



Municipality of Anchorage and the
Alaska Department of Transportation and Public Facilities
2010 Annual Meeting
For APDES MS4 Permit AKS-052558



April 13, 2010 8:00 am to 11:00 am
Agenda


- Welcome Jerry Hansen
- Opening Remarks Greg Jones, Municipality of Anchorage
Lance Wilbur, Alaska Department of Transportation Central Region
William Ashton, Alaska Department of Environmental Conservation
- Permit Overview Kristi Bischofberger, WMS -New permit requirements

Break



- Community Perspectives Landscape architecture – Elise Huggins
Engineering community – Dee High
Municipal projects – Steve Shrader
ADOT maintenance – Tom Grman
MOA street maintenance – Shawn Dooley
- Feedback and Conclusion Moderated by Kristi Bischofberger

Slide 1

Anchorage's 2010
APDES MS4 Permit Requirements



APDES MS4 Permit #AKS-052558
Annual Meeting - April 13, 2010





Slide 2

Clean Water Act



The jargon:

- NPDES/APDES – National/Alaska Pollutant Discharge Elimination System
 - DEC assumed the NPDES program as of 10/31/09
- MS4 – municipal separate storm sewer system: a publicly owned and operated system of conveyance
- Stormwater – means storm water runoff, snow melt runoff and surface runoff [40 CFR 122.26(b)(13)]





Slide 3

Clean Water Act



“Fishable, swimmable waters”

- NPDES permits are required for point source discharge of pollutants to waters of the U.S. (1960s)
- Stormwater identified as a “point source” for certain activities and jurisdictions in two phases (amendments in 1980s and 1990s)




Slide 4

Clean Water Act

Stormwater discharges requiring NPDES permit:


- industrial by sector, including construction as one sector
- municipal separate storm sewer systems
 - Includes publicly owned conveyance systems, such as those operated by states (e.g., DOTs, public facility campuses), cities, towns, boroughs, counties, and other public entities



Slide 5

MS4 permit basics

- Allows permittees to discharge stormwater and certain non-stormwater to waters of the U.S.
- Discharges must be treated to the Maximum Extent Practicable (MEP)
- Within a framework of a Storm Water Management Program (SWMP)
- Annual reporting and monitoring required



Slide 6

Anchorage's MS4 permit

- Joint permit – MOA and ADOT
- First term permit for Anchorage effective in 1999 for a 5 year term
 - Performed assessments of deicing agents, street sanding and sweeping practices, snow disposal policies
 - Instigated plan reviews and construction inspection and provided training
 - Conducted water quality monitoring
- Second term permit effective February 1, 2010



Slide 7

Overview of permit topics



1. Construction – review, inspect, enforce
2. New and Redevelopment
3. Industrial and Commercial Stormwater Discharge Management
4. Storm Water Infrastructure and Street Maintenance
5. Illicit Discharge Management
6. Public Education and Involvement
7. Monitoring



Slide 8

1 Construction Site Runoff

- A. Construction site runoff control by regulation
- B. Update stormwater review manual
- C. Plan Review and Approval – continuation of existing program for private
- D. Municipal Site Inspection – specifies project type and inspection frequency
- E. Enforcement policy – update existing policy; implement enforcement escalation
- F. Education – staff and site operators



Slide 9

2 New and Redevelopment

- A. On-site volume control by regulation and design criteria
- B. Update guidance manuals
- C. Pilot projects demonstrating on-site retention
- D. Review, written approval of construction plans; training for plan reviewers
- E. Inventory and track permanent stormwater controls, assure maintenance (public and private)
- F. Enforcement of approved plans and maintenance



Slide 10

A. Onsite volume control

For land disturbance of 10,000 sq ft or more —

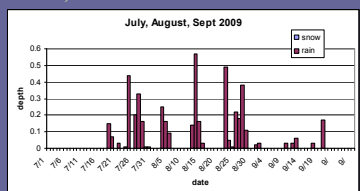
- Applies to private and public sector
- Incorporate into design criteria with specifications for acceptable practices
- Keep and manage the runoff generated from the first 0.52 inches of rainfall (90th % ile)



Slide 11

How does this relate to Anchorage rainfall?

- Rainfall, summer of 2009

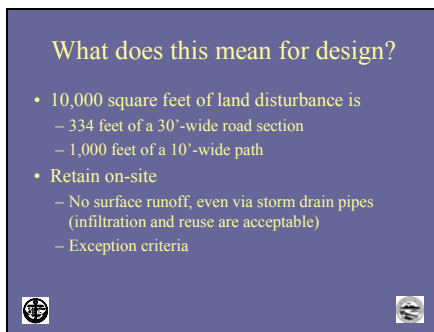


Date	Rainfall Depth (inches)
7/1	0.0
7/5	0.15
7/10	0.4
7/15	0.3
7/20	0.2
7/25	0.1
7/30	0.55
8/5	0.1
8/10	0.45
8/15	0.35
8/20	0.1
8/25	0.05
8/30	0.15
9/5	0.0
9/10	0.0
9/15	0.0

Slide 12

What does this mean for design?



