BOZEMAN MT
Stormwater Division

February 26, 2019

Submitted via NET DMR and Regular Mail on 2/26/2019

Attn: Mr. Jon Kenning
Montana Department of Environmental Quality
Water Protection Bureau
PO Box 200901
Helena, MT 59620-0901

RE: City of Bozeman Small MS4 2018 Annual Report (MTR040002)

Mr. Jon Kenning,

The City of Bozeman (City) is pleased to submit its 2018 Phase II Small MS4 General Permit Annual Report and attachments for your review. A few accomplishments from 2018 include:

- Reformatted and revised the City's Stormwater Management Plan (SWMP)
- Completed 15 and justified the planning of 17 additional water quality and quantity-based capital improvement projects (SWMP Sections 2.3 and 2.4)
- Collected and disposed of 196.6 tons of debris through storm sewer and treatment system maintenance (SWMP Section 2.5)
- Responded to and resolved seven illicit discharge events (SWMP Section 4.4)
- Coordinated an emergency ordinance update that increased construction site enforcement authority, resulting in an improved compliance rate (SWMP Section 5.4)
- Generated the City's first Stream Health Report Card Grade (SWMP Section 8.8)

The City is proud of the work completed and looks forward to growing and implementing its numerous programs in 2019 as detailed in the attached SWMP.

Please do not hesitate to contact me if you have any questions.

Regards,

Kyle Mehrens, Stormwater Program Coordinator

Cc: Project File
ERF

Attachments: *Attachment A: 2018 MS4 Annual Report Additional Information*
Attachment B: City of Bozeman and Montana State University Stormwater Management Plan (February 26, 2019)
Attachment C: City of Bozeman Small MS4 Outfalls
Attachment D: Post-Construction Inspection Report and Form
Attachment E: City of Bozeman Post-Construction Stormwater Facilities

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DEQ Montana Department of Environmental Quality WATER PROTECTION BUREAU	**Agency Use** **MTR04_____** **Date Rec'd:** **Amount Rec'd:** **Check No.:** **Rec'd By:**

FORM **MS4-AR**	**MPDES Storm Water Small MS4 Annual Report Form**				
	Reporting period is for the calendar year, January 1st through December 31st. Check one. Annual Report is due by March 1st of the following year.				
	○ 2017	◉ 2018	○ 2019	○ 2020	○ 2021

Instructions: This Annual Report Form is to be completed by each permittee and co-permittee authorized to discharge storm water under the General Permit for Storm Water Discharges Associated with Small Municipal Separate Storm Water Sewer Systems (MS4s). All authorized permittees and co-permittees are required to complete this Annual Report Form for each calendar year reporting period. For co-permittees authorized under one permit authorization or for co-permittees with multiple authorizations, you are required to complete this form and submit separate required documents/information exclusively for your respective regulated Small MS4 area(s). This completed Annual Report Form must be electronically submitted to the Montana Department of Environmental Quality, Water Protection Bureau. Electronic submission is required through the web-based tool: NetDMR. Additional information is located on DEQ's website: http://deq.mt.gov/Water/WQINFO/ctss/netdmr.

Small MS4 Authorization Number: MTR04 0002		
Small MS4 Classification	◉ **Traditional**	○ **Non-Traditional**
Small MS4 Name: City of Bozeman		
Small MS4 Mailing Address: P.O. Box 1230		
City, State, and Zip Code: Bozeman, MT 59771		
Small MS4 Contact Person (and Title): Kyle Mehrens, Stormwater Program Coordinator		
Mailing Address: P.O. Box 1230		
City, State, and Zip Code: Bozeman, MT 59771		
Phone Number: (406) 582-2270	**E-mail address:** kmehrens@bozeman.net	

Storm Water Management Team: Attach an organizational chart identifying a primary SWMP coordinator and the positions responsible for implementing each minimum measure.

Requested above chart:	(•) Attached	( ) Not Attached

Has the permittee established and executed a formalized mechanism for regular communication between storm water management team members?	(•) Yes	( ) No

Permittee's SWMP Resources:
How many FTEs does the permittee designate to the MS4 permit? __6.5__ If needed, provide an explanation.

If more space is needed, submit on an additional page with corresponding reference or on a data storage device.

Answer the following five (5) questions on an additional page with corresponding reference or on a data storage device.

(1) What are the source(s) of funding for implementation of the MS4 permit and the estimated percentage of the total budget allocated from each source listed?

(2) Specific to the annual reporting calendar year, how did the permittee justify commitment of resources or budget allocations to the implementation of the MS4 permit to decision-makers and the public? Provide a summary of meetings and outcomes held with decision-makers and the public.

(3) Has the permittee demonstrated program effectiveness to obtain budget allocations for this annual reporting calendar year or previous years? Why or why not? If so, what program effectiveness metrics were presented?

(4) How was this annual reporting calendar year's approach to allocate resources different than the previous year's approach?

(5) Was the permittee successful in their request for budget allocations? Describe the outcome and factors that affected or resulted in that outcome.

Illicit Discharge Detection & Elimination: Per the IDDE MCM requirement (Part II (3)(c.i)), has the permittee reviewed, and updated if needed, the storm sewer map during the calendar year?	(•) Yes	( ) No
Per the IDDE MCM requirement (Part II (3)(e.i)), has the permittee dry weather inspected and screened outfalls during the calendar year?	( ) Yes	(•) No

Fill in the blanks with numbers. The permittee has inspected __0__ outfalls during this calendar year. Since authorization under the 2017 General Permit, the permittee has inspected __0__ total outfalls out of the __622__ total MS4 outfalls.

Per the Illicit Discharge Detection & Elimination MCM (Part II (3)(e.i)), the permittee will complete the requirement to inspect and screen all outfalls during dry weather by the end of the permit cycle.	◉ Yes	○ No
Construction Site Storm Water Management: During the calendar year, how many construction storm water management plan reviews were completed (Part II (4)(b))? 355		
During the calendar year, how many construction projects were inspected for their storm water management controls (Part II (4)(c))? 72		
Pollution Prevention/Good Housekeeping for Permittee Operations: Has the permittee reviewed, and updated if needed, the inventory of permittee-owned/operated facilities and activities (Part II (6)(a.i))?	◉ Yes	○ No
Has the permittee reviewed, and updated if needed, the map that identifies the locations of facilities and known locations of activities (Part II (6)(a.ii))?	◉ Yes	○ No
Has the permittee conducted annual storm water pollution prevention training for permittee staff during the next permit year after development of each standard operating procedure (Part II (6)(a.v))? ***Not applicable during calendar year 2017, 2018, and 2019. Check "No" during these years.***	○ Yes	◉ No
Training: According to Part II (B) Training requirements, has the permittee conducted applicable training during the 1st and 4th calendar years? ***Not required during calendar year 2018, 2019, and 2021. Check "No" during these years.***	○ Yes	◉ No
According to Part II (B) Training requirements, has the permittee conducted applicable new employee training within 90 days of the hire date?	◉ Yes	○ No
Special Conditions: Per **Pre-TMDL Approval (Part III.A) requirements**, attach the required information regarding identification of all outfalls that discharge to impaired waterbodies, the impaired waterbodies, and the associated pollutants of impairments. Summarize the BMPs implemented over the reporting period and a schedule of BMPs planned for the following year.		
◉ Attached	○ Not Attached	○ Not Applicable
Special Conditions: Approved TMDLs (Part III.B) requirements per calendar year below.		
Calendar Year 2017: The permittee has attached a Sampling Plan that includes strategy rationale, monitoring frequency, monitoring parameters, and monitoring locations.		
◉ Attached	○ Not Attached	○ Not Applicable

Calendar Year 2017: The permittee has attached all outfalls that discharge to impaired waterbodies and the associated pollutants of impairment.		
○ Attached	○ Not Attached	◉ Not Applicable
Calendar Year 2018: The permittee has attached all outfalls that discharge to impaired waterbodies and the associated pollutants of impairment.		
◉ Attached	○ Not Attached	○ Not Applicable
Calendar Year 2019: The permittee has attached all outfalls that discharge to impaired waterbodies and the associated pollutants of impairment.		
○ Attached	○ Not Attached	◉ Not Applicable
Calendar Year 2020: The permittee has attached all outfalls that discharge to impaired waterbodies and the associated pollutants of impairment.		
○ Attached	○ Not Attached	◉ Not Applicable
Calendar Year 2020: The permittee has attached the TMDL section of the SWMP that identifies the measures and BMPs it plans to implement, describes the MS4's impairment priorities and long term strategy, and outlines interim milestones for controlling the discharge of the pollutants of concern and making progress towards meeting the TMDL.		
○ Attached	○ Not Attached	◉ Not Applicable
Calendar Year 2021: The permittee has attached all outfalls that discharge to impaired waterbodies and the associated pollutants of impairment.		
○ Attached	○ Not Attached	◉ Not Applicable
Calendar Year 2021: The permittee has evaluated the TMDL section of the SWMP based on monitoring results. The section has been revised, if needed, and is attached.		
○ Attached	○ Not Attached	◉ Not Applicable
Monitoring: Per requirements in Part IV (B), has the permittee attached monitoring results, calculations, and evaluations?		
◉ Attached	○ Not Attached	○ Not Applicable

INSTRUCTIONS: The permittee will only fill out the Annual Report Attachments section below that corresponds to the calendar in which an Annual Report is being submitted for. Attach the requested documents/information.

2017 Annual Report Attachments (1st Calendar Year)		
Public Education and Outreach:		
Per requirements a.i in the referenced MCM, attach the required information regarding key target audiences and associated pollutants.		
◯ Attached	◯ Not Attached	
Public Involvement and Participation:		
Per requirements a.i in the referenced MCM, attach the required information regarding the public involvement approach and schedule of each key audience.		
◯ Attached	◯ Not Attached	
Illicit Discharge Detection & Elimination:		
Per requirements a.i in the referenced MCM, attach the required information regarding categories of non-storm water discharges or flows, associated pollutants, and local controls or conditions.		
◯ Attached	◯ Not Attached	
Per requirements b.i in the referenced MCM, attach the required information regarding occasional non-storm water discharges or flows, associated pollutants, and local controls or conditions.		
◯ Attached	◯ Not Attached	
Per requirements f.i in the referenced MCM, attach the required Illicit Discharge Investigation and Corrective Action Plan and any associated documents.		
◯ Attached	◯ Not Attached	
Construction Site Storm Water Management:		
Per requirements a.iii in the referenced MCM, attach progress towards an Enforcement Response Plan and associated documents.		
◯ Attached	◯ Not Attached	
Specific to Traditional MS4s and per requirements b.i in the referenced MCM, attach the construction storm water management plan review checklist.		
◯ Attached	◯ Not Attached	◯ Not applicable
Specific to Non-Traditional MS4s and per requirements b.iii in the referenced MCM, attach the construction storm water management plan review checklist.		
◯ Attached	◯ Not Attached	◯ Not applicable
Specific to Traditional MS4s and per requirements c.i in the referenced MCM, attach the construction storm water management inspection form or checklist.		
◯ Attached	◯ Not Attached	◯ Not applicable
Specific to Non-Traditional MS4s and per requirements c.ii in the referenced MCM, attach the construction storm water management inspection form or checklist.		
◯ Attached	◯ Not Attached	◯ Not applicable

Post-Construction Site Storm Water Management in New and Redevelopment		
Specific to Traditional MS4s and per requirements b.i in the referenced MCM, attach the post-construction storm water management plan review checklist.		
◯ Attached	◯ Not Attached	◯ Not applicable
Specific to Non-Traditional MS4s and per requirements b.ii in the referenced MCM, attach the post-construction storm water management plan review checklist.		
◯ Attached	◯ Not Attached	◯ Not applicable
Per requirements in b.iii in the referenced MCM, attach the performance standards and associated documents.		
◯ Attached	◯ Not Attached	

2018 Annual Report Attachments (2nd Calendar Year)

Public Education and Outreach:		
Per requirements b.i in the referenced MCM, attach the required information regarding outreach messages.		
◉ Attached	◯ Not Attached	
Per requirements c.i in the referenced MCM, attach the required information regarding a description of formats, distribution channels and schedule for key target audiences.		
◉ Attached	◯ Not Attached	
Public Involvement and Participation:		
Per requirements a.ii in the referenced MCM, attach the required information regarding participation and key target audience feedback on approaches.		
◉ Attached	◯ Not Attached	
Illicit Discharge Detection & Elimination:		
Per requirements a.i in the referenced MCM, attach the required information regarding categories of non-storm water discharges or flows, associated pollutants, and local controls or conditions.		
◉ Attached	◯ Not Attached	
Per requirements b.i in the referenced MCM, attach the required information regarding occasional non-storm water discharges or flows, associated pollutants, and local controls or conditions.		
◉ Attached	◯ Not Attached	
Specific to Traditional MS4s and per requirements d.i in the referenced MCM, attach the adopted ordinance or other regulatory mechanism to prohibit illicit discharges.		
◉ Attached	◯ Not Attached	◯ Not applicable
Specific to Non-Traditional MS4s and per requirements d.ii in the referenced MCM, attach the summary of legal authority to prohibit illicit discharges.		
◯ Attached	◯ Not Attached	◉ Not applicable
Per requirements d.iii in the referenced MCM, attach the required summary of the cooperative agreements.		

◯ Attached	◉ Not Attached	
Per requirements d.iv in referenced MCM, attach the Enforcement Response Plan and associated documents.		
◉ Attached	◯ Not Attached	
Per requirements e.ii in referenced MCM, attach the list of high priority outfalls.		
◉ Attached	◯ Not Attached	
Specific to Traditional MS4s and per requirements f.iii in the referenced MCM, attach the summary of investigations conducted and corrective actions taken per the required Illicit Discharge Investigation and Corrective Action Plan and any associated documents.		
◉ Attached	◯ Not Attached	◯ Not applicable
Specific to Non-Traditional MS4s and per requirements f.iv in the referenced MCM, attach the summary of investigations conducted and corrective actions taken per the required Illicit Discharge Investigation and Corrective Action Plan and any associated documents.		
◯ Attached	◯ Not Attached	◉ Not applicable
Post-Construction Site Storm Water Management in New and Redevelopment		
Specific to Traditional MS4s and per requirements c.i in the referenced MCM, attach the post-construction storm water management inspection form or checklist.		
◉ Attached	◯ Not Attached	◯ Not applicable
Specific to Non-Traditional MS4s and per requirements c.ii in the referenced MCM, attach the post-construction storm water management inspection form or checklist.		
◯ Attached	◯ Not Attached	◉ Not applicable
Per requirements in c.iii in the referenced MCM, attach the inventory of all new permittee-owned and private post-construction storm water management controls.		
◉ Attached	◯ Not Attached	
Per requirements in c.vi in the referenced MCM, attach an inspection frequency protocol.		
◉ Attached	◯ Not Attached	
Specific to Traditional MS4s and per requirements c.vii, attach the developed inspection program.		
◉ Attached	◯ Not Attached	◯ Not applicable
Pollution Prevention/Good Housekeeping for Permittee Operations		
Per requirements in a.iii in the referenced MCM, attach completed Standard Operating Procedures.		
◯ Attached	◉ Not Attached	

2019 Annual Report Attachments (3rd Calendar Year)

Public Education and Outreach:

Per requirements c.ii in the referenced MCM, attach the required information regarding outreach materials distributions.

◯ Attached	◯ Not Attached

Public Involvement and Participation:

Per requirements a.ii in the referenced MCM, attach the required information regarding participation and key target audience feedback on approaches.

◯ Attached	◯ Not Attached

Illicit Discharge Detection & Elimination:

Per requirements a.i in the referenced MCM, attach the required information regarding categories of non-storm water discharges or flows, associated pollutants, and local controls or conditions.

◯ Attached	◯ Not Attached

Per requirements b.i in the referenced MCM, attach the required information regarding occasional non-storm water discharges or flows, associated pollutants, and local controls or conditions.

◯ Attached	◯ Not Attached

Per requirements e.ii in referenced MCM, attach the list of high priority outfalls.

◯ Attached	◯ Not Attached

Per requirements e.iii in referenced MCM, attach the required summary of screening results.

◯ Attached	◯ Not Attached

Specific to Traditional MS4s and per requirements f.iii in the referenced MCM, attach the summary of investigations conducted and corrective actions taken per the required Illicit Discharge Investigation and Corrective Action Plan and any associated documents.

◯ Attached	◯ Not Attached	◯ Not applicable

Specific to Non-Traditional MS4s and per requirements f.iv in the referenced MCM, attach the summary of investigations conducted and corrective actions taken per the required Illicit Discharge Investigation and Corrective Action Plan and any associated documents.

◯ Attached	◯ Not Attached	◯ Not applicable

Construction Site Storm Water Management:

Specific to Traditional MS4s and per requirements a.i in the referenced MCM, attach the adopted ordinance or other regulatory mechanism to require construction storm water controls.

◯ Attached	◯ Not Attached	◯ Not applicable

Specific to Non-Traditional MS4s and per requirements a.ii in the referenced MCM, attach the legal authority summary.

◯ Attached	◯ Not Attached	◯ Not applicable

Per requirements a.iii in the referenced MCM, attach the adopted Enforcement Response Plan and associated documents.

◯ Attached	◯ Not Attached

Post-Construction Site Storm Water Management in New and Redevelopment

Per requirements in c.viii in the referenced MCM, attach findings and compliance actions regarding inspections of high priority post-construction storm water management controls.		
◯ Attached	◯ Not Attached	
Specific to Traditional MS4s and per requirements c.ix, attach the findings and resulting actions regarding inspections of high priority privately-owned post-construction storm water management controls.		
◯ Attached	◯ Not Attached	◯ Not applicable
Pollution Prevention/Good Housekeeping for Permittee Operations		
Per requirements in a.iii in the referenced MCM, attach the completed Standard Operating Procedures.		
◯ Attached	◯ Not Attached	

2020 Annual Report Attachments (4th Calendar Year)

Public Education and Outreach:		
Per requirements c.ii in the referenced MCM, attach the required information regarding outreach materials distributions.		
◯ Attached	◯ Not Attached	
Public Involvement and Participation:		
Per requirements a.ii in the referenced MCM, attach the required information regarding participation and key target audience feedback on approaches.		
◯ Attached	◯ Not Attached	
Illicit Discharge Detection & Elimination:		
Per requirements a.i in the referenced MCM, attach the required information regarding categories of non-storm water discharges or flows, associated pollutants, and local controls or conditions.		
◯ Attached	◯ Not Attached	
Per requirements b.i in the referenced MCM, attach the required information regarding occasional non-storm water discharges or flows, associated pollutants, and local controls or conditions.		
◯ Attached	◯ Not Attached	
Per requirements e.ii in referenced MCM, attach the list of high priority outfalls.		
◯ Attached	◯ Not Attached	
Per requirements e.iii in referenced MCM, attach the required summary of screening results.		
◯ Attached	◯ Not Attached	
Specific to Traditional MS4s and per requirements f.iii in the referenced MCM, attach the summary of investigations conducted and corrective actions taken per the required Illicit Discharge Investigation and Corrective Action Plan and any associated documents.		
◯ Attached	◯ Not Attached	◯ Not applicable
Specific to Non-Traditional MS4s and per requirements f.iv in the referenced MCM, attach the summary of investigations conducted and corrective actions taken per the required Illicit Discharge		

Investigation and Corrective Action Plan and any associated documents.		
◯ Attached	◯ Not Attached	◯ Not applicable
Post-Construction Site Storm Water Management in New and Redevelopment		
Specific to Traditional MS4s and per requirements a.i in the referenced MCM, attach the adopted ordinance or other regulatory mechanism to require post-construction storm water controls.		
◯ Attached	◯ Not Attached	◯ Not applicable
Specific to Non-Traditional MS4s and per requirements a.ii in the referenced MCM, attach the legal authority summary.		
◯ Attached	◯ Not Attached	◯ Not applicable
Per requirements in a.iii in the referenced MCM, attach the Enforcement Response Plan and associated documents.		
◯ Attached	◯ Not Attached	
Per requirements in c.viii in the referenced MCM, attach findings and compliance actions regarding inspections of high priority post-construction storm water management controls.		
◯ Attached	◯ Not Attached	
Specific to Traditional MS4s and per requirements c.ix, attach the findings and resulting actions regarding inspections of high priority privately-owned post-construction storm water management controls.		
◯ Attached	◯ Not Attached	◯ Not applicable
Per requirements in d.i in the referenced MCM, attach a summary of the discussion outcomes.		
◯ Attached	◯ Not Attached	
Pollution Prevention/Good Housekeeping for Permittee Operations		
Per requirements in a.iii in the referenced MCM, attach the completed Standard Operating Procedures.		
◯ Attached	◯ Not Attached	

2021 Annual Report Attachments (5th Calendar Year)

Public Education and Outreach:	
Per requirements c.ii in the referenced MCM, attach the required information regarding outreach materials distributions.	
◯ Attached	◯ Not Attached
Public Involvement and Participation:	
Per requirements a.ii in the referenced MCM, attach the required information regarding participation and key target audience feedback on approaches.	
◯ Attached	◯ Not Attached
Illicit Discharge Detection & Elimination:	
Per requirements a.i in the referenced MCM, attach the required information regarding categories of non-storm water discharges or flows, associated pollutants, and local controls or conditions.	

◯ Attached	◯ Not Attached	
Per requirements b.i in the referenced MCM, attach the required information regarding occasional non-storm water discharges or flows, associated pollutants, and local controls or conditions.		
◯ Attached	◯ Not Attached	
Per requirements e.ii in referenced MCM, attach the list of high priority outfalls.		
◯ Attached	◯ Not Attached	
Per requirements e.iii in referenced MCM, attach the required summary of screening results.		
◯ Attached	◯ Not Attached	
Specific to Traditional MS4s and per requirements f.iii in the referenced MCM, attach the summary of investigations conducted and corrective actions taken per the required Illicit Discharge Investigation and Corrective Action Plan and any associated documents.		
◯ Attached	◯ Not Attached	◯ Not applicable
Specific to Non-Traditional MS4s and per requirements f.iv in the referenced MCM, attach the summary of investigations conducted and corrective actions taken per the required Illicit Discharge Investigation and Corrective Action Plan and any associated documents.		
◯ Attached	◯ Not Attached	◯ Not applicable
Post-Construction Site Storm Water Management in New and Redevelopment		
Per requirements in c.viii in the referenced MCM, attach findings and compliance actions regarding inspections of high priority post-construction storm water management controls.		
◯ Attached	◯ Not Attached	
Specific to Traditional MS4s and per requirements c.ix, attach the findings and resulting actions regarding inspections of high priority privately-owned post-construction storm water management controls.		
◯ Attached	◯ Not Attached	◯ Not applicable
Pollution Prevention/Good Housekeeping for Permittee Operations		
Per requirements in a.iii in the referenced MCM, attach completed Standard Operating Procedures.		
◯ Attached	◯ Not Attached	
Attach any updates, changes, or improvements to the Small MS4 Storm Water Management Program per requirements in Part IV (E).		
◯ Attached	◯ Not Attached	◯ Not applicable

Annual Report Form Signature

This Annual Report Form must be completed, signed, and certified as follows:

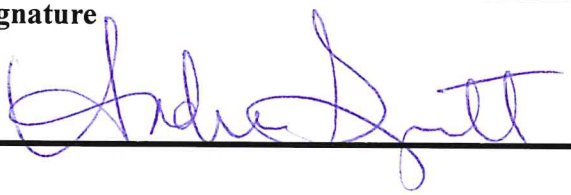
- **For a corporation, by a principal officer of at least the level of vice president;**
- **For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or**

For a municipality, state, federal, or other public facility, by either a principal executive officer or ranki elected official.

All Permittees Must Complete the Following Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information; including the possibility of fine and imprisonment for knowing violations. [75-5-633, MCA].

Certification of this form indicates conformance with the 2017 General Permit for Storm Water Discharge Associated with Small Municipal Separate Storm Sewer Systems and the required Annual Reporting upon receipt of permit coverage.

Name (Type or Print)	
Andrea Surratt	
Title (Type or Print)	**Phone Number**
City Manager	(406)582-2324
Signature 	**Date Signed** 2/25/2019

Attachment A
2018 MS4 Annual Report Additional Information

Annual Report Information in the Stormwater Management Plan (SWMP) includes:

1. Stormwater Management Team
    - Organizational Chart: See SWMP Section 1.5
    - Communication Mechanism: See SWMP Section 1.5
2. Permittee's SWMP Resources (1-5)
    - Question 1: See SWMP Section 1.3
    - Question 2: See SWMP Section 1.3
    - Question 3: See SWMP Section 1.3
    - Question 4: See SWMP Section 1.3
    - Question 5: See SWMP Section 1.3
3. Illicit Discharge Detection and Elimination
    - Updated Map: See SWMP Section 4.7
    - Dry Weather Screening: See SWMP Section 4.6
4. Construction Site Stormwater Management:
    - Plan Reviews: See SWMP Section 5.3
    - Inspections: See SWMP Section 5.3
5. Pollution Prevention/Good Housekeeping for Permittee Operations
    - Inventory of Facilities: See SWMP Section 7.3
    - Map of Facilities and Activities: See SWMP Section 7.3 and 7.4
6. Training
    - New Employee Training: See SWMP Section 7.5
7. Special Conditions: Approved TMDLs
    - Outfalls: See Attachment C
8. Monitoring
    - Results, Calculations, and Evaluations: See SWMP Section 8.0

9. Public Education and Outreach
    - Outreach Messages: See SWMP Section 3.3
    - Distribution Channels: See SWMP Section 3.4
10. Public Involvement and Participation
    - Audience Feedback: See SWMP Section 1.10 and 3.4
11. Illicit Discharge Detection and Elimination
    - Non-Stormwater Discharge Categories: See SWMP Section 4.5
    - Occasional Non-Stormwater Flows: See SWMP Section 4.5
    - Ordinance Language: See SWMP Section 4.2
    - Enforcement Plan: See SWMP Section 4.3
    - High Priority Outfalls: See SWMP Section 4.6
    - Corrective Actions Taken: See SWMP Section 4.4
12. Post- Construction Site Stormwater Management in New and Redevelopment
    - Inspection Form: See Attachment D
    - New Controls: See Attachment E
    - Inspection Frequency Protocol: See SWMP Section 6.3
    - Inspection Program: See SWMP Section 6.3
13. Pollution Prevention/Good Housekeeping for Permittee Operations
    - Standard Operating Procedures: See SWMP Sections 7.3 and 7.4

City of Bozeman and Montana State University

Stormwater Management Plan

Graphic: Stormwater treatment unit installation

Graphic: Surcharging storm sewer manhole

2017 - 2021 MS4 General Permit Term

Updated on February 26, 2019

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Section 1.0

Program Administration

Graphic 1.0.1: Street-flooding resulting from clogged infrastructure

Graphic 1.0.2: Failed stormwater pipe

1.1 Introduction

This Stormwater Management Plan (SWMP) describes the City of Bozeman (City) and Montana State University's (University), collectively known as the MS4, structural and administrative Best Management Practices (BMPs) engineered, implemented, maintained, and enforced to meet the following objectives:

- Protect public safety
- Improve water quality by mitigating stormwater pollutants
- Comply with environmental regulations
- Improve urban flood resiliency and climate change preparedness
- Guide policies at local, state, and federal levels

The MS4 also refers to this SWMP as the Stormwater Master Plan. This SWMP is an iterative and evolving document with updates occurring annually. SWMP Section 1.0 details the following components necessary to administer the MS4's Program, including:

- Background Information
- City Program Framework
- University Program Framework
- Stormwater Management Team
- MS4 Coordination
- Affiliations
- Additional Regulatory Responsibilities
- Annual Report
- Public Comment

1.2 Background Information

The MS4 is an incorporated town located in Gallatin County, Montana, and has a population of 61,953 as of 2016 (*City population 45,250, University population 16,703*). The MS4's primary land-use type is residential and commercial, with isolated industrial areas. Other notable geographical details include:

- Elevation: 4820 ft.
- Climate: Cold continental, with warm and dry summers, cold and dry winters
- Average Temperature: 44.6 ˚F
- Average Precipitation: 18.4 inches (*University rain gauge*)

The MS4 is located at the headwaters of the Upper Missouri Watershed and possesses relatively pristine surface water quality that supports several beneficial uses, including aquatic life, drinking water, agriculture, and recreation. Numerous waterways originate within and pass through the MS4.

The MS4's most notable waterway is Bozeman Creek (aka Sourdough Creek), which originates in the Gallatin Mountains south of its jurisdictional boundary. Flowing north, Bozeman Creek enters the MS4 at its southeastern border and continues until its confluence with the E. Gallatin River. The Montana Department of Environmental Quality (MDEQ) determined that Bozeman Creek has various impairments from natural and anthropogenic sources when developing its 2013 Lower Gallatin Planning Area Total Maximum Daily Load Report (TMDL).

The second most notable waterway is Mandeville Creek, which is a small spring feed watercourse that originates south of Bozeman. Flowing north, Mandeville Creek enters the MS4 at its southcentral boundary and continues until its confluence with the E. Gallatin River. The Montana DEQ determined

that Mandeville Creek also has various impairments from natural and anthropogenic sources when developing its TMDL.

Numerous other perennial and intermittent spring creeks flow through the MS4 in a web of channels, irrigation ditches, and underground pipes. The Montana DEQ has not completed an assessment of these waterways; however, it is likely they receive similar impacts as the other more notable waterways.

The MS4's water resources represent a significant community value and are the backbone of its tourism, recreation, and neighboring agricultural industries. A growing threat to these invaluable resources is stormwater runoff, which occurs when rainfall and snowmelt flow over developed surfaces, such as yards, roadways, parking lots, and rooftops. Stormwater picks up pollutants before entering storm sewers, such as drains, pipes, and ditches, and eventually discharges into the MS4's waterways. Stormwater runoff can result in property damage, public health threats, and environmental degradation if not proactively managed. Specific pollutants of concern include:

- Sediment: Sourced from barren ground, construction sites, road sand, unpaved roads and trails, windblown dust, and vehicle grime, resulting in suffocated aquatic habitat and changes to stream channel morphology
- Nitrogen and Phosphorous: Sourced from improper lawn fertilizer application, grass clippings, and yard debris, resulting in oxygen-depleting algae blooms
- E.coli: Sourced from substandard septic systems and pet waste, resulting in toxic conditions for the public and wildlife
- Floatables: Sourced from littering, overfilled garbage cans, and unsecured loads, resulting in clogged infrastructure, impaired aesthetic value, and endangered wildlife
- Oil, Grease, Metals, and Detergents: Sourced from improper vehicle maintenance, car spills, and car washing, resulting in toxic conditions for humans and wildlife
- Temperature: Sourced from extensive and continuous impervious areas, resulting in harmful impacts to cold-water fisheries

To counter stormwater runoff's impact, the United States Congress established the National Pollutant Discharge Elimination System (NPDES) as a part of the Clean Water Act (CWA) in 1972 to preserve and restore the health of the United States' Waters. The U.S. Environmental Protection Agency (EPA) is the lead organization tasked with implementing and oversight of the CWA. In Montana, the MDEQ has assumed authority, allowing for further state-scale interpretation, enactment, and enforcement.

The NDPES program regulates water pollution through a series of permits focused on point sources, such as industrial facilities, wastewater plants, and stormwater discharges. The driving permit behind the development and implementation of this SWMP is the MDEQ's Small Municipal Separate Storm Sewer Systems General Discharge Permit (MS4 Permit), which requires the City and University to implement a variety of subprograms with the goal of mitigating polluted discharges to waterways.

The MDEQ designates the City as a traditional permittee and the University as an non-traditional permittee. Both parties are co-permittees, because their storm sewers are connected and they work together on some administrative programs. The MDEQ requires the MS4 to complete the following:

- Prepare and submit individual Notices of Intent (NOI)
- Receive authorizations to discharge from MDEQ by January 1, 2017
- Prepare and submit individual Annual Reports
- Develop, implement, and update this SWMP throughout the MS4 Permit term
- Execute a Memorandum of Understanding (MOU)

Also, the MDEQ requires the MS4 to administer a program that works to accomplish the following:

- Educate the public (see SWMP Section 3.0)
- Engage citizens through involvement and participation (see SWMP Section 3.0)
- Detect and eliminate illicit discharges (see SWMP Section 4.0)
- Regulate construction sites (see SWMP Section 5.0)
- Regulate stormwater facilities constructed with new development (see SWMP Section 6.0)
- Prevent pollution stemming from internal facilities and operations (see SWMP Section 7.0)
- Collect and analyze water quality and stormwater runoff data (see SWMP Section 8.0)

The following sections of this SWMP outline the MS4's work within each of these subprograms.

1.3 City Program Framework

On June 25, 2012, the City adopted Ordinance 1831 creating a stormwater utility, providing for the collection of rates and charges that generate revenue for the operation and maintenance of the City's stormwater system. Funding was initially allocated to inventory, map, and assess the condition of the City's storm sewer. This effort was in response to findings identified during a 2011 MDEQ MS4 Permit audit, which included one violation, 16 program deficiencies, and 23 improvement recommendations.

On March 3, 2014, the City presented the results of their inventory, mapping, and assessment effort to City Commissioners. The City inventoried over ten thousand individual assets, many of which were found to be clogged, cracked, buried, or in disrepair. Also, a program administration review identified significant shortfalls. Commissioners directed the City to develop options for addressing known issues.

On April 21, 2014, the City presented three levels of service, differing primarily on the timeline required to address issues and the annual funding level. Commissioners decided to implement a program that included a funding level of $1.2 million annually for operations, treatment, and deferred maintenance.

On February 23, 2015, the City adopted a new level of service and a rate model to collect service fees based on individual property's impact on the stormwater system.

On December 1, 2015, the City implemented the final piece of the new rate model allowing the Stormwater Utility to be fully funded and functional for the first time in its history.

The City's utility rate model includes the following components and funding allocations:

- Approximately $450,000 annually for deferred maintenance, which includes costs associated with the replacement and cleaning of storm sewer componenrnts
- Approximately $550,000 annually for operations and maintenance, which includes expenses related to personnel, reoccurring system maintenance, supplies, and equipment
- Approximately $200,000 annually for system enhancements, which includes costs associated with projects that provide stormwater treatment to remove pollutants before discharging to waterways

The City's rate model has three distinct guiding principles:

- Flat Charge: Charged evenly across the service area. Properties with a water meter receive a flat monthly charge of $3.23 per meter. Properties that have impervious area, but do not have a water meter also receive a flat charge. The funding pays for deferred maintenance projects.
- Variable Charge: Charged proportional to the amount of impervious area individual properties have. Impervious area does not allow water to soak into the ground during rain events creating stormwater runoff. Larger areas result in more impact on public storm sewers and waterways.

- Utility Credit: Properties that have installed quantity and quality-based stormwater infrastructure controls receive a billing credit as these properties impact the stormwater system less than those without stormwater infrastructure.

The Stormwater, Building, Strategic Services, and Finance Divisions work collaboratively to update the stormwater utility rate model regularly as new development occurs. The workflow includes:

1. Site plans submitted to the Building Division through electronic permit review software
2. Staff reviews and uploads site plan to a shared group folder on the public drive
3. Strategic Services Staff checks the folder regularly, imports site plans into GIS, digitizes impervious area, and updates the polygon's ERU attribute
4. Finance Staff sends water meter notice to Staff when a project is nearing completion
5. Stormwater Staff reviews impervious area data based on the address information provided by Finance and calculates an ERU total, including percentage credit.
6. Stormwater Staff provides Finance Staff with an ERU value and credit value.
7. Finance Staff updates software and generates a bill for customers.

The MS4 tracks impervious area growth to gauge the workload associated with updating the rate model. The following data points display multi-family and commercial (does not include single-family residential properties and public right-of-way) impervious area added within their respective years, including:

- 2017: 75 acres
- 2018: 73 acres
- 2019: XX Acres
- 2020: XX Acres
- 2021: XX Acres

FY18 Approved Budget (July 1, 2017, through June 30, 2018)

- Source: Municipal Enterprise Fund
  - Rate Model Type: Impervious Area
  - Percent Allocation: 100%
  - Resource Justification: Budget approval process completed June 26, 2017
  - Program Effectiveness: See SWMP Sections 2.6, 3.4, 4.4, 5.4, 6.4, 7.2, 7.3, 7.4, 8.8, and 8.9
  - Resource Variation: Proposed addition of one FTE (Stormwater Specialist), approved
  - Success Determination: See SWMP Sections 2.6, 3.4, 4.4, 5.4, 6.4, 7.2, 7.3, 7.4, 8.8, and 8.9
- Staff: 6.5 FTEs
- Budget: $1,488,360
  - Salaries and Benefits: $451,548
  - Operating Budget: $161,466
  - Capital: $650,000
  - Debt Service: $225,346
  - Transfers: $0.00

FY19 Approved Budget (July 1, 2018, through June 30, 2019)

- Source: Municipal Enterprise Fund
  - Rate Model Type: Impervious Area
  - Percent Allocation: 100%
  - Resource Justification: Budget approval process completed June 25, 2018

- Program Effectiveness: See SWMP Sections 2.6, 3.4, 4.4, 5.4, 6.4, 7.2, 7.3, 7.4, 8.8, and 8.9
- Resource Variation: Proposed addition of one FTE (Project Manager), pending approval
- Success Determination: See SWMP Sections 2.6, 3.4, 4.4, 5.4, 6.4, 7.2, 7.3, 7.4, 8.8, and 8.9

- Staff: 6.5 FTEs
- Budget: $1,444,302
  - Salaries and Benefits: $408,583
  - Operating Budget: $240,373
  - Capital: $635,000
  - Debt Service: $160,346
  - Transfers: $0.00

1.4 University Program Framework

In the current permit cycle, the University has managed four projects of an acre or larger in size which have influenced stormwater quantity and quality. Those projects are:

- Rendezvous Dining Hall Construction
  - Complete
- Norm Asbjornson Hall Construction
  - Active, 2019 planned completion
- Lambert Field Renovations
  - Active, 2019 planned completion
- Dormitory Construction
  - Active, 2020 planned completion

Additionally, one project of under one acre is being managed; the Montana Hall Elevator and Renovation project. This project has no stormwater specific work but is being staged east of the building requiring management of materials, storage, toilet facilities and tracking.

Current funding is not a line item but included in the general campus maintenance operations budget for Facilities Services. As allowable and necessary funding from Facilities Services General Operating budget are allocated to specific stormwater improvement projects.

The University currently devotes approximately 740 hours annually to stormwater maintenance, management, and improvements and tracks work activities and labor using a work order system. Under the general guidance of the Engineering and Utilities Manager, the Environmental Service Manager coordinates and ensures MS4 Permit compliance.

1. Current Staff:
   - Engineering and Utility Manager: Directional and political support (*40 hours per year*)
   - Director - Facilities Services: Overall program coordination. Administers and supports environmental compliance programs; manages support personnel; identifies and advocates for infrastructure projects; conducts sampling, training, inspections, permit reviews, data collection, and reporting; manages reoccurring infrastructure maintenance, structural inspections, repairs, and replacements *(300 hours/year)*

- Support Staff and Contracted Services: Groundskeepers, laborers, plumbers, and street sweeping *(400 hours/year)*

The following representatives make up the University's stormwater management team. Regular communication occurs, allowing for the exchange of necessary information:

1. Megan Sterl, Engineering and Utility Manager
   - Program Administration
2. EJ Hook, Director – Facilities Services *(Primary SWMP Coordinator)*
   - Community Outreach and Education Program
   - Public Involvement and Participation Program
   - Construction-Site Management Program
   - Post-Construction Management Program
   - Illicit Discharge Detection and Elimination Program
   - Project Management
   - Good Housekeeping Program
   - Training

FY18 Approved Budget (July 1, 2017, through June 30, 2018)

- Source: Facility's Budget
  - Rate Model Type: Part of Facilities Services Major maintenance budget
  - Percent Allocation: 100%
  - Resource Justification: Budget approval process completed June 29, 2017
  - Program Effectiveness: See SWMP Sections 2.6, 3.4, 4.4, 5.4, 6.4, 7.2, 7.3, 7.4, 8.8, and 8.9
  - Resource Allocation Variation: Approx. $25,000 for College and 11th stormwater improvement project design
  - Success Determination: See SWMP Sections 2.6, 3.4, 4.4, 5.4, 6.4, 7.2, 7.3, 7.4, 8.8, and 8.9
- Staff: 0.3 FTEs
- Budget: $124,000
  - Salaries and Benefits: n/a
  - Operating Budget: $124,000
  - Capital: n/a
  - Debt Service: n/a
  - Transfers: n/a

FY19 Approved Budget (July 1, 2018, through June 30, 2019)

- Source: Facility's Budget
  - Rate Model Type: Part of Facilities Services Major maintenance budget
  - Percent Allocation: 100%
  - Resource Justification: Budget approval process completed June 29, 2018
  - Program Effectiveness: See SWMP Sections 2.6, 3.4, 4.4, 5.4, 6.4, 7.2, 7.3, 7.4, 8.8, and 8.9
  - Resource Allocation Variation: Approx. $150,000 for College and 11th stormwater improvement project installation
  - Success Determination: See SWMP Sections 2.6, 3.4, 4.4, 5.4, 6.4, 7.2, 7.3, 7.4, 8.8, and 8.9
- Staff: 0.3 FTEs
- Budget: $124,000

- Salaries and Benefits: n/a
- Operating Budget: $124,000
- Capital: Approx. $150,000
- Debt Service: n/a
- Transfers: n/a

1.5 Stormwater Management Team

The following positions make up the Stormwater Management Team (SWMT):

1. Stormwater Program Coordinator (Primary SWMP Coordinator): Develops and manages the implementation of SWMP and MS4 Permit compliance activities, administers environmental compliance programs, manages personnel, prepares budgets, develops policies, coordinates infrastructure projects, and maintains rate model databases. This position's primary permit responsibilities include:

   - Capital Project Management
   - Post-Construction Management Program
   - Illicit Discharge Detection and Elimination Program
   - Rate Model Update Program

2. Stormwater Program Specialist: Develops and implements best practice solutions related to water quality compliance monitoring, BMP effectiveness research, and data analysis. This position's primary permit responsibilities include:

   - Water Quality Sampling and Analysis Program
   - Industrial Stormwater Permits (Water Reclamation Facility and Landfill)
   - Community Outreach and Education Program
   - Public Involvement and Participation Program
   - Staff Training Program
   - Illicit Discharge Detection and Elimination Program

3. Stormwater Program Technician: Provides support for SWMP implementation and MS4 Permit compliance activities, environmental compliance programs, sampling, training, inspections, permit reviews, data collection, reporting, and equipment management. This position's primary permit responsibilities include:

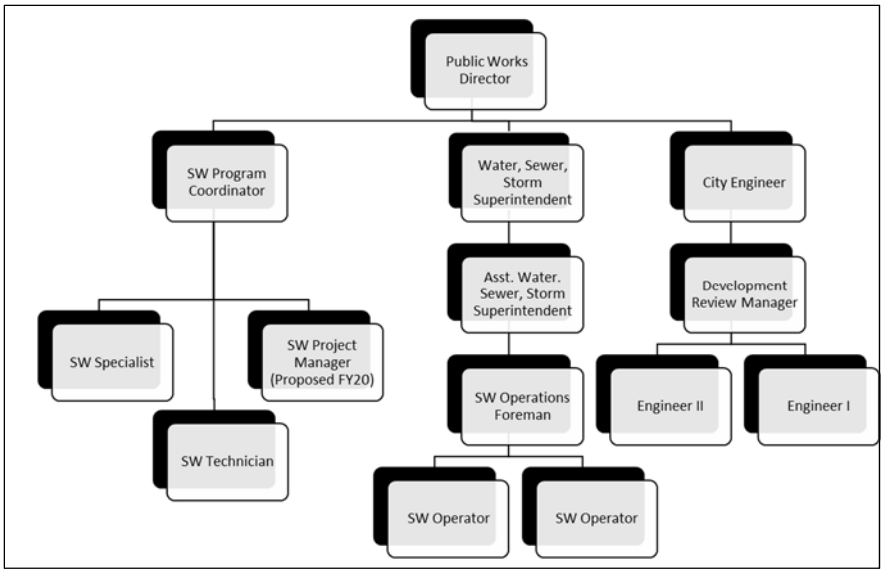
   - Construction-Site Management Program
   - Good Housekeeping Program
   - Illicit Discharge Detection and Elimination Program

4. Engineering Division: Team of four positions that provide the regulation of new and redevelopment projects and the oversight of engineering standards, including City Engineer, Development Review Manager, Engineer II, and Engineer I.

   - Post-Construction Program

5. Future Additions

   - Stormwater Project Manager: Post-Construction and Project Management Programs
   - Internship: Short-term projects



Graphic 1.5.1: Staff structure

The SWMT conducts reoccurring meetings where communication and coordination occur, allowing for the exchange of necessary information. The following is a list of current members:

- Kyle Mehrens, Stormwater Program Coordinator (*Primary SWMP Coordinator*)
- Frank Greenhill, Stormwater Program Specialist
- Cody Flammond, Stormwater Program Technician

The SWMT tracks and compiles all phone call and email questions, requests, and complaints received from the public to gauge programmatic needs and workloads. The following chart includes the totals:

Correspondence Type	Count				
	2018	2019	2020	2021	Total
Resident: Flooding Inquiry or Report	7				7
Resident: Construction Inquiry or Report	22				22
Resident: Water Quality Inquiry or Report	2				2
Resident: Pollution Inquiry or Report	14				14
Resident: Basin Inquiry or Report	14				14
Resident: Outreach Inquiry or Report	2				2
Resident: Rate Model Inquiry	4				4
Professional: Post-Const. Program	47				47
Professional: Pollution Program	4				4
Professional: Const. Program	112				112
Professional: Project Management	16				16
Professional: Education Program	14				14
Professional: Division Administration	9				9
Professional: Water Quality Program	11				11
Professional: Service or Product Solicitation	17				17
Referral to other division	5				5
Total:	**300**				**300**

Graphic 1.5.2: Correspondence-tracking

The following representatives are Subject Matter Experts (SME). SMEs provide guidance related to specific issues, projects, plans, and policy changes. The SWMT and SMEs meet monthly.

- Mike Dilbeck, Stormwater Operations Foreman, Good Housekeeping
- Shawn Kohtz P.E., City Engineer, Post-Construction Program
- Griffin Nielsen E.I., Development Review Engineer, Post-Construction Program
- Anna Russel P.E., Development Review Engineer, Post-Construction Program
- Kellen Gamradt P.E., Project Engineer, Project Management
- Chris Kangas, Strategic Services, Rate Model Updates
- John Alston, Water/Sewer/Storm Superintendent, Good Housekeeping Program
- Nick Pericich, Water/Sewer/Storm Assistant Superintendent, Good Housekeeping Program
- John Vandelinder, Streets Superintendent, Good Housekeeping Program
- Matt Workman, Streets Assistant Superintendent, Good Housekeeping Program

1.6 MS4 Coordination

The MS4s works collaboratively on various programs, including:

- Participation in monthly meetings
- University payment of City stormwater fees
- Performance tracking and reporting
- Project development and implementation
- Inspection forms, training, methodologies, and program documentation
- Pollution event response and resolution
- Storm sewer operation and maintenance
    - The City removes collected debris from select University stormwater treatment units and incorporates totals into SWMP Section 8.0 annually, including:
        - University Field House Downstream Defender Unit
- Water Sampling and Analysis Program
    - The City manages the University's portion of this program, including purchasing equipment, collecting samples/data, analyzing results, and updating SWMP Section 8.0 for the following:
        - Urban Runoff Monitoring
        - In-Stream Wet Weather Monitoring
        - Sediment Reduction Monitoring
        - Long-Term Trend Monitoring
- The City provides the University an updated SWMP by February 1 of each calendar year.

1.7 Affiliations

The MS4 utilizes and engages with a variety of groups through informal relationships, including:

- Montana Stormwater Committee (MSC): An organization formed in 2016 comprised of public and private stormwater industry representatives. The MSC provides a unified voice for state scale policy changes, rules, issues, and initiatives. The MSC meets monthly to discuss relevant topics. Their most recent accomplishment includes the development of Montana's first American Society of Civil Engineers Stormwater Report Card, resulting in a statewide score of D.

- National Municipal Stormwater Alliance (NMSA): An organization formed in 2015 comprised of stormwater industry professionals. The NMSA provides a unified voice for national scale policy changes, rules, issues, and initiatives.
- Montana Department of Environmental Quality (MDEQ): A state agency tasked with the administration and enforcement of the Montana Clean Water Act. MDEQ provides compliance training, conferences, and enforcement in cases where the MS4's resources become exhausted.
- Gallatin Local Water Quality District (GLWQD): A Gallatin County public agency that conducts water quality sampling and community education.
- Montana State Extension Water Quality: A University Extension agency that provides water quality sampling and community education.
- Montana Water Environment Association (MWEA): A Montana organization that represents water, wastewater, and stormwater professionals. MWEA is a member of the Water Environment Federation (WEF), which has over 34,000 members worldwide. WEF is working to raise knowledge regarding stormwater infrastructure, policy, and science at the national level.
- Greater Gallatin Watershed Council (GGWC): An education-based nonprofit organization working to improve waterway health by implementing the WRP.

1.8 Additional Regulatory Responsibilities

The following MPDES permits also fall under the purview of the MS4:

- General Permit for Stormwater Discharges Associated with Construction Activity (MTR100000): Construction projects that disturb one acre or more of land must obtain a stormwater discharge authorization from the MDEQ. The MS4 implements a Construction Management Program detailed in SWMP Section 5.0
- Multi-Sector General Permit for Discharges Associated with Industrial Activity (MTR000000): The MS4's Water Reclamation Facility (WRF) and Landfill obtain authorizations to discharge stormwater from their facilities. MS4 Staff assist WRF and Landfill personnel with required inspections, BMP development, training, reporting, and records keeping.
- General Permit for Construction Dewatering (MTG070000): The Water and Sewer Division completes main break repairs and preventative maintenance in high groundwater areas, both requiring dewatering activities. Pumped water is land applied whenever possible to avoid any potential impacts from this activity and the need for permit coverage.
- General Permit for Disinfected Water and Hydrostatic Testing (MTG770000): The Water and Sewer Division flow hydrants to flush the water distribution pipe network and test hydrants.

1.9 Annual Report

The MS4 submits an individual Annual Report Form, updated SWMP, and relevant documents to the MDEQ by March 1 each year.

1.10 Public Comments

The MS4 considers and responds to all public comment related to the SWMP. To facilitate, a public comment form exists on the MS4's website and is available year round. Also, the MS4 publically notices the SWMP after making annual updates in the Bozeman Daily Chronicle the second and third Sundays of March during each calendar year. Dates include:

- 2019: March 10th and 17th

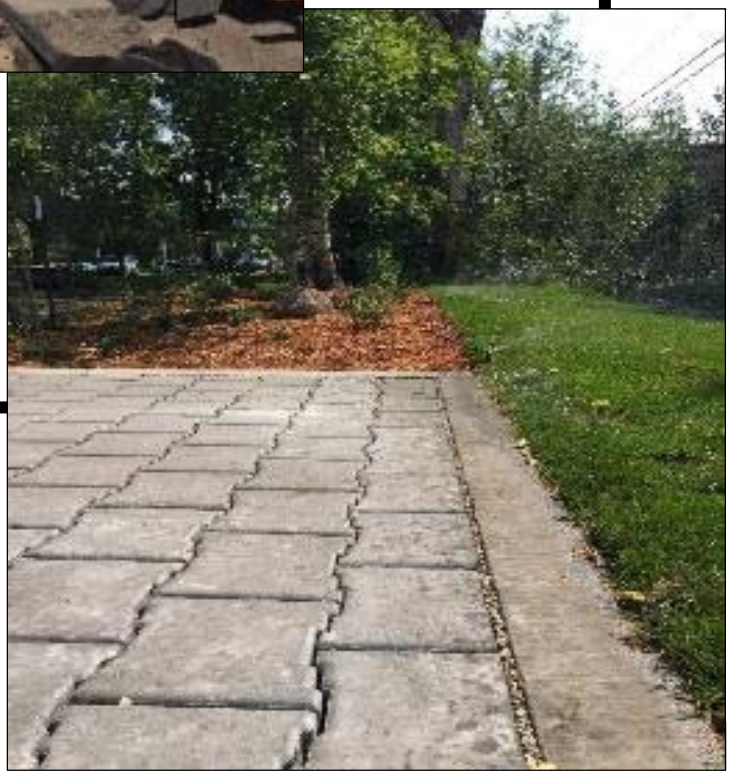
The MS4 received the following comments:

#	Date	Participant	Comment	MS4 Response
1	n/a			

Graphic 1.10.1: Public comments

Section 2.0
Capital Project Program

Graphic 2.0.1: Stormwater treatment unit installation



Graphic 2.0.2: Permeable pavers

2.1 Introduction

The MS4 strives to improve waterway health, protect public safety, and comply with its MS4 Permit through the completion of projects that:

- Replace aged storm sewer pipes
- Construct regional treatment projects
- Install localized green infrastructure
- Rehabilitate surface conveyances
- Acquire specialized inspection and maintenance equipment

SWMP Section 2.0 details the following components necessary to administer the MS4's Capital Project Program, including:

- Action Plan
- Future Projects
- Ongoing or Completed Projects
- Pollutant Reduction Totals
- Performance Measures

2.2 Total Maximum Daily Load (TMDL) Action Plan

The MS4 allocates $650,000 per year towards the design and construction of structural and treatment infrastructure projects to improve the integrity of the stormwater collection network, expand system conveyance, and meet water quality requirements.

From a structural standpoint, the MS4 replaces infrastructure with deficiencies, capacity limitations, and expired life cycles, focusing the majority of their work in the downtown core where over six miles of 100-year old vitrified clay pipes exist.

From a treatment standpoint, the MS4 implements specific projects to address 303(d) listed water quality impairments to the maximum extent practicable. For purposes of permit term, the MS4 prioritizes the following waterways:

1. Bozeman Creek is the highest priority because of its total stormwater discharge points, known impairments, degraded state, and, the fact that it is the only waterway with a non-zero MS4 Waste Load Allocation (WLA). According to the TMDL, Total Suspended Solids (TSS) contributions from the MS4 to Bozeman Creek require a 37% or 81 tons/year reduction.
2. Mandeville Creek is the second highest priority waterway because of its total stormwater discharge points, known impairments, shared responsibilities between co-permittees, and its degraded state. The MS4 has previously made investments to reduce loads to Mandeville Creek and plans to continue pollution reduction efforts as this MS4 General Permit term progresses.
3. Three other impaired waterways exist that receive benefits from the MS4's broad programmatic efforts, such as community education, pollution event response, and construction site management. These waterways include the East Gallatin River, Bridger Creek, and Rocky Creek.

The MS4 targets pollutants of concern for its impaired waterbodies by taking the following project identification and development strategy:

1. Mitigate significant impacts through industry standard structural treatment technologies, such as mechanical separation, confirmed to achieve 50% TSS removal through independent certification programs. This step allows the MS4 to triage the system, installing effective and

maintainable treatment systems near stormwater discharge points for the MS4's large urban drainage areas currently lacking treatment before discharge.

