinc, and phosphorus. Pollutant loading concerns at this outfall are addressed and discussed further in the Marmot Trail Ditch Stabilization Pollutant Reduction Activity below.

Next Steps

Dry Weather Outfall Inspections

Dry weather outfall inspections were complete in late July. Each site was inspected for illicit discharge, sampling where discharge was present. We are awaiting the testing results to complete the dry weather memo. A memo with the results of the testing will be prepared and included in the annual report.

Monitoring/Assessment Plan

The Highway District need to install pollutant reduction activities one other outfall so we can test during wet weather this fall.

Draft the Annual Report

We will draft the annual report for review by the Highway District.

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East Side Highway District

Outfall #8 Sampling Collection Locations

Sources:
ESRI Basemaps

PROJECT NO.....41348.02
DRAWN BY.....CSH
FILENAME.....ESHDSamplingLocations
DATE.....03/21/2024

Dry Weather Monitoring and Inspection Reports

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Coeur d'Alene, ID 83814

Memorandum

TO: BEN WEYMOUTH, P.E., DIRECTOR OF HIGHWAYS

FROM: MELISSA CLEVELAND, P.E.

PRJ. #: 41348.02

SUBJECT: MS4 PERMIT DRY WEATHER INSPECTIONS MEMO

DATE: 08/05/2024

CC: ESHD COMMISSIONERS

Introduction

On July 16, 2024 and July 19, 2024, all East Side Highway District MS4 outfalls and catch basins were inspected in accordance with the North Idaho Highway Districts NPDES MS4 Permit. At each outfall site, an inspection report was completed, and photos were taken. Where discharge was present, samples were taken and sent for testing at Accurate Testing Labs, LLC. Discharge was tested for pH, total chlorine, total phenols, E. Coli, total phosphorus, and total suspended solids. GIS mapping was also updated while performing dry weather inspections. The purpose of this memo is to give you a summary of the dry weather inspection results.

Water Quality Standards

IDAPA 58.01.02, Water Quality Standards, and Sub-Basin Assessment and Total Maximum Daily Loads of Lakes and Streams Located on or Draining to the Rathdrum Prairie (2000), and the Hayden Lake Management Plan (1994) were referenced for applicable standards. Triggers are as follows:

- E. Coli concentrations should be less than 126/100 mL (IDAPA 58.01.02 Section 251)
- Chlorine should be less than 11µg/L (IDAPA 58.01.02 Section 210)
- Total Phosphorous should be less than 7 ug/L (TMDL and Hayden Lake Watershed Plan)
- pH should be between 6.5 and 9.0 (IDAPA 58.01.02 Section 250)
- Turbidity should be less than 25 NTUs (IDAPA 58.01.02 Section 250)

Water Quality Testing Results

All outfalls, accept outfall 3 and outfall 5, were dry at the time of inspection. Outfall 3 and outfall 5 contained discharge during dry weather inspections and was tested for water quality. Outfall 3 also contained discharge during the 2022 and 2023 dry weather inspections. All samples were taken by Welch Comer staff and tested by Accurate Testing Labs, LLC. Results of the water quality samples are as follows:

East Side Highway District Dry Inspection Discharge Testing Results						
	E. COLI BACTERIA (MPN/100mL)	TOTAL RESIDUAL CHLORINE (mg/L)	TOTAL PHOSPHORUS (mg/L)	pH	PHENOLICS (mg/L)	TOTAL SUSPENDED SOLIDS (mg/L)
PQL	1	0.01	0.001	6.5-9.0	0.05	1
OUTFALL 3	53.6	ND	0.030	7.93	ND	8
OUTFALL 5	>2,420	0.02	0.056	7.99	ND	12

Note: If the RESULT is 'ND' (Not Detected) or 'Absent', that means the concentration is less than the PQL (Practical Quantitation Limit for this method). See attached test results for method and analyst information. Refer to enclosed test results for method and analyst information.

Outfall 3

Outfall 3 had only a trickle of runoff during the dry weather inspection.

E Coli, phosphorous, total suspended solids, chlorine, and pH samples were taken on July 16th.

