

SITE LOCATION: CSAH 61-Flying Cloud Drive

PURPOSE: Construction Stormwater Site Visit on Behalf of the Lower Minnesota River Watershed District (LMRWD)

DATE & TIME: 21 December 2018, 0820-1000

INSPECTOR: Sarah Duke Middleton, Water Resources Scientist
Young Environmental Consulting Group, LLC

WEATHER: 24°F, overcast with light winds

SITE CONDITIONS: Recent warm weather (temperatures in the 30s and low 40s) has resulted in several days of snowmelt across the site. Light intermittent rain also fell during this warm period with no measurable accumulation. In undisturbed locations, the site is firm but not frozen. In active construction areas where dirt work is taking place, the soil is soft. Snowpack across the project ranges from 0 (exposed soils) to 1 inch. Approximately 10 percent of the site has snow cover.

PHASE: Active construction, including the construction of walls, preparation for bridge construction (predominately in the middle section of the project), and some grading.

DISCUSSION

At the start of my site inspection I met with Ames Construction Site Manager Nathan Bren. He provided a general overview of site activities. He stated that crews are working on walls throughout the project and installing pylons. I indicated that during frozen conditions, I will visit the site on a monthly basis, unless otherwise directed by the LMRWD.

INSPECTION NOTES

Significant snowmelt has taken place on site since the December 4th site visit. Previous snowpack, 3-6 inches in depth, has melted. Much of the site has bare ground, with a few small patches of snow.

Bare ground conditions allowed for a clear view of grading activities. Since the last inspection, several areas of the project have been graded, including places that previously had extensive erosion. These areas were quite soft, and my boots sank into the soil at least 1-2 inches. See photos 26, 34, and 36 for grading activities.

Dewatering is still taking place in several locations. The dewatering setups can be seen in photos 10-12 and 15.

Site stabilization efforts were observed throughout the project, predominately in the form of hydromulch. During my site visit, I observed a crew stabilizing several slopes with fresh hydromulch. These areas appeared to have been recently regraded.

See the attached photo log for documentation of current site conditions.

RECOMMENDATIONS

Lower Minnesota River Watershed District:

- Attend the next project meeting to present the District's concerns about erosion and sediment management of the project as well as the potential negative effects to adjacent water and natural resources.

Project Team/Site Supervisor:

- Numerous BMPs appear to have failed. Review site conditions (slope, drainage, etc.), and provide and install appropriate BMPs for site conditions and anticipated seasonal precipitation.
- Culverts draining stormwater: Culverts on the northern side of the road receive drainage from nearby construction activity. Without BMPs in place, sediment-laden stormwater flows directly into the culvert and outputs into Rice Lake or other down-gradient water features. See the following photos for reference: 3-5 and 21-22.
- Actively maintain and install all site BMPs per regulatory requirements, design, and installation specifications.
- Remove construction debris and trash from the site (used oil bottles, fiber, rope, food waste, etc.).

NEXT PROJECT SITE VISIT

Site visits will take place on a monthly basis during frozen conditions, unless warmer weather or a rain event occur. The next site visit will take place in mid-January 2019, unless otherwise directed by the LMRWD.

PHOTO LOG

The following photographs were taken during the site visit on Friday, December 21, 2018. All photos show a red arrow indicating north and a text box indicating the general location of Rice Lake. Aerial photos of the project site are incorporated to designate where site features are located/photographed.

Due to the linear nature of the project, the site has been divided into four segments (see aerial photo ->). The photo log will highlight locations of site features at the segment level.





Segment 1



Photo No.: 1

Location: 44°48'49.30"N 93°31'57.53"W

BMPs Present: Green geotextile blanket; two rows of silt fence

Description: ROW conditions after significant snowmelt. This section of the project is stable with no evidence of new erosion.

