

# MS4 and Stormwater Management in the Mat-Su Borough

## Stakeholder Meeting #3 Summary

**Date:** July 25, 2022; 11:30am-1pm

**Attendees:** Attendance List Attached

**Reporter:** Michelle Fehribach, Huddle AK

**Location:** Virtual via Microsoft Teams

**Project:** Mat-Su Borough MS4 Coordination

**Subject:** Stakeholder Meeting #3 Summary

### Summary

The Stakeholder Meeting #3 for MS4 and Stormwater Management in the Matanuska-Susitna Borough (MSB) met virtually on Monday, July 25, 2022, from 11:30am-1pm using Microsoft Teams. The purpose of this meeting was to convene stakeholders from governmental agencies and other partners who will likely be required to obtain an MS4 permit from the Alaska Department of Environmental Conservation (ADEC) if the MSB is classified as an Urbanized Area by the US Census Bureau, sometime later in 2022.

Stakeholder members met to review the purpose and need of the MS4 permit, to learn about the minimum control measures required; monitoring, evaluation, reporting, and record keeping; and standard permit conditions.

Please see the attached presentation, agenda, and handouts for details about the information covered.

### Overview of the Meeting Presentation

1. **Welcome + Introductions**
2. **Quick Review of the Project Purpose**
  - a. Background
    - i. 2020 Census population count triggers an Urbanized Area designation
    - ii. US Census Bureau determines the extent of the Urbanized Area
    - iii. Triggers MS4 permit from ADEC
      1. Approval to discharge stormwater into “waters of the US”
  - b. Responsible Parties
    - i. MSB, City of Wasilla, City of Palmer, DOT&PF
  - c. Purpose and need
    - i. Learn about MS4 process and requirements
  - d. Role of this stakeholder group
    - i. Provide input for how impacted agencies want to work together to structure the permit
  - e. Updated Stakeholder Meetings Plan
    - i. August 29: Existing Building Blocks

- ii. September 26: Management Details
- iii. October 31: Wrap Up

### 3. Technical Discussion

#### a. Permit Breakdown Part 2

- i. Fairbanks Permit expected to be very similar to future MSB permit and was used as baseline example: <https://ak-fairbanksnorthstarborough.civicplus.com/DocumentCenter/View/795/APDES-Permit-Number-AKS-053406-PDF>

#### ii. Minimum Control Measures 4 through 6

##### 1. *Construction Site Stormwater Runoff Control*

- a. Reduce runoff of pollutants associated with construction activities, e.g. sediment from disturbed soils, fluids from fleet maintenance or wash water, concrete additives, etc. associated with construction
  - i. In accordance with the Construction General Permit (CGP), which is sometimes called the Stormwater Pollution Prevention Plan (SWPPP)
  - ii. Permit names operators of large and small construction activities that disturb one acre or more.
  - iii. Stipulates what contractors need to do to minimize potential pollutants running off of construction sites
- b. MS4 permittees need to make sure that the CGP is being followed
- c. Permittee must develop an ordinance requiring contractors to follow the CGP requirements, including what happens if they do not comply
- d. Publish and distribute requirements for construction site operators to implement appropriate erosion and sediment control Best Management Practices (BMPs)
- e. Plan review process
  - i. Establish a process to review all submitted site plans
- f. Example Documents:
  - i. Anchorage Stormwater Manual example: [https://www.muni.org/Departments/project\\_management/Documents/ASM\\_Volume2\\_Final\\_December2017.pdf](https://www.muni.org/Departments/project_management/Documents/ASM_Volume2_Final_December2017.pdf)
    - 1. Covers construction submittal requirements and how to put together a SWPPP
    - 2. Specific BMPs referenced towards the end of the document
    - 3. Everything in one document
  - ii. Fairbanks Construction Site example: <https://www.fairbanksalaska.us/sites/default/files/filea>

[ttachments/engineering/page/941/construction-site-storm-water-regulations.pdf](#)

1. How to put SWPPP together and what's required
  2. Plan review requirements
  3. No individual cut sheets: It is open-ended and allows contractors to reference other BMPs
- iii. Wainwright example:  
[https://www.usace.army.mil/Portals/2/docs/Sustainability/Hydrology\\_LID/Army\\_LID\\_Technical\\_User\\_Guide\\_January2013.pdf](https://www.usace.army.mil/Portals/2/docs/Sustainability/Hydrology_LID/Army_LID_Technical_User_Guide_January2013.pdf)
1. Adopted an existing Army manual; didn't create a new one
  2. BMPs are listed in this document
  3. Local ordinance requiring it and reference manual for how they're meeting the guidance document requirements
- g. Site visits during construction to confirm compliance
- i. Fairbanks does inspections at least once per year
    1. Inspection procedures are discussed in their Stormwater Management Plan:  
[https://www.fairbanksalaska.us/sites/default/files/fileattachments/engineering/page/911/fairbanks-northpole\\_swmp\\_final\\_021519.pdf](https://www.fairbanksalaska.us/sites/default/files/fileattachments/engineering/page/911/fairbanks-northpole_swmp_final_021519.pdf)
    2. Close inspection of each BMP
    3. Secondary review of SWPPP (SWPPP must be maintained on site)
    4. List any corrective actions needed on a checklist
  - h. Need to do a biennial training for construction, design, and engineering audiences related to the construction ordinance and BMPs
  - i. Must document for Annual Report
2. *Post-Construction Stormwater Management in New & Redevelopment*
- a. Minimize pollutants after construction and for the life of that project; indefinitely into the future
  - b. For projects that disturb an acre or more, permittees have to stipulate how developers are going to minimize pollutants from impervious surfaces
  - c. Implement an ordinance of what developers need to do and put together guidance documents for long-term stormwater management
  - d. Make sure stormwater management facilities are maintained and will stay functional.

- i. Developers need to have a long-term maintenance plan
- e. Biennial training component for design and construction audiences.
- f. Plan review process requirement
- g. Implement a strategy to incentivize for the increased use of Green Infrastructure/Low Impact Development (LID) techniques
- h. Example Documents
  - i. Anchorage stormwater Manual, Volume 1:
    - [https://www.muni.org/Departments/project\\_management/Documents/ASM\\_Volume1\\_Final\\_December2017.pdf](https://www.muni.org/Departments/project_management/Documents/ASM_Volume1_Final_December2017.pdf)
    - 1. Plan review requirements and design guidance in this document: tells contractors what to do and how to do it
  - ii. Fairbanks Post Construction Stormwater management:
    - <https://www.fairbanksalaska.us/sites/default/files/fileattachments/engineering/page/951/post-construction-storm-water-regulations.pdf>
    - 1. Design criteria related to stormwater treatment
    - 2. Permanent BMPs
    - 3. The Fairbanks MS4 permit isn't prescriptive, it doesn't stipulate how the permittees need to do this component. Permittees decide.
    - 4. Design guidance provided in separate documents
      - a. Green Infrastructure Manual:
        - [https://static1.squarespace.com/static/52f44323e4b0b19928bc21f3/t/54b55fce4b0eb4154243948/1421172686319/GI\\_Manual\\_January+2015.pdf](https://static1.squarespace.com/static/52f44323e4b0b19928bc21f3/t/54b55fce4b0eb4154243948/1421172686319/GI_Manual_January+2015.pdf)
        - i. More residential or smaller-scale projects
      - b. Green Streets Plan:
        - [https://fastplanning.us/wp-content/uploads/2019/07/fast\\_planning\\_greenstreetsplan\\_6-18-19.pdf](https://fastplanning.us/wp-content/uploads/2019/07/fast_planning_greenstreetsplan_6-18-19.pdf)
        - i. Transportation projects
        - ii. Specific design guidance and criteria
  - iii. Wainwright LID User Guide:
    - [https://www.usace.army.mil/Portals/2/docs/Sustainability/Hydrology\\_LID/Army\\_LID\\_Technical\\_User\\_Guide\\_January2013.pdf](https://www.usace.army.mil/Portals/2/docs/Sustainability/Hydrology_LID/Army_LID_Technical_User_Guide_January2013.pdf)
    - 1. Adopted existing manual