- 10,000 square feet of land disturbance is
 - 334 feet of a 30'-wide road section
 - 1,000 feet of a 10'-wide path
- Retain on-site
 - No surface runoff, even via storm drain pipes (infiltration and reuse are acceptable)
 - Exception criteria



Slide 13



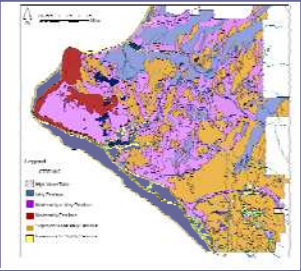
Where can this be done safely?

- Infiltration is not always feasible
- Redundant systems for chinooks
- The permit allows development of mitigation projects for sites meeting restriction criteria
- What parts of town can we consider?
 - Institutional knowledge of ADOT, Muni, designers, contractors
 - Terrain mapping
 - Site investigation



Slide 14


Infiltration Suitability





Slide 15

Phasing in

- Implement within five years
- Learn from what's on the ground
- Construct and monitor some prototypes to develop standards






Grass Creek, southwest Muldoon and Debar



Slide 16

B. Update guidance manual from EPA's list

- Canopy interception
- Soil amendments
- Evapotranspiration
- Extended filtration
- Dry swales
- Bioretention ✓
- Vegetated channels ✓
- Green roofs ✓
- Rainfall harvesting
- Cisterns
- Rooftop disconnections
- Engineered infiltration ✓ ✓
- Permeable pavement ? ✓
- Porous concrete
- Permeable pavers ? ✓
- Reforestation





Slide 17

C. Pilot Projects and Incentive Strategy

Specifically required – evaluation of:

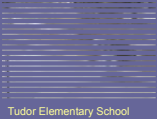

- 5 projects to manage runoff from at least 10,000 sf of impervious surface
 - two rain gardens
 - parking lot retrofits
- Disconnect one direct creek outfall
- Repair of public streets and parking lots



Slide 18



C. Pilot Projects – continued

- Build on experience we already have
 - Swales:



Tudor Elementary School

Cross Estates, NE of Huffman and Birch



Slide 19

C. Pilot Projects – continued

- Gain experience in different applications or technologies



Slide 20

How will it affect project costs?

- Additional site investigation and design costs
 - Incorporate drainage into site design from the beginning
 - Soil borings and percolations tests
 - Hydrologic calculations
- Additional construction costs
 - Qualified/experienced contractors
 - Site management to preserve vegetation
 - Infiltration materials
 - Landscaping



Slide 21

D. Review and Approval


- All projects (public and private) must have written approval
- Review staff to have annual training



Slide 22

E. Inventory and track



- Track all new and existing permanent storm water controls in a Geographic Information System.
 - O&M requirements
 - self-inspection schedule
- Require O&M agreements for private stormwater facilities



Slide 23

F. Enforcement

- Inspection by site prioritization
- Enforcement Strategy
 - As-builts
 - Annual maintenance



Slide 24


3 Industrial / Commercial

- A. Inventory certain comm/ind facilities discharging into MS4
- B. Evaluate need to regulate two specific activities
- C. Evaluate need for regulation of -
 - Animal facilities
 - Private snow disposal sites





Slide 25

4 Stormwater Infrastructure and Street Maintenance



- A. Storm Sewer System mapping – ongoing
- B. Catch basin inspection (annual) and cleaning
- C. Street Maintenance
 - SOPs and schedules for deicing, snow removal, street materials, maintenance of streets, parking lots
 - Inventory of materials – sand, salt, and other deicers
 - Street Sweeping - update sweeping management plan
- D. SWPPPs for maintenance facilities and snow disposal sites
- E. Staff training



Slide 26

D. Street Sweeping

Period in the Year	Residential (light traffic)	Arterial (high traffic)	Public Parking Lots
15 April – 1 June	1 tandem	2 tandem	1 vacuum
15 June – 1 Aug	1 tandem	1 tandem	--
15 Aug – 15 Oct	--	--	1 vacuum
1 Sept – 15 Oct	1 tandem	1 tandem	--




"Tandem" =  + 



Slide 27

5 Illicit Discharge Management




- A. Ordinance prohibiting non-stormwater discharges
- B. Complaint reporting and response - continue
- C. Illicit discharge mapping
- D. Dry weather screening – continue
- E. Prevent and respond to spills to MS4



