SWPPP Implementation

Site management, inspections, amendments and corrective actions

2011North Dakota Storm Water & Pollution Control Conference
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Gladstone Inn & Suites, Jamestown ND
Dwayne Stenlund, MSc., CPESC
Resource Professionals Alliance

NDWPCC

Defined Responsible Parties

Contractor Quality Control Program

- **Ensuring compliance with contractor permit provisions**
- **Conducting contractor NPDES inspections**
- **Maintaining a contractor NPDES inspection log**
- **Incorporating erosion control work into the project**
- **Mulching/Seeding in a timely manner**
- **Proper maintenance of devices**
- **Removal of devices**
- **A certified erosion control supervisor to conduct program**

Erosion Control Supervisor

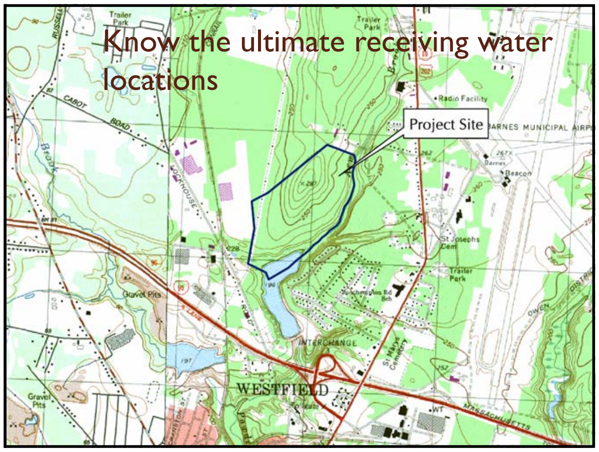
- Must be available by phone 24 hrs/day 7 days a week
- Must be knowledgeable (certified) in erosion/sediment control site management
- Must be able to respond to emergency situations at the job site within 12 hrs
- Responsible for implementing ***all*** the provisions of the storm water pollution prevention plan

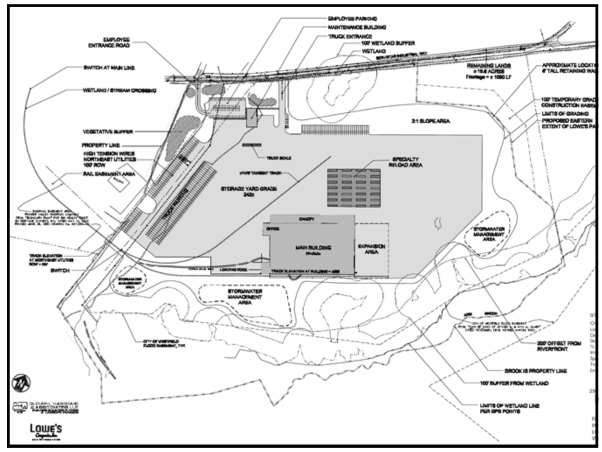
Erosion Control Supervisor

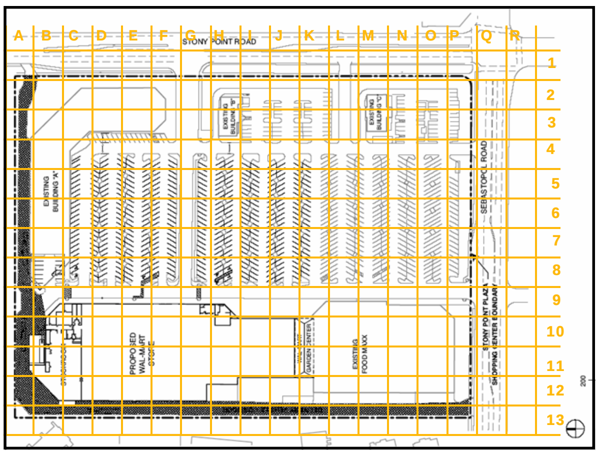
- 1. Coordinate work of subcontractors.
- 2. Prepare weekly erosion control schedules.
- 3. Attend all weekly construction meetings.
- 4. Prepare the erosion/sediment control site amendment and corrective action plans.
- 5. Provide erosion/sediment control for contractor's temporary work.
- 6. Ensure that permits are acquired and complied with for borrow pits, dewatering, temporary work in rivers/streams etc.

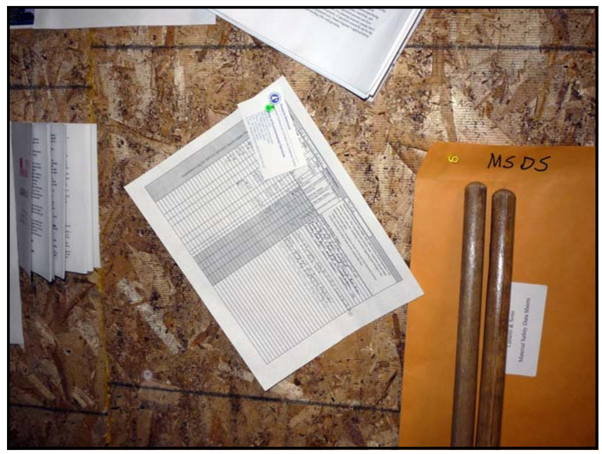
Erosion Control Supervisor Cont.

