



Road Operations

Pierce County Public Works & Utilities
Road Operations Division

Pierce County

A graphic illustration of a road maintenance scene. A black road with white dashed lines curves from the bottom left towards the center. Several orange and white traffic cones are placed along the road, with one large cone in the foreground on the left and several smaller ones further down the road. The background is a gradient of orange and yellow.

**ROAD MAINTENANCE
NPDES COMPLIANCE
AND ASSET MANAGEMENT**

Phase 1 NPDES Road Maintenance Compliance Requirements

- S5.C.8.b.iv. Illicit Discharge and Detection Elimination (IDDE) staff training → Train all field staff who may come into contact with an illicit discharge
- S5.C.8.b.vii Response Process → Establish procedures to respond to illicit connections
- S5.C.9.b.iii (1) Annual Facility Inspection → Create system to annually inspect county owned stormwater facilities
- S5.C.9.b.iii (2) Major Event Inspection → Create system to spot check facilities after major storm events



Phase 1 NPDES Road Maintenance Compliance Requirements

- S5.C.9.b.iv Catch Basin Maintenance → Annual Inspections
- S5.C.9.b.v. Records → Maintain records of inspections, maintenance actions, and repairs
- S5.C.9.b.vi Road and Parking Lot Maintenance → Establish practices to reduce pollutants from parking lots and roads
- S5.C.9.b.vii Road and Park Maintenance → Review and update policy on controlling pollutants from County maintained facilities



Phase 1 NPDES Road Maintenance Compliance Requirements

- S5.C9.b.viii Employee Training → Develop a training program to protect water quality
- S5.C.9.b.ix. Implement Stormwater Pollution Prevention Plan (SWPPP) for Facilities → Develop SWPPPs for all County equipment storage/maintenance facilities and materials storage facilities not already covered by an NPDES permit



S5.C.8.b.iv. IDDE Staff Training

All County Road Maintenance staff receive IDDE training every year consisting of:

- 15 minute IDDE training video produced by the EPA and the state of Michigan
- Powerpoint presentation focusing on common problems

Organic Sheen



Turbidity



Foaming & Tannins



S5.C.8.b.iii (1) Response Process

Field Staff Report Illicit Discharges to Supervisors

Below is the reported information:

