



LOWER MINNESOTA RIVER WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday, September 21, 2022

Agenda Item

Item 6. E. – Dredge Management

Prepared By

Linda Loomis, Administrator

Summary

At the August 17, 2022, Board of Managers meeting, the Board authorized return of unused 2020 grant funds to the State of Minnesota. Young Environmental Consulting Group has evaluated the LMRWD dredge management operations and has provided a summary of its findings with a list of next steps.

The US Army Corps of Engineers (USACOE) has issued a [notice of Minnesota River Dredging](#) at Peterson's Bar. At the September 2022 Upper Mississippi River Waterway Association, the USACOE stated that Minnesota River dredging has begun and they expect to continue for two weeks.

Attachments

Young Environmental Consulting Group Technical Memorandum dated September 14, 2022: Lower Minnesota River Watershed District Dredge Site Visit Summary

Recommended Action

Motion to direct staff to proceed with next steps identified in the Technical Memorandum

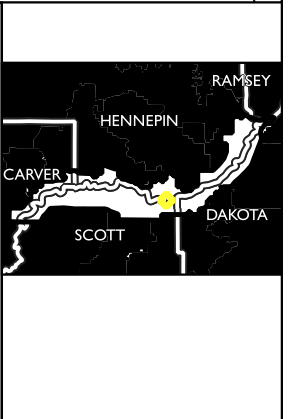
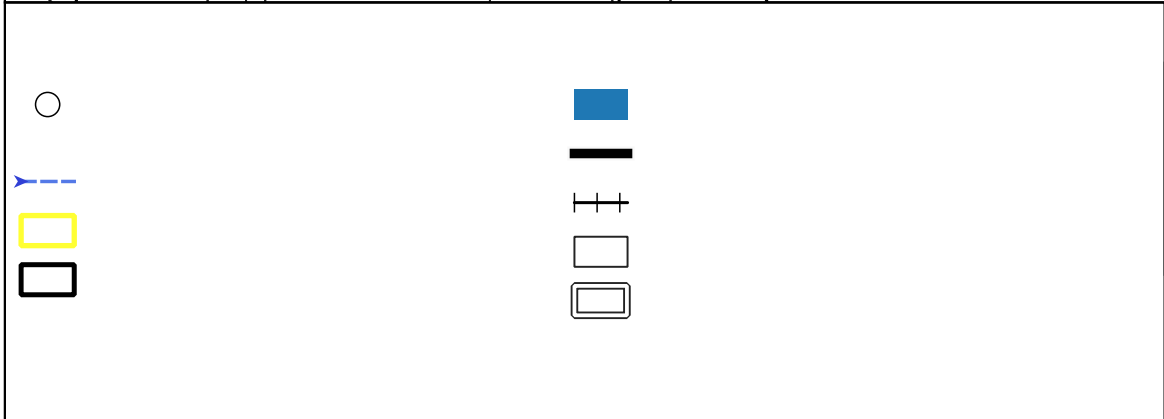
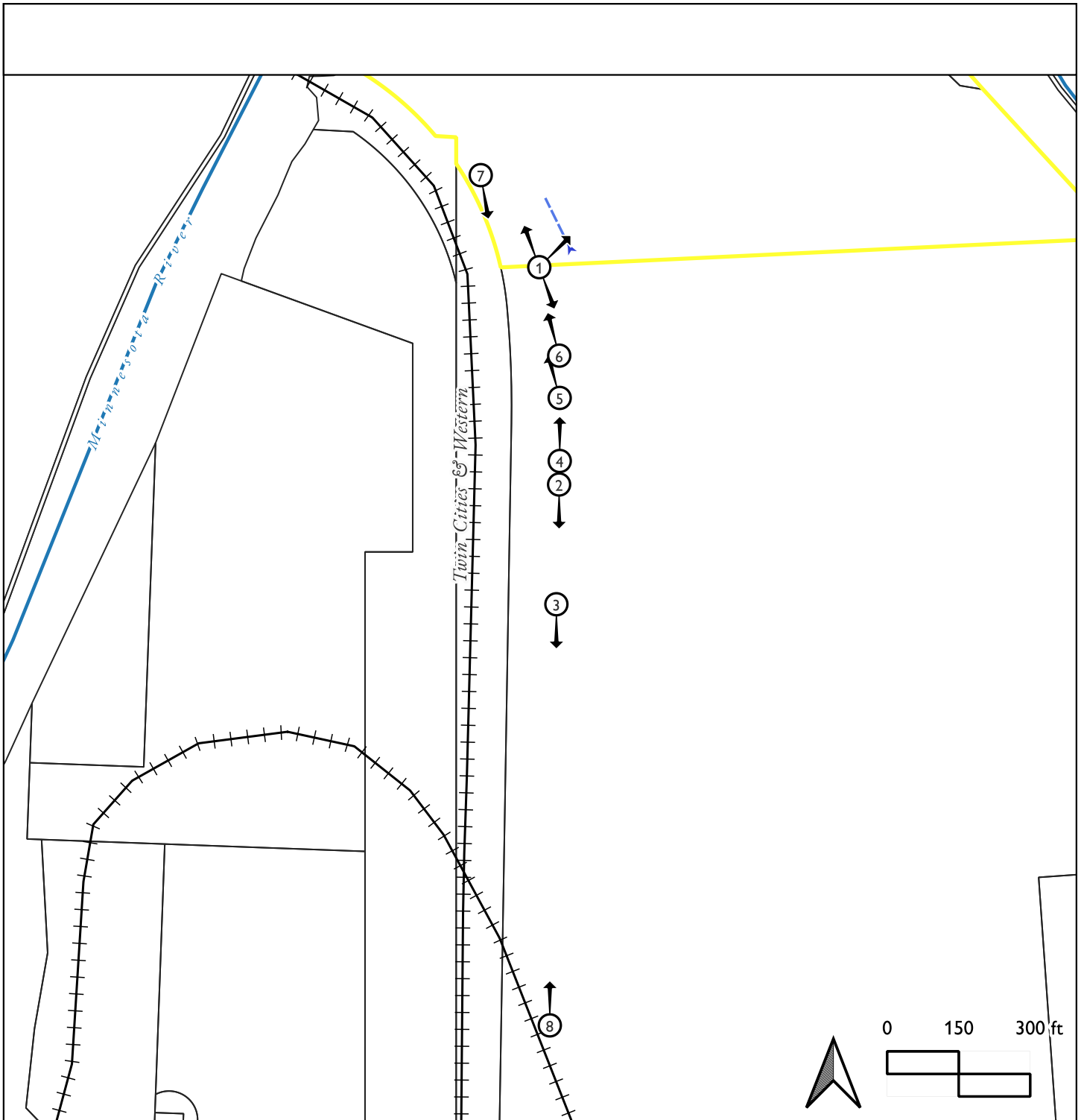




Figure 3. 2015 Vernon Avenue pavement condition (AET, 2015)

August 22, 2022, Field Visit

On August 22, 2022, staff from Young Environmental visited the LMRWD Site and reviewed the current conditions (Attachment 1). Unfortunately, heavy vegetation entirely obscured the access road culvert and most of the roadway embankment along Vernon Avenue (Photo 1A, Attachment 1).

Consistent with the background information reviewed, Vernon Avenue was in poor condition, with many deep ruts and a deteriorating road surface (Photo 4A, Attachment 1). Much of the roadway appeared to be sandy material overlaying a decomposed bituminous pavement (Photos 1B, 2B, 3B, and 4B, Attachment 1), but large sections of the roadway appeared to be entirely sand (Photo 3, Attachment 1). Due to the road's location within the Minnesota River floodplain, it is possible that the sandy material observed is may also be sediment deposition from past flood events, which may need further soil borings or review to confirm. When compared to Figure 3 and the 2015 AET report, the 2022 field conditions appear to indicate that Vernon Avenue has continued to deterioration.