Slide 28

6 Public Education




- A. Public
 - General stormwater basics
 - Business
 - Homeowners
 - Engineers, contractors, developers, land use planners, review staff
- B. Targeted training for staff
- C. Maintain website



Slide 29

7 Monitoring and Assessment




- A. Assess permit compliance
- B. Pesticide Screening
- C. Stormwater outfalls
- D. Evaluate OGS, sedimentation basins
- E. Evaluate snow site retrofits



Slide 30

8 Other Requirements

- Evaluate/measure effectiveness of SWMP activities on impaired waters
- Create watershed plans
- Intra-governmental agreement and coordination plan
- Quarterly meetings
- Annual reporting
- Annual meeting



Slide 31





Municipality of Anchorage and
the Alaska Department of Transportation and Public Facilities
2010 APDES Annual Meeting
For APDES MS4 Permit AKS-052558



Number of attendees signed in or recognized: 61

Evaluation forms returned: 34

1. How would you rate this meeting overall?

Poor					Excellent
1	2	3	4	5	
Number in each category		5	1	26	3

2. What did you like about this meeting?

- Excellent meeting location for this format Feedback and discussion forum
- Location, explanation of permit, diverse speakers Venue, building is conducive to this meeting and parking is plenty
- variety of different perspectives
- time frame about right; longer would be too much
- Half day
- Having EPA, DEC, and MOA WMS reps was helpful; multiple speakers
- Q&A with concerned regulated entities
- The open exchange was helpful
- Liked that it was just morning

3. What did you not like about this meeting? Please tell us why.

- Not many specifics from community perspective
- People talking & texting made it difficult to hear
- Difficulty hearing (mentioned by many) especially when some talking in back
- Slides difficult to read light letters on light background
- B&W graph what was once color – no clear difference between colored bars
- no handouts for notes (repeated by several)
- street sweeping discussion was focused on streets but did not mention the pedestrian systems
- Speakers could have spoken longer and in more detail
- what about the general public
- seeing what all is involved in implementation, enforcement, and development
- teach speakers how to use microphone
- Need more answers to questions/concerns
- SWMP details – target dates
- Wished it started at 8:30, not 8
- Last part was just mix of cameo talks
- list of BMPS for maintenance
- new regulation with out funding
- post copy of handouts on website

4. If you were planning an annual meeting like this, what would you do differently?

- By next year, add segment on case studies, project in progress, accomplishments
- provide handouts of what's on the screen
 - Audio system lacked clarity
 - Combine meeting with specific subject training tied to one of the APDES requirements in the afternoon
 - permit examples for industry, development, and redevelopment
 - provide signage to where the building is located
 - if possible get more design/engineering community involved
 - more examples of projects and methods
 - presentation on permit overview somewhat dry; might be improved with more good/bad examples and photos
 - I like short and sweet. Maybe breaking in similar groups to talk about how different groups are meeting permit requirements
 - Breakout on specific treatment BMPs, how well or not so well they work, based on actual use here in Anchorage
 - Provide training and CECL program in an extended 20day training
 - findings on monitoring, review of lessons learned
 - add a microphone for questions

5. Do you have specific comments about the following aspects of the meeting program?

- **Program agenda**
- Good flow to meeting
- clarify topics discussed by speakers

- **Permit overview**

- Ok as presented; not too much or too little date/meeting specific for in-depth discussion schedule • too restrictive

- Great • would have been nice to have a • more detail on permit compliance

- **Permit perspectives**

More nuts and bolts; design examples, problems and how solved the seven topics were covered well for the time and audience as more people/groups work in the permit, bring more questions next year Informal discussion were not very constructive

- **Meeting location and services**

- Good choice • great • location is fine • nice facility • excellent

- **Number of speakers**

- More detailed instructions to speakers about what to cover • liked large variety • well balanced

6. Any other suggestions or comments?

- Have people write comments & questions on comment cards as they think of them during presentation, then turn them in and direct to specific speakers
- An email with all information reviewed today would be helpful
- Like half-day but wouldn't mind more specific detailed speakers –full day?
- Permit review process and staff's tools for site specific design for community wide permit would be good to hear about
- Make sure these types of meetings continue
- Need more examples of the changes to permit
- Go over the changes and anticipated new regulations
- Would like to hear what inspectors are looking for
- Would like to know how to get funding to comply
- Please provide a point-by-point manual for compliance in operations by MOA staff
- Better to have panel style for last set of speakers to encourage more audience interaction
- Collect and recycle name tags
- Provide a list of local and online resources for developing SWMPs and innovative design