- 7. Ensure that erosion/sediment control work is done in a timely manner and meets permit requirements.
- 8. Ensure project is stabilized prior to suspension of the work.
- 9. Coordinate with all Federal and State Agencies.
- 10. Ensure that proper cleanup occurs from vehicle tracking on paved surfaces.
- 11. Ensure that proper cleanup occurs where sediment leaves the right-of way.









Installation of sod at curbs prevents sediment from running off a site.

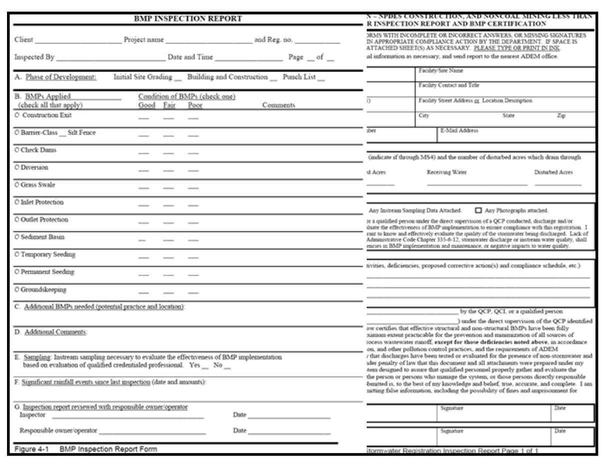
Best Management Practices

Best Management Practices (BMPs) are methods to control, prevent, and minimize stormwater pollution. They can include:

- preserving existing vegetation whenever possible
- staging construction sequence to avoid or minimize soil disturbance
- installation of controls like seeding, sodding, soil stabilization, diversions, stream crossings, sediment basins, silt fences, site entrance pads, storm drain inlet protection

The MPCA manual *Protecting Water Quality in Urban Areas* available on the MPCA Web site provides more details on these practices.

See page 16 of the permit for more information.



BMP INSPECTION REPORT

Client ____________ Project name ____________ and Reg. no. ________

Inspected By ____________ Date and Time ____________ Page __ of __

A. Phase of Development: Initial Site Grading __ Building and Construction __ Punch List __

B. BMPs Applied (check all that apply)	Condition of BMPs (check one) Good	Fair	Poor	Comments
○ Construction Exit	___	___	___	
○ Barrier-Class __ Silt Fence	___	___	___	
○ Check Dams	___	___	___	
○ Diversion	___	___	___	
○ Grass Swale	___	___	___	
○ Inlet Protection	___	___	___	
○ Outlet Protection	___	___	___	
○ Sediment Basin	___	___	___	
○ Temporary Seeding	___	___	___	
○ Permanent Seeding	___	___	___	
○ Groundskeeping	___	___	___	

C. Additional BMPs needed (potential practice and location):

D. Additional Comments:

E. Sampling: Instream sampling necessary to evaluate the effectiveness of BMP implementation based on evaluation of qualified credentialed professional. Yes __ No __

F. Significant rainfall events since last inspection (date and amounts):

G. Inspection report reviewed with responsible owner/operator
Inspector ____________ Date ____________
Responsible owner/operator ____________ Date ____________

Figure 4-1 BMP Inspection Report Form

							PERMIT NO.
SECTION L – EFFLUENT/RECEIVING WATER OBSERVATIONS (Further explanation attached ______________)							
OUTFALL NO.	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	VISIBLE FLOAT SOLIDS	COLOR	OTHER

(Sections M and N: Complete as appropriate for sampling inspections)

SECTION M – SAMPLING INSPECTION PROCEDURES AND OBSERVATIONS (Further explanation attached ______________)

_ GRAB SAMPLES OBTAINED

_ COMPOSITE OBTAINED

_ FLOW PROPORTIONED SAMPLE

_ AUTOMATIC SAMPLER USED

_ SAMPLE SPLIT WITH PERMITTEE

_ CHAIN OF CUSTODY EMPLOYED

_ SAMPLE OBTAINED FROM FACILITY'S SAMPLING DEVICE

COMPOSITING FREQUENCY ______________________________ PRESERVATION ______________________________

SAMPLE REFRIGERATED DURING COMPOSITING: _ YES _ NO

NPDES STORM WATER CONSTRUCTION COMPLIANCE INSPECTION REPORT FOR CONTRACTORS

NPDES PERMIT NO.: **DATE OF INSPECTION:**
PROJECT NAME: **COUNTY:**
PROJECT DESCRIPTION (check one): ☐ **Residential** ☐ **Commercial** ☐ **Other:**

I. TYPE OF INSPECTION:

☐ 1) At least once every 7 calendar days, or
☐ 2) At least once every 14 calendar days and within 24 hrs of the end of a storm event of 0.5 inches or greater.