E. Coli was detected in 2023. The amount detected in 2023 is lower than the threshold. The amount detected in 2024 is also lower than the threshold of 126 MPG/100mL. There are residences uphill from the culvert, but the slope between the homes and the culvert is vegetated and rock armored. If the runoff was a cross-connection to septic, we would expect the E. Coli values to be higher. It appears that the runoff is likely groundwater but should be monitored to see if the E. Coli persists.

Chorine was not detected in 2022 or 2023, nor was it detected in 2024.

Phosphorus was detected in 2022 and 2023 in concentrations that exceed the water quality trigger of 8.0 µg/L or 9 µg/L listed for various locations in the 2009 Coeur d'Alene Lake Management Plan. In 2024, the phosphorus detected was 0.03 mg/L, which is equivalent to 30 µg/L and exceeds the water quality trigger.

The pH was 7.93 and is in the acceptable range of 6.5 – 9.

Phenolics was not detected in 2023 nor 2024.

Total suspended solids was not detected in 2023, but was detected at 8 mg/L in 2024. It is not clear how the test relates to the trigger of 25 NTUs. The inspector noted that there were pine needles in the culvert that should be cleaned out.

Outfall 5

Outfall 5 had only a trickle of runoff during the dry weather inspection on July 16th.

E.Coli was detected at 2,420 MPN/100mL. Though exceeding the threshold of 126 MPG/100mL, if there were a cross connection to septic we would expect much higher readings. Rather the E.Coli is likely occurring in the forested areas. Chlorine was minimally detected at 0.02 mg/L. The inspector noted a slight odor, so this location should be monitored and retested in 2025 to see if the issue persists.

Phosphorus was detected at 0.056 mg/L, which is 56 µg/L and exceeds the water quality trigger of 8.0 µg/L or 9 µg/L listed for various locations in the 2009 Coeur d'Alene Lake Management Plan.

The pH is 7.99 and in the acceptable range of 6.5 – 9.

Phenolics was not detected in 2023 nor 2024.

Total suspended solids were detected at 12 mg/L in 2024. It is not clear how the test relates to the trigger of 25 NTUs. The inspector noted that outfall was heavily vegetated and likely contributing to both phosphorus and suspended solids.

Action Needed

Catch Basin 1 has stagnant water present due to clogging. Clean out.

Catch Basin 3 has large chunks of asphalt, along with some dirt and leaf debris. Clean out.

Catch Basin 5 is laden with leaf debris.