- iv. Borough has an existing Subdivision Construction Manual that already includes permanent stormwater treatment requirements
    - v. Anchorage and Fairbanks have programs to help residential homeowners fund installations of LID and green infrastructure facilities
  - i. Fairbanks had a requirement in previous MS4 permit to evaluate green infrastructure over the long-term with pilot projects
    - i. Use pilot project evaluations to improve future installations
  - j. Snow Disposal Sites: map public and private disposal sites that are discharging into the MS4
    - i. Evaluate if the sites need additional steps to protect from stormwater runoff pollution
    - ii. Not usually in the first permit cycle; later permits
  - k. Documentation required for the Annual Report
- 3. *Pollution Prevention and Good Housekeeping for Municipal Activities*
  - a. Specific to municipal operations
  - b. Looking internal to permittee operations
  - c. Minimize pollutants being transported into receiving waters from municipal activities
  - d. Requirements vary based on types of municipal activities
    - i. Fairbanks activities in its MS4 permit: park and open space maintenance, fleet and building maintenance, new construction and land disturbances, snow water system maintenance, and snow disposal site operation and maintenance
    - ii. Fairbanks Stormwater Management Plan: [https://www.fairbanksalaska.us/sites/default/files/fileattachments/engineering/page/911/fairbanks-northpole\\_swmp\\_final\\_021519.pdf](https://www.fairbanksalaska.us/sites/default/files/fileattachments/engineering/page/911/fairbanks-northpole_swmp_final_021519.pdf)
      - 1. How to track and minimize pollutants
      - 2. Winter: snow removal and street sanding
      - 3. Summer: street sweeping is a preventative measure
  - e. Employee training component
    - i. Anchorage: internal trainings, specific topics and groups
    - ii. Fairbanks: training DVDs
  - f. Documentation required for the Annual Report
- iii. *Monitoring, Evaluation, Reporting, and Record Keeping*
  - 1. *Monitoring Program Plan*

- a. Taking samples and identifying sources of pollutants
- b. Identify a few outfalls that the permittee is going to monitor for specific pollutants of concern
- c. Tells what type of sample, frequency, how it's being measured, and potentially sample location
- d. Fairbanks Quality Assurance Program Plan: See attachment
- e. Anchorage Quality Assurance Plan
  - i. More complicated because the Anchorage MS4 permit is more complicated
  - ii. Training requirements, where the sampling is, what is being sampled, and quality control processes
- f. Twice a year requirement

2. *Evaluation of Overall Program Effectiveness*

- a. Have to assess if conditions of the permit are working/reducing pollutants
- b. Swap something out if it's not working

3. *Annual Reports*

- a. Deadlines are outlined in the permit
- b. Outlines what is required for the Annual report
- c. Wainwright example:
  - [https://home.army.mil/alaska/application/files/2416/4634/3670/2021\\_FWA\\_MS4\\_Annual\\_Report\\_Detailed.pdf](https://home.army.mil/alaska/application/files/2416/4634/3670/2021_FWA_MS4_Annual_Report_Detailed.pdf)
  - i. Follows the permit table of contents
  - ii. Says what the permittees did to meet the permit requirements
  - iii. Annual Report Form is appended to the report
- d. Anchorage example:
  - <http://anchoragestormwater.com/Documents/2021AnnualReport/2021APDESAnnualReport.pdf>
  - i. Talks about control measures and what Anchorage did to meet the requirements of the permit
  - ii. List of appendices
  - iii. More in-depth than likely what will be required for MSB

4. *Record Keeping*

- a. Keep all records for at least 5 years, in case ADEC wants to review

iv. *Standard Permit Conditions*

- 1. Legalities and details associated with the MS4 permit
- 2. What are the penalties for non-compliance?
  - a. State can pursue civil and criminal actions concurrently
  - b. Says what ADEC can do

- c. ADEC wants to correct any violations, first and foremost
- b. Permit Summary:
  - i. Graphic of Primary MS4 Permit Components (page 8 of presentation)
  - ii. Summary is not all-inclusive, but does cover the main portions of the permit discussed at Meetings 2 and 3.

**Group Questions and Discussion**

Attendees were able to ask questions or provide comments verbally or using the chat function. Below is a table of the questions and comments from attendees during the meeting. Answers provided by attendees are noted with their name and agency in parentheses.

Agency Representative	Question/Comment	Answer
Erik Norberg, DOT&PF	You mentioned Caltrans as a construction manual reference document. If you pull BMPs from that document, it's worth noting to review the whole thing because California and Alaska require different environmental permits.	Thank you for providing that feedback.
Jamie Taylor, MSB Public Works	Are contractors required to attend the training to work within the MS4 permit area?	It's not a requirement; it's usually an opportunity for contractors to attend if they wish. However, the permittee can make this a requirement if they want.
Kim Sollien, MSB Planning	If every project must be monitored annually, approximately how many projects would require an inspection in Fairbanks?	Some summers, it's about two or three inspections. The biggest summer might have been about six project sites and inspections. On-site inspections are required for disturbance over an acre so that's a large development or a new road connecting a subdivision, for example. When Fairbanks went through the permitting process with ADEC, ADEC only gave Fairbanks the authority to complete inspections on private land and projects funded with private dollars. ADEC retained the right to inspect projects on public land or funded with public funds.  (Jackson Fox, FAST Planning)

		<p>For the City of Wasilla, it's currently about three projects. MSB might have more, maybe about 20 to 25, from my previous experience at the Borough. (Robert Walden, City of Wasilla)</p> <p>There are about 10 subdivisions a year that would meet the inspection criteria. (Jamie Taylor, MSB Public Works)</p> <p>Looking at the Environmental Data Management System map, it looked like maybe 40 active Construction General Permit projects in the urbanized core area. This doesn't separate publicly funded projects from privately funded ones though. (Rick Antonio, MSB Planning)</p>
<p>Peggy Horton, MSB Planning</p>	<p>Who does the annual report go to?</p>	<p>The annual report goes directly to ADEC.</p>
<p>Rick Antonio, MSB Planning</p>	<p>MSB owns all of the school district facilities, but those facilities are managed separately. Would those facilities be included in the permit as part of Minimum Control #6? How do some of the example MS4 permittees manage school district facilities?</p>	<p>Generally, school facilities are considered part of the fleet and building maintenance and incorporated into the MS4 permit.</p> <p>Any government-owned facilities that drain to the MS4 need to be included as part of the tracking effort conditions of the permit. Fairbanks has the University of Alaska Fairbanks on its permit because of the size of the campus and the size of the storm drainage facilities. The university has various buildings and developments all over town, and all of the university facilities in Fairbanks are conditioned to this MS4 permit. (Jackson Fox, FAST Planning)</p>



<p>Kim Sollien, MSB Planning</p>	<p>Where does the Stormwater Management Program live? For example, if MSB, DOT&amp;PF, the City of Wasilla, and the City of Palmer are all co-permittees and the Borough plays a larger role – is the Stormwater Management Program its own department? Or is it within Public Works? Or within Planning and Development Services? Can any of our guests from Fairbanks comment on how it is done there?</p>	<p>For the Fairbanks permit, there are four co-permittees. The local government that has most lane miles of roadway and most miles of storm drain pipe is the City of Fairbanks. The City of Fairbanks has taken the lead on insuring compliance on all the MS4 permit requirements amongst all the co-permittees. The City of Fairbanks takes the lead on the Annual Report to ADEC, with the co-permittees supporting those efforts. All the documents and program elements for each co-permittee are located on a singular website, which is hosted by the Fairbanks North Star Borough. The lead staff member for the City of Fairbanks is within the Engineering Department, and he is the Environmental Manager for Fairbanks. (Jackson Fox, FAST Planning)</p> <p>For the City of Wasilla, I've been told the Public Works Department will take the lead. (Robert Walden, City of Wasilla)</p>
<p>Jamie Taylor, MSB Public Works</p>	<p>Are outfalls identified and mapped already for MSB? Where and when do we do that in this process?</p>	<p>Outfalls are not mapped yet. Outfalls will be mapped as part of Minimum Control #3, and it will be done before moving to the monitoring requirement portion of the permit.</p>
<p>Kim Sollien, MSB Planning</p>	<p>All the meetings have been recorded and MSB will create a project page on the website. Those will be available shortly for attendees who may have missed previous meetings.</p>	

**Next Meeting**

The next Stakeholder Meeting will be held virtually on Monday, August 29, 2022, from 11:30am-1pm using Microsoft Teams. A meeting invite will be distributed to attendees by MSB staff.