2. Develop, implement, and maintain sustainable operation and education-based programs and initiatives, such as street sweeping, infrastructure cleaning, and community outreach, that target pollutants of concern.
3. Collect and analyze stormwater runoff, in-stream water quality, BMP effectiveness, and long-term monitoring data using an array of industry-standard gages and equipment to plan future investments and initiatives. This step allows the MS4 to monitor its pollutant reductions, impaired waterbody improvement, and investment and conduct program self-evaluation.
4. Enhance pollutant reductions using targeted projects, such as boulevard infiltration galleries, verified to achieve 100% TSS removal by capturing and infiltrating the water quality event. This step allows the MS4 to fine-tune the stormwater system to optimize treatment in larger urban watersheds and treat stormwater in smaller urban watersheds not suitable for larger projects.

2.3 Future Projects

The MS4 prepares a five-year Capital Improvement Plan (CIP) that outlines future infrastructure projects annually. The CIP process is open for public comment, approved by the City Commission, and incorporated into the fiscal year's budget. The MS4 accounts for the following when preparing CIPs:

- Urban Waterway and Watershed Priority
- Development and Land Use
- Infrastructure Condition Analysis
- Programmatic Goals
- Available Budget
- Project Coordination

The MS4 maintains the following performance metrics that align with the programmatic goals to track TMDL Action Plan effectiveness and identify future needs:

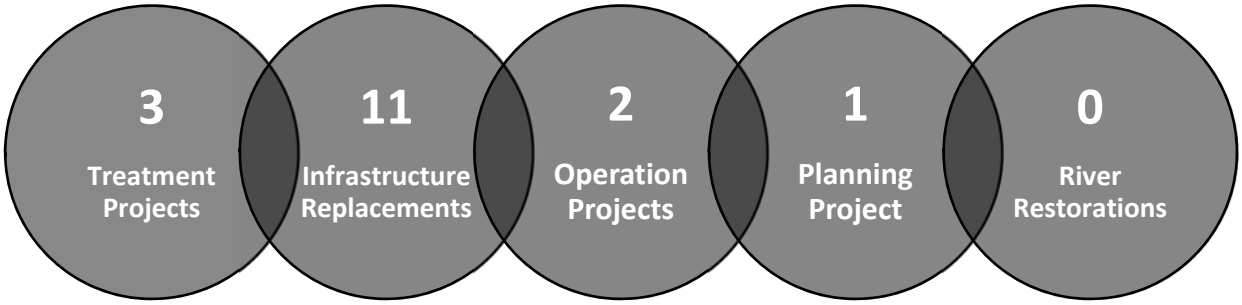
1. River Health Projects: Comply with the MS4's stormwater permit and improve water quality by preventing the discharge of 91 tons of pollutants into rivers annually (Bozeman Creek: 81 tons, Mandeville Creek: 10 tons).
    - Benefit: Reduced permit risk, improved public safety, and a healthier environment
    - Driving Policy: Bronze Level of Service, approx. $200,000 per year
    - Risk: Medium (adequate funding, permit requirements subject to change)
    - Five-Year Planned Investment (FY20-24): 4 Projects, $550,000
    - Percent Complete:
        - 2017: 25%
        - 2018: 56%
        - 2019: TBD
        - 2020: TBD
        - 2021: TBD
        - 2030 (estimated): 100%
2. Deferred Maintenance Projects: Replace six miles of structurally deficient and undersized historic storm sewer infrastructure throughout the downtown core.
    - Benefit: Reduced urban flooding and improved public safety
    - Driving Policy: Bronze Level of Service, approx. $450,000 per year

- Risk: Low (adequate funding)
- Five-Year Planned Investment (FY20-24): 10 Projects, $1.9 Million
- Percent Complete:
    - 2017: 3%
    - 2018: 4%
    - 2019: TBD
    - 2020: TBD
    - 2021: TBD
    - 2030 (estimated): 100%

3. Utility Operation Projects: Maintain 20% (+/-2.5%) of city-owned storm sewer annually.

- Benefit: Reduced urban flooding, longer infrastructure lifecycles, and improved public safety
- Driving Policy: Bronze Level of Service
- Risk: Low (adequate funding, rapid growth)
- Five-Year Planned Investment (FY20-24): 2 Projects, $200,000
- Percent Complete:
    - 2017: 18.1%
    - 2018: 21.6%
    - 2019: TBD
    - 2020: TBD
    - 2021: TBD
    - 2030 (estimated): 16%

MS4 plans to complete the following projects, including:



Graphic 2.3.1: Future projects

1. Utility Operation Project - Stormwater Facility Plan Update

- ID: STUO01
- Year: FY20
- Budget: $150,000
- Description: The project includes hiring a contractor to update the City's Stormwater Facility Plan last revised in 2007. The City has made significant programmatic, operational, and administrative changes over the past ten years in response to evolving environmental regulations, growth, and aging infrastructure. An updated Stormwater Facility Plan will assist Staff in identifying high-priority infrastructure deficiencies, future needs, and determine the City's regulatory standing with stormwater permit regulations.

- Alternatives Considered: Staff will continue implementing the recommendations provided in the 2007 Stormwater Facility Plan.
- Advantages of Approval: An updated Stormwater Facility Plan provides Staff a framework, action plan, and third party professional oversights helping the City achieve its programmatic goals, which include complying with environmental regulations, improving waterway health, protecting public safety, and managing infrastructure.
- Additional Operating Cost in the Future: None.

2. Deferred Maintenance Project – Downtown Trunk Line Rehabilitation (Phase 1)

   - ID: STDM01
   - Year: FY20
   - Budget: $400,000
   - Description: The project includes designing and rehabilitating 2,000 feet of storm sewer pipe beneath the alley located between Main Street and Mendenhall Street, and beneath North Rouse from Main Street to East Villard Street. The current pipe consists of historical materials throughout its length, including brick, vitrified clay, and concrete. The pipe is over 100 years old, is in poor structural condition (contains 42 identified deficiencies), and conveys significant stormwater flows generated from a 330-acre urban drainage basin, making it a high priority for rehabilitation.
   - Alternatives Considered: None. The pipe is a critical component of the City's public storm sewer network, and further deference will impact public safety and increase flood risk in the event of a failure. Further, internally managed spot repairs - which prolong a pipe's life – are unfeasible due to the pipe's location, depth, condition, and size.
   - Advantages of Approval: The project will ensure the pipe conveys stormwater as originally designed and intended. The project collaborates with the Montana Department of Transportation's (MDT) reconstruction of North Rouse Avenue. MDT will provide a cost-share commensurate with their contribution to the section of pipe within their right-of-way. Completion of FY20 conveyance projects will bring the City to 21% of its deferred maintenance goal set by the City Commission during the Stormwater Utility's development.
   - Additional Operating Cost in the Future: Stormwater Personnel will complete maintenance of the pipe on a five-year reoccurring schedule, including flushing, vacuuming, and inspection.

3. Deferred Maintenance Project – Manley Ditch Rehabilitation

   - ID: STDM02
   - Year: FY20
   - Budget: $100,000
   - Description: The project includes designing and rehabilitating 1,500 feet of Manley Ditch located east of Manley Road. Ther ditch conveys stormwater generated from a 58-acre urban drainage basin. The ditch includes a vegetated swale that has experienced significant degradation, resulting in a nonfunctional conveyance and obstructed railroad-owned culvert crossing. Specific issues include sediment deposition, overgrown vegetation, an illegal bulkhead, and bank erosion.
   - Alternatives Considered: None. The ditch is a critical component of the City's public storm sewer network, and further deference will impact public safety and further heighten ongoing flooding impacts. Also, the ditch's location, length, and tight grades make an internally managed repair unfeasible.

- Advantages of Approval: The project will ensure the ditch conveys stormwater as originally designed and intended. Completion of FY20 conveyance projects will bring the City to 21% of its deferred maintenance goal set by the City Commission during the Stormwater Utility's development.

4. Deferred Maintenance Project – Downtown Trunk Line Rehabilitation (Phase 2)

   - ID: STDM03
   - Year: FY21
   - Budget: $350,000
   - Description: The project includes designing and rehabilitating 1,419 feet of storm sewer pipe beneath the alley located between Main Street and Mendenhall Street, and is the second and final phase of the Downtown Trunk Line Rehabilitation Project. The current pipe consists of historical materials throughout its length, including brick, vitrified clay, and concrete. The pipe is over 100 years old, is in poor structural condition (contains 27 identified deficiencies), and conveys significant stormwater flows generated from a 273-acre urban drainage basin, making it a high priority for rehabilitation.
   - Alternatives Considered: None. The pipe is a critical component of the City's public storm sewer network, and further deference will impact public safety and increase flood risk in the event of a failure. Further, internally managed spot repairs - which prolong a pipe's life – are unfeasible due to the pipe's location, depth, condition, and size.
   - Advantages of Approval: The project will ensure the ditch conveys stormwater as originally designed and intended. Completion of FY21 conveyance projects brings the City to 27% of its deferred maintenance goal set by the City Commission during the Stormwater Utility's development.
   - Additional Operating Cost in the Future: Stormwater Personnel will complete maintenance of the pipe on a five-year reoccurring schedule, including flushing, vacuuming, and inspection.

5. River Health Project – Downtown Mechanical Stormwater Treatment (Phase 3)

   - ID: STRH01
   - Year: FY21
   - Budget: $300,000
   - Description: The project includes designing and installing two (2) stormwater mechanical separation units near the intersections of North Rouse Avenue and East Peach Street, and North Rouse Avenue and East Tamarack Street. Staff proposes to target these locations because the roads, parking lots, yards, driveways, and drainage systems contained within their urban watershed have a direct connection to Bozeman Creek, meaning no removal of stormwater pollutants occurs.
   - Alternatives Considered: None. City staff has not identified any alternative stormwater treatment approaches with comparable maintenance requirements, construction footprints, and pollutant removal efficiencies, especially considering the large size of the drainage basins targeted.
   - Advantages of Approval: The units will treat stormwater generated from 138-acres of urban development, and collect over 20-tons of sediment, litter, nutrients, oil, and metals annually. Pollutant removal will improve public safety, help restore Bozeman Creeks' aquatic habitat, and reduce stormwater permit violation risk. Completion of this project will bring the City to 81% of its water quality goal set by the City Commission during the Stormwater Utility's development.

- Additional Operating Cost in the Future: Stormwater Operations Personnel will complete maintenance semi-annually, including the removal of collected debris using existing vacuuming equipment. Staff will then store and dry debris at the City's Stormwater Waste Management Facility before hauling to the landfill for final disposal.

6. River Health Project – Downtown Mechanical Stormwater Treatment (Phase 4)

   - ID: STRH02
   - Year: FY22
   - Budget: $250,000
   - Description: The project includes designing and installing two (2) stormwater mechanical separation units near the intersections of South Black Avenue and East Cleveland Street, and South Bozeman Avenue and East Cleveland Street. Staff proposes to target these locations because the roads, parking lots, yards, driveways, and drainage systems contained within their urban watershed have a direct connection to Matthew Bird Creek (a tributary of Bozeman Creek), meaning no removal of stormwater pollutants occurs.
   - Alternatives Considered: None. City staff has not identified any alternative stormwater treatment approaches with comparable maintenance requirements, construction footprints, and pollutant removal efficiencies, especially considering the large size of the drainage basins targeted.
   - Advantages of Approval: The units will treat stormwater generated from 193-acres of urban development, and collect over 27-tons of sediment, litter, nutrients, oil, and metals annually. Pollutant removal will improve public safety, help restore Matthew Bird and Bozeman Creeks' aquatic habitat, and reduce stormwater permit violation risk. Completion FY22 treatment projects will bring the City to 100% of its water quality goal set by the City Commission during the Stormwater Utility's development.
   - Additional Operating Cost in the Future: Stormwater Operations Personnel will complete maintenance semi-annually, including the removal of collected debris using existing vacuuming equipment. Staff will then store and dry debris at the City's Stormwater Waste Management Facility before hauling to the landfill for final disposal.

7. River Health Project – Regional Stormwater Collection Facility (Beal Park)

   - ID: STRH03
   - Year: FY22
   - Budget: $200,000
   - Description: This project includes designing and constructing a regional stormwater collection and infiltration facility near the intersection of North Black Avenue and East Villard Street. Staff proposes to target this location because the roads, parking lots, yards, driveways, and drainage systems contained within its urban watershed have a direct connection to Bozeman Creek, meaning no removal of stormwater pollutants occurs.
   - Alternatives Considered: Construction of decentralized and smaller boulevard infiltration-based facilities spread throughout the targeted basin. This approach would result in eight to nine times the cost as a regional facility to achieve similar stormwater quality and quantity reduction goals.
   - Advantages of Approval: The facility will capture, store, and infiltrate stormwater generated from 52-acres of urban development, and collect over 14-tons of sediment, litter, nutrients, oil, and metals annually. Pollutant removal will improve public safety, help restore Bozeman Creeks' aquatic habitat, and reduce stormwater permit violation risk. Also, the facility will improve urban resiliency by capturing urban flood flows that would otherwise take up

valuable capacity in the downstream system. Completion of FY22 treatment projects will bring the City to 100% of its water quality goal set by the City Commission during the Stormwater Utility's development.

- Additional Operating Cost in the Future: Stormwater Operations Personnel will complete maintenance semi-annually, including the removal of collected debris using existing vacuuming and flushing equipment. Staff will then store and dry debris at the City's Stormwater Waste Management Facility before hauling to the landfill for final disposal.

8. Deferred Maintenance Project – Historic Pipe Replacement Program (FY22)

   - ID: STDM04
   - Year: FY22
   - Budget: $100,000
   - Description: The project includes designing and replacing 583 feet of storm sewer pipe beneath South Black Avenue from East Babcock Street to East Main Street. The current pipe consists of vitrified clay, which is historical material. The pipe is over 100 years old, is in poor structural condition (contains 31 identified deficiencies), and conveys stormwater flows generated from a 28-acre urban drainage basin, making it a high priority for replacement.
   - Alternatives Considered: None. The pipe is a critical component of the City's public storm sewer network, and further deference will impact public safety and increase flood risk in the event of a failure. Further, internally managed spot repairs - which prolong a pipe's life – are unfeasible due to the pipe's location, depth, condition, and size.
   - Advantages of Approval: The project ensures the pipe will effectively convey stormwater under design conditions. Completion of FY22 conveyance projects brings the City to 28% of its deferred maintenance goal set by the City Commission during the Stormwater Utility's development.
   - Additional Operating Cost in the Future: Stormwater Personnel will complete maintenance of the pipe on a five-year reoccurring schedule, including flushing, vacuuming, and inspection.

9. Operation Support Project – Sediment Disposal Facility Asphalt Repair

   - ID: STOS01
   - Year: FY22
   - Budget: $50,000
   - Description: The project includes the maintenance and repair of the asphalt surface located at the City's Stormwater Waste Disposal Facility. The facility is used daily to store, process, and dry waste generated from reoccurring stormwater operations.
   - Alternatives Considered: Prolong asphalt maintenance risking further degradation of drivable surfaces and increased deferred expense.
   - Advantages of Approval: The project ensures the facility remain functional, allowing staff to meet the City's level of service goals.
   - Additional Operating Cost in the Future: None

10. Deferred Maintenance – Annual Unplanned Pipe Rehabilitation and Drainage Projects

    - ID: STDM05
    - Year: FY22
    - Budget: $50,000
    - Description: An annual program that provides funding for the design and construction of various pipe rehabilitation, drainage, and treatment projects that improve the structural

integrity and conveyance capacity of the City's storm sewer system. Unplanned funds allow Staff to respond to infrastructure needs that arise from reoccurring system inspection and partner with other Public Works' projects, such as local SID street reconstructions if approved.

- Alternatives Considered: Staff assessed the potential of completing all pipe rehabilitation and drainage projects internally; however, determined this approach would significantly reduce resources applied towards critical reoccurring infrastructure maintenance.
- Advantages of Approval: The allocation of unplanned funds allows Staff to be proactive in the repair and replacement of stormwater infrastructure that has or is likely to fail, increasing system efficiency and reducing City liability.
- Additional Operating Cost in the Future: Stormwater Operations Personnel will complete the maintenance of projects as required.
- Additional Funding Sources: None

11. Deferred Maintenance Project – North 9th Avenue Ditch Rehabilitation

- ID: STDM06
- Year: FY23
- Budget: $150,000
- Description: The project includes designing and rehabilitating 900 feet of stormwater conveyance ditch located near North 9th Avenue from West Villard Street to West Peach Street. The ditch conveys stormwater generated from a 142-acre urban drainage basin and includes a vegetated swale that has experienced significant degradation. Specific issues include sediment deposition, overgrown vegetation, and bank erosion.
- Alternatives Considered: None. The ditch is a critical component of the City's public storm sewer network, and further deference will impact public safety and increase flood risk for adjacent properties. Also, the ditch's location, length, and tight grades make an internally managed repair unfeasible.
- Advantages of Approval: The project ensures the ditch will convey stormwater as designed for effective system operation. Completion of FY23 conveyance projects will bring the City to 40% of its deferred maintenance goal set by the City Commission during the Stormwater Utility's development.

12. Deferred Maintenance Project – Historic Pipe Replacement Program (FY23)

- ID: STDM07
- Year: FY23
- Budget: $475,000
- Description: The project includes designing and replacing 2,623 feet of storm sewer pipe located throughout the City's historic downtown core. The current pipes consist of vitrified clay, which is historical material. The pipes are over 100 years old, are in poor structural condition (contain 162 identified deficiencies), and convey stormwater flows generated from numerous large urban drainage basins, making them high priorities for replacement.
- Alternatives Considered: None. The pipes are a critical component of the City's public storm sewer network, and further deference will impact public safety and increase flood risk in the event of a failure. Further, internally managed spot repairs - which prolong a pipe's life – are unfeasible due to the pipes' locations, depths, conditions, and sizes.
- Advantages of Approval: The project ensures the pipes will effectively convey stormwater under design conditions. Completion of FY23 conveyance projects brings the City to 40% of

its deferred maintenance goal set by the City Commission during the Stormwater Utility's development.

- Additional Operating Cost in the Future: Stormwater Personnel will complete maintenance of the pipe on a five-year reoccurring schedule, including flushing, vacuuming, and inspection.

13. Deferred Maintenance – Annual Unplanned Pipe Rehabilitation and Drainage Projects

    - ID: STDM08
    - Year: FY23
    - Budget: $25,000
    - Description: An annual program that provides funding for the design and construction of various pipe rehabilitation, drainage, and treatment projects that improve the structural integrity and conveyance capacity of the City's storm sewer system. Unplanned funds allow Staff to respond to infrastructure needs that arise from reoccurring system inspection and partner with other Public Works' projects, such as local SID street reconstructions if approved.
    - Alternatives Considered: Staff assessed the potential of internal crews completing all pipe rehabilitation and drainage projects; however, determined this approach would significantly reduce resources applied towards critical reoccurring infrastructure maintenance.
    - Advantages of Approval: The allocation of unplanned funds allows Staff to be proactive in the repair and replacement of stormwater infrastructure that has or is likely to fail, increasing system efficiency and reducing City liability.
    - Additional Operating Cost in the Future: Stormwater Operations Personnel will complete the maintenance of projects as required.

14. Deferred Maintenance Project – Middle Creek Ditch Rehabilitation

    - ID: STDM09
    - Year: FY24
    - Budget: $300,000
    - Description: The project includes designing and rehabilitating 1,500 feet of stormwater conveyance ditch located near North 15th Avenue from West Main Street to West Beall Street. Ther ditch conveys stormwater generated from a 42-acre urban drainage basin. The ditch includes a vegetated swale that has experienced significant degradation. Specific issues include sediment deposition, overgrown vegetation, and bank erosion.
    - Alternatives Considered: None. The ditch is a critical component of the City's public storm sewer network, and further deference will impact public safety and increase flood risk for adjacent properties. Also, the ditch's location, length, and tight grades make an internally managed repair unfeasible.
    - Advantages of Approval: The project ensures the ditch will convey stormwater as designed for effective system operation. Completion of FY24 conveyance projects will bring the City to 51% of its deferred maintenance goal set by the City Commission during the Stormwater Utility's development.

15. Deferred Maintenance Project – Historic Pipe Replacement Program (FY24)

    - ID: STDM10
    - Year: FY24
    - Budget: $275,000

- Description: The project includes designing and replacing 1,400 feet of storm sewer pipe located through the City's historic downtown core. The current pipes consist of vitrified clay, which is historical material. The pipes are over 100 years old, are in poor structural condition (contain 54 identified deficiencies), and convey stormwater flows generated from numerous large urban drainage basins, making them high priorities for replacement.
- Alternatives Considered: None. The pipes are a critical component of the City's public storm sewer network, and further deference will impact public safety and increase flood risk in the event of a failure. Further, internally managed spot repairs - which prolong a pipe's life – are unfeasible due to the pipes' locations, depths, conditions, and sizes.
- Advantages of Approval: The project ensures the pipe convey stormwater as designed for effective system operation. Completion of FY24 conveyance projects brings the City to 51% of its deferred maintenance goal set by the City Commission during the Stormwater Utility's development.
- Additional Operating Cost in the Future: Stormwater Personnel will complete maintenance of the pipe on a five-year reoccurring schedule, including flushing, vacuuming, and inspection.

16. Deferred Maintenance – Annual Unplanned Pipe Rehabilitation and Drainage Projects

- ID: STDM11
- Year: FY24
- Budget: $75,000
- Description: An annual program that provides funding for the design and construction of various pipe rehabilitation, drainage, and treatment projects that improve the structural integrity and conveyance capacity of the City's storm sewer system. Unplanned funds allow Staff to respond to infrastructure needs that arise from reoccurring system inspection and partner with other Public Works' projects, such as local SID street reconstructions if approved.
- Alternatives Considered: Staff assessed the potential of completing all pipe rehabilitation and drainage projects internally; however, determined this approach would significantly reduce resources applied towards critical reoccurring infrastructure maintenance.
- Advantages of Approval: The allocation of unplanned funds allows Staff to be proactive in the repair and replacement of stormwater infrastructure that has or is likely to fail, increasing system efficiency and reducing City liability.
- Additional Operating Cost in the Future: Stormwater Operations Personnel will complete the maintenance of projects as required.

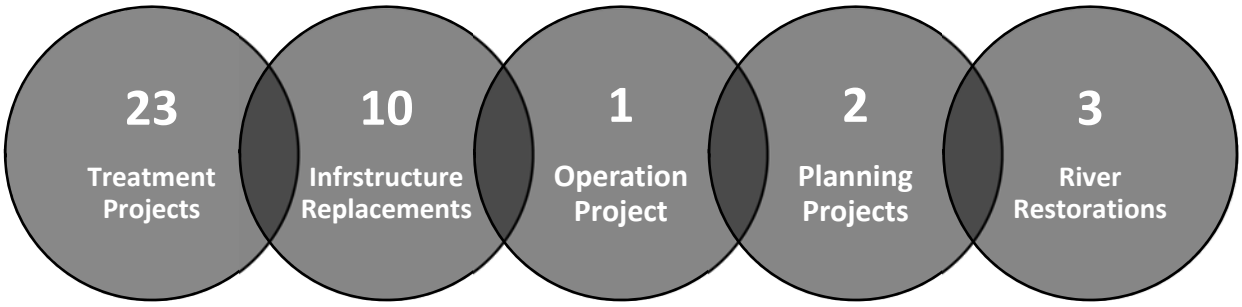
17. Operation Support Project - Stormwater TV Van Refurbishment

- ID: STRM26
- Year: Unscheduled
- Budget: $125,000
- Description: Refurbishment of existing Stormwater TV van routinely completed every five years to replace worn parts and remain consistent with new technology. This equipment is critical in assessing structural failures in the City's underground stormwater system and allows the City to identify troubled areas and allocate resources to fix. This process significantly improves operation efficiency, budget allocation, and project planning. Deferring this purchase would result in existing equipment to exceed their effective lifespans, resulting in unexpected breakdowns and inefficiencies
- Alternatives Considered: Purchase a new TV Van at an estimated cost of $250,000

- Advantages of Approval: Provides for the replacement of critical maintenance equipment
- Additional Operating Cost in the Future: Reoccurring vehicle and equipment maintenance

2.4 Ongoing or Completed Projects

The MS4 has or is in the process of completing the following projects:



Graphic 2.4.1: Ongoing or completed projects

1. Treatment Project: Mechanical Separation Unit Installation – N. Black and W. Main
   - Purpose: Reduce sediment loads
   - Type: TBD
   - Expected Treatment Efficiency: 50% TSS Reduction
   - Treatment Area: ≈28 Acres
   - Discharge Location: Bozeman Creek
   - Date of Completion: Planned completion is spring 2019
   - Co-Benefits: Progress towards WLA
2. Treatment Project: Mechanical Separation Unit Installation – N. Bozeman and W. Main
   - Purpose: Reduce sediment loads
   - Type: TBD
   - Expected Treatment Efficiency: 50% TSS Reduction
   - Treatment Area: ≈29 Acres
   - Discharge Location: Bozeman Creek
   - Date of Completion: Planned completion is spring 2019
   - Co-Benefits: Progress towards WLA
3. Infrastructure Replacement: N. Rouse Avenue Stormwater Upgrades (Phase 2)
   - Purpose: Improve drainage for N. Rouse Avenue
   - Type: Inlets, manholes, and mains
   - Expected Treatment Efficiency: n/a
   - Treatment Area: n/a
   - Discharge Location: Bozeman Creek
   - Date of Completion: Planned completion is summer 2019
   - Co-Benefits: Flood control and water quality
4. Treatment Project: Mechanical Separation Units 1-5: Rouse Reconstruction Phase 2
   - Purpose: Reduce sediment loads
   - Type: TBD

- Expected Treatment Efficiency: 50% TSS Reduction
- Treatment Area: ≈94 Acres
- Discharge Location: Bozeman Creek
- Date of Completion: Planned completion is summer 2019
- Co-Benefits: Progress towards WLA

5. Treatment Project: Boulevard Infiltration Structure – Mason and Tracy

   - Purpose: Reduce sediment loads
   - Type: Ultra Rain Garden
   - Expected Treatment Efficiency: 100% TSS Reduction
   - Treatment Area: ≈2 Acres
   - Discharge Location: Matthew Bird Creek (a tributary of Bozeman Creek)
   - Date of Completion: Planned completion is spring 2019
   - Co-Benefits: Progress towards WLA and peak flow reduction

6. Planning Project: Bozeman Creek Culvert Assessment (Mendenhall to Babcock)

   - Purpose: Determine structural integrity of critical culver/bridge under Main Street
   - Type: Analysis
   - Expected Treatment Efficiency: n/a
   - Treatment Area: n/a
   - Discharge Location: Planned completion is spring 2019
   - Co-Benefits: Public safety

7. Treatment Project: Mechanical Separation Unit Installation – 11th and College (MSU Project)

   - Purpose: Reduce sediment loads
   - Type: TBD
   - Expected Treatment Efficiency: 50% TSS Reduction
   - Treatment Area: ≈60 Acres
   - Discharge Location: Mandeville Creek
   - Date of Completion: Planned completion is August 1, 2019
   - Co-Benefits: n/a

8. Infrastructure Replacement: S. Tracy Reconstruction Stormwater Upgrades

   - Purpose: Improve drainage for S. Tracy Ave.
   - Type: Inlets, manholes, and 2,850 ft. of mains
   - Expected Treatment Efficiency: n/a
   - Treatment Area: n/a
   - Discharge Location: Bozeman Creek
   - Date of Completion: Summer 2018 and 2019
   - Co-Benefits: Flood control and water quality

9. Treatment Project: Mechanical Separation Unit Installation – N. 3rd and W. Main

   - Purpose: Reduce sediment load to Bozeman Creek
   - Type: Contech CDS (6*' Diameter*)
   - Expected Treatment Efficiency: 50% TSS Reduction
   - Treatment Area: ≈94 Acres
   - Discharge Location: Bozeman Creek
   - Date of Completion: Spring 2018

- Co-Benefits: Progress towards WLA

10. Treatment Project: Mechanical Separation Unit Installation – N. Grand and W. Main

    - Purpose: Reduce sediment load to Bozeman Creek
    - Type: Contech CDS (6′ *Diameter*)
    - Expected Treatment Efficiency: 50% TSS Reduction
    - Treatment Area: ≈58 Acres
    - Discharge Location: Bozeman Creek
    - Date of Completion: Spring 2018
    - Co-Benefits: Progress towards WLA

11. Treatment Project: Mechanical Separation Unit Installation – N. Tracy and W. Main

    - Purpose: Reduce sediment load to Bozeman Creek
    - Type: Contech CDS (6′ *Diameter*)
    - Expected Treatment Efficiency: 50% TSS Reduction
    - Treatment Area: ≈32 Acres
    - Discharge Location: Bozeman Creek
    - Date of Completion: Spring 2018
    - Co-Benefits: Progress towards WLA

12. Infrastructure Replacement: N. Rouse Avenue Stormwater Upgrades (Phase 1)

    - Purpose: Improve drainage for N. Rouse Avenue
    - Type: Inlets, manholes, and mains
    - Expected Treatment Efficiency: n/a
    - Treatment Area: n/a
    - Discharge Location: East Gallatin
    - Date of Completion: Summer 2018
    - Co-Benefits: Flood control and water quality

13. Treatment Project: N. 7th and W. Peach Permeable Pavers Streetscape Project

    - Purpose: Pilot permeable paver use
    - Type: Basalite Pavers
    - Expected Treatment Efficiency: 100% TSS Reduction
    - Treatment Area: .1 Acres
    - Discharge Location: East Gallatin
    - Date of Completion: Spring 2018
    - Co-Benefits: Flood control and water quality

14. Infrastructure Replacement: Baxter Lane Stormwater Upgrades

    - Purpose: Improve drainage for 7th and Baxter
    - Type: Inlets, manholes, and mains
    - Expected Treatment Efficiency: n/a
    - Treatment Area: n/a
    - Discharge Location: Mandeville Creek
    - Date of Completion: Summer 2018
    - Co-Benefits: Flood control and water quality

15. Planning Project: Bozeman Creek Stream Gauge Installation

- Purpose: Data collection
- Type: DNRC Stream Gauge
- Expected Treatment Efficiency: n/a
- Treatment Area: n/a
- Discharge Location: n/a
- Date of Completion: Summer 2018
- Co-Benefits: Includes port for sediment monitoring device

16. Infrastructure Replacement: East Olive Street Stormwater Upgrades

    - Purpose: Improve drainage for East Olive Street
    - Type: Inlets, manholes, and mains
    - Expected Treatment Efficiency: n/a
    - Treatment Area: n/a
    - Discharge Location: Bozeman Creek
    - Date of Completion: Fall 2017
    - Co-Benefits: Flood control and water quality

17. Treatment Project: City Hall Patio Permeable Paver Project

    - Purpose: LID/Green infrastructure pilot project and community education
    - Type: Pave Drain Permeable Pavers
    - Expected Treatment Efficiency: 100% TSS Reduction
    - Treatment Area: ≈1,000 square feet
    - Discharge Location: Bozeman Creek
    - Date of Completion: Summer 2017
    - Co-Benefits: Progress towards WLA

18. Infrastructure Replacement: Inlet Replacements

    - Purpose: Reduce sediment to Bozeman Creek and flood control
    - Type: Standard inlet with 9" sump
    - Expected Treatment Efficiency: Unknown
    - Treatment Area: 23 inlets
    - Discharge Location: Bozeman Creek
    - Date of Completion: Fall 2017
    - Co-Benefits: Progress towards WLA

19. Infrastructure Replacement: Pipe Replacements (S. Black and S. Bozeman)

    - Purpose: Flood control
    - Type: 15" SDR
    - Expected Treatment Efficiency: n/a
    - Treatment Area: 600'
    - Discharge Location: Bozeman Creek
    - Date of Completion: Fall 2017
    - Co-Benefits: n/a

20. Treatment Project: Mechanical Separation Unit Installation – N. Rouse and E. Griffin

    - Purpose: Reduce sediment load to Bozeman Creek
    - Type: Contech CDS (*6' Diameter*)
    - Expected Treatment Efficiency: 80% TSS Reduction

- Treatment Area: ≈ 14 Acres
- Discharge Location: Bozeman Creek
- Date of Completion: Fall 2017
- Co-Benefits: Progress towards WLA

21. Treatment Project: Mechanical Separation Unit Installation - N. Rouse and Bridger Center

- Purpose: Reduce sediment load to Bozeman Creek
- Type: Contech CDS (*5' Diameter*)
- Expected Treatment Efficiency: 80% TSS Reduction
- Treatment Area: ≈12 Acres
- Discharge Location: Bozeman Creek
- Date of Completion: Fall 2017
- Co-Benefits: Progress towards WLA

22. Treatment Project: Mechanical Separation Unit Installation - S. Rouse and E. Olive

- Purpose: Reduce sediment load to Bozeman Creek
- Type: Contech CDS (*5' Diameter*)
- Expected Treatment Efficiency: 80% TSS Reduction
- Treatment Area: ≈9 Acres
- Discharge Location: Bozeman Creek
- Date of Completion: Fall 2017
- Co-Benefits: Progress towards WLA

23. Treatment Project: Mechanical Separation Unit Installation – Perkins and E. Peach

- Purpose: Reduce sediment load to Bozeman Creek
- Type: Contech CDS (*4' Diameter*)
- Expected Treatment Efficiency: 80% TSS Reduction
- Treatment Area: ≈ 22 Acres
- Discharge Location: Bozeman Creek
- Date of Completion: Fall 2017
- Co-Benefits: Progress towards WLA

24. Operations Project: Stormwater Operations Disposal Facility

- Purpose: Sediment dewatering and storage
- Type: Asphalt pad with ecology block bays
- Expected Treatment Efficiency: n/a
- Treatment Area: n/a
- Discharge Location: Lined wastewater pond
- Date of Completion: Fall 2017
- Co-Benefits: Facilitates pollutant reduction totals

25. Treatment Project: Mechanical Separation Unit Installation - S. Rouse and E. Lincoln

- Purpose: Reduce sediment load to Bozeman Creek
- Type: Contech CDS (*5' Diameter*)
- Expected Treatment Efficiency: 80% TSS Reduction
- Treatment Area: ≈32 Acres
- Discharge Location: Bozeman Creek
- Date of Completion: Fall 2016

- Co-Benefits: Progress towards WLA

26. Treatment Project: Mechanical Separation Unit Installation - N. 11th and W. Lamme

    - Purpose: Reduce sediment load to Mandeville Creek
    - Type: Contech CDS (*4' Diameter*)
    - Expected Treatment Efficiency: 80% TSS Reduction
    - Treatment Area: ≈7 Acres
    - Discharge Location: Mandeville Creek
    - Date of Completion: Fall 2016
    - Co-Benefits: Located adjacent to High School and includes educational signage

27. Treatment Project: Mechanical Separation Unit, Underground Infiltration Basin, Wash Pad, and Paving Project – Shops Complex

    - Purpose: Reduce sediment load to Bozeman Creek
    - Type: Contech CDS (*4' Diameter*), ADS StormTech, and Inlet Sumps
    - Expected Treatment Efficiency: 80% TSS Reduction for Mechanical Separation Unit and 100% for Underground Infiltration Basin
    - Treatment Area: ≈2 Acres
    - Discharge Location: Bozeman Creek
    - Date of Completion: Fall 2016
    - Co-Benefits: Progress towards WLA

28. Treatment Project: Mechanical Separation Unit Installation – N. Wallace and E. Tamarack

    - Purpose: Reduce sediment load to Bozeman Creek
    - Type: Contech CDS (8' *Diameter*)
    - Expected Treatment Efficiency: 80% TSS
    - Treatment Area: ≈100 Acres
    - Discharge Location: Bozeman Creek
    - Date of Completion: November 2016
    - Co-Benefits: Progress towards WLA

29. Treatment Project: Underground Infiltration Basin – N. 7th and Baxter

    - Purpose: Reduce localized flooding; reduce sediment load to Mandeville Creek
    - Type: Perforated gravity main embedded in aggregate for storage
    - Expected Treatment Efficiency: 100% TSS
    - Treatment Area: ≈9 Acres
    - Discharge Location: Mandeville Creek
    - Date of Completion: Summer 2016
    - Co-Benefits: Joint water conservation and stormwater LID pilot project

30. Treatment Project: Underground Infiltration Basin – Plum and Avocado

    - Purpose: Reduce localized flooding; reduce sediment load to East Gallatin;
    - Type: ADS StormTech
    - Expected Treatment Efficiency: 100% TSS
    - Treatment Area: ≈14 Acres
    - Discharge Location: Subsurface
    - Date of Completion: Fall 2016
    - Co-Benefits: Resolved localized flooding issue

31. River Restoration: Backwater Slough – Story Mill Park

- Purpose: Reduce sediment load in Bozeman Creek
- Type: Constructed wetland
- Expected Treatment Efficiency: 100% TSS
- Treatment Area: Entire Bozeman Creek Watershed
- Discharge Location: Bozeman Creek
- Date of Completion: Summer 2015
- Co-Benefits: Nutrient uptake, flood mitigation, and wetland restoration

32. River Restoration: Bozeman Creek Meander Construction – Bogert Park

- Purpose: Stream restoration; improve streamside vegetative cover; reduce sediment load due to streambank erosion; flood control
- Type: Excavated meander and pool addition; inset floodplain construction
- Expected Treatment Efficiency: Unknown
- Treatment Area: Entire Bozeman Creek Watershed
- Discharge Location: Bozeman Creek
- Date of Completion: Spring 2017
- Co-Benefits: Education, fish habitat, stream bank stabilization, and flood control

33. River Restoration: Meander the Mandeville Construction Phase 1 – Bozeman High School

- Purpose: Stream restoration; improve streamside vegetative cover; flood control
- Type: Construction of meanders, riffles, and pools
- Expected Treatment Efficiency: Unknown
- Treatment Area: Entire Mandeville Creek Watershed
- Discharge Location: Mandeville Creek
- Date of Completion: 2016
- Co-Benefits: Education, fish habitat, stream bank stabilization, and flood control

34. Treatment Project: LID Infiltration Galleries – University Field House

- Purpose: Reduce sediment load to Mandeville Creek
- Type: LID Infiltration Galleries
- Expected Treatment Efficiency: 100% TSS Reduction
- Treatment Area: 2.4 Acres
- Discharge Location: Mandeville Creek
- Date of Completion: 2016

35. Treatment Project: Mechanical Separation Unit Installation – University Field House

- Purpose: Reduce sediment load to Mandeville Creek
- Type: Hydro International Downstream Defender and Sediment Separator
- Expected Treatment Efficiency: 80% TSS removal
- Treatment Area: 3 Acres
- Discharge Location: Mandeville Creek
- Date of Completion: Fall 2015

36. Treatment Project: Underground Infiltration – Jabs and Wilson Halls

- Purpose: Reduce sediment load to Mandeville Creek
- Type: Underground Infiltration Gallery
- Expected Treatment Efficiency: 100% TSS Reduction

- Treatment Area: 3.9 Acres
- Discharge Location: Subsurface
- Date of Completion: 2016

37. Infrastructure Replacement: Gravity Main Install – 15th and Babcock

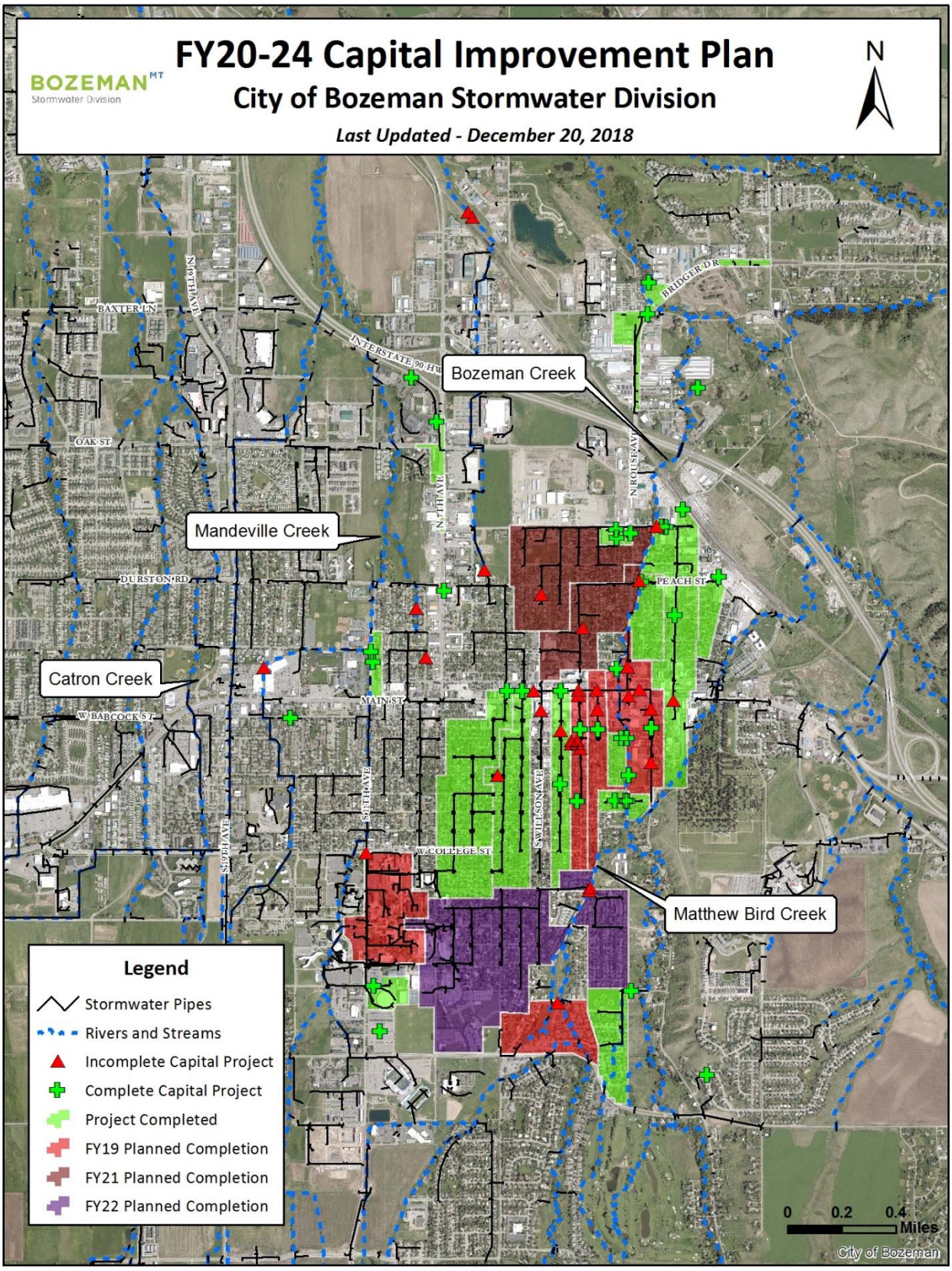
    - Purpose: Eliminate localized flooding issue
    - Type: Construction of underground stormwater main
    - Expected Treatment Efficiency: None
    - Treatment Area: None
    - Discharge Location: Mandeville Creek
    - Date of Completion: Fall 2015

38. Infrastructure Replacement: Wallace Street Reconstruction and Stormwater System Improvements

    - Purpose: Eliminate localized flooding issue and provide treatment
    - Type: Construction of 3,000 feet of underground stormwater mains and new inlets
    - Expected Treatment Efficiency: None
    - Treatment Area: None
    - Discharge Location: Bozeman Creek
    - Date of Completion: 2016

39. Infrastructure Replacement: Story Street Reconstruction and Stormwater System Improvements

    - Purpose: Eliminate localized flooding issue and provide treatment
    - Type: Construction of underground stormwater mains, new inlets, and oil/sand separators
    - Expected Treatment Efficiency: Unknown
    - Treatment Area: 10 Acres
    - Discharge Location: Bozeman Creek
    - Date of Completion: 2015

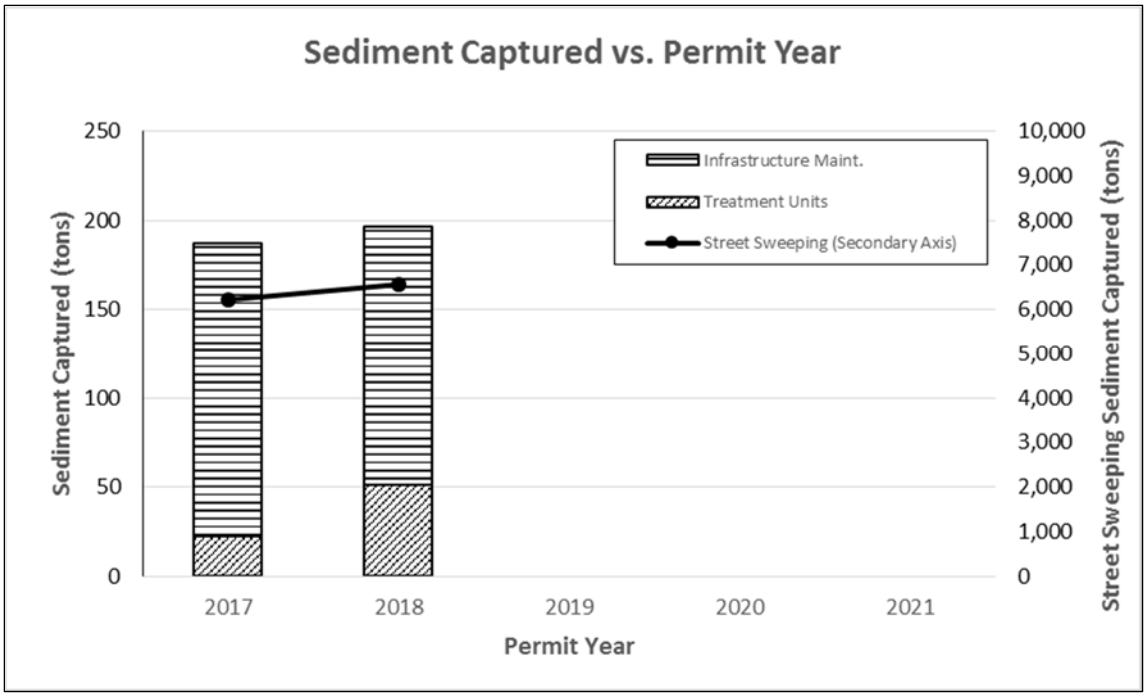


Graphic 2.4.2: Planned and complete stormwater projects

2.5 Pollutant Reduction Totals

The MS4 tracks pollutant reduction totals using a variety of data tracking mechanisms, including:

- Total Suspended Solids (Sediment)
  - Treatment Unit Maintenance: The MS4 calculates tonnage totals by measuring the depth of sediment within each unit before cleaning. The MS4 subtracts a top of sediment depth measurement from a total depth measurement, calculates a volume of sediment (cubic feet) using dimension information for each unit, and converts the volume to tons by using an assumed sand weight ratio of .056 Tons = 1 Cubic Foot of Sand.
    - 2017: 22.6 Tons
      - Bozeman Creek Watershed: 16.3 Tons
      - Mandeville Creek Watershed: 5.0 Tons
      - East Gallatin: 1.3 Tons
    - 2018: 51.0 Tons
      - Bozeman Creek Watershed: 45.7 Tons
      - Mandeville Creek Watershed: 1.0 Tons
      - East Gallatin: 4.3 Tons
  - Infrastructure Maintenance: The MS4 calculates tonnage totals by calculating the depth of sediment vacuumed out of manholes and inlets before cleaning. The MS4 multiplies the area of each assets sump by an assumed 1/2 full depth measurement, multiplies the volume by the total assets maintained for that year, and converts the volume to tons by using an assumed sand weight ratio of .056 Tons = 1 Cubic Foot.
    - 2017: 164.7 Tons
      - City: 117.7 Tons
      - MSU Campus: 46.9 Tons
    - 2018: 145.6 Tons
      - City: 99.3 Tons
      - MSU Campus: 46.3 Tons
  - Street Sweeping: The MS4 calculates tonnage totals for reoccurring, spring, and fall street sweeping operations. The Streets Division tracks cubic yard totals for each of the activities, which is then stored in Cityworks and reported. The MS4 converts yards to tons using an assumed weight ratio of 1.5 Tons = 1 Cubic Yard of Sand for reoccurring and spring street sweeping and converts yards to tons using an assumed weight ratio of .18 Tons = 1 Cubic Yard of Leaves for fall street sweeping.
    - 2017: 6,232 Tons
      - City Citywide: 6,108 Tons
      - MSU Campus: 124 Tons
    - 2018: 6,577 Tons
      - City Citywide: 6,353 Tons
      - MSU Campus: 224 Tons



Graphic 2.5.1: Sediment capture chart

2.6 Performance Measures

The MS4 utilizes performance measures to evaluate programmatic strategies with the goal of optimizing limited resources, increasing efficiencies, and balancing annual workloads.

1. Stream Health Improvement: Final Grade generated by the MS4 that provides a consistent and communicable method for tracking stream health improvement and permit compliance risk. The MS4s target level of service is to facilitate an upward trend annually, which is calculated using the methods described in SWMP Section 8.0. Results include:

   - 2017: n/a
   - 2018: D Grade (60.5%)
   - 2019: TBD
   - 2020: TBD
   - 2021: TBD

2. Community Safety and Urban Flood Risk: Tracking mechanism utilized by the MS4 that provides a consistent and communicable method for tracking community safety and urban flood risk. The MS4 target level of service is to have zero insurance claims filed annually as a result of public storm sewer deficiencies.

   - 2017: 0 claims filed
   - 2018: 0 claims filed
   - 2019: TBD
   - 2020: TBD
   - 2021: TBD

Section 3.0

Public Education Program

Graphic 3.0.1: Construction field academy

Graphic 3.0.2: Dog waste station with educational signage

3.1 Introduction

The MS4 strives to improve waterway health, protect public safety, and comply with its MS4 Permit through the education and involvement of the public by:

- Passively engaging residents through the consistent supply of educational information
- Actively engaging residents, allowing them to take direct action

SWMP Section 3.0 details the following components necessary to administer the MS4's Public Education Program, including:

- Protocol
- Key Audiences
- Ongoing Initiatives
- Future Opportunities

3.2 Protocol

The MS4 educates audiences on stormwater-related issues to reduce the public's contribution of pollutants to waterbodies using the following strategies:

1. Passive Engagement (Education): Involves creating and distributing educational messages targeting pollutant-generating activities. Strategies include:
    - Website
    - Utility bill inserts
    - Internet and radio advertisements
    - Brochures
    - Magazine articles
    - Educational signage
    - Vehicle wraps
2. Active Engagement (Involvement and Enforcement): Includes holding customized interpersonal interactions with various audiences targeting pollutant-generating activities and issuance of violations for repeat offenses. Strategies include:
    - Presentations
    - Meetings
    - Trainings
    - Tours
    - Activities
    - Events
    - Penalties

3.3 Key Audiences

The MS4 targets the following audiences because they complete activities that do not conform to best practice procedures, such as proper erosion control, landscape maintenance, and stormwater basin maintenance.

1. Residents
    - Pollutant(s): Nutrients, floatables, and Total Suspended Solids (TSS)
    - Activity: Yard maintenance

- Rationale: See SWMP Section 8.9
- Outreach Strategy: Passive Engagement and Active Engagement
- Initiatives: See SWMP Section 3.4

2. Construction Industry

   - Target Pollutant(s): TSS, floatables, oil, grease, and concrete waste
   - Targeted Activity: Construction
   - Rationale: See SWMP Section 5.4
   - Outreach Strategy: Passive and Active Engagement
   - Initiatives: See SWMP Section 3.4

3. Youth

   - Pollutant(s): E.coli, nutrients, and TSS
   - Activity: Early education
   - Rationale: Initiation of a paradigm shift and trickle up impact
   - Outreach Strategy: Active Engagement
   - Initiatives: SWMP Section 3.4

4. Home Owner Associations (HOAs) and Property Management Companies

   - Pollutant(s): Nutrients, TSS, E. coli, and flood control
   - Activity: Stormwater basin maintenance
   - Rationale: SWMP Section 6.4
   - Outreach Strategy: Passive and Active Engagement
   - Initiatives: See SWMP Section 3.4

5. Carpet Cleaning and Restoration Companies

   - Pollutant(s): Wash waters
   - Activity: Illegal dumping
   - Rationale: See SWMP Section 4.4
   - Outreach Strategy: Active Engagement
   - Initiatives: See SWMP Section 3.4

6. Pet Owners

   - Pollutant(s): E.coli
   - Activity: Dog waste pickup
   - Rationale: See SWMP Section 8.2
   - Outreach Strategy: Passive Engagement
   - Initiatives: See SWMP Section 3.4

3.4 Ongoing Initiatives

The MS4 completes initiatives to engage, educate, and promote sustainable behavior of its key target audiences. Ongoing initiatives include:

1. Adopt a Storm Drain: A program that actively engages watershed champions, and supplies them with a tool to make a measurable difference in their neighborhoods by periodically cleaning and disposing debris from adopted stormwater inlets. The program also passively engages residents by creating an environment where stormwater-related issues can be discussed and acted upon at a neighborhood level, rather than the City acting as the sole information provider.

A participant in the program is subject to the following: (1) recruitment through meetings, mailers, social media, or informative videos, (2) selection of inlet through online web map application, (3) receipt of a welcome packet, including tools, educational information, and instructions, (4) engagement and troubleshooting with City Staff through email or phone, (5) incentivization through receipt of a yard sign, and other rewards based on seniority, (6) completion of inlet cleaning and debris collection during the spring, summer, and fall, (7) annual reporting of debris collected to City, (8) survey allowing for a feedback mechanism, and (9) receipt of annual thank you and report

- Key Audience: Residents
- Targeted Pollutant(s): E.coli, nutrients, floatables, and TSS
- Strategy: Active and Passive Engagement
- Treatment Area: Citywide
- Distribution Channels: Recruitment, training, troubleshooting, and engagement
- Performance: Total weight of debris collected annually
    - 2017: n/a
    - 2018: n/a
- 2019 Schedule: Pilot program
- 2019 Goal: 250 lbs. of debris

2. Educational Stormwater Video: Seven-minute video that describes the MS4's Program, the context for why stormwater is important, and ways residents/property owners can make a difference. Residents view the video on the City's website or YouTube.

    - Key Audience: Residents
    - Targeted Pollutant(s): E.coli, nutrients, oil, grease, floatables, and TSS
    - Strategy: Passive Engagement
    - Treatment Area: Citywide
    - Distribution Channels: MS4 website and email signature attachment
    - Performance: Total views, watch time, and average view duration tracked annually
        - 2017: 179 views, 722 minutes watch time, and 4:02 average view duration
        - 2018: 493 views, 1,800 minutes watch time, and 3:41 average view duration
    - 2019 Schedule: Maintain video, add to City Public Broadcasting Channel
    - 2019 Goal: Repeat 2018 view count +/-5%

3. Dog-Waste Campaign: Campaign devoted to educating residents about the importance of dog waste collection and disposal.

    - Key Audience: Residents
    - Targeted Pollutant(s): E.coli
    - Strategy: Passive Engagement
    - Treatment Area: Citywide
    - Distribution Channels: Strategic signage placed in high pedestrian and dog use areas.
    - Performance: Tonnage tracked annually by calculating the total amount of dog waste collected by the Parks Division at all MS4 maintained stations.
        - 2017: 19.5 Tons
        - 2018: 20.6 Tons
    - 2019 Schedule: Maintain dog waste signs, add urban specific signs in four locations

- 2019 Goal: Repeat 2018 collection total +/-5%

4. Vehicle Decal Wraps: Educational signage installed on the MS4's vacuum truck and street sweeper that visually displays the connection between the urban areas and waterways.

