



VILLAGE OF FOX POINT

MILWAUKEE COUNTY
WISCONSIN

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January 20, 2020

Federal Emergency Management Agency
c/o Wisconsin Emergency Management
Ms. Robyn Fennig
Ms. Katie Sommers
Madison, WI 53707

Re: Village of Fox Point
Estimated Construction Duration and Costs due to Road Failure

To Whom It May Concern:

The Village of Fox Point is excited for the opportunity to partner with the Federal Emergency Management Agency on the proposed shoreline resiliency pre-mitigation disaster project. As part of the grant application process, Village staff is providing an estimate of the total duration over which the road and utility infrastructure services would be out of service in a do nothing scenario where there is catastrophic failure of the road. An explanation of the costs in a do nothing scenario is also provided.

As noted in the application materials, particularly the Scope of Service section, there are two sections of Beach Drive that are being addressed as part of this application. These are labeled the southern and northern shorelines, respectively. The road adjacent to the southern shoreline is approximately 1,650 feet long and the road adjacent to the northern shoreline is approximately 650 feet long, both totaling about 2,300 feet.

We are estimating that catastrophic failure of the road would lead to a minimum of four (4) months of construction to reconstruct the roadway (a basic mill and overlay) and associated utilities (gas, sanitary sewer, water main, and storm sewer). This estimate is based on a project recently completed in the Village in 2019 where about 4,200 feet of roadway was reconstructed, approximately 4,800 feet of water main was installed (which includes tie-ins to adjacent roads), and approximately 3,000 feet of storm sewer pipes were installed. This project commenced in mid-April and continued through the end of September for a total of approximately five and one-half (5 ½) months.

If one simply considered the time of construction to be proportionate to the 2019 construction project, the estimated duration would be three (3) months. However, the 2019 project did not include construction of a sanitary sewer main nor total reconstruction of a roadway that has failed. Given the depth of the sanitary sewer (18-20 feet deep), the additional utilities that would need to be reconstructed/repared (gas and possibly telecommunications), and the protection measures that would be needed in order to reconstruct a failed roadway (installation of sheet piling, dewatering, etc.), I am estimating at least two additional months of construction to complete the necessary tasks in a do

nothing scenario. Therefore, the overall estimated time that the road would be out of service is five (5) months.

Cost estimates in the do nothing scenario were also obtained from recent projects and experience. For instance, the cost to install an 8-inch water main for our 2019 project was \$89 per linear foot. In the present case, while the pipe diameter is smaller, there will be additional complications given the soil conditions (primarily sandy soils near the shoreline), so it is anticipated that dewatering and a larger trench will be needed in order to install a new water main. Therefore, we have estimated a cost of \$100 per linear foot.

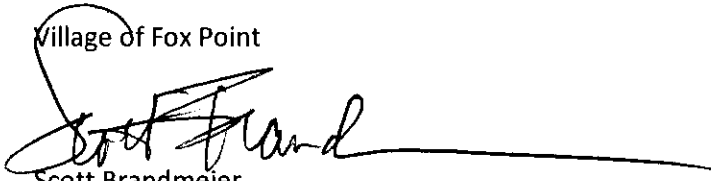
Further, pavement costs for the 2019