## **Attachments**

1. Attendance List
2. Fairbanks Monitoring Program Plan and Quality Assurance Project Plan
3. Presentation

**MS4 and Stormwater Management in the Mat-Su Borough  
Stakeholder Meeting #3 Attendance List**

<b>Name, Organization/Agency</b>	<b>Role</b>
Maija DiSalvo, MSB Planning	Project Management Team
Rick Antonio, MSB Planning	Project Management Team
Kim Sollien, MSB Planning	Project Management Team
Carla Goers, MSB GIS	Stakeholder Group Member
Heidi Whipple, MSB GIS	Stakeholder Group Member
Kenneth Klewein, MSB GIS	Stakeholder Group Member
Anne Dollard, MSB GIS	Stakeholder Group Member
George Hays, MSB Administration	Stakeholder Group Member
Mike Brown, MSB Administration	Stakeholder Group Member
Mike Campfield, MSB Public Works	Stakeholder Group Member
Tom Adams, MSB Public Works	Stakeholder Group Member
Brad Sworts, MSB Public Works	Stakeholder Group Member
Michelle Olsen, MSB Planning	Stakeholder Group Member
Gerrit Verbeek, MSB Planning	Stakeholder Group Member
Adam Bradway, MSB Planning	Stakeholder Group Member
Taunnie Boothby, MSB Planning	Stakeholder Group Member
Kelsey Anderson, MSB Planning	Stakeholder Group Member
Edna Devries, MSB Mayor	Stakeholder Group Member
Peggy Horton, MSB Planning	Stakeholder Group Member
Alex Strawn, MSB Planning	Stakeholder Group Member
Shannon Bodolay, MSB Attorney	Stakeholder Group Member
Fred Wagner, MSB Planning	Stakeholder Group Member
Jamie Taylor, MSB Public Works	Stakeholder Group Member
Robert Walden, City of Wasilla Public Works	Stakeholder Group Member
John Moosey, City of Palmer	Stakeholder Group Member
John Linnell, DOT&PF	Stakeholder Group Member
Erik Norberg, DOT&PF	Stakeholder Group Member
Burrell Nickeson, DOT&PF	Stakeholder Group Member
Joshua James, DOT&PF	Stakeholder Group Member
Renee Goentzel, DOT&PF	Stakeholder Group Member
Clint Adler, DOT&PF	Stakeholder Group Member
Bob Charles, Knik Tribe	Stakeholder Group Member
James Rypkema, ADEC	Stakeholder Group Member
Teri Buck, ADEC	Stakeholder Group Member
Sam Kito, ADEC	Stakeholder Group Member
Jackson Fox, FAST Planning	Guest
Janie Dusel, AWR Engineering	Consultant
Holly Spoth-Torres, Huddle AK	Consultant
Michelle Fehribach, Huddle AK	Consultant



# MONITORING PROGRAM PLAN AND QUALITY ASSURANCE PROJECT PLAN – MS4 OUTFALL DISCHARGE MONITORING



January 2022

Fairbanks & North Pole, Alaska

**APDES Permit No. AKS-053406**

City of Fairbanks, City of North Pole, UAF, ADOT&PF

**APDES Permit No. AKS-053414**

Fairbanks North Star Borough

## INTRODUCTION

### MONITORING PROGRAM PLAN OVERVIEW

Preparation of this Monitoring Program Plan and Quality Assurance Project Plan are required by the Alaska Department of Environmental Conservation (ADEC) for analytical monitoring conducted under Alaska Pollutant Discharge Elimination System (APDES) Permit No. AKS-053406 (collectively held by the City of Fairbanks, City of North Pole, UAF, and ADOT&PF as co-permittees) and APDES Permit No. AKS-053414 (held solely by the FNSB).

The co-permittees are required by the permit to monitor the water discharging from MS4 outfalls to local water bodies at least two times per year – once during the spring when snowmelt runoff is prevalent, and once in late summer when Fairbanks typically receives its largest rain events. The permit does not specify how many outfalls are required to be monitored; however, monitoring efforts are planned to target 12 outfalls per monitoring event. Additionally, effort will be made during every monitoring event to monitor at least one outfall within the jurisdiction of each co-permittee, monitor at least one outfall for each impaired water body (Chena River, Noyes Slough, & Chena Slough), and repeat monitoring locations year to year whenever possible so the data sets can be compared. The parameters that will be monitored include dissolved oxygen, pH, temperature, turbidity, flow, conductivity, total suspended solids, chloride, oil and grease, and BTEX. The co-permittees have been annually monitoring outfalls since 2006 and have drafted this new QAPP to reflect the above monitoring plan in coordination with the requirements of the new permit.

The co-permittees' primary and ongoing efforts to detect and eliminate illicit discharges include annual employee training on illicit discharges to maintain a continued surveillance of storm water conveyance systems when in the field, dry-weather screening of outfalls detect and eliminate unpermitted non-storm water discharges, and enforcement of municipal Illicit Discharge Ordinances. Every illicit discharge detected is entered into the co-permittee's jointly maintained Illicit Discharge Log, which records the date, location, and nature of the discharge, as well as a written description of the follow-up investigations and resolutions. A copy of the log is submitted to ADEC each year in the Annual Report.

Each year the co-permittees will evaluate their compliance with the permit requirements and progress toward achieving the measurable goals for each of the minimum control measures. Based on the results of the evaluation the co-permittees will then develop and implement a plan to address needed improvements/modifications, and document that plan in the Annual Reports to ADEC.

## DISTRIBUTION LIST

The following table lists the recipients of the original, approved QAPP and its subsequent revisions.

**Table 1.** QAPP Distribution List

Name	Agency	Contact Information
<b>Morgan Brown</b> Environmental Program Specialist III	<b>ADEC</b> Division of Water – Non-Point Source	610 University Ave, Fairbanks, AK 99709 / 451-2141 / <a href="mailto:morgan.brown@alaska.gov">morgan.brown@alaska.gov</a>
<b>James Rypkema,</b> Environmental Program Manager II	<b>ADEC</b> Division of Water - Wastewater Discharge Authorization Program	555 Cordova St, Anchorage, AK 99501 / 334-2288 / <a href="mailto:james.rypkema@alaska.gov">james.rypkema@alaska.gov</a>
<b>Andrew Ackerman,</b> Environmental Manager	<b>City of Fairbanks</b> Department of Engineering	800 Cushman St, Fairbanks, AK 99701 / 459-6836 / <a href="mailto:aackerman@fairbanks.us">aackerman@fairbanks.us</a>
<b>Robert Pristash,</b> City Engineer	<b>City of Fairbanks</b> Department of Engineering	800 Cushman St, Fairbanks, AK 99701 / 459-6747 / <a href="mailto:rpristash@fairbanks.us">rpristash@fairbanks.us</a>
<b>Bill Butler,</b> Director of City Services	<b>City of North Pole</b> Department of Public Works	125 Snowman Ln, North Pole, AK 99705 / 488-8593 / <a href="mailto:bill.butler@northpolealaska.org">bill.butler@northpolealaska.org</a>
<b>Russ Steiger,</b> <b>Environmental Compliance Officer</b>	<b>UAF</b> Environmental Health, Safety, & Risk Management	PO Box 758145, Fairbanks, AK 99775 / 474-5812 / <a href="mailto:rhsteiger@alaska.edu">rhsteiger@alaska.edu</a>
<b>Tracy Martinson</b> <b>Director, EHSRM</b>	<b>UAF</b> Environmental Health, Safety, & Risk Management	PO Box 758145, Fairbanks, AK 99775 / 474-6603 / <a href="mailto:tamartinson@alaska.edu">tamartinson@alaska.edu</a>
<b>Cynthia Nelson,</b> Environmental Impact Analyst	<b>ADOT&amp;PF</b> Maintenance & Operations Division	2301 Peger Rd, Fairbanks, AK 99709 / 451-2243 / <a href="mailto:cynthia.nelson@alaska.gov">cynthia.nelson@alaska.gov</a>
<b>Daniel Adamczak,</b> Maintenance Engineer	<b>ADOT&amp;PF</b> Maintenance & Operations Division	2301 Peger Rd, Fairbanks, AK 99709 / 451-2294 / <a href="mailto:daniel.adamczak@alaska.gov">daniel.adamczak@alaska.gov</a>
<b>Jason Sakalaskas,</b> Maintenance Chief	<b>ADOT&amp;PF</b> Maintenance & Operations Division	2301 Peger Rd, Fairbanks, AK 99709 / 451-2214 / <a href="mailto:jason.sakalaskas@alaska.gov">jason.sakalaskas@alaska.gov</a>
<b>Janet Smith,</b> Deputy Director	<b>FNSB</b> Department of Public Works	PO Box 71267, Fairbanks, AK 99707 / 459-1348 / <a href="mailto:janet.smith@fnsb.gov">janet.smith@fnsb.gov</a>