Also consistent with LS Marine's maintenance concerns, there was evidence of road widening due to displaced aggregate (Photos 1C, 2A, 4A, and 5, Attachment 1). The road widening may be intentional turnouts from the 2015–2016 stockpile removal, which would have allowed the trucks hauling sediment offsite to bypass each other on the narrow road. It is also possible that because the road surface is in such poor condition, the aggregate placed by LS Marine is not properly secured in place and gets displaced from heavy truck traffic and rainfall. If this is the case, continuing to place aggregate to fill the ruts and depressions in the roadway does not appear to be a sustainable solution and could adversely affect the neighboring wetlands over time. LS Marine should be consulted to determine if the road widening was intentional or the result of further roadway degradation.

Next Steps

Following the review of the materials provided by the LMRWD administrator and completion of the site visit, we plan to move forward as follows:

- Conduct a follow-up site visit in mid to late October 2022 when vegetation has died back to properly assess the condition of the access road culvert and its maintenance needs.
- Following the October 2022 site visit, coordinate with LS Marine and City of Savage to discuss upgrades to Vernon Avenue and gauge interest in upgrading the road as recommended by AET in 2015.
- Use the LMRWD engineering pool to update the construction cost estimates and develop a pavement design to upgrade Vernon Avenue and the access road to current design standards, which will help prevent the amount of sediment and aggregate from entering the neighboring wetlands and the access road culvert.
- Work with the selected pool engineer to collect any needed field data (e.g., soil borings) in November and December 2022.
- Develop construction bid package over the winter–spring 2023 with possible construction summer 2023.

Finally, the Minnesota Pollution Control Agency recently provided the LMRWD with an updated assessment of sediment chemical concentrations for dredged material. The updated soil reference values were provided on August 25, 2022, and will be reviewed for potential impacts to the LMRWD's dredge operations. Results of the review will be shared at the next board meeting.

Attachments

Attachment 1—August 22, 2022, Field Visit Photographs

Attachment 1: Vernon Avenue Field Visit Photos

August 22, 2022

Photo 1A. LMRWD Dredge Site access road culvert (upstream, not visible due to dense vegetation)



LMRWD Dredge Site

LMRWD Access Road

Approx. location of 48-inch culvert

Photo 1B. Vernon Avenue looking north, from LMRWD Dredge Site access road. This portion of Vernon Avenue provides access to the Twin Cities and Western Railroad bridge and did not appear to be heavily trafficked. In 2015, the AET soil boring B-4 indicated the bituminous pavement was 1.5-inches thick but deteriorated.