	<p><u>Photo No.:</u> 2</p> <p><u>Location:</u> 44°48'49.82"N 93°31'57.79"W</p> <p><u>BMPs Present:</u> None visible</p> <p><u>Description:</u> New utilities installed on northern side of the ROW (since December 4th site visit).</p>
	<p><u>Photo No.:</u> 3</p> <p><u>Location:</u> 44°48'50.48"N 93°31'53.97"W</p> <p><u>BMPs Present:</u> None visible</p> <p><u>Description:</u> Culvert inlet alongside the original roadway. This inlet is on the southern side of the road.</p>
	<p><u>Photo No.:</u> 4</p> <p><u>Location:</u> 44°48'50.23"N 93°31'53.52"W</p> <p><u>BMPs Present:</u> Straw blanket; two rows silt fence</p> <p><u>Description:</u> Outlet culvert (see photo 3 for inlet). The straw mulch blanket is a new addition, installed after my last site visit (December 4th).</p>

 <p>Rice Lake</p>	<p>Photo No.: 5</p> <p>Location: 44°48'48.72"N 93°31'53.38"W</p> <p>BMPs Present: Two rows of silt fencing; sandbag berms at lip of outlet</p> <p>Description: Culvert outlet. This area is stable with no evident runoff. See photo 3 and 4 for inlet.</p>
 <p>Rice Lake</p>	<p>Photo No.: 6</p> <p>Location: 44°48'49.16"N 93°31'53.29"W</p> <p>BMPs Present: Silt fence; straw mulch blanket</p> <p>Description: Close up of newly installed straw mulch blanket, downslope of the culvert outlet (see photo 5).</p>
	<p>Photo No.: 7</p> <p>Location: 44°48'50.83"N 93°31'53.27"W</p> <p>BMPs Present: Hydromulch; ESC blanket</p> <p>Description: Stabilization on the northern side of the ROW.</p>



Photo No.: 8

Location: 44°48'54.20"N 93°31'40.28"W

BMPs Present: Vegetation buffer

Description: A stream on the northern side of the ROW. Area is stable.



Photo No.: 9

Location: 44°48'54.92"N 93°31'38.63"W

BMPs Present: Silt fence; vegetative buffer

Description: Outlet of small creek (see photo 8 for upstream on north side of ROW). Area is stable and undisturbed.



Photo No.: 10

Location: 44°48'54.64"N 93°31'37.71"W

BMPs Present: Dewatering bag

Description: Dewatering taking place on the northern side of the ROW in a wetland area. This area has been used for dewatering activities for several weeks. In the past the bag has not been connected to the hose. During this inspection, the hose is attached to the black filter bag.

An older gray filter bag (referenced in previous inspection reports) is visible beneath the hose and snow.



Photo No.: 11

Location: 44°48'54.95"N 93°31'37.78"W

BMPs Present: Dewatering bag

Description: Close-up of the dewatering set up. The gray matter from previous dewatering activities (in early December and November) is visible beneath the new bag.



Photo No.: 12

Location: 44°48'55.04"N 93°31'37.60"W

BMPs Present: None visible

Description: Dewatering setup connected to bag and hose in photos 10 and 11.



Photo No.: 13

Location: 44°48'55.54"N 93°31'30.01"W

BMPs Present: Vegetative buffer

Description: ROW conditions during site visit.



Photo No.: 14

Location: 44°48'55.95"N 93°31'29.65"W

BMPs Present: None visible

Description: Northern side of ROW conditions.



Photo No.: 15

Location: 44°48'56.32"N 93°31'27.26"W

BMPs Present: Vegetative buffer; dewatering bag

Description: Dewatering setup on the southern side of the ROW. At the time of the site visit, dewatering was not taking place.



Photo No.: 16

Location: 44°48'56.73"N 93°31'26.53"W

BMPs Present: ESC blanket; biologs; vegetative buffer; two rows of silt fencing.

Description: ROW conditions on the southern side of the project. Area is largely unchanged, despite snowmelt in recent days.



Photo No.: 17

Location: 44°48'58.27"N 93°31'21.65"W

BMPs Present: Rock checks; hydromulch

Description: Northern side of ROW conditions. No new washouts were evident in this area.



Photo No.: 18

Location: 44°48'58.01"N 93°31'20.69"W

BMPs Present: Some ESC blanket; biologs; several rows of silt fence

Description: Culvert outlet leading to Rice Lake. Area soils are firm but not frozen. Site conditions appear to be similar to pre-snow conditions earlier in the month.