# Monitoring Program Plan and Quality Assurance Project Plan – MS4 Outfall Discharge Monitoring

FAIRBANKS & NORTH POLE, ALASKA

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## ACRONYMS & ABBREVIATIONS

ADEC	Alaska Department of Environmental Conservation
ADOT&PF	Alaska Department of Transportation & Public Facilities
APDES	Alaska Pollutant Discharge Elimination System
BTEX	Benzene, Toluene, Ethylbenzene, & Xylene
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EPA	U.S. Environmental Protection Agency
FNSB	Fairbanks North Star Borough
MDL	Method Detection Limit
ND	Non-detect
NPDES	National Pollutant Discharge Elimination System
PAH	Polycyclic Aromatic Hydrocarbons
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance / Quality Control
TMDL	Total Maximum Daily Load
UAF	University of Alaska Fairbanks
VOA	Volatile Organic Analysis

## PROJECT MANAGEMENT

### Project/Task Organization

This QAPP presents the objectives and procedures for outfall discharge monitoring of the MS4 owned and operated by the City of Fairbanks, City of North Pole, UAF, ADOT&PF Northern Region, and FNSB. Preparation of this QAPP was required by ADEC for analytical monitoring conducted under APDES Permit No. AKS-053406 (collectively held by the City of Fairbanks, City of North Pole, UAF, and ADOT&PF as co-permittees) and APDES Permit No. AKS-053414 (held solely by the FNSB). The effective date for both APDES Permits was July 1, 2018. APDES Permit No. AKS-053406 requires outfall discharge monitoring during wet weather events at least two times per year. Monitoring is not required under APDES Permit No. AKS-053414; however, should the FNSB choose to perform monitoring of their outfalls, use of a QAPP is required. This QAPP is therefore intended to cover monitoring conducted under both Permits.

Each co-permittee is individually responsible for monitoring only the portion of the MS4 owned and operated by that co-permittee. The personnel assigned to this effort are listed in Table 2 below. For purposes of efficiency and upon mutual agreement, co-permittees may choose to have other co-permittees perform their monitoring on their behalf. Individual co-permittees may also choose to delegate the monitoring to other qualified personnel within their respective agency to complete monitoring on their behalf.

**Table 2.** Agencies & Personnel Responsible for Monitoring

Agency (co-permittee)	Title	Department/Division
City of Fairbanks	Environmental Manager	Department of Public Works – Engineering Division
City of North Pole	Director of City Services	Department of Public Works
UAF	Environmental Compliance Officer	Environmental Health, Safety, & Risk Management
ADOT&PF	Environmental Impact Analyst	Maintenance & Operations Division
FNSB	Civil Engineer	Department of Public Works

Grab samples collected during monitoring will be provided to an ADEC-approved, third-party laboratory for analysis. The laboratory that will perform the analyses is not specified in this QAPP because it will be

selected through a competitive procurement process. Table 3 provides the names, addresses, and phone numbers for all the ADEC-approved laboratories in Fairbanks.

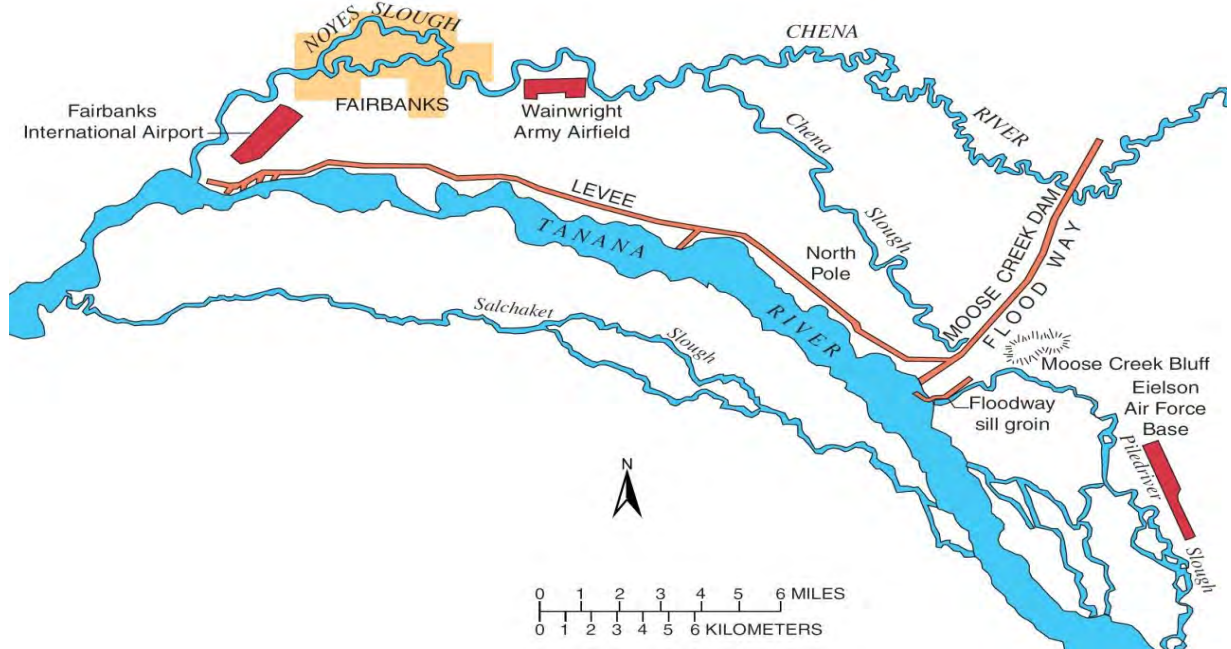
**Table 3.** ADEC-approved Laboratories in Fairbanks

Name	Address	Phone
SGS Environmental Services Inc.	3180 Peger Road, Fairbanks, Alaska 99709	(907) 474-8656
Analytica International Inc.	475 Hall Street, Fairbanks, Alaska 99701	(907) 456-3116

### Problem Definition/Background

Under their respective APDES Permits, the co-permittees are collectively authorized to discharge storm water from MS4 outfalls to the Chena River, Noyes Slough, Chena Slough, Beaver Springs, and other associated Waters of the United States (see Figure 1 below). Storm water carries pollutants such as sediment, litter, contaminants in the form of vehicle fluids, and construction related activity from street and parking lot surfaces to nearby water bodies through the MS4. This polluted discharge is a likely contributor to including the Chena River, Noyes Slough, and Chena Slough on Alaska’s Impaired Waters List since 1990 as CWA Section 303(d) impaired water bodies. The Chena River and Noyes Slough have been delisted for sediment. Noyes Slough is listed as impaired from petroleum products and debris (litter), and Total Maximum Daily Load (TMDLs) have been set for both of those pollutants at zero discharge.

**Figure 1.** Fairbanks & North Pole Water Bodies Map



The City of Fairbanks, City of North Pole, UAF, and ADOT&PF Northern Region received a Phase II National Pollutant Discharge Elimination System (NPDES) Permit from the U.S. Environmental Protection Agency (EPA) in 2005 and began outfall discharge monitoring the following year even though the NPDES Permit did not specifically require monitoring. The co-permittees elected to start the monitoring program to help establish baseline data for the pollutants of concern being discharged to the above-listed impaired water bodies. The FNSB also received an NPDES Permit, but they did not elect to begin monitoring at that time.

ADEC later assumed authority over the Permits under the APDES Program and issued the new Permits in June 2013. Monitoring is now a requirement under the Permit issued to the City of Fairbanks, City of North Pole, UAF, and ADOT&PF Northern Region, but still not a requirement under the Permit issued to the FNSB. As previously noted, however, this QAPP is intended to cover monitoring conducted under both Permits should the FNSB choose to perform monitoring of their outfalls.

