



MEMORANDUM

To: Administration/Public Works Committee Members
From: Rick C. Brown, Director of Public Works / City Engineer
Date: October 24, 2022
Re: Proposed Temporary Repairs to Structure 3-107

Background: Last month the Committee and City Council approved a city-consultant agreement with Cochran Inc. for final design of a new bridge to replace Structure 3-107, which is a deficient 11'X7' stone box culvert located on Wild Horse Creek Road, about 2,200 feet south of Centaur Road (see **Exhibit A**).

Cochran is progressing toward completion of the plans and bid documents by the end of the year, and bidding could occur in January, with award of a construction contract in February or March. However, this schedule assumes that temporary easements can be acquired, that Ameren can relocate one utility pole and that we can obtain a permit from the US Army Corps of Engineers for work in Wild Horse Creek. Additionally, after contract award, about 60 days is required to fabricate materials such as reinforcing steel, steel piles, and concrete girders. Thus, we estimate that construction would begin as early as the spring, around April, or May. However, permits, utility relocations or easement acquisition may push this schedule by months.

It is important to note that given the condition of Structure 3-107, the Department is expecting to need to close Wild Horse Creek Road over the next few weeks to months, but likely no later than December 1st. The road closure will have impacts to local and through road users, by increased travel times and associated costs, as well as impact Rockwood school bus service and emergency service response. Road user costs have not been calculated, but MoDOT estimates about \$1,800/day, which provides some rough guidance.

To avoid the potential of an extended closure of Wild Horse Creek Road, we have been in contact with the geotechnical contracting firm, GeoStabilization International (GSI) regarding possible repairs to stabilize the roadway embankment and structure. GSI is proposing to build a soil nail wall system consisting of three rows of up to 20' long soil nails and a 20' x 8' shotcrete wall for the cost the preliminary cost of \$104,000. Accounting for contingencies, I would estimate the cost to potentially run as high as \$115,000 for the work.

Recommendation: The Department is recommending to request a final proposal from GSI to install a soil nail / shotcrete wall along the northwest corner of structure 3-107, which is expected not to exceed \$115,000. If the committee supports this recommendation, the formal proposal from GSI will be presented to the City Council for approval as a city-contractor agreement. If approved, the work would be scheduled ASAP.

Reasons for Recommendation

- Implementing the repair would allow the structure to remain open to traffic for about five – six months (150-180 days) until easements, permits, and utility relocations have been completed.
- Keeping the road open to traffic until construction eliminates costs to residents and motorists, such as road user costs and potential delays with emergency service response. Road user costs resulting from the detour could be roughly estimated at \$1,000/day. Thus, the repair could save about \$150,000-\$180,000 in road user costs.
- The repair would allow us additional time to acquire a temporary easement from Babler State Park. By acquiring this easement, we can save construction costs, potentially as high as \$100,000.

I will be available for any questions at the October 25th Administration/Public Works Committee meeting.