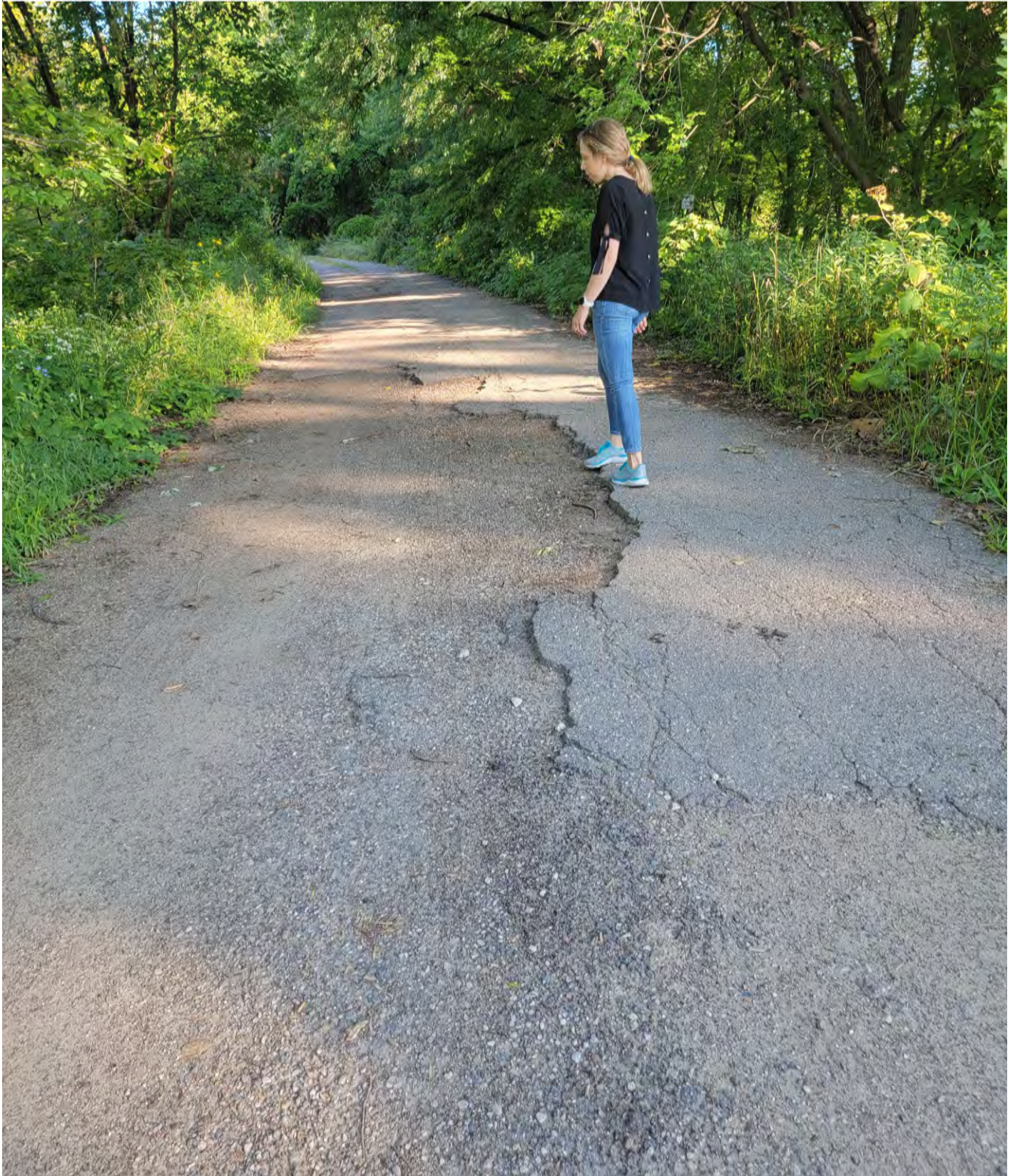


Photo 1C. Vernon Avenue looking south from dredge site access road



Photo 2A. Vernon Avenue looking south



Significant road settlement

Road widening likely due to displaced aggregate

Photo 2B. Frog and typical Vernon Avenue road surface near Photo 2 location



Photo 3A. Vernon Avenue looking south. In 2015, the AET soil boring B-3 indicated the roadway was reduced to 0.25-inch chip seal layer atop 11.5-inches of sandy fill.