## Project/Task Description & Schedule

### Project/Task Description

The Permit issued to the City of Fairbanks, City of North Pole, UAF, and ADOT&PF Northern Region requires monitoring during wet weather events at least two times per year for the parameters listed in Table 4 below. Each year monitoring will be conducted once during the spring when snowmelt runoff is prevalent, and once in late summer when Fairbanks typically receives its largest rain events. The Permit does not specify how many outfalls are required to be monitored; however, monitoring efforts will continue to target 12 outfalls per monitoring event. Should the FNSB choose to perform monitoring of their outfalls, they will monitor for the same parameters as the City of Fairbanks, City of North Pole, UAF, and ADOT&PF Northern Region.

**Table 4.** Monitoring Requirements

Parameter	Frequency	Method
Dissolved Oxygen (mg/L)	Twice per Year	Grab or Recording
pH (SU)	Twice per Year	Grab or Recording
Temperature (°C)	Twice per Year	Grab or Recording
Turbidity (NTU)	Twice per Year	Grab or Recording
Flow (cfs)	Twice per Year	Grab, Recording, or Gauge
Total Suspended Solids (mg/L)	Twice per Year	Grab

Parameter	Frequency	Method
Conductivity (µS/cm)	Twice per Year	Grab or Recording
Chloride (mg/L)	Twice per Year	Grab
Oil & Grease (sheen) <sup>1</sup>	Monthly	Visual

<sup>1</sup> Monitoring for this parameter applies only to Noyes Slough.

### Implementation Schedule

The Permit issued to the City of Fairbanks, City of North Pole, UAF, and ADOT&PF Northern Region requires monitoring from the effective date of the Permit, July 1, 2018. Monitoring is ongoing and will continue at a frequency of at least two times per year until a new Permit with new requirements is issued and/or ADEC directs otherwise.

## Quality Objectives & Criteria

### Data Quality Objectives

The data quality objectives of this QAPP are to ensure the data collected:

- Meet the requirements of both APDES Permits, are scientifically verifiable and valid, and are representative of the monitored activity;
- assist ADEC in measuring the impacts of storm water discharges to their receiving waters; and
- are conducted in accordance with the test procedures approved under 40 CFR 136 (adopted by reference under 18 AAC 83.010).

### Measurement Performance Criteria

The measurement performance criteria of this QAPP are as follows:

- Detectability – the ability of the test method to reliably measure a pollutant concentration above background. Monitoring data measured below the method detection limit (MDL) are reported as non-detect (ND).
- Precision – the degree of agreement among duplicate field measurements/samples and/or multiple analytical measurements of the same sample that provide insight into the consistency of instrument, sampling, and test methods. Precision of instrument measurement and sampling methods will be measured by collection of a set of duplicate measurements and samples for at least one outfall during each monitoring event. Acceptable ranges for precision of duplicate measurements will be  $\pm 20$  percent for dissolved oxygen,  $\pm 0.1$  units for pH,  $\pm 0.2^\circ\text{C}$  for temperature,  $\pm 20$  percent for turbidity,

and  $\pm 10$  percent for conductivity. Precision of duplicate samples and analytical test methods will be carried out in accordance with the third-party laboratory's internal quality assurance / quality control (QA/QC) procedures.

- Accuracy – an assessment of the closeness of the measured value to the true value. For field accuracy, the potential for cross contamination of collected samples will be measured with the use of water “blanks” during every monitoring event. Analytical accuracy in the laboratory will be measured by spiking samples with known concentrations of chemicals and measuring recovery in accordance with the laboratory's internal QA/QC procedures.
- Completeness – a measure of the amount of data collected that is valid and useable in proportion to the total amount of data collected in accordance with the monitoring plan. The goal for completeness will be for at least 90 percent of the monitoring data collected to be valid and useable.
- Representativeness – the degree to which the data reflects the actual environmental condition. The goal for representativeness will be to monitor at least 10 percent of the total number of outfalls owned and operated by the co-permittees.
- Comparability – the confidence with which one data set can be evaluated in relation to another data set. The City of Fairbanks, City of North Pole, UAF, and ADOT&PF Northern Region have been monitoring outfalls twice per year every year since 2006. This QAPP will ensure all new data collected can be compared to the existing data set collected between 2006 and 2018.

## Personnel Qualification & Training

The qualification of personnel participating in the outfall discharge monitoring will be determined internally by each co-permittee based on their personnel's work experience and knowledge of water sampling techniques, chain of custody procedures, field instrument calibration, and health and safety policies. These personnel will routinely coordinate with laboratory staff to ensure an understanding of the analytical test method protocols for collection and expectations for delivery of field samples to the laboratory.

## Documents & Records

As required by both APDES Permits, all monitoring results will be submitted consistent with Permit Part 4.4.3, Electronic Reporting (E-Reporting Rule), via the Network Discharge Monitoring Report (NetDMR) per Phase I of the E-Reporting Rule (40 CFR §127) and a copy of the eDMR will also be included in an appendix of the Annual Report. Records will also be kept, and made available to ADEC upon request, for each the following:

- Dates, exact location, and time the measurements and samples were taken
- Names of the individuals who performed the sampling or measurements
- Dates upon which analysis of each sample was performed

- Names of the individuals who performed each analysis
- Analytical techniques or methods used
- Detailed results of each analysis

## DATA GENERATION & ACQUISITION

### Sampling Process Design

The co-permittees own and operate a total of 127 outfalls – 117 outfalls in Fairbanks (see Figure 2 below) and 10 outfalls in North Pole (see Figure 3 on the following page). Previous monitoring efforts from 2006 through 2013 targeted 10 outfalls per monitoring event. Current and future monitoring efforts will be increased to target 12 outfalls per monitoring event. Additionally, effort will continue to be made during every monitoring event to:

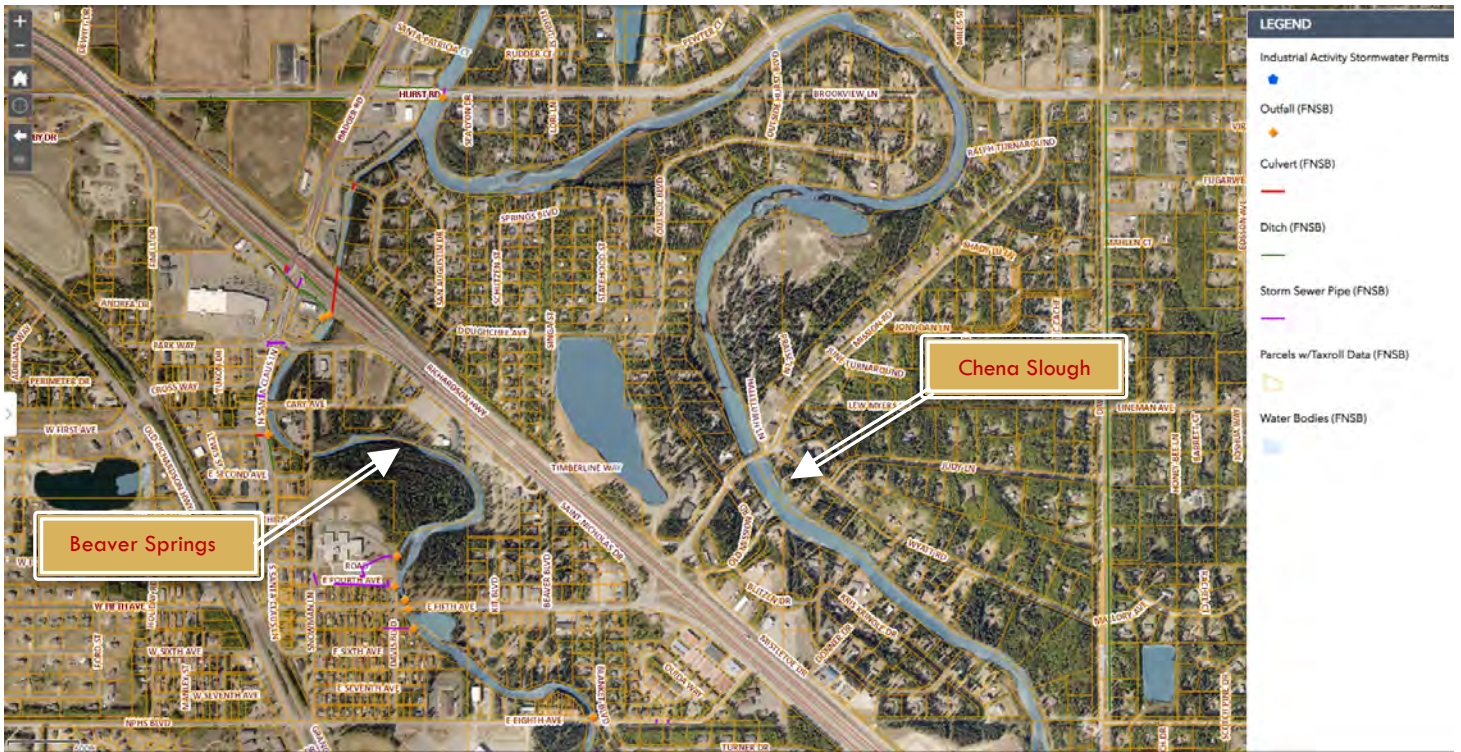
- Monitor at least one outfall within the jurisdiction of each co-permittee;
- monitor at least one outfall for each impaired water body – Chena River, Noyes Slough, and Chena Slough; and
- repeat monitoring locations year to year whenever possible so the data sets can be compared.

