

Date | 6-30-2014

To | Chisago Lakes LID Board of Managers

cc | Jerry Spetzman

From | Greg Graske

Regarding | Spring Channel and Outlet Structure Inspection

On May 15, 2014 an inspection of the Chisago Lakes Outlet Channels and Structures was conducted. Chisago County staff Jerry Spetzman along with EOR engineer Greg Graske performed the field inspection of the channel system. The following summarizes the inspection, actions performed, and any future actions recommend. Actions in red are recommended for follow up in the near future, actions in orange are actions that require future follow or monitoring up but are not urgent, and actions in green are minor maintenance items that were completed in field prior to this report.

Channel from Chisago Lake to Wallmark Lake

The channel from Chisago Lake to Wallmark Lake was inspected. The channel area near Stinson Avenue appeared to be stable and the existing rock check dam appears to be eliminating any further head cutting and erosion of the channel. The trees along the channel section between Highway 8 and North Avenue were cleared two years ago. No issues were noted.



Photos: Left: check dams, Right: Cleared Channel

Debris including branches, logs, and trash were noted in the section between Sportsmans Drive and North Avenue. It is recommended that this debris be removed. At the time of the inspection the debris was removed from the upstream end of the trash rack on the culvert under Sportsmans Drive.



Photos: debris between North Avenue and Sportsman Drive

Recommended Action:

- Remove debris in channel between North Avenue and Sportsman Drive

Minor Maintenance Items Completed:

- Debris Cleared from Sportsman Drive culvert trash rack

Channel from Wallmark Lake to County Road 19



Photo: Channel south of County Road 19

The channel is currently flowing indicating that water is discharging from Wallmark Lake. No concerns were noted.

Recommended Action:

- None

Channel from Chisago Lake to Green Lake



Photo: head cut in channel near Chisago Lake

The channel was free of debris. No issues noted.

Recommended Action:

➤ None

Outlet Structure from Chisago Lake Outlet Channel into Green Lake

The outlet structure connecting the channel from Chisago Lake to Green Lake was visited. Several repairs were made to the structures in 2012. These repairs included fixing one of the gates, fixing the fence, and repairing a leak. The gates were tested and were working correctly. Water was observed flowing from the wetland area to Green Lake when opened. The gates were returned to the closed position upon completion of the inspection. One of the gates on the fence was open at the time of the inspection. This gate was closed, however a new lock needs to be installed. It is also recommended that a lift handle be installed on the access hatch to ease opening when the wood is swollen due to moisture.



Photos: Outlet Structure

Recommended Action:

- Install new lock on fence gate
- Install lift handle on access hatch

Suggested Follow Up:

- Monitor site for continued beaver activity and need for beaver control.

Minor Maintenance Items Completed:

- Tested Gate Operation

Outlet Structure and Pipe between Lake Ellen and Swamp Lake

A repair to the gate mechanism, clearing of vegetation and replacement of the missing control box cover was completed in 2012. The gate was exercised and appeared to be operational. The gate was opened on June 27th due to rising water levels on Green Lake.



Photo: Lake Ellen Outlet Structure

Recommended Action:

- None

Suggested Follow Up:

- Monitor Erosion Control Device in farm field for needed maintenance
- Perform Monthly inspections while water is flowing through the outlet

Minor Maintenance Items Completed:

- Exercised Gate

Swamp Lake Outlet

The Swamp Lake outlet pipes under County Road 80 were visited. This location has 7 pipes under the road to convey flow. Obstructions previously noted have been removed. No concerns were noted.



Photos: Pipes leaving Swamp Lake

Recommended Action:

- None

Ivywood Outlet Structure

The culvert crossing under Ivywood Trail was visited. This site is not generally part of the outlet conveyance due to the outlet channel to Carlos Avery WMA never being fully completed. No issues noted.

Recommended Action:

- None

Bloomquist Creek Crossings @ County Road 19

North of the Creek Crossing at County Road 19 there is a pinch point that has been historically used by Beavers. The District has obtained easements over this area and has worked with the landowner to implement some modifications to limit this pinch point to reduce the likelihood of water backups from Beavers. This work was completed in 2013. It is recommended that the site be visited in the next month or so to assess vegetation establishment and whether there is additional beaver activity.



Photos: Bloomquist Creek at north of County Road 19

Suggested Follow Up:

- Assess the site for any follow up restoration needs.

North Center to North Lindstrom Channel



Photo: Beaver Dam near County Road 20

The channel at the outlet of North Center Lake was visited. The channel was partially full of water at the time of the inspection. A beaver dam was obstructing flow at the downstream side of the County Road 20 Bridge. Since the time of this inspection the site has been visited a couple additional times. The water levels have gone up, the dam partially washed out, and water is flowing from North Center to North Lindstrom Lake. Additional beaver activity was not noted. It is recommended that the dam be removed with hand shovels. If the dam is rebuilt, it is recommended that a beaver trapper be brought in to relocate the Beaver

Recommended Action:

- Remove Beaver Dam