RCB



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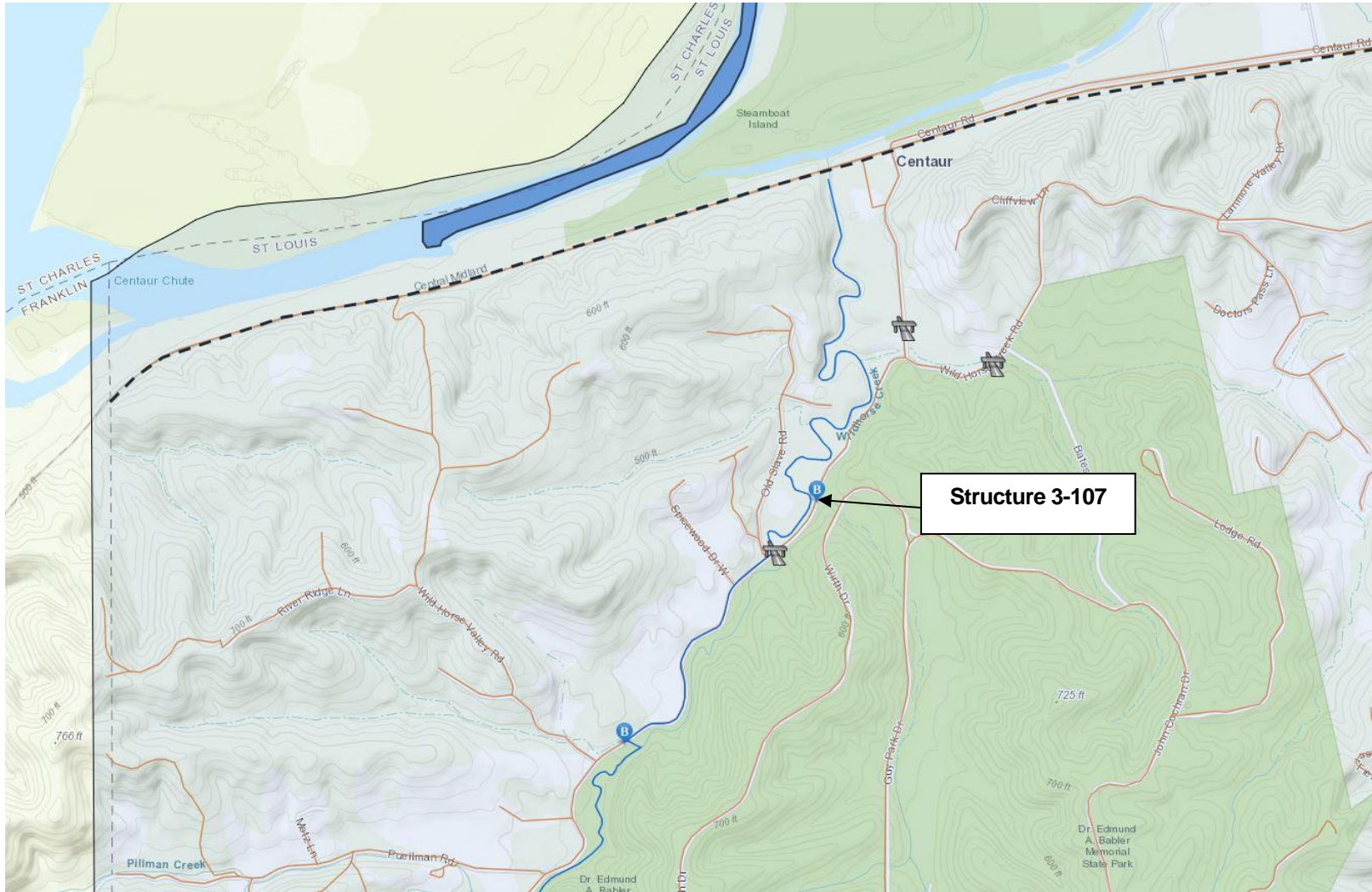


Exhibit A – Project Location

From: [Jose Vitteri](#)
To: [Rick Brown](#)
Cc: [Brent Leverett](#); [Dan Rahn](#); [Roth, Tony](#)
Subject: Wildwood
Date: Monday, October 10, 2022 4:52:25 PM
Attachments: [image001.png](#)
[image002.png](#)
[Proposed Concept - Wild Horse Creek Road.pdf](#)

Hi Rick,

We have developed an estimated price and conceptual solution for the shoring of Wild Horse Creek Road per our site visit on September 26 and the information provided. The site is located at 38.63372, -90.70266, in the City of Wildwood, St. Louis County, MO.

Per our conversations, GSI plans to push the culvert wing stone wall and part of the soil behind it down slope and then proceed to build a soil nail wall system to stabilize the road, consisting of three rows of up to 20' long nails and a 20' x 8' shotcrete wall.

We estimate GSI can design and perform the work for approximately \$104,000. We will provide a more detailed proposal to you if the project moves forward.

We have attached a sketch for our solution showing the soil nail wall system relative to the road and culvert wing stone wall.

We also estimate it will take us a minimum of 5 calendar days to complete the work.

A few considerations regarding our estimated price:

- We used labor rates that include prevailing wages, but open shop labor.
- We priced our materials considering non-domestic steel.
- Per our conversations, we will perform our work from the street ground level.
- Our price may be subject to material price changes and inflation.

Thank you for the opportunity. We look forward to hearing from you and working together.

Cordially,

Jose Luis Vitteri

Regional Engineer

GeoStabilization International

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