**Figure 2.** Fairbanks Outfall Locations





**Figure 3. North Pole Outfall Locations**



### Monitoring Locations

Table 5 below lists the all the outfall monitoring locations sampled between 2006 and 2018. These locations have been identified as the high and medium priority monitoring locations based on the availability of historic monitoring data for comparison and the locations’ proximity to large impervious surfaces, particularly in the downtown areas. The number of outfalls on the list exceeds the targeted amount per monitoring event because alternate outfall locations are needed when flow at one or more outfall locations is not sufficient to measure/sample. To ensure the data collected to date can be compared over time, the co-permittees will continue to monitor from these same locations. Should the FNSB choose to perform monitoring of their outfalls, this QAPP will be updated to include those new monitoring locations.

**Table 5.** Monitoring Locations

Location	Water Body	Agency
2nd Street	Noyes Slough	City of Fairbanks
College Road	Noyes Slough	ADOT&PF
Front Street-Play It Again	Chena River	City of Fairbanks
Front Street-Graehl West	Chena River	City of Fairbanks
Front Street-Forty Mile Ave.	Chena River	City of Fairbanks
Hurst Road	Chena Slough	City of North Pole
North Illinois Street	Noyes Slough	ADOT&PF
South Illinois Street	Noyes Slough	ADOT&PF
Johansen Expressway	Noyes Slough	ADOT&PF
Minnie Street	Noyes Slough	ADOT&PF
Moore Street	Chena River	ADOT&PF
Noble Street	Chena River	City of Fairbanks
Peger Road	Chena River	ADOT&PF
Santa Claus Lane	Beaver Springs	City of North Pole
Steese Highway	Chena River	ADOT&PF
Stewart Street	Chena River	City of Fairbanks
Taku Drive	N/A	UAF
University Avenue	Chena River	ADOT&PF
Washington Drive	Chena River	ADOT&PF
UAF Campus - West Ridge	N/A	UAF

**Monitoring Frequency & Timing**

As previously noted in this QAPP, the Permit issued to the City of Fairbanks, City of North Pole, UAF, and ADOT&PF Northern Region requires monitoring during wet weather events at least two times per year. Each

year monitoring will be conducted once during the spring (April/May) when snowmelt runoff is prevalent, and once in late summer (August/September) when Fairbanks typically receives its largest rain events.

**Monitoring Parameters**

The parameters required to be monitored by the Permit are listed in Table 4 on Page 8 of this QAPP. Though not required by the Permit, monitoring for benzene, toluene, ethylbenzene, and xylene (BTEX) will continue for outfalls discharging to Noyes Slough to help collect source data for its TMDL for petroleum products. Likewise, monitoring for oil and grease will be conducted along Noyes Slough, not just visually as required by the Permit, but also by grab sample collection to help collect additional source data for the TMDL.

**Monitoring Methods**

The Permit provides options of monitoring methods for most of the parameters – either by instrumentation or grab sample collection. The only parameter that will not regularly use these methods is oil and grease, which will be visually observed and recorded monthly. Table 6 below provides a summary of the parameters, frequency, and methods selected for monitoring under this QAPP.

**Parameters Measured by Instrumentation**

The parameters that will be measured by instrumentation include dissolved oxygen, pH, temperature, turbidity flow, and conductivity. All these parameters, except flow, will be measured using a YSI 650 MDS Multi-probe Meter or equivalent. Flow will be measured using a Global Water Flow Probe FP111 or equivalent.

**Parameters Measured by Grab Sample Collection**

The parameters that will be measured by grab sample collection, and later submitted to a laboratory for analysis, include total suspended solids, chloride, oil, and grease, and BTEX.

**Table 6.** Monitoring Parameters, Frequency, & Methods

Parameter	Frequency	Selected Method
Dissolved Oxygen (mg/L)	Twice per Year	Instrument Recording
pH (SU)	Twice per Year	Instrument Recording
Temperature (°C)	Twice per Year	Instrument Recording
Turbidity (NTU)	Twice per Year	Instrument Recording
Flow (cfs)	Twice per Year	Instrument Recording
Total Suspended Solids (mg/L)	Twice per Year	Grab Sample

Parameter	Frequency	Selected Method
Conductivity (µS/cm)	Twice per Year	Instrument Recording
Chloride (mg/L)	Twice per Year	Grab Sample
BTEX (µg/L) <sup>1,2</sup>	Twice per Year	Grab Sample
Oil & Grease (mg/L) <sup>1,2</sup>	Twice per Year	Grab Sample
Oil & Grease (sheen) <sup>1</sup>	Monthly	Visual

<sup>1</sup> Monitoring for these parameters applies only to Noyes Slough.

<sup>2</sup> Monitoring for these parameters by grab sample collection is voluntary and not required by the Permit.

### Sample Handling & Custody

Coolers packed with the appropriate sample containers, labels, water blanks, ice packs, and chain of custody forms will be supplied by the laboratory. The sample containers will be plastic 1000-mL bottles for total suspended solids, plastic 250-mL bottles for chloride, amber-colored glass 1000-mL jars for oil and grease, and glass 40-mL VOA vials for BTEX. The coolers will be maintained within a temperature range of 0°C to 6°C and each contain a single chain of custody form. The samples taken will remain in the field personnel’s exclusive possession until custody is transferred to the laboratory using the chain of custody form.

### Analytical Test Methods

The analytical test methods and MDLs to be used by the laboratory are listed in Table 7 below.

**Table 7.** Analytical Test Methods & MDLs

Parameter	Analytical Test Method	Method Detection Limit (MDL)
Total Suspended Solids (mg/L)	Standard Method (SM) 2540D	2.0 mg/L
Chloride (mg/L)	EPA 300.0	0.04 mg/L
Oil & Grease (mg/L)	EPA 1664A	1.4 mg/L
BTEX (µg/L)	EPA 602/624	Benzene – 0.33 µg/L Toluene – 0.46 µg/L Ethylbenzene – 0.35 µg/L Xylene – 0.82 µg/L

## Quality Control

### Field Quality Control Measures

Field quality control measures are described throughout this QAPP. The measures include:

- Ensuring personnel are qualified and properly trained to perform the monitoring;
- Testing, inspecting, and calibrating instruments prior to each monitoring event;
- Following the analytical test methods' protocols for collection, handling, custody, and delivery of samples;
- Collecting a set of duplicate measurements and samples for at least one outfall during each monitoring event; and
- Using water “blanks” during every monitoring event to test for cross contamination of samples.

### Laboratory Quality Control Measures

The laboratory will follow their internal QA/QC procedures.

## Instrument Testing, Inspection, Maintenance, & Calibration

Prior to each monitoring event, all instruments will be tested, inspected, and calibrated in accordance with the manufacturers' specifications. Calibration and verification of equipment will be documented in appropriate notebooks stored in instrument case. Calibration and verification records will include the date, name of person conducting the calibration, names of all standards used (including lot # and expiration date) and whether the calibration was successful. Monitoring personnel will document on the field data sheets this has been performed. The laboratory will follow the testing, inspection, maintenance, and calibration procedures required by EPA approved methods and as outlined by the laboratory's internal QA/QC procedures.

## Inspection/Acceptance of Supplies & Consumables

Sample containers provided by a laboratory will only be accepted if they are certified as contaminant-free for the analyses of interest; and no standard solutions, buffers, or other chemical additives will be used if the expiration date has passed.

## Data Management

Data collected as part of the monitoring program will be maintained by the co-permittees in an up-to-date spreadsheet that includes the monitoring data collected from 2006 to the present time. A copy of the spreadsheet will be submitted annually to ADEC, along with the required DMR forms, as an appendix to the co-permittees' Annual Report.