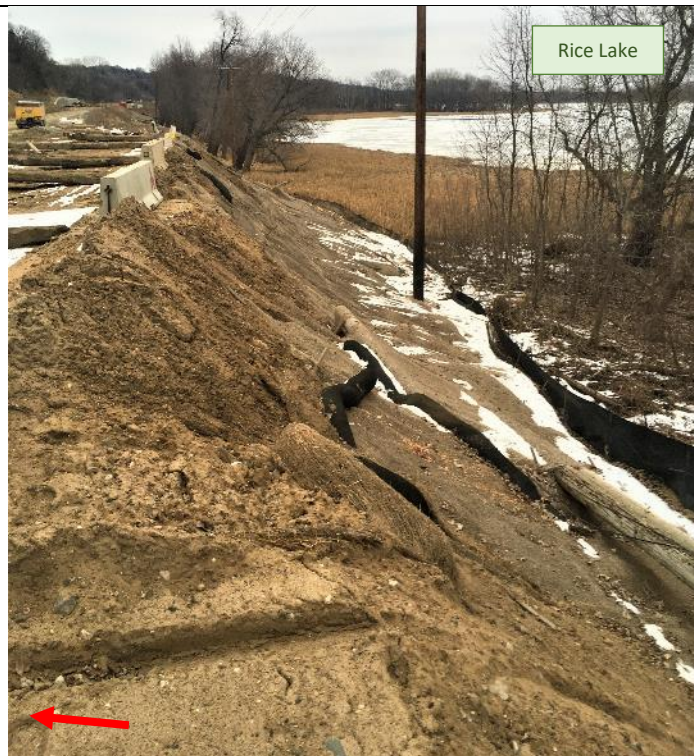


Photo No.: 19

Location: 44°48'58.05"N 93°31'20.20"W

BMPs Present: ESC blanket; biologs; two rows of silt fencing

Description: Area upslope of photo 18 culvert outlet.



Segment 2

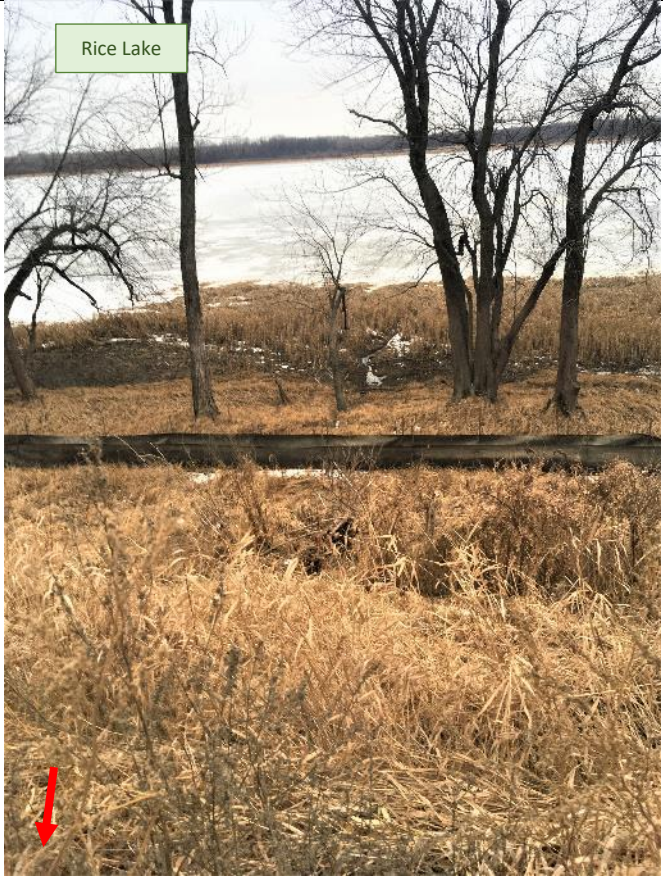


Photo No.: 20

Location: 44°49'00.26"N 93°31'13.71"W

BMPs Present: Two rows of silt fencing; vegetative buffer

Description: Stable southern side of ROW.



Photo No.: 21

Location: 44°49'02.05"N 93°31'09.27"W

BMPs Present: None visible

Description: Northern side of the ROW. Green arrows indicate drainage from wall and above slope. See photo 22 to view drainage inlet.



Photo No.: 22

Location: 44°49'02.26"N 93°31'09.57"W

BMPs Present: None visible

Description: Drainage inlet partially buried by debris. See photo 21 for drainage leading to the inlet.