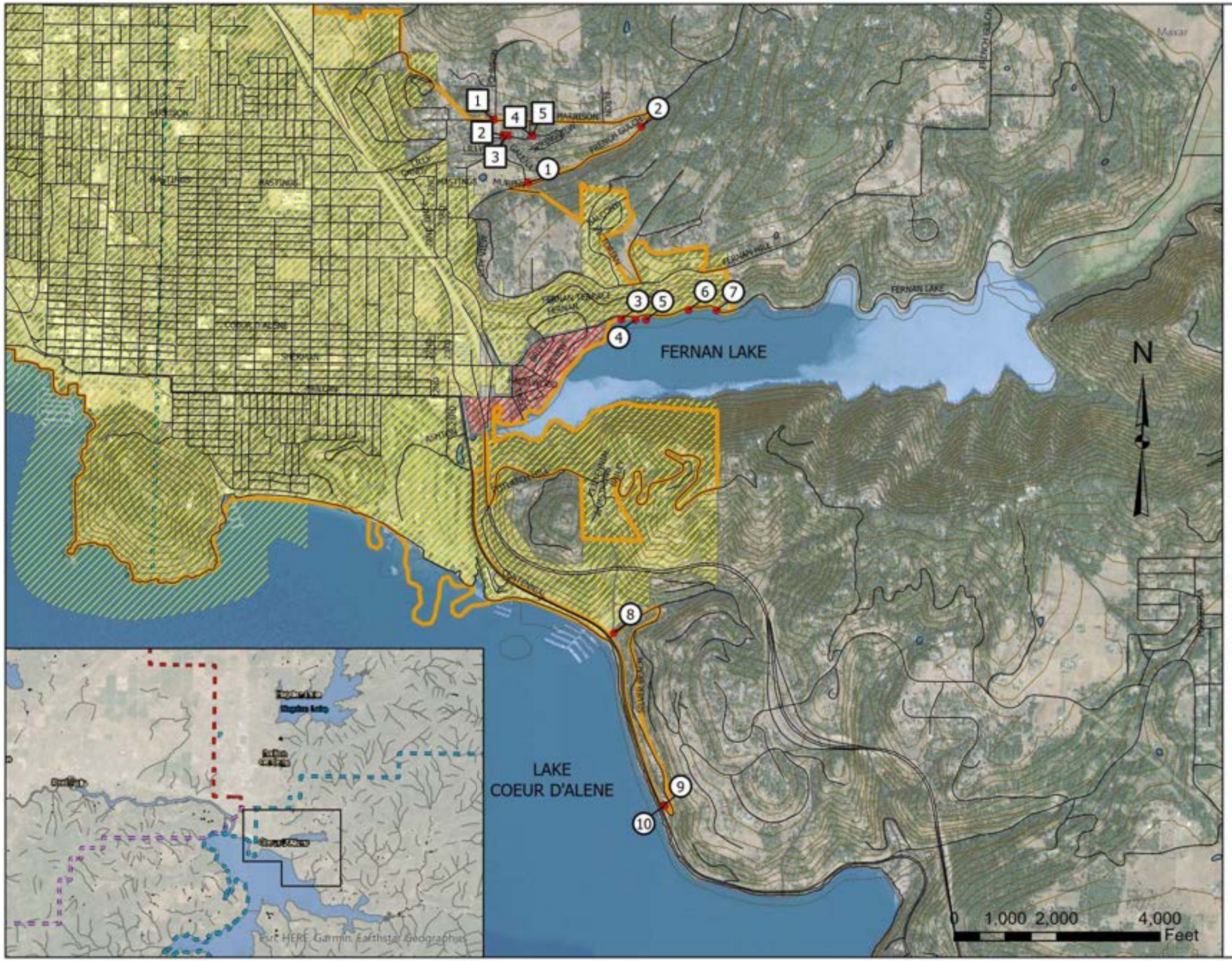
Outfall 3 has sediment and litter and needs to be cleaned out. The area around the outfall is overgrown with grass and weeds. This is also one of the outfalls that had flow at the time of dry weather inspection.

Outfall 4 has pine cones and pine needles present in culvert. Clean out.

Outfall 5 has heavy vegetation and dirt inside the outlet, as well as litter around the outfall. The outfall should be cleaned out. This is also one of the outfalls that had flow at the time of dry weather inspection.

Outfall 6 has a large amount of litter present. Clean out.

Enclosures: Outfall map, precipitation records, inspection reports, outfall 3 and 5 test report.



EAST SIDE HIGHWAY DISTRICT
KOOTENAI COUNTY IDAHO

OUTFALL TABLE

MAP NO.	LATITUDE	LONGITUDE	OUTFALL DESCRIPTION
1	47.683056	-116.747778	18" CULVERT
2	47.686111	-116.738889	18" CULVERT
3	47.675833	-116.740278	24" CMP CULVERT
4	47.675833	-116.739167	24" CMP CULVERT
5	47.675833	-116.738333	24" CMP CULVERT
6	47.676389	-116.735	24" CMP CULVERT
7	47.676389	-116.732778	24" CMP CULVERT
8	47.659167	-116.740556	48" CMP CULVERT
9	47.650001	-116.736667	24" STEEL CULVERT
10	47.65	-116.736389	18" CMP CULVERT

CATCH BASIN TABLE

MAP NO.	LATITUDE	LONGITUDE	OUTFALL DESCRIPTION
1	47.686389	-116.750556	CATCH BASIN
2	47.685556	-116.749722	CATCH BASIN
3	47.685556	-116.749444	CATCH BASIN
4	47.685556	-116.7475	CATCH BASIN
5	47.685556	-116.7475	CATCH BASIN

NOTE: LATITUDE & LONGITUDE WERE RECALCULATED FROM SOURCE. SKEWED COORDINATES POTENTIALLY CAUSED BY HANDHELD GPS USE UNDER TREE CANOPY.