   - Key Audience: Residents
   - Targeted Pollutant(s): E.coli, nutrients, oil, grease, floatables, and TSS
   - Strategy: Passive Engagement
   - Treatment Area: Citywide
   - Distribution Channel: Vehicle use
   - Performance: Stormwater operator hours
     - 2017: 4,300 hours
     - 2018: 5,400 hours
   - 2019 Schedule: Maintain decals
   - 2019 Goal: Repeat operator hours +/-5%

5. Website: Publically accessible site that includes a variety of information, spanning from what stormwater is, how to report a pollution event, rate model information, post-construction design standards, and more. Address: www.bozeman.net/government/stormwater.

   - Key Audience: Residents, Home Owner Associations, and Contractors
   - Targeted Pollutant(s): E.coli, nutrients, oil, grease, floatables, and TSS
   - Strategy: Passive Engagement
   - Treatment Area: Citywide
   - Distribution Channels: Available to the public via the internet
   - Performance: Total unique page views tracked by Google Analytics
     - 2017: 677 Views
     - 2018: 1,225 Views
   - 2019 Schedule: Maintain website
   - 2019 Goal: Repeat total unique page views +/-5%

6. General Outreach: Information developed by the MS4 and applied in various settings focused on providing general stormwater information and soliciting public participation.

   - Key Audience: Residents
   - Targeted Pollutant(s): E.coli, nutrients, oil, grease, floatables, and TSS
   - Strategy: Active Engagement
   - Treatment Area: Entire MS4
   - Distribution Channels: Presentations, conferences, community events, and advertisements
   - Performance: Total events
     - 2017: 10 (Green Drinks Event, MSU Class Presentations, GLWQD Board Presentation, (2) MSAWWA Conference Presentation, SWMBIA Home Show Booth, Environment Summit Community Event, Water Works Art Initiative, Gallatin Watershed Sourcebook, Breaking Ground Advertisement)
     - 2018: 15 (Montana DNRC Water Summit Presentation, MDEQ Stormwater Conference Presentation, MDEQ Stormwater Conference Tour, Parade of Homes Garden Tour, Gallatin College Presentation, MSU Landscape School Presentation, Stream Team Training, City Commission Emergency Ordinance Presentation, City Commission Capital and Budget Presentation, Gallatin Watershed Sourcebook Creation and Distribution,

Water and Society Class Presentation, Horticulture 201 Stormwater Design Project, (2) Student Led Campus Cleanup Events: Loose Litter and Cigarettes, Campus Cleanup Event)

- 2019 Schedule: Identify and pursue public education opportunities
- 2019 Goal: Complete ten events

7. Construction Training: Training designed to educate contractors on proper selection and use of best management practices (BMPs). The MS4 holds training tailored to various education levels, construction activities, and inspection procedures. Further, the MS4 maintains a Construction Program that includes permits, processes, and materials tailored to this group also described in SWMP Section 5.0.

   - Key Audience: Contractors and Engineers
   - Targeted Pollutant(s): TSS, floatables, oil, grease, and concrete waste
   - Strategy: Active and Passive Engagement
   - Treatment Area: Citywide
   - Distribution Channels: Best Management Practices Manual and conducting annual training
   - Performance: Annual construction-site audit earned score (see SWMP Section 5.4)
     - 2017: n/a
     - 2018: 33%
   - 2019 Schedule: See SWMP Section 5.0
   - 2019 Goal: Improve the audit score by 10%

8. Project WET Curriculum: Class exercises administered by 4th, 5th, and 6th-grade teachers in local schools educating students on stormwater-related issues, utilizing customized, and location-specific lesson plans and activities.

   - Key Audience: Residents
   - Targeted Pollutant(s): E.coli, nutrients, floatables, and TSS
   - Strategy: Active Engagement
   - Treatment Area: Entire MS4
   - Distribution Channels: The MS4 contracts with Project Wet to train teachers who then administer lesson plans.
   - Performance: Total student participants
     - 2017: 492 students
     - 2018: 526 students
   - 2019 Schedule: Coordinate use in classrooms and through Recreation Division
   - 2019 Goal: Repeat student totals +/-5%

9. Post-Construction Stormwater Control Training: Tailored outreach that educates HOA Boards and management representatives on the proper function and maintenance of stormwater basins. The MS4 maintains a Post-Construction Program that includes processes and materials tailored to this group further described in SWMP Section 6.0.

   - Key Audience: Home Owner Associations and Property Management Companies
   - Targeted Pollutant(s): Nutrients, TSS, flood control (downstream erosion)
   - Strategy: Active and Passive Engagement
   - Treatment Area: Citywide

- Distribution Channels: Participation in site tours, board meetings, annual assemblies, and development of educational information
- Performance: Annual post-construction audit earned score (see SWMP Section 6.4)
    - 2017: n/a
    - 2018: 25%
- 2019 Schedule: See SWMP Section 6.0
- 2019 Goal: Improve the audit score by 10%

10. Targeted Outreach: Educate local carpet cleaning and restoration companies on proper disposal methods and potential enforcement penalties for illicit discharges to the storm sewer system.

- Key Audience: Carpet Cleaning and Restoration Companies
- Targeted Pollutant(s): Wash waters
- Strategy: Active Engagement
- Treatment Area: Entire MS4
- Distribution Channels: Written and verbal correspondence
- Performance: Illicit discharge reports related to targeted activities
    - 2017: 0
    - 2018: 1
- 2019 Schedule: Distribute a letter to owners
- 2019 Goal: No illicit discharges

3.5 Future Opportunities

The MS4's Public Education Program requires the following to meet established goals:

1. Education Video Series: Development of a multifaceted video library that would bring to life many of the concepts presented in the MS4's static educational materials, such as how to properly fertilize, pick up dog waste, and install rain barrels.
2. Adopt a Rain Garden: Program similar to Adopt a Storm Drain Program where residents or businesses adopt MS4 constructed rain gardens/boulevard infiltration galleries.

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Section 4.0

Illicit Discharge Detection and Elimination Program

Graphic 4.0.1: Bentonite slurry spill

Graphic 4.0.2: Illicit connection confirmation

4.1 Introduction

The MS4 strives to improve waterway health, protect public safety, and comply with its MS4 Permit through the identification and elimination of pollutant sources by:

- Completing dry weather screening of outfalls
- Inspecting the storm sewer for illegal connections (see SWMP Section 7.2)
- Responding and resolving pollution events
- Enforcing municipal standards

SWMP Section 4.0 details the following components necessary to administer the MS4's Illicit Discharge Detection and Elimination Program, including:

- Regulatory Framework
- Response Protocol
- Event Tracking
- Non-Stormwater Discharge Evaluation
- Outfall Reconnaissance Inventory
- Storm Sewer Infrastructure Totals

4.2 Regulatory Framework

The MS4 utilizes Bozeman Municipal Code (BMC) Section 40.04.200 as its regulatory foundation, which states:

"It shall be unlawful to discharge or cause to be discharged into the MS4 any materials, including, but not limited to, pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards or that could cause the city to be in violation of its MPDES. It shall be unlawful to store, handle, or apply any pollutant in a manner that will cause exposure to rainfall or runoff and discharge to the MS4 and to state waters or waters of the United States."

4.3 Response Protocol

The MS4 uses the following Emergency Response Plan (ERP) to assess event priority, formulate a response, and, if necessary, pursue enforcement in cases where a party completes a repeat, blatant, or knowing violation of BMC:

1. Assign event coordinator
2. Investigate complaint to determine pollutant type and severity (site visit and correspondence)
3. Implement one of the following responses:

    - Tier 1 Event

        - Threat: Minimal impact on public safety, infrastructure and environment
        - Priority: High
        - Team: MS4 staff
        - Timeline: Initiate response within 5-days
        - Resolution: MS4 operations staff and/or contracted restoration firm
        - Pollutant Disposal: Public - Disposal Facility, private - varies
        - Reporting: Internal report
        - Examples: Leaking vehicles, dripping dumpster, and minor construction violations

- Tier 2 Event
    - Threat: Moderate impact on public safety, infrastructure, and environment
    - Priority: High
    - Team: MS4 Staff
    - Timeline: Initiate response within 24-hours
    - Resolution: MS4 operations staff and/or contracted restoration firm
    - Pollutant Disposal: Public - Disposal Facility, private - varies
    - Reporting: Internal report
    - Examples: Carpet cleaning process water discharge, sanitary overflow, camper waste disposal, homeless camp cleanup, floor drain, and illicit sanitary connections, non-hazardous chemical spills, and moderate to severe construction violations
- Tier 3 Event
    - Threat: Immediate threat to human health. Infrastructure, and environment
    - Priority: High
    - Team: MS4 operations staff and emergency services
    - Timeline: Immediate response
    - Resolution: Fire, MS4 operations, and/or restoration firm
    - Pollutant Disposal: Public - Disposal Facility, private - varies
    - Reporting: Internal report and DEQ Notification
    - Example: Hazardous chemical spills

4. Eliminate discharge by whatever means necessary
5. If applicable, notify appropriate state and federal agencies
6. Prepare and file an event report
7. If applicable, assess one or more of the following penalties to the responsible party:
    - Informal Response: Warning using correspondence, email notification, or verbal notice
    - Formal Response: Notice of Violation and Cease and Desist Order using compliance timeline and monetary penalties based on staff time accrued and remediation costs.
    - Judicial Response: Civil penalties, injunctive relief, or criminal penalties using court systems

4.4 Event Tracking

1. 2017 Events: 5
    - Tier 1 Event: Ellis Apartments - Leaking vehicle
        - Event ID: 201701
        - Pollutant: Oil
        - Local Control: Bozeman Municipal Code *(report available upon request)*
        - Resolved: Yes, owner cleaned up oil
        - Significant: No, less than 5-gallons, no confirmed discharge to the storm sewer
    - Tier 1 Event: Crystal Bar - Illicit roof drain
        - Event ID: 201702
        - Pollutant: Wash water
        - Local Control: Bozeman Municipal Code *(report available upon request)*
        - Resolved: Yes, owner disconnected sink from the roof drain
        - Significant: Yes, over 5-gallons, confirmed discharge to the storm sewer

- Tier 2 Event: Lindley Park - Homeless camp clean up
    - Event ID: 201703
    - Pollutant: Trash, human waste, and drug paraphernalia
    - Local Control: Bozeman Municipal Code *(report available upon request)*
    - Resolved: Yes, restoration firm cleaned up debris
    - Significant: No, less than 5-gallons, no confirmed discharge to the storm sewer
- Tier 1 Event: NAC Construction Site Fueling Spill
    - Event ID: 201704
    - Pollutant: Diesel Fuel
    - Local Control: MSU Safety and Risk Management
    - Resolved: Yes, MSU Facility Services clean up
    - Significant: Yes, over 5-gallons
- Tier 1 Event: Stadium Tractor Hydraulic Oil Spill
    - Event ID: 201705
    - Pollutant: Hydraulic Oil (<25 gallons)
    - Local Control: MSU Safety and Risk Management
    - Resolved: Yes, MSU Facility Services clean up
    - Significant: Yes, over 5-gallons, no confirmed discharge to the storm sewer

2. 2018 Events: 7

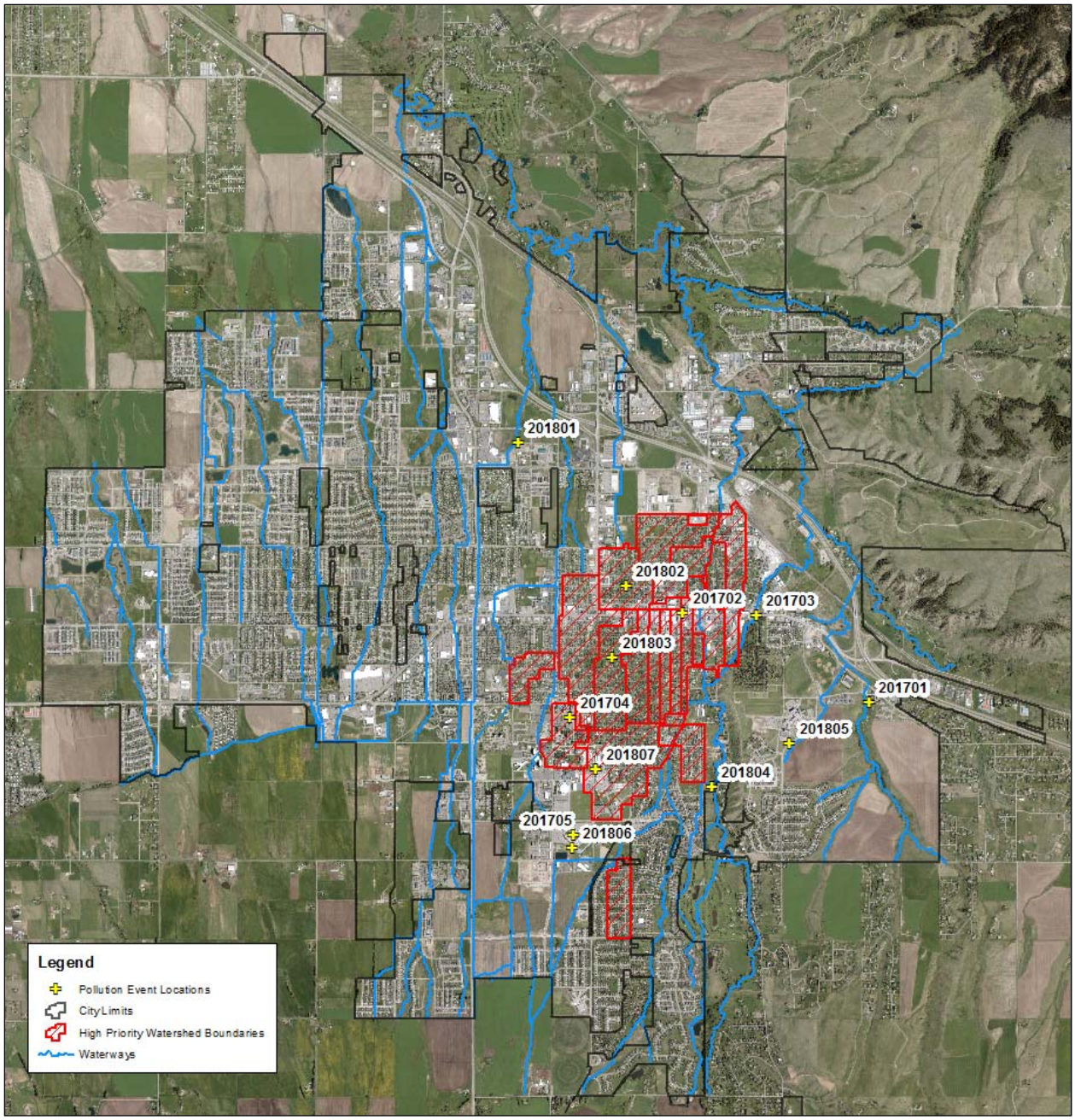
- Tier 1 Event: 15th & Patrick Oil Dumping
    - Event ID: 201801
    - Location: See map 4.2.1
    - Pollutant: Used motor oil
    - Local Control: BMC Section 40.04.200 and system cleaning
    - Significant: No, less than 5-gallons, confirmed discharge to the storm sewer
- Tier 1 Event: Solid Waste Hydraulic Hose
    - Event ID: 201802
    - Location: See map 4.2.1
    - Pollutant: Hydraulic fluid
    - Local Control: Solid Waste and Streets spill response
    - Significant: No, over 5-gallons, no confirmed discharge to the storm sewer
- Tier 1 Event: Prue Clean Technologies Carpet Cleaners
    - Event ID: 201803
    - Location: See map 4.2.1
    - Pollutant: Soaps and cleaning chemicals
    - Local Control: BMC Section 40.04.200
    - Significant: Yes, over 5-gallons, confirmed discharge to the storm sewer
- Tier 1 Event: Northwestern Energy Frac-Out
    - Event ID: 201804
    - Location: See map 4.2.1
    - Pollutant: Bentonite slurry
    - Local Control: BMC Section 40.04.200

- Significant: No, over 5-gallons, no confirmed discharge to the storm sewer

- Tier 2 Event: Sanitary Sewer Overflow
  - Event ID: 201805
  - Location: See map 4.2.1
  - Pollutant: Sediment and pathogens
  - Local Control: Sewer Department sanitary sewer overflow response and system cleanout
  - Significant: Yes, over 5-gallons, confirmed discharge to the storm sewer
- Tier 1 Event: John Deer Contractor Hydraulic Hose Failure
  - Event ID: 201806
  - Location: See map 4.2.1
  - Pollutant: Hydraulic Fluid
  - Local Control: MSU Safety and Risk Spill Response (sorbent material, 55-gallon drum, disposal)
  - Significant: No, under 5-gallons, no confirmed discharge to the storm sewer
- Tier 1 Event: Barnard Holder Snow Machine Hydraulic Hose Failure
  - Event ID: 201807
  - Location: See map 4.2.1
  - Pollutant: Hydraulic Fluid
  - Local Control: MSU Safety and Risk Spill Response (sorbent material, 5-gallon buckets, disposal)
  - Significant: No, under 5-gallons, no confirmed discharge to the storm sewer

Illicit Discharge Events Resolved					
	2017	**2018**	**2019**	**2020**	**2021**
Tier 1 Events	4	6			
Tier 2 Events	1	1			
Tier 3 Events	0	0			
Total	5	7			

Graphic 4.4.1: Illicit discharge events



Graphic 4.4.2: Illicit discharge locations (last updated 2/6/2019)

4.5 Non-Stormwater Discharge Evaluation

The MS4 evaluates the following non-stormwater discharges to identify if they pose a waterway threat:

1. Water Line Flushing
    - Description: Chlorinated water resulting from Bac-T testing and cleaning of new water lines
    - Associated Pollutant(s): Chlorine
    - Local Control(s): Construction specifications requiring contractors to contain flush water
    - Risk: Medium, managed as Tier 2 illicit discharge
    - Illicit Discharges Reported: 0

2. Landscape Irrigation, Irrigation, Lawn Watering, and Potable Water

   - Description: Intermittent over-watering or faulty sprinklers
   - Associated Pollutant(s): Varied depending on the source (well or potable supply)
   - Local Control(s): Water Conservation landscaping audits and outreach initiatives
   - Risk: Low, not managed as an illicit discharge
   - Illicit Discharges Reported: 0

3. Rising Groundwater, Springs, and Flows from Riparian Habitats

   - Description: Flows that enters the storm sewer system when ground and surface water levels rise above the bottom elevation of the storm drain
   - Associated Pollutant(s): None
   - Local Control(s): Prohibition of sump drains that discharge to a street or other public right-of-way, a sanitary sewer line, or onto neighboring properties
   - Risk: Low, not managed as an illicit discharge
   - Illicit Discharges Reported: 0

4. Uncontaminated Groundwater Infiltration

   - Description: Water other than wastewater that enters a storm sewer system from the ground through such means as defective pipes, pipe joints, connections, or utility holes
   - Associated Pollutant(s): None
   - Local Control(s): Inspection of storm sewer pipe annually, and defective pipe repair
   - Risk: Low, not managed as an illicit discharge
   - Illicit Discharges Reported: 0

5. Uncontaminated Pumped Groundwater

   - Description: Groundwater pumped into the storm sewer system for lowering subsurface levels, particularly for construction
   - Associated Pollutant(s): None
   - Local Control(s): Discharge must originate from a well located in an undisturbed area, initial turbid first flush contained on site
   - Risk: Low, not managed as an illicit discharge
   - Illicit Discharges Reported: 0

6. Foundation Drains, Crawl Space Pumps, and Footing Drains

   - Description: Groundwater pumped or diverted from building foundations to the MS4.
   - Associated Pollutant(s): None
   - Local Control(s): Prohibition of sump drains that discharge to a street or other public right-of-way, a sanitary sewer line, or onto neighboring properties
   - Risk: Low, not managed as an illicit discharge
   - Illicit Discharges Reported: 0

7. Air Conditioning Condensation

   - Description: HVAC and refrigeration condensation discharged to the MS4
   - Associated Pollutant(s): None
   - Local Control(s): Allowed
   - Risk: Low, not managed as an illicit discharge
   - Illicit Discharges Reported: 0

8. Swimming Pool and Hot Tub Drain Water

   - Description: Dumping of swimming pool and hot tub drain water into the MS4
   - Associated Pollutant(s): Chlorine
   - Local Control(s): Required dechlorinating of swimming pool and hot tub discharge water
   - Risk: Medium, managed as Tier 2 illicit discharge
   - Illicit Discharges Reported: 0

9. Fire Hydrant Flushing

   - Description: Discharges resulting from regular fire hydrant flushing by MS4 operators
   - Associated Pollutant(s): Chlorine
   - Local Control(s): Water and Sewer Division fire hydrant flushing process
   - Risk: Low, not managed as an illicit discharge
   - Illicit Discharges Reported: 0

10. Non-Commercial, Individual Residential, and Charity Carwashes

    - Description: Wash-waters resulting from vehicle washing
    - Associated Pollutant(s): Soaps, oils, greases, metals, and sediment
    - Local Control(s): The City requires a public assembly permit for non-commercial and charity car washes on public property. If deemed appropriate, the MS4 can utilize this process to require specific controls.
    - Risk: Low, not managed as an illicit discharge
    - Illicit Discharges Reported: 0

11. Street Wash Waters

    - Description: Water used to wash sidewalks, streets, parking lots, and buildings
    - Associated Pollutant(s): Sediment, oils, greases, and metals
    - Local Control(s): Allowed
    - Risk: Low, not managed as an illicit discharge
    - Illicit Discharges Reported: 0

12. Construction Dewatering

    - Description: Water discharged from the excavated trench, deep well point, or cofferdam
    - Associated Pollutant(s): Sediment
    - Local Control(s): MDEQ General Permit for Construction Dewatering for excavated trench and cofferdam dewatering, well points are required to be in undisturbed areas with the first turbid first-flush contained on site, Article 4 Ch. 40 Bozeman Municipal Code, and protocols described in SWMP Section 5.0.
    - Risk: Medium, managed using protocols described in SWMP Section 5.0
    - Illicit Discharges Reported: 1

4.6 Outfall Reconnaissance Inventory (ORI)

The MS4 has hundreds of storm sewer outfalls that discharge into numerous waterways and irrigation ditches within its boundary. Staff used the Draft 2016 Integrated Report available at the MDEQ's Clean Water Act Information Center, TMDL, and City GIS databases (2018 data intersect using 150' buffer) to compile the following information:

1. Baxter Creek

   - Total Outfalls: 14

- Approved TMDL: No
- Impairments: None
- MS4 Waste Load Allocation: None

2. Bozeman (aka Sourdough) Creek

   - Total Outfalls: 60
   - Approved TMDL: Yes
   - Impairments: E. Coli, Total Nitrogen, Sediment, Chlorophyll-a, and Alteration in streamside cover
   - MS4 Waste Load Allocation: TN = 0 lb/day; E. Coli = 0 cfu/day; sediment = 81 tons/year

3. Bridger Creek

   - Total Outfalls: 1
   - Approved TMDL: Yes
   - Impairments: Chlorophyll-a and Nitrate/Nitrite (Nitrite + Nitrate as N)
   - MS4 Waste Load Allocation: N/N = 0 lbs./day

4. East, West and Main Forks of Catron Creek

   - Total Outfalls: 82
   - Approved TMDL: No
   - Impairments: None
   - MS4 Waste Load Allocation: None

5. Cattail Creek

   - Total Outfalls: 42
   - Approved TMDL: No
   - Impairments: None
   - MS4 Waste Load Allocation: None

6. East Gallatin River

   - Total Outfalls: 13
   - Approved TMDL: Yes
   - Impairments: Total Nitrogen and Total Phosphorous
   - MS4 Waste Load Allocation: TN = 0 lbs./day; TP = 0 lbs./day

7. Farmers Canal

   - Total Outfalls: 46
   - Approved TMDL: No
   - Impairments: None
   - MS4 Waste Load Allocation: N/A

8. Figgins Creek

   - Total Outfalls: 23
   - Approved TMDL: No
   - Impairments: None
   - MS4 Waste Load Allocation: N/A

9. Flat Creek

   - Total Outfalls: 11

- Approved TMDL: No
- Impairments: None
- MS4 Waste Load Allocation: N/A

10. Mandeville Creek

    - Total Outfalls: 48
    - Approved TMDL: Yes
    - Impairments: Total Nitrogen and Total Phosphorous
    - MS4 Waste Load Allocation: TN = 0 lbs./day; TP = 0 lbs./day; sediment = 10 tons/year (self-imposed)

11. Matthew Bird Creek

    - Total Outfalls: 29
    - Approved TMDL: No
    - Impairments: None
    - MS4 Waste Load Allocation: N/A

12. Maynard Border Ditch

    - Total Outfalls: 16
    - Approved TMDL: No
    - Impairments: None
    - MS4 Waste Load Allocation: N/A

13. Middle Creek Ditch

    - Total Outfalls: 26
    - Approved TMDL: No
    - Impairments: None
    - MS4 Waste Load Allocation: N/A

14. Mill Ditch

    - Total Outfalls: 0
    - Approved TMDL: No
    - Impairments: None
    - MS4 Waste Load Allocation: N/A

15. Nash Spring Creek

    - Total Outfalls: 0
    - Approved TMDL: No
    - Impairments: None
    - MS4 Waste Load Allocation: N/A

16. Rocky Creek

    - Total Outfalls: 1
    - Approved TMDL: Yes
    - Impairments: Alteration in Streamside Vegetative Cover, Other Anthropogenic Substrate Alterations, Physical Substrate Habitat Alterations, and Sedimentation/Siltation
    - MS4 Waste Load Allocation: N/A

17. Story Ditch

- Total Outfalls: 10
- Approved TMDL: No
- Impairments: None
- MS4 Waste Load Allocation: N/A

18. West Gallatin Canal

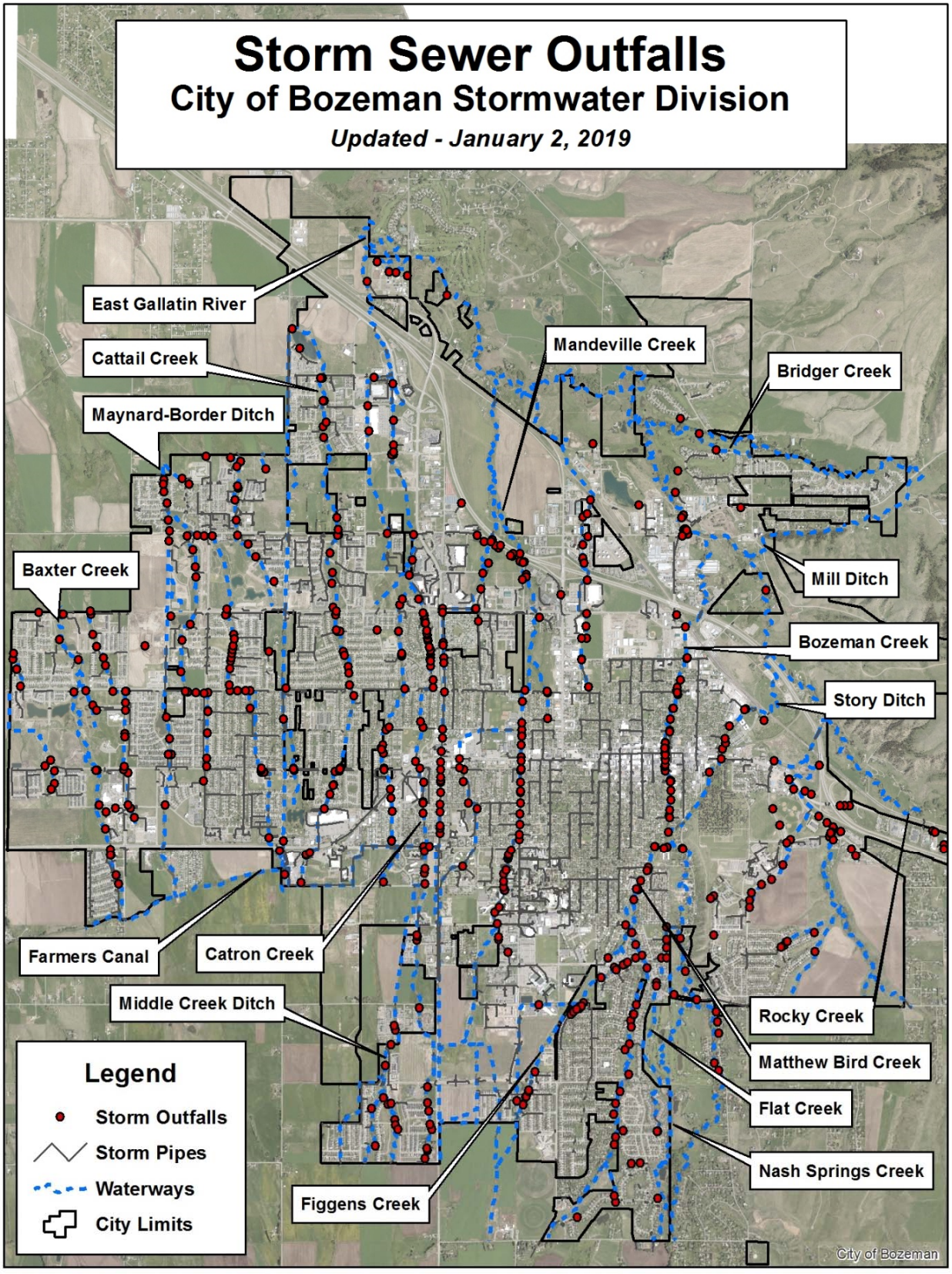
    - Total Outfalls: 31
    - Approved TMDL: No
    - Impairments: None
    - MS4 Waste Load Allocation: N/A

19. Unnamed Irrigation Canals

    - Total Outfalls: 6
    - Approved TMDL: No
    - Impairments: None
    - MS4 Waste Load Allocation: N/A

20. Unnamed Tributaries or Outside Buffer

    - Total Outfalls: 161
    - Approved TMDL: No
    - Impairments: None
    - MS4 Waste Load Allocation: N/A



Graphic 4.6.1: Storm sewer outfalls and receiving waterways

The MS4 prioritizes and inspect outfalls once during each MS4 Permit term. Further, the MS4 inspects outfalls deemed a high-priority annually. The MS4 considers an outfall to be high-priority if it meets the following criteria:

- 18" or more in diameter
- Drains an urban watershed area of 25 acres or more
- Dumps stormwater directly into an impaired receiving water (i.e., no stormwater basin)

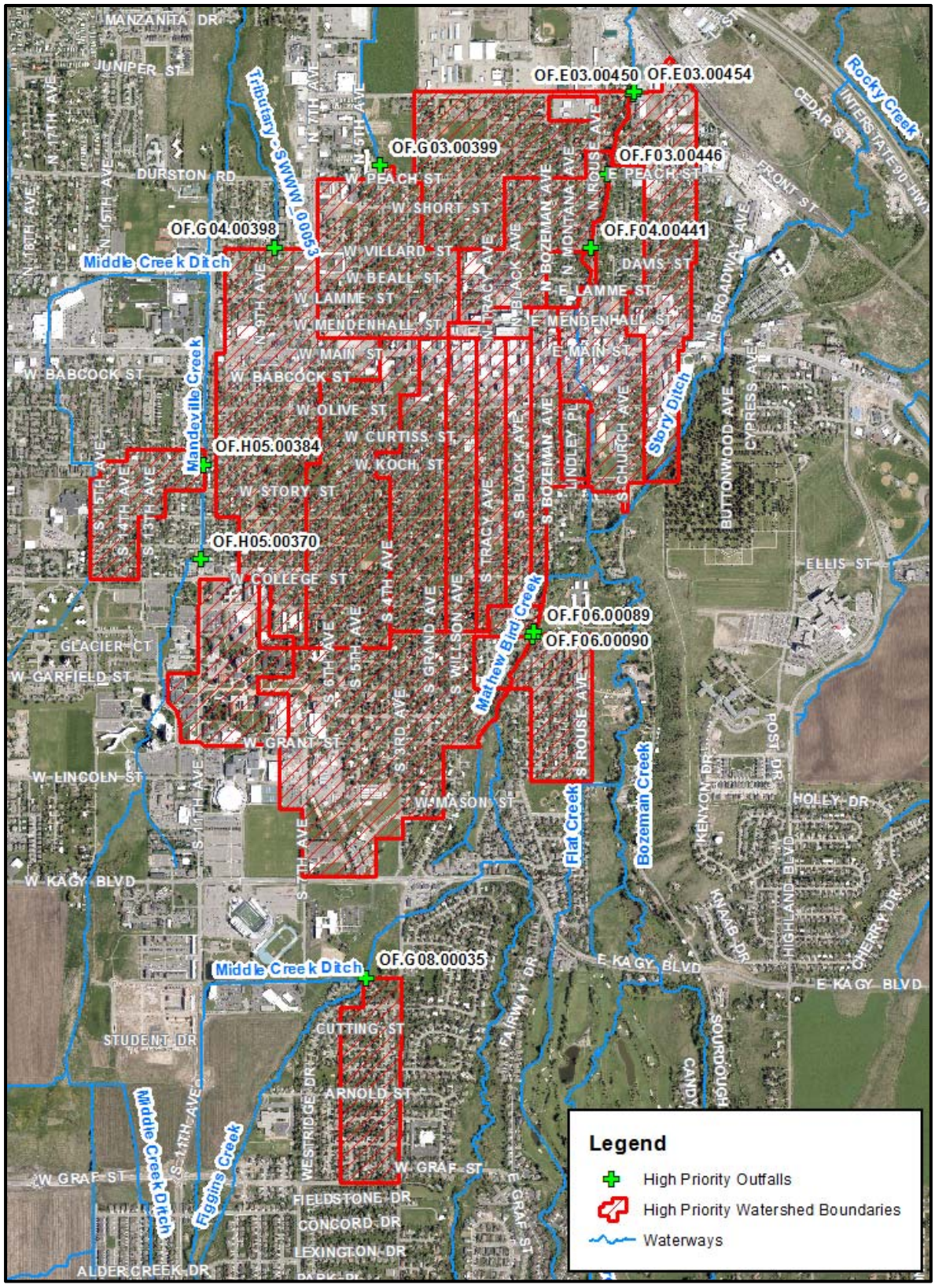
High-priority outfalls include:

1. Outfall ID: OF.G08.00035
   - Discharge Location: Overbrook Dr. and Langhor Ave.
   - Receiving Waterway: Figgins Creek
2. Outfall ID: OF.F06.00090
   - Discharge Location: S. Bozeman Ave. and E. Cleveland St.
   - Receiving Waterway: Matthew Bird Creek
3. Outfall ID: OF.F06.00089
   - Discharge Location: S. Black Ave. and W. Cleveland St.
   - Receiving Waterway: Matthew Bird Creek
4. Outfall ID: OF.H05.00370
   - Discharge Location: N. 11th Ave. and W. College St.
   - Receiving Waterway: Mandeville Creek
5. Outfall ID: OF.H05.00384
   - Discharge Location: N. 11th Ave. and W. Koch St.
   - Receiving Waterway: Mandeville Creek
6. Outfall ID: OF.F04.00441
   - Discharge Location: N. Rouse Ave. and E. Villard St.
   - Receiving Waterway: Bozeman Creek
7. Outfall ID: OF.G04.00398
   - Discharge Location: N. 9th Ave. and W. Villard St.
   - Receiving Waterway: Tributary SWWW_00053
8. Outfall ID: OF.F03.00446
   - Discharge Location: N. Rouse Ave. and E. Peach St.
   - Receiving Waterway: Bozeman Creek
9. Outfall ID: OF.G03.00399
   - Discharge Location: N. 4th Ave. and W. Peach St.
   - Receiving Waterway: Tributary SWWW_00034
10. Outfall ID: OF.E03.00450
    - Discharge Location: N. Rouse Ave. and E. Tamarack St.
    - Receiving Waterway: Bozeman Creek

11. Outfall ID: OF.E03.00454
    - Discharge Location: N. Rouse Ave. and E. Tamarack St.
    - Receiving Waterway: Bozeman Creek

The MS4 completed the following:

1. 2017 ORI Inspection Totals
    - Priority Outfalls: 594
    - Priority Outfalls Inspected: 0 (0%)
    - High-Priority Outfalls: n/a
    - High-Priority Outfalls Inspected: n/a
2. 2018 ORI Inspection Totals
    - Priority Outfalls: 622
    - Priority Outfalls Inspected: 0 (0%)
    - High-Priority Outfalls: 11
    - High-Priority Outfalls Inspected: 0 (0%)
3. 2019 ORI Inspection Totals
    - Priority Outfalls: TBD
    - Priority Outfalls Inspected: TBD (0%)
    - High-Priority Outfalls: TBD
    - High-Priority Outfalls Inspected: TBD (0%)
4. 2020 ORI Inspection Totals
    - Priority Outfalls: TBD
    - Priority Outfalls Inspected: TBD (0%)
    - High-Priority Outfalls: TBD
    - High-Priority Outfalls Inspected: TBD (0%)
5. 2021 ORI Inspection Totals
    - Priority Outfalls: TBD
    - Priority Outfalls Inspected: TBD (0%)
    - High-Priority Outfalls: TBD
    - High-Priority Outfalls Inspected: TBD (0%)



Graphic 4.6.2: High-priority watersheds and outfalls (last updated 11/15/2018)

4.7 Storm Sewer Infrastructure Totals

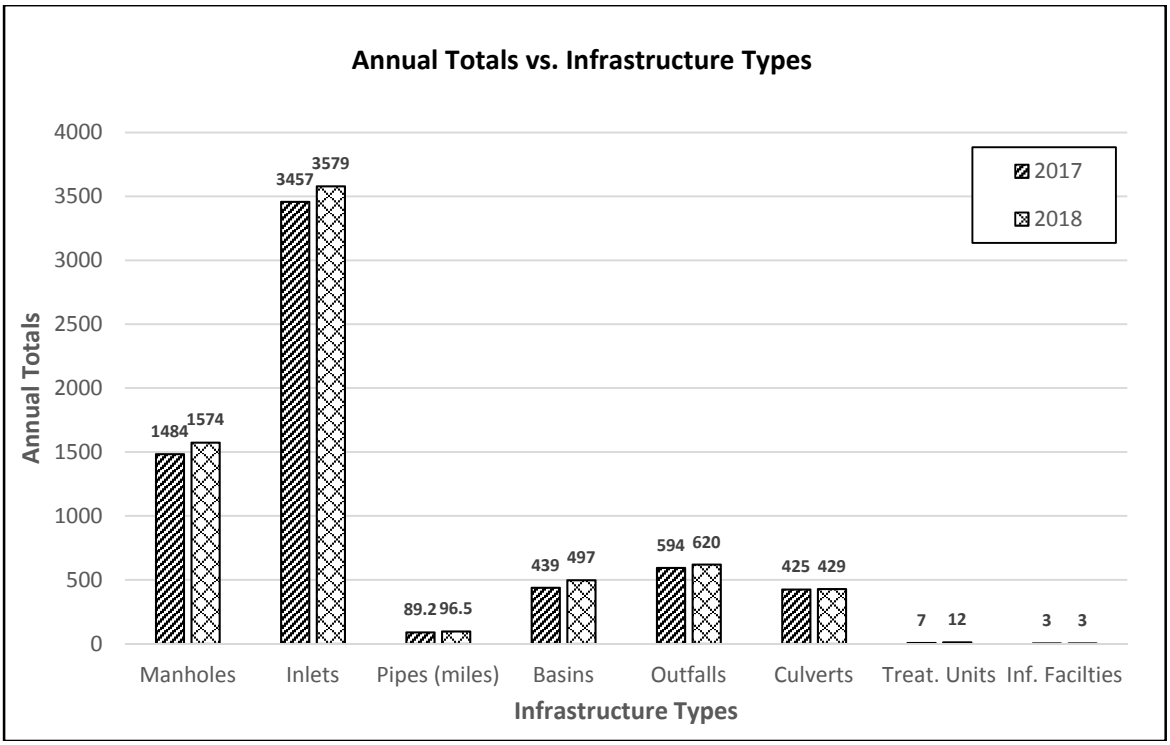
The MS4 collects and updates storm sewer data annually using GPS and GIS technology. The public can access an interactive map by visiting: https://gisweb.bozeman.net/Html5Viewer/?viewer=infrastructure

1. 2017 Infrastructure Totals *(includes public, private, MDT, and MSU assets)*

   - Manholes: 1,484
   - Inlets: 3,457
   - Gravity Mains: 89.2 miles
   - Stormwater Basins: 435
   - Outfalls: 594
   - Culverts and Bridges (Gravity mains 'Others' ownership): 425
   - Public Mechanical Separation Treatment Units: 7
   - Public Infiltration Facilities: 3

2. 2018 Infrastructure Totals:

   - Manholes: 1,574
     - City of Bozeman: 999
     - Montana State University: 155
     - Private: 352
     - Montana Dept. of Transportation: 68
   - Inlets: 3,579
     - City of Bozeman: 2,524
     - Montana State University: 207
     - Private: 661
     - Montana Dept. of Transportation: 187
   - Gravity Mains: 96.5 miles
     - City of Bozeman: 66.9 miles
     - Montana State University: 8.3 miles
     - Private: 17.8 miles
     - Montana Dept. of Transportation: 3.5 miles
   - Stormwater Basins: 497 (57.6 acres)
   - Outfalls: 622
   - Culverts and Bridges (gravity mains 'Others' ownership): 429 (12.6 miles)
   - Public Mechanical Separation Treatment Units: 12
     - City of Bozeman: 9
     - Montana State University: 1
     - MDT: 2
   - Public Infiltration Facilities: 3
     - City of Bozeman: 2
     - Montana State University: 1
     - MDT: 0



Graphic 4.7.1: Storm sewer infrastructure totals

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Section 5.0

Construction Site Management Program

Graphic 5.0.1: Compliant single-family residential property

Graphic 5.0.2: Inlet sump clogged with construction debris

5.1 Introduction

The MS4 strives to improve waterway health, protect public safety, and comply with its MS4 Permit through the regulation of construction sites by:

1. Providing educational opportunities
2. Administering a permitting program
3. Enforcing municipal and state standards

SWMP Section 5.0 details the following components necessary to administer the MS4's Construction Site Management Program, including:

- Regulatory Framework
- Oversight Protocol
- Performance Tracking
- Future Opportunities
- Applicable Documents

5.2 Regulatory Framework

The MS4 requires the construction industry to comply with the following regulations:

1. Article 4 Ch. 40 of the Bozeman Municipal Code
2. Montana Clean Water Act's Montana Pollution Discharge Elimination System
3. U.S. Clean Water Act National Pollution Discharge Elimination System

5.3 Oversight Protocol

The MS4 implements the following protocol to manage construction activities within its jurisdiction:

1. Hold Training *(optional)*: Classes held regularly for construction industry professionals, including Introduction to Stormwater Management, Construction Site BMP Field Academy, Stormwater Pollution Prevention Plan (SWPPP) Administrator, SWPPP Administrator Re-Certification, SWPPP Preparer, Construction Dewatering, and Compliance Evaluation Inspector. See SWMP Sec. 3.2.
2. Conduct Pre-submittal Meeting *(optional)*: Initial meeting where parties discuss minimum expectations, project details, and specific concerns.
3. Complete Permit Review: Adequacy reviews for all permits, tracking steps using Cityworks permit software. Stage repeats until the applicant submits an adequate permit. Permits include:
    - MDEQ Construction Stormwater Pollution Prevention Plan (SWPPP)
    - Construction Stormwater Permit: Sites Less than One (1) Acre
    - Construction Stormwater Permit: Single-Family Residential Projects
4. Inspect Site: Inspections based on the following prioritization:
    - Priority Site: Goal is to inspect one per week or 20% of total per year.
        - Complaint-driven (internal or external); or
        - Field observation; or
        - Compliance history
    - High-Priority Site: Goal is to inspect per frequency outlined in the MS4 Permit.
        - Greater than One (1) Acre; and
        - Direct Discharge to Bozeman Creek

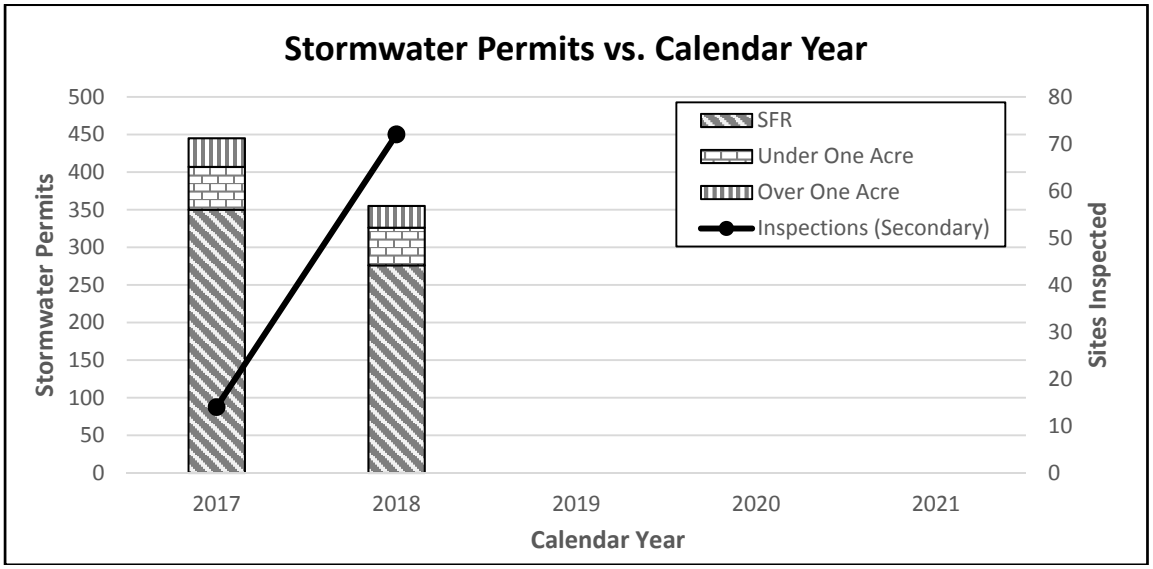
- Rain Gauge: Bozeman International Airport NOAA Station

5. Compile and Send Construction Stormwater Site Inspection Form: Document includes general information, weather, prohibited discharges, and findings related to the implementation and maintenance of Best Management Practices (BMPs) and applicable permits.
6. Issue Notice of Violations, Cease and Desist & Abatement Order, Notice to File Abatement Lien: Documents Bozeman Municipal Code violations, required corrective actions, schedule to remedy, and potential penalties if not resolved.
7. Issue Stop Work Order: Issued if the contractor does not implement corrective actions within required timeframes, ceasing all work until the violator brings the site into compliance.
8. File Civil Action: Monetary relief sought from the violator for the cost of the investigation, inspection, remediation, and bringing legal action
9. Pursue Criminal Charges: Pursued when a contractor completes repeat or knowing violations.
10. Issue Notice of Penalty: Document describing assessed penalties.
11. Refuse Occupancy and Infrastructure: Denial of occupancy or infrastructure approval until the project achieves compliance.

The MS4 tracks the following annual totals:

1. 2017 Totals:
   - Construction Projects: 445
     - Single-Family Residential: 350
     - Less than One (1) Acre: 57
     - Greater than One (1) Acre: 38
   - Plan Reviews: 445
     - Single-Family Residential: 350
     - Less than One (1) Acre: 57
     - Greater than One (1) Acre: 38
   - Site Inspections: 14 (3.1%)
     - Single-Family Residential: 8
     - Less than One (1) Acre: 0
     - Greater than One (1) Acre: 11
   - Training Classes: 11
     - Attendees: 268
2. 2018 Totals:
   - Construction Projects: 355
     - Single-Family Residential: 276
     - Less than One (1) Acre: 50
     - Greater than One (1) Acre: 29
   - Plan Reviews: 355
     - Single-Family Residential: 276
     - Less than One (1) Acre: 50
     - Greater than One (1) Acre: 29

- Site Inspections: 72
    - Single-Family Residential: 32
    - Less than One (1) Acre: 17
    - Greater than One (1) Acre: 23
- High-Priority Sites: 2
    - East Tamarack Reconstruction Project (Knife River)
    - South Tracy Reconstruction Project (Omdahl Construction)
- Requests for Occupancy: 28
    - Less than One (1) Acre: 20
    - Greater than One (1) Acre: 8
- Training Classes: 4
    - Attendees: 84



Graphic 5.3.1: Stormwater permit and inspection

5.4 Performance Tracking

The MS4 tracks construction site compliance inspections completed across all permit types annually to gauge its workload. The MS4's goal is to inspect 20% of construction sites per year, which does not include return site visits or final occupancy inspections.

1. 2017: 4.2% (19 inspections/450 projects)
    - City: 2.4% (14 inspections/445 projects)
    - MSU: 100% (5 inspections/5 projects)
2. 2018: 21.6% (78 inspections/361 projects)
    - City: 20.3% (72 inspections/355 projects)
    - MSU: 100.0% (6 inspections/6 projects)

The MS4 completes a Construction Site Compliance Audit in the fall, evaluating 50 random construction sites to determine their compliance with local, state, and federal stormwater regulations. The MS4 evaluates each construction site using the following criteria:

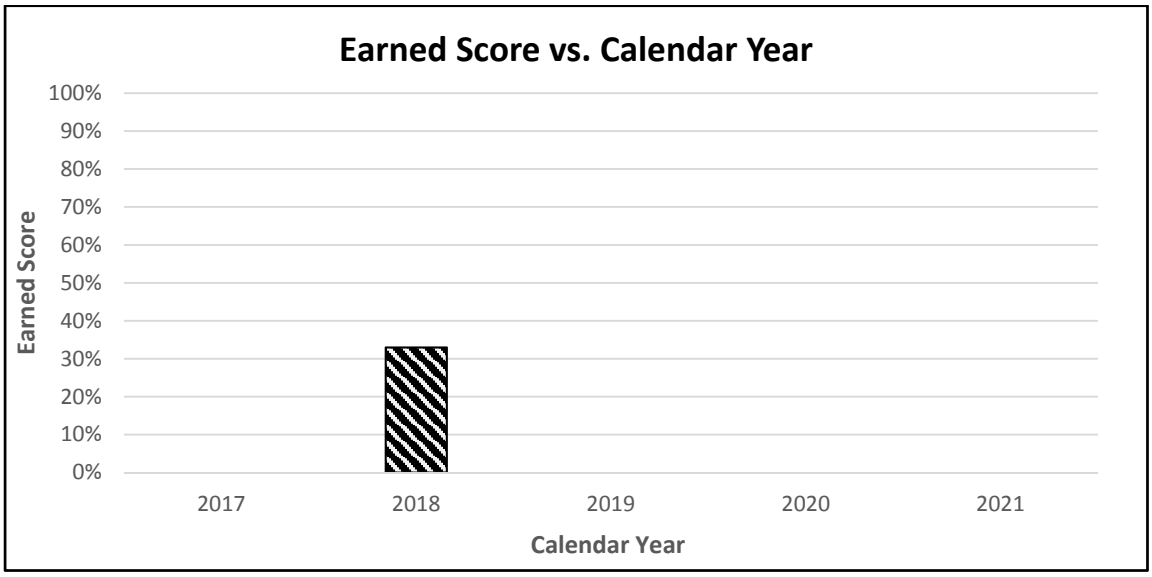
1. Implementation: BMPs present or absent
2. Adequacy: Appropriate type and scale of BMPs for site conditions
3. Installation: Adequate BMP installation per industry standard specifications
4. Maintenance: Sufficient maintenance so that BMPs are in good working order

After evaluation, the MS4 grades each construction site using one of the following categories:

1. 0-Points: Not compliant with permit, high risk to infrastructure, public, and environment
2. 1-Point: Partially compliant with permit, moderate risk to infrastructure, public, and environment
3. 2-Points: Compliant with permit, low risk to infrastructure, public, and environment

The MS4 compiles the collected data and updates the following:

1. 2018 Audit Results:
   - Date(s): October 24 - 26
   - Earned Points/Total Points: 33/100
   - Earned Score: 33% or F
   - Trend: n/a
   - Discussion:
     - Increased BMP use but many were not adequately maintained
     - Noncompliance was mostly contained within private sites
     - Increased inspection frequency is effective at increasing compliance rates



Graphic 5.4.1: Construction site audit score

5.5 Future Opportunities

The MS4's Construction Site Management Program requires the following to meet established goals:

1. Inspection Optimization Software: The MS4 plans to develop a web-based and field freindly inspection platform that will expedite documentation and communication. (Fall 2019)

5.6 Documents

The MS4 utilizes the following documents, which are available upon request:

1. Universal Documents:
   - Bozeman Municipal Code: Article 4 Ch. 40
   - City of Bozeman Best Management Practice (BMP) Manual for Construction Sites
2. Single-Family Residential Construction:
   - Construction Stormwater Permit: Single-Family Residential Projects
   - Construction Stormwater Permit Review Checklist: Single Family Residential Projects
   - Construction Stormwater Permit Approval
   - Construction Stormwater Site Inspection Form: Sites Less than One (1) Acre
3. Multi-Family and Commercial Projects Less than One (1) Acre:
   - Construction Stormwater Permit: Sites Less than One (1) Acre
   - Construction Stormwater Permit Review Checklist: Sites Less than One (1) Acre
   - Construction Stormwater Permit Approval
   - Construction Stormwater Site Inspection Form: Sites Less than One (1) Acre
   - Request for Final Occupancy (RFO) Form
4. Projects Greater than One Acre:
   - MDEQ Construction General Permit
   - MDEQ Construction General Permit Notice of Intent (NOI)
   - MDEQ Construction Stormwater Pollution Prevention Plan (SWPPP)
   - MDEQ Construction Stormwater Permit Notice of Termination
   - MDEQ Construction Stormwater Permit Transfer Notification
   - Construction Stormwater Permit Review Checklist: Sites Greater than One (1) Acre
   - Construction Stormwater Site Inspection Form: Sites Greater than One (1) Acre
   - Request for Final Occupancy (RFO) Form

Section 6.0

Post-Construction Program

Graphic 6.0.1: Overgrown stormwater basin

Graphic 6.0.2: Dredged stormwater basin

6.1 Introduction

The MS4 strives to improve waterway health, protect public safety, and comply with its MS4 Permit through the regulation and oversight of existing and new stormwater facilities by:

1. Inspecting, educating, and providing maintenance solutions
2. Enforcing development regulations

SWMP Section 6.0 details the following components necessary to administer the MS4's Post-Construction Management Program, including:

- Regulatory Framework
- Oversight Protocol
- Performance Tracking
- Future Opportunities
- Applicable Documents

6.2 Regulatory Framework

The MS4's requires new and redevelopment projects to infiltrate the first ½ inch of rainfall and meet volume control requirements, maintaining pre-development conditions post project completion. Project owners use an array of stormwater facilities to meet MS4 standards, including stormwater basins, permeable pavers, and bioretention systems. The documents regulating development include:

1. City of Bozeman Design Standards and Specification Policy
2. City of Bozeman Modifications to Montana Public Works Standard Specifications, 6th Edition
3. Montana Public Works Standard Specifications, 6th Edition
4. Montana Post-Construction Storm Water BMP Design Guidance Manual

Once constructed, the MS4 requires project owners or Home Owner Associations (HOAs) to maintain facilities in perpetuity per their Maintenance Plans submitted at the time of project approval.

