



City of Broken Arrow

Request for Action

File #: 19-914, Version: 1

**Broken Arrow City Council
Meeting of: 07-16-2019**

Title:

Presentation and possible consideration, discussion and approval regarding the Hillside Drive Wall Project

Background:

During the historic storm events in May 2019, the existing Hillside Drive retaining wall was damaged. The damage was evidenced by the buckled pavement on Hillside, a damaged and buckled concrete curb, a significant void located behind the wall, and gaps as well as bowing in the wall itself. All this evidence indicated that the wall was significantly damaged, posed a danger to passing pedestrian and vehicular traffic. After inspection by the City of Broken Arrow (the City) Retaining Wall Engineer (Alex Mills, P.E.), and discussions with City administration, the decision was made to close Hillside Drive to limit the potential for loss of life.

The Engineer of Record for the original wall and a surveyor were called in to detail the amount of wall movement, to evaluate of the stability of the wall, and make recommendations for repairs/replacement. The report that followed is attached. In short, the report indicated that a significant portion of the existing wall will need to be removed and rebuilt along with the addition of a drainage system to alleviate the evidentially significant amount of groundwater flow that is a root cause of the wall failure.

After receiving the report from the outside engineer, staff & administration from the Engineering & Construction (E&C) department met to discuss the findings & recommendations. The results of that meeting triggered an internal memo (also attached) that provided a brief summary of the results of the recommendation report, and of the internal discussions. In short, City staff does not feel comfortable recommending a replacement of the middle portion of the wall with the existing blocks, as the report suggested. The long history of issues with this wall, the limited right-of-way available in the area, and high end risk of failure led the staff to recommend a full wall replacement with a cantilevered concrete retaining wall. We do concur with the report, that a significant drainage system should be designed and built as a part of the new wall system.

The estimated cost for the repair of the wall using the existing blocks, from the report, is between \$200,000 and \$300,000. In discussions with staff, and local contractors and engineers, we feel that estimate is low. Our opinion is the repair budget from the Miller Report should be \$500,000. The estimated repair cost for the staff recommended concrete retaining wall is \$800,000 to \$1,000,000. Although the cost differential is significant, staff feels that the benefit to the community, to the travelling public, and the impacted businesses in the area, justifies this delta.

It should be noted that construction funds have not been identified at this juncture. Staff recommends that the City negotiate a design contract with a qualified structural engineering consulting firm in order to determine more accurate costs associated with a desired solution. Upon determining a construction cost, Staff will determine appropriate funds to repair or replace the wall.

Cost: None

Funding Source: None

Requested By: Alex Mills, Director of Engineering & Construction

Approved By: City Manager Office

Attachments: Hillside Wall Investigation Memo - Scott Miller
Hillside Drive Retaining Wall - Update - Interoffice Memo - Alex Mills

Recommendation:
As Council directs.