Photo 3B. Typical Vernon Avenue road surface near Photo 3 location

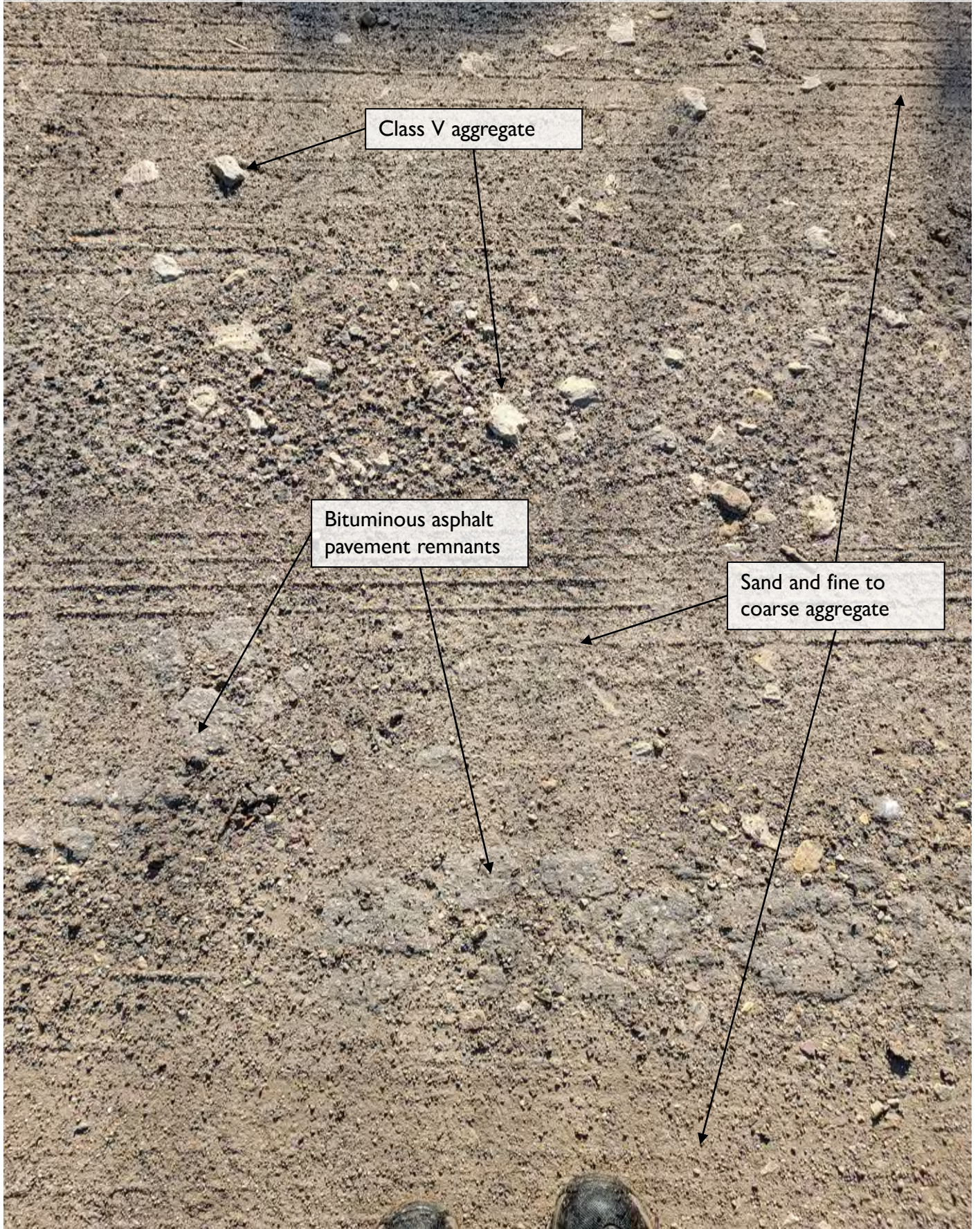


Photo 4A. Vernon Avenue settlement and rutting, looking north



Significant road settlement

Road widening and displaced aggregate

Photo 4B. Close up of rutting and pavement condition, looking north



Photo 5. Vernon Avenue road widening and settlement, looking north



Significant road settlement