## ASSESSMENT, OVERSIGHT, & DATA VALIDATION

## Assessments & Response Actions

The co-permittees will review the field instrument measurements and sample analysis results from the laboratory to look for irregularities, or “red flags,” in the data. An example of a red flag would be a high concentration of a particular pollutant indicating a problem source area and/or illicit discharge (i.e. such as an unusually high turbidity recording attributed a construction site discharging sediment into the MS4). Once detected at the outfall, the respective co-permittee with jurisdiction will be contacted, the polluted discharge can be tracked up-drain to its source using the co-permittees’ MS4 map and lifting manhole lids until a junction is reached that shows no evidence of the discharge. Identification of the source and responsible party can then be determined by examining nearby inlets and activities on adjacent properties. The discharge can subsequently be addressed by the City of Fairbanks, City of North Pole, or FNSB, each of which have municipal ordinances and enforcement authority within their respective jurisdictions to prohibit and eliminate illicit discharges.

## Revisions to QAPP

As required by both APDES Permits, the co-permittees will annually review the adequacy of this QAPP based on Permit compliance activities and monitoring results. The QAPP will be amended whenever there is a modification to the monitoring requirements, objectives, parameters, methods, locations, or other conditions of the monitoring plan.

## Data Review, Verification, & Validation

The co-permittees will review, verify, and validate the data to ensure the data quality objectives and measurement performance criteria listed in this QAPP are met prior to submittal to ADEC in the Annual Reports.

## APPROVALS

This Quality Assurance Project Plan (QAPP) presents the objectives and procedures for outfall discharge monitoring of the municipal separate storm sewer system (MS4) owned and operated by the City of Fairbanks, City of North Pole, University of Alaska Fairbanks (UAF), Alaska Department of Transportation &

Public Facilities (ADOT&PF) Northern Region, and Fairbanks North Star Borough (FNSB). Preparation of this QAPP was required by the Alaska Department of Environmental Conservation (ADEC) for analytical monitoring conducted under Alaska Pollutant Discharge Elimination System (APDES) Permit No. AKS-053406 (collectively held by the City of Fairbanks, City of North Pole, UAF, and ADOT&PF as co-permittees) and APDES Permit No. AKS-053414 (held solely by the FNSB). By signature below, this QAPP is hereby approved by each of the aforementioned permittees' personnel responsible for its use.

**CITY OF FAIRBANKS**

  
\_\_\_\_\_  
Andrew Ackerman, Environmental Manager

1.24.2022  
Date

**CITY OF NORTH POLE**

  
\_\_\_\_\_  
Bill Butler, Director of City Services

2/7/2022  
Date

**UAF**

  
\_\_\_\_\_  
Russ Steiger, Environmental Compliance Officer

2/4/2022  
Date

**ADOT&PF NORTHERN REGION**

  
\_\_\_\_\_  
Cynthia Nelson, Environmental Impact Analyst

1/24/2022  
Date

**FNSB**

  
\_\_\_\_\_  
David Bredlie, Director of Public Works

01/24/2022  
Date

# **APPENDIX A**

## **Field Data Sheets**





## Noyes Slough – Monthly Visual Screening for Oil & Grease (Sheen)

Date \_\_\_\_\_ Start Time \_\_\_\_\_ End Time \_\_\_\_\_ Field Personnel \_\_\_\_\_

Current Weather \_\_\_\_\_ Recent Weather (last 24 hrs) \_\_\_\_\_

Screening Location	Sheen Observed (Y/N)	Photos Taken (Y/N)	Sample Taken (Y/N)	Observations	Source of Sheen (if known)

# **MS<sub>4</sub> & STORMWATER MANAGEMENT IN THE MAT-SU BOROUGH**

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**Stakeholder Meeting #3 – Permit Breakdown Part 2**

Hosted by: The Mat-Su Borough Planning Department

With Assistance From: AWR Engineering, LLC

July 25, 2022

# Welcome and Introductions

- **MSB Project Management Team**

- Kim Sollien, Planning Services Manager
- Rick Antonio, Stormwater Program Coordinator
- Maija DiSalvo, Planning Administrator

- **Consultant Team**

- Janie Dusel, PE, MS<sub>4</sub> Specialist | AWR Engineering
- Holly Spoth-Torres, PLA, Public Engagement Specialist | Huddle AK

- **Stakeholder Introductions**

# Quick Review of Project Background & Purpose

- “Urbanized Area” Classification is expected for the Core Area (Palmer & Wasilla) following the results of the 2020 Census
  - Based on pollution density
  - US Census Bureau will determine the extents of the Urbanized Area
- Urbanized Area triggers the need for a **Municipal Separate Storm Sewer System (MS<sub>4</sub>) Permit**
- Issued by the Alaska Department of Environmental Conservation (ADEC).
- ADEC Approval needed to discharge stormwater water into “Waters of the US”
- Will apply to operators of stormwater collection systems (MS<sub>4</sub>s) throughout the Urbanized Area.

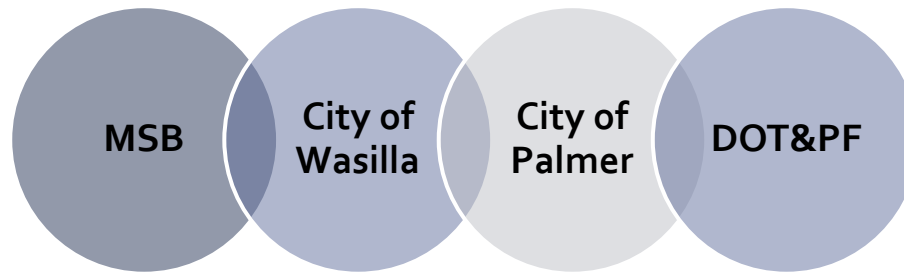


Lake Lucile in Wasilla

# Quick Review of Project Background & Purpose

- **Responsible Parties:**

- Any entity that operates an MS<sub>4</sub> system inside the Urbanized Area
- Expected to include:



- **Purpose and Need**

- Learn about the MS<sub>4</sub> process and permit requirements
- Prepare for the upcoming MS<sub>4</sub> permit

- **Role of this Stakeholder Group**

- Provide input for how impacted agencies want to work together to structure the permit

# Updated Stakeholder Meetings Plan

Meeting #	Date	Topic
1	May 31 (past)	Introduction to the Project
2	June 27	<b>Permit Breakdown, Part 1</b> <ul style="list-style-type: none"><li>✓ Applicability</li><li>✓ SWMP Requirements</li><li>✓ Minimum Control Measures 1, 2, and 3</li></ul>
3	Today	<b>Permit Breakdown, Part 2</b> <ul style="list-style-type: none"><li>✓ Minimum Control Measures 4, 5, and 6</li><li>✓ Monitoring, Evaluation, Reporting, and Record Keeping</li></ul>
4	Aug 29	<b>Existing Building Blocks</b> <ul style="list-style-type: none"><li>✓ Current resources, data, pans, etc.</li><li>✓ Required ordinances</li><li>✓ Data gaps and how to fill them</li></ul>
5	Sept 26	<b>Management Details</b> <ul style="list-style-type: none"><li>✓ Intergovernmental agreement types/structures</li><li>✓ Program costs and staffing</li><li>✓ Funding source options</li></ul>
6	Oct 31	<b>Wrap Up</b> <ul style="list-style-type: none"><li>✓ Summarize, review, and debrief</li><li>✓ Discuss permittee thoughts/preferences</li></ul>

# Technical Discussion

- Summary of Topics Covered at Last Meeting:

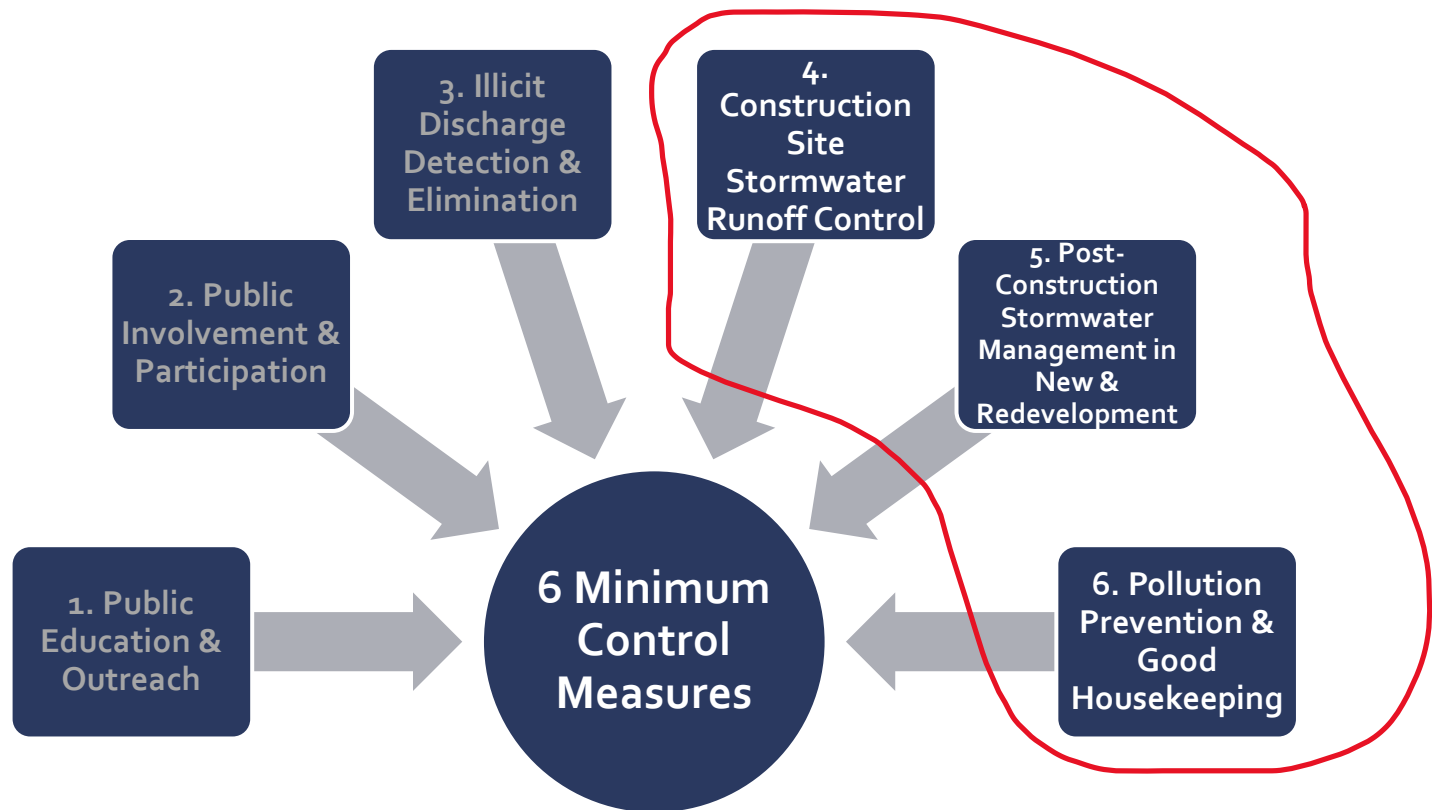
- NPDES and Clean Water Act brief history in Alaska and the resulting APDES program
- Permit coverage area, types of discharges allowed, and co-permittee responsibilities
- Stormwater Management Program Requirements (Document and program implementation)
- Minimum Control Measures
  - 1 – Public Education and Outreach
  - 2 – Public Involvement and Participation
  - 3 – Illicit Discharge Detection & Elimination



# Technical Discussion

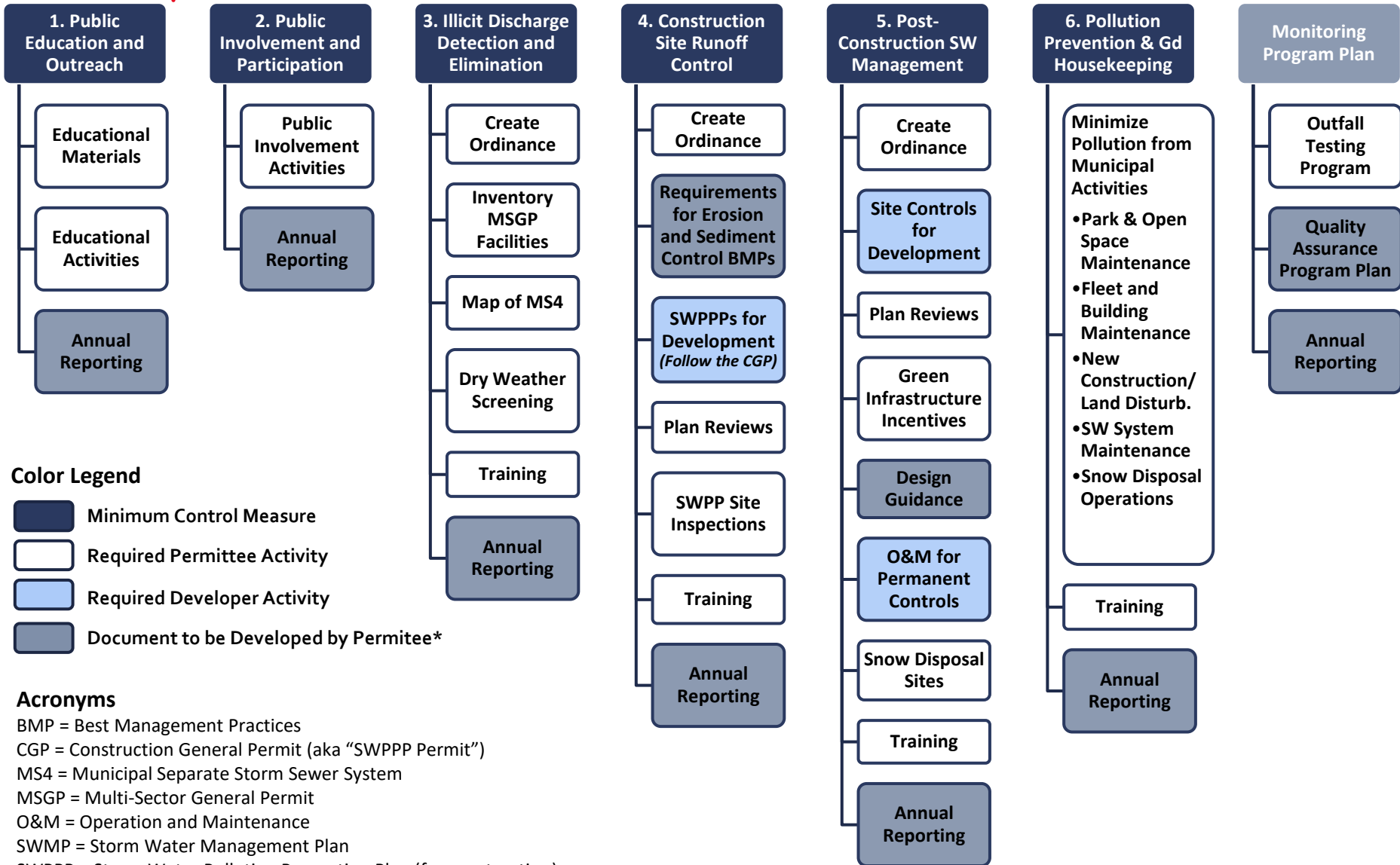
## Continue Permit Breakdown

- Minimum Control Measures
  - 4 – Construction Site Stormwater Runoff Control
  - 5 – Post-Construction Stormwater Management in New & Redevelopment
  - 6 – Pollution Prevention and Good Housekeeping for Municipal Operations
- Monitoring, Evaluation, Reporting, and Record Keeping



# Summary of Primary MS4 Permit Components

## Storm Water Management Program (SWMP) Document



### Color Legend

- Minimum Control Measure
- Required Permittee Activity
- Required Developer Activity
- Document to be Developed by Permittee\*

### Acronyms

- BMP = Best Management Practices
- CGP = Construction General Permit (aka "SWPPP Permit")
- MS4 = Municipal Separate Storm Sewer System
- MSGP = Multi-Sector General Permit
- O&M = Operation and Maintenance
- SWMP = Storm Water Management Plan
- SWPPP = Storm Water Pollution Prevention Plan (for construction)

\* Some documents can be adopted from existing resources

# Group Questions and Discussion



# Next Meeting/Closing

- Next Meeting is August 29<sup>th</sup> via Teams
- MSB will send invitations

