

Yellow Creek 2A/2B Passive Treatment System
SRI O&M TAG Project #52 Request #2
OSM PTS ID: PA-124

Requesting Organization: Blacklick Creek Watershed Association

Requesting Organization Representative: Dennis Remy

Municipality/County: Center Township, Indiana County

Dates of work performed: 2/5/20, 7/20/21-7/27/21

Initial Request: On 9/29/20, the Blacklick Creek Watershed Association (BCWA) requested assistance with the Yellow Creek 2A/2B passive treatment system. The BCWA reported that the collection system and inlet riser at July 14 continues to plug on a regular basis causing most of the discharge to bypass the system.

Initial Site Visit, Observations, and Identified Needs: As this has been an ongoing issue, Stream Restoration Incorporated (SRI) and BioMost, Inc. (BMI) were familiar with the system and understood the BCWA's needs, therefore an initial site visit was not required. Leaf litter and other debris accumulating around and on top of the collection system and intake pipe at July 14 is an ongoing maintenance concern. BMI has unclogged this pipe several times in recent years including just a few months prior to the request.

Work Completed: During a previous maintenance event in February 2020, the piping above the Forebay was cleared of debris and the Forebay outlet pipe was cleared of leaf debris. In July of 2020, BioMost mobilized to the site. The raw water conveyance pipe that transports water from the collection pond (aka forebay) for an extended distance to the Yellow Creek 2A/2B passive system was again unable to accept flow due to leaves clogging the inlet pipe. This pipe was first cleared to allow flow to resume and drop the water level of the collection pond. The original installation of the riser pipe did not allow for easy access to the pipe, so the pipe was cut closer to the pond embankment and a new riser/elbow was installed. Additionally, a 24-inch culvert pipe was perforated and then placed around the forebay inlet pipe to act as a guard against leaf litter and other debris entering the forebay outlet pipe. Riprap was then placed around the 24-inch culvert pipe to build a permeable barrier around the forebay outlet pipe for further protection while also providing access to service the outlet as needed. As low pH iron formation is not prevalent at this site, the forebay water level was lowered by perforating the riser outlet to make future maintenance easier.

A site inspection of the 2A/2B system revealed that leaf debris was also preventing water from entering the 2B Bioreactor. This material was cleared and flow was restored to the 2B system. The cleanout wye located in the woods between the Forebay and system was inspected and found to be free of leaf debris.

Recommendations & Future Considerations: While the Yellow Creek 2A/2B passive treatment is still somewhat functional, it does not appear to be able to fully treat all of the flow, year-round. The system should be redesigned and rebuilt including the collection system at July 14. The system including the collection system at July 14 should be inspected at least on a quarterly basis. In particular, the collection system should be inspected for leaf and other debris and remove any accumulated material. This is especially important in late fall to maintain flow to the treatment systems. Water monitoring should be regularly conducted including flow measurements which are vital to evaluating system performance and will be extremely important for the redesign of the system.

Photo Log



Top Left: Riprap was purchased to place around the Forebay outlet pipe (7/20/21).

Top Right: The collection system was checked in February 2022 and found functional (2/24/22).

Bottom Left: 2A/2B raw water conveyance pipe had a new pipe and protective culvert riser installed to limit leaf litter entering the system while also capturing AMD from the surrounding seep area (7/22/21).

Bottom Right: Riprap was also installed around the 2A/2B raw water conveyance pipe (7/23/21).



Top Left: 2A/2B splitter box has ongoing issues with leaves and debris clogging the pipes (7/27/21).

Top Center: 2B Bioreactor inlet pipe was cleaned to maintain functionality (7/27/21).

Top Right: 2B Flow reducer re-installed (7/27/21).

Bottom Left: In February, a portion of the raw water upstream of the forebay was not entering the system due to a clogged pipe which was cleared (2/5/20).

Bottom Right: A perforated 24" pipe and riprap was placed around the 2A/2B Forebay riser pipe to reduce clogging (2/24/22).