LEGEND

- OUTFALL POINTS
- CATCH BASINS
- CITY OF COEUR D'ALENE
- CITY OF FERNAN LAKE
- 2020 CENSUS DEFINED URBANIZED AREA
- HIGHWAY #3 (EASTSIDE-71)

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EAST SIDE HIGHWAY DISTRICT

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) MAP

Sources:
ESRI Basemaps, Idaho Tax Commission GIS, Kootenai County GIS, IDWR GIS,

PROJECT NO : 41348.02
DRAWN BY : .....AMC
FILENAME : .....20220518_PFHD_OutfallLocations
DATE : 09-20-2022

Stormwater Outfalls

Highway District:	ESHD		**Outfall ID:**	Catch Basin 1	
Date of Last Rainfall:	06/27/2024	**Rainfall Quantity:**	0.01"	**Weather:**	Sunny
Date:	07/16/2024	**Time:**	11:32 AM	**Assessed By:**	Some longer name

Flow:	
General Observations:	Upstream culverts were dry. There is stagnant water in the catch basin due to clogging.

Indicator	Description	Comments
Pipe Condition		
Odor		None
Deposits/Stains		None
Vegetation	Normal	
Surrounding Land Use	Residential	

Indicator	Description	Relative Severity Index
Odor		
Color		
Turbidity	N/A	
Floatables		

Photo Attachments

Catch basin is full of water

Upstream culvert

Stormwater Outfalls

Highway District:	ESHD		**Outfall ID:**	Catch Basin 2	
Date of Last Rainfall:	06/27/2024	**Rainfall Quantity:**	0.01"	**Weather:**	Sunny
Date:	07/16/2024	**Time:**	11:49 AM	**Assessed By:**	Some longer name

Flow:	None
General Observations:	Catch basin in dry and has some leaf debris. The outside edges of the catch basin is covered in asphalt.

Indicator	Description	Comments
Pipe Condition		Good condition
Odor		None
Deposits/Stains		None
Vegetation	Normal	
Surrounding Land Use	Residential	

Photo Attachments

Catch basin inlet

Catch basin with some leaf debris

Stormwater Outfalls

Highway District:	ESHD		**Outfall ID:**	Catch Basin 3	
Date of Last Rainfall:	06/27/2024	**Rainfall Quantity:**	0.01"	**Weather:**	Sunny
Date:	07/16/2024	**Time:**	11:54 AM	**Assessed By:**	Some longer name

Flow:	None
General Observations:	The catch basin is dry. There are large chunks of asphalt inside the catch basin. The catch basin also has some leaf debris and dirt. The outside edges of the basin is covered in asphalt.

Indicator	Description	Comments
Pipe Condition		Good condition
Odor		None
Deposits/Stains		None
Vegetation	Normal	
Surrounding Land Use	Residential	

Photo Attachments

Catch basin with some leaf debris

Inside catch basin

Stormwater Outfalls

Highway District:	ESHD		**Outfall ID:**	Catch Basin 4	
Date of Last Rainfall:	06/27/2024	**Rainfall Quantity:**	0.01"	**Weather:**	Sunny
Date:	07/16/2024	**Time:**	11:45 AM	**Assessed By:**	Some longer name

Flow:	
General Observations:	The catch basin is dry and has some leaf debris. The catch basin is in good condition.

Indicator	Description	Comments
Pipe Condition		Good condition
Odor		None
Deposits/Stains		None
Vegetation	Normal	
Surrounding Land Use	Residential	

Indicator	Description	Relative Severity Index
Odor		
Color		
Turbidity	N/A	
Floatables		

Photo Attachments

Outside catch basin

Inside catch basin

Stormwater Outfalls

Highway District:	ESHD		**Outfall ID:**	Catch Basin 5	
Date of Last Rainfall:	06/27/2024	**Rainfall Quantity:**	0.01"	**Weather:**	Sunny
Date:	07/16/2024	**Time:**	11:42 AM	**Assessed By:**	Some longer name

Flow:	
General Observations:	Catch basin is laden with leaf debris. It is dry and in good condition.

Indicator	Description	Comments
Pipe Condition		Good condition
Odor		None
Deposits/Stains		None
Vegetation	Normal	
Surrounding Land Use	Residential	

Indicator	Description	Relative Severity Index
Odor		
Color		
Turbidity	N/A	
Floatables		

Photo Attachments

Outside catch basin

Stormwater Outfalls

Highway District:			**Outfall ID:**	18 inch cmp downstream from 1	
Date of Last Rainfall:	06/27/2024	**Rainfall Quantity:**	0.01"	**Weather:**	Sunny
Date:	07/16/2024	**Time:**	12:34 PM	**Assessed By:**	Some longer name

Flow:	None
General Observations:	New culvert downstream from culvert 1. No flow, some blockage from gravel.