 <p>Rice Lake</p>	<p>Photo No.: 23</p> <p>Location: 44°49'02.32"N 93°31'07.53"W</p> <p>BMPs Present: Biologs; two rows of silt fencing; ESC blanket</p> <p>Description: Southern side of ROW conditions and large outlet (see photo 24 for closeup of outlet).</p>
 <p>Rice Lake</p>	<p>Photo No.: 24</p> <p>Location: 44°49'01.99"N 93°31'06.88"W</p> <p>BMPs Present: Sandbag berm; two rows of silt fencing; biologs (not visible in picture)</p> <p>Description: Culvert outlet. Recent snow melt does not appear to have greatly altered the site. Slight channeling does suggest waterflow occurred recently from the outlet, past the down silt fencing, and into Rice Lake.</p>
	<p>Photo No.: 25</p> <p>Location: 44°49'02.04"N 93°31'06.90"W</p> <p>BMPs Present: ESC Blanket</p> <p>Description: Slopes leading to photo 24 area and culvert outlet. ESC blanket appears unchanged from prior inspections before snowfall. Area is firm, but not frozen. No new erosion is evident at the time of my inspection.</p>



Photo No.: 26

Location: 44°49'02.04"N 93°31'06.90"W

BMPs Present: Biologs

Description: Slope leading to photo 24 area and culvert outlet. This area is several yards east photo 25. Crews have removed the ESC blanket and regraded the area. Soils are very soft, but no erosion was evident during the inspection.



Photo No.: 27

Location: 44°49'03.72"N 93°30'59.10"W

BMPs Present: Silt fencing: two rows, one row backed with jersey barriers

Description: Southern slopes leading to Rice Lake. Silt fencing is intact and filled with snowpack.



Photo No.: 28

Location: 44°49'03.72"N 93°30'59.10"W

BMPs Present: Silt fencing: two rows, one row backed with jersey barriers

Description: Southern perimeter of the project. Largely unchanged since last site visit, apart from the loss of snowpack.



Photo No.: 29

Location: 44°49'05.60"N 93°30'59.19"W

BMPs Present: Silt fencing: two rows, one row backed with jersey barriers

Description: Culvert inlet on the northern side of the ROW. During the last site visit (December 4th), this area was actively being graded. Soils are still soft but are no longer saturated.

During the site visit water was flowing from the wetland area, over the silt fencing, and into the culvert. See the green arrows for path of drainage.



Photo No.: 30

Location: 44°49'05.50"N 93°30'52.76"W

BMPs Present: Silt fencing backed with jersey barriers

Description: Stream channel through running through the project. The area is stable, and no erosion or sedimentation was evident during the inspection.



Photo No.: 31

Location: 44°49'06.26"N 93°30'48.96"W

BMPs Present: Two rows of silt fence

Description: Crews pouring concrete on site.



Segment 3



Photo No.: 32

Location: 44°49'08.22"N 93°29'47.91"W

BMPs Present: Hydromulch

Description: Crews onsite installing walls along the northern side of the ROW. Fresh hydromulch has been spread just outside of the work area.



Photo No.: 33

Location: 44°49'08.02"N 93°29'44.07"W

BMPs Present: Silt fencing; vegetative buffer

Description: Stable ROW conditions along the southern perimeter of the project.



Photo No.: 34

Location: 44°49'07.60"N 93°29'38.24"W

BMPs Present: Hydromulch

Description: The northern side of the ROW after crews sprayed hydromulch on the slopes.



Segment 4



Photo No.: 35

Location: 44°49'06.51"N 93°29'34.80"W

BMPs Present: Silt fencing

Description: Southern side of the ROW after snowmelt. There is some channeling leading to the silt fence. Water and snow have pooled near the silt fence.



Photo No.: 36

Location: 44°49'06.22"N 93°29'35.78"W

BMPs Present: Silt fence; riprap

Description: Southern side of ROW. The site appears to have been regraded recently, likely in preparation for hydromulch.

	<p>Photo No.: 37</p> <p>Location: 44°49'06.00"N 93°29'13.85"W</p> <p>BMPs Present: Black ESC fabric</p> <p>Description: Culvert outlet and downslope ROW. See photo 38 for additional culvert outlets downslope of this one. The culvert in this photo lies 8-10 ft. below the road grade. The culverts in photo 38 are several yards downslope.</p>
	<p>Photo No.: 38</p> <p>Location: 44°49'05.45"N 93°29'13.64"W</p> <p>BMPs Present: Two rows of silt fence; riprap</p> <p>Description: Culvert outlets at base of southern slope. This area is downslope of the outlet in photo 37. The area appears largely unchanged from past site visits in early December and November.</p>
	<p>Photo No.: 39</p> <p>Location: 44°49'05.72"N 93°29'05.47"W</p> <p>BMPs Present: Two rows of silt fence; hydromulch</p> <p>Description: The southern side of the ROW shortly after hydromulch was applied.</p>