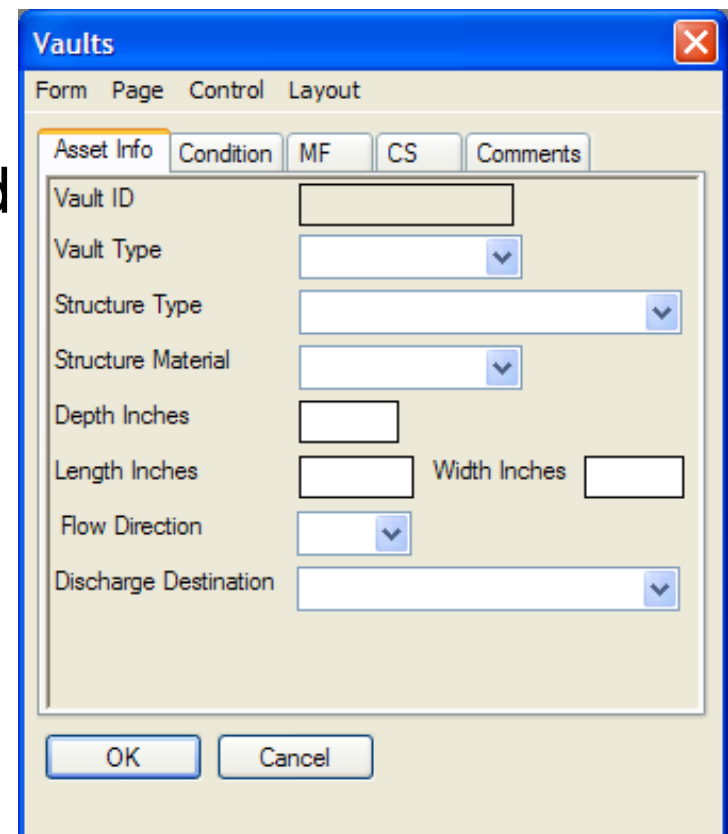
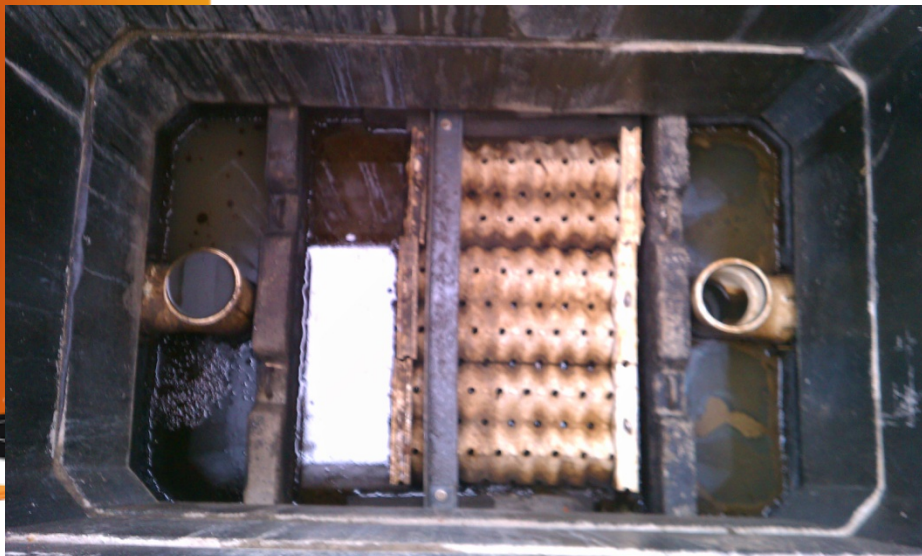
- ✓ Is the connection actively discharging?
- ✓ Is there an odor associated with the discharge?
- ✓ When was the illicit discharge found?
- ✓ Where is the illicit discharge?
- ✓ When did the material spill



S5.C.9.b.iii (1) Annual Facility Inspection

Pierce County Road Operations employs an asset management system for annual inspections of Stormwater Treatment and Flow Control Facilities

- ✓ Data is collected in Arcpad with laptop computers
- ✓ Data is processed and stored in Maintenance Connections
- ✓ Work is then prioritized and scheduled



Vaults

Form Page Control Layout

Asset Info Condition MF CS Comments

Vault ID

Vault Type

Structure Type

Structure Material

Depth Inches

Length Inches Width Inches

Flow Direction

Discharge Destination

OK Cancel

S5.C.9.b.iii (2) Major Event Inspections

All potentially damaged permanent treatment and flow control facilities need to be inspected after a 10 year 24 hour rainfall event occurs

✓ Completed via watershed approach

Return Frequency 24 Hour Storm Event (Years)	Tacoma/Puyallup Southern Pierce County	Gig Harbor	Key Peninsula North
.5	1.28	1.6	1.92
2	2.0	2.5	3.0
5	2.5	3.0	3.5
10	3.0	3.5	4.3
25	3.5	4.0	4.5-5.0
50	3.8	4.5	5.0-5.5
100	4.1	4.8	5.5-6.0



S5.C.9.b.iv Catch Basin and Inlet Maintenance

Three options:

- 1) Circuit based
- 2) Inspect all and clean only where needed
- 3) Schedule based on maintenance records of double the length of time of the proposed inspection frequency or
- 4) Written statements to document a less frequent maintenance schedule

Pierce County started with a circuit based approach and moved to the inspect all option




S5.C.9.b.v Records

Pierce County has implemented an asset management system which tracks maintenance actions digitally