II. WEATHER CONDITIONS

1) Weather conditions during inspection:
2) Weather conditions since last inspection, including rainfall information:

III. SITE AND PLAN REVIEW

Are the following required items available for regulatory review:

☐ Y ☐ N 1) SWPPP
☐ Y ☐ N 2) Copy of the General Permit
☐ Y ☐ N 3) NOI
☐ Y ☐ N 4) DHEC Coverage Letter
☐ Y ☐ N 5) Co-permittee agreements or contractor certification statements
☐ Y ☐ N 6) Weekly inspection forms

IV. BEST MANAGEMENT PRACTICES

☐ Y ☐ N 1) Is the Construction entrance/exit properly installed according to plans
☐ Y ☐ N 2) Is the perimeter silt fence and/or other controls properly installed
☐ Y* ☐ N 3) Did any BMPs fail to operate as designed or prove inadequate? *If **Yes**, Identify BMPs and location(s):

☐ Y* ☐ N 4) Are additional BMPs needed? *If **Yes**, identify BMPs needed and which location(s):

☐ Y* ☐ N 5) Do any BMPs require maintenance? * If **Yes**, provide location(s) and description(s):

☐ Y ☐ N 6) Is construction activity following the phasing and sequencing plan?
☐ Y ☐ N 7) Has construction activity on the site ceased for 14 days or more?

☐ Y ☐ N* 8) If activity has ceased, have temporary stabilization measures been installed within 14 days? *If **No**, identify location(s) needing stabilization:

☐ Y ☐ N* 9) Are litter, construction debris, oils, fuels, building products & construction chemicals being properly addressed and/ or removed? *If **No**, identify location(s):

V. FINAL STABILIZATION

☐ Y* ☐ N Have all land disturbing activities at the site permanently ceased? *If **Yes**, complete the following questions:
☐ Y ☐ N 1) Are there any areas of active erosion evident? If **Yes**, location(s):

☐ Y ☐ N 2) Does the permitted area have 70% permanent vegetative cover (i.e. grass or other cover) **OR** have equivalent measures such as riprap, or geotextiles been installed?

Attachment B: Sample Maintenance Records

	Type of Inspection		Date of Inspection				Time of Inspection			Areas Inspected							Findings and Corrective Actions
Inspector	Routine weekly	24 hrs after rain	Month	Day	Year	Rainfall (record all events > 0.5 in)	Time	AM	PM	Erosion / Sediment Control BMPs	Silt Fences	Sedimentation basins	Drainage ditches and other surface waters	Construction site exits	Infiltration areas	Pollution Prevention Measures	
																	Findings: Corrective Actions:
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Temporary, Permanent Sediment Basin Checklist
Project Site Name/Location ______________________ Date _______
Permanent –temporary (circle) sedimentation basins:
(location/ID)________________________
• Required basin installed (> 10 acres/ single point (T) or >1 acre new impervious (P)? Yes No
• Does basin have energy dissipation for outlet? Yes No
• Stabilized emergency overflow outlet? Yes No
• Was basin constructed /operational concurrent with construction? Yes No
• Are lopes stabilized with permanent cover or temporary erosion protection within 200' of surface water? Yes No
• Is basin connected to surface waters? Yes
Name/description waters: _________________________
• Was discharge- connection stabilized within 24 hours of connecting? Yes No
• Dewatering: Onsite to a temp. settling basin? Yes No
If offsite, is water turbid? Yes No
Turbidity Reading ________________
Photograph Number _______________
• If no settling basin, was appropriate BMPs for turbidity and scour applied? Yes No
• Is discharge from site creating a nuisance conditions or WQ violations? Yes No
Observations:

Transportation Infrastructure April 20, 2006

Table 3.2

ESC INSPECTION FORM

ESC Inspections to be done every 7 days and within 24 hrs of rainfall event

Project Name: Nose Hill Drive Interchange Inspection Date: ________________

Address of Construction Site: Nose Hill Drive/Crowchild Trail ____________

Inspection Completed by (name and company): ______________________________

Actions to be Completed by (name and company): ______________________________

Weather Conditions: ________________ Stage of Construction: ________________

Drainage or Dewatering Permit Expiry Date (if applicable): ______________________

ESC Measures in Place
(✓ = Satisfactory × = Unsatisfactory – = Not Applicable)
Any unsatisfactory measures will be described in table below.