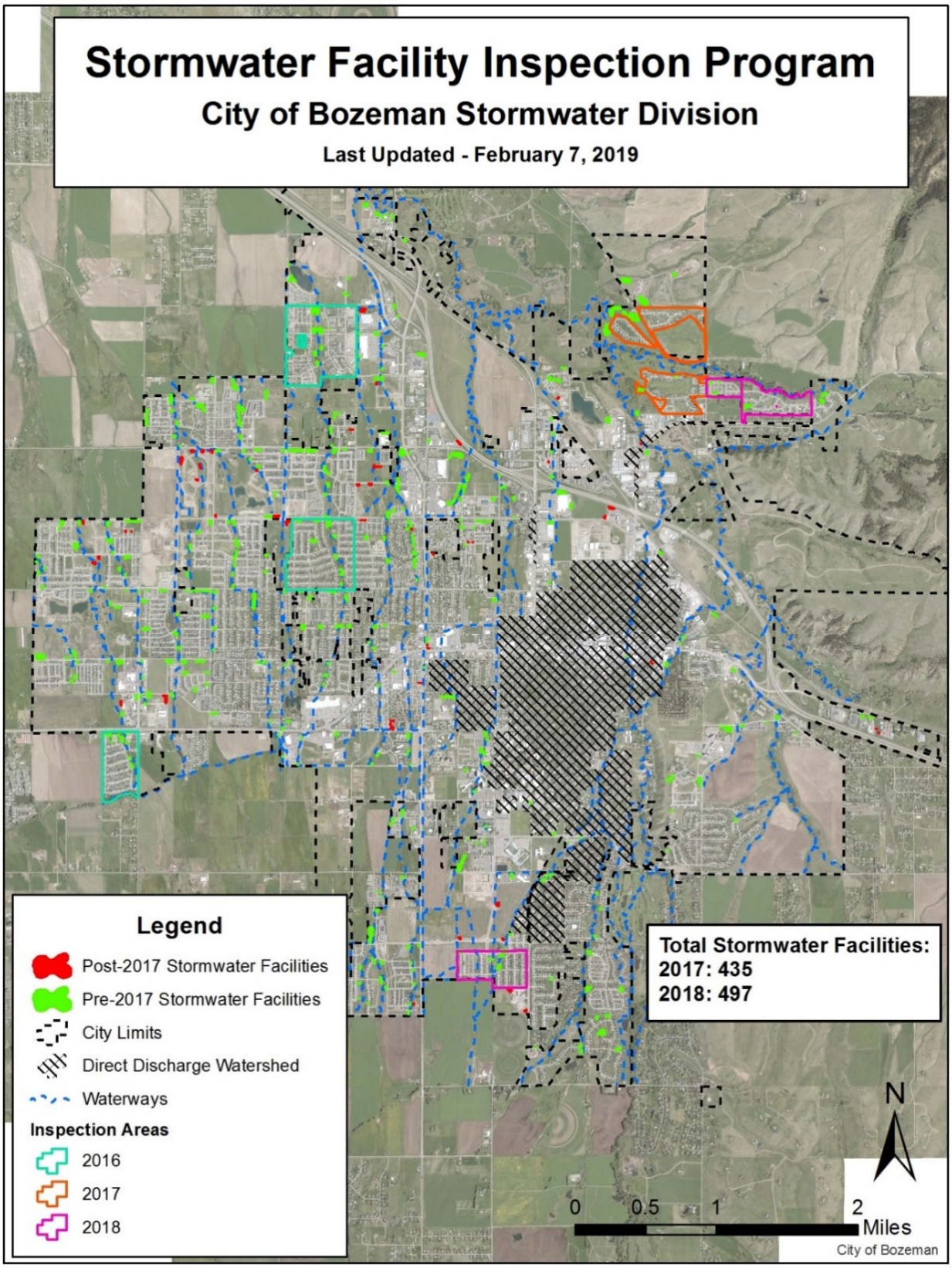
6.3 Oversight Protocol

The MS4 oversees maintenance efforts by implementing the following protocol:

1. Application Review: Engineering staff review submitted plan sets, design reports, maintenance agreements, and other applicable information to ensure the project complies with the MS4's water quantity and quality requirements using standard processes and documents.
2. Occupancy and Infrastructure Approvals: Engineering staff requires that a certified professional guarantees that the contractor installed the stormwater facilities per the approved plans.
3. Inspection: The MS4 completes investigations at the following frequencies:
    - Inspect 20% of stormwater facilities annually (once every five years), ordering based on:
        - Complaints or by request
        - Field observations
        - Compliance history
        - Property ownership and access
    - Inspect all high priority stormwater facilities annually with priority based on:
        - Those that drain into an impaired waterbody
        - Contain an area larger than 1,076 square feet

- Property ownership and access

4. Inspection Report: The MS4, or their consulting representative, documents the condition of stormwater facilities, identifies deficiencies, and provides the following information:
   - Drainage system map
   - Self-inspection recommendations
   - Maintenance strategies
   - Budgeting guidance
5. Training *(optional)*: Meetings, site tours, and presentations held for owners, HOAs, and property managers after the MS4 has concluded its inspection and provided an inspection report.



Map 6.3.1: Stormwater facilities

The following details the MS4's high-priority stormwater facilities:

#	Facility ID	Owner	Area (ft^2)	Location	Receiving Waterbody	2019		2020		2022	
						Insp.	Comp.	Insp.	Comp.	Insp.	Comp.
1	DP.H06.00023	MSU	4,667	GIS Data	Mandeville Creek						
2	DP.H06.00024	MSU	11,829	GIS Data	Mandeville Creek						
3	DP.H06.00028	MSU	1,294	GIS Data	Mandeville Creek						
4	DP.H06.00025	MSU	7,231	GIS Data	Mandeville Creek						
5	DP.H06.00026	MSU	3,185	GIS Data	Mandeville Creek						
6	DP.B05.00001	Private	3,967	GIS Data	Rocky Creek						
7	DP.H04.00006	Private	7,188	GIS Data	Mandeville Creek						
8	DP.E02.00006	Private	5,577	GIS Data	East Gallatin River						
9	DP.G02.00017	Private	2,245	GIS Data	Mandeville Creek						
10	DP.G02.00048	Private	3,464	GIS Data	Mandeville Creek						
11	DP.H02.00001	Private	5,450	GIS Data	Mandeville Creek						
12	DP.F01.00026	Private	7,354	GIS Data	East Gallatin River						
13	DP.I51.00073	Private	10,744	GIS Data	East Gallatin River						
14	DP.I51.00074	Private	10,314	GIS Data	East Gallatin River						
15	DP.I51.00075	Private	1,355	GIS Data	East Gallatin River						
16	DP.E01.00007	Private	22,765	GIS Data	East Gallatin River						
17	DP.H06.00400	MSU	7,591	GIS Data	Mandeville Creek						
18	DP.H07.00022	Private	14,775	GIS Data	Mandeville Creek						
19	DP.H07.00023	Private	26,987	GIS Data	Mandeville Creek						
20	DP.F00.00004	Private	21,961	GIS Data	East Gallatin River						

Graphic 6.3.2: High-priority stormwater facilities

6.4 Performance Tracking

The MS4 tracks stormwater facility inspections annually to gauge its workload, with a goal of reviewing 20% per year, which does not include return visits or final occupancy inspections. Totals include:

1. 2017: 8.7% (38 inspected/439 total)
   - City: 2.0% (8 inspected/409 total)
   - MSU: 100% (30 inspected/30 total)
2. 2018: 9.1% (45 inspected/497 total)
   - City: 3.2% (15 inspected/467 total)
   - MSU: 100.0% (30 inspected/30 total)

The MS4 completes a Stormwater Facility Compliance Audit annually, evaluating 50 random stormwater facilities to determine their condition based on the following criteria:

1. Vegetation Management: Evidence of reoccurring cattail, grass, and woody shrub removal
2. Clogged Entry or Exit Points: Pipe openings and outlet structures clear of accumulated debris
3. Sediment Deposition: Facility storage capacities minimally impacted by accumulated debris
4. Ability to Drain: No stagnant water present beyond the 48-hour infiltration period

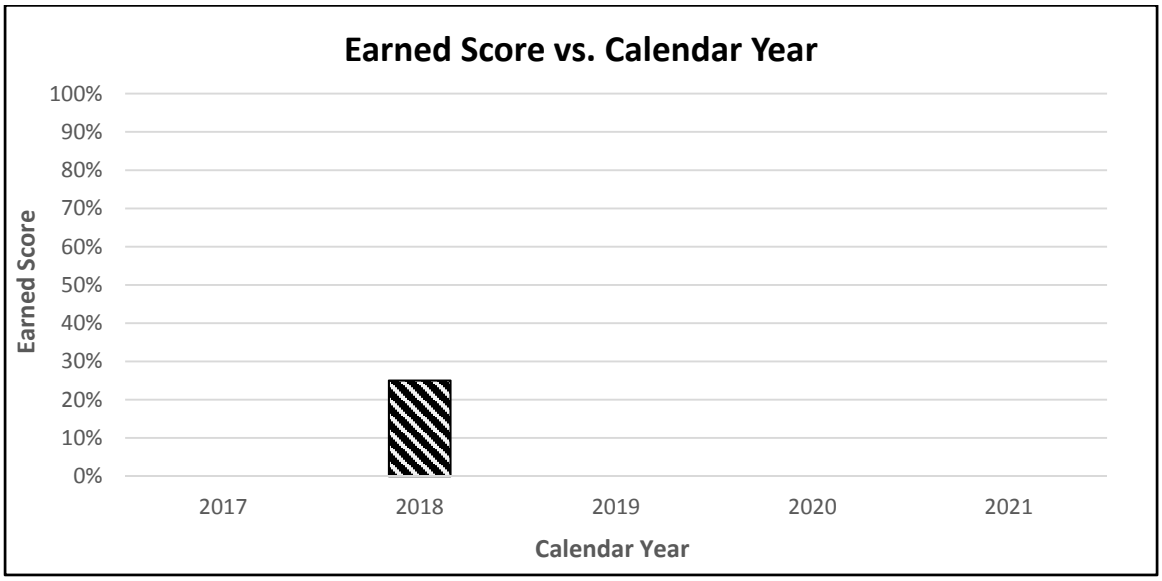
After evaluation, the MS4 grades each stormwater facility using one of the following categories:

1. 0-Points: Facility is not maintained, high risk to infrastructure, public, and environment

2. 1-Point: Facility is partially maintained, moderate risk to infrastructure, public, and environment
3. 2-Points: Facility is maintained, low risk to the infrastructure, public, and environment

The MS4 compiles the collected data and updates the following:

1. 2018 Audit Results:
   - Date(s): October 17 and 26
   - Earned Points/Total Points: 25/100
   - Earned Score: 25%
   - Discussion:
     - Wal-Mart, Safeway, and other private entities maintain their facilities more frequently, yielding an average score six times greater than HOAs.
     - Facilities integrated into landscapes are in better condition than those hidden.
     - The overwhelming majority of HOAs are ignorant of their responsibilities and do not complete maintenance regardless of previous engagement by the City.
     - Current design standards allow for the construction of inadequate systems.



Graph 6.4.1: Stormwater facility audit scores

6.5 Future Opportunities

The MS4's Post-Construction Program requires the following to meet established goals:

1. Increase Inspection Rate: The MS4 is in the process of aquiring a new position and/or increasing its contracted services budget in 2019 to improve compliance with its set goal.
2. New Drainage Design Standards: In 2008, the MS4 completed a Facility Plan, which evaluated requirements, identified shortfalls, and provided recommendations for improvement. The MS4 is working to implement the changes proposed in 2008, bringing standards in line with the Facility Plan's recommendations. Most notable changes include:
   - Increasing design storm from 10-year to 25, 50, or 100-year
   - Requiring detention downtown for redevelopment projects that do not exceed one acre
   - Aligning language to work jointly with the content of the Montana Post-Construction Stormwater BMP Guidance Manual

- Redeveloping rainfall curves to represent modern rainfall intensity and duration
- Requiring in-depth geotechnical, groundwater, and infiltration testing
- Categorizing development types and specific standards as applicable
- Improving maintenance plan development and documentation submittals

3. Enforcement of Stormwater Facility Maintenace and Repair: The MS4 needs an improved policy that results in the consistent operation and maintenance of private stormwater facilities. Specific items include:

   - Development of an enforcement process, including the ability to establish timelines, issue penalties, and complete work at the owner's expense.
   - Solution for defunct HOAs that lack maintenance funding

6.6 Documents

The MS4 utilizes the following materials, which are available upon request*:*

1. Stormwater Facility Maintenance:

   - Maintenance Guide
   - Inspection Form

2. Stormwater Facility Design and Construction:

   - City of Bozeman Design Standards and Specification Policy
   - City of Bozeman Modifications to Montana Public Works Standard Specifications, 6th Edition
   - Montana Public Works Standard Specifications, 6th Edition
   - Montana Post-Construction Storm Water BMP Design Guidance Manual
   - Development Review Documents (Plan Review Checklist): Planning Division Staff Report, Engineering Review Letter, and DRC Memo

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Section 7.0

Good Housekeeping Program

Graphic 7.0.1: Street sweeping debris pile

Graphic 7.0.2: Sediment management facility

7.1 Introduction

The MS4 strives to improve waterway health, protect public safety, and comply with its MS4 Permit through the responsible management of its storm sewer system, facilities, and daily work activities by:

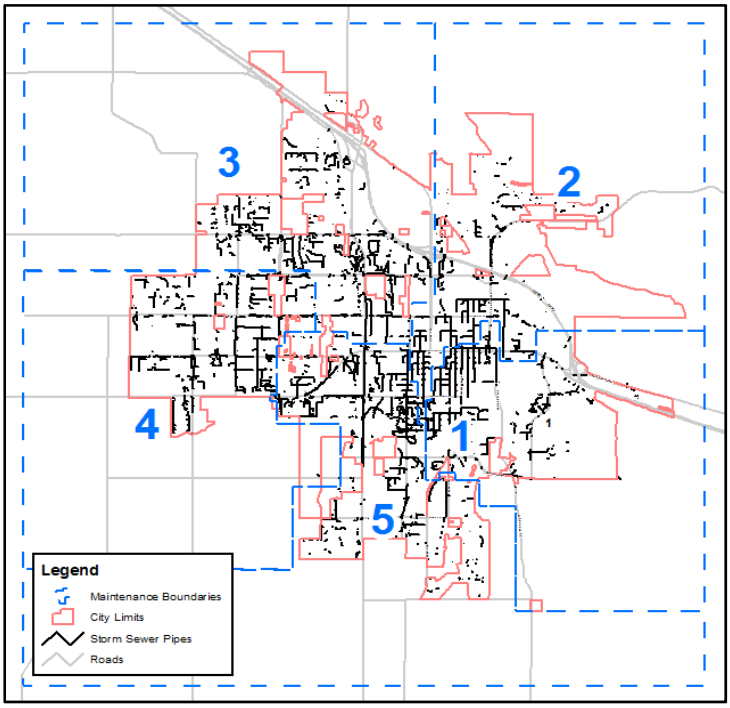
1. Inspecting, maintaining, and repairing public assets
2. Eliminating or mitigating stormwater pollutants
3. Maintaining an environmentally conscious workforce through training

SWMP Section 7.0 details the following components necessary to administer the MS4's Good Housekeeping Program, including:

- Infrastructure Operation
- Facility Stormwater Pollution Prevention Program
- Activity Stormwater Pollution Prevention Program
- Training

7.2 Infrastructure Operation

The MS4 inspects, maintains, and repairs its storm sewer system on an annual basis. Four parties complete activities, including the City of Bozeman (City), Montana State University (University), Montana Department of Transportation (MDT), and private owners. SWMP Section 4.0 includes quantity and asset type information broken down for each party. The University maintains infrastructure within its boundary. The City maintains City and MDT-owned infrastructure, completing work on a five-year cycle. To guide the work, the City uses Maintenance Boundaries (MB) that each contains 20% of the storm sewer system and completes work within per the following schedule: MB 1: 2019, MB 2: 2020, MB 3: 2021, MB 4: 2022, and MB 5: 2023.



Graphic 7.2.1: Maintenance boundaries

The following items specify the type of activity completed:

1. Stormwater Operations
   - Pipe inspection
     - Objective: 20% of the system per year
     - Active Season(s): Winter, Spring, Summer, and Fall
     - Operational Area: Citywide
   - Pipe, inlet, and manhole cleaning
     - Objective: 20% of the system per year
     - Active Season(s): Winter, Spring, Summer, and Fall
     - Operational Area: Citywide
   - Treatment unit maintenance
     - Objective: Clean semi-annually
     - Active Season(s): Spring and Fall
     - Operational Area: As required
   - Infiltration facility maintenance
     - Objective: Clean semi-annually
     - Active Season(s): Spring and Fall
     - Operational Area: As required
   - Pipe, inlet, manhole repair
     - Objective: As need basis
     - Active Season(s): Spring, Summer, and Fall
     - Operational Area: Citywide
2. Street Operations
   - Spring debris pickup
     - Objective: Annually
     - Active Season(s): Spring
     - Operational Area: Citywide
   - Fall leaf pickup
     - Objective: Annually
     - Active Season(s): Fall
     - Operational Area: Citywide
   - Street sweeping
     - Objective: Annually
     - Active Season(s): Winter, Spring, Summer, and Fall
     - Operational Area: Citywide
3. Strategic Services Division
   - New or improved private and public infrastructure mapping and attribution
     - Objective: Annually

- Active Season(s): Winter, Spring, Summer, and Fall
- Operational Area: Citywide

- Ownership, life-cycle, and maintainability GIS attribution coordination
  - Objective: Annually
  - Active Season(s): Winter, Spring, Summer, and Fall
  - Operational Area: Citywide
- Development and redevelopment impervious area digitization for rate model
  - Objective: Annually
  - Active Season(s): Winter, Spring, Summer, and Fall
  - Operational Area: Citywide
- Cityworks software management, including event layers, reports, and databases
  - Objective: Annually
  - Active Season(s): Winter, Spring, Summer, and Fall
  - Operational Area: Citywide
- Division performance optimization and database administration
  - Objective: Annually
  - Active Season(s): Winter, Spring, Summer, and Fall
  - Operational Area: Citywide

4. Operation Facilities
   - Storm Sewer Debris Collection and Dewatering Facility
     - Goal: Clean and haul waste to landfill annually
     - Operating Seasons: Winter, Spring, Summer, and Fall
   - East Gallatin Street Sweepings Collection Facility
     - Goal: Clean and haul waste to landfill annually
     - Operating Seasons: Winter, Spring, Summer, and Fall

The MS4 uses the following workload metrics to track its performance:

1. Inlets and Manholes Cleaned: Stormwater inlets and manholes serve two purposes: (1) mitigate flood risk by collecting runoff from streets, parking lots, alleyways, and other hard surfaces, and (2) treat stormwater by capturing sediment, trash, and other pollutants in their sumps.
   - Performance Measure: Clean 20% of public inlets and manholes annually
   - Calculation Type: Total assets (includes duplicate effort)
   - Data Source: Stormwater Operations Dashboard
     - 2017: 25.5% (1,051 maintained/4,117 total)
       - City: 20.8% (776 maintained/3,725 total)
       - MSU: 70.2% (275 maintained/392 total)
     - 2018: 24.1% (998 maintained/4,140 total)
       - City: 19.6% (742 maintained/3,778 total)
       - MSU: 70.7% (256 maintained/362 total)

2. Pipes Cleaned: Stormwater pipes serve two purposes: (1) convey stormwater collected by inlets to their point of discharge, and (2) capture sediment, trash, and other pollutants that fall out of suspension, requiring reoccurring maintenance to remain functional.

   - Performance Measure: Clean 20% of pipes annually
   - Calculation Type: Total assets (mains and laterals, includes duplicate effort)
   - Data Source: Stormwater Operations Dashboard
     - 2017: 18.0% (17.0 maintained miles/94.3 total miles)
       - City: 21.6% (16.7 maintained miles/77.4 total miles)
       - MSU: 1.8% (.3 maintained miles/16.9 total miles)
     - 2018: 21.3% (16.8 maintained miles/78.7 total miles)
       - City: 23.7% (16.7 maintained miles/70.4 total miles)
       - MSU: 1.2% (.1 maintained miles/8.3 total miles)

3. Infrastructure Repairs: Infrastructure repairs or "spot repairs" serve two purposes: (1) fix known pipe failures and restrictions to ensure the adequate flow of stormwater, and (2) repair open sections of pipe where scouring of subgrade soils occur, mitigating the chance of a road failure and sediment load contribution.

   - Performance Measure: Indicator
   - Calculation Type: Total repairs
   - Data Source: Stormwater Operations Dashboard
     - 2017: 23 Repairs
       - City: 18 Repairs
       - MSU: 5 Repairs
     - 2018: 18 Repairs
       - City: 16 Repairs
       - MSU: 2 Repairs

4. Stormwater Pipes Inspected: Pipe inspections serve two purposes: (1) allows staff to identify structural and maintenance needs for underground infrastructure and (2) ensure no cross connections or illegal pipe connections exist.

   - Performance Measure: Inspect 20% of stormwater mains annually
   - Calculation Type: Total assets (mains and laterals, includes duplicate effort)
   - Data Source: Infrastructure Maintenance Performance Measure
     - 2017: 10.4% (9.8 inspected miles/94.3 total miles)
       - City: 12.0% (9.3 inspected miles/77.4 total miles)
       - MSU: 3.0% (.5 inspected miles/16.9 total miles)
     - 2018: 19.8% (15.6 inspected miles/78.7 total miles)
       - City: 21.6% (15.2 inspected miles/70.4 total miles)
       - MSU: 4.8% (.4 inspected miles/8.3 total miles)

7.3 Facility Stormwater Pollution Prevention Program

The purpose of the MS4's Facility Stormwater Pollution Prevention Program (FSWPPP) is to mitigate stormwater pollutants generated on public facilities. To complete, the MS4 works to ensure all public facilities meet or exceed the following Facility Minimum Standards (FMS):

- Wash bays and interior floor drains must be connected to the sanitary sewer with pretreatment
- Chemicals must be stored under cover and within secondary containment
- Tracking must be controlled at entries, exits, and within parking areas
- Spill kits must be stocked with instructions, disposable bags, PPE, and absorbent products
- Preventative maintenance must be performed on vehicles and equipment
- Vehicles and equipment must be washed in designated locations
- Fuel tanks must be protected by secondary containment, inspected semi-annually
- BMPs must be implemented for pollutants identified to exceed applicable median concentrations detailed in SWMP Section 8.2
- Stormwater facilities must be maintained per the following frequencies:
  - Stormwater basins, annual vegetation and debris clearing, 10-15 year dredging
  - Mechanical separators, semi-annual vacuuming
  - Infiltration facilities, semi-annual flushing
  - Permeable surfaces, as required
  - Inlets, manholes, and pipes, five-year flushing, vacuuming, and inspection cycle
- Disturbed areas must be stabilized within 14-days
- FSWPPP must be onsite and updated to show current conditions

The MS4 uses the following FSWPPP inspection protocol:

1. Sample a minimum of two discharges and analyze the pollutants detailed in SWMP Section 8.3
2. Inspect site and establish baseline compliance with FMSs
3. Review existing documents, including existing Standard Operating Guides (SOGs), safety data sheets, spill documentation, and stormwater facility record drawings
4. Generate inspection report that documents the sampling results, including the comparison to median concentrations detailed in SWMP Section 8.2, site map, and inspection notes
5. Meet with applicable leadership to review the inspection report
6. Develop FSWPPP that includes:
   - Overview
   - Leadership
   - Site Description
   - Monitoring Strategy and Results
   - FMS and Pollution Assessment
   - Deployed BMPs and SOGs
   - Spill Response Plan
   - Training Program
   - Impaired Waterbody Discharge (if applicable)
   - Inspection Frequency
   - Record Keeping and Reporting
   - Site Map
   - Spill Tracking Sheet
   - Corrective Action Tracking Sheet

7. Implement FSWPPP
8. Re-inspect and compare compliance with FMSs and update FSWPPP one-year after implementation and on a three-year interval moving forward

The MS4 will subject the following facilities to the FSWPPP inspection protocol:

1. Operations Staging and Storage Areas
    - 1.1: University Shops Facility
        - Use: Staging, storage, and office property supporting numerous MSU divisions
        - Pollutants of Concern: TBD
        - Responsible Department: MSU Facilities Services
        - Responsible Position: MSU Director of Facilities Services
        - Control Measures: TBD
        - Workflow:
            - Sample: 2019
            - Inspect: 2019
            - Generate Inspection Report: 2019
            - Meet with Facility Leadership: 2019
            - Develop and Implement FSWPPP: 2019
            - Train: 2019
            - Confirm: 2020
    - 1.2: City Shops Complex
        - Use: Staging, storage, and office property supporting City Public Works divisions
        - Pollutants of Concern: TBD
        - Responsible Department: Public Works
        - Responsible Position: Public Works Director
        - Control Measures: Hydrodynamic separator, wash bay, underground infiltration gallery, double-walled fuel tank
        - Workflow:
            - Sample: 2019
            - Inspect: 2019
            - Generate Inspection Report: 2019
            - Meet with Facility Leadership: 2019
            - Develop and implement FSWPPP: 2019
            - Train: 2019
            - Confirm: 2020
    - 1.3: Vehicle Maintenance Facility
        - Use: Facility that supports the storage and maintenance of equipment for all municipal operations
        - Pollutants of Concern: TBD
        - Responsible Department: Public Works
        - Responsible Position: Public Works Director
        - Control Measures: Detention basin, sand-oil separator
        - Workflow:
            - Sample: 2019

- Inspect: 2019
- Generate Inspection Report: 2019
- Meet with Facility Leadership: 2019
- Develop and implement FSWPPP: 2019
- Train: 2019
- Confirm: 2020

- 1.4: Laurel Glen Operations Facility
  - Use: Facility that supports the storage and maintenance of equipment for Water and Sewer municipal operations
  - Pollutants of Concern: TBD
  - Responsible Department: Public Works
  - Responsible Position: Public Works Director
  - Control Measures: TBD
  - Workflow:
    - Sample: 2019
    - Inspect: 2019
    - Generate Inspection Report: 2019
    - Meet with Facility Leadership: 2019
    - Develop and implement FSWPPP: 2019
    - Train: 2019
    - Confirm: 2020
- 1.5: Bozeman Public Safety Facility
  - Use: Future location of the City's Police, Fire, and Legal Divisions
  - Pollutants of Concern: TBD
  - Responsible Department: City Management
  - Responsible Position: Assistant City Manager
  - Control Measures: TBD
  - Workflow:
    - Sample: 2019
    - Inspect: 2019
    - Generate Inspection Report: 2019
    - Meet with Facility Leadership: 2019
    - Develop and implement FSWPPP: 2019
    - Train: 2019
    - Confirm: 2020

2. Material Storage Yards
   - 2.1: East Gallatin Storage Area
     - Use: Storage area for sediment, millings, street sweepings, and other materials used during the daily operation of numerous MS4 divisions
     - Pollutants of Concern: TBD
     - Responsible Department: Public Works and Parks
     - Responsible Position: Public Works and Parks Directors
     - Control Measures: TBD
     - Workflow:

        - ❖ Sample: 2020
        - ❖ Inspect: 2020
        - ❖ Generate Inspection Report: 2020
        - ❖ Meet with Facility Leadership: 2020
        - ❖ Develop and implement FSWPPP: 2020
        - ❖ Train: 2020
        - ❖ Confirm: 2021

- 2.2: Solid Waste Operations and Closed Landfill
    - Use: Minor Class IV Landfill Facility housing the Solid Waste Division and is permitted under the MDEQ's Stormwater Industrial Permit.
    - Pollutants of Concern: TBD
    - Responsible Department: Public Works
    - Responsible Position: Public Works Director
    - Control Measures: Detention basins, double walled fuel tank, rock rundown
    - Workflow:
        - ❖ Sample: 2020
        - ❖ Inspect: 2020
        - ❖ Generate Inspection Report: 2020
        - ❖ Meet with Facility Leadership: 2020
        - ❖ Develop and implement FSWPPP: 2020
        - ❖ Train: 2020
        - ❖ Confirm: 2021

- 2.3: Snow Storage Area
    - Use: Location that houses snow throughout winter
    - Pollutants of Concern: TBD
    - Responsible Department: Public Works
    - Responsible Position: Public Works Director
    - Control Measures: TBD
    - Workflow:
        - ❖ Sample: 2020
        - ❖ Inspect: 2020
        - ❖ Generate Inspection Report: 2020
        - ❖ Meet with Facility Leadership: 2020
        - ❖ Develop and implement FSWPPP: 2020
        - ❖ Train: 2020
        - ❖ Confirm: 2021

- 2.4: University Material Storage Area
    - Use: Location that houses arena dirt
    - Pollutants of Concern: TBD
    - Responsible Department: MSU Facilities Services
    - Responsible Position: MSU Director of Facilities Services
    - Control Measures: TBD
    - Workflow:
        - ❖ Sample: 2020

- Inspect: 2020
- Generate Inspection Report: 2020
- Meet with Facility Leadership: 2020
- Develop and implement FSWPPP: 2020
- Train: 2020
- Confirm: 2021

3. Treatment Works

   - 3.1: Water Treatment Plant

     - Use: Potable water treatment plant
     - Pollutants of Concern: TBD
     - Responsible Department: Public Works
     - Responsible Position: Public Works Director
     - Control Measures: TBD
     - Workflow:

       - Sample: 2020
       - Inspect: 2020
       - Generate Inspection Report: 2020
       - Meet with Facility Leadership: 2020
       - Develop and implement FSWPPP: 2020
       - Train: 2020
       - Confirm: 2021

   - 3.2: Water Reclamation Facility

     - Use: Treatment plant regulated under the MDEQ's Stormwater Industrial Permit
     - Pollutants of Concern: TBD
     - Responsible Department: Public Works
     - Responsible Position: Public Works Director
     - Control Measures: TBD
     - Workflow:

       - Sample: 2020
       - Inspect: 2020
       - Generate Inspection Report: 2020
       - Meet with Facility Leadership: 2020
       - Develop and implement FSWPPP: 2020
       - Train: 2020
       - Confirm: 2021

4. Parking Facilities

   - 4.1: Public Parking Garage

     - Use: Vehicle parking
     - Pollutants of Concern: TBD
     - Responsible Department: Parking Division
     - Responsible Position: Parking Manager
     - Control Measures: TBD
     - Workflow:

        - ❖ Sample: 2021
        - ❖ Inspect: 2021
        - ❖ Generate Inspection Report: 2021
        - ❖ Meet with Facility Leadership: 2021
        - ❖ Develop and implement FSWPPP: 2021
        - ❖ Train: Fall/Winter 2021
        - ❖ Confirm: Spring 2022

- 4.2: University Parking Garage
    - Use: Vehicle parking
    - Pollutants of Concern: TBD
    - Responsible Department: University Facilities
    - Responsible Position: University Facilities Director
    - Control Measures: TBD
    - Workflow:
        - ❖ Sample: 2021
        - ❖ Inspect: 2021
        - ❖ Generate Inspection Report: 2021
        - ❖ Meet with Facility Leadership: 2021
        - ❖ Develop and implement FSWPPP: 2021
        - ❖ Train: Fall/Winter 2021
        - ❖ Confirm: Spring 2022

- 4.3: Public Parking Lots (4)
    - Use: Vehicle parking
    - Pollutants of Concern: TBD
    - Responsible Department: Parking Division
    - Responsible Position: Parking Manager
    - Control Measures: TBD
    - Workflow:
        - ❖ Sample: 2021
        - ❖ Inspect: 2021
        - ❖ Generate Inspection Report: 2021
        - ❖ Meet with Facility Leadership: 2021
        - ❖ Develop and implement FSWPPP: 2021
        - ❖ Train: Fall/Winter 2021
        - ❖ Confirm: Spring 2022

- 4.4: University Parking Lots (17)
    - Use: Vehicle parking
    - Pollutants of Concern: TBD
    - Responsible Department: University Facilities
    - Responsible Position: University Facilities Director
    - Control Measures: TBD
    - Workflow:
        - ❖ Sample: 2021
        - ❖ Inspect: 2021

- Generate Inspection Report: 2021
- Meet with Facility Leadership: 2021
- Develop and implement FSWPPP: 2021
- Train: Fall/Winter 2021
- Confirm: Spring 2022

5. 5.1: Public Safety Facilities

- Fire Station #1 (34 N Rouse Ave)
  - Use: Emergency services
  - Pollutants of Concern: TBD
  - Responsible Department: Fire Department
  - Responsible Position: Fire Chief
  - Control Measures: TBD
  - Workflow:
    - Sample: 2022
    - Inspect: 2022
    - Generate Inspection Report: 2022
    - Meet with Facility Leadership: 2022
    - Develop and implement FSWPPP: 2022
    - Train: Fall/Winter 2022
    - Confirm: Spring 2023
- 5.2: Fire Station #2 (410 S 19th Ave)
  - Use: Emergency services
  - Pollutants of Concern: TBD
  - Responsible Department: Fire Department
  - Responsible Position: Fire Chief
  - Control Measures: TBD
  - Workflow:
    - Sample: 2022
    - Inspect: 2022
    - Generate Inspection Report: 2022
    - Meet with Facility Leadership: 2022
    - Develop and implement FSWPPP: 2022
    - Train: Fall/Winter 2022
    - Confirm: Spring 2023
- 5.3: Fire Station #3 (1705 Vaquero Pkwy)
  - Use: Emergency services
  - Pollutants of Concern: TBD
  - Responsible Department: Fire Department
  - Responsible Position: Fire Chief
  - Control Measures: TBD
  - Workflow:
    - Sample: 2022
    - Inspect: 2022

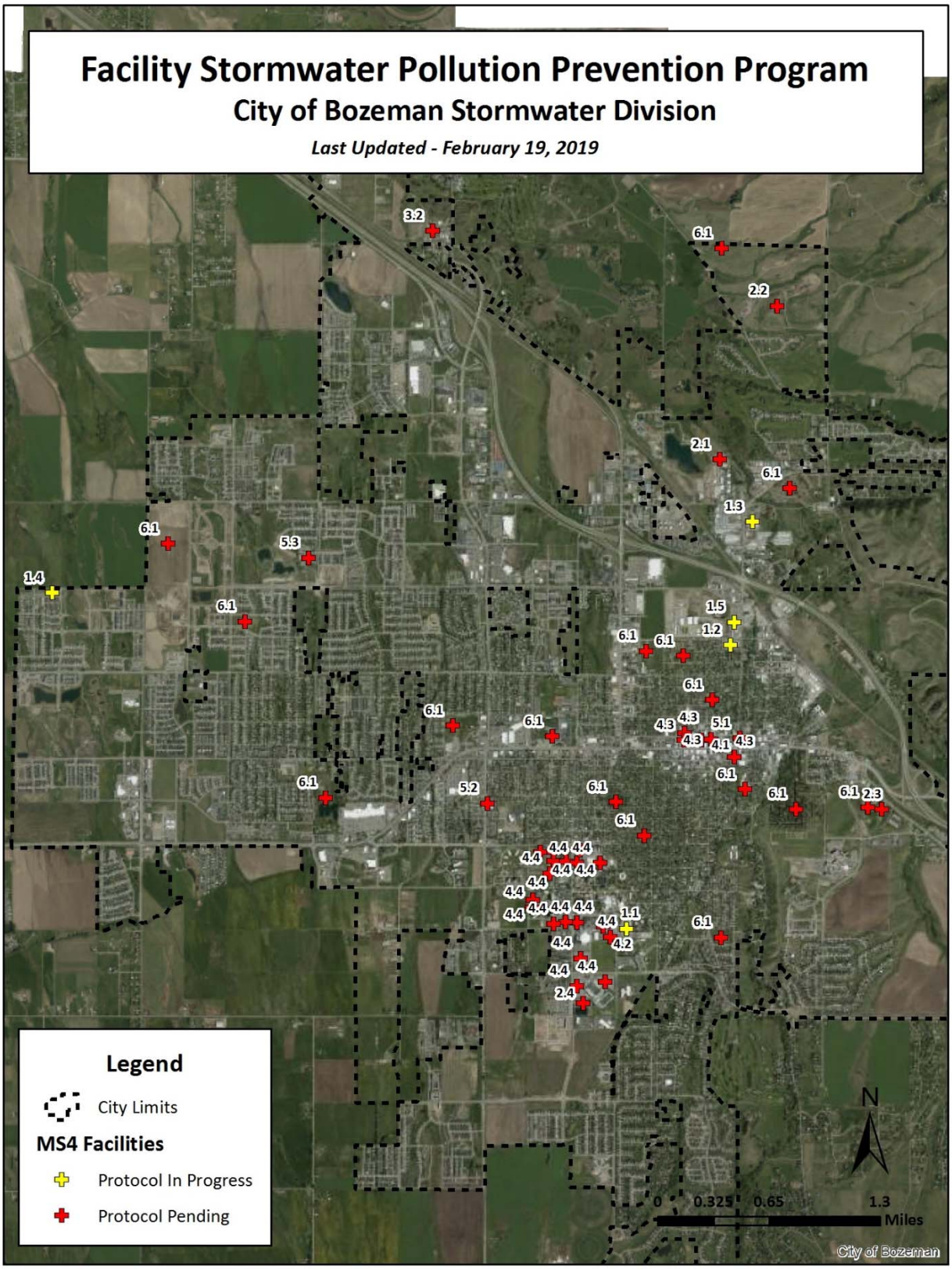
- ❖ Generate Inspection Report: 2022
- ❖ Meet with Facility Leadership: 2022
- ❖ Develop and implement FSWPPP: 2022
- ❖ Train: Fall/Winter 2022
- ❖ Confirm: Spring 2023

6. Recreational Facilities

➢ 6.1: Parks and Recreation (16)

- o Use: Numerous parks and recreation facilities exist citywide
- o Pollutants of Concern: TBD
- o Responsible Department: Parks
- o Responsible Position: Parks Director
- o Control Measures: TBD
- o Workflow:

  - ❖ Sample: 2022
  - ❖ Inspect: 2022
  - ❖ Generate Inspection Report: 2022
  - ❖ Meet with Facility Leadership: 2022
  - ❖ Develop and implement FSWPPP: 2022
  - ❖ Train: Fall/Winter 2022
  - ❖ Confirm: Spring 2023



Graphic 7.3.1: Facility Stormwater Pollution Prevention Program

The MS4 tracks workload by totaling activities deemed complete by those still requiring assessment.

- 2017: 0% (0/53)
- 2018: 0% (0/53
- 2019: TBD
- 2020: TBD
- 2012: TBD

The MS4 generates a compliance score to analyze performance using the following protocol:

1. Calculate a score for each FMS based on the following criteria:
   - 0-Points: Does not meet the standard
   - 1-Point: Partially meets the standard
   - 2-Points: Meets the standard
2. Sum the points assigned and divided by the total possible points to compute a percentage score
3. Describe scoring and rational in applicable FSWPPP

For example, Sample Facility A scored the following:

- FMS #1: 0-Points
- FMS #2: 2-Points
- FMS #3: 1-Point
- FMS #4: 0-Points
- FMS #5: 2-Points
- FMS #6: 1-Point
- FMS #7: 2-Points
- FMS #8: 0-Points
- FMS #9: 1-Point
- FMS #10: 1-Point
- FMS #11: 0-Points

Sample Facility A scored 11-points out of the 22 points possible, resulting in a compliance score of 50%. This compliance score acts as a baseline for the MS4 and provides a mechanism to track future progress.

7.4 Activity Stormwater Pollution Prevention Program

The purpose of the MS4's Activity Stormwater Pollution Prevention Program (ASWPPP) is to mitigate stormwater pollutants generated from municipal operations. To complete, the MS4 works to ensure all operations meet or exceed the following Activity Minimum Standards (AMS):

- Street surfaces and inlets must be protected by deploying controls that capture, contain, absorb, and allow disposal of generated pollutants
- Material stockpiles must be covered or contained, and run-on controls in place
- Disturbed areas must be contained, and stabilized within 14-days of activites
- Tracking controls must be in place to prevent the off-site migration of debris
- Concrete waste must be captured and disposed
- Dewatering flows must be treated to remove sediment to the maximum extent practicable before entering the storm sewer system or waterways. Additional considerations required for Tetrachloroethylene (PCE) and Pentachlorophenol (PCP) when conducting operations in controlled groundwater discharge areas.

The MS4 uses the following ASWPPP inspection protocol:

1. Inspect activity and establish baseline compliance with AMSs
2. Review existing documents, including SOGs and safety data sheets
3. Generate inspection report that includes inspection notes
4. Meet with applicable leadership to review the inspection report
5. Develop ASWPPP that includes:
    - Overview
    - Leadership
    - Activity Description
    - FMS and Pollution Assessment
    - Deployed BMPs and SOGs
    - High-Priority Areas (if applicable)
    - Training Program
    - Inspection Frequency
    - Record Keeping and Reporting
    - Site Map (if applicable)
    - Corrective Action Tracking Sheet
6. Implement ASWPPP
7. Re-inspect and compare compliance with AMSs and update ASWPPP one year after implementation and on a three-year interval moving forward

The MS4 will subject the following activities to the ASWPPP inspection protocol:

1. Water and Sewer Operations
    - 1.1: Water main breaks
        - Pollutants of Concern: TBD
        - Responsible Department: Public Works
        - Responsible Position: Public Works Director
        - Minimum Standards: TBD
        - Location: Citywide
        - Workflow:
            - Investigate: 2019
            - Develop ASWPPP: 2019
            - Train: 2019
            - Confirm: 2020
    - 1.2: Sanitary sewer overflows
        - Pollutants of Concern: TBD
        - Responsible Department: Public Works
        - Responsible Position: Public Works Director
        - Minimum Standards: TBD
        - Location: Citywide
        - Workflow:
            - Investigate: 2019
            - Develop ASWPPP: 2019

        - Train: 2019
        - Confirm: 2020

- 1.3: Trenching and excavation
    - Pollutants of Concern: TBD
    - Responsible Department: Public Works
    - Responsible Position: Public Works Director
    - Minimum Standards: TBD
    - Location: Citywide
    - Workflow:
        - Investigate: 2019
        - Develop ASWPPP: 2019
        - Train: 2019
        - Confirm: 2020

2. Streets, Water, and Sewer Operations

- 2.1: Sidewalk and curb construction
    - Pollutants of Concern: TBD
    - Responsible Department: Public Works
    - Responsible Position: Public Works Director
    - Minimum Standards: TBD
    - Location: Citywide
    - Workflow:
        - Investigate: 2020
        - Develop ASWPPP: 2020
        - Train: 2020
        - Confirm: 2021

- 2.2: Curb-cut slurry capture, collection, and disposal
    - Pollutants of Concern: TBD
    - Responsible Department: Public Works
    - Responsible Position: Public Works Director
    - Minimum Standards: TBD
    - Location: Citywide
    - Workflow:
        - Investigate: 2020
        - Develop ASWPPP: 2020
        - Train: 2020
        - Confirm: 2021

3. Streets Operations

- 3.1: Roadway traction sand and chemical application rates and techniques
    - Pollutants of Concern: TBD
    - Responsible Department: Public Works
    - Responsible Position: Public Works Director
    - Minimum Standards: Street sweeping

- Location: Citywide
- Workflow:
    - Investigate: 2020
    - Develop ASWPPP: 2020
    - Train: 2020
    - Confirm: 2021

4. Solid Waste Operations
    - 4.1: Solid waste collection and disposal
        - Pollutants of Concern: TBD
        - Responsible Department: Public Works
        - Responsible Position: Public Works Director
        - Minimum Standards: TBD
        - Location: Citywide
        - Workflow:
            - Investigate: 2020
            - Develop ASWPPP: 2020
            - Train: 2020
            - Confirm: 2021
5. University Operations
    - 5.1: Arena construction
        - Pollutants of Concern: TBD
        - Responsible Department: University
        - Responsible Position: University Facilities Director
        - Minimum Standards: TBD
        - Location: University Stadium Complex
        - Workflow:
            - Investigate: 2020
            - Develop ASWPPP: 2020
            - Train: 2020
            - Confirm: 2021

The MS4 tracks workload by totaling activities deemed complete by those still requiring assessment.

- 2017: 0% (0/8)
- 2018: 0% (0/8)
- 2019: TBD
- 2020: TBD
- 2012: TBD

The MS4 generates a compliance score to analyze performance using the following protocol:

1. Calculate a score for each AMS based on the following criteria:
    - 0-Points: Does not meet the standard
    - 1-Point: Partially meets the standard
    - 2-Points: Meets the standard

2. Sum the points assigned and divided by the total possible points to compute a percentage score
3. Describe scoring and rational in applicable ASWPPP

For example, Sample Activity A scored the following:

- FMS #1: 0-Points
- FMS #2: 2-Points
- FMS #3: 1-Point
- FMS #4: 0-Points
- FMS #5: 2-Points
- FMS #6: 1-Point

Sample Facility A scored 6-points out of the 12 points possible, resulting in a compliance score of 50%. This compliance score acts as a baseline for the MS4 and provides a mechanism to track future progress.

7.5 Training

The MS4 participates in local, state, and national training, conferences, and certification programs. The following lists completed efforts:

1. Comprehensive Stormwater Training
    - Stormwater Program Coordinator (Kyle Mehrens)
        - 2017: Weekly meeting, Montana Water Environment Association Conference (April 19-20), Bellevue StormCon Conference (August 29-31)
        - 2018: Weekly meeting, Montana Stormwater Conference (May 1-3), Denver StormCon Conference (August 13-15)
    - Stormwater Program Specialist (Frank Greenhill)
        - 2017: Weekly meeting, Montana Water Environment Association Conference (April 19-20),
        - 2018: Weekly meeting, California International Erosion Control Association Conference (February 12-14), Montana Stormwater Conference (May 1-3)
    - Stormwater Program Technician (Cody Flammond)
        - 2018: Weekly meeting, California International Erosion Control Association Conference (February 12-14), Montana Stormwater Conference (May 1-3), Phase 1 Leadership Training (October 15-17), Hazardous Waste Training (February 6)
    - Stormwater Operations Foreman (Mike Dilbeck)
        - 2017: Monthly meeting
        - 2018: Monthly meeting, Montana Stormwater Conference (May 1-3)
    - MSU Director – Facilities Services (EJ Hook)
        - 2017: Monthly meeting
        - 2018: Monthly meeting, Montana Stormwater Conference (May 1-3)
2. Stormwater Awareness Training: The MS4 trains employees with the goal of increasing awareness and reducing stormwater pollutants generated from internal operations. Employees receive training every three years and new hires within the first 90 days of employment. The

MS4 utilizes an online-based application (Proprofs) to hold interactive training for field supervisors and employees that includes the following content:

- Stormwater Division Overview (7 minutes) - "Stormwater in Bozeman: The Big Picture."
    - A broad view of Bozeman's stormwater system
    - Information about the importance of mitigating stormwater pollution
- Facility Operations Training Videos: "Rain Check"
    - Notes and FYIs
    - Quiz questions
    - Detailed Best Management Practices related to the following activities:
        - Good Housekeeping and Spill Prevention
        - Spill Control and Response
        - Vehicle Fueling
        - Vehicle and Equipment Maintenance
        - Vehicle and Equipment Washing
        - Materials Management
        - Waste Management
        - Landscaping
- Participant Totals:
    - Stormwater Division
        - 2017: 2 (1.5 hours)
        - 2018: 1 (.6 hours)
    - Water, Sewer, and Storm Division
        - 2017: 18 (11.2 hours)
        - 2018: 7 (2.5 hours)
    - Water Reclamation Division (annual requirement)
        - 2017: 13 (13 hours)
        - 2018: 15 (8.5 hours)
    - Streets Division
        - 2017: 0 (0 hours)
        - 2018: 19 (12 hours)
    - Solid Waste Division (annual requirement)
        - 2017: 14 (8.6 hours)
        - 2018: 17 (11.7 hours)
    - Water Treatment Division
        - 2017: 0 (0 hours)
        - 2018: 10 (8.9 hours)
    - Parks Division
        - 2017: 0 (0 hours)
        - 2018: 0 (0 hours)

- Fire Division
  - 2017: 0 (0 hours)
  - 2018: 0 (0 hours)
- Montana State University Operations
  - 2017: 0 (0 hours)
  - 2018: 1 (.8 hours)

3. Construction Site Management Program
   - Stormwater Program Specialist (Frank Greenhill)
     - 2017: 101 Introduction to Stormwater Management Training (February 13), 201 SWPPP Administrator Training (February 14-15), 202 SWPPP Preparer Training (February 22), 101 Introduction to Stormwater Management Training (September 19), 102 BMP Field Academy (May 31 and June 1), 201 SWPPP Administrator Training (September 20-21), 202 SWPPP Preparer Training (September 22), 301 Compliance Evaluation Inspection Training (October 17 and 18)
     - 2018: California International Erosion Control Association Conference (February 12-14), 101 Introduction to Stormwater Management Training (March 27), 201/202 SWPPP Administrator and Preparer Training (March 28-29), 100 Construction Dewatering Training (March 30), 102 BMP Field Academy (June 12)
   - Stormwater Program Technician (Cody Flammond)
     - 2018: California International Erosion Control Association Conference (February 12-14), 101 Introduction to Stormwater Management Training (March 27), 201/202 SWPPP Administrator and Preparer Training (March 28-29), 100 Construction Dewatering Training (March 30), 102 BMP Field Academy (June 12)
   - MSU Director of Facilities Services (EJ Hook)
     - 2017: 301 Compliance Evaluation Inspection Training (October 17 and 18)
4. Post-Construction Program
   - Stormwater Program Coordinator (Kyle Mehrens):
     - 2017: Weekly meeting, Montana Water Environment Association Conference (April 19-20), Bellevue StormCon Conference (August 29-31)
     - 2018: Weekly meeting, Montana Stormwater Conference (May 1-3), Denver StormCon Conference (August 13-15)
   - Development Review Engineer (Anna Russell P.E.)
     - 2018: Onboarding with Stormwater Coordinator, engineering certification credits
   - Development Review Engineer (Griffin Nielsen E.I):
     - 2017: Onboarding with Stormwater Coordinator, engineering certification credits
     - 2018: Engineering certification credits
5. FSWPPP and ASWPPP Training
   - See SWMP Sections 7.3 and 7.4

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Section 8.0

Sampling and Evaluation Program

Graphic: 8.0.1: In-stream sampling equipment

Graphic 8.0.2: Stormwater runoff nutrient analysis

8.1 Introduction

The MS4 strives to improve waterway health, protect public safety, and comply with its MS4 Permit through the collection of stormwater and waterway data points that:

- Monitor stormwater and surface water quality over time
- Evaluate the effectiveness of infrastructure and administrative program investments
- Generate data that advises policy, capital, and operational decisions
- Provide a data-driven performance metric easily communicated to the public

SWMP Section 8.0 details the following components necessary to administer the MS4's Sampling and Evaluation Program, including:

- Targeted Waterways
- Regulatory Requirements
- Urban Runoff Monitoring
- In-stream Wet Weather Monitoring
- Sediment Reduction Monitoring
- Long-term Trend Monitoring
- Evaluation
- Discussion

8.2 Targeted Waterways

Bozeman Creek, a.k.a. Sourdough Creek, originates in the Gallatin Mountains south of the MS4. Flowing north, Bozeman Creek enters the MS4 at E. Kagy Boulevard and continues until its confluence with the E. Gallatin River at E. Griffin Dr. The Montana DEQ determined that Bozeman Creek contained impairments from natural and anthropogenic sources when preparing the 2013 Lower Gallatin Planning Area TMDL.

Bozeman Creek Impairment Information			
Probable Cause	**Probable Sources**	**Associated Uses**	**TMDL**
Alteration in stream-side or littoral vegetative cover	Agricultural grazing, crop production	Aquatic Life	No
Chlorophyll-a	Agricultural grazing and crop production, residential districts, municipal area	Primary Contact and Recreation	No
E.coli	Septic tanks, urban runoff, storm sewers, pet waste, livestock	Primary Contact and Recreation	Yes
Nitrogen (Total)	Agricultural grazing and crop production, residential districts, municipal area	Aquatic Life, Primary Contact, and Recreation	Yes
Sediment	Natural sources, unpaved roads/trails, urban runoff, storm sewers, municipal area	Aquatic Life	Yes

Graphic 8.2.1: Bozeman Creek Impairment Information

Mandeville Creek, a small spring feed watercourse, originates south of Bozeman. Flowing north, Mandeville Creek enters the MS4 at Alder Creek Dr. and continues until its confluence with the E. Gallatin River. The Montana DEQ determined Mandeville Creek contained impairments from anthropogenic sources when preparing the 2013 Lower Gallatin Planning Area TMDL.

Mandeville Creek Impairment Information			
Probable Cause	**Probable Sources**	**Associated Uses**	**TMDL**
Nitrogen (Total)	Municipal point source discharges, residential districts, municipal area	Aquatic Life, Primary Contact, and Recreation	Yes
Phosphorous (Total)	Municipal point source discharges, residential districts, municipal area	Aquatic Life, Primary Contact, and Recreation	Yes

Graphic 8.2.2: Mandeville Creek Impairment Information

8.3 Regulatory Requirements

The MS4 General Permit requires that the MS4 perform sampling, testing, and reporting of stormwater discharges annually, including:

1. Monitor stormwater discharges based on residential and industrial land-use types
   - See SWMP Section 8.4 Urban Runoff Monitoring
2. Assess in-stream water quality impacts of stormwater discharges to Bozeman and Mandeville Creeks (Self-Monitoring Requirements: Monitoring Option 2)
   - See SWMP Section 8.5 In-Stream Wet-Weather Monitoring and SWMP Section 8.7 Long-Term Trend Monitoring.
3. Conduct TMDL-related monitoring to evaluate the effectiveness of best management practices (BMPs) implemented to reduce pollutant loading from the MS4 to impaired waters (TMDL Related Monitoring: Monitoring Option 2)
   - See SWMP Section 8.6 Sediment Reduction Monitoring
4. Self-evaluate results relative to long-term medians
   - See SWMP Section 8.8 Evaluation

For each of the monitoring requirements above, the MS4 conducts sampling, testing, and reporting of the following parameters:

1. Total Suspended Solids (TSS), mg/L
2. Chemical Oxygen Demand (COD), mg/L
3. Total Nitrogen (TN), mg/L
4. Total Phosphorus (TP), mg/L
5. Copper (Cu), mg/L
6. Lead (Pb), mg/L
7. Zinc (Zn), mg/L
8. Oils and Greases, mg/L
9. pH, standard units
10. Estimated Flow

8.4 Urban Runoff Monitoring

Introduction: The MS4 collects urban runoff samples from representative watersheds to characterize pollutant loading occurring from various land-use types before system treatment, such as stormwater basins, sumps, infiltration galleries, and mechanical separation. In general, urban runoff pollutant

concentrations are variable and dependent on numerous environmental conditions, such as precipitation cycles, wind, tree cover, and human activities.