Road widening and displaced aggregate

Photo 6. Vernon Avenue widening and settlement, looking north



Photo 7. Vernon Avenue looking south at west wetland and heavy vegetation

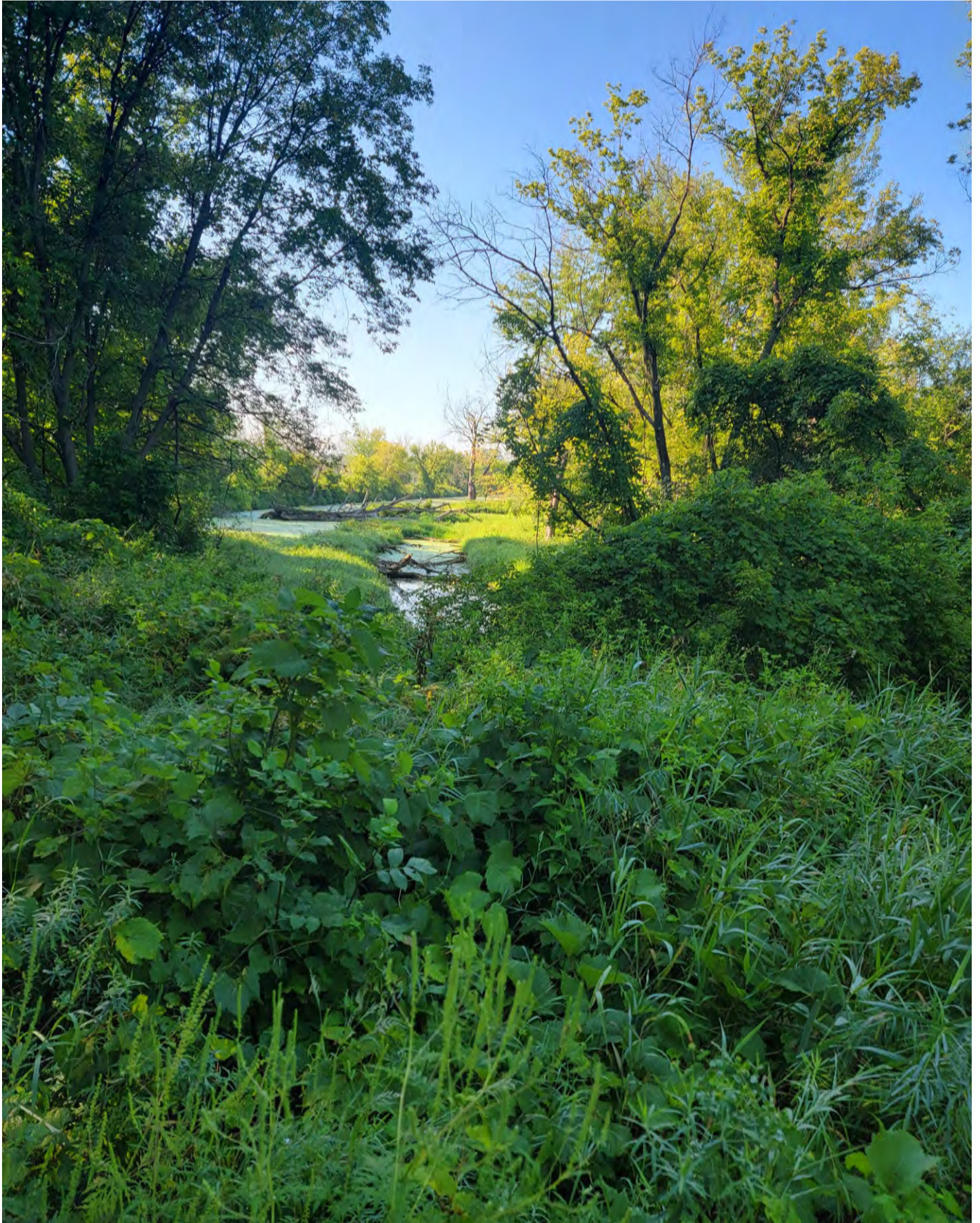


Photo 8. Vernon Avenue looking north from railroad crossing. In 2015, AET soil boring B-2 indicated the roadway had a 2.5-inch deteriorated bituminous pavement surface.