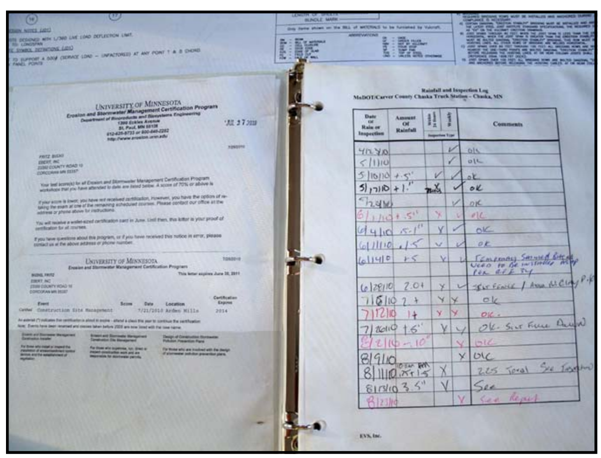
[ ] Approved ESC plan in place, copy kept on site, current to present site conditions/phasing
[ ] Cover of rough grades
[ ] Steep slopes stabilized
[ ] Dust control
[ ] Silt fences/perimeter controls
[ ] Interceptor swales
[ ] Temporary stream crossing
[ ] Permanent stabilization of completed areas
[ ] Construction contained within site boundaries
[ ] Stockpiles stabilized & contained
[ ] Site entrance/mud tracking controlled
[ ] Catchbasin protection
[ ] Sediment traps or ponds
[ ] Dewatering/pumping practices
[ ] Temporary controls removed within 30 days of final site stabilization

Unsatisfactory Measures or Additional Measures Required

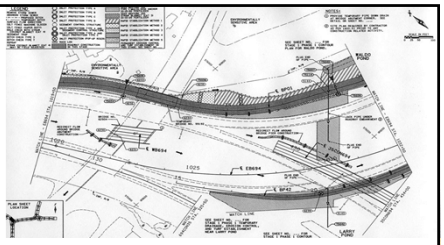
ESC Measure & Location Photo/Notes Reference #	Description of Required Action	Date to be Completed

Drainage/Dewatering Permit or to update ESC Plan to current site conditions/phasing

Abutment slopes or south sid interchan bridge



Build a form



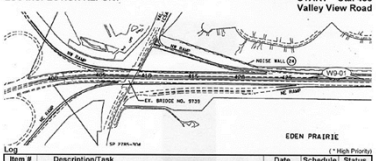
Item/ Location	Description/Task	Date	Correction Schedule Date	Status

Granite McCrossan 494

Report No. 14

ESC INSPECTION REPORT

START – Sta. 435 Valley View Road



Log (* High Priority)

Item #	Description/Task	Date	Schedule	Status
W9-01	**Sta. 400 – 428** Stabilize exposed soil. 10-21-04 Not completed. Stabilize median areas. 10-29-04 ESC required within 7 days of completed grading operations. Area currently being worked. 11-11-04 Some median portions not completed. 11-16-04 409-413R, 417-425 not completed.	10-14-04	11/0	Open
W11-01	Check all areas of blanket installation. Re-install as needed using Cat 3 in ditch bottoms and Cat 1 for slopes only. Edge of temporary pavement should be covered with Cat 1 per plans. 11-04-04 Blanket re-install not completed. Nothing at edge of pavement. 11-11-04 In progress. Nothing at edge of pavement.	10-29-04	11/4	Open
W14-01	**Valley View NB Ramp** Inlet protection needed at top of NB ramp.	11-16-04	11/19	Open
W14-02	**Sta. 422 – 426R** Stabilize area next to NB Ramp.	11-16-04	11/19	Open
W14-03	**Sta. 426R** Repair silt fence.	11-16-04	11/19	Open
W14-04	**Sta. 426 - 428** Stabilize Sta. 432-439, Sta. 443-450, Sta. 459-488, Sta. 632-642, Sta. 661-668 CL.	11-16-04	11/30	Open
W14-05	**Sta. 428 - 432** Stabilize Sta. 439-443, Sta. 455-459, Sta. 488-503	11-16-04	11/19	Open

VI. Offsite Impacts from Project

1) Are there any offsite impacts? ☐ **Yes** ☐ **No** If yes, where? ☐ Public Right of Way ☐ Adjoining Property Owner ☐ Wetlands ☐ Creek/River ☐ Lake/Pond ☐ Other (please specify):

2) If answering "**Yes**" to the previous question, indicate the location and describe the impact:

VII. Deficiencies/ Corrective Actions

Were deficiencies noted in this inspection previously listed in a monthly report? ☐ Yes ☐ No
Corrective Action needed as a result of this inspection, including date to be completed:

VIII. Storm Water Pollution Prevention Plan Updates

Y ☐ **N** ☐ 1) Does the SWPPP need to be modified as a result of the inspection?
Y ☐ **N** ☐ 2) Has the SWPPP been modified since the last inspection? If so, note the date(s):