Indicator	Description	Comments
Pipe Condition		
Odor		
Deposits/Stains		
Vegetation		
Surrounding Land Use		

Photo Attachments

New culvert downstream of old outfall 1

Inside culvert

Stormwater Outfalls

Highway District:			**Outfall ID:** 20 in cmp upstream from 1		
Date of Last Rainfall:	06/27/2024	**Rainfall Quantity:**	0.01"	**Weather:**	Sunny
Date:	07/16/2024	**Time:**	12:29 PM	**Assessed By:**	Some longer name

Flow:	None
General Observations:	New 20in cmp upstream from outfall 1. No flow, gravel blocking the end of the culvert

Indicator	Description	Comments
Pipe Condition		
Odor		
Deposits/Stains		
Vegetation		
Surrounding Land Use		

Photo Attachments

New culvert upstream of old outfall 1

Stormwater Outfalls

Highway District:	Eshd		**Outfall ID:**	1	
Date of Last Rainfall:	06/27/2024	**Rainfall Quantity:**	0.01"	**Weather:**	Sunny
Date:	07/16/2024	**Time:**	12:32 PM	**Assessed By:**	Some longer name

Type:	Closed Pipe	**Material:**		
Shape:		**Submerged:**	In Water:	With Sediment:
Flow:	None			
General Observations:	Missing outfall, replaced by many new culverts.			

Indicator	Description	Comments
Pipe Condition		
Odor		
Deposits/Stains		
Vegetation		
Surrounding Land Use		

Photo Attachments

New culvert near to the old outfall 1 location. Outfall 1 nowhere in sight

Stormwater Outfalls

Highway District:	Eshd		**Outfall ID:**	2	
Date of Last Rainfall:	06/27/2024	**Rainfall Quantity:**	0.01"	**Weather:**	Sunny
Date:	07/16/2024	**Time:**	12:04 PM	**Assessed By:**	Some longer name

Type:	Closed Pipe	**Material:**	Metal
Shape:	Circular	**Submerged:**	In Water: No With Sediment:No
Flow:	None		
General Observations:	No flow, discharges into flowing creek. Inside of pipe is not pictured due to steep terrain leading to the culvert. Outside of pipe is clean and looks relatively new.		

Indicator	Description	Comments
Pipe Condition		Good condition
Odor		None
Deposits/Stains		None
Vegetation	Normal	
Surrounding Land Use	Residential	

Photo Attachments

Outfall view from the road

Stormwater Outfalls

Highway District:	Eshd		**Outfall ID:**	3	
Date of Last Rainfall:	06/27/2024	**Rainfall Quantity:**	0.01"	**Weather:**	Sunny
Date:	07/16/2024	**Time:**	1:22 AM	**Assessed By:**	Some longer name

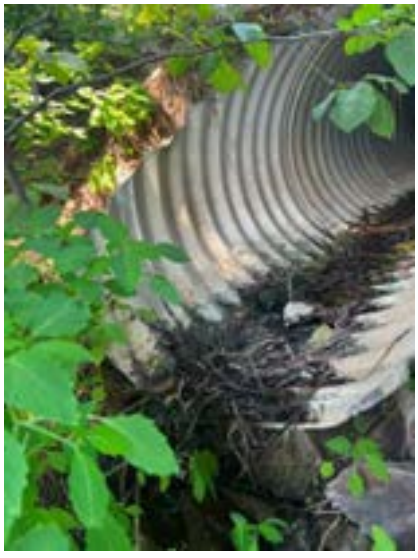
Type:	Closed Pipe	**Material:**	Metal
Shape:	Circular	**Submerged:**	In Water: No With Sediment:Partially
Flow:	Trickle		
General Observations:	Overgrown with long grass and weeds. Light trickle of water. Some scattered litter.		