Sites: The MS4 has a network of four monitoring locations: two within residential drainage basins and two within commercial/industrial drainage basins, including:

1. Site: RES_01
    - Location: Near the intersection of S. Bozeman Ave. and E. Garfield St.
    - Land-use: Residential
    - Drainage Basin: Seven acres
    - Inlet ID: I.F06.00082
        - Latitude: 45.667143
        - Longitude: -111.034474
    - Inlet ID: I.F06.00083
        - Latitude: 45.667143
        - Longitude: -111.034724
    - Parameters: TSS, COD, TP, TN, pH, Copper, Lead, Zinc, Oils and Greases, and Flow
    - Frequency: Two samples per year
2. Site: IND_01
    - Location: Near Commercial Dr. cul-de-sac (west)
    - Land-use: Commercial and Industrial
    - Drainage Basin: 10 acres
    - Inlet ID: I.E01.00184
        - Latitude: 45.703061
        - Longitude: -111.030112
    - Inlet ID: I.E01.00185
        - Latitude: 45.703164
        - Longitude: -111.030428
    - Parameters: TSS, COD, TP, TN, pH, Copper, Lead, Zinc, Oils and Greases, and Flow
    - Frequency: Two samples per year
3. Site: RES_02
    - Location: MSU Campus near the intersection of S. 12th Ave. and W. Garfield St.
    - Land-use: Residential
    - Drainage Basin: Four acres
    - Inlet ID: I.H06.00329
        - Latitude: 45.666911
        - Longitude: -111.054301
    - Inlet ID: I.H06.00259
        - Latitude: 45.666970
        - Longitude: -111.054226
    - Parameters: TSS, COD, TP, TN, pH, Copper, Lead, Zinc, Oils and Greases, and Flow

- Frequency: Two samples per year

4. Site: IND_02
   - Location: MSU Campus near the intersection of S. 6th Ave. and W Garfield St.
   - Land-use: Industrial
   - Drainage Basin: Two acres
   - Inlet ID: I.G06.00603
     - Latitude: 45.664409
     - Longitude: -111.044957
   - Inlet ID: I.G06.00630
     - Latitude: 45.664409
     - Longitude: -111.044942
   - Parameters: TSS, COD, TP, TN, pH, Copper, Lead, Zinc, Oils and Greases, and Flow
   - Frequency: Two samples per year

Methods: The MS4 collects urban runoff samples from storm sewer inlets at each site using Thermo-Scientific Nalgene Samplers (Samplers). Before runoff events, Staff installs each Sampler at the selected inlet grate and positions it to collect the first flush of urban runoff. Once full, the Sampler closes itself prohibiting additional collection or dilution of the original sample.

Analysis: The MS4 collects, transfers, packages, and ships samples to a certified laboratory, which analyzes the following parameters:

5. Total Suspended Solids (TSS), mg/L
6. Chemical Oxygen Demand (COD), mg/L
7. Total Nitrogen (TN), mg/L
8. Total Phosphorus (TP), mg/L
9. Copper (Cu), mg/L
10. Lead (Pb), mg/L
11. Zinc (Zn), mg/L
12. Oils and Greases, mg/L
13. pH, standard units
14. Estimated Flow

The MS4 estimates flow, in gallons per minute (gpm), using the Rational Formula where:

$$Q = CiA \qquad \textit{Equation 1}$$

1. Q is peak runoff rate (cfs converted to gpm)
2. C is the runoff coefficient (C-Factor, Bozeman Engineering Standards)
3. i is rainfall intensity (in./hr., MSU Rain Gage)
4. A is the drainage area (acres)

Sampling Location Runoff Coefficients (C-Factors)		
Location Name	**Primary Land Use**	**Runoff Coefficient (C-Factor)**
RES_01	Low to Medium Density Residential	0.35
RES_02	Dense Residential	0.50
IND_01	Industrial	0.80
IND_02	Industrial	0.80

Graphic 8.4.1: Sampling location runoff coefficients C-factors

	Monitoring Results									
	TSS (mg/L)	Oil & Grease (mg/L)	Total Nitro. (mg/L)	Phosp. (mg/L)	Zinc (mg/L)	Lead (mg/L)	Copper (mg/L)	COD (mg/L)	pH	Flow (gpm)
RES_01: 2017 (1)	203.0	2.00	6.20	0.908	0.1160	0.0052	0.0220	251.00	6.7	N/A
RES_01: 2017 (2)	368.0	5.10 RL	12.00	1.230	0.1790	0.0073	0.0300	175.00	7.0	N/A
RES_01: 2018 (1)	460.0	4.00	14.00	1.920	0.2720	0.0092	0.0290	708.00	6.4	55.0
RES_01: 2018 (2)	113.0	1.00 RL	2.30	0.544	0.1220	0.0033	0.0130	129.00	6.5	22.0
RES_01: 2019 (1)										
RES_01: 2019 (2)										
RES_01: 2020 (1)										
RES_01: 2020 (2)										
RES_01: 2021 (1)										
RES_01: 2021 (2)										
RES_01 Median	**285.5**	**3.00**	**9.10**	**1.069**	**0.1505**	**0.0063**	**0.0255**	**213.00**	**6.6**	**38.5**
RES_02: 2017 (1)	-	-	-	-	-	-	-	-	-	-
RES_02: 2017 (2)	-	-	-	-	-	-	-	-	-	-
RES_02: 2018 (1)	1430.0	15.00	8.40	2.030	0.6520	0.0367	0.0840	605.00	7.0	18.0
RES_02: 2018 (2)	199.0	3.00	3.40	0.457	0.2610	0.0081	0.0220	234.00	6.8	18.0
RES_02: 2019 (1)										
RES_02: 2019 (2)										
RES_02: 2020 (1)										
RES_02: 2020 (2)										
RES_02: 2021 (1)										
RES_02: 2021 (2)										
RES_02 Median	**814.5**	**9.00**	**5.90**	**1.244**	**0.4565**	**0.0224**	**0.0530**	**419.50**	**6.9**	**18.0**
IND_01: 2017 (1)	149.0	4.00	17.30	1.380	0.5780	0.0160	0.0440	292.00	7.0	-
IND_01: 2017 (2)	1820.0	5.10 RL	11.68	1.320	33.3500	0.0371	0.0867	151.00	6.9	-
IND_01: 2018 (1)	602.0	15.00	8.50	1.890	4.7100	0.0371	0.0620	606.00	7.3	179.5
IND_01: 2018 (2)	293.0	4.00	3.40	0.588	0.1910	0.0081	0.0270	195.00	7.0	71.8
IND_01: 2019 (1)										
IND_01: 2019 (2)										
IND_01: 2020 (1)										
IND_01: 2020 (2)										
IND_01: 2021 (1)										
IND_01: 2021 (2)										
IND_01 Median	**447.5**	**4.55**	**10.09**	**1.350**	**2.6440**	**0.0266**	**0.0530**	**243.50**	**7.0**	**125.7**
IND_02: 2017 (1)	-	-	-	-	-	-	-	-	-	-
IND_02: 2017 (2)	-	-	-	-	-	-	-	-	-	-
IND_02: 2018 (1)	899.0	4.00	8.80	1.600	0.5600	0.0158	0.0570	592.00	6.7	14.4
IND_02: 2018 (2)	380.0	5.00	4.40	0.737	0.2450	0.0099	0.0320	271.00	3.4	14.4
IND_02: 2019 (1)										
IND_02: 2019 (2)										
IND_02: 2020 (1)										
IND_02: 2020 (2)										
IND_02: 2021 (1)										
IND_02: 2021 (2)										
IND_02 Median	**639.5**	**4.50**	**6.60**	**1.169**	**0.4025**	**0.0129**	**0.0445**	**431.50**	**5.1**	**14.4**

Graphic 8.4.2: Monitoring Results. RL is the minimum Reporting Limit.

Evaluation: The MS4 enters monitoring results into a local spreadsheet, stores analysis reports for safe record, and analyzes the data using the following Scoring Matrix (Matrix) and protocol to interpret, evaluate, and communicate the results. The Matrix includes scores ranging from 0 to 4-points, representing a set increase from EPA benchmarks provided in previous MS4 General Permits.

For example, the TSS Benchmark is 125 mg/L. As such, the 3-Point range is two times that amount (250), the 2-Point range is three times that amount (375), etc.

Urban Runoff Monitoring: Scoring Matrix					
	4-Points	**3-Points**	**2-Points**	**1-Point**	**0-Points**
TSS (mg/L)	0 – 125	126 - 250	251 - 375	376 - 500	> 500
Oil and Grease (mg/L)	0 - 10	11 - 20	21 - 30	31 - 40	> 41
Total Nitrogen (mg/L)	0 - 2.0	2.1 - 4.0	4.1 - 6.0	6.1 - 8.0	> 8.0
Phosphorus (mg/L)	0 - .41	.42 - .82	.83 - 1.23	1.24 - 1.65	> 1.65
Zinc (mg/L)	0 - .20	.21 - .40	.41 - .60	.61 - .80	> .80
Lead (mg/L)	0 - .10	.11 - .20	.21-.30	.31 - .40	> .40
Copper(mg/L)	0 - .04	.041 - .08	.081 - .12	.121 - .160	> .160
COD	0 - 80	81 - 160	161 - 240	241 – 320	> 320
PH (High End)	7.6 - 9.0	9.1 - 10.0	10.1 - 11.0	11.1 -12.0	12.1 - 14.0
PH (Low End)	6.0 - 7.5	5.0 - 5.9	4.0 - 4.9	3.0 - 3.9	1.0 - 3.0

Graphic 8.4.3: Urban Runoff Monitoring: Scoring Matrix

The MS4 relates results to the Matrix and then populate the appropriate Urban Runoff Monitoring charts with the corresponding point totals.

For example, a 2018 RES_01 sample contained 135 mg/L of TSS. The MS4 assigns and populates the Urban Runoff Monitoring: RES_01 chart TSS box with 3-points. The same approach applies to all sites and parameters.

Urban Runoff Monitoring: RES_01								
	2018		**2019**		**2020**		**2021**	
	(1)	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**
TSS	1	4						
Oil and Grease	4	4						
Total Nitrogen	0	3						
Phosphorus	0	3						
Zinc	3	4						
Lead	4	4						
Copper	4	4						
COD	0	3						
PH	4	4						
Event Points:	**20**	**33**						
Annual Points:	**53**							

Graphic 8.4.4: Urban Runoff Monitoring: RES_01

Urban Runoff Monitoring: IND_01								
	2018		2019		2021		2022	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
TSS	0	2						
Oil and Grease	3	4						
Total Nitrogen	0	3						
Phosphorus	0	3						
Zinc	0	4						
Lead	4	4						
Copper	3	4						
COD	0	2						
PH	4	4						
Event Points:	14	30						
Annual Points:	44							

Graphic 8.4.5: Urban Runoff Monitoring: IND_01

Urban Runoff Monitoring: RES_02								
	2018		2019		2021		2022	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
TSS	0	3						
Oil and Grease	3	4						
Total Nitrogen	0	3						
Phosphorus	0	3						
Zinc	1	3						
Lead	1	4						
Copper	2	4						
COD	0	2						
PH	4	4						
Event Points:	11	30						
Annual Points:	41							

Graphic 8.4.6: Urban Runoff Monitoring: RES_02

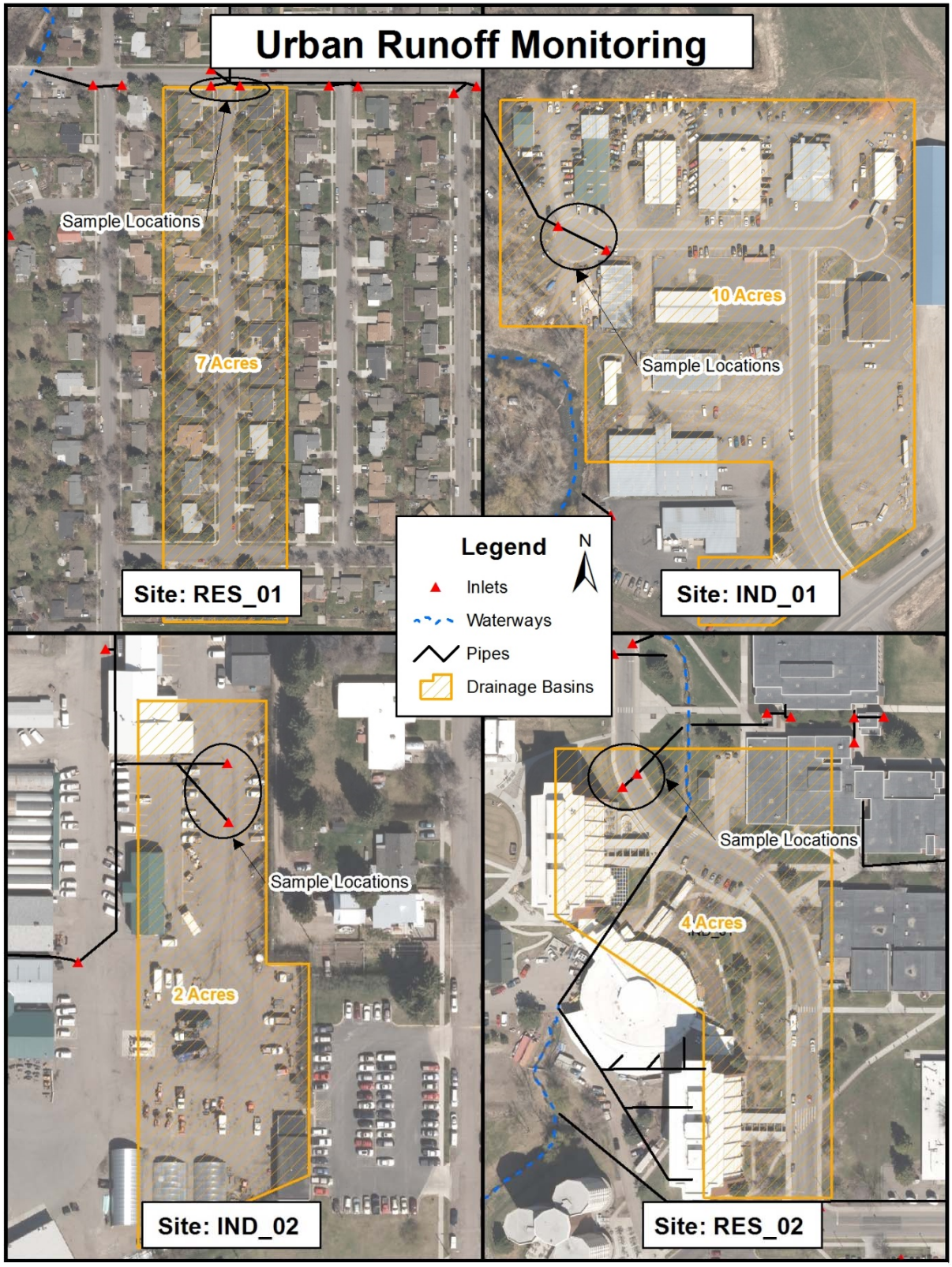
Urban Runoff Monitoring: IND_02								
	2018		2019		2021		2022	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
TSS	0	1						
Oil and Grease	4	4						
Total Nitrogen	0	2						
Phosphorus	1	3						
Zinc	2	3						
Lead	4	4						
Copper	3	4						
COD	0	1						
PH	4	1						
Event Points:	18	23						
Annual Points:	41							

Graphic 8.4.7: Urban Runoff Monitoring: IND_02

The MS4 sums the individual scores to obtain an Event Point Total, sums both Event Scores to obtain an Annual Point Total, and calculates a Final Score by transferring and summing the Annual Points in the Urban Runoff Monitoring: Results chart. Finally, the MS4 divides the Total Points by the Possible Points to calculate the Final Score and transfers the Final Score to SWMP Section 8.8.

Urban Runoff Monitoring: Results				
	2018	**2019**	**2021**	**2022**
RES_01 Annual Points	53			
IND_01 Annual Points	44			
RES_02 Annual Points	41			
IND_02 Annual Points	41			
Total Points:	**179**			
Possible Points:	**288**	**288**	**288**	**288**
Final Score (decimal):	**.62**			

Graphic 8.4.8: Urban Runoff Monitoring: Results



Graphic 8.4.9: Urban Runoff Monitoring

8.5 In-Stream Wet-Weather Monitoring

Introduction: The MS4 conducts In-Stream Wet-Weather Monitoring to analyze the impacts of urban runoff to Bozeman and Mandeville Creeks during wet weather. Combined, the Creeks receive urban runoff from over 1,700 acres of dense development at over 100 individual discharge points or outfalls. Non-point source pollution sources exist upstream of the MS4 as identified in the Lower Gallatin Planning Area TMDL. This approach allows the MS4 to take sole responsibility for and mitigate the impacts stemming from urban runoff.

Sites: The MS4 monitors two (2) locations on Bozeman Creek and two (2) locations on Mandeville Creek. Each Creek has one (1) station upstream and one (1) downstream of the MS4 boundary. Sample sites include:

1. Site: UPS_01
   - Location: Bozeman Creek upstream of MS4, near Kagy Blvd.
   - Latitude: 45.657248
   - Longitude: -111.028584
   - Parameters: TSS, COD, TP, TN, pH, Copper, Lead, Zinc, Oils and Greases, and Flow
   - Frequency: Two (2) samples per year
2. Site: DWS_01
   - Location: Bozeman Creek downstream of MS4, near Gold Ave.
   - Latitude: 45.699668
   - Longitude: -111.027347
   - Parameters: TSS, COD, TP, TN, pH, Copper, Lead, Zinc, Oils and Greases, and Flow
   - Frequency: Two (2) samples per year
3. Site: UPS_02
   - Location: Mandeville Creek upstream of MS4, near Campus Blvd.
   - Latitude: 45.656506
   - Longitude: -111.05803
   - Parameters: TSS, COD, TP, TN, pH, Copper, Lead, Zinc, Oils and Greases, and Flow
   - Frequency: Two (2) samples per year
4. Site: DWS_02
   - Location: Mandeville Creek downstream of MS4, near E. Baxter Ln.
   - Latitude: 45.697742
   - Longitude: -111.051959
   - Parameters: TSS, COD, TP, TN, pH, Copper, Lead, Zinc, Oils and Greases, and Flow
   - Frequency: Two (2) samples per year

Methods: The MS4 collects in-stream samples using Thermo-Scientific Nalgene Samplers (Sampler). Before rain events, Staff mounts each Sampler to a metal post driven into the creek bed and positions it to collect a sample as soon as the water levels rise one-half to three-quarters of an inch. The Sampler closes itself and does not allow additional collection or dilution of the original sample once full.

Analysis: The MS4 collects, transfers, packages, and ships samples to a certified laboratory, which analyzes the following parameters:

1. Total Suspended Solids, mg/L

2. Chemical Oxygen Demand, mg/L
3. Total Nitrogen, mg/L
4. Total Phosphorus, mg/L
5. Copper, mg/L
6. Lead, mg/L
7. Zinc, mg/L
8. Oils and Greases, mg/L
9. pH, standard units

The MS4 determines Bozeman Creek's stream-flow using real-time data collected from the Bozeman Creek gaging station. The MS4 estimates flow for Mandeville Creek using historical data collected by Gallatin Local Water Quality District, since no permanent gauging station exists.

	Monitoring Results								
	TSS (mg/L)	Oil & Grease (mg/L)	Total Nitro. (mg/L)	Phosp. (mg/L)	Zinc (mg/L)	Lead (mg/L)	Copper (mg/L)	COD (mg/L)	pH
UPS_01: 2017 (1)	7.0	5.80 RL	0.41	0.085	0.0054	0.0005	0.0036	11.60	8.2
UPS_01: 2017 (2)	14.0	1.00 RL	0.50 RL	0.022	0.0100 RL	0.0010 RL	0.0050 RL	15.00	8.1
UPS_01: 2018 (1)	14.0	1.00 RL	0.50 RL	0.052	0.0100 RL	0.0010 RL	0.0050 RL	10.00	8.1
UPS_01: 2018 (2)	10.0 RL	1.00 RL	0.60	0.028	0.0090	0.003 RL	0.0020 RL	5.00	8.3
UPS_01: 2019 (1)									
UPS_01: 2019 (2)									
UPS_01: 2020 (1)									
UPS_01: 2020 (2)									
UPS_01: 2021 (1)									
UPS_01: 2021 (2)									
UPS_01 Median	**12.0**	**1.00**	**0.50**	**0.040**	**0.0095**	**0.0010**	**0.0043**	**10.80**	**8.1**
UPS_02: 2017 (1)	-	-	-	-	-	-	-	-	-
UPS_02: 2017 (2)	-	-	-	-	-	-	-	-	-
UPS_02: 2018 (1)	185.0	1.00 RL	3.10	0.430	0.0330	0.0027	0.0060	49.00	8.2
UPS_02: 2018 (2)	53.0	1.00 RL	0.50 RL	0.081	0.0180	0.0004	0.0020	16.00	8.1
UPS_02: 2019 (1)									
UPS_02: 2019 (2)									
UPS_02: 2020 (1)									
UPS_02: 2020 (2)									
UPS_02: 2021 (1)									
UPS_02: 2021 (2)									
UPS_02: Median	**119.0**	**1.00**	**1.80**	**0.256**	**0.0255**	**0.0016**	**0.0040**	**32.50**	**8.2**
DWS_01: 2017 (1)	10.0	5.40 RL	0.55	0.088	0.0070	0.0006	0.0036	15.30	8.2
DWS_01: 2017 (2)	134.0	1.00 RL	1.80	0.264	0.0300	0.0060	0.0060	42.00	8.1
DWS_01: 2018 (1)	34.0	1.00 RL	0.50 RL	0.082	0.0100 RL	0.0010 RL	0.0005 RL	18.00	8.1
DWS_01: 2018 (2)	17.0	1.00 RL	0.70	0.057	0.0220	0.0007	0.0002 RL	14.00	8.3
DWS_01: 2019 (1)									
DWS_01: 2019 (2)									
DWS_01: 2020 (1)									
DWS_01: 2020 (2)									
DWS_01: 2021 (1)									
DWS_01: 2021 (2)									
DWS_01: Median	**25.5**	**1.00**	**0.62**	**0.085**	**0.0160**	**0.0009**	**0.0043**	**16.65**	**8.2**
DWS_02: 2017 (1)	-	-	-	-	-	-	-	-	-
DWS_02: 2017 (2)	-	-	-	-	-	-	-	-	-
DWS_02: 2018 (1)	297.0	1.00 RL	2.80	0.368	0.0700	0.0168	0.0150	53.00	8.2
DWS_02: 2018 (2)	43.0	1.00 RL	0.80	0.102	0.0280	0.0026	0.0030	18.00	8.2
DWS_02: 2019 (1)									
DWS_02: 2019 (2)									
DWS_02: 2020 (1)									
DWS_02: 2020 (2)									
DWS_02: 2021 (1)									
DWS_02: 2021 (2)									
DWS_02 Median	**170.0**	**1.00**	**1.80**	**0.235**	**0.0490**	**0.0097**	**0.0090**	**35.50**	**8.2**

Graphic *8.5.1: Monitoring Results. RL is the minimum Reporting Limit.*

Evaluation: The MS4 enters data into a local spreadsheet and stores analysis reports for a safe record upon receipt. Further, the MS4 analyzes the data using the following Scoring Matrix (Matrix) and protocol to interpret, evaluate, and communicate the results. The Matrix includes points ranging from 0 to 4-points, which relate to the percent change of pollutants between the upstream and downstream sites.

For example, a percent change of 0-20% equals 4-points, 21-40% equals 3-points, 41-60% equals 2-points, 61-80% equals 1-point, and 81- >100% equals 0-points.

Percent change is determined using the following formula:

$$\% \triangle = ((Y_2 - Y_1) / Y_1) * 100 \qquad \text{Equation 2}$$

For example, TSS: ((200-150)/150) x 100 = 33.3%, resulting in a score of 3-points.

In-Stream Wet-Weather Monitoring: Scoring Matrix					
	4-Points	**3-Points**	**2-Points**	**1-Point**	**0-Points**
TSS (% △)	(<0) – (20)	(21) – (40)	(41) – (60)	(61) – (80)	(81) – (>100)
Oil/Grease (% △)	(<0) – (20)	(21) – (40)	(41) – (60)	(61) – (80)	(81) – (>100)
Total Nitrogen (% △)	(<0) – (20)	(21) – (40)	(41) – (60)	(61) – (80)	(81) – (>100)
Phosphorus (% △)	(<0) – (20)	(21) – (40)	(41) – (60)	(61) – (80)	(81) – (>100)
Zinc (% △)	(<0) – (20)	(21) – (40)	(41) – (60)	(61) – (80)	(81) – (>100)
Lead (% △)	(<0) – (20)	(21) – (40)	(41) – (60)	(61) – (80)	(81) – (>100)
Copper (% △)	(<0) – (20)	(21) – (40)	(41) – (60)	(61) – (80)	(81) – (>100)
COD (% △)	(<0) – (20)	(21) – (40)	(41) – (60)	(61) – (80)	(81) – (>100)
PH (% △)	(<0) – (20)	(21) – (40)	(41) – (60)	(61) – (80)	(81) – (>100)

Graphic 8.5.2: In-Stream Wet-Weather Monitoring Scoring Matrix

The MS4 relates results to the Matrix and then populates the appropriate Urban Runoff Monitoring charts with the corresponding scores.

For example, a 2018 Bozeman Creek UPS_01 and DWS_01 TSS percent change equaled 35%. The MS4 assigns and populates the In-Stream Wet-Weather Monitoring: Bozeman Creek UPS_01 and DWS_01 chart TSS box with 3-points. The same approach applies to all sites and parameters.

In-Stream Wet-Weather Monitoring: Bozeman Creek UPS_01 and DWS_01								
	2018		**2019**		**2021**		**2022**	
	(1)	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**
TSS	0	1						
Oil and Grease	4	4						
Total Nitrogen	4	4						
Phosphorus	2	0						
Zinc	4	0						
Lead	4	0						
Copper	4	4						
COD	2	0						
PH	4	4						
Event Points:	**28**	**17**						
Annual Points:	**45**							

Graphic 8.5.3: In-Stream Wet-Weather Monitoring: Bozeman Creek UPS_01 and DWS_01.

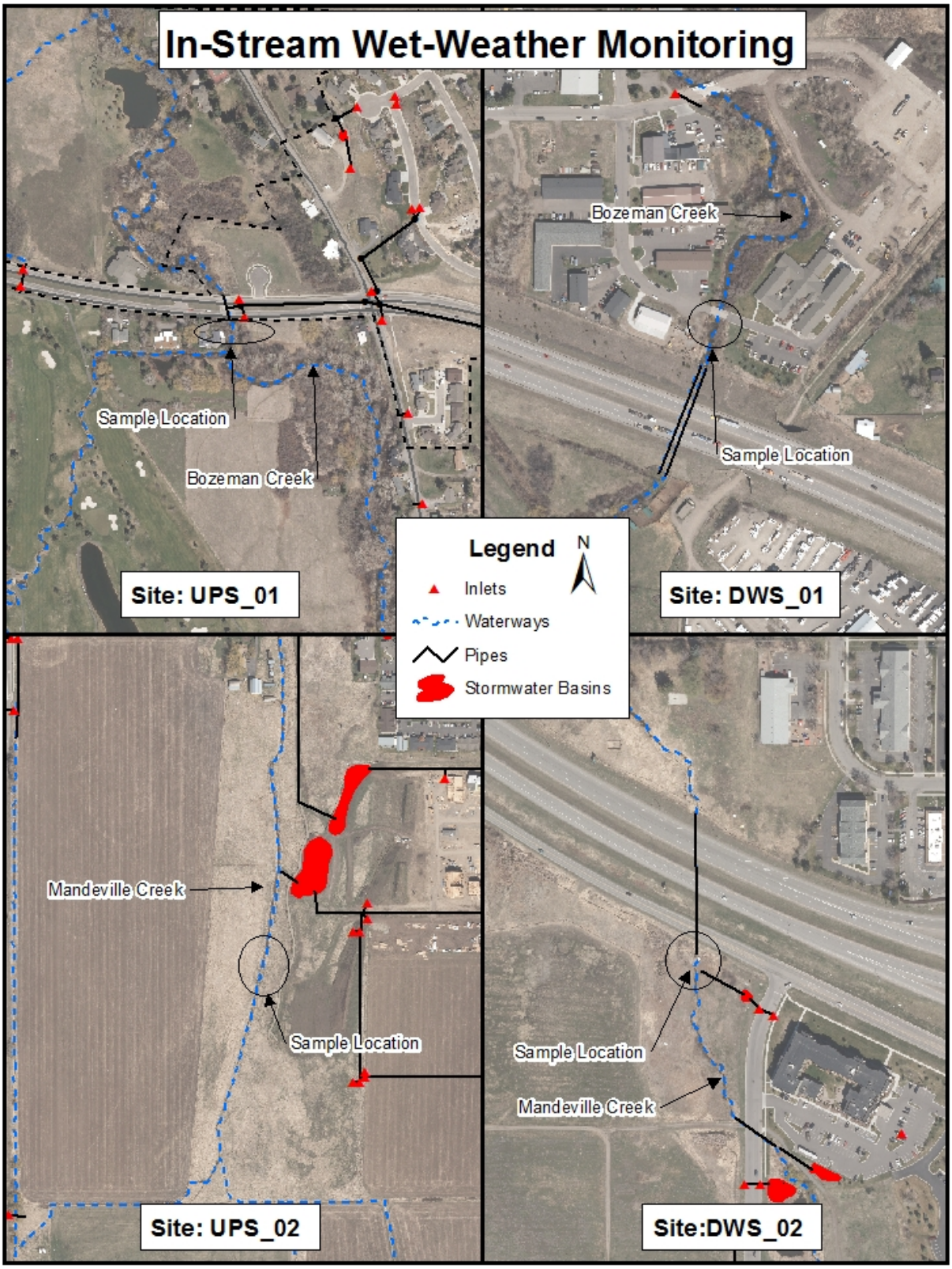
In-Stream Wet-Weather Monitoring: Mandeville Creek UPS_02 and DWS_02								
	2018		2019		2021		2022	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
TSS	1	4						
Oil and Grease	4	4						
Total Nitrogen	4	2						
Phosphorus	4	3						
Zinc	0	2						
Lead	0	0						
Copper	0	2						
COD	4	4						
PH	4	4						
Event Points:	**21**	**25**						
Annual Points:	**46**							

Graphic 8.5.4: In-Stream Wet-Weather Monitoring: Mandeville Creek UPS_02 and DWS_02.

The MS4 sums the individual scores to obtain an Event Point Total, sums both Event Scores to obtain an Annual Point Total, and calculates a Final Score by transferring and summing the Annual Points in the In-Stream Wet-Weather Monitoring: Results chart. Finally, the MS4 divides the Total Points by the Possible Points. The MS4 transfers the Final Score to SWMP Section 8.8.

In-Stream Wet-Weather Monitoring: Results				
	2018	2019	2021	2022
Bozeman Creek Annual Points	45			
Mandeville Creek Annual Points	46			
Total Points:	**91**			
Possible Points:	**144**	**144**	**144**	**144**
Final Score (decimal):	**.63**			

Graphic 8.5.5: In-Stream Wet-Weather Monitoring: Results



Graphic 8.5.6: In-Stream Wet-Weather Monitoring

8.6 Sediment Reduction Monitoring

Introduction: The MS4 conducts Sediment Reduction Monitoring to comply with the Montana DEQ's sediment load reduction requirements detailed in the 2013 Lower Gallatin Planning Area TMDL. The MS4 tracks tons captured in BMPs detailed in SWMP Section 2.3 and SWMP Section 2.4.

Bozeman Creek Sediment Waste Load Reduction				
Sediment Source	**Estimated Load**	**Waste Load Allocation**	**Required Load Reduction**	**Required Load Reduction**
Municipal Storm Sewer	218 tons/year	137 tons/year	37%	81 tons/year **DEQ Imposed**

Graphic 8.6.1: 2013 Lower Gallatin Planning Area TMDL - Bozeman Creek Sediment Waste Load Reduction

Mandeville Creek Sediment Waste Load Reduction				
Sediment Source	**Estimated Load**	**Waste Load Allocation**	**Required Load Reduction**	**Load Reduction Goal**
Municipal Storm Sewer	None	None	None	10 tons/year **Self Imposed**

Graphic 8.6.2: 2013 Lower Gallatin Planning Area TMDL Mandeville Creek Sediment Waste Load Reduction

Sites: Stormwater treatment units described in SWMP Section 2.5.

Methods: Measurement process described in SWMP Section 2.5.

Analysis: The MS4 analyzes the following parameter:

- Total Sediment Captured (tons)

Evaluation: The MS4 enters data into a local spreadsheet for safe record upon receipt. Further, the MS4 incorporates the data into the following Scoring Matrix (Matrix) to interpret, evaluate, and communicate the results. The Matrix includes scores ranging from 0 to 4-points, which relate to total annual sediment capture. For example, a load reduction for Bozeman Creek of ≥ 81 tons equals 4-points, 60 – 80 tons equals 3-points, 40 – 59 tons equals 2-points, 20 – 39 tons equals 1-point, and 0 – 19 equals 0-points.

Sediment Reduction Monitoring: Scoring Matrix (Bozeman Creek)					
	4-Points	**3-Points**	**2-Points**	**1-Point**	**0-Points**
Sediment Captured (tons)	≥81	60 – 80	40 – 59	20 – 39	0 – 19

Graphic 8.6.3: Sediment Reduction Monitoring: Scoring Matrix (Bozeman Creek)

Sediment Reduction Monitoring: Scoring Matrix (Mandeville Creek)					
	4-Points	**3-Points**	**2-Points**	**1-Point**	**0-Points**
Sediment Captured (tons)	≥10	7.5 – 9.9	5.0 – 7.4	2.5 – 4.9	0 – 2.4

Graphic 8.6.4: Sediment Reduction Monitoring: Scoring Matrix (Mandeville Creek)

Results: The MS4 relates results to the Matrix and then populate the Sediment Reduction Monitoring: Results chart with the corresponding scores. The MS4 weighs Bozeman Creek more heavily than Mandeville Creek because of DEQ's imposed reduction requirements.

- 2018 Totals:
  - Bozeman Creek: 45.7 tons
  - Mandeville Creek: 1.0 tons

The MS4 calculates a Final Score by summing the weighted Annual Points in the Sediment Reduction Monitoring: Results chart and dividing by the Possible Points to calculate the Final Score. Finally, the MS4 transfers the Final Score to SWMP Section 8.8.

Sediment Reduction Monitoring: Results				
	2018	**2019**	**2021**	**2022**
Bozeman Creek Annual Points	(2) x (1.5) = 3			
Mandeville Creek Annual Points	(0) x (.5) = 0			
Total Points:	3			
Possible Points:	8	8	8	8
Final Score (decimal):	.38			

Graphic 8.6.5: Sediment Reduction Monitoring: Results.

8.7 Long-Term Trend Monitoring

Introduction: Aquatic macroinvertebrate assemblages respond predictably to sedimentation by shifting from sediment-intolerant to sediment-tolerant taxa. Changes in macroinvertebrate assemblages are quantified using the Observed:Expected (O:E) ratio biological index model, which compares the observed taxa at a site with the expected taxa that would be present at a site under a variety of environmental conditions. Using the percent difference in O:E ratios between upstream and downstream sites the MS4 is able to assess stormwater discharge impacts to macroinvertebrate assemblages. A positive percent difference in O:E ratios indicate that stormwater discharges are not negatively impacting macroinvertebrate community assemblages. Conversely, negative percent differences in O:E ratios indicate that stormwater discharges are negatively impacting macroinvertebrate community assemblies. Sedimentation affects macroinvertebrates community assemblages by:

- Filling interstitial voids in gravel substrate
- Reducing gravel attachment sites
- Altering stream morphology
- Increasing stream temperature

Sites: The MS4 monitors benthic macroinvertebrates on Bozeman and Mandeville Creeks at the In-Stream Wet-Weather Monitoring Sites (SWMP Section 8.5).

Methods: Derives macroinvertebrate biological index monitoring protocols from MDEQ Sample Collection, Sorting, and Taxonomic Identification of Benthic Macroinvertebrate Communities Standard Operating Procedures (*one sample taken per location per year*).

Analysis: The MS4 collects and preserves macroinvertebrate samples and then delivers to an accredited lab, which completes the analysis of the following parameters:

- Taxonomic Sorting and Identification
- Species Abundance
- Species Diversity
- Observed / Expected Ratios
- Percentage of Sediment Tolerant Species

Upon receiving macroinvertebrate analysis results, the MS4 enters the calculated O:E ratios in the table below and then calculates the percent change between upstream and downstream sites.

Monitoring Results: UPS_01 & DWS_01			
	O:E Ratio: UPS_01	**O:E Ratio: DWS_01**	**O:E Ratio (% △)**
2017	-	-	-
2018	0.20	0.37	+85%
2019			
2020			
2021			
Median			

Graphic 8.7.1: UPS_01 & DWS_01 Monitoring Results

Monitoring Results: UPS_02 & DWS_02			
	O:E Ratio: UPS_02	**O:E Ratio: DWS_02**	**O:E Ratio (% △)**
2017	-	-	-
2018	0.29	0.16	-45%
2019			
2020			
2021			
Median			

Graphic 8.7.2: UPS_01 & DWS_01 Monitoring Results

Evaluation: The MS4 enters data into a local spreadsheet and stores analysis reports for a safe record upon receipt. Further, the MS4 analyzes the data using the following Scoring Matrix and protocol to interpret, evaluate, and communicate the results. The Scoring Matrix includes scores ranging from 0 to 4-points, which relate to percent change in O:E ratios between the upstream and downstream sites for each creek.

For example, an O:E ratio percent change of 0-(-20%) equals 4-points,- 21-(-40%) equals 3-points,- 41-(-60%) equals 2- points, -61-(-80%) equals 1-point, and >-80% equals 0-points.

Percent change is determined using *Equation 2* found in SWMP Section 8.3.

For example, an upstream Bozeman Creek sample has an O:E ratio of 1.1, and the downstream sample has an O:E ratio of 0.8. The MS4 finds the difference and divides by the original to arrive at a percentage ((0.8 - 1.1)/1.1) x 100 = -30%, resulting in a score of 3-points.

Long-Term Trend Monitoring: Scoring Matrix					
	4-Points	**3-Points**	**2-Points**	**1-Point**	**0-Points**
O:E Ratio (% △)	>0 – (-20)	-21 – (-40)	-41 – (-60)	-61 – (-80)	-81 – (-100)

Graphic 8.7.3: Long-Term Trend Monitoring: Scoring Matrix

The MS4 relates results to the Matrix and then populates the Long-Term Trend Monitoring: Results chart with the corresponding scores, and calculates a Final Score by summing the Event Points in the Long-Term Trend Monitoring: Results chart and dividing by the Possible Points. Finally, the MS4 transfers the Final Score to SWMP Section 8.8.

Long-Term Trend Monitoring: Results				
	2018	2019	2020	2021
Bozeman Creek Event Points	4			
Mandeville Creek Event Points	2			
Total Points:	6			
Possible Points:	8	8	8	8
Final Score (decimal):	.75			

Graphic 8.7.4: Long-Term Trend Monitoring: Results

8.8 Evaluation

The MS4 calculates a Final Grade to determine the overall effectiveness of its programs and initiatives detailed in SWMP Section 1.0 to 7.0 by transferring scores from each protocol (SWMP Sections 8.4 - 8.7) to the Programmatic Evaluation: Final Points chart, and utilizes a weighted sum calculation to make the four scores comparable.

Programmatic Evaluation: Final Points (2018)				
	Final Scores	Weight	Weighted Total	Weighted Total (%)
Urban Runoff Monitoring	.62	.25	.155	15.5
In-Stream Wet-Weather Monitoring	.63	.25	.16	16.0
Sediment Reduction Monitoring	.38	.25	.10	10.0
Stream Health Monitoring	.75	.25	.19	19.0
			Final Weighted Total (%):	60.5%

Graphic 8.8.1: Programmatic Evaluation: Final Points (2018)

Programmatic Evaluation: Final Points (2019)				
	Final Scores	Weight	Weighted Total	Weighted Total (%)
Urban Runoff Monitoring		.25		
In-Stream Wet-Weather Monitoring		.25		
Sediment Reduction Monitoring		.25		
Stream Health Monitoring		.25		
			Final Weighted Total (%):	

Graphic 8.8.2: Programmatic Evaluation: Final Points (2019)

Programmatic Evaluation: Final Points (2020)				
	Final Scores	Weight	Weighted Total	Weighted Total (%)
Urban Runoff Monitoring		.25		
In-Stream Wet-Weather Monitoring		.25		
Sediment Reduction Monitoring		.25		
Stream Health Monitoring		.25		
			Final Weighted Total (%):	

Graphic 8.8.3: Programmatic Evaluation: Final Points (2020)

Programmatic Evaluation: Final Points (2021)				
	Final Scores	**Weight**	**Weighted Total**	**Weighted Total (%)**
Urban Runoff Monitoring		**.25**		
In-Stream Wet-Weather Monitoring		**.25**		
Sediment Reduction Monitoring		**.25**		
Stream Health Monitoring		**.25**		
			Final Weighted Total (%):	

Graphic 8.8.4: Programmatic Evaluation: Final Points (2021)

The MS4 relates the Final Weighted Total (%) to the following equally distributed ranges (100-percent scale) and their associated Final Grades, and populates the Stream Health Report Card with a Final Grade for the corresponding year.

1. Final Grade A: 90% - 100%
2. Final Grade B: 80% - 89%
3. Final Grade C: 70% - 79%
4. Final Grade D: 60% - 69%
5. Final Grade F: 0% - 59%

Stream Health Report Card			
2018 Final Grade	**2019 Final Grade**	**2020 Final Grade**	**2021 Final Grade**
D-	**X**	**X**	**X**

Graphic 8.8.5: Stream Health Report Card

The MS4 utilizes its empirical knowledge, performance measures, and data to continually evaluate and optimize its programmatic workloads detailed in this SWMP. Also, the MS4 compares its Final Grades to the criteria below and, as necessary, works to implement the following improvement strategies:

1. Grade = A: No stormwater impact on receiving waters, allowing for a continuation of administrative programs and reduction of TMDL Action Plan investment to maintain grade.
2. Grade = B: Low stormwater impact to receiving waters, requiring continuation of administrative programs and TMDL Action Plan investment to increase grade.
3. Grade = C: Moderate stormwater impact on receiving waters, requiring an expansion of administrative programs and continuation of TMDL Action Plan investment to increase grade.
4. Grade = D: Significant stormwater impact on receiving waters, requiring an expansion of administrative programs and TMDL Action Plan investment to increase grade.
5. Grade = F: Major stormwater impact on receiving waters, reassessment of administrative programs and TMDL Action Plan investment strategy required.

8.9 Discussion

1. 2017 Result: The MS4 did not document sampling efforts using the scoring matrices described above because Staff had not developed the evaluation. Implementation begins with the first sampling event of 2018.

   Preliminary analysis of available 2017 data indicates that the developed evaluation methodology is effective at tracking program performance, and likely would have resulted in an F. The MS4 expects a positive trend over the MS4 Permit Term as Staff implements the content of this SWMP.

2. 2018 Results: The MS4 received a Stream Health Report Card grade of D. The MS4 has analyzed data, compiled point scores, and developed strategies to improve its grade for 2019, including:

   - Residential Urban Runoff Monitoring
     - Problem Statement: Residential urban areas generally yield TSS, total nitrogen, phosphorus, and COD levels that result in suboptimal point scores. Conversely, oil, grease, zinc, lead, and copper concentrations generally result in satisfactory levels.
     - Hypothesis: Grass clippings are primarily responsible for elevated levels of TSS, total nitrogen, phosphorus, and COD.
     - Rationale: Elevated pollutant levels coincide directly with the growing season, providing justification for the MS4's hypothesis. Fall samples traditionally yield optimal point scores due to growing season subsidence. Organic matter in stormwater runoff:
       - Increases TSS concentrations
       - Increases total nitrogen and phosphorus via decomposition
       - Increases COD via organic matter decomposition
     - Action Plan: Increase outreach and education program described in SWMP Section 3.0 and complete capital projects described in SWMP Section 2.3.
   - Industrial Urban Runoff Monitoring
     - Problem Statement: Industrial urban areas generally yield TSS, total nitrogen, phosphorus, zinc, lead, copper, and COD levels that result in suboptimal point scores. Conversely, oil and grease concentrations generally result in satisfactory levels.
     - Hypothesis: Gravel parking lots, outdoor equipment storage, and heavy commercial traffic are primarily responsible for elevated levels of TSS, total nitrogen, phosphorus, zinc, copper, lead, and COD.
     - Rationale: The MS4 documented these pollutant generating activities and site conditions at both industrial monitoring areas, resulting in:
       - Increased offsite TSS migration (TSS adsorbs and transports pollutants)
       - Increased nutrient levels originating from erosive landscapes
       - Increased metal levels from corrosion, combustion, and brake-dust
       - Increase COD levels via organic and inorganic particle decomposition
     - Action Plan: Enforce development regulations described in SWMP Section 6.0, construct capital projects described in SWMP Section 2.3, maintain good housekeeping performance levels described in SWMP Section 7.0, and implement the outreach and education program described in SWMP Section 3.0.

- Instream Wet-Weather Monitoring
    - Problem Statement: Instream wet-weather samples generally yield TSS, total nitrogen, phosphorus, zinc, lead, copper, and COD levels that result in suboptimal point scores. Conversely, oil and grease concentrations generally result in satisfactory levels.
    - Hypothesis: Stormwater discharges from urban areas with a direct connection to aquatic systems negatively affect instream water quality.
    - Rationale: Documented increases in pollutant levels between all upstream and downstream instream-monitoring locations, resulting from developments constructed pre-1980 lacking on-site stormwater treatment.
    - Action Plan: Enforce development regulations described in SWMP Section 6.0, construct capital projects described in SWMP Section 2.3 and implement administrative programs described in SWMP Sections 3.0, 4.0, 5.0, 6.0, and 7.0.
- Sediment Reduction Monitoring
    - Problem Statement: Remove 81 tons/year of sediment from stormwater discharges to Bozeman Creek and 10 tons/year to Mandeville Creek.
    - Hypothesis: Achieve MDEQ and self-imposed sediment reduction requirements by 2023.
    - Rationale: Quantified sediment removal totals by treatment units as detailed in SWMP Section 2.5 and calculated sediment-loading totals of 0.14 tons/acre.
    - Action Plan: Continue TMDL Action Plan described in SWMP Section 2.2, construct capital projects described in SWMP Section 2.3, and maintain utility operations goals described in SWMP Section 7.0.
- Long-Term Trend Monitoring
    - Problem Statement: Macroinvertebrate O:E ratios decreased in Mandeville Creek, resulting in suboptimal point scores. Conversely, macroinvertebrate O:E ratios increased in Bozeman Creek, resulting in optimal point scores.
    - Hypothesis: Physical habitat characteristics and stream origination points impact macroinvertebrate O:E ratios in addition to stormwater discharges.
    - Rationale:
        - 85% improvement in Bozeman Creek O:E ratios between upstream and downstream sites.
        - 45% reduction in Mandeville Creek O:E ratios between upstream and downstream sites.
    - Action Plan: Continue TMDL Action Plan described in SWMP Section 2.2, construct capital projects described in SWMP Section 2.3, maintain utility operation goals described in SWMP Section 7.0, and implement administrative programs described in SWMP Sections 3.0, 4.0, 5.0, 6.0, and 7.0.