IX. Comments

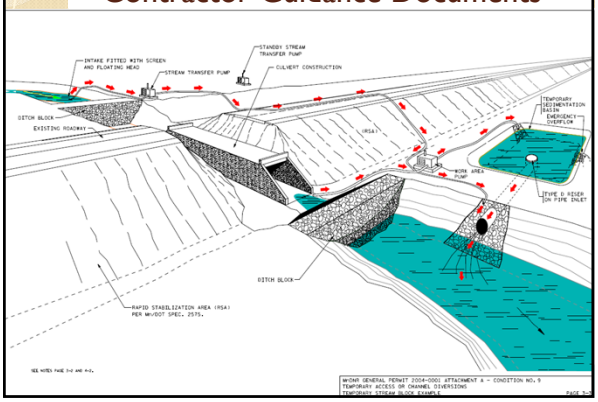
Inspector: **Title/Qualifications:**

Must Define the SWPPP amendment process

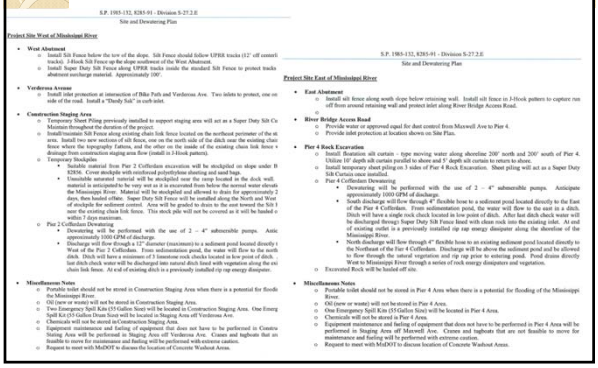
Corrective Action Plan Amendment

Corrective Action Plan Amendment

Contractor Guidance Documents



Amendment Process = Site Plan



S.P. 1985-132, 8285-91 - Division S-27.2.E
Site and Dewatering Plan

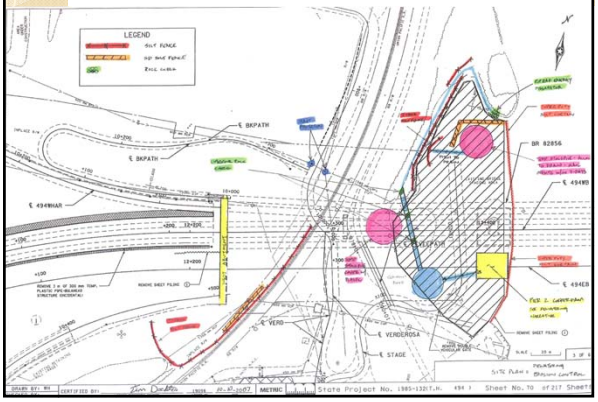
Project Site West of Mississippi River

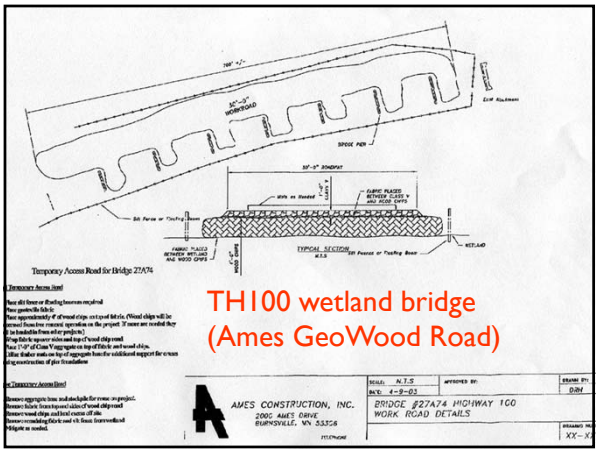
- **West Abutment**
  - Install Silt Fence below the toe of the slope. Silt Fence should follow UPRR tracks (12' off center) tracks). 3-Hook Silt Fence up the slope southwest of the West Abutment.
  - Install Super Duty Silt Fence along UPRR tracks inside the standard Silt Fence to protect tracks abutment surcharge material. Approximately 100'.
- **Verderosa Avenue**
  - Install inlet protection at intersection of Bike Path and Verderosa Ave. Two inlets to protect, one on side of the road. Install a "Doody Sak" in curb inlet.
- **Construction Staging Area**
  - Temporary Sheet Piling previously installed to support staging area will act as a Super Duty Silt Co Maintain throughout the duration of the project.
  - Install/maintain Silt Fence along existing chain link fence located on the northeast perimeter of the st area. Install two new sections of silt fence, one on the north side of the ditch near the existing chai fence where the topography flattens, and the other on the inside of the existing chain link fence t drainage from construction staging area flow (install in 3-Hook pattern).
  - Temporary Stockpiles:
    - Suitable material from Pier 2 Cofferdam excavation will be stockpiled on slope under B 82856. Cover stockpile with reinforced polyethylene sheeting and sand bags.
    - Unsuitable saturated material will be stockpiled near the ramp located in the dock wall. material is anticipated to be very wet as it is excavated from below the normal water elevati the Mississippi River. Material will be stockpiled and allowed to drain for approximately 2 days. Silt Fence, Super Duty Silt Fence, or Straw Bales will be installed along the bottom and sid of stockpile for sediment control. Material will be hauled to the dock wall to be placed on Silt F near the existing chain link fence. This stock pile will not be covered as it will be loaded o within 7 days maximum.
  - Pier 2 Cofferdam Dewatering
    - Dewatering will be performed with the use of 2 – 4" submersible pumps. Antic approximately 1000 GPM of discharge.
    - Discharge will flow through a 12" diameter (maximum) to a sediment pond located directly West of the Pier 2 Cofferdam. From sedimentation pond, the water will flow to the north ditch. Ditch will have a minimum of 3 limestone rock checks located in low point of ditch. last ditch check water will be discharged into natural ditch lined with vegetation along the es chain link fence. At exit of existing ditch is a previously installed rip rap energy dissipater.
- **Miscellaneous Notes**
  - Portable toilet should not be stored in Construction Staging Area when there is a potential for floodi the Mississippi River.
  - Oil (new or waste) will not be stored in Construction Staging Area.
  - Two Emergency Spill Kits (55 Gallon Size) will be located in Construction Staging Area. One Emerg Spill Kit (55 Gallon Drum Size) will be located in Staging Area off Verderosa Ave.
  - Chemicals will not be stored in Construction Staging Area.
  - Equipment maintenance and fueling of equipment that does not have to be performed in Constru Staging Area will be performed in Staging Area off Verderosa Ave. Cranes and tugboats that are feasible to move for maintenance and fueling will be performed with extreme caution.
  - Request to meet with MnDOT to discuss the location of Concrete Washout Areas.