Indicator	Description	Comments
Pipe Condition	Corrosion	Partially clogged by debris and algae, has some rust
Odor		None
Deposits/Stains	Algae	
Vegetation		
Surrounding Land Use		

Indicator	Description	Relative Severity Index
Odor	None	
Color	Clear	
Turbidity	N/A	
Floatables	None	

Photo Attachments

Outlet



Outlet

Inlet

Stormwater Outfalls

Highway District:	Eshd		**Outfall ID:**	4	
Date of Last Rainfall:	06/27/2024	**Rainfall Quantity:**	0.01"	**Weather:**	Sunny
Date:	07/16/2024	**Time:**	2:09 AM	**Assessed By:**	Some longer name

Type:	Open Channel	**Material:**	
Shape:			
Flow:	None		
General Observations:	Laden with pine cones and pine needles. Culvert in good condition, possible degrading around debris.		

Indicator	Description	Comments
Pipe Condition	Corrosion	Slightly degraded
Odor		None
Deposits/Stains		None
Vegetation	Normal	
Surrounding Land Use	Recreational	

Photo Attachments

Outlet laden with pine needles

Inlet laden with pine cones and pine needles

Stormwater Outfalls

Highway District:	Eshd		**Outfall ID:**	5	
Date of Last Rainfall:	06/27/2024	**Rainfall Quantity:**	0.01"	**Weather:**	Sunny
Date:	07/16/2024	**Time:**	1:48 AM	**Assessed By:**	Some longer name

Type:	Closed Pipe	**Material:**	Metal
Shape:	Circular	**Submerged:**	In Water: No With Sediment:Partially
Flow:	Trickle		
General Observations:	Culvert has a lot of dirt in it and has long grass growing out of the inside. There is a sour order to the culvert. There is a very slow flow of water coming out of the outfall.		

Indicator	Description	Comments
Pipe Condition	Corrosion	Some rust on the outside
Odor	Rancid/Sour, Sour I	
Deposits/Stains	Dirty with maybe some algae	
Vegetation	Excessive	Long grass growing out of the inside of the culvert
Surrounding Land Use	Recreational	

Indicator	Description	Relative Severity Index
Odor	Rancid/Sour	Faint
Color	None	
Turbidity	N/A	Slight Cloudiness
Floatables	Dirt	Few/Slight

Photo Attachments

Litter scattered around area

Inlet covered with vegetation

Outlet covered with dirt and plants

Stormwater Outfalls

Highway District:	Eshd		**Outfall ID:**	6	
Date of Last Rainfall:	06/27/2024	**Rainfall Quantity:**	0.01"	**Weather:**	Sunny
Date:	07/16/2024	**Time:**	12:59 PM	**Assessed By:**	Some longer name

Type:	Closed Pipe	**Material:**	Metal
Shape:	Circular	**Submerged:**	In Water: No With Sediment:Partially
Flow:	None		
General Observations:	Large amount of trash and some debris in culvert. Culvert in good condition.		

Indicator	Description	Comments
Pipe Condition		Good condition
Odor		None
Deposits/Stains		None
Vegetation	Normal	
Surrounding Land Use	Recreational	

Photo Attachments

Litter scattered in culvert

View from outlet

Stormwater Outfalls

Highway District:	ESHD		**Outfall ID:**	7	
Date of Last Rainfall:	06/27/2024	**Rainfall Quantity:**	0.01"	**Weather:**	Sunny
Date:	07/16/2024	**Time:**	12:48 PM	**Assessed By:**	Some longer name

Type:	Closed Pipe	**Material:**	Metal
Shape:	Circular	**Submerged:**	In Water: No With Sediment:Partially
Flow:	None		
General Observations:	There are some pine needle debris in the culvert. No flow, good condition.		

Indicator	Description	Comments
Pipe Condition		Good condition
Odor		None
Deposits/Stains		None
Vegetation	Normal	
Surrounding Land Use	Recreational	

Photo Attachments

Outlet

Inlet

Stormwater Outfalls

Highway District:	ESHD		**Outfall ID:**	8	
Date of Last Rainfall:	06/27/2024	**Rainfall Quantity:**	0.01"	**Weather:**	Sunny
Date:	07/19/2024	**Time:**	7:46 AM	**Assessed By:**	Some longer name

Type:	Closed Pipe	**Material:**	Metal
Shape:	Circular	**Submerged:**	In Water: No With Sediment:No
Flow:	None		
General Observations:	Open channel going into a 48" cmp culvert. Straw wattle sits about 8 ft upstream of the culvert for pollution protection. There is some staining along the flow line of the culvert.		