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Attachment C

City of Bozeman Small MS4 Outfalls (Updated on 2/15/2019)

Outfall ID	*Facility ID*	*Latitude*	*Longitude*	*Receiving Waterway*	*Drainage Pattern*
Notes - Latitude and Longitude values are in Decimal Degrees. Indirect Discharge refers to Outfalls with stormwater facilities upstream. Direct Discharge refers to Outfalls with no stormwater facilities upstream. Bold outfalls discharge to impaired waterbodies. See SWMP Sections 4.0 and 8.0 for listed impairments.					
1	OF.F10.00475	45.6383769585	-111.0392414550	Tributary - SWWW_00030	Indirect Discharge
2	OF.F10.00476	45.6389300284	-111.0393867130	Tributary - SWWW_00030	Indirect Discharge
3	OF.F10.00044	45.63870449760	-111.0336303610	Nash Spring Creek	Indirect Discharge
4	OF.F10.00639	45.64192646170	-111.0371276000	Middle Creek Ditch	Indirect Discharge
5	OF.F10.00640	45.64198542750	-111.0360113880	Middle Creek Ditch	Indirect Discharge
6	OF.G10.00452	45.63695180090	-111.0442887310	Middle Creek Ditch	Indirect Discharge
7	OF.F09.00479	45.6449057100	-111.0337144060	Flat Creek	Indirect Discharge
8	OF.F09.00481	45.6449059913	-111.0336853340	Flat Creek	Indirect Discharge
9	OF.F09.00062	45.6485698672	-111.0387064790	Mathew Bird Creek	Indirect Discharge
10	OF.F09.00633	45.64497851540	-111.0382183280	Mathew Bird Creek	Indirect Discharge
11	OF.F09.00065	45.64650325590	-111.0395412210	Mathew Bird Creek	Indirect Discharge
12	OF.F09.00060	45.6436941871	-111.0394094260	Mathew Bird Creek	Direct Discharge
13	OF.F09.00061	45.6443822863	-111.0392719880	Mathew Bird Creek	Direct Discharge
14	OF.F09.00064	45.6474842077	-111.0392303390	Mathew Bird Creek	Direct Discharge
15	OF.G09.00029	45.6473346886	-111.0515194680	Figgins Creek	Indirect Discharge
16	OF.G09.00030	45.6480578224	-111.0511359350	Figgins Creek	Indirect Discharge
17	OF.G09.00031	45.6481346986	-111.0510402780	Figgins Creek	Indirect Discharge
18	OF.G09.00032	45.6485687635	-111.0507493160	Figgins Creek	Indirect Discharge
19	OF.G09.00033	45.6486969317	-111.0507536790	Figgins Creek	Indirect Discharge
20	OF.H09.00459	45.6477323673	-111.0523002270	Middle Creek Ditch	Indirect Discharge
21	**OF.E08.00402**	**45.6505008476**	**-111.0255749300**	**Bozeman Creek**	**Direct Discharge**
22	**OF.E08.00405**	**45.65502199470**	**-111.0257237890**	**Bozeman Creek**	**Direct Discharge**
23	**OF.E08.00404**	**45.65397809430**	**-111.0256094650**	**Bozeman Creek**	**Direct Discharge**
24	**OF.E08.00406**	**45.65594065900**	**-111.0259535360**	**Bozeman Creek**	**Direct Discharge**
25	**OF.E08.00403**	**45.6512062011**	**-111.0261825420**	**Bozeman Creek**	**Direct Discharge**
26	OF.F08.00063	45.6501546628	-111.0375384410	Mathew Bird Creek	Indirect Discharge
27	OF.F08.00069	45.6529819484	-111.0374621470	Mathew Bird Creek	Direct Discharge
28	OF.F08.00067	45.65242989510	-111.0379981630	Mathew Bird Creek	Direct Discharge
29	OF.F08.00068	45.6551143519	-111.0372960060	Mathew Bird Creek	Direct Discharge
30	OF.F08.00070	45.6545748170	-111.0371937020	Mathew Bird Creek	Direct Discharge
31	OF.F08.00072	45.6557252277	-111.0369476740	Mathew Bird Creek	Direct Discharge
32	OF.F08.00071	45.6557421551	-111.0368181630	Mathew Bird Creek	Direct Discharge
33	OF.F08.00073	45.6565840924	-111.0364830430	Mathew Bird Creek	Direct Discharge
34	OF.G08.00037	45.6564320267	-111.0440012050	Figgins Creek	Indirect Discharge
35	OF.G08.00451	45.6565645172	-111.0494415450	Middle Creek Ditch	Indirect Discharge
36	OF.G08.00684	45.6557339603	-111.0451607840	Figgins Creek	Indirect Discharge
37	OF.G08.00036	45.6562162000	-111.0440544840	Figgins Creek	Indirect Discharge
38	OF.G08.00040	45.6562692808	-111.0440384680	Figgins Creek	Indirect Discharge
39	OF.G08.00035	45.6567849089	-111.0435367800	Middle Creek Ditch	Direct Discharge
39	OF.G08.00035	45.6567849089	-111.0435367800	Figgins Creek	Direct Discharge
40	OF.G08.00034	45.6559691774	-111.0448765520	Figgins Creek	Indirect Discharge

41	OF.G08.00039	45.6564631431	-111.0437284530	Figgins Creek	Indirect Discharge
42	OF.G08.00038	45.6561926945	-111.0444047030	Figgins Creek	Indirect Discharge
43	OF.I08.00182	45.6509952132	-111.0697076340	Middle Creek Ditch	Indirect Discharge
44	OF.I08.00181	45.6528854982	-111.0690230930	Middle Creek Ditch	Indirect Discharge
45	OF.I08.00180	45.6542144272	-111.0684330710	Middle Creek Ditch	Indirect Discharge
46	OF.I08.00179	45.6546653404	-111.0685592150	Middle Creek Ditch	Indirect Discharge
47	OF.I08.00178	45.6562632786	-111.0652573570	East Fork Catron Creek	Indirect Discharge
48	OF.D07.00322	45.6620657273	-111.0168967960	Tributary - SWWW_00039	Indirect Discharge
49	OF.D07.00324	45.6623771338	-111.0166733890	Tributary - SWWW_00039	Direct Discharge
50	OF.D07.00325	45.6624558584	-111.0165546480	Tributary - SWWW_00039	Direct Discharge
51	OF.D07.00323	45.66193392170	-111.0173788830	Tributary - SWWW_00039	Direct Discharge
52	OF.D07.00320	45.66148883370	-111.0128869860	Tributary - SWWW_00037	Direct Discharge
53	OF.D07.00321	45.66327489890	-111.0129015960	Tributary - SWWW_00039	Direct Discharge
54	OF.D06.00493	45.6676923999	-111.0199507730	Tributary - SWWW_00040	Direct Discharge
55	OF.D06.00492	45.6681763224	-111.0185806740	Tributary - SWWW_00040	Direct Discharge
56	OF.D06.00491	45.6695143448	-111.0170868320	Tributary - SWWW_00040	Direct Discharge
57	OF.E06.00495	45.6662566883	-111.0215020650	Tributary - SWWW_00040	Direct Discharge
58	**OF.E06.00621**	**45.66662708710**	**-111.0262627500**	**Bozeman Creek**	**Indirect Discharge**
59	**OF.E06.00630**	**45.66641545310**	**-111.0267211850**	**Bozeman Creek**	**Indirect Discharge**
60	OF.E06.00496	45.66558077720	-111.0215140670	Tributary - SWWW_00040	Direct Discharge
61	OF.E06.00494	45.66693146420	-111.0212261550	Tributary - SWWW_00040	Direct Discharge
62	**OF.E06.00411**	**45.6710554620**	**-111.0304518720**	**Bozeman Creek**	**Direct Discharge**
63	**OF.E06.00410**	**45.6710523487**	**-111.0304345300**	**Bozeman Creek**	**Direct Discharge**
64	**OF.E06.00409**	**45.6710483897**	**-111.0303855530**	**Bozeman Creek**	**Direct Discharge**
65	**OF.H06.00189**	**45.6651027798**	**-111.0552678520**	**Mandeville Creek**	**Direct Discharge**
66	**OF.H06.00015**	**45.6655722039**	**-111.0546698210**	**Mandeville Creek**	**Direct Discharge**
67	**OF.H06.00016**	**45.6656051508**	**-111.0546752610**	**Mandeville Creek**	**Direct Discharge**
68	**OF.H06.00018**	**45.6671494683**	**-111.0539788730**	**Mandeville Creek**	**Direct Discharge**
69	**OF.H06.00019**	**45.6671632267**	**-111.0539223220**	**Mandeville Creek**	**Direct Discharge**
70	**OF.H06.00020**	**45.6674387472**	**-111.0540683880**	**Mandeville Creek**	**Direct Discharge**
71	**OF.H06.00021**	**45.6679591502**	**-111.0541279870**	**Mandeville Creek**	**Direct Discharge**
72	**OF.H06.00022**	**45.6686606655**	**-111.0541126320**	**Mandeville Creek**	**Direct Discharge**
73	**OF.H06.00023**	**45.6690538092**	**-111.0537613640**	**Mandeville Creek**	**Indirect Discharge**
74	**OF.H06.00024**	**45.6700866078**	**-111.0534940700**	**Mandeville Creek**	**Indirect Discharge**
75	**OF.H06.00025**	**45.6701507332**	**-111.0535064930**	**Mandeville Creek**	**Indirect Discharge**
76	**OF.H06.00026**	**45.6702890908**	**-111.0534451700**	**Mandeville Creek**	**Indirect Discharge**
77	**OF.H06.00027**	**45.6704595459**	**-111.0534135860**	**Mandeville Creek**	**Indirect Discharge**
78	**OF.H06.00028**	**45.6709043556**	**-111.0531407180**	**Mandeville Creek**	**Indirect Discharge**
79	OF.I06.00200	45.66789727680	-111.0700236060	West Fork Catron Creek	Indirect Discharge
80	OF.I06.00199	45.6677314989	-111.0645236210	East Fork Catron Creek	Indirect Discharge
81	OF.I06.00160	45.6687217029	-111.0646154690	East Fork Catron Creek	Indirect Discharge
82	OF.I06.00163	45.6712588469	-111.0647070640	Farmers Canal	Direct Discharge
83	OF.I06.00164	45.6712567412	-111.0638984530	Farmers Canal	Direct Discharge
84	OF.I06.00698	45.6691625686	-111.0645445470	East Fork Catron Creek	Indirect Discharge
85	OF.I06.00162	45.6707878033	-111.0645963480	East Fork Catron Creek	Direct Discharge
86	OF.I06.00161	45.6691131694	-111.0645551790	East Fork Catron Creek	Indirect Discharge
87	OF.J06.00201	45.6678388781	-111.0809504470	Cattail Creek	Indirect Discharge
88	OF.J06.00203	45.6703991492	-111.0802510150	Cattail Creek	Indirect Discharge
89	OF.J06.00204	45.6704905356	-111.0802578400	Cattail Creek	Indirect Discharge
90	OF.J06.00205	45.6706586973	-111.0797444600	Cattail Creek	Indirect Discharge

91	OF.K06.00202	45.6686140934	-111.0831152020	West Gallatin Canal	Indirect Discharge
92	OF.K06.00243	45.6708461126	-111.0837751790	West Gallatin Canal	Indirect Discharge
93	OF.K06.00242	45.6708212756	-111.0837936720	West Gallatin Canal	Indirect Discharge
94	OF.M06.00013	45.6685316943	-111.1054009680	Baxter Creek	Indirect Discharge
95	OF.M06.00014	45.6677027069	-111.1050698320	Baxter Creek	Indirect Discharge
96	OF.M06.00009	45.6709242304	-111.1061551810	Baxter Creek	Indirect Discharge
97	OF.M06.00011	45.6703807593	-111.1061150680	Baxter Creek	Indirect Discharge
98	OF.M06.00012	45.6703896969	-111.1061454600	Baxter Creek	Indirect Discharge
99	OF.B05.00477	45.67270032870	-110.9972931210	Rocky Creek	Indirect Discharge
100	OF.B05.00478	45.67262403750	-110.9969071330	Rocky Creek	Indirect Discharge
101	OF.C05.00329	45.67219656840	-111.0108988660	Tributary - SWWW_00065	Direct Discharge
102	OF.C05.00334	45.67306091690	-111.0104048890	Tributary - SWWW_00065	Direct Discharge
103	OF.C05.00332	45.67191758430	-111.0104035020	Tributary - SWWW_00065	Indirect Discharge
104	OF.C05.00330	45.67248696370	-111.0107899760	Tributary - SWWW_00065	Indirect Discharge
105	OF.C05.00694	45.67264447500	-111.0094293500	Tributary - SWWW_00065	Indirect Discharge
106	OF.C05.00333	45.6726021702	-111.0106174190	Tributary - SWWW_00065	Indirect Discharge
107	OF.C05.00331	45.6725199015	-111.0107801770	Tributary - SWWW_00065	Indirect Discharge
108	OF.E05.00101	45.6781742650	-111.0268179210	Story Ditch	Indirect Discharge
109	**OF.F05.00416**	**45.6773127483**	**-111.0319353550**	**Bozeman Creek**	**Direct Discharge**
110	**OF.F05.00417**	**45.6773181581**	**-111.0320148400**	**Bozeman Creek**	**Direct Discharge**
111	**OF.F05.00419**	**45.6773658172**	**-111.0320292580**	**Bozeman Creek**	**Direct Discharge**
112	**OF.F05.00418**	**45.6772748487**	**-111.0320017370**	**Bozeman Creek**	**Direct Discharge**
113	**OF.F05.00424**	**45.6783026272**	**-111.0326830240**	**Bozeman Creek**	**Direct Discharge**
114	**OF.F05.00421**	**45.6783491608**	**-111.0327301770**	**Bozeman Creek**	**Direct Discharge**
115	**OF.F05.00412**	**45.6739517454**	**-111.0320919630**	**Bozeman Creek**	**Direct Discharge**
116	**OF.F05.00095**	**45.6726075747**	**-111.0322551740**	**Bozeman Creek**	**Direct Discharge**
117	**OF.F05.00413**	**45.6741398452**	**-111.0321470890**	**Bozeman Creek**	**Direct Discharge**
118	**OF.F05.00414**	**45.6746525848**	**-111.0321110680**	**Bozeman Creek**	**Direct Discharge**
119	**OF.F05.00415**	**45.6755764260**	**-111.0319626300**	**Bozeman Creek**	**Direct Discharge**
120	**OF.F05.00110**	**45.6764560201**	**-111.0319472160**	**Bozeman Creek**	**Direct Discharge**
121	**OF.F05.00422**	**45.6783239135**	**-111.0327045910**	**Bozeman Creek**	**Direct Discharge**
122	**OF.F05.00420**	**45.6782846109**	**-111.0326647700**	**Bozeman Creek**	**Direct Discharge**
123	**OF.F05.00423**	**45.6782686904**	**-111.0326486350**	**Bozeman Creek**	**Direct Discharge**
124	**OF.H05.00370**	**45.6718694561**	**-111.0520143050**	**Mandeville Creek**	**Direct Discharge**
125	**OF.H05.00371**	**45.6723741663**	**-111.0520057050**	**Mandeville Creek**	**Direct Discharge**
126	**OF.H05.00378**	**45.6733081619**	**-111.0519632420**	**Mandeville Creek**	**Direct Discharge**
127	**OF.H05.00381**	**45.6742950238**	**-111.0519248630**	**Mandeville Creek**	**Direct Discharge**
128	**OF.H05.00384**	**45.6752818436**	**-111.0518878070**	**Mandeville Creek**	**Direct Discharge**
129	**OF.H05.00386**	**45.6762667567**	**-111.0518527470**	**Mandeville Creek**	**Direct Discharge**
130	**OF.H05.00387**	**45.6764032867**	**-111.0518814590**	**Mandeville Creek**	**Direct Discharge**
131	**OF.H05.00388**	**45.6771875147**	**-111.0518801790**	**Mandeville Creek**	**Direct Discharge**
132	**OF.H05.00390**	**45.6783381682**	**-111.0518356610**	**Mandeville Creek**	**Direct Discharge**
133	**OF.H05.00391**	**45.6783381682**	**-111.0518356610**	**Mandeville Creek**	**Direct Discharge**
134	**OF.H05.00377**	**45.6733081619**	**-111.0519632420**	**Mandeville Creek**	**Direct Discharge**
135	OF.K05.00246	45.6781443387	-111.0861790700	West Gallatin Canal	Indirect Discharge
136	OF.K05.00245	45.6780993747	-111.0858709910	West Gallatin Canal	Indirect Discharge
137	OF.K05.00244	45.6720464192	-111.0851631670	West Gallatin Canal	Indirect Discharge
138	OF.K05.00482	45.6717275269	-111.0832431900	Irrigation Ditch	Indirect Discharge
139	OF.K05.00655	45.6783253011	-111.0861799860	West Gallatin Canal	Indirect Discharge
140	OF.K05.00656	45.6784421358	-111.0862109300	West Gallatin Canal	Indirect Discharge

141	OF.L05.00489	45.6750450872	-111.0989337720	Maynard Border Ditch	Indirect Discharge
142	OF.L05.00488	45.6738915513	-111.1030525600	Tributary - SWWW_00006	Indirect Discharge
143	OF.L05.00487	45.6780334544	-111.1038367750	Tributary - SWWW_00006	Indirect Discharge
144	OF.L05.00622	45.67728088880	-111.0938587290	Tributary - SWWW_00007	Indirect Discharge
145	OF.L05.00485	45.67478514510	-111.1035114200	Tributary - SWWW_00006	Indirect Discharge
146	OF.M05.00614	45.67704671110	-111.1136048070	Tributary - SWWW_00054	Indirect Discharge
147	OF.M05.00617	45.67478543320	-111.1054892770	Baxter Creek	Indirect Discharge
148	OF.M05.00289	45.67831902390	-111.1044260220	Tributary - SWWW_00006	Indirect Discharge
149	OF.M05.00004	45.67828150010	-111.1079092320	Baxter Creek	Indirect Discharge
150	OF.M05.00005	45.67827498380	-111.1081259290	Baxter Creek	Indirect Discharge
151	OF.M05.00006	45.67508606120	-111.1077068540	Baxter Creek	Indirect Discharge
152	OF.M05.00008	45.6728528092	-111.1068342950	Baxter Creek	Indirect Discharge
153	OF.M05.00474	45.6782085285	-111.1135716090	Tributary - SWWW_00054	Indirect Discharge
154	**OF.G04.00045**	**45.6846820699**	**-111.0516085370**	**Mandeville Creek**	**Direct Discharge**
155	OF.G04.00398	45.6830902204	-111.0482359930	Tributary - SWWW_00053	Direct Discharge
156	**OF.H04.00058**	**45.6815646295**	**-111.0516863850**	**Mandeville Creek**	**Direct Discharge**
157	**OF.H04.00454**	**45.6820298660**	**-111.0516890090**	**Mandeville Creek**	**Direct Discharge**
158	**OF.H04.00059**	**45.6806301473**	**-111.0517434350**	**Mandeville Creek**	**Direct Discharge**
159	**OF.H04.00455**	**45.6795390487**	**-111.0518051850**	**Mandeville Creek**	**Direct Discharge**
160	**OF.H04.00696**	**45.6814730712**	**-111.0516681700**	**Mandeville Creek**	**Direct Discharge**
161	**OF.H04.00057**	**45.6827097945**	**-111.0516710970**	**Mandeville Creek**	**Direct Discharge**
162	OF.I04.00661	45.6822796555	-111.0647431520	East Fork Catron Creek	Direct Discharge
163	OF.I04.00169	45.6791023745	-111.0657657050	East Fork Catron Creek	Direct Discharge
164	OF.I04.00473	45.6820426918	-111.0697190310	West Fork Catron Creek	Indirect Discharge
165	OF.I04.00686	45.6806302707	-111.0701451140	West Fork Catron Creek	Direct Discharge
166	OF.I04.00690	45.6790884067	-111.0624737310	Farmers Canal	Direct Discharge
167	OF.I04.00115	45.6799125644	-111.0700573570	West Fork Catron Creek	Direct Discharge
168	OF.I04.00688	45.6802381515	-111.0702928880	West Fork Catron Creek	Direct Discharge
169	OF.I04.00117	45.6822862762	-111.0693049990	West Fork Catron Creek	Indirect Discharge
170	OF.I04.00701	45.6812981939	-111.0622328030	Farmers Canal	Direct Discharge
171	OF.J04.00214	45.6851991695	-111.0739185930	Cattail Creek	Indirect Discharge
172	OF.K04.00457	45.6794210247	-111.0934060110	Tributary - SWWW_00007	Indirect Discharge
173	OF.K04.00272	45.6817472371	-111.0933318080	Tributary - SWWW_00007	Indirect Discharge
174	OF.K04.00274	45.6838064067	-111.0932998290	Tributary - SWWW_00007	Indirect Discharge
175	OF.K04.00275	45.6854708262	-111.0932804150	Tributary - SWWW_00007	Indirect Discharge
176	OF.K04.00397	45.6839956349	-111.0877133620	West Gallatin Canal	Indirect Discharge
177	OF.K04.00271	45.6786596538	-111.0934439960	Tributary - SWWW_00007	Indirect Discharge
178	OF.K04.00396	45.6830050276	-111.0832421430	Tributary - SWWW_00050	Indirect Discharge
179	OF.K04.00248	45.6856359977	-111.0876986560	West Gallatin Canal	Direct Discharge
180	OF.K04.00649	45.6856369895	-111.0883274030	West Gallatin Canal	Direct Discharge
181	OF.K04.00650	45.6856369895	-111.0883274030	West Gallatin Canal	Direct Discharge
182	OF.K04.00651	45.6856413329	-111.0894029410	West Gallatin Canal	Direct Discharge
183	OF.K04.00652	45.6856413329	-111.0894029410	West Gallatin Canal	Direct Discharge
184	OF.K04.00653	45.6856362883	-111.0903988060	West Gallatin Canal	Direct Discharge
185	OF.K04.00654	45.6856362883	-111.0903988060	West Gallatin Canal	Direct Discharge
186	OF.K04.00273	45.6837478485	-111.0933037820	Tributary - SWWW_00007	Indirect Discharge
187	OF.L04.00460	45.6797706260	-111.0981481610	Maynard Border Ditch	Indirect Discharge
188	OF.L04.00461	45.6797293986	-111.0984974040	Maynard Border Ditch	Indirect Discharge
189	OF.L04.00003	45.6812049166	-111.0983797890	Maynard Border Ditch	Indirect Discharge
190	OF.L04.00469	45.6832211221	-111.0987508340	Maynard Border Ditch	Indirect Discharge

191	OF.L04.00277	45.6854549387	-111.0948471690	Tributary - SWWW_00007	Indirect Discharge
192	OF.L04.00278	45.6855116303	-111.0959522500	Tributary - SWWW_00007	Indirect Discharge
193	OF.L04.00276	45.6853893402	-111.0937834850	Tributary - SWWW_00007	Indirect Discharge
194	OF.L04.00279	45.6855678853	-111.0963130290	Tributary - SWWW_00007	Indirect Discharge
195	OF.L04.00283	45.6838545909	-111.1041869350	Tributary - SWWW_00006	Indirect Discharge
196	OF.M04.00285	45.68429199540	-111.1085183060	Tributary - SWWW_00005	Indirect Discharge
197	OF.M04.00284	45.68381965600	-111.1080342280	Tributary - SWWW_00005	Indirect Discharge
198	OF.M04.00467	45.6845418277	-111.1042107630	Tributary - SWWW_00006	Indirect Discharge
199	OF.M04.00287	45.6786505717	-111.1043457140	Tributary - SWWW_00006	Indirect Discharge
200	OF.M04.00290	45.6792339570	-111.1140991940	Tributary - SWWW_00054	Indirect Discharge
201	OF.M04.00468	45.6816825955	-111.1043063980	Tributary - SWWW_00006	Indirect Discharge
202	OF.M04.00286	45.6813971977	-111.1042874460	Tributary - SWWW_00006	Indirect Discharge
203	**OF.E03.00447**	**45.6866493571**	**-111.0306714020**	**Bozeman Creek**	**Direct Discharge**
204	**OF.E03.00450**	**45.6886404438**	**-111.0298616780**	**Bozeman Creek**	**Direct Discharge**
205	**OF.E03.00453**	**45.6915632547**	**-111.0300317710**	**Bozeman Creek**	**Direct Discharge**
206	**OF.E03.00448**	**45.6866803997**	**-111.0307299600**	**Bozeman Creek**	**Direct Discharge**
207	**OF.F03.00446**	**45.6857498520**	**-111.0311696050**	**Bozeman Creek**	**Direct Discharge**
208	**OF.F03.00445**	**45.6856828289**	**-111.0311169850**	**Bozeman Creek**	**Direct Discharge**
209	**OF.F03.00444**	**45.6856087927**	**-111.0311591600**	**Bozeman Creek**	**Direct Discharge**
210	**OF.F03.00443**	**45.6856064121**	**-111.0312245490**	**Bozeman Creek**	**Direct Discharge**
211	OF.G03.00399	45.6860442959	-111.0428519780	Tributary - SWWW_00034	Direct Discharge
212	OF.G03.00308	45.6928301267	-111.0431395530	Tributary - SWWW_00034	Direct Discharge
213	OF.G03.00306	45.6905108823	-111.0431442970	Tributary - SWWW_00034	Direct Discharge
214	OF.G03.00303	45.6905176057	-111.0437976670	Tributary - SWWW_00034	Direct Discharge
215	OF.G03.00400	45.6885877925	-111.0437900650	Tributary - SWWW_00034	Direct Discharge
216	OF.G03.00401	45.6885619450	-111.0437895720	Tributary - SWWW_00034	Direct Discharge
217	OF.G03.00677	45.6855228934	-111.0482860520	Tributary - SWWW_00053	Direct Discharge
218	OF.G03.00676	45.6856231040	-111.0483462720	Tributary - SWWW_00053	Direct Discharge
219	**OF.G03.00046**	**45.6857142308**	**-111.0512465000**	**Mandeville Creek**	**Direct Discharge**
220	**OF.G03.00687**	**45.69243223410**	**-111.0493339090**	**Mandeville Creek**	**Direct Discharge**
221	OF.G03.00307	45.69165680000	-111.0431608710	Tributary - SWWW_00034	Direct Discharge
222	OF.H03.00643	45.69207583060	-111.0574237810	Farmers Canal	Direct Discharge
223	OF.K03.00256	45.6904465220	-111.0897660030	West Gallatin Canal	Indirect Discharge
224	OF.K03.00250	45.6876827523	-111.0904061880	West Gallatin Canal	Indirect Discharge
225	OF.K03.00249	45.6861527483	-111.0904309070	West Gallatin Canal	Indirect Discharge
226	OF.K03.00251	45.6883881651	-111.0902866750	West Gallatin Canal	Indirect Discharge
227	OF.K03.00252	45.6887021360	-111.0902284290	West Gallatin Canal	Indirect Discharge
228	OF.K03.00253	45.6891051110	-111.0901321990	West Gallatin Canal	Indirect Discharge
229	OF.K03.00254	45.6894310762	-111.0900318500	West Gallatin Canal	Indirect Discharge
230	OF.K03.00255	45.6898104273	-111.0899254500	West Gallatin Canal	Indirect Discharge
231	OF.K03.00258	45.6908261464	-111.0898898760	West Gallatin Canal	Indirect Discharge
232	OF.K03.00259	45.6927044898	-111.0908127470	West Gallatin Canal	Indirect Discharge
233	OF.K03.00260	45.6926406908	-111.0909848860	West Gallatin Canal	Indirect Discharge
234	OF.K03.00616	45.68929703230	-111.0852370470	Tributary - SWWW_00011	Indirect Discharge
235	OF.K03.00257	45.69044949260	-111.0898022740	West Gallatin Canal	Indirect Discharge
236	OF.K03.00699	45.68588140590	-111.0829200840	Tributary - SWWW_00011	Indirect Discharge
237	OF.L03.00280	45.68740084650	-111.0968876260	Tributary - SWWW_00007	Indirect Discharge
238	OF.L03.00618	45.69274014420	-111.0939918450	Tributary - SWWW_00007	Indirect Discharge
239	OF.M03.00293	45.6908557029	-111.1085482600	Tributary - SWWW_00006	Indirect Discharge
240	OF.M03.00294	45.6908489890	-111.1085579070	Tributary - SWWW_00006	Indirect Discharge

241	OF.M03.00292	45.6897476003	-111.1080372450	Tributary - SWWW_00006	Indirect Discharge
242	OF.M03.00464	45.6880048731	-111.1068663540	Tributary - SWWW_00006	Indirect Discharge
243	OF.M03.00007	45.6903551962	-111.1129622000	Baxter Creek	Indirect Discharge
244	OF.M03.00291	45.6886883520	-111.1071120450	Tributary - SWWW_00006	Indirect Discharge
245	OF.N03.00299	45.6885527853	-111.1191140090	Tributary - SWWW_00054	Indirect Discharge
246	OF.N03.00297	45.6875933511	-111.1186630860	Tributary - SWWW_00054	Indirect Discharge
247	OF.N03.00296	45.6860177700	-111.1181491380	Tributary - SWWW_00054	Indirect Discharge
248	OF.N03.00298	45.6891026985	-111.1190856810	Tributary - SWWW_00054	Indirect Discharge
249	OF.N03.00300	45.69288543800	-111.1157359840	Baxter Creek	Indirect Discharge
250	OF.D02.00318	45.6949822409	-111.0193257970	Rocky Creek	Direct Discharge
251	**OF.G02.00048**	**45.6964415389**	**-111.0511567570**	**Mandeville Creek**	**Indirect Discharge**
252	OF.G02.00309	45.6959106215	-111.0430559250	Tributary - SWWW_00034	Indirect Discharge
253	OF.G02.00311	45.6978339397	-111.0436265820	Tributary - SWWW_00034	Direct Discharge
254	OF.G02.00312	45.6979347107	-111.0436274950	Tributary - SWWW_00034	Direct Discharge
255	OF.G02.00310	45.6974930155	-111.0434446380	Tributary - SWWW_00034	Direct Discharge
256	**OF.G02.00314**	**45.69995592850**	**-111.0429775210**	**Mandeville Creek**	**Direct Discharge**
257	OF.G02.00313	45.69914843840	-111.0436482590	Tributary - SWWW_00034	Direct Discharge
258	**OF.G02.00047**	**45.69620214030**	**-111.0511108360**	**Mandeville Creek**	**Indirect Discharge**
259	OF.H02.00054	45.69653448320	-111.0568903530	Farmers Canal	Indirect Discharge
260	OF.H02.00056	45.69947859160	-111.0567514490	Farmers Canal	Indirect Discharge
261	OF.G08.00066	45.70006308510	-111.0576020060	Farmers Canal	Indirect Discharge
262	**OF.H02.00641**	**45.69596233080**	**-111.0515865490**	**Mandeville Creek**	**Indirect Discharge**
263	OF.H02.00369	45.69322778250	-111.0578780470	Farmers Canal	Direct Discharge
264	**OF.H02.00049**	**45.69765047920**	**-111.0519269340**	**Mandeville Creek**	**Indirect Discharge**
265	OF.H02.00055	45.69747471210	-111.0560945980	Farmers Canal	Indirect Discharge
266	OF.H02.00490	45.6950856692	-111.0571419910	Farmers Canal	Indirect Discharge
267	OF.I02.00137	45.6941124615	-111.0653829780	East Fork Catron Creek	Indirect Discharge
268	OF.I02.00124	45.6936393900	-111.0678476000	West Fork Catron Creek	Indirect Discharge
269	OF.I02.00126	45.6963743693	-111.0666416750	Catron Creek	Indirect Discharge
270	OF.I02.00368	45.6932393350	-111.0622045090	Farmers Canal	Direct Discharge
271	OF.I02.00127	45.6977811251	-111.0662486820	Catron Creek	Indirect Discharge
272	OF.I02.00125	45.6941420360	-111.0675147650	West Fork Catron Creek	Indirect Discharge
273	OF.I02.00301	45.7000782325	-111.0660548230	Catron Creek	Indirect Discharge
274	OF.J02.00232	45.7000946315	-111.0759883660	Cattail Creek	Indirect Discharge
275	OF.J02.00231	45.6984193276	-111.0771488220	Cattail Creek	Indirect Discharge
276	OF.J02.00230	45.6965771954	-111.0768193010	Cattail Creek	Indirect Discharge
277	OF.J02.00228	45.6955945802	-111.0768415110	Cattail Creek	Indirect Discharge
278	OF.J02.00227	45.6933716830	-111.0766788280	Cattail Creek	Indirect Discharge
279	OF.J02.00648	45.7000569911	-111.0761220200	Cattail Creek	Indirect Discharge
280	OF.K02.00262	45.6991961358	-111.0880166850	Tributary - SWWW_00012	Indirect Discharge
281	OF.K02.00465	45.7000010419	-111.0894173150	Tributary - SWWW_00012	Indirect Discharge
282	OF.K02.00261	45.6999789860	-111.0926906160	West Gallatin Canal	Indirect Discharge
283	OF.K02.00270	45.69574619200	-111.0845656790	Tributary - SWWW_00012	Indirect Discharge
284	**OF.D01.00680**	**45.70557579820**	**-111.0112776400**	**Bridger Creek**	**Indirect Discharge**
285	**OF.E01.00050**	**45.70016460640**	**-111.0296744120**	**East Gallatin River**	**Indirect Discharge**
286	**OF.E01.00051**	**45.70195356540**	**-111.0302759780**	**East Gallatin River**	**Indirect Discharge**
287	**OF.E01.00703**	**45.70689462760**	**-111.0300589770**	**East Gallatin River**	**Indirect Discharge**
288	**OF.E01.00704**	**45.70620691200**	**-111.0300066790**	**East Gallatin River**	**Indirect Discharge**
289	**OF.E01.00705**	**45.70543213670**	**-111.0289637630**	**East Gallatin River**	**Indirect Discharge**
290	**OF.F01.00636**	**45.70400127270**	**-111.0313295090**	**East Gallatin River**	**Indirect Discharge**

291	OF.H01.00679	45.70301991490	-111.0597019670	Catron Creek	Indirect Discharge
292	OF.I01.00128	45.70753612680	-111.0687185030	Catron Creek	Indirect Discharge
293	OF.I01.00129	45.70754637920	-111.0689447170	Catron Creek	Indirect Discharge
294	OF.I01.00624	45.70023779570	-111.0695531350	Tributary - SWWW_00014	Indirect Discharge
295	OF.J01.00234	45.70169995600	-111.0762290660	Cattail Creek	Indirect Discharge
296	OF.J01.00233	45.70055656480	-111.0760891110	Cattail Creek	Indirect Discharge
297	**OF.E00.00052**	**45.70948913140**	**-111.0282244740**	**Bridger Creek**	**Indirect Discharge**
298	OF.E00.00706	45.71088934700	-111.0306848230	Tributary - SWWW_00014	Indirect Discharge
299	OF.G00.00472	45.70853993840	-111.0423050280	Tributary - SWWW_00034	Indirect Discharge
300	OF.I00.00131	45.70838232650	-111.0687085610	Catron Creek	Indirect Discharge
301	OF.I00.00155	45.71067100760	-111.0687015050	Catron Creek	Indirect Discharge
302	OF.I00.00132	45.71408241600	-111.0688598770	Catron Creek	Indirect Discharge
303	OF.I00.00130	45.70777462040	-111.0686868180	Catron Creek	Indirect Discharge
304	OF.J00.00466	45.70909840920	-111.0780237690	Cattail Creek	Indirect Discharge
305	OF.J00.00235	45.71011069030	-111.0780418120	Cattail Creek	Indirect Discharge
306	OF.J00.00236	45.71050344260	-111.0776421640	Cattail Creek	Indirect Discharge
307	OF.J00.00237	45.71245140170	-111.0778929570	Cattail Creek	Indirect Discharge
308	OF.J00.00619	45.70966598850	-111.0719438550	Tributary - SWWW_00014	Indirect Discharge
309	OF.J00.00133	45.71202851870	-111.0721355570	Tributary - SWWW_00014	Indirect Discharge
310	OF.J00.00238	45.71248214500	-111.0781115200	Cattail Creek	Indirect Discharge
311	OF.K50.00483	45.71912668010	-111.0822062650	Tributary - SWWW_00011	Indirect Discharge
312	**OF.I51.00497**	**45.72404432790**	**-111.0669248960**	**East Gallatin River**	**Indirect Discharge**
313	**OF.I51.00499**	**45.72442063470**	**-111.0693719000**	**East Gallatin River**	**Indirect Discharge**
314	**OF.I51.00500**	**45.72535138550**	**-111.0709461960**	**East Gallatin River**	**Indirect Discharge**
315	**OF.I51.00498**	**45.72433804400**	**-111.0683901940**	**East Gallatin River**	**Indirect Discharge**
316	**OF.I51.00053**	**45.7222256846**	**-111.0616927310**	**East Gallatin River**	**Direct Discharge**
317	OF.F07.00041	45.6600360482	-111.0394064130	Figgins Creek	Direct Discharge
318	OF.F07.00078	45.6590802370	-111.0411383000	Figgins Creek	Direct Discharge
319	OF.F07.00079	45.6598151874	-111.0392177170	Figgins Creek	Direct Discharge
320	OF.F07.00076	45.6603998869	-111.0379126390	Figgins Creek	Direct Discharge
321	OF.F07.00080	45.6603998869	-111.0379126390	Figgins Creek	Direct Discharge
322	OF.F07.00075	45.6602498844	-111.0382424130	Figgins Creek	Direct Discharge
323	OF.F07.00637	45.6604959201	-111.0376974870	Figgins Creek	Direct Discharge
324	OF.F07.00647	45.6586307641	-111.0338305980	Flat Creek	Direct Discharge
325	OF.F07.00646	45.6583203549	-111.0338739250	Flat Creek	Direct Discharge
326	OF.F07.00667	45.6609137942	-111.0331762370	Flat Creek	Direct Discharge
327	OF.F07.00668	45.6609115645	-111.0324973020	Flat Creek	Direct Discharge
328	OF.F07.00669	45.6609123185	-111.0324948290	Flat Creek	Direct Discharge
329	OF.F07.00670	45.6618477691	-111.0324984560	Flat Creek	Direct Discharge
330	OF.F07.00672	45.6626093777	-111.0325010690	Flat Creek	Direct Discharge
331	OF.F07.00675	45.6637616215	-111.0325071800	Flat Creek	Direct Discharge
332	OF.F07.00081	45.6611357795	-111.0357849550	Mathew Bird Creek	Direct Discharge
333	OF.F07.00083	45.6632514462	-111.0371520630	Mathew Bird Creek	Direct Discharge
334	OF.F07.00084	45.6632674227	-111.0371273100	Mathew Bird Creek	Direct Discharge
335	OF.F07.00042	45.6609020140	-111.0402276360	Tributary - SWWW_00046	Direct Discharge
336	OF.F07.00085	45.6639391981	-111.0379534220	Tributary - SWWW_00046	Direct Discharge
337	OF.F07.00695	45.6599602841	-111.0350975230	Mathew Bird Creek	Direct Discharge
338	OF.F07.00043	45.6609372207	-111.0365704010	Figgins Creek	Direct Discharge
339	OF.F07.00082	45.6621452798	-111.0366220280	Mathew Bird Creek	Direct Discharge
340	OF.F07.00098	45.6575340928	-111.0314745940	Tributary - SWWW_00064	Direct Discharge

341	OF.L01.00002	45.7014360770	-111.0985968000	Maynard Border Ditch	Indirect Discharge
342	OF.L01.00001	45.7029721167	-111.0987281010	Maynard Border Ditch	Indirect Discharge
343	OF.L01.00269	45.7047304713	-111.0958061090	Tributary - SWWW_00047	Indirect Discharge
344	OF.L01.00615	45.7004431984	-111.0983860370	Maynard Border Ditch	Indirect Discharge
345	OF.L01.00634	45.7004148147	-111.0984389380	Maynard Border Ditch	Indirect Discharge
346	OF.L01.00456	45.7052931738	-111.0967761890	Tributary - SWWW_00047	Indirect Discharge
347	OF.L01.00664	45.7051466734	-111.0991439370	Maynard Border Ditch	Indirect Discharge
348	OF.L01.00463	45.7073517126	-111.0936124630	Tributary - SWWW_00062	Indirect Discharge
349	OF.I07.00175	45.6625565963	-111.0655562590	East Fork Catron Creek	Indirect Discharge
350	OF.I07.00176	45.6628719319	-111.0655410360	East Fork Catron Creek	Indirect Discharge
351	OF.I07.00177	45.6629977488	-111.0655521570	East Fork Catron Creek	Indirect Discharge
352	OF.F06.00090	45.6691118329	-111.0349721270	Mathew Bird Creek	Direct Discharge
353	OF.F06.00088	45.6672323599	-111.0362388490	Mathew Bird Creek	Direct Discharge
354	OF.F06.00683	45.6672744406	-111.0365193960	Mathew Bird Creek	Direct Discharge
355	OF.F06.00091	45.6680603977	-111.0358965790	Mathew Bird Creek	Direct Discharge
356	OF.F06.00089	45.6692772476	-111.0349062440	Mathew Bird Creek	Direct Discharge
357	OF.F06.00094	45.6711715969	-111.0324232220	Mathew Bird Creek	Direct Discharge
358	OF.F06.00100	45.67106117560	-111.0328532440	Mathew Bird Creek	Direct Discharge
359	OF.F06.00087	45.66629419970	-111.0368503470	Mathew Bird Creek	Direct Discharge
360	OF.F06.00093	45.67126402460	-111.0340065300	Mathew Bird Creek	Direct Discharge
361	OF.F06.00092	45.67124393300	-111.0340725520	Mathew Bird Creek	Direct Discharge
362	OF.D05.00327	45.67190818910	-111.0161061340	Tributary - SWWW_00040	Direct Discharge
363	OF.D05.00338	45.67753423680	-111.0162752920	Tributary - SWWW_00065	Direct Discharge
364	OF.D05.00336	45.67406858510	-111.0123882140	Tributary - SWWW_00065	Direct Discharge
365	OF.D05.00335	45.67347542450	-111.0112414160	Tributary - SWWW_00065	Direct Discharge
366	OF.D05.00337	45.67655826380	-111.0156593840	Tributary - SWWW_00065	Direct Discharge
367	OF.D05.00692	45.67324692490	-111.0174919160	Tributary - SWWW_00040	Direct Discharge
368	OF.D05.00693	45.67477083000	-111.0184578610	Tributary - SWWW_00040	Direct Discharge
369	OF.D05.00326	45.67162252170	-111.0165890360	Tributary - SWWW_00040	Indirect Discharge
370	OF.D05.00339	45.67747418150	-111.0162292240	Tributary - SWWW_00065	Direct Discharge
371	OF.J50.00239	45.71459747810	-111.0781948710	Cattail Creek	Indirect Discharge
372	OF.J50.00241	45.71732181600	-111.0811973930	Cattail Creek	Indirect Discharge
373	OF.J50.00240	45.71458194460	-111.0783839190	Cattail Creek	Indirect Discharge
374	**OF.E07.00632**	**45.66303363560**	**-111.0262501640**	**Bozeman Creek**	**Indirect Discharge**
375	**OF.E07.00097**	**45.6570648952**	**-111.0284915320**	**Bozeman Creek**	**Direct Discharge**
376	**OF.E07.00408**	**45.6626978500**	**-111.0306514780**	**Bozeman Creek**	**Direct Discharge**
377	**OF.E07.00407**	**45.6596836470**	**-111.0299894400**	**Bozeman Creek**	**Direct Discharge**
378	OF.G01.00316	45.7017536198	-111.0436134270	Tributary - SWWW_00034	Direct Discharge
379	OF.G01.00315	45.7017536198	-111.0436134270	Tributary - SWWW_00034	Direct Discharge
380	OF.G01.00317	45.7020354947	-111.0430106010	Tributary - SWWW_00034	Direct Discharge
381	OF.I05.00174	45.6743264646	-111.0647506120	East Fork Catron Creek	Direct Discharge
382	OF.I05.00172	45.6753713041	-111.0647442550	East Fork Catron Creek	Direct Discharge
383	OF.I05.00173	45.6752768076	-111.0647444660	East Fork Catron Creek	Direct Discharge
384	OF.I05.00113	45.6784814346	-111.0699672640	West Fork Catron Creek	Direct Discharge
385	OF.I05.00114	45.6783829678	-111.0699395490	West Fork Catron Creek	Direct Discharge
386	OF.I05.00111	45.6783647108	-111.0699654930	West Fork Catron Creek	Direct Discharge
387	OF.I05.00342	45.6724927719	-111.0625046730	Farmers Canal	Direct Discharge
388	OF.I05.00340	45.6724927719	-111.0625046730	Farmers Canal	Direct Discharge
389	OF.I05.00341	45.6724927719	-111.0625046730	Farmers Canal	Direct Discharge
390	OF.I05.00343	45.6729173286	-111.0625022740	Farmers Canal	Direct Discharge

391	OF.I05.00344	45.6729173286	-111.0625022740	Farmers Canal	Direct Discharge
392	OF.I05.00347	45.6731823467	-111.0625000700	Farmers Canal	Direct Discharge
393	OF.I05.00345	45.6731823467	-111.0625000700	Farmers Canal	Direct Discharge
394	OF.I05.00346	45.6731823467	-111.0625000700	Farmers Canal	Direct Discharge
395	OF.I05.00348	45.6744285368	-111.0624914860	Farmers Canal	Direct Discharge
396	OF.I05.00349	45.6744285368	-111.0624914860	Farmers Canal	Direct Discharge
397	OF.I05.00350	45.6751449272	-111.0624858600	Farmers Canal	Direct Discharge
398	OF.I05.00351	45.6751449272	-111.0624858600	Farmers Canal	Direct Discharge
399	OF.I05.00352	45.6762748975	-111.0624778260	Farmers Canal	Direct Discharge
400	OF.I05.00353	45.6762748975	-111.0624778260	Farmers Canal	Direct Discharge
401	OF.I05.00354	45.6771728557	-111.0624721130	Farmers Canal	Direct Discharge
402	OF.I05.00355	45.6771728557	-111.0624721130	Farmers Canal	Direct Discharge
403	OF.I05.00356	45.6773760543	-111.0624758950	Farmers Canal	Direct Discharge
404	OF.I05.00359	45.6776956323	-111.0624693210	Farmers Canal	Direct Discharge
405	OF.I05.00358	45.6776956323	-111.0624693210	Farmers Canal	Direct Discharge
406	OF.I05.00357	45.6776956323	-111.0624693210	Farmers Canal	Direct Discharge
407	OF.I05.00360	45.6783533015	-111.0624789420	Farmers Canal	Direct Discharge
408	OF.I05.00361	45.6783533015	-111.0624789420	Farmers Canal	Direct Discharge
409	OF.I05.00170	45.6785106364	-111.0651852770	East Fork Catron Creek	Direct Discharge
410	OF.I05.00678	45.6785106364	-111.0651852770	East Fork Catron Creek	Direct Discharge
411	OF.I05.00171	45.6771860781	-111.0647290600	East Fork Catron Creek	Direct Discharge
412	OF.I05.00685	45.6765461678	-111.0690652310	West Fork Catron Creek	Direct Discharge
413	OF.I05.00156	45.6757464265	-111.0689918450	West Fork Catron Creek	Direct Discharge
414	OF.I05.00112	45.6783647108	-111.0699654930	West Fork Catron Creek	Direct Discharge
415	OF.I05.00157	45.6744836363	-111.0688881120	West Fork Catron Creek	Direct Discharge
416	OF.I05.00158	45.6718219741	-111.0689108270	West Fork Catron Creek	Direct Discharge
417	OF.I05.00159	45.6717526988	-111.0689155400	West Fork Catron Creek	Direct Discharge
418	OF.J05.00211	45.6781600617	-111.0764391120	Cattail Creek	Indirect Discharge
419	OF.J05.00208	45.6760608495	-111.0771238790	Cattail Creek	Indirect Discharge
420	OF.J05.00626	45.6784869088	-111.0819309870	Tributary - SWWW_00050	Indirect Discharge
421	OF.J05.00213	45.6785137119	-111.0756501980	Cattail Creek	Direct Discharge
422	OF.J05.00212	45.6784642924	-111.0757945690	Cattail Creek	Direct Discharge
423	OF.J05.00395	45.6783081957	-111.0818385300	Tributary - SWWW_00050	Indirect Discharge
424	OF.J05.00658	45.6784401288	-111.0819396060	Tributary - SWWW_00050	Indirect Discharge
425	OF.J05.00659	45.6782692291	-111.0758412690	Cattail Creek	Direct Discharge
426	OF.J05.00660	45.6784404634	-111.0758002750	Cattail Creek	Direct Discharge
427	OF.J05.00207	45.6747159876	-111.0778438730	Cattail Creek	Indirect Discharge
428	OF.J05.00206	45.6747128714	-111.0778294200	Cattail Creek	Indirect Discharge
429	OF.J05.00209	45.6769651909	-111.0766381560	Cattail Creek	Indirect Discharge
430	OF.J05.00210	45.6768751803	-111.0767121760	Cattail Creek	Indirect Discharge
431	OF.D04.00106	45.68295426820	-111.0195838140	Story Ditch	Indirect Discharge
432	OF.D04.00319	45.6791967622	-111.0182564980	Tributary - SWWW_00048	Indirect Discharge
433	OF.E04.00109	45.6793711468	-111.0252796770	Story Ditch	Indirect Discharge
434	OF.E04.00108	45.6793582748	-111.0252385880	Story Ditch	Indirect Discharge
435	OF.E04.00226	45.6803382413	-111.0251332910	Story Ditch	Indirect Discharge
436	OF.E04.00102	45.6808145280	-111.0246854990	Story Ditch	Indirect Discharge
437	OF.E04.00105	45.6839768867	-111.0219927910	Story Ditch	Indirect Discharge
438	OF.E04.00104	45.6839622070	-111.0221565300	Story Ditch	Indirect Discharge
439	OF.E04.00103	45.6824120110	-111.0241556070	Story Ditch	Indirect Discharge
440	OF.E04.00225	45.6812279879	-111.0247791000	Story Ditch	Indirect Discharge

441	OF.E04.00442	45.6853221559	-111.0310319650	Bozeman Creek	Direct Discharge
442	OF.K01.00265	45.7044165000	-111.0892862590	Tributary - SWWW_00012	Indirect Discharge
443	OF.K01.00264	45.7032896823	-111.0897132050	Tributary - SWWW_00012	Indirect Discharge
444	OF.K01.00462	45.7061344202	-111.0856472290	Tributary - SWWW_00060	Indirect Discharge
445	OF.K01.00266	45.7045696448	-111.0893903630	Tributary - SWWW_00012	Indirect Discharge
446	OF.K01.00263	45.7014379085	-111.0895456440	Tributary - SWWW_00012	Indirect Discharge
447	OF.K01.00267	45.7072345447	-111.0903033290	Tributary - SWWW_00012	Indirect Discharge
448	OF.K01.00268	45.7068737015	-111.0889782230	Tributary - SWWW_00012	Indirect Discharge
449	**OF.F07.00084**	**45.6640498823**	**-111.0549550830**	**Mandeville Creek**	**Direct Discharge**
450	**OF.H07.00187**	**45.6625895199**	**-111.0547334260**	**Mandeville Creek**	**Direct Discharge**
451	**OF.H07.00188**	**45.6628444207**	**-111.0547324320**	**Mandeville Creek**	**Direct Discharge**
452	**OF.H06.00189**	**45.6640502537**	**-111.0549295260**	**Mandeville Creek**	**Direct Discharge**
453	**OF.H07.00190**	**45.6640502537**	**-111.0549295260**	**Mandeville Creek**	**Direct Discharge**
454	OF.J03.00224	45.6927383837	-111.0763857980	Cattail Creek	Indirect Discharge
455	OF.J03.00223	45.6926924751	-111.0763694690	Cattail Creek	Indirect Discharge
456	OF.J03.00219	45.6892738201	-111.0753729100	Cattail Creek	Indirect Discharge
457	OF.J03.00221	45.6911767455	-111.0761040670	Cattail Creek	Indirect Discharge
458	OF.J03.00220	45.6911515672	-111.0757537680	Cattail Creek	Indirect Discharge
459	OF.J03.00217	45.6878783746	-111.0746873430	Cattail Creek	Indirect Discharge
460	OF.J03.00216	45.6872737904	-111.0745833540	Cattail Creek	Indirect Discharge
461	OF.J03.00215	45.6861624722	-111.0745278710	Cattail Creek	Indirect Discharge
462	OF.J03.00222	45.6912461684	-111.0763019180	Cattail Creek	Indirect Discharge
463	OF.J03.00218	45.6889448618	-111.0751670330	Cattail Creek	Indirect Discharge
464	OF.J03.00691	45.6929956251	-111.0762991050	Cattail Creek	Indirect Discharge
465	OF.I03.00120	45.6888802713	-111.0676521740	West Fork Catron Creek	Indirect Discharge
466	OF.I03.00123	45.6911579238	-111.0680790880	West Fork Catron Creek	Indirect Discharge
467	OF.I03.00620	45.69125083980	-111.0708990790	Tributary-SWWW_00017	Indirect Discharge
468	OF.I03.00153	45.6866876835	-111.0634391730	East Fork Catron Creek	Indirect Discharge
469	OF.I03.00148	45.6890175550	-111.0637836600	East Fork Catron Creek	Indirect Discharge
470	OF.I03.00146	45.6894294399	-111.0638185390	East Fork Catron Creek	Indirect Discharge
471	OF.I03.00145	45.6902767055	-111.0640968620	East Fork Catron Creek	Indirect Discharge
472	OF.I03.00144	45.6904989260	-111.0641661190	East Fork Catron Creek	Indirect Discharge
473	OF.I03.00143	45.6908173970	-111.0642352420	East Fork Catron Creek	Indirect Discharge
474	OF.I03.00142	45.6909936665	-111.0642818400	East Fork Catron Creek	Indirect Discharge
475	OF.I03.00141	45.6923351376	-111.0645825470	East Fork Catron Creek	Indirect Discharge
476	OF.I03.00138	45.6926257688	-111.0646578170	East Fork Catron Creek	Indirect Discharge
477	OF.I03.00139	45.6928731434	-111.0647526400	East Fork Catron Creek	Indirect Discharge
478	OF.I03.00635	45.6859574119	-111.0634198080	East Fork Catron Creek	Direct Discharge
479	OF.I03.00154	45.6859552123	-111.0634501760	East Fork Catron Creek	Direct Discharge
480	OF.I03.00367	45.6928969036	-111.0622229700	Farmers Canal	Direct Discharge
481	OF.I03.00366	45.6928969036	-111.0622229700	Farmers Canal	Direct Discharge
482	OF.I03.00365	45.6900844815	-111.0621010790	Farmers Canal	Direct Discharge
483	OF.I03.00364	45.6898561397	-111.0620887470	Farmers Canal	Direct Discharge
484	OF.I03.00363	45.6887142944	-111.0620326530	Farmers Canal	Direct Discharge
485	OF.I03.00362	45.6882315267	-111.0620022290	Farmers Canal	Direct Discharge
486	OF.I03.00484	45.6912310483	-111.0642992750	East Fork Catron Creek	Indirect Discharge
487	OF.I03.00152	45.6879686286	-111.0638050880	East Fork Catron Creek	Indirect Discharge
488	OF.I03.00149	45.6886821236	-111.0638268580	East Fork Catron Creek	Indirect Discharge
489	OF.I03.00150	45.6885148713	-111.0638343900	East Fork Catron Creek	Indirect Discharge
490	OF.I03.00118	45.6858180827	-111.0671891790	West Fork Catron Creek	Direct Discharge

491	OF.I03.00119	45.6858177359	-111.0672110220	West Fork Catron Creek	Direct Discharge
492	OF.I03.00141	45.6919417608	-111.0645648940	East Fork Catron Creek	Indirect Discharge
493	OF.I03.00147	45.6897007549	-111.0639503150	East Fork Catron Creek	Indirect Discharge
494	OF.I03.00151	45.6884270014	-111.0637911370	East Fork Catron Creek	Indirect Discharge
495	OF.I03.00121	45.6889983546	-111.0676454070	West Fork Catron Creek	Indirect Discharge
496	OF.I03.00122	45.6890986522	-111.0676538260	West Fork Catron Creek	Indirect Discharge
497	**OF.F04.00426**	**45.6786923413**	**-111.0327597850**	**Bozeman Creek**	**Direct Discharge**
498	**OF.F04.00441**	**45.6830849026**	**-111.0319974030**	**Bozeman Creek**	**Direct Discharge**
499	**OF.F04.00440**	**45.6819808773**	**-111.0321364030**	**Bozeman Creek**	**Direct Discharge**
500	**OF.F04.00644**	**45.6788283411**	**-111.0327047440**	**Bozeman Creek**	**Direct Discharge**
501	**OF.F04.00439**	**45.6819412590**	**-111.0321435020**	**Bozeman Creek**	**Direct Discharge**
502	**OF.F04.00697**	**45.6840457486**	**-111.0316796060**	**Bozeman Creek**	**Direct Discharge**
503	**OF.F04.00428**	**45.6788575411**	**-111.0326845580**	**Bozeman Creek**	**Direct Discharge**
504	**OF.F04.00427**	**45.6788244144**	**-111.0326811740**	**Bozeman Creek**	**Direct Discharge**
505	**OF.F04.00431**	**45.6794164261**	**-111.0326514080**	**Bozeman Creek**	**Direct Discharge**
506	**OF.F04.00429**	**45.6792579542**	**-111.0326616260**	**Bozeman Creek**	**Direct Discharge**
507	**OF.F04.00430**	**45.6797465074**	**-111.0326598030**	**Bozeman Creek**	**Direct Discharge**
508	**OF.F04.00432**	**45.6798932180**	**-111.0327374050**	**Bozeman Creek**	**Direct Discharge**
509	**OF.F04.00433**	**45.6798909981**	**-111.0326816120**	**Bozeman Creek**	**Direct Discharge**
510	**OF.F04.00434**	**45.6803708316**	**-111.0327069670**	**Bozeman Creek**	**Direct Discharge**
511	**OF.F04.00435**	**45.6804694739**	**-111.0327223290**	**Bozeman Creek**	**Direct Discharge**
512	**OF.F04.00437**	**45.6809133939**	**-111.0327194500**	**Bozeman Creek**	**Direct Discharge**
513	**OF.F04.00436**	**45.6808580398**	**-111.0327280490**	**Bozeman Creek**	**Direct Discharge**
514	**OF.F04.00438**	**45.6819006384**	**-111.0321394000**	**Bozeman Creek**	**Direct Discharge**
515	OF.I09.00186	45.6435695599	-111.0710798400	Middle Creek Ditch	Indirect Discharge
516	OF.I09.00183	45.6459427695	-111.0685090010	Middle Creek Ditch	Indirect Discharge
517	OF.I09.00184	45.6454919156	-111.0683879440	Middle Creek Ditch	Indirect Discharge
518	OF.I09.00193	45.6450783261	-111.0680874870	Middle Creek Ditch	Indirect Discharge
519	OF.I09.00471	45.6474033846	-111.0693893550	Middle Creek Ditch	Indirect Discharge
520	OF.I09.00470	45.64800979990	-111.0700159770	Middle Creek Ditch	Indirect Discharge
521	OF.I09.00185	45.6474483205	-111.0689914660	Middle Creek Ditch	Indirect Discharge
522	OF.I09.00191	45.6489618617	-111.0641952090	East Fork Catron Creek	Indirect Discharge
523	OF.I09.00198	45.6475118735	-111.0641498120	East Fork Catron Creek	Indirect Discharge
524	OF.I09.00196	45.6431466222	-111.0641483730	East Fork Catron Creek	Indirect Discharge
525	OF.I09.00195	45.6450541893	-111.0635651200	East Fork Catron Creek	Indirect Discharge
526	OF.I09.00194	45.6455524662	-111.0637794280	East Fork Catron Creek	Indirect Discharge
527	OF.I09.00197	45.6467437184	-111.0639781550	East Fork Catron Creek	Indirect Discharge
528	OF.I09.00192	45.6423839092	-111.0644445730	East Fork Catron Creek	Indirect Discharge
529	OF.G01.00707	45.70332781960	-111.0426056240	Tributary - SWWW_00034	Direct Discharge
530	OF.H02.00708	45.69326050970	-111.0578295590	Farmers Canal	Direct Discharge
531	OF.I04.00709	45.68283365880	-111.0651022870	East Fork Catron Creek	Direct Discharge
532	**OF.F01.00637**	**45.70285552290**	**-111.0361662000**	**East Gallatin River**	**Indirect Discharge**
533	**OF.F05.00097**	**45.67395551370**	**-111.0321445690**	**Bozeman Creek**	**Direct Discharge**
534	OF.I09.00001	45.64699428010	-111.0715632400	Middle Creek Ditch	Indirect Discharge
535	OF.L01.00003	45.70474791880	-111.0992131950	Maynard Border Ditch	Indirect Discharge
536	OF.L01.00004	45.7040683602	-111.0991208210	Maynard Border Ditch	Indirect Discharge
537	OF.G08.00033	45.6503740251	-111.0499408970	Figgins Creek	Indirect Discharge
538	OF.I51.00054	45.7235092119	-111.0722489290	Catron Creek	Direct Discharge
539	OF.C05.00001	45.67505653210	-111.0082765270	Tributary - SWWW_00065	Direct Discharge
540	OF.C05.00002	45.67506380310	-111.0089440040	Tributary - SWWW_00065	Direct Discharge