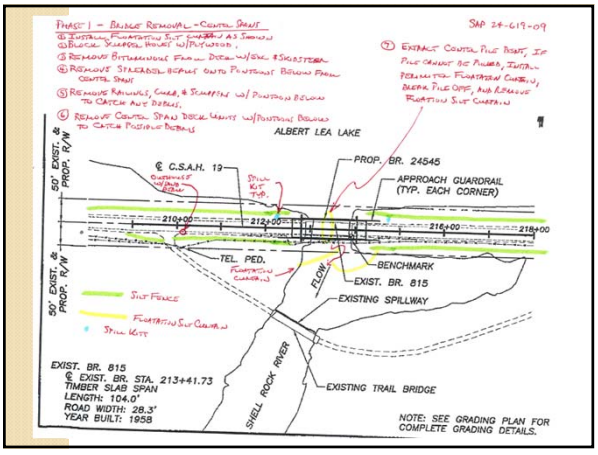
S.P. 1985-132, 8285-91 - Division S-27.2.E
Site and Dewatering Plan

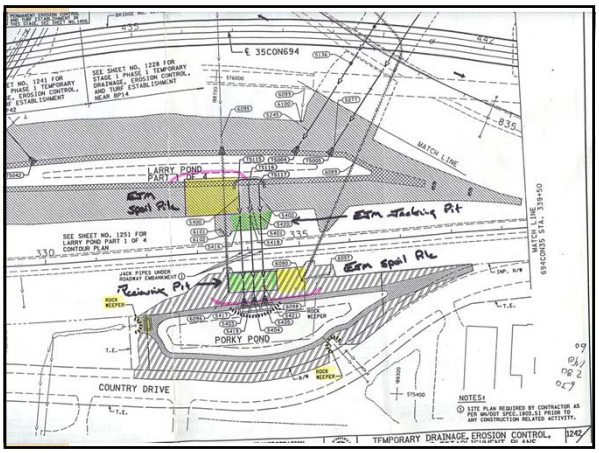
Project Site East of Mississippi River

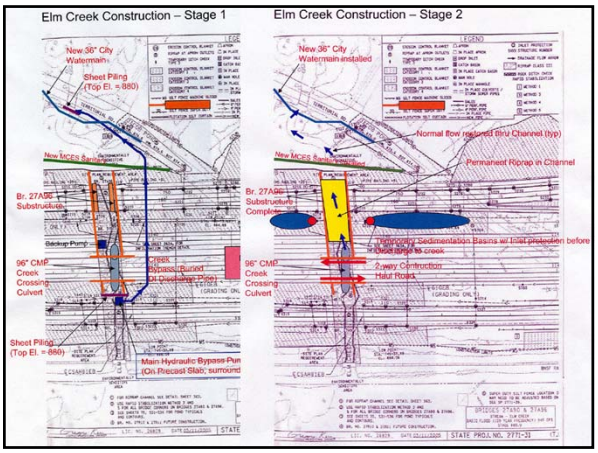
- **East Abutment**
  - Install silt fence along south slope below retaining wall. Install silt fence in 3-Hook pattern to capture run off from around retaining wall and protect inlet along River Bridge Access Road.
- **River Bridge Access Road**
  - Provide water or approved equal for dust control from Maxwell Ave to Pier 4.
  - Provide inlet protection at location shown on Site Plan.
- **Pier 4 Rock Excavation**
  - Install floatation silt curtain – type moving water along shoreline 200' north and 200' south of Pier 4. Utilize 10' depth silt curtain parallel to shore and 5' depth silt curtain to return to shore.
  - Install temporary sheet piling on 3 sides of Pier 4 Rock Excavation. Sheet piling will act as a Super Duty Silt Curtain once installed.
  - Pier 4 Cofferdam Dewatering
    - Dewatering will be performed with the use of 2 – 4" submersible pumps. Anticipate approximately 1000 GPM of discharge.
    - South discharge will flow through 4" flexible hose to a sediment pond located directly to the East of the Pier 4 Cofferdam. From sedimentation pond, the water will flow to the east in a ditch. Ditch will have a single rock check located in low point of ditch. After last ditch check water will be discharged through Super Duty Silt Fence lined with chain link into the existing inlet. At end of existing outlet is a previously installed rip rap energy dissipater along the shoreline of the Mississippi River.