- ✓ All roadside maintenance features are inspected regularly
- ✓ Laptop computers in all Vactor trucks
- ✓ Scheduling and work orders are generated via maintenance connections

Work Orders (No Grouping) Page 1 of 1

 **Pierce County**
Public Works and Utilities
Road Operations

Work Order D1-31339
District 1
Sent 10/6/2011 - 9:32:01 AM
(Duplicate Copy)

Maintenance Details

Requested By: Zurluh, Tom on 9/26/2011 3:02:00 PM
Target: 9/29/2012 (1) hr
Priority/Type: Low (360 Days From Requested Date) / Routine
Taken By: Zurluh, Tom
Procedure: 71B (71B)
Supervisor: Wells, Don

Reason: FROM MP 5.15 TO MP 5.42 (97350-5150)

Warranty Shutdown Lockout Attach Charge

Model: FAIRFAX FOREST RESERVE
Serial: RD E
Manufacturer: FROM MP 5.15 TO MP 5.42 (97350-5150)
Vicinity: Zurluh, Tom (253) 377-5687
Phone:

Tasks

#	Description	Rating	Meas.	Initials	Failed	Complete
10	WF71B (Range: 0 - 3)				<input type="checkbox"/>	<input type="checkbox"/>

Labor

Labor Account	Assigned	Work Date	Start	End	Reg Hrs	OT Hrs	Other Hrs
Bemis, Tyler	9/29/2011 / 1						

Materials/Tools

Barcode Item	Location	Account	Est Qty	Actual Qty

Labor Report

Completed: _____ Failure: _____
Report: _____

Generated By
Maintenance
@Connection®



S5.C.9.b.vi Road Maintenance Policies to Reduce Stormwater Impacts

The following activities shall be addressed:

- 1) Pipe Cleaning
- 2) Culvert Cleaning
- 3) Ditch Maintenance
- 4) Street Cleaning
- 5) Road Repair and Resurfacing
- 6) Snow & Ice Control
- 7) Utility Installation
- 8) Vegetation Management
- 9) Dust Control
- 10) Pavement Striping

✓ Pierce County has adopted the Regional Road Maintenance Guidelines which directs how to perform these activities and protect water quality

✓ Guidelines are outcome based

✓ Guidelines may be found at

[//www.co.pierce.wa.us/pc/abtus/ourorg/pwu/roadops/ESA_Manual.htm](http://www.co.pierce.wa.us/pc/abtus/ourorg/pwu/roadops/ESA_Manual.htm)



S5.C.9.b.vii Road Maintenance Policies to Reduce Stormwater Impacts from lands owned or maintained by permittee

Similar to S5.C9.b.vi, addresses:

- 1) Application of Fertilizers and Pesticides
- 2) Sediment and Erosion Control
- 3) Landscape Maintenance
- 4) Trash Management
- 5) Building Cleaning and Maintenance

- ✓ Pierce County has adopted the Regional Road Maintenance Guidelines which covers some of these activities
- ✓ Developed an IVM plan
- ✓ Developed a Stormwater Pollution Prevention Plan for all facilities



S5.C.9.b.viii Employee Training

Pierce County is an active member in the Regional Road Maintenance Forum. As a forum member, all employees are trained on the proper selection, installation, monitoring and removal of Best Management Practices

- ✓ Regional Forum BMP training meets CESCL certification
- ✓ Field and classroom sessions
- ✓ Partners include the UW, NMFS, and Ecology



S5.C.9.b.ix Implement Stormwater Pollution Prevention Plans (SWPPP's) for All Facilities

- ✓ Pierce County has developed SWPPP's for all facilities
- ✓ Living document that tracks all of the activities at the facility designed protect water quality
- ✓ Training records
- ✓ Facility maintenance
- ✓ Spills
- ✓ Inspections



SWPPP FOR ROAD OPERATIONS FACILITIES

Stormwater Pollution Prevention Plan



January 2011

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Thank you!