Indicator	Description	Comments
Pipe Condition	Corrosion	Rust along the flow line
Odor		none
Deposits/Stains	Flow Line	Reddish orange stain along the flow line
Vegetation	Normal	
Surrounding Land Use		Residential

Photo Attachments

Open channel leading to culvert

Inlet

Stormwater Outfalls

Highway District:	Eshd		**Outfall ID:**	9	
Date of Last Rainfall:	06/27/2024	**Rainfall Quantity:**	0.01"	**Weather:**	Sunny
Date:	07/19/2024	**Time:**	7:54 AM	**Assessed By:**	Some longer name

Type:	Closed Pipe	**Material:**	Steel
Shape:	Circular	**Submerged:**	In Water: No With Sediment:No
Flow:	None		
General Observations:	The bottom of the steel culvert is wet, but there is not sufficient flow for testing. There are overgrown plants in front of the outlet and there is white and greenish staining along the flow line.		

Indicator	Description	Comments
Pipe Condition		
Odor		None
Deposits/Stains	Flow Line	White and green stains along the flow line
Vegetation	Excessive	
Surrounding Land Use	Recreational	

Photo Attachments

Outlet with overgrown plants in front

Outlet

Stormwater Outfalls

Highway District:	Eshd		**Outfall ID:**	10	
Date of Last Rainfall:	06/27/2024	**Rainfall Quantity:**	0.01"	**Weather:**	Sunny
Date:	07/19/2024	**Time:**	8:02 AM	**Assessed By:**	Some longer name

Type:	Closed Pipe	**Material:**	Metal
Shape:	Circular	**Submerged:**	In Water: No With Sediment:No
Flow:	None		
General Observations:	The culvert is very rusted along the flow line, but is otherwise in good condition.		

Indicator	Description	Comments
Pipe Condition	Corrosion	Rusted
Odor		None
Deposits/Stains	Flow Line	Rust stain
Vegetation	Normal	
Surrounding Land Use	Recreational	

Photo Attachments

Outlet view from street

Outlet

Accurate Testing Labs, LLC
7950 Meadowlark Way
Coeur d'Alene, ID 83815
Phone (208) 762 8378 Fax (208) 762 9082
www.accuratetesting.com
info@accuratetesting.com

Certificate of Analysis

Order No.: **2024070388**

Welch Comer
330 E Lakeside Ave Ste 101
CDA , ID 83814

Project: WC MS4 ESHD 41348.02.2-002

Date Received: 07/16/2024 14:45

Sample: 1
Location: # 3
Sample Type: Grabs

Matrix: Non-Potable Water
D/T Collected: 07/16/2024 13:25
Collected by: Sadi Reynolds

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
E. Coli Bacteria	56.3	MPN/100mL	SM 9223B	1	07/17/24	RH
Chlorine, Total Residual	ND	mg/L	EPA 330.5	0.01	07/17/24	WM
Phosphorus, Total	0.030	mg/L	EPA 365.1	0.004	07/18/24	WM
pH	7.93	pH Units	EPA 150.1		07/16/24	WM
Total Suspended Solids	8	mg/L	SM 2540D	1	07/22/24	SS

Sample: 2
Location: # 5
Sample Type: Grabs

Matrix: Non-Potable Water
D/T Collected: 07/16/2024 14:00
Collected by: Sadi Reynolds

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
E. Coli Bacteria	>2420	MPN/100mL	SM 9223B	1	07/17/24	RH
Chlorine, Total Residual	0.02	mg/L	EPA 330.5	0.01	07/17/24	WM
Phosphorus, Total	0.056	mg/L	EPA 365.1	0.004	07/18/24	WM
pH	7.99	pH Units	EPA 150.1		07/16/24	WM
Total Suspended Solids	12	mg/L	SM 2540D	1	07/22/24	SS

Sample: 3
Location: # 3
Sample Type: Grabs

Matrix: Non-Potable Water
D/T Collected: 07/16/2024 13:25
Collected by: Sadi Reynolds

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
Phenolics	ND	mg/L	EPA 420.1	0.05	07/26/24	ANA

Comments:

Walter Mueller

Laboratory Supervisor, Digitally signed by: Walter Mueller Date: 08/15/24

Accurate Testing Labs, LLC
7950 Meadowlark Way
Coeur d'Alene, ID 83815
Phone (208) 762 8378 Fax (208) 762 9082
www.accuratetesting.com
info@accuratetesting.com