541	OF.C05.00003	45.67505810040	-111.0095208900	Tributary - SWWW_00065	Direct Discharge
542	OF.D05.00001	45.67641051460	-111.0141711950	Tributary - SWWW_00065	Direct Discharge
543	OF.D05.00002	45.67610305840	-111.0133678850	Tributary - SWWW_00065	Direct Discharge
544	**OF.H05.00001**	**45.6784497589**	**-111.0518139600**	**Mandeville Creek**	**Direct Discharge**
545	**OF.H04.00060**	**45.6792074961**	**-111.0517891240**	**Mandeville Creek**	**Direct Discharge**
546	OF.H06.00029	45.6693667100	-111.0595287430	Middle Creek Ditch	Direct Discharge
547	OF.H05.00002	45.6747692403	-111.0575623060	Middle Creek Ditch	Indirect Discharge
548	OF.H05.00003	45.6752806660	-111.0587390920	Middle Creek Ditch	Direct Discharge
549	OF.H05.00005	45.6772730798	-111.0594189150	Middle Creek Ditch	Direct Discharge
550	OF.H05.00006	45.6783702579	-111.0593963580	Middle Creek Ditch	Direct Discharge
551	OF.H04.00001	45.6785417801	-111.0599217920	Middle Creek Ditch	Direct Discharge
552	OF.H04.00002	45.6793732918	-111.0599246550	Middle Creek Ditch	Direct Discharge
553	OF.I04.00001	45.6800924136	-111.0623292870	Farmers Canal	Direct Discharge
554	OF.I04.00002	45.6821052715	-111.0621841440	Farmers Canal	Direct Discharge
555	OF.I04.00003	45.6855468393	-111.0619452240	Farmers Canal	Direct Discharge
556	**OF.H02.00050**	**45.6983689906**	**-111.0519743930**	**Mandeville Creek**	**Direct Discharge**
557	**OF.G02.00049**	**45.69760225430**	**-111.0513360050**	**Mandeville Creek**	**Direct Discharge**
558	**OF.E01.00052**	**45.70052426010**	**-111.0302720750**	**East Gallatin River**	**Direct Discharge**
559	**OF.E01.00053**	**45.70055323200**	**-111.0302242380**	**East Gallatin River**	**Direct Discharge**
560	**OF.E01.00054**	**45.70061346560**	**-111.0301111610**	**East Gallatin River**	**Direct Discharge**
561	**OF.E01.00055**	**45.70064015030**	**-111.0300633230**	**East Gallatin River**	**Direct Discharge**
562	**OF.E01.00056**	**45.70042371290**	**-111.0300980090**	**East Gallatin River**	**Direct Discharge**
563	**OF.E01.00057**	**45.70045268500**	**-111.0300490830**	**East Gallatin River**	**Direct Discharge**
564	**OF.E01.00058**	**45.70051901730**	**-111.0299262230**	**East Gallatin River**	**Direct Discharge**
565	**OF.E01.00059**	**45.70054494020**	**-111.0298794710**	**East Gallatin River**	**Direct Discharge**
566	OF.D04.00107	45.67880140800	-111.0122737110	Tributary - SWWW_00065	Direct Discharge
567	OF.L03.00001	45.6903452316	-111.0967073040	Tributary - SWWW_00007	Indirect Discharge
568	OF.M05.00009	45.67868040040	-111.1148390300	Tributary - SWWW_00054	Indirect Discharge
569	OF.M05.00010	45.67653067490	-111.1139996910	Tributary - SWWW_00054	Indirect Discharge
570	OF.L04.00005	45.6856035544	-111.1041566210	Tributary - SWWW_00006	Indirect Discharge
571	OF.L04.00004	45.6855715706	-111.1041746360	Tributary - SWWW_00006	Indirect Discharge
572	OF.M04.00292	45.6855995616	-111.1059130960	Tributary - SWWW_00006	Indirect Discharge
573	OF.M04.00293	45.6855164030	-111.1110089760	Baxter Creek	Indirect Discharge
574	OF.M04.00291	45.6856095520	-111.1094789900	Tributary - SWWW_00005	Indirect Discharge
575	**OF.H07.00192**	**45.6614277711**	**-111.0534903970**	**Mandeville Creek**	**Direct Discharge**
576	**OF.H07.00191**	**45.6614146037**	**-111.0535018720**	**Mandeville Creek**	**Direct Discharge**
577	OF.L05.00490	45.6750507211	-111.1038384950	Tributary - SWWW_00006	Indirect Discharge
578	**OF.E15.00001**	**45.59956688340**	**-111.0264094230**	**Bozeman Creek**	**Indirect Discharge**
579	**OF.E15.00002**	**45.60052456060**	**-111.0248062650**	**Bozeman Creek**	**Direct Discharge**
580	OF.K01.00269	45.7063645222	-111.0894875360	Tributary - SWWW_00012	Indirect Discharge
581	OF.F09.00480	45.6449101742	-111.0337244740	Flat Creek	Indirect Discharge
582	**OF.F03.00447**	**45.6859525862**	**-111.0310962120**	**Bozeman Creek**	**Direct Discharge**
583	**OF.F03.00448**	**45.6855184277**	**-111.0311496570**	**Bozeman Creek**	**Direct Discharge**
584	**OF.F04.00698**	**45.6840504484**	**-111.0316291380**	**Bozeman Creek**	**Direct Discharge**
585	**OF.F04.00699**	**45.6797222957**	**-111.0326610020**	**Bozeman Creek**	**Direct Discharge**
586	OF.F06.00101	45.6689594516	-111.0351137090	Mathew Bird Creek	Direct Discharge
587	**OF.F04.00442**	**45.6803757696**	**-111.0327820590**	**Bozeman Creek**	**Direct Discharge**
588	OF.L03.00002	45.69178412510	-111.0956105820	Tributary - SWWW_00007	Indirect Discharge
589	OF.M03.00008	45.6926933481	-111.1087827410	Tributary - SWWW_00006	Indirect Discharge
590	OF.K02.00271	45.69804435440	-111.08694014800	Tributary - SWWW_00012	Indirect Discharge

591	OF.I09.00200	45.64332688730	-111.06421028900	Catron Creek	Indirect Discharge
592	OF.F03.00449	45.69998573690	-111.09379198100	Bozeman Creek	Indirect Discharge
593	**OF.F05.00426**	45.69269742960	-111.03121071900	**Bozeman Creek**	**Direct Discharge**
594	OF.L02.00010	45.67730013260	-111.03203212600	Unamed	Indirect Discharge
595	OF.L02.00011	45.69617441820	-111.09492388100	Unamed	Indirect Discharge
596	OF.F02.00001	45.69708220950	-111.09495464400	**East Gallatin River**	**Direct Discharge**
597	**OF.F02.00002**	45.69999791740	-111.03043141000	**East Gallatin River**	**Direct Discharge**
598	OF.L02.00013	45.70001182910	-111.03047510800	West Gallatin Canal	Indirect Discharge
599	OF.L02.00014	45.69996185520	-111.09609884000	Unamed	Indirect Discharge
600	OF.L02.00015	45.69867844500	-111.09528778200	Unamed	Indirect Discharge
601	OF.M03.00012	45.69269558950	-111.11273133200	Baxter Creek	Indirect Discharge
602	OF.M03.00013	45.69268582950	-111.11249427500	Baxter Creek	Indirect Discharge
603	OF.M03.00014	45.68850260660	-111.11046263400	Baxter Creek	Indirect Discharge
604	OF.M03.00465	45.69301396190	-111.10889077700	Unamed	Indirect Discharge
605	OF.L02.00016	45.69950437980	-111.09844642700	Maynard Border Ditch	Indirect Discharge
606	**OF.H02.00063**	45.69890772960	-111.05477891000	**Farmers Canal**	**Indirect Discharge**
607	**OF.H02.00064**	45.69909771610	-111.05522795200	**Farmers Canal**	**Indirect Discharge**
608	**OF.H02.00065**	45.69965503210	-111.05561653900	**Farmers Canal**	**Indirect Discharge**
609	**OF.G02.00321**	45.69455772470	-111.04652408800	**Mandeville Creek**	**Indirect Discharge**
610	**OF.G02.00320**	45.69756428000	-111.05151164300	**Mandeville Creek**	**Indirect Discharge**
611	OF.H02.00060	45.69812225570	-111.05297549400	Farmers Canal	Indirect Discharge
612	OF.H02.00061	45.69837144760	-111.05284403200	Farmers Canal	Indirect Discharge
613	OF.H02.00072	45.69820615340	-111.05322308300	Farmers Canal	Indirect Discharge
614	**OF.E01.00060**	45.70264732220	-111.02271547700	**Bridger Creek**	**Indirect Discharge**
615	OF.L03.00005	45.69253444610	-111.09819577900	Maynard Border Ditch	Indirect Discharge
616	**OF.B05.00479**	45.67141041770	-110.99577990400	**East Gallatin River**	**Direct Discharge**
617	**OF.B06.00001**	45.67102818930	-110.99577127000	**East Gallatin River**	**Direct Discharge**
618	OF.I03.00636	45.69191229910	-111.06448726700	Catron Creek	Indirect Discharge
619	OF.I50.00002	45.71465767260	-111.07132841900	Catron Creek	Indirect Discharge
620	OF.H02.00062	45.69912550590	-111.05457458100	Farmers Canal	Indirect Discharge
621	OF.H02.00066	45.69945497940	-111.05581301800	Farmers Canal	Indirect Discharge
622	OF.M05.00618	45.67442879210	-111.10675096400	Baxter Creek	Indirect Discharge

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BOZEMAN MT
Stormwater Division

October 5, 2018

SENT VIA ELECTRONIC MAIL

Alder Creek Homeowners' Association, INC.
Attn: Dustin Jackson, Registered Agent
682 S. Ferguson Ave #6
Bozeman, MT 59718

RE: Alder Creek Subdivision Stormwater Infrastructure Inspection

Mr. Dustin Jackson,

Pursuant to Bozeman Municipal Code Section 40.04.720 and the Alder Creek Subdivision's Covenants, the City requires the Alder Creek Homeowners' Association (HOA) to maintain the seven stormwater basins within their subdivision boundary. Stormwater basins are engineered systems designed to capture, store, infiltrate, and, in some cases, release urban runoff. Unmaintained stormwater basins pose a risk to residents, infrastructure, and the environment by increasing the likelihood of urban flooding and waterway pollution.

On October 1, 2018, I completed a stormwater basin compliance inspection in the Alder Creek Subdivision and identified the following systemic issues:

1. The HOA has not adequately maintained their stormwater basin's vegetation, resulting in overgrown cattails, weed, grass, shrubs, and trees. Uncontrolled vegetation impacts the design storage volume of each basin. The City recommends that the HOA remove the overgrown vegetation, and maintain all seven systems per the guidance outlined in the included Stormwater Basin Maintenance Guide.
2. The HOA has not adequately maintained their stormwater basin's pipe openings, resulting in clogged and obstructed entry points. Nonfunctional pipe openings result in system backups impairing the operation of both the City and HOA's infrastructure. The City recommends that the HOA ensure all stormwater basin inlet and outlet pipes are free from obstructions.

Please see the following informative and educational materials included with this letter:

1. Map of Alder Creek Subdivision's Stormwater Infrastructure
2. Stormwater Basin Maintenance Guide
3. Seven Stormwater Basin Inspection Reports, including specific findings and maintenance needs
4. Budget Tool (Excel Spreadsheet)
5. Alder Creek Subdivision's Infrastructure Record Drawings (available upon request due to size)

The Alder Creek Subdivision's stormwater basins will continue to degrade and may require costly reconstruction if not proactively managed moving forward. The City requests that the Alder Creek HOA make progress on this issue as soon as possible.

I am available to answer questions regarding this letter and the attached information.

Regards,

Kyle Mehrens, Stormwater Program Coordinator

(A) 20 East Olive Street | (M) P.O. Box 1230 Bozeman, MT 59771-1230 | (P) 406-582-2270 | (F) 406-582-2263 | www.bozeman.net

TDD: 406-582-2301

Map created by the City of Bozeman Stormwater Division on 10/1/2018 and is intended for planning purposes only.

Stormwater Basin Maintenance Guide

BOZEMAN MT
Stormwater Division

What are stormwater basins?

Stormwater basins are depressions designed and constructed to capture and treat polluted stormwater flowing from roads, parking lots, and driveways. Maintenance of stormwater basins is necessary to ensure their proper function, reducing negative impacts on local waterways.

Image 1 - Stormwater Basin

What are the benefits of stormwater basins?

Stormwater basins:

- Control the rate of stormwater runoff flowing into streams, mitigating downstream flooding and erosion.
- Remove sediment, fertilizers, pet waste, oils, and greases, protecting public health and the environment.

Who is responsible for the maintenance of stormwater basins?

The City requires developers to create and implement a maintenance agreement when the construction of a subdivision occurs. HOAs assume maintenance agreement responsibilities when the subdivision changes ownership and the developer is no longer accountable.

How do HOAs manage stormwater basins?

The City recommends HOAs complete the following:

- Compile relevant documents, such as infrastructure record drawings, maintenance agreements, and contracts.
- Complete a stormwater basin inventory, documenting location and condition information.
- Develop a comprehensive plan, including budget, inspection frequency, and a record keeping process. Assistance from a qualified professional may be helpful.

Important stormwater basin characteristics to consider include:

- Capacity – Excess vegetation and sediment buildup reduces capacity and affects the basins ability to perform.
- Soil infiltration - Compaction and accumulated sediment reduces infiltration rates, resulting in stagnant standing water that breeds mosquitos and algae.
- Vegetation height - 6” or taller reduces flow velocity and provides water treatment.

The following images show the results of inadequate stormwater basin maintenance.

Image 2 - Overgrown vegetation

Image 3 - Erosion causing channelized flow

Image 4 - Obstructed inlet pipe

Image 5 - Water 3-days after rain event

Recommended Maintenance Strategy

HOAs should complete routine inspections and maintenance to ensure stormwater basins function as designed, reducing pollution, costly repairs, and flood risks. The City recommends the following maintenance strategy:

1. Routine Maintenance Activities (1-3 Months)

   - ❖ Designate "no cut zones" in the bottom of basin
   - ❖ Remove trash, leaves, grass clippings, and debris
   - ❖ Establish a chemical free zone in and around the basin
   - ❖ Inspect for uniform ponding, and that water disappears three days after rain events

2. Annual Maintenance Activities (Annually)

   - ❖ Cut vegetation to 6" in Fall, remove clippings
   - ❖ Re-establish vegetation on eroded and barren areas
   - ❖ Remove excess sediment build-up
   - ❖ Update maintenance plan and inspection log

3. Long-Term Maintenance Activities (5-10 Years)

   - ❖ Consult a qualified professional to inspect and return stormwater basin back to initial design found on the subdivision's engineering plans
   - ❖ Dredge basin if sediment buildup is greater than 6"
   - ❖ Re-establish vegetation

Image 6 – No cut zone

Image 7 – Annual Maintenance

Image 8 – Long-Term Maintenance

Additional Information

It is important HOAs maintain their stormwater basins to ensure Bozeman continues to be "The Most Livable Place". Please contact the Stormwater Division for more information, questions, or to schedule a voluntary inspection.

Kyle Mehrens
Stormwater Program Coordinator
406-582-2270
kmehrens@bozeman.net

Frank Greenhill
Stormwater Program Technician
406-582-2917
fgreenhill@bozeman.net

BOZEMAN MT
Stormwater Division

Stormwater Basin Inspection Form

General Information	
Basin ID: 1 (City ID: DP.H09.00004)	**Basin Type:** Retention Basin
Basin Location: See attached map.	
Site Owner: Alder Creek Subdivision HOA	**Board Contact:** n/a
HOA Contact: Management Associates	**HOA Contact:** (406)586-6500, managementassocmt@gmail.com
Inspection Date: 10/1/2018	**Start/End Time:** 1:30 – 3:30
Inspector's Name: Kyle Mehrens	**Inspector's Title:** Stormwater Program Coordinator
Inspector's Contact Information: (406)582-2270, kmehrens@bozeman.net	
Type of Inspection: X Routine, Dry Weather ❑ Routine, Wet Weather ❑ Complaint Driven ❑ Other: _____	

Weather and Discharge Information

Weather at the time of this inspection:

X Clear ❑ Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snow ❑ High Winds

Temperature: 65

Is a stormwater discharge occurring? ❑Yes X No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ❑Yes X No

If yes, what is the source and quality of discharge?

Notes: See inspection form.

Basin Criticality Rating

❑ **Low: Stormwater basin is maintained and functioning as designed.**

❑ **Medium: Stormwater basin requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

X **Severe: Stormwater basin requires significant sediment dredging and vegetation removal to mitigate ongoing flooding, waterway pollution, and infrastructure failure.**

Inspector's Signature: // Kyle Mehrens// **Date:** 10/1/2018

Basin Components	#	Inspection Items	Conditions	Results	Notes and Required Actions
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	X Yes ❑ No	Note: No maintenance access due to perimeter fence Action: Establish maintenance access
	1.2	Debris and Pollution	Trash, sediment, and waste within and around the basin?	X Yes ❑ No	Note: Contains various debris (images 4 and 5) Action: Remove accumulated sediment and trash
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	X Yes ❑ No	Note: Contains thick vegetation (images 1-6) Action: Remove overgrown vegetation and select trees
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	❑ Yes X No	Note: None Action: None
Inlet Pipe(s), Outlet Pipe, and Outlet Structure	2.1	Inlet Pipe(s)	Clogged or obstructed inlet pipe?	X Yes ❑ No	Note: Degraded inlet pipe (image 3) Action: Remove sediment and vegetation, expose pipe end
	2.2	Outlet Structure	Clogged or obstructed outlet structure?	❑ Yes X No	Note: None Action: None
	2.3	Outlet Pipe	Clogged or obstructed outlet pipe?	❑ Yes X No	Note: None Action: None
Basin Condition	3.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	❑ Yes X No	Note: None Action: None
	3.2	Storage Bay	Clogged or filled storage bay?	X Yes ❑ No	Note: Contains excessive debris (image 5) Action: Dredge material, return to the original design
	3.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	❑ Yes X No	Note: Minor standing water and groundwater influence Action: None
	3.4	Flow Path	Clogged or obstructed flow path?	❑ Yes X No	Note: None Action: None
	3.5	Side Slopes	Barren or exposed surfaces on basin's side slopes and bottom?	❑ Yes X No	Note: None Action: None
Maintenance Plan	4.1	Maintenance Plan	Deficient inspection, maintenance, and reporting program in place?	X Yes ❑ No	Note: No plan, inspection forms, or evidence of work Action: Develop plan and budget, complete work

Image 1: Stormwater basin overview displaying overgrown vegetation (east view)

Image 2: Stormwater basin overview displaying overgrown vegetation (south view)

Image 3: Obstructed and clogged inlet pipe (west view)

Image 4: Second inlet pipe and accumulated debris (south view)

Image 5: Stormwater basin overview showing accumulated sediment (north view)

Image 6: Stormwater basin overview showing overgrown vegetation (north view)

BOZEMAN MT
Stormwater Division

Stormwater Basin Inspection Form

General Information	
Basin ID: 2 (City ID: DP.H09.00005)	**Basin Type:** Detention Basin
Basin Location: See attached map.	
Site Owner: Alder Creek Subdivision HOA	**Board Contact:** n/a
HOA Contact: Management Associates	**HOA Contact:** (406)586-6500, managementassocmt@gmail.com
Inspection Date: 10/1/2018	**Start/End Time:** 1:30 – 3:30
Inspector's Name: Kyle Mehrens	**Inspector's Title:** Stormwater Program Coordinator
Inspector's Contact Information: (406)582-2270, kmehrens@bozeman.net	
Type of Inspection: X Routine, Dry Weather ❑ Routine, Wet Weather ❑ Complaint Driven ❑ Other: _____	

Weather and Discharge Information

Weather at the time of this inspection:

X Clear ❑ Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snow ❑ High Winds

Temperature: 65

Is a stormwater discharge occurring? ❑Yes X No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ❑Yes X No

If yes, what is the source and quality of discharge?

Notes: See inspection form.

Basin Criticality Rating

❑ **Low: Stormwater basin is maintained and functioning as designed.**

X **Medium: Stormwater basin requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

❑ **Severe: Stormwater basin requires significant sediment dredging and vegetation removal to mitigate ongoing flooding, waterway pollution, and infrastructure failure.**

Inspector's Signature: // Kyle Mehrens// **Date:** 10/1/2018

Basin Components	#	Inspection Items	Conditions	Results	Notes and Required Actions
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	X Yes ❑ No	Note: No reinforced access point Action: Establish maintenance access
	1.2	Debris and Pollution	Trash, sediment, and waste within and around the basin?	X Yes ❑ No	Note: Contains various debris (image 1) Action: Remove accumulated sediment and trash
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	X Yes ❑ No	Note: Contains overgrown vegetation (images 1-4) Action: Remove overgrown vegetation and select trees
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	❑ Yes X No	Note: None Action: None
Inlet Pipe(s), Outlet Pipe, and Outlet Structure	2.1	Inlet Pipe(s)	Clogged or obstructed inlet pipe?	X Yes ❑ No	Note: Degraded inlet pipe (image 2) Action: Remove sediment and vegetation, expose pipe end
	2.2	Outlet Structure	Clogged or obstructed outlet structure?	X Yes ❑ No	Note: Degraded outlet structure (image 4) Action: Remove overgrown vegetation
	2.3	Outlet Pipe	Clogged or obstructed outlet pipe?	❑ Yes X No	Note: None (image 5) Action: None
Basin Condition	3.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	❑ Yes X No	Note: None Action: None
	3.2	Storage Bay	Clogged or filled storage bay?	X Yes ❑ No	Note: Contains debris (image 3) Action: Dredge excess material, return to the original design
	3.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	❑ Yes X No	Note: None Action: None
	3.4	Flow Path	Clogged or obstructed flow path?	❑ Yes X No	Note: None Action: None
	3.5	Side Slopes	Barren or exposed surfaces on basin's side slopes and bottom?	❑ Yes X No	Note: None Action: None
Maintenance Plan	4.1	Maintenance Plan	Deficient inspection, maintenance, and reporting program in place?	X Yes ❑ No	Note: No plan, inspection forms, or evidence of work Action: Develop plan and budget, complete work

Image 1: Stormwater basin overview displaying overgrown vegetation (east view)

Image 2: Obstructed and clogged inlet pipe (west view)

Image 3: Stormwater basin overview showing overgrown vegetation (west view)

Image 4: Outlet structure overview showing overgrown vegetation (east view)

Image 5: Stormwater basin discharge pipe (east view)

BOZEMAN MT
Stormwater Division

Stormwater Basin Inspection Form

General Information	
Basin ID: 3 (City ID: DP.G09.00006)	**Basin Type:** Detention Basin
Basin Location: See attached map.	
Site Owner: Alder Creek Subdivision HOA	**Board Contact:** n/a
HOA Contact: Management Associates	**HOA Contact:** (406)586-6500, managementassocmt@gmail.com
Inspection Date: 10/1/2018	**Start/End Time:** 1:30 – 3:30
Inspector's Name: Kyle Mehrens	**Inspector's Title:** Stormwater Program Coordinator
Inspector's Contact Information: (406)582-2270, kmehrens@bozeman.net	
Type of Inspection: X Routine, Dry Weather ❑ Routine, Wet Weather ❑ Complaint Driven ❑ Other: _____	

Weather and Discharge Information

Weather at the time of this inspection:

X Clear ❑ Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snow ❑ High Winds

Temperature: 65

Is a stormwater discharge occurring? ❑Yes X No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ❑Yes X No

If yes, what is the source and quality of discharge?

Notes: See inspection form.

Basin Criticality Rating

❑ **Low: Stormwater basin is maintained and functioning as designed.**

X **Medium: Stormwater basin requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

❑ **Severe: Stormwater basin requires significant sediment dredging and vegetation removal to mitigate ongoing flooding, waterway pollution, and infrastructure failure.**

Inspector's Signature: // Kyle Mehrens// **Date:** 10/1/2018

Basin Components	#	Inspection Items	Conditions	Results	Notes and Required Actions
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	X Yes ❑ No	Note: No reinforced access point Action: Establish maintenance access
	1.2	Debris and Pollution	Trash, sediment, and waste within and around the basin?	X Yes ❑ No	Note: Contains various debris (image 1) Action: Remove accumulated sediment and trash
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	X Yes ❑ No	Note: Contains overgrown vegetation (images 1-4) Action: Remove overgrown vegetation and select trees
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	❑ Yes X No	Note: None Action: None
Inlet Pipe(s), Outlet Pipe, and Outlet Structure	2.1	Inlet Pipe(s)	Clogged or obstructed inlet pipe?	X Yes ❑ No	Note: Degraded inlet pipe (image 2) Action: Remove sediment and vegetation, expose pipe end
	2.2	Outlet Structure	Clogged or obstructed outlet structure?	❑ Yes X No	Note: None (image 4) Action: None
	2.3	Outlet Pipe	Clogged or obstructed outlet pipe?	❑ Yes X No	Note: None (image 5) Action: None
Basin Condition	3.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	❑ Yes X No	Note: None Action: None
	3.2	Storage Bay	Clogged or filled storage bay?	X Yes ❑ No	Note: Contains debris (image 3) Action: Dredge excess material, return to the original design
	3.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	❑ Yes X No	Note: None Action: None
	3.4	Flow Path	Clogged or obstructed flow path?	❑ Yes X No	Note: None Action: None
	3.5	Side Slopes	Barren or exposed surfaces on basin's side slopes and bottom?	❑ Yes X No	Note: None Action: None
Maintenance Plan	4.1	Maintenance Plan	Deficient inspection, maintenance, and reporting program in place?	X Yes ❑ No	Note: No plan, inspection forms, or evidence of work Action: Develop plan and budget, complete work

Image 1: Stormwater basin overview displaying overgrown vegetation (north view)

Image 2: Obstructed and clogged inlet pipe (north view)

Image 3: Stormwater basin overview showing overgrown vegetation (south view)

Image 4: Outlet structure overview (east view)

Image 5: Stormwater basin discharge pipe (west view)

BOZEMAN MT
Stormwater Division

Stormwater Basin Inspection Form

General Information	
Basin ID: 4 (City ID: DP.G09.00010)	**Basin Type:** Detention Basin
Basin Location: See attached map.	
Site Owner: Alder Creek Subdivision HOA	**Board Contact:** n/a
HOA Contact: Management Associates	**HOA Contact:** (406)586-6500, managementassocmt@gmail.com
Inspection Date: 10/1/2018	**Start/End Time:** 1:30 – 3:30
Inspector's Name: Kyle Mehrens	**Inspector's Title:** Stormwater Program Coordinator
Inspector's Contact Information: (406)582-2270, kmehrens@bozeman.net	
Type of Inspection: X Routine, Dry Weather ❑ Routine, Wet Weather ❑ Complaint Driven ❑ Other: _____	

Weather and Discharge Information

Weather at the time of this inspection:

X Clear ❑ Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snow ❑ High Winds

Temperature: 65

Is a stormwater discharge occurring? ❑Yes X No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ❑Yes X No

If yes, what is the source and quality of discharge?

Notes: See inspection form.

Basin Criticality Rating

❑ **Low: Stormwater basin is maintained and functioning as designed.**

X **Medium: Stormwater basin requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

❑ **Severe: Stormwater basin requires significant sediment dredging and vegetation removal to mitigate ongoing flooding, waterway pollution, and infrastructure failure.**

Inspector's Signature: // Kyle Mehrens// **Date:** 10/1/2018

Basin Components	#	Inspection Items	Conditions	Results	Notes and Required Actions
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	X Yes ❑ No	Note: No reinforced access point Action: Establish maintenance access
	1.2	Debris and Pollution	Trash, sediment, and waste within and around the basin?	X Yes ❑ No	Note: Contains various debris (image 2) Action: Remove accumulated sediment and trash
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	X Yes ❑ No	Note: Contains overgrown vegetation (images 1-4) Action: Remove overgrown vegetation and select trees
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	❑ Yes X No	Note: None Action: None
Inlet Pipe(s), Outlet Pipe, and Outlet Structure	2.1	Inlet Pipe(s)	Clogged or obstructed inlet pipe?	X Yes ❑ No	Note: Degraded inlet pipe (image 2) Action: Remove sediment and vegetation, expose pipe end
	2.2	Outlet Structure	Clogged or obstructed outlet structure?	❑ Yes X No	Note: None (image 4) Action: None
	2.3	Outlet Pipe	Clogged or obstructed outlet pipe?	❑ Yes X No	Note: None (image 5) Action: None
Basin Condition	3.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	❑ Yes X No	Note: None Action: None
	3.2	Storage Bay	Clogged or filled storage bay?	X Yes ❑ No	Note: Contains debris (image 3) Action: Dredge excess material, return to the original design
	3.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	❑ Yes X No	Note: None Action: None
	3.4	Flow Path	Clogged or obstructed flow path?	❑ Yes X No	Note: None Action: None
	3.5	Side Slopes	Barren or exposed surfaces on basin's side slopes and bottom?	❑ Yes X No	Note: None Action: None
Maintenance Plan	4.1	Maintenance Plan	Deficient inspection, maintenance, and reporting program in place?	X Yes ❑ No	Note: No plan, inspection forms, or evidence of work Action: Develop plan and budget, complete work

Image 1: Stormwater basin overview displaying overgrown vegetation (north view)

Image 2: Obstructed and clogged inlet pipe (south view)

Image 3: Stormwater basin overview showing overgrown vegetation (south view)

Image 4: Outlet structure overview (east view)

Image 5: Stormwater basin discharge pipe (west view)

BOZEMAN MT
Stormwater Division

Stormwater Basin Inspection Form

General Information	
Basin ID: 5 (City ID: DP.G09.00008)	**Basin Type:** Detention Basin
Basin Location: See attached map.	
Site Owner: Alder Creek Subdivision HOA	**Board Contact:** n/a
HOA Contact: Management Associates	**HOA Contact:** (406)586-6500, managementassocmt@gmail.com
Inspection Date: 10/1/2018	**Start/End Time:** 1:30 – 3:30
Inspector's Name: Kyle Mehrens	**Inspector's Title:** Stormwater Program Coordinator
Inspector's Contact Information: (406)582-2270, kmehrens@bozeman.net	
Type of Inspection: X Routine, Dry Weather ❑ Routine, Wet Weather ❑ Complaint Driven ❑ Other: _____	

Weather and Discharge Information

Weather at the time of this inspection:

X Clear ❑ Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snow ❑ High Winds

Temperature: 65

Is a stormwater discharge occurring? ❑Yes X No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ❑Yes X No

If yes, what is the source and quality of discharge?

Notes: See inspection form.

Basin Criticality Rating

❑ **Low: Stormwater basin is maintained and functioning as designed.**

X **Medium: Stormwater basin requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

❑ **Severe: Stormwater basin requires significant sediment dredging and vegetation removal to mitigate ongoing flooding, waterway pollution, and infrastructure failure.**

Inspector's Signature: // Kyle Mehrens// **Date:** 10/1/2018

Basin Components	#	Inspection Items	Conditions	Results	Notes and Required Actions
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	X Yes ❑ No	Note: No reinforced access point Action: Establish maintenance access
	1.2	Debris and Pollution	Trash, sediment, and waste within and around the basin?	X Yes ❑ No	Note: Contains various debris (images 1-5) Action: Remove accumulated sediment and trash
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	X Yes ❑ No	Note: Contains overgrown vegetation (images 1-5) Action: Remove overgrown vegetation and select trees
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	❑ Yes X No	Note: None Action: None
Inlet Pipe(s), Outlet Pipe, and Outlet Structure	2.1	Inlet Pipe(s)	Clogged or obstructed inlet pipe?	X Yes ❑ No	Note: Degraded inlet pipes (images 2 and 5) Action: Remove sediment and vegetation, expose pipe ends
	2.2	Outlet Structure	Clogged or obstructed outlet structure?	❑ Yes X No	Note: None (image 4) Action: None
	2.3	Outlet Pipe	Clogged or obstructed outlet pipe?	❑ Yes X No	Note: None Action: None
Basin Condition	3.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	❑ Yes X No	Note: None Action: None
	3.2	Storage Bay	Clogged or filled storage bay?	X Yes ❑ No	Note: Contains debris (image 1) Action: Dredge excess material, return to the original design
	3.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	❑ Yes X No	Note: None Action: None
	3.4	Flow Path	Clogged or obstructed flow path?	❑ Yes X No	Note: None Action: None
	3.5	Side Slopes	Barren or exposed surfaces on basin's side slopes and bottom?	❑ Yes X No	Note: None Action: None
Maintenance Plan	4.1	Maintenance Plan	Deficient inspection, maintenance, and reporting program in place?	X Yes ❑ No	Note: No plan, inspection forms, or evidence of work Action: Develop plan and budget, complete work

Image 1: Stormwater basin overview displaying overgrown vegetation (south view)

Image 2: Obstructed and clogged inlet pipe (1 of 3)

Image 3: Stormwater basin overview showing overgrown vegetation (west view)

Image 4: Outlet structure overview (south view)

Image 5: Clogged and obstructed inlet pipe (2 of 3)

BOZEMAN MT
Stormwater Division

Stormwater Basin Inspection Form

General Information	
Basin ID: 6 (City ID: DP.G09.00007)	**Basin Type:** Detention Basin
Basin Location: See attached map.	
Site Owner: Alder Creek Subdivision HOA	**Board Contact:** n/a
HOA Contact: Management Associates	**HOA Contact:** (406)586-6500, managementassocmt@gmail.com
Inspection Date: 10/1/2018	**Start/End Time:** 1:30 – 3:30
Inspector's Name: Kyle Mehrens	**Inspector's Title:** Stormwater Program Coordinator
Inspector's Contact Information: (406)582-2270, kmehrens@bozeman.net	
Type of Inspection: X Routine, Dry Weather ❑ Routine, Wet Weather ❑ Complaint Driven ❑ Other: _____	

Weather and Discharge Information

Weather at the time of this inspection:

X Clear ❑ Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snow ❑ High Winds

Temperature: 65

Is a stormwater discharge occurring? ❑Yes X No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ❑Yes X No

If yes, what is the source and quality of discharge?

Notes: See inspection form.

Basin Criticality Rating

❑ **Low: Stormwater basin is maintained and functioning as designed.**

X **Medium: Stormwater basin requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

❑ **Severe: Stormwater basin requires significant sediment dredging and vegetation removal to mitigate ongoing flooding, waterway pollution, and infrastructure failure.**

Inspector's Signature: // Kyle Mehrens// **Date:** 10/1/2018

Basin Components	#	Inspection Items	Conditions	Results	Notes and Required Actions
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	X Yes ❑ No	Note: No reinforced access point Action: Establish maintenance access
	1.2	Debris and Pollution	Trash, sediment, and waste within and around the basin?	❑ Yes X No	Note: None Action: None
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	X Yes ❑ No	Note: Contains overgrown vegetation (images 1-4) Action: Remove overgrown vegetation
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	❑ Yes X No	Note: None Action: None
Inlet Pipe(s), Outlet Pipe, and Outlet Structure	2.1	Inlet Pipe(s)	Clogged or obstructed inlet pipe?	X Yes ❑ No	Note: Degraded inlet pipe (image 2) Action: Remove sediment and vegetation, expose pipe end
	2.2	Outlet Structure	Clogged or obstructed outlet structure?	❑ Yes X No	Note: None (image 4) Action: None
	2.3	Outlet Pipe	Clogged or obstructed outlet pipe?	❑ Yes X No	Note: None (image 5) Action: None
Basin Condition	3.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	❑ Yes X No	Note: None Action: None
	3.2	Storage Bay	Clogged or filled storage bay?	X Yes ❑ No	Note: Contains debris (image 3) Action: Dredge excess material, return to the original design
	3.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	❑ Yes X No	Note: None Action: None
	3.4	Flow Path	Clogged or obstructed flow path?	❑ Yes X No	Note: None Action: None
	3.5	Side Slopes	Barren or exposed surfaces on basin's side slopes and bottom?	❑ Yes X No	Note: None Action: None
Maintenance Plan	4.1	Maintenance Plan	Deficient inspection, maintenance, and reporting program in place?	X Yes ❑ No	Note: No plan, inspection forms, or evidence of work Action: Develop plan and budget, complete work

Image 1: Stormwater basin overview displaying overgrown vegetation (south view)

Image 2: Obstructed and clogged inlet pipe (north view)

Image 3: Stormwater basin overview showing overgrown vegetation (north view)

Image 4: Outlet structure overview (west view)

Image 5: Stormwater basin discharge pipe (north view)

BOZEMAN MT
Stormwater Division

Stormwater Basin Inspection Form

General Information	
Basin ID: 7 (City ID: DP.G09.00009)	**Basin Type:** Detention Basin
Basin Location: See attached map.	
Site Owner: Alder Creek Subdivision HOA	**Board Contact:** n/a
HOA Contact: Management Associates	**HOA Contact:** (406)586-6500, managementassocmt@gmail.com
Inspection Date: 10/1/2018	**Start/End Time:** 1:30 – 3:30
Inspector's Name: Kyle Mehrens	**Inspector's Title:** Stormwater Program Coordinator
Inspector's Contact Information: (406)582-2270, kmehrens@bozeman.net	
Type of Inspection: X Routine, Dry Weather ❑ Routine, Wet Weather ❑ Complaint Driven ❑ Other: _____	

Weather and Discharge Information

Weather at the time of this inspection:

X Clear ❑ Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snow ❑ High Winds

Temperature: 65

Is a stormwater discharge occurring? ❑Yes X No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ❑Yes X No

If yes, what is the source and quality of discharge?

Notes: See inspection form.

Basin Criticality Rating

❑ **Low: Stormwater basin is maintained and functioning as designed.**

X **Medium: Stormwater basin requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

❑ **Severe: Stormwater basin requires significant sediment dredging and vegetation removal to mitigate ongoing flooding, waterway pollution, and infrastructure failure.**

Inspector's Signature: // Kyle Mehrens// **Date:** 10/1/2018

Basin Components	#	Inspection Items	Conditions	Results	Notes and Required Actions
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	X Yes ❑ No	Note: No reinforced access point Action: Establish maintenance access
	1.2	Debris and Pollution	Trash, sediment, and waste within and around the basin?	❑ Yes X No	Note: None Action: None
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	X Yes ❑ No	Note: Contains overgrown vegetation (images 1-4) Action: Remove overgrown vegetation
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	❑ Yes X No	Note: None Action: None
Inlet Pipe(s), Outlet Pipe, and Outlet Structure	2.1	Inlet Pipe(s)	Clogged or obstructed inlet pipe?	X Yes ❑ No	Note: Degraded inlet pipe (image 2) Action: Remove sediment and vegetation, expose pipe end
	2.2	Outlet Structure	Clogged or obstructed outlet structure?	❑ Yes X No	Note: None (image 4) Action: None
	2.3	Outlet Pipe	Clogged or obstructed outlet pipe?	❑ Yes X No	Note: None (image 5) Action: None
Basin Condition	3.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	❑ Yes X No	Note: None Action: None
	3.2	Storage Bay	Clogged or filled storage bay?	X Yes ❑ No	Note: Contains debris (image 3) Action: Dredge excess material, return to the original design
	3.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	❑ Yes X No	Note: None Action: None
	3.4	Flow Path	Clogged or obstructed flow path?	❑ Yes X No	Note: None Action: None
	3.5	Side Slopes	Barren or exposed surfaces on basin's side slopes and bottom?	❑ Yes X No	Note: None Action: None
Maintenance Plan	4.1	Maintenance Plan	Deficient inspection, maintenance, and reporting program in place?	X Yes ❑ No	Note: No plan, inspection forms, or evidence of work Action: Develop plan and budget, complete work

Image 1: Stormwater basin overview displaying overgrown vegetation (south view)

Image 2: Obstructed and clogged inlet pipe (south view)

Image 3: Stormwater basin overview showing overgrown vegetation (east view)

Image 4: Outlet structure overview (north view)

Image 5: Stormwater basin discharge pipe (west view)

Attachment E

City of Bozeman Post-Construction Stormwater Facilities

Last Update - February 20, 2019

#	OBJECTID	Facility ID	Created Date	Owner	Facility Type	Latitude	Longitude	Receiving Waterway	Operative HOA or Owner	Last Inspection
1	1	DP.F10.00013	9/3/2014	Sundance Springs Subdivision Phase 1A	TBD	45.63832291410	-111.03943705000	TBD	TBD	TBD
2	2	DP.F10.00012	9/3/2014	Sundance Springs Subdivision Phase 1A	TBD	45.63883763630	-111.03956036700	TBD	TBD	TBD
3	3	DP.F10.00011	9/3/2014	Sundance Springs Subdivision Phase 2B	TBD	45.63852425010	-111.03400553600	TBD	TBD	TBD
4	4	DP.F10.00018	9/3/2014	Sundance Springs Subdivision Phase 2B	TBD	45.64176633430	-111.03708319400	TBD	TBD	TBD
5	5	DP.F10.00019	9/3/2014	Sundance Springs Subdivision Phase 2B	TBD	45.64193610410	-111.03560789600	TBD	TBD	TBD
6	6	DP.F10.00017	9/3/2014	Sundance Springs Subdivision Phase 2B	TBD	45.64022764250	-111.03644319500	TBD	TBD	TBD
7	7	DP.F09.00002	9/3/2014	West Meadow Subdivision Phase 1	TBD	45.64461147680	-111.03356176300	TBD	TBD	TBD
8	8	DP.F09.00003	9/3/2014	Minor Subdivision 294	TBD	45.64487664660	-111.03362364500	TBD	TBD	TBD
9	9	DP.F09.00004	9/3/2014	West Meadow Subdivision Phase 1	TBD	45.64492052270	-111.03378661300	TBD	TBD	TBD
10	10	DP.F09.00016	9/3/2014	West Meadow Subdivision Phase 3	TBD	45.64844800380	-111.03830180800	TBD	TBD	TBD
11	11	DP.F09.00027	9/3/2014	West Meadow Subdivision Phase 2	TBD	45.64472222090	-111.03845023700	TBD	TBD	TBD
12	12	DP.G09.00005	9/3/2014	Westfield South Subdivision Phase 1	TBD	45.64572164390	-111.04381992400	TBD	TBD	TBD
13	13	DP.G09.00007	9/3/2014	Alder Creek Subdivision Phase 2	Surface Detention	45.64809615590	-111.05089893700	Figgins Creek	Yes	2018
14	14	DP.G09.00008	9/3/2014	Alder Creek Subdivision Phase 2	Surface Detention	45.64855517990	-111.05043533200	Figgins Creek	Yes	2018
15	15	DP.G09.00009	9/3/2014	Alder Creek Subdivision Phase 3	Surface Detention	45.64694487000	-111.05146662600	Figgins Creek	Yes	2018
16	16	DP.G09.00010	9/3/2014	Alder Creek Subdivision Phase 2	Surface Detention	45.64859817830	-111.05101704600	Figgins Creek	Yes	2018
17	17	DP.G09.00019	9/3/2014	Alder Creek Subdivision Phase 2	Surface Detention	45.64846822210	-111.05074753800	Figgins Creek	Yes	2018
18	18	DP.G09.00006	9/3/2014	Alder Creek Subdivision Phase 3	Surface Detention	45.64809825950	-111.05126566700	Figgins Creek	Yes	2018
19	19	DP.H09.00004	9/3/2014	Alder Creek Subdivision Phase 4	Surface Retention	45.64852155940	-111.05707932700	None	Yes	2018
20	20	DP.H09.00005	9/3/2014	Alder Creek Subdivision Phase 3	Surface Detention	45.64772584400	-111.05261308700	Middle Creek Ditch	Yes	2018
21	21	DP.J09.00039	9/3/2014	Meadow Creek Subdivision Phase 1	TBD	45.64535572330	-111.07775679500	TBD	TBD	TBD
22	22	DP.F08.00022	9/3/2014	Spring Meadows Subdivision	TBD	45.65007621230	-111.03738479700	TBD	TBD	TBD
23	23	DP.F08.00023	9/3/2014	Spring Meadows Subdivision	TBD	45.65292241280	-111.03661942000	TBD	TBD	TBD
24	24	DP.F08.00024	9/3/2014	TBD	TBD	45.65449874870	-111.03714629200	TBD	TBD	TBD
25	25	DP.G08.00011	9/3/2014	Overbrook at Westridge	TBD	45.65622839640	-111.04451539900	TBD	TBD	TBD
26	26	DP.G08.00012	9/3/2014	Overbrook at Westridge	TBD	45.65641902540	-111.04403334600	TBD	TBD	TBD
27	27	DP.G08.00013	9/3/2014	Overbrook at Westridge	TBD	45.65619326250	-111.04399496600	TBD	TBD	TBD
28	28	DP.G08.00014	9/3/2014	Overbrook at Westridge	TBD	45.65642709390	-111.04370091900	TBD	TBD	TBD
29	29	DP.G08.00044	9/3/2014	City of Bozeman	TBD	45.65579708080	-111.04514998900	TBD	TBD	TBD
30	30	DP.G08.00004	9/3/2014	City of Bozeman	TBD	45.65591068350	-111.04484890600	TBD	TBD	TBD
31	31	DP.G08.00020	9/3/2014	TBD	TBD	45.65629443940	-111.04959270700	TBD	TBD	TBD
32	32	DP.I08.00011	9/3/2014	TBD	TBD	45.65612467500	-111.06553705900	TBD	TBD	TBD
33	33	DP.I08.00020	9/3/2014	Oracle	TBD	45.65416357000	-111.06848978700	TBD	TBD	TBD
34	34	DP.I08.00023	9/3/2014	Oracle	TBD	45.65464828420	-111.06904611900	TBD	TBD	TBD
35	35	DP.I08.00010	9/3/2014	Meadow Creek Subdivision Phase 1	TBD	45.65272510980	-111.06924988500	TBD	TBD	TBD
36	36	DP.I08.00009	9/3/2014	Meadow Creek Subdivision Phase 1	TBD	45.65058341230	-111.07017225200	TBD	TBD	TBD
37	37	DP.D07.00003	9/3/2014	TBD	TBD	45.66201478560	-111.01685548200	TBD	TBD	TBD
38	38	DP.G07.00046	9/3/2014	TBD	TBD	45.66057419490	-111.04346893800	TBD	TBD	TBD
39	39	DP.G07.00051	9/3/2014	Montana State University	TBD	45.66377413280	-111.04692261800	TBD	TBD	TBD

39	40	DP.C06.00004	9/3/2014	TBD	TBD	45.67092197360	-111.00814128300	TBD	TBD	TBD
40	41	DP.E06.00004	9/3/2014	TBD	TBD	45.66614292550	-111.02653025700	TBD	TBD	TBD
41	42	DP.E06.00003	9/3/2014	TBD	TBD	45.66655042990	-111.02613952600	TBD	TBD	TBD
42	43	DP.E06.00001	9/3/2014	TBD	TBD	45.66603814210	-111.02211126400	TBD	TBD	TBD
43	44	DP.E06.00011	9/3/2014	Bozeman Deaconess Health Services	TBD	45.66860373030	-111.02229642100	TBD	TBD	TBD
44	45	DP.H06.00023	9/3/2014	Montana State University	TBD	45.66886822040	-111.05360519900	TBD	TBD	TBD
45	46	DP.H06.00024	9/3/2014	Montana State University	TBD	45.66916585270	-111.05403918900	TBD	TBD	TBD
46	47	DP.H06.00028	9/3/2014	Montana State University	TBD	45.67024581600	-111.05319107500	TBD	TBD	TBD
47	48	DP.H06.00025	9/3/2014	Montana State University	TBD	45.67081542760	-111.05344998700	TBD	TBD	TBD
48	49	DP.H06.00027	9/3/2014	Montana State University	TBD	45.66714001250	-111.05631657400	TBD	TBD	TBD
49	50	DP.H06.00026	9/3/2014	Montana State University	TBD	45.66493715180	-111.05504342000	TBD	TBD	TBD
50	51	DP.I06.00016	9/3/2014	TBD	TBD	45.66872800890	-111.06484830700	TBD	TBD	TBD
51	52	DP.I06.00022	9/3/2014	TBD	TBD	45.66771909220	-111.07003985000	TBD	TBD	TBD
52	53	DP.I06.00040	9/3/2014	TBD	TBD	45.66911355770	-111.06472580500	TBD	TBD	TBD
53	54	DP.I06.00015	9/3/2014	TBD	TBD	45.66767341650	-111.06442690100	TBD	TBD	TBD
54	55	DP.I06.00039	9/3/2014	Advanced Technology Park Subdivision Phase 2	TBD	45.67064368940	-111.06473179000	TBD	TBD	TBD
55	56	DP.J06.00038	9/3/2014	TBD	TBD	45.66769206050	-111.08093003400	TBD	TBD	TBD
56	57	DP.J06.00043	9/3/2014	TBD	TBD	45.67037140180	-111.08034568400	TBD	TBD	TBD
57	58	DP.K06.00005	9/3/2014	TBD	TBD	45.67137851850	-111.08310285900	TBD	TBD	TBD
58	59	DP.K06.00041	9/3/2014	TBD	TBD	45.67073639270	-111.08371600100	TBD	TBD	TBD
59	60	DP.K06.00042	9/3/2014	TBD	TBD	45.66852333420	-111.08304591900	TBD	TBD	TBD
60	61	DP.M06.00003	9/3/2014	Loyal Garden Subdivision	Surface Detention	45.66987527620	-111.10590171200	Baxter Creek	Yes	2016
61	62	DP.M06.00004	9/3/2014	Loyal Garden Subdivision	Surface Detention	45.67032476010	-111.10665212800	Baxter Creek	Yes	2016
62	63	DP.M06.00005	9/3/2014	Loyal Garden Subdivision	Surface Detention	45.67069832050	-111.10852506700	Baxter Creek	Yes	2016
63	64	DP.M06.00006	9/3/2014	Loyal Garden Subdivision	Surface Detention	45.67072429490	-111.10935067800	Baxter Creek	Yes	2016
64	65	DP.M06.00007	9/3/2014	Loyal Garden Subdivision	Surface Detention	45.67090815650	-111.10594122000	Baxter Creek	Yes	2016
65	66	DP.M06.00001	9/3/2014	Loyal Garden Subdivision	Surface Detention	45.66753327100	-111.10515367500	Baxter Creek	Yes	2016
66	67	DP.M06.00002	9/3/2014	Loyal Garden Subdivision	Surface Detention	45.66831319980	-111.10544521300	Baxter Creek	Yes	2016
67	68	DP.B05.00002	9/3/2014	TBD	TBD	45.67245305540	-110.99691048900	TBD	TBD	TBD
68	69	DP.B05.00003	9/3/2014	TBD	TBD	45.67251853480	-110.99732504200	TBD	TBD	TBD
69	70	DP.B05.00001	9/3/2014	TBD	TBD	45.67263863630	-110.99831077600	TBD	TBD	TBD
70	71	DP.C05.00001	9/3/2014	TBD	TBD	45.67239734380	-111.01092853300	TBD	TBD	TBD
71	72	DP.C05.00002	9/3/2014	TBD	TBD	45.67264482070	-111.01076914500	TBD	TBD	TBD
72	73	DP.C05.00003	9/3/2014	TBD	TBD	45.67251727450	-111.01056418200	TBD	TBD	TBD
73	74	DP.E05.00015	9/3/2014	TBD	TBD	45.67796258030	-111.02700143100	TBD	TBD	TBD
74	75	DP.H05.00003	9/3/2014	Gallatin County	TBD	45.67462239480	-111.05854855200	TBD	TBD	TBD
75	76	DP.K05.00002	9/3/2014	TBD	TBD	45.67815107430	-111.08671632300	TBD	TBD	TBD
76	77	DP.K05.00003	9/3/2014	TBD	TBD	45.67816495580	-111.08583397500	TBD	TBD	TBD
77	78	DP.K05.00004	9/3/2014	TBD	TBD	45.67209559470	-111.08488533600	TBD	TBD	TBD
78	79	DP.K05.00005	9/3/2014	TBD	TBD	45.67292012600	-111.09316608800	TBD	TBD	TBD
79	80	DP.K05.00043	9/3/2014	TBD	TBD	45.67782140450	-111.08277770900	TBD	TBD	TBD
80	81	DP.L05.00001	9/3/2014	TBD	TBD	45.67465465710	-111.10260428700	TBD	TBD	TBD
81	82	DP.L05.00035	9/3/2014	TBD	TBD	45.67591581130	-111.09421254800	TBD	TBD	TBD
82	84	DP.L05.00017	9/3/2014	TBD	TBD	45.67500010310	-111.09937225500	TBD	TBD	TBD
83	85	DP.L05.00018	9/3/2014	TBD	TBD	45.67470604040	-111.09926179400	TBD	TBD	TBD
84	86	DP.L05.00019	9/3/2014	TBD	TBD	45.67509434060	-111.10267543500	TBD	TBD	TBD
85	87	DP.L05.00020	9/3/2014	TBD	TBD	45.67478194860	-111.10369514000	TBD	TBD	TBD

86	88	DP.L05.00021	9/3/2014	TBD	TBD	45.67388979030	-111.10317813300	TBD	TBD	TBD
87	89	DP.L05.00022	9/3/2014	TBD	TBD	45.67827114470	-111.10375702600	TBD	TBD	TBD
88	90	DP.L05.00033	9/3/2014	TBD	TBD	45.67533206340	-111.09595146800	TBD	TBD	TBD
89	91	DP.L05.00039	9/3/2014	TBD	TBD	45.67693286150	-111.09753929700	TBD	TBD	TBD
90	92	DP.L05.00038	9/3/2014	TBD	TBD	45.67712137800	-111.09726055300	TBD	TBD	TBD
91	93	DP.L05.00040	9/3/2014	TBD	TBD	45.67711491340	-111.09420611300	TBD	TBD	TBD
92	94	DP.L05.00037	9/3/2014	TBD	TBD	45.67819189910	-111.09769843900	TBD	TBD	TBD
93	95	DP.L05.00036	9/3/2014	TBD	TBD	45.67815477370	-111.09952942300	TBD	TBD	TBD
94	96	DP.L05.00041	9/3/2014	TBD	TBD	45.67830615120	-111.10019775100	TBD	TBD	TBD
95	97	DP.L05.00042	9/3/2014	TBD	TBD	45.67830843690	-111.09968417900	TBD	TBD	TBD
96	98	DP.L05.00015	9/3/2014	TBD	TBD	45.67657452060	-111.10359679600	TBD	TBD	TBD
97	99	DP.M05.00016	9/3/2014	TBD	TBD	45.67825326160	-111.10864644900	TBD	TBD	TBD
98	100	DP.M05.00020	9/3/2014	TBD	TBD	45.67813402510	-111.11315704500	TBD	TBD	TBD
99	101	DP.M05.00022	9/3/2014	TBD	TBD	45.67818070540	-111.10697488600	TBD	TBD	TBD
100	103	DP.M05.00023	9/3/2014	TBD	TBD	45.67665636810	-111.11345850500	TBD	TBD	TBD
101	104	DP.M05.00026	9/3/2014	TBD	TBD	45.67473028040	-111.10454030300	TBD	TBD	TBD
102	106	DP.M05.00008	9/3/2014	TBD	TBD	45.67282155090	-111.10657246600	TBD	TBD	TBD
103	107	DP.H04.00006	9/3/2014	TBD	TBD	45.68466866520	-111.05210433800	TBD	TBD	TBD
104	108	DP.I04.00031	9/3/2014	TBD	TBD	45.67961574710	-111.06976401700	TBD	TBD	TBD
105	109	DP.I04.00032	9/3/2014	TBD	TBD	45.68193515220	-111.06962555400	TBD	TBD	TBD
106	110	DP.I04.00035	9/3/2014	TBD	TBD	45.68203410130	-111.06813045400	TBD	TBD	TBD
107	111	DP.I04.00037	9/3/2014	TBD	TBD	45.68206379180	-111.06836562000	TBD	TBD	TBD
108	112	DP.I04.00033	9/3/2014	TBD	TBD	45.68021047980	-111.07047779200	TBD	TBD	TBD
109	113	DP.J04.00033	9/3/2014	TBD	TBD	45.68551371800	-111.07605235600	TBD	TBD	TBD
110	114	DP.J04.00034	9/3/2014	TBD	TBD	45.68548297220	-111.07560183900	TBD	TBD	TBD
111	115	DP.J04.00035	9/3/2014	TBD	TBD	45.68490128810	-111.07383513700	TBD	TBD	TBD
112	116	DP.J04.00049	9/3/2014	TBD	TBD	45.68191032220	-111.07519486900	TBD	TBD	TBD
113	117	DP.J04.00048	9/3/2014	TBD	TBD	45.68195088980	-111.07457077400	TBD	TBD	TBD
114	118	DP.J04.00047	9/3/2014	TBD	TBD	45.68193440950	-111.07339852800	TBD	TBD	TBD
115	119	DP.J04.00051	9/3/2014	TBD	TBD	45.68186391260	-111.08015659500	TBD	TBD	TBD
116	120	DP.J04.00050	9/3/2014	TBD	TBD	45.68190419220	-111.07757116600	TBD	TBD	TBD
117	121	DP.K04.00006	9/3/2014	TBD	TBD	45.68171751160	-111.09311064700	TBD	TBD	TBD
118	122	DP.K04.00007	9/3/2014	TBD	TBD	45.68377403220	-111.09306325800	TBD	TBD	TBD
119	123	DP.K04.00008	9/3/2014	TBD	TBD	45.68543558300	-111.09303166700	TBD	TBD	TBD
120	124	DP.K04.00006	9/3/2014	TBD	TBD	45.67942849710	-111.09325600800	TBD	TBD	TBD
121	125	DP.K04.00019	9/3/2014	TBD	TBD	45.68541059440	-111.08293182900	TBD	TBD	TBD
122	126	DP.K04.00044	9/3/2014	TBD	TBD	45.68494672330	-111.08726960100	TBD	TBD	TBD
123	127	DP.K04.00045	9/3/2014	TBD	TBD	45.68413276500	-111.08737955500	TBD	TBD	TBD
124	128	DP.L04.00002	9/3/2014	TBD	TBD	45.68447822510	-111.10335407800	TBD	TBD	TBD
125	129	DP.L04.00003	9/3/2014	TBD	TBD	45.67963595140	-111.09811852100	TBD	TBD	TBD
126	130	DP.L04.00004	9/3/2014	TBD	TBD	45.67964989250	-111.09856687000	TBD	TBD	TBD
127	131	DP.L04.00005	9/3/2014	TBD	TBD	45.68110606360	-111.09876479700	TBD	TBD	TBD
128	132	DP.L04.00006	9/3/2014	TBD	TBD	45.68293814430	-111.09472910700	TBD	TBD	TBD
129	133	DP.L04.00008	9/3/2014	TBD	TBD	45.68313340050	-111.09853963800	TBD	TBD	TBD
130	134	DP.L04.00007	9/3/2014	TBD	TBD	45.68293340220	-111.09412832800	TBD	TBD	TBD
131	135	DP.L04.00009	9/3/2014	TBD	TBD	45.68557040450	-111.09434370200	TBD	TBD	TBD
132	136	DP.L04.00010	9/3/2014	TBD	TBD	45.68558746840	-111.09564645500	TBD	TBD	TBD