    - North discharge will flow through 4" flexible hose to an existing sediment pond located directly to the Northeast of the Pier 4 Cofferdam. Discharge will be above the sediment pond and be allowed to flow through the natural vegetation and rip rap prior to entering pond. Pond drains directly West to Mississippi River through a series of rock energy dissipaters and vegetation.
  - Excavated Rock will be hauled off site.
- **Miscellaneous Notes**
  - Portable toilet should not be stored in Pier 4 Area when there is a potential for flooding of the Mississippi River.
  - Oil (new or waste) will not be stored in Pier 4 Area.
  - One Emergency Spill Kits (55 Gallon Size) will be located in Pier 4 Area.
  - Chemicals will not be stored in Pier 4 Area.
  - Equipment maintenance and fueling of equipment that does not have to be performed in Pier 4 Area will be performed in Staging Area off Maxwell Ave. Cranes and tugboats that are not feasible to move for maintenance and fueling will be performed with extreme caution.
  - Request to meet with MnDOT to discuss location of Concrete Washout Areas.





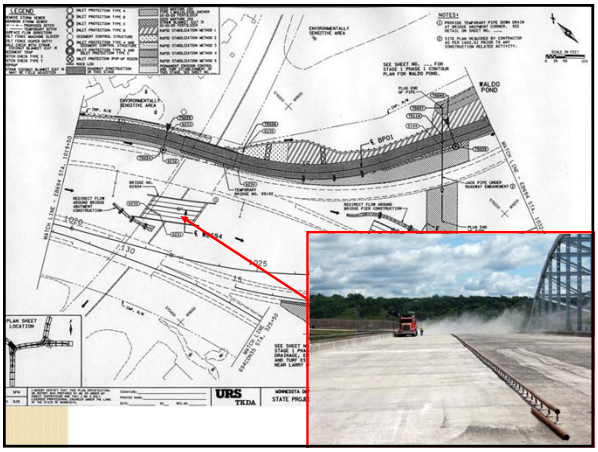


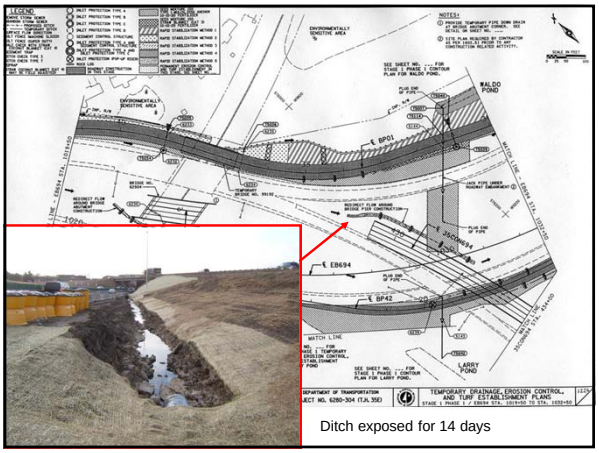




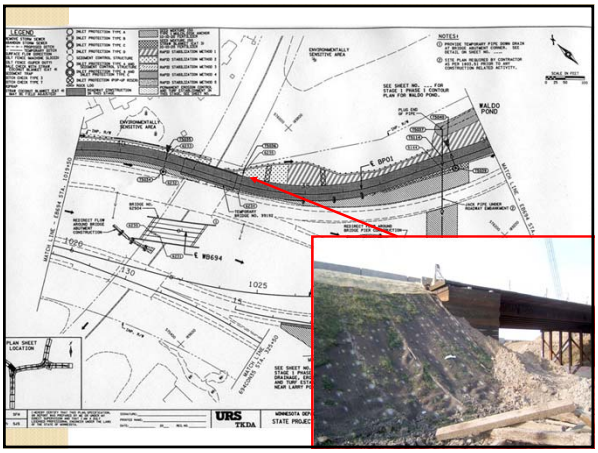
Project Review 'You Make the Call'