Certificate of Analysis

Order No.: **2024070388**

Sample:	4	Matrix:	Non-Potable Water
Location:	# 5	D/T Collected:	07/16/2024 14:00
Sample Type:	Grabs	Collected by:	Sadi Reynolds

Analyte	Result	Unit	Method	PQL	Analysis Date	Analyst
Phenolics	ND	mg/L	EPA 420.1	0.05	07/26/24	ANA

If the RESULT is 'ND' (Not Detected) or 'Absent', that means the concentration is less than the PQL (Practical Quantitation Limit for this method).

Comments:

Walter Mueller

Laboratory Supervisor, Digitally signed by: Walter Mueller Date: 08/15/24

Public Education Summaries & Website Brochures

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330 E. Lakeside Avenue, Suite 101
Coeur d'Alene, ID 83814

Memorandum

TO:	FILE FOR APPENDIX IN ANNUAL REPORT
FROM:	MELISSA CLEVELAND, P.E.
PRJ. #:	MS4 PERMITS 41322.11.1 P007, 41348.02.1 P006, 41447.01.0 P006
SUBJECT:	EARTH DAY EVENT COEUR D'ALENE LIBRARY
DATE:	APRIL 22, 2024

Annually, the Coeur d'Alene Library hosts an Earth Day event with booths from various environmental-related organizations to educate the public. This year the event was held on Saturday, April 20th. Kim Harrington from the City of Coeur d'Alene and Melissa Cleveland from Welch Comer provided a booth on behalf of the City and Lakes, East Side, and Post Falls Highway Districts to educate the public about the importance of clean stormwater, how some storm drains are piped to our area lakes and rivers, and how the public can help keep stormwater clean. The weather was beautiful, and the booth was well attended throughout the event. The target audience was general public, particularly families with children. Older adults attended, as well.

Figure 1: The booth with educational materials and goodies.

Figure 2 & 3: The stormwater plinko board is always a hit and a good opportunity to explain the importance of cleaning stormwater before it discharges to the lake or river.

Figure 4/5: Kids enjoyed the games, learning about clean stormwater, and picking out goodies.

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Coeur d'Alene, ID 83814

May 24, 2024

Silverwood Amusement Park Science and Physics Day Stormwater Public Outreach

Local schools from the Pacific Northwest traveled to Silverwood Amusement Park on May 23rd, 2024, to participate in the annual Silverwood Science and Physics Day, while also enjoying the amusement park.

Students participated in educational activities such as visiting the water quality education booths, estimating rollercoaster physics, and creating rollercoaster models and egg drop containers. As a representative of the Lakes Highway District, East Side Highway District, and Post Falls Highway District, I worked alongside the Idaho Department of Environmental Quality and the City of Coeur d'Alene street and wastewater group to educate students, parents, and school faculty on the importance of water quality.

Our booth focused on local stormwater drainage systems, educating students on stormwater and pollution prevention. Pamphlets and merchandise highlighting water quality topics were also handed out to students to take home.

Sadie Sundahl
Engineering Assistant

ssundahl@welchcomer.com

Earth Day 2024

Did You Know?

- Water that runs down your street drains to our local lakes and rivers.
- As the water runs, it picks up pollutants and trash.
- You can help keep our lakes and rivers clean.

What Can You Do To Help?

- Clean up the outside areas around your home.
- Clean up after your pets.
- Help to organize a neighborhood clean-up.
- Keep water on your property in rain barrels, cisterns, or rain gardens.
- Always throw your trash away in a garbage can. Don't litter!

Helpful Websites & Activities

Clean Waterways: https://www.cleanwaterways.org/Resources/Kids-Educators

Only Rain Down the Drain: https://www.onlyraindownthedrain.com/kids/

Watershed Sleuth Challenge: https://www.neefusa.org/watershed-sleuth

City of CDA: https://www.cdaid.org/629/departments/finance/utilitybilling/stormwater/what-we-can-do

EAST SIDE HIGHWAY DISTRICT

POST FALLS HIGHWAY DISTRICT

LAKES HIGHWAY DISTRICT KOOTENAI COUNTY, IDAHO