

1. Additional Wetland Impact Minimization – the proposed plans in the application were designed as a maximum extent for identified wetland impacts. Now that we are further along in the process with some more detail refinement, the application will need to include an updated plan and identify where there are others of further wetland impact minimization.

a. Please make sure all side slopes of fill proposed within wetlands is no steeper than 2:1. This is a very standard and successful minimization practice and still provides a stable safe slope.

i. **Next steps:** If there are slopes that are adjusted to meet the 2:1 slope requirement, please provide updated plans and point out which slopes are adjusted and the new reduced overall wetland impact total.

Where possible slopes have been adjusted to 2:1 and the appropriate crash worthy roadway protections added to the plan. The adjusted slopes with the reduced wetland impacts are noted in the PAA and shown in the updated 30% roadway plans (red bubbles).

b. Please update the PAA narrative to provide further explanation and revision where practicable regarding the 4-legged intersection east of the bridge crossing. If there are rationales for public and traffic safety why the intersection is designed and located as proposed, please provide that background information. It will be helpful to also identify which roads are going to become public roads and which roads are going to remain private under Epic's ownership. While capturing current plans that are in development for expansion is absolutely reasonable, speculating too far out in the future for roadway needs is not likely to meet the requirements of state wetland permitting. Please make sure wetland impacts proposed and currently under review of this permit process are able to be based on a current need and purpose.

i. **Next steps:** Please provide updated plans with adjusted PAA document and point out the revisions that identify a new reduced overall wetland impact total.

Based on future traffic growth and the typical 20-year design life, the size of the intersection east of the bridge crossing is appropriate. Additional text has been added to the PAA to further discuss and clarify the need to accommodate future growth. The growth in question is reasonable and foreseeable, therefore it is prudent to account for the impacts now. Our design review of this area did yield one change. The south leg of the intersection has been offset further east to avoid wetland impacts. This reduction has been reflected in the document. Lastly to clarify, the north, south and west legs of the intersection will be public streets. The east leg serving as access to the Epic site will be a private road.

c. Please provide clarification in the PAA regarding the need for a boulevard and shoulder widths for the section of road crossing on the bridge structure. If there are safety justifications regarding traffic and pedestrian uses, please provide that information

- i. **Next steps:** Please provide updated plans with adjusted PAA document and point out the revisions that identify a new reduced overall wetland impact total.

The typical section in the plans has been updated to reflect adjusted shoulder and median widths. Although the widths are reduced, providing a clear zone is an important safety feature creating a separation between motorized traffic and bike/peds. The median width is also an important safety feature creating a separation between opposing traffic. The reduced wetland impacts from these changes have been reflected in the revised PAA and additional text has been added regarding terrace widths and horizontal clearance widths.

- d. Please provide the impact (sq-ft) of each piling for the bridge footing design. If the proposed 25ft width of riprap buffer around each piling can be reduced to further minimize wetland impacts, an updated plan drawing and details are needed.

Each concrete footing is 6-ft wide by 133-ft long or 798 square feet at each pier footing location. The proposed riprap buffer at 25-ft wide is required to provide protection for the pier footing in accordance with WisDOT standards. As the structure will block sunlight under the arches, over time each cell would be bare ground, providing a higher risk to scour. As the design progresses the team will continue to evaluate this issue to look for opportunities to refine.

- i. It would be helpful to compare the wetland impact from the pilings to a crossing on complete solid fill (like a causeway crossing) to help demonstrate minimization.

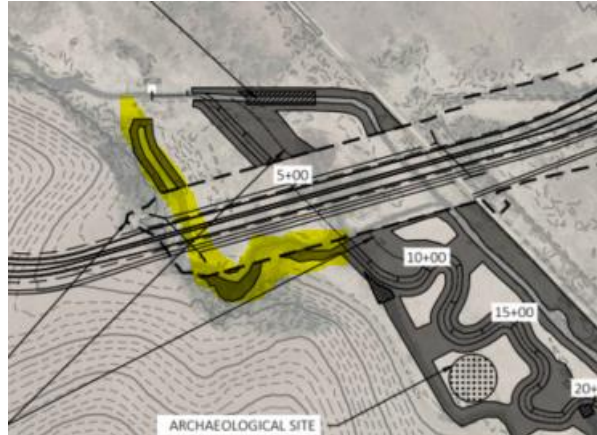
A causeway alternative was drawn up and analyzed comparing two shorter structures to a causeway. See '*Alternative 3.2\_West Road\_SimplifiedQuantities\_Causeway.pdf*' and '*Alternative 3.2\_West Road\_SimplifiedQuantities\_OriginalStructure.pdf*'. It was determined a causeway would impact 0.71 additional acres of wetland compared to the structure only alternative. This is due to the additional side slope fill needed for a causeway. The causeway alternative would also have impacts to the floodway. It was estimated that the causeway would significantly increase water elevations during routine storm events causing flooding to nearby residential properties. Because of these reasons the causeway alternative was dropped from further consideration.

- ii. **Next steps:** Please provide updated plans with adjusted PAA document and point out the revisions that identify a new reduced overall wetland impact total.

The PAA is updated with detail on impacts for each bridge footing.

## 2. Revision request for stream restoration design

- a. There was information brought to our attention about existing springs located on the west side of the river valley at the approach for the bridge. This section (highlighted in yellow in the image below) was not included in the stream restoration but there is concern that existing active springs would be significantly impacted by the construction of a bridge and abutment.



- i. **Next steps:** Please provide a map identifying the springs and a revised restoration (realignment) design to include the active springs and the flow to be incorporated into the restoration. If the springs are located completely south of the proposed abutment, then identifying the springs is needed on an updated plan map showing a flow path to ensure the flow from the springs will reach the new realigned stream channel. If the springs are located north of the proposed abutment, then the stream restoration will need to accommodate and incorporate the springs and flow (which likely requires bridge design adjustments) to ensure the springs remain open and are part of the river system.

An updated stream restoration sheet has been provided identifying the location of the springs which will be connected as part of the main Sugar River channel. By relocating the main channel from the previous location, it is now preserving the springs by intercepting the spring flows to ensure they remain open and part of the river system. The restoration plan has been revised as well with the updated stream remeandering location.

- b. The Department is requesting that the LUNKERs design is replaced with root wads and/or brush and bank shaping practices as a means to provide improved aquatic habitat with less concern and challenge for construction and installation.

- i. **Next steps:** Please provide an updated plan set and details with root wads instead of LUNKERs.

The plan set has been updated with the requested changes using root wads instead of LUNKERs.

3. Additional Idea: Is Epic willing to consider including a plan for woody vegetation control specifically at the sedge meadow wetland remnant (located immediately southwest of the MRST)? This specific intact higher quality wetland community would benefit from removal of undesirable trees and shrubs as well as considering the use of recurring prescribed fire burns to maintain and encourage the success of this wetland remnant.
  - a. It's also common to ask that construction plans include the installation of a visible barrier (such as orange construction fencing) around areas that are to remain intact and undisturbed as a visual and physical means to remind all

contractors where equipment cannot be located. If that can be added and called out in the plans, the added measure to protect this high quality remnant wetland will go a long ways.

- i. **Next steps:** Please provide an updated plan set and details for any additions to the plans regarding the remnant sedge meadow wetland.

The erosion control plan has been revised to address this request. The maintenance plan was created to add in the requested area. Please see the Sugar River Sedge Meadow Maintenance Plan for details.