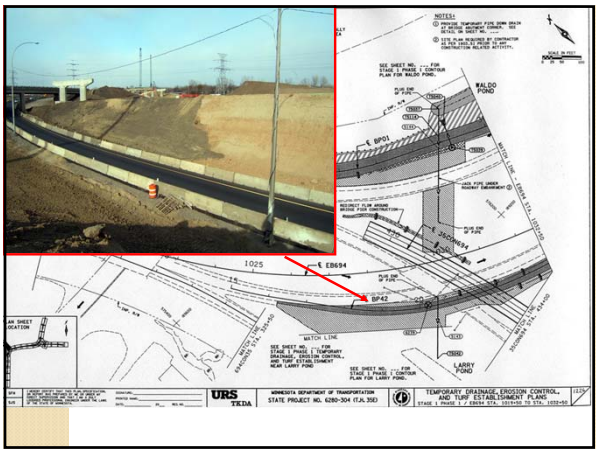
- Perimeter defense
- Trackout management
- Exposed soil stabilization
- Conveyance system stabilization
- Inlet controls
- Sediment trap/basin management
- Dewatering protocols
- Good housekeeping

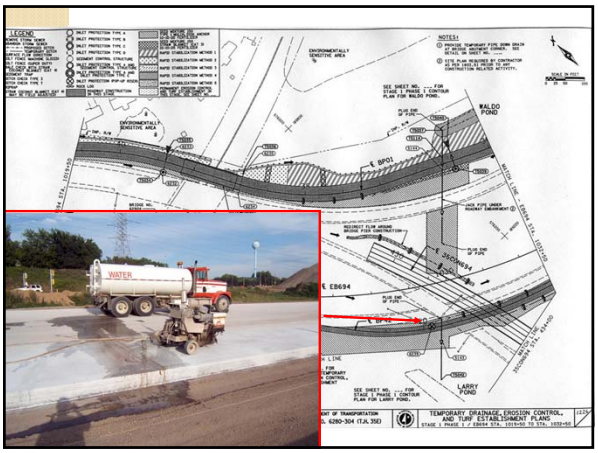


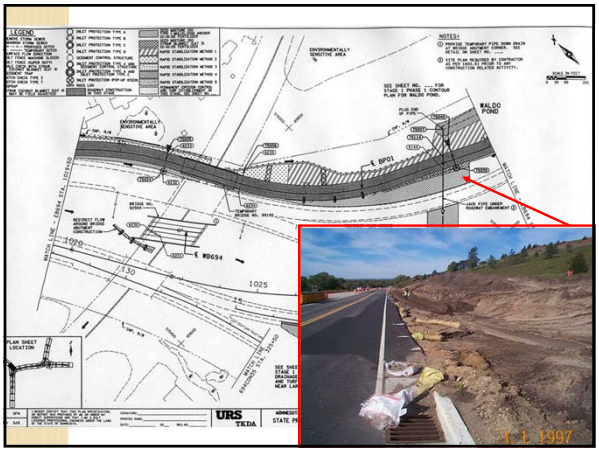


Ditch exposed for 14 days




WALDO POND
LARRY POND
TEMPORARY DRAINAGE, EROSION CONTROL, AND TURF ESTABLISHMENT PLANS


WATER
WALDO POND
LARRY POND
TEMPORARY DRAINAGE, EROSION CONTROL, AND TURF ESTABLISHMENT PLANS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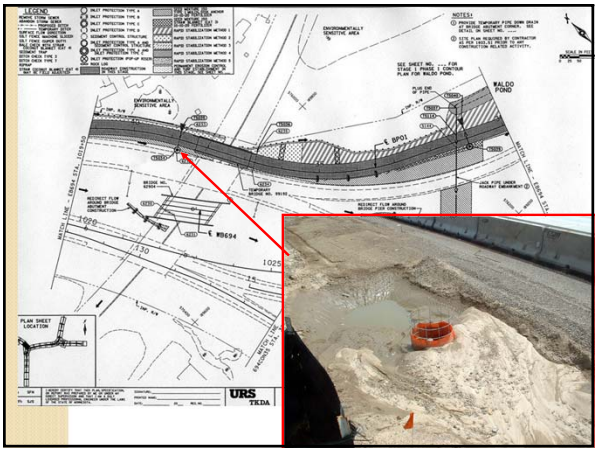
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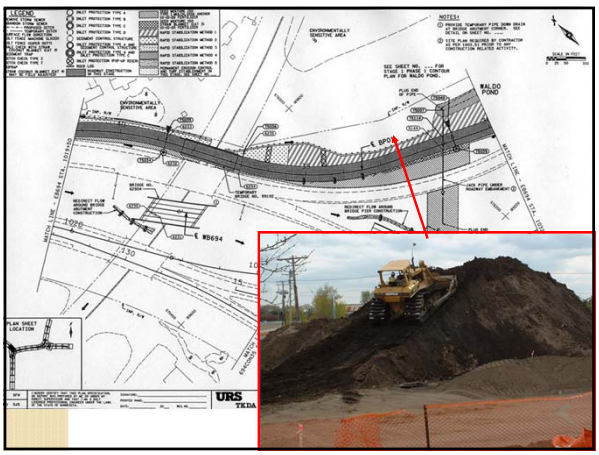
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