133	137	DP.L04.00011	9/3/2014	TBD	TBD	45.68558897360	-111.10293376400	TBD	TBD	TBD
134	138	DP.L04.00013	9/3/2014	TBD	TBD	45.68163995260	-111.10344081400	TBD	TBD	TBD
135	139	DP.L04.00014	9/3/2014	TBD	TBD	45.68163265840	-111.10285894100	TBD	TBD	TBD
136	140	DP.L04.00029	9/3/2014	TBD	TBD	45.68552088420	-111.09644545600	TBD	TBD	TBD
137	141	DP.L04.00030	9/3/2014	TBD	TBD	45.68558298310	-111.09725103300	TBD	TBD	TBD
138	142	DP.L04.00031	9/3/2014	TBD	TBD	45.68559289540	-111.10040340100	TBD	TBD	TBD
139	143	DP.L04.00032	9/3/2014	TBD	TBD	45.68559526660	-111.10098319200	TBD	TBD	TBD
140	144	DP.M04.00018	9/3/2014	TBD	TBD	45.68419195900	-111.10832658800	TBD	TBD	TBD
141	145	DP.M04.00021	9/3/2014	TBD	TBD	45.68385414520	-111.10730059900	TBD	TBD	TBD
142	146	DP.G03.00001	9/3/2014	Kmart	TBD	45.69259320250	-111.04396008900	TBD	TBD	TBD
143	147	DP.G03.00045	9/3/2014	TBD	TBD	45.68643495310	-111.04417644700	TBD	TBD	TBD
144	148	DP.H03.00012	9/3/2014	TBD	TBD	45.69029497850	-111.05648738400	TBD	TBD	TBD
145	149	DP.H03.00013	9/3/2014	TBD	TBD	45.69213633690	-111.05707817100	TBD	TBD	TBD
146	150	DP.H03.00014	9/3/2014	TBD	TBD	45.69205316460	-111.05672838700	TBD	TBD	TBD
147	151	DP.H03.00015	9/3/2014	TBD	TBD	45.69204895300	-111.05516912400	TBD	TBD	TBD
148	152	DP.H03.00016	9/3/2014	TBD	TBD	45.69283257180	-111.05720564300	TBD	TBD	TBD
149	153	DP.H03.00017	9/3/2014	TBD	TBD	45.69276992110	-111.05482637500	TBD	TBD	TBD
150	154	DP.K03.00013	9/3/2014	TBD	TBD	45.68815893780	-111.09019766400	TBD	TBD	TBD
151	155	DP.K03.00047	9/3/2014	TBD	TBD	45.69031414000	-111.08969022500	TBD	TBD	TBD
152	156	DP.K03.00015	9/3/2014	TBD	TBD	45.69262427180	-111.09110277900	TBD	TBD	TBD
153	157	DP.K03.00016	9/3/2014	TBD	TBD	45.69259166570	-111.09032957000	TBD	TBD	TBD
154	158	DP.K03.00018	9/3/2014	TBD	TBD	45.69320371970	-111.08522191500	TBD	TBD	TBD
155	159	DP.K03.00007	9/3/2014	TBD	TBD	45.68601493490	-111.09035451500	TBD	TBD	TBD
156	160	DP.K03.00008	9/3/2014	TBD	TBD	45.68727026790	-111.09043748700	TBD	TBD	TBD
157	161	DP.K03.00009	9/3/2014	TBD	TBD	45.68871106340	-111.09029539800	TBD	TBD	TBD
158	162	DP.K03.00010	9/3/2014	TBD	TBD	45.68905944020	-111.09022696600	TBD	TBD	TBD
159	163	DP.K03.00011	9/3/2014	TBD	TBD	45.68917975580	-111.08997575200	TBD	TBD	TBD
160	164	DP.K03.00012	9/3/2014	TBD	TBD	45.68957945000	-111.08990211100	TBD	TBD	TBD
161	165	DP.K03.00014	9/3/2014	TBD	TBD	45.69076952370	-111.08999024200	TBD	TBD	TBD
162	166	DP.K03.00028	9/3/2014	TBD	TBD	45.68923748000	-111.08552356900	TBD	TBD	TBD
163	167	DP.K03.00046	9/3/2014	TBD	TBD	45.69043551050	-111.08990905300	TBD	TBD	TBD
164	168	DP.L03.00012	9/3/2014	TBD	TBD	45.68722872540	-111.09705362800	TBD	TBD	TBD
165	169	DP.M03.00010	9/3/2014	TBD	TBD	45.68776011310	-111.10702298000	TBD	TBD	TBD
166	170	DP.M03.00012	9/3/2014	TBD	TBD	45.69015954570	-111.11341521900	TBD	TBD	TBD
167	171	DP.M03.00013	9/3/2014	TBD	TBD	45.68944854290	-111.10797041900	TBD	TBD	TBD
168	172	DP.M03.00015	9/3/2014	TBD	TBD	45.69080581240	-111.10883113800	TBD	TBD	TBD
169	173	DP.M03.00014	9/3/2014	TBD	TBD	45.69064430380	-111.10829759700	TBD	TBD	TBD
170	174	DP.M03.00011	9/3/2014	TBD	TBD	45.68719841050	-111.10618948100	TBD	TBD	TBD
171	175	DP.M03.00027	9/3/2014	TBD	TBD	45.68593096390	-111.10922422700	TBD	TBD	TBD
172	176	DP.M03.00029	9/3/2014	TBD	TBD	45.69257550990	-111.11289618500	TBD	TBD	TBD
173	177	DP.M03.00030	9/3/2014	TBD	TBD	45.68900386290	-111.10590972200	TBD	TBD	TBD
174	179	DP.N03.00001	9/3/2014	TBD	TBD	45.68591524540	-111.11828538100	TBD	TBD	TBD
175	180	DP.N03.00002	9/3/2014	TBD	TBD	45.68737500150	-111.11885181400	TBD	TBD	TBD
176	181	DP.N03.00004	9/3/2014	TBD	TBD	45.69250324790	-111.11538997100	TBD	TBD	TBD
177	182	DP.N03.00005	9/3/2014	TBD	TBD	45.68845846910	-111.11911660200	TBD	TBD	TBD
178	183	DP.E02.00006	9/3/2014	TBD	TBD	45.69976732050	-111.02983425300	TBD	TBD	TBD
179	184	DP.G02.00018	9/3/2014	TBD	TBD	45.69626734310	-111.05071791600	TBD	TBD	TBD

180	185	DP.G02.00016	9/3/2014	TBD	TBD	45.69748026110	-111.05147972500	TBD	TBD	TBD
181	186	DP.G02.00021	9/3/2014	TBD	TBD	45.69725202710	-111.04363353000	TBD	TBD	TBD
182	187	DP.G02.00023	9/3/2014	TBD	TBD	45.69733543490	-111.04390984000	TBD	TBD	TBD
183	188	DP.G02.00003	9/3/2014	Wal-Mart	TBD	45.69569932000	-111.04246805100	TBD	TBD	TBD
184	189	DP.G02.00017	9/3/2014	TBD	TBD	45.69615128800	-111.05115600800	TBD	TBD	TBD
185	190	DP.G02.00047	9/3/2014	TBD	TBD	45.69316050690	-111.04922155600	TBD	TBD	TBD
186	191	DP.G02.00048	9/3/2014	TBD	TBD	45.69500939530	-111.04930568400	TBD	TBD	TBD
187	192	DP.G02.00049	9/3/2014	TBD	TBD	45.69519922780	-111.04932894700	TBD	TBD	TBD
188	193	DP.H02.00001	9/3/2014	Kenyon Noble	TBD	45.69501762650	-111.05227300200	TBD	TBD	TBD
189	194	DP.H02.00002	9/3/2014	TBD	TBD	45.69512997480	-111.05808461500	TBD	TBD	TBD
190	195	DP.H02.00007	9/3/2014	Lowe's Home Improvement	TBD	45.69953071500	-111.05758787700	TBD	TBD	TBD
191	196	DP.H02.00008	9/3/2014	TBD	TBD	45.69618171280	-111.05657100700	TBD	TBD	TBD
192	197	DP.H02.00009	9/3/2014	TBD	TBD	45.69719045800	-111.05609326400	TBD	TBD	TBD
193	198	DP.H02.00010	9/3/2014	TBD	TBD	45.69497602740	-111.05709132700	TBD	TBD	TBD
194	199	DP.I02.00041	9/3/2014	TBD	TBD	45.69610716990	-111.06631163700	TBD	TBD	TBD
195	200	DP.I02.00060	9/3/2014	TBD	TBD	45.69392858580	-111.06552825300	TBD	TBD	TBD
196	201	DP.I02.00061	9/3/2014	TBD	TBD	45.69379528350	-111.06688346100	TBD	TBD	TBD
197	202	DP.I02.00067	9/3/2014	TBD	TBD	45.69651253700	-111.06778926400	TBD	TBD	TBD
198	203	DP.I02.00068	9/3/2014	TBD	TBD	45.69677943550	-111.06803109800	TBD	TBD	TBD
199	204	DP.I02.00043	9/3/2014	TBD	TBD	45.69995802320	-111.07035146400	TBD	TBD	TBD
200	205	DP.I02.00071	9/3/2014	Home Depot	TBD	45.69976600430	-111.06571193300	TBD	TBD	TBD
201	206	DP.I02.00042	9/3/2014	Home Depot	TBD	45.69693965210	-111.06620623900	TBD	TBD	TBD
202	207	DP.J02.00006	9/3/2014	TBD	TBD	45.69647977120	-111.07650658400	TBD	TBD	TBD
203	208	DP.J02.00021	9/3/2014	TBD	TBD	45.69799757480	-111.07683941000	TBD	TBD	TBD
204	209	DP.J02.00020	9/3/2014	TBD	TBD	45.69547985740	-111.07697891600	TBD	TBD	TBD
205	210	DP.J02.00020	9/3/2014	TBD	TBD	45.69992446950	-111.07555074000	TBD	TBD	TBD
206	211	DP.J02.00029	9/3/2014	TBD	TBD	45.70009681150	-111.07412818500	TBD	TBD	TBD
207	212	DP.J02.00046	9/3/2014	TBD	TBD	45.69996464580	-111.07902952900	TBD	TBD	TBD
208	214	DP.K02.00021	9/3/2014	TBD	TBD	45.70002607980	-111.08674933500	TBD	TBD	TBD
209	215	DP.K02.00023	9/3/2014	TBD	TBD	45.69907011860	-111.08792398800	TBD	TBD	TBD
210	216	DP.K02.00025	9/3/2014	TBD	TBD	45.69990603330	-111.09283348400	TBD	TBD	TBD
211	217	DP.K02.00026	9/3/2014	TBD	TBD	45.69528388100	-111.08427633500	TBD	TBD	TBD
212	218	DP.K02.00027	9/3/2014	TBD	TBD	45.69571288840	-111.08416656400	TBD	TBD	TBD
213	219	DP.K02.00022	9/3/2014	TBD	TBD	45.69989255870	-111.08878432800	TBD	TBD	TBD
214	220	DP.K02.00024	9/3/2014	TBD	TBD	45.69995922330	-111.09248812800	TBD	TBD	TBD
215	221	DP.K02.00038	9/3/2014	TBD	TBD	45.69999367380	-111.08309033000	TBD	TBD	TBD
216	222	DP.C01.00005	9/3/2014	TBD	TBD	45.70505383230	-111.00426390800	TBD	TBD	TBD
217	223	DP.C01.00006	9/3/2014	TBD	TBD	45.70576708920	-111.00392913600	TBD	TBD	TBD
218	224	DP.D01.00004	9/3/2014	Legends at Bridger Creek II Subdivision	Surface Retention	45.70448052480	-111.01555065600	None	Yes	2018
219	225	DP.D01.00005	9/3/2014	Legends at Bridger Creek Subdivision	Surface Retention	45.70557841620	-111.01993269500	None	Yes	2018
220	227	DP.F01.00026	9/3/2014	TBD	TBD	45.70381178940	-111.03129648200	TBD	TBD	TBD
221	228	DP.I01.00044	9/3/2014	TBD	TBD	45.70178932170	-111.06813289800	TBD	TBD	TBD
222	229	DP.I01.00062	9/3/2014	Gallatin Center Subdivision Phase 4	TBD	45.70735574010	-111.06859172900	TBD	TBD	TBD
223	230	DP.I01.00063	9/3/2014	Gallatin Center Subdivision Phase 4	TBD	45.70726409980	-111.06945563100	TBD	TBD	TBD
224	231	DP.J01.00009	9/3/2014	TBD	TBD	45.70176720370	-111.07613167700	TBD	TBD	TBD
225	232	DP.J01.00010	9/3/2014	TBD	TBD	45.70048863220	-111.07598816000	TBD	TBD	TBD
226	233	DP.J01.00052	9/3/2014	TBD	TBD	45.70220326990	-111.07609578500	TBD	TBD	TBD

227	234	DP.E00.00009	9/3/2014	Bridger Creek Subdivision	Surface Detention	45.70762684530	-111.02568769300	East Gallatin River	Yes	2017
228	235	DP.G00.00022	9/3/2014	TBD	TBD	45.70846956300	-111.04215720500	TBD	TBD	TBD
229	236	DP.I00.00064	9/3/2014	Gallatin Center Subdivision Phase 4	TBD	45.70834190370	-111.06859728400	TBD	TBD	TBD
230	237	DP.I00.00069	9/3/2014	TBD	TBD	45.71066177820	-111.06853635900	TBD	TBD	TBD
231	238	DP.I00.00070	9/3/2014	Target	TBD	45.71195403090	-111.06947185300	TBD	TBD	TBD
232	239	DP.I00.00078	9/3/2014	Bozeman Ford	TBD	45.70985314040	-111.06292200900	TBD	TBD	TBD
233	240	DP.I00.00079	9/3/2014	TBD	TBD	45.71372807870	-111.06627818000	TBD	TBD	TBD
234	242	DP.J00.00011	9/3/2014	Cattail Creek Phase 2A and 2B	Surface Detention	45.70893594090	-111.07809735000	Cattail Creek	Yes	2016
235	243	DP.J00.00012	9/3/2014	Cattail Creek Phase 2A and 2B	Surface Detention	45.70991135980	-111.07839693900	Cattail Creek	Yes	2016
236	244	DP.J00.00013	9/3/2014	Cattail Creek Phase 1	Surface Detention	45.71049738790	-111.07746870800	Cattail Creek	Yes	2016
237	245	DP.J00.00014	9/3/2014	Cattail Creek Phase 1	Surface Detention	45.71226652590	-111.07757999400	Cattail Creek	Yes	2016
238	246	DP.J00.00015	9/3/2014	Cattail Creek Phase 2A and 2B	Surface Detention	45.71229898070	-111.07853761800	Cattail Creek	Yes	2016
239	247	DP.J00.00016	9/3/2014	Cattail Creek Phase 3	TBD	45.71422809180	-111.07805908000	Cattail Creek	Yes	2016
240	248	DP.J00.00024	9/3/2014	TBD	TBD	45.70959014870	-111.07192599300	TBD	TBD	TBD
241	249	DP.J00.00025	9/3/2014	TBD	TBD	45.71198809880	-111.07199440300	TBD	TBD	TBD
242	250	DP.K50.00018	9/3/2014	TBD	TBD	45.71738298750	-111.08225076000	TBD	TBD	TBD
243	251	DP.K50.00040	9/3/2014	TBD	TBD	45.71903088500	-111.08223337000	TBD	TBD	TBD
244	252	DP.I51.00073	9/3/2014	TBD	TBD	45.72515794030	-111.07102319300	TBD	TBD	TBD
245	253	DP.I51.00074	9/3/2014	TBD	TBD	45.72420802260	-111.06930122300	TBD	TBD	TBD
246	254	DP.I51.00075	9/3/2014	TBD	TBD	45.72415316420	-111.06793663100	TBD	TBD	TBD
247	255	DP.I51.00076	9/3/2014	TBD	TBD	45.72398405330	-111.06701773400	TBD	TBD	TBD
248	256	DP.F07.00014	9/3/2014	TBD	TBD	45.66017358640	-111.03956630400	TBD	TBD	TBD
249	257	DP.F07.00021	9/3/2014	TBD	TBD	45.65975183260	-111.04125459600	TBD	TBD	TBD
250	258	DP.L01.00023	9/3/2014	Baxter Meadows Phase 3A	TBD	45.70274622260	-111.09855420400	TBD	TBD	TBD
251	259	DP.L01.00024	9/3/2014	Baxter Meadows Phase 3A	TBD	45.70139445280	-111.09899330100	TBD	TBD	TBD
252	260	DP.L01.00025	9/3/2014	Baxter Meadows Phase 1	TBD	45.70527811830	-111.09642547700	TBD	TBD	TBD
253	261	DP.L01.00026	9/3/2014	Baxter Meadows Phase 1	TBD	45.70450556730	-111.09517686400	TBD	TBD	TBD
254	262	DP.L01.00027	9/3/2014	Baxter Meadows Phase 1	TBD	45.70528081860	-111.09948342300	TBD	TBD	TBD
255	263	DP.L01.00028	9/3/2014	Baxter Meadows Phase 3A	TBD	45.70043583260	-111.09818364400	TBD	TBD	TBD
256	264	DP.L01.00034	9/3/2014	Baxter Meadows Phase 1	TBD	45.70328750250	-111.10306060900	TBD	TBD	TBD
257	265	DP.I07.00012	9/3/2014	TBD	TBD	45.66240287290	-111.06567060200	TBD	TBD	TBD
258	266	DP.I07.00013	9/3/2014	TBD	TBD	45.66288401440	-111.06565979200	TBD	TBD	TBD
259	267	DP.I07.00014	9/3/2014	TBD	TBD	45.66298842430	-111.06544574800	TBD	TBD	TBD
260	268	DP.I07.00034	9/3/2014	TBD	TBD	45.66117790960	-111.06404560700	TBD	TBD	TBD
261	269	DP.D05.00030	9/3/2014	TBD	TBD	45.67168763050	-111.01587520200	TBD	TBD	TBD
262	270	DP.J50.00028	9/3/2014	TBD	TBD	45.71592668320	-111.07363231400	TBD	TBD	TBD
263	271	DP.J50.00027	9/3/2014	TBD	TBD	45.71610063120	-111.07416547200	TBD	TBD	TBD
264	272	DP.J50.00026	9/3/2014	TBD	TBD	45.71759957450	-111.07358521800	TBD	TBD	TBD
265	273	DP.E07.00002	9/3/2014	TBD	TBD	45.66295116770	-111.02624493800	TBD	TBD	TBD
266	274	DP.E07.00010	9/3/2014	TBD	TBD	45.65886971290	-111.02675675900	TBD	TBD	TBD
267	275	DP.G01.00002	9/3/2014	TBD	TBD	45.70169395860	-111.04358140500	TBD	TBD	TBD
268	276	DP.G01.00015	9/3/2014	TBD	TBD	45.70325400970	-111.04382416000	TBD	TBD	TBD
269	277	DP.G01.00050	9/3/2014	TBD	TBD	45.70727166810	-111.04343513100	TBD	TBD	TBD
270	278	DP.I05.00038	9/3/2014	TBD	TBD	45.67574576710	-111.06909904500	TBD	TBD	TBD
271	279	DP.I05.00036	9/3/2014	TBD	TBD	45.67764112670	-111.06239743200	TBD	TBD	TBD
272	280	DP.J05.00031	9/3/2014	TBD	TBD	45.67806187120	-111.07646405100	TBD	TBD	TBD
273	281	DP.J05.00036	9/3/2014	TBD	TBD	45.67679206190	-111.07662977700	TBD	TBD	TBD

274	282	DP.J05.00037	9/3/2014	TBD	TBD	45.67587724010	-111.07713983700	TBD	TBD	TBD
275	283	DP.J05.00042	9/3/2014	TBD	TBD	45.67822299140	-111.08197566200	TBD	TBD	TBD
276	284	DP.D04.00002	9/3/2014	TBD	TBD	45.68311758100	-111.01989978400	TBD	TBD	TBD
277	285	DP.E04.00005	9/3/2014	TBD	TBD	45.68076654130	-111.02458038500	TBD	TBD	TBD
278	286	DP.K01.00029	9/3/2014	Baxter Meadows Phase 1	TBD	45.70711336320	-111.09341138400	TBD	TBD	TBD
279	287	DP.K01.00030	9/3/2014	TBD	TBD	45.70573553780	-111.08554764200	TBD	TBD	TBD
280	289	DP.K01.00032	9/3/2014	Baxter Meadows Phase 2C and 2D	TBD	45.70375045140	-111.08958801500	TBD	TBD	TBD
281	290	DP.K01.00033	9/3/2014	Baxter Meadows Phase 2C and 2D	TBD	45.70418792500	-111.08910608600	TBD	TBD	TBD
282	291	DP.K01.00034	9/3/2014	TBD	TBD	45.70446365330	-111.08959353300	TBD	TBD	TBD
283	292	DP.K01.00035	9/3/2014	Baxter Meadows Phase 2A	TBD	45.70265995880	-111.08939219400	TBD	TBD	TBD
284	293	DP.K01.00036	9/3/2014	Baxter Meadows Phase 2A	TBD	45.70307510730	-111.08952299600	TBD	TBD	TBD
285	294	DP.K01.00037	9/3/2014	Baxter Meadows Phase 1	TBD	45.70132591180	-111.08931943200	TBD	TBD	TBD
286	295	DP.K01.00049	9/3/2014	TBD	TBD	45.70660532260	-111.09030558400	TBD	TBD	TBD
287	296	DP.K01.00050	9/3/2014	TBD	TBD	45.70715147630	-111.09039062600	TBD	TBD	TBD
288	297	DP.H07.00018	9/3/2014	TBD	TBD	45.66004145320	-111.05595816000	TBD	TBD	TBD
289	298	DP.H07.00019	9/3/2014	TBD	TBD	45.65963887760	-111.05474027300	TBD	TBD	TBD
290	299	DP.H07.00020	9/3/2014	TBD	TBD	45.65958515150	-111.05367129600	TBD	TBD	TBD
291	300	DP.H07.00021	9/3/2014	TBD	TBD	45.66003759350	-111.05365977200	TBD	TBD	TBD
292	301	DP.J03.00002	9/3/2014	Harvest Creek Subdivision	Surface Detention	45.69069312640	-111.07863495000	Cattail Creek	Yes	2016
293	302	DP.J03.00003	9/3/2014	Harvest Creek Subdivision	Surface Detention	45.69273320730	-111.07810387100	Cattail Creek	Yes	2016
294	303	DP.J03.00004	9/3/2014	Harvest Creek Subdivision	Surface Detention	45.69242613970	-111.07658073100	Cattail Creek	Yes	2016
295	304	DP.J03.00008	9/3/2014	Harvest Creek Subdivision	Surface Detention	45.69245817170	-111.07623645800	Cattail Creek	Yes	2016
296	305	DP.J03.00023	9/3/2014	Harvest Creek Subdivision	Surface Detention	45.68922381420	-111.07544317000	Cattail Creek	Yes	2016
297	306	DP.J03.00030	9/3/2014	Harvest Creek Subdivision	Surface Detention	45.68887156680	-111.07529482100	Cattail Creek	Yes	2016
298	307	DP.J03.00032	9/3/2014	Harvest Creek Subdivision	Surface Detention	45.69116280430	-111.07554410200	Cattail Creek	Yes	2016
299	308	DP.J03.00040	9/3/2014	Harvest Creek Subdivision	Surface Detention	45.68780642280	-111.07463045300	Cattail Creek	Yes	2016
300	309	DP.J03.00041	9/3/2014	Harvest Creek Subdivision	Surface Detention	45.68725735490	-111.07465029600	Cattail Creek	Yes	2016
301	310	DP.J03.00001	9/3/2014	Harvest Creek Subdivision	Surface Detention	45.69272273980	-111.08076223900	Cattail Creek	Yes	2016
302	311	DP.I03.00026	9/3/2014	TBD	TBD	45.68864962920	-111.06773649800	TBD	TBD	TBD
303	312	DP.I03.00027	9/3/2014	TBD	TBD	45.69100259230	-111.06831380900	TBD	TBD	TBD
304	313	DP.I03.00028	9/3/2014	TBD	TBD	45.69105813880	-111.07096860300	TBD	TBD	TBD
305	314	DP.I03.00029	9/3/2014	TBD	TBD	45.68671655930	-111.06353799800	TBD	TBD	TBD
306	315	DP.I03.00045	9/3/2014	TBD	TBD	45.69124812670	-111.06416988200	TBD	TBD	TBD
307	316	DP.I03.00046	9/3/2014	TBD	TBD	45.69097065430	-111.06415624500	TBD	TBD	TBD
308	317	DP.I03.00047	9/3/2014	TBD	TBD	45.69076695240	-111.06411148800	TBD	TBD	TBD
309	318	DP.I03.00048	9/3/2014	TBD	TBD	45.69053588810	-111.06406004700	TBD	TBD	TBD
310	319	DP.I03.00049	9/3/2014	TBD	TBD	45.69022263430	-111.06397401200	TBD	TBD	TBD
311	320	DP.I03.00050	9/3/2014	TBD	TBD	45.68949845860	-111.06393851300	TBD	TBD	TBD
312	321	DP.I03.00051	9/3/2014	TBD	TBD	45.68941688230	-111.06364940800	TBD	TBD	TBD
313	322	DP.I03.00052	9/3/2014	TBD	TBD	45.68892987960	-111.06369686800	TBD	TBD	TBD
314	323	DP.I03.00053	9/3/2014	TBD	TBD	45.68848338610	-111.06370818700	TBD	TBD	TBD
315	324	DP.I03.00055	9/3/2014	TBD	TBD	45.68855710830	-111.06390479100	TBD	TBD	TBD
316	325	DP.I03.00056	9/3/2014	TBD	TBD	45.68804472780	-111.06388092600	TBD	TBD	TBD
317	326	DP.I03.00057	9/3/2014	TBD	TBD	45.69193035090	-111.06487113100	TBD	TBD	TBD
318	327	DP.I03.00058	9/3/2014	TBD	TBD	45.69260597630	-111.06454452700	TBD	TBD	TBD
319	328	DP.I03.00059	9/3/2014	TBD	TBD	45.69269586100	-111.06474877000	TBD	TBD	TBD
320	329	DP.I03.00065	9/3/2014	TBD	TBD	45.69227950580	-111.06438653600	TBD	TBD	TBD

321	330	DP.I03.00054	9/3/2014	TBD	TBD	45.68860289830	-111.06377595200	TBD	TBD	TBD
322	331	DP.F04.00025	9/3/2014	TBD	TBD	45.67873978530	-111.03284190600	TBD	TBD	TBD
323	332	DP.I09.00001	9/3/2014	TBD	TBD	45.64319902410	-111.07063749300	TBD	TBD	TBD
324	333	DP.I09.00002	9/3/2014	TBD	TBD	45.64311831520	-111.06448567200	TBD	TBD	TBD
325	334	DP.I09.00003	9/3/2014	TBD	TBD	45.64480373130	-111.06796889400	TBD	TBD	TBD
326	335	DP.I09.00004	9/3/2014	TBD	TBD	45.64542114980	-111.06865222800	TBD	TBD	TBD
327	336	DP.I09.00005	9/3/2014	TBD	TBD	45.64577693660	-111.06872871000	TBD	TBD	TBD
328	337	DP.I09.00006	9/3/2014	TBD	TBD	45.64732962470	-111.06965949000	TBD	TBD	TBD
329	338	DP.I09.00019	9/3/2014	TBD	TBD	45.64661274340	-111.06409833500	TBD	TBD	TBD
330	339	DP.I09.00024	9/3/2014	TBD	TBD	45.64775983920	-111.06997015600	TBD	TBD	TBD
331	341	DP.I09.00018	9/3/2014	TBD	TBD	45.64520074400	-111.06385083100	TBD	TBD	TBD
332	342	DP.I09.00025	9/3/2014	TBD	TBD	45.64738806330	-111.06430397900	TBD	TBD	TBD
333	343	DP.I09.00007	9/3/2014	TBD	TBD	45.64740072180	-111.06862466100	TBD	TBD	TBD
334	344	DP.I09.00021	9/3/2014	TBD	TBD	45.64898662920	-111.06469412200	TBD	TBD	TBD
335	345	DP.I09.00077	9/3/2014	TBD	TBD	45.64914041750	-111.06314416900	TBD	TBD	TBD
336	346	DP.M04.00009	9/3/2014	TBD	TBD	45.67898384540	-111.11358681200	TBD	TBD	TBD
337	347	DP.F02.00001	9/3/2014	Wal-Mart	TBD	45.69433934250	-111.04094059500	TBD	TBD	TBD
338	348	DP.L03.00017	9/3/2014	TBD	TBD	45.69259768340	-111.09372084800	TBD	TBD	TBD
339	349	DP.J00.00017	9/3/2014	Cattail Creek Phase 3	Surface Detention	45.71434567760	-111.07870091300	Cattail Creek	TBD	2016
340	350	DP.J50.00019	9/3/2014	TBD	TBD	45.71762181650	-111.08169911000	TBD	TBD	TBD
341	351	DP.I10.00045	9/3/2014	TBD	TBD	45.64225604360	-111.06468436800	TBD	TBD	TBD
342	352	DP.I08.00008	9/3/2014	Meadow Creek Subdivision Phase 1	TBD	45.64968636950	-111.07033016700	TBD	TBD	TBD
343	353	DP.I02.00066	9/3/2014	TBD	TBD	45.69340538900	-111.06773427700	TBD	TBD	TBD
344	354	DP.E01.00007	9/3/2014	Bridger Creek Subdivision	Surface Detention	45.70619534970	-111.03074299300	Unnamed Tributary	Yes	2017
345	355	DP.J02.00048	9/3/2014	Private	TBD	45.69997531440	-111.08130951200	TBD	TBD	TBD
346	356	DP.J02.00005	9/3/2014	TBD	TBD	45.69323429600	-111.07685347500	TBD	TBD	TBD
347	357	DP.K05.00048	9/3/2014	TBD	TBD	45.67207168000	-111.08233762000	TBD	TBD	TBD
348	358	DP.H01.00022	9/3/2014	TBD	TBD	45.70094618600	-111.06178176900	TBD	TBD	TBD
349	359	DP.D05.00001	9/3/2014	Bozeman Deaconess Health Services	TBD	45.67135508770	-111.01797878900	TBD	TBD	TBD
350	361	DP.I50.00080	9/3/2014	TBD	TBD	45.71476079940	-111.06687753300	TBD	TBD	TBD
351	362	DP.H06.00400	9/3/2014	Montana State University	TBD	45.66780924360	-111.05342349000	TBD	TBD	TBD
352	363	DP.H05.00401	9/3/2014	Gallatin County	TBD	45.67462740440	-111.05968717700	TBD	TBD	TBD
353	365	DP.H03.00403	9/3/2014	TBD	TBD	45.69275010980	-111.05263348500	TBD	TBD	TBD
354	366	DP.J00.00404	9/3/2014	TBD	TBD	45.71245565660	-111.07624440400	TBD	TBD	TBD
355	367	DP.J05.00405	9/3/2014	TBD	TBD	45.67682220780	-111.07685938100	TBD	TBD	TBD
356	368	DP.I02.00406	9/3/2014	Bozeman Chamber of Commerce	TBD	45.69970424170	-111.06458697100	TBD	TBD	TBD
357	369	DP.I04.00407	9/3/2014	TBD	TBD	45.68045101530	-111.06201337700	TBD	TBD	TBD
358	370	DP.F01.00100	9/3/2014	Northwestern Energy	TBD	45.70311358150	-111.03555256100	TBD	TBD	TBD
359	371	DP.K01.00051	10/1/2015	Four Points Subdivision	TBD	45.70634122140	-111.08987740600	TBD	TBD	TBD
360	372	DP.I09.00010	10/15/2015	TBD	TBD	45.64686299560	-111.07169855000	TBD	TBD	TBD
361	373	DP.I09.00009	10/15/2015	TBD	TBD	45.64524784250	-111.07190135500	TBD	TBD	TBD
362	374	DP.I09.00008	10/15/2015	TBD	TBD	45.64373761420	-111.07195876500	TBD	TBD	TBD
363	772	DP.K03.00048	10/19/2015	TBD	TBD	45.68749751030	-111.08564607200	TBD	TBD	TBD
364	773	DP.J01.00011	10/19/2015	TBD	TBD	45.70378262560	-111.07483495400	TBD	TBD	TBD
365	1172	DP.L05.00002	10/19/2015	Lupine Village	TBD	45.67825700280	-111.09555503500	TBD	TBD	TBD
366	1173	DP.L05.00003	10/19/2015	Lupine Village	TBD	45.67826529060	-111.09476115300	TBD	TBD	TBD
367	1174	DP.L05.00004	10/19/2015	Lupine Village	TBD	45.67819724180	-111.09737260300	TBD	TBD	TBD

368	1572	DP.N05.00001	10/20/2015	TBD	TBD	45.67870191250	-111.11854968700	TBD	TBD	TBD
369	1573	DP.M05.00001	10/20/2015	TBD	TBD	45.67619262910	-111.11403743100	TBD	TBD	TBD
370	1574	DP.M05.00002	10/20/2015	TBD	TBD	45.67858398520	-111.11462005500	TBD	TBD	TBD
371	1972	DP.G08.00010	10/21/2015	TBD	TBD	45.65028548180	-111.04976744300	TBD	TBD	TBD
372	2372	DP.L01.00001	10/26/2015	TBD	TBD	45.70561676430	-111.09953780300	TBD	TBD	TBD
373	2373	DP.L01.00002	10/26/2015	TBD	TBD	45.70482954530	-111.09953363400	TBD	TBD	TBD
374	2374	DP.L01.00003	10/26/2015	TBD	TBD	45.70401695860	-111.09943994100	TBD	TBD	TBD
375	2772	DP.K02.00020	10/28/2015	TBD	TBD	45.69831334100	-111.08669684200	TBD	TBD	TBD
376	3173	DP.I51.00077	12/21/2015	TBD	TBD	45.72380860120	-111.06851590700	TBD	TBD	TBD
377	3174	DP.I51.00078	12/21/2015	TBD	TBD	45.72354196580	-111.06739809200	TBD	TBD	TBD
378	3572	DP.L03.00018	3/22/2016	TBD	TBD	45.69006419860	-111.09664151200	TBD	TBD	TBD
379	3573	DP.E04.00006	4/12/2016	TBD	TBD	45.68015429550	-111.02495201200	TBD	TBD	TBD
380	3973	DP.J03.00042	5/23/2016	TBD	TBD	45.68739599930	-111.07437744100	TBD	TBD	TBD
381	3974	DP.J03.00042	5/23/2016	TBD	TBD	45.68627707590	-111.07453206700	TBD	TBD	TBD
382	3975	DP.G02.00024	6/1/2016	TBD	TBD	45.69984479960	-111.04377299500	TBD	TBD	TBD
383	3976	DP.M06.00008	6/1/2016	Loyal Garden Subdivision	Surface Detention	45.66998412040	-111.10818973300	Baxter Creek	Yes	2016
384	3977	DP.M06.00009	6/1/2016	Loyal Garden Subdivision	Surface Detention	45.67064304240	-111.10818024900	Baxter Creek	Yes	2016
385	3978	DP.M06.00010	6/1/2016	Loyal Garden Subdivision	Surface Detention	45.67067764070	-111.10713670100	Baxter Creek	Yes	2016
386	3979	DP.M06.00011	6/1/2016	Loyal Garden Subdivision	Surface Detention	45.67009170300	-111.10682397100	Baxter Creek	Yes	2016
387	4375	DP.I51.00079	6/2/2016	TBD	TBD	45.72153271780	-111.06526156300	TBD	TBD	TBD
388	4376	DP.H07.00022	6/10/2016	TBD	TBD	45.65802287800	-111.05667530300	TBD	TBD	TBD
389	4377	DP.H07.00023	6/10/2016	TBD	TBD	45.65710786220	-111.05728976700	TBD	TBD	TBD
390	4776	DP.H07.00024	6/16/2016	TBD	TBD	45.66135002360	-111.05344044500	TBD	TBD	TBD
391	4777	DP.M04.00010	6/17/2016	TBD	TBD	45.68561426000	-111.10603252200	TBD	TBD	TBD
392	4778	DP.L04.00014	6/17/2016	TBD	TBD	45.68550131050	-111.10416436200	TBD	TBD	TBD
393	4779	DP.M04.00010	6/17/2016	TBD	TBD	45.68554980500	-111.11125541900	TBD	TBD	TBD
394	4780	DP.M05.00027	6/17/2016	TBD	TBD	45.67442744290	-111.10447744300	TBD	TBD	TBD
395	5177	DP.J06.00044	6/29/2016	TBD	TBD	45.67080436010	-111.07519484600	TBD	TBD	TBD
396	5178	DP.E15.00001	7/1/2016	TBD	TBD	45.59956957360	-111.02621976700	TBD	TBD	TBD
397	5179	DP.I07.00015	8/5/2016	TBD	TBD	45.66207761780	-111.06701543800	TBD	TBD	TBD
398	5180	DP.I07.00016	8/5/2016	TBD	TBD	45.66207660850	-111.06676221400	TBD	TBD	TBD
399	5181	DP.I07.00017	8/5/2016	TBD	TBD	45.66170327450	-111.06674985200	TBD	TBD	TBD
400	5182	DP.I07.00018	8/5/2016	TBD	TBD	45.66152228360	-111.06742431900	TBD	TBD	TBD
401	5183	DP.I07.00019	8/5/2016	TBD	TBD	45.66169198970	-111.06733742900	TBD	TBD	TBD
402	5184	DP.J04.00052	9/7/2016	TBD	TBD	45.68553866730	-111.08059496200	TBD	TBD	TBD
403	5185	DP.M03.00034	10/18/2016	TBD	TBD	45.69273135270	-111.10450972600	TBD	TBD	TBD
404	5186	DP.M03.00033	10/18/2016	TBD	TBD	45.69273034480	-111.10560585100	TBD	TBD	TBD
405	5187	DP.L03.00019	10/19/2016	TBD	TBD	45.69159730100	-111.09545780100	TBD	TBD	TBD
406	5188	DP.M03.00031	10/19/2016	TBD	TBD	45.69244802320	-111.10871876700	TBD	TBD	TBD
407	5587	DP.J04.00053	10/24/2016	TBD	TBD	45.68485245710	-111.07912135400	TBD	TBD	TBD
408	5987	DP.N03.00006	11/14/2016	TBD	TBD	45.68906704820	-111.11891787100	TBD	TBD	TBD
409	5988	DP.N03.00007	11/14/2016	TBD	TBD	45.69188662040	-111.11584550300	TBD	TBD	TBD
410	6387	DP.N03.00008	11/14/2016	TBD	TBD	45.68782936200	-111.11798867400	TBD	TBD	TBD
411	6388	DP.H03.00020	11/29/2016	TBD	TBD	45.69259112070	-111.05385541200	TBD	TBD	TBD
412	6389	DP.E03.00002	12/2/2016	City of Bozeman	TBD	45.68948159030	-111.02782023700	TBD	TBD	TBD
413	6390	DP.D05.00003	12/15/2016	TBD	TBD	45.67200695090	-111.01232376900	TBD	TBD	TBD
414	6391	DP.G10.00001	12/15/2016	TBD	TBD	45.63868997800	-111.04602950500	TBD	TBD	TBD

415	6392	DP.H03.00018	12/15/2016	TBD	TBD	45.69275176620	-111.05430489400	TBD	TBD	TBD
416	6393	DP.H03.00019	12/15/2016	TBD	TBD	45.69275145300	-111.05315733800	TBD	TBD	TBD
417	6394	DP.I05.00039	12/15/2016	TBD	TBD	45.67713792050	-111.06678743100	TBD	TBD	TBD
418	6790	DP.J02.00030	2/9/2017	City of Bozeman	Surface Detention	45.69645057990	-111.07212987300	Unnamed Tributary	TBD	TBD
419	7190	DP.K02.00039	4/12/2017	Crossing 2 at Baxter Meadows Subdivision	Surface Detention	45.69792936670	-111.08700083500	Unnamed Tributary	TBD	TBD
420	7191	DP.I02.00050	4/12/2017	City of Bozeman	Surface Detention	45.69650395050	-111.07032542800	Unnamed Tributary	TBD	TBD
421	7591	DP.F00.00002	4/20/2017	Bridger Creek Subdivision	Surface Detention	45.71375419020	-111.03208489400	East Gallatin River	Yes	2017
422	7592	DP.F00.00003	4/20/2017	Bridger Creek Subdivision	Surface Detention	45.71357155050	-111.03123238600	East Gallatin River	Yes	2017
423	7593	DP.F50.00005	4/20/2017	Bridger Creek Subdivision	Surface Detention	45.71459418240	-111.03436937300	East Gallatin River	Yes	2017
424	7594	DP.F00.00004	4/20/2017	Bridger Creek Subdivision	Surface Detention	45.71412756320	-111.03509551500	East Gallatin River	Yes	2017
425	7595	DP.F00.00005	4/20/2017	Bridger Creek Subdivision	Surface Detention	45.71235420160	-111.03567329900	East Gallatin River	Yes	2017
426	7991	DP.F00.00006	4/21/2017	Bridger Creek Subdivision	Surface Detention	45.71389669840	-111.03288516600	East Gallatin River	Yes	2017
427	8391	DP.H01.00024	5/24/2017	Spring Hill Suites	Surface Detention	45.70078796820	-111.05738817900	Farmers Canal	TBD	TBD
428	8791	DP.F02.00003	5/30/2017	Cannery District	Surface Retention	45.69408577720	-111.03506598800	None	TBD	TBD
429	9191	DP.I09.00030	6/6/2017	Southbridge Subdivision	Surface Detention	45.64313193710	-111.06387475100	Catron Creek	TBD	TBD
430	9592	DP.K03.00050	10/23/2017	City of Bozeman	Surface Detention	45.69260823300	-111.08241430500	Unnamed Tributary	TBD	TBD
431	9593	DP.K03.00051	10/23/2017	City of Bozeman	Surface Detention	45.69322016820	-111.08405541200	Unnamed Tributary	TBD	TBD
432	9992	DP.E50.00001	12/7/2017	City of Bozeman	Surface Detention	45.71532417180	-111.03043959300	East Gallatin River	TBD	TBD
433	9993	DP.F50.00008	12/7/2017	City of Bozeman	Surface Retention	45.71741090970	-111.03289193800	None	TBD	TBD
434	9995	DP.E50.00003	12/7/2017	City of Bozeman	Surface Detention	45.71804985120	-111.02579913400	East Gallatin River	TBD	TBD
435	10392	DP.D01.00006	2/12/2018	Legends at Bridger Creek Subdivision	Underground Retention	45.70575511110	-111.02080201300	None	Yes	2018
436	10393	DP.D01.00007	2/12/2018	Legends at Bridger Creek Subdivision	Underground Retention	45.70680084420	-111.02072110000	None	Yes	2018
437	10394	DP.D01.00008	2/12/2018	Legends at Bridger Creek Subdivision	Underground Retention	45.70711694400	-111.02046663200	None	Yes	2018
438	10395	DP.D01.00009	2/12/2018	Legends at Bridger Creek Subdivision	Underground Retention	45.70711210730	-111.01935174900	None	Yes	2018
439	10396	DP.D01.00010	2/12/2018	Legends at Bridger Creek Subdivision	Underground Retention	45.70591622520	-111.01969903000	None	Yes	2018
440	10792	DP.D01.00012	5/30/2018	Legends at Bridger Creek II Subdivision	Underground Retention	45.70623105210	-111.01588756000	None	Yes	2018
441	11192	DP.L02.00001	6/12/2018	Flanders Mill Subdivision	Surface Detention	45.69988180270	-111.09488287600	West Gallatin Canal	TBD	TBD
442	11193	DP.L02.00002	6/12/2018	Flanders Mill Subdivision	Surface Detention	45.69989563600	-111.09638901400	West Gallatin Canal	TBD	TBD
443	11194	DP.L02.00003	6/12/2018	Flanders Mill Subdivision	Surface Detention	45.69696699270	-111.09567613600	Unnamed Tributary	TBD	TBD
444	11195	DP.L02.00004	6/12/2018	Flanders Mill Subdivision	Surface Detention	45.69898286600	-111.09797682500	Maynard Border Ditch	TBD	TBD
445	11196	DP.L02.00005	6/12/2018	Flanders Mill Subdivision	Surface Detention	45.69835818380	-111.09529360400	Unnamed Tributary	TBD	TBD
446	11197	DP.I03.00066	6/18/2018	Castle Bar Apartments	Underground Detention	45.69282667060	-111.07155848000	Catron Creek	TBD	TBD
447	11198	DP.I03.00067	6/18/2018	Castle Bar Apartments	Surface Detention	45.69282955830	-111.07116474500	Catron Creek	TBD	TBD
448	11199	DP.I01.00064	8/9/2018	Opportunity Subdivision	Surface Detention	45.70686048830	-111.06938065400	Catron Creek	TBD	TBD
449	11200	DP.K02.00041	8/9/2018	Flanders Mill Subdivision	Surface Detention	45.69990092030	-111.09353334400	West Gallatin Canal	TBD	TBD
450	11201	DP.K03.00053	8/9/2018	Gallatin County	Surface Detention	45.69324090830	-111.09297831700	West Gallatin Canal	TBD	TBD
451	11202	DP.M03.00035	8/9/2018	Westbrook Subdivision	Surface Detention	45.68894311900	-111.11003739300	Baxter Creek	TBD	TBD
452	11203	DP.M03.00037	8/9/2018	Westbrook Subdivision	Surface Detention	45.68840152300	-111.11074221800	Baxter Creek	TBD	TBD
453	11204	DP.M03.00039	8/9/2018	City of Bozeman	Surface Detention	45.69257579400	-111.11231012100	Baxter Creek	TBD	TBD
454	11599	DP.G08.00046	8/28/2018	Allison Subdivision	Surface Detention	45.65335348980	-111.05164193300	Middle Creek Ditch	TBD	TBD
455	11600	DP.H08.00002	8/28/2018	Allison Subdivision	Surface Detention	45.64987758480	-111.05720381300	Middle Creek Ditch	TBD	TBD
456	11601	DP.G08.00047	8/28/2018	Allison Subdivision	Surface Detention	45.64980481520	-111.05087505200	Figgins Creek	TBD	TBD
457	11999	DP.G09.00020	10/1/2018	Sacajawea Middle School	Surface Detention	45.64458696620	-111.04983703900	Middle Creek Ditch	TBD	TBD
458	12000	DP.G09.00021	10/1/2018	Sacajawea Middle School	Surface Retention	45.64247075110	-111.04757219500	None	TBD	TBD
459	12399	DP.E05.00016	10/2/2018	548 E. Babcock Site Plan (16-478)	Surface Detention	45.67825794700	-111.02922074800	Bozeman Creek	TBD	TBD
460	12400	DP.E05.00017	10/2/2018	Wallace and Babcock Site Plan (17-263)	Underground Detention	45.67808114400	-111.02908340600	Bozeman Creek	TBD	TBD
461	12401	DP.B06.00001	10/2/2018	Osterman Commercial Condos (18-167)	Surface Detention	45.67095666120	-110.99591310100	Unnamed Ditch	TBD	TBD

462	12402	DP.B05.00004	10/2/2018	Osterman Commercial Condos (18-167)	Underground Detention	45.67138622290	-110.99631465100	Unnamed Ditch	TBD	TBD
463	12403	DP.H03.00021	10/2/2018	Walton Homestead Subdivision	Surface Detention	45.69059941930	-111.05531442900	Farmers Canal	TBD	TBD
464	12404	DP.H03.00022	10/2/2018	Walton Homestead Subdivision	Surface Detention	45.69060462990	-111.05602185800	Farmers Canal	TBD	TBD
465	12405	DP.G02.00050	10/2/2018	Mcchesney Work-Live (17-115)	Surface Detention	45.69881490910	-111.04425556400	Manly Ditch	TBD	TBD
466	12406	DP.H03.00023	10/2/2018	Site 17 Site Plan (18-194)	Surface Detention	45.68934987070	-111.06108980200	Farmers Canal	TBD	TBD
467	12407	DP.H03.00024	10/2/2018	Site 17 Site Plan (18-194)	Underground Detention	45.68942659970	-111.06109873100	Farmers Canal	TBD	TBD
468	12408	DP.H03.00025	10/2/2018	Site 17 Site Plan (18-194)	Underground Detention	45.68935449960	-111.06116408700	Farmers Canal	TBD	TBD
469	12409	DP.F02.00004	10/2/2018	Cannery District	Surface Detention	45.69315995040	-111.03599539900	None	TBD	TBD
470	12410	DP.M03.00040	10/3/2018	Flanders Crossing	Surface Detention	45.69165169980	-111.10614602300	Unnamed Ditch	TBD	TBD
471	12411	DP.M03.00041	10/3/2018	Flanders Crossing	Surface Detention	45.69163629720	-111.10523509700	Unnamed Ditch	TBD	TBD
472	12412	DP.I03.00068	10/3/2018	Hubley Phillips and Williams Office Building	Surface Detention	45.69189080420	-111.06430131000	Catron Creek	TBD	TBD
473	12413	DP.I00.00080	10/8/2018	Costco	Surface Detention	45.71448902670	-111.07127009400	Catron Creek	TBD	TBD
474	12414	DP.J00.00027	10/8/2018	Costco	Surface Detention	45.71428521590	-111.07153109000	Catron Creek	TBD	TBD
475	12813	DP.H04.00007	10/10/2018	Safeway	Surface Detention	45.67960169690	-111.06180505600	Farmers Canal	TBD	TBD
476	12814	DP.H04.00008	10/10/2018	Safeway	Surface Detention	45.67992328150	-111.06199588900	Farmers Canal	TBD	TBD
477	12815	DP.L05.00043	10/12/2018	Ferguson Farm Subdivision	Surface Detention	45.67445235860	-111.10023883600	Maynard Border Ditch	TBD	TBD
478	12816	DP.E01.00008	10/12/2018	Archer Construction	Surface Detention	45.70070238600	-111.03071853500	East Gallatin River	TBD	TBD
479	13215	DP.I02.00073	11/16/2018	Bozeman West Apartments	Surface Detention	45.69833427930	-111.06910087200	Unnamed Ditch	TBD	TBD
480	13216	DP.I02.00074	11/16/2018	Bozeman West Apartments	Surface Detention	45.69833622210	-111.06973742600	Unnamed Ditch	TBD	TBD
481	13217	DP.J01.00053	11/30/2018	27 North Condominiums	Underground Retention	45.70214557540	-111.07291989000	None	TBD	TBD
482	13218	DP.J01.00054	11/30/2018	27 North Condominiums	Underground Retention	45.70214064310	-111.07335347800	None	TBD	TBD
483	13219	DP.I05.00040	12/5/2018	TBD - Private Multi-Family Residence	Surface Detention	45.67213217220	-111.06728752600	Farmers Canal	TBD	TBD
484	13220	DP.I05.00041	12/5/2018	TBD - Private Multi-Family Residence	Surface Detention	45.67179050630	-111.06733306700	Farmers Canal	TBD	TBD
485	13221	DP.I05.00042	12/5/2018	TBD - Private Multi-Family Residence	Surface Detention	45.67154390190	-111.06728589900	Farmers Canal	TBD	TBD
486	13222	DP.I06.00041	12/5/2018	TBD - Private Multi-Family Residence	Surface Detention	45.67133334560	-111.06731781400	Farmers Canal	TBD	TBD
487	13223	DP.I06.00042	12/5/2018	TBD - Private Multi-Family Residence	Surface Detention	45.67131704650	-111.06697974200	Farmers Canal	TBD	TBD
488	13224	DP.I05.00044	12/6/2018	TBD - Private Multi-Family Residence	Surface Detention	45.67153514860	-111.06703457000	Farmers Canal	TBD	TBD
489	13225	DP.I05.00045	12/6/2018	TBD - Private Multi-Family Residence	Underground Detention	45.67214412710	-111.06690865300	Farmers Canal	TBD	TBD
490	13226	DP.I06.00043	12/6/2018	TBD - Private Multi-Family Residence	Surface Detention	45.67145312390	-111.06690804600	Farmers Canal	TBD	TBD
491	13227	DP.G01.00051	12/6/2018	Spratt Office Building	Surface Detention	45.70536831970	-111.04287704900	Manly Ditch	TBD	TBD
492	13228	DP.M05.00028	12/6/2018	Billion Auto Center	Surface Detention	45.67393691960	-111.10672076700	Baxter Creek	TBD	TBD
493	13229	DP.J00.00035	12/6/2018	Creekside Apartments	Underground Detention	45.71450320180	-111.07232973600	Catron Creek	TBD	TBD
494	13230	DP.I05.00046	12/6/2018	TBD - Private Multi-Family Residence	Surface Detention	45.67607733980	-111.06327235700	Farmers Canal	TBD	TBD
495	13231	DP.I05.00047	12/6/2018	TBD - Private Multi-Family Residence	Surface Detention	45.67607583760	-111.06304486500	Farmers Canal	TBD	TBD
496	13232	DP.I05.00048	12/6/2018	TBD - Private Multi-Family Residence	Surface Detention	45.67608566190	-111.06284173300	Farmers Canal	TBD	TBD
497	13233	TBD	1/9/2019	Baxter Square Subdivision	Underground Retention	45.70378570420	-111.07560129500	None	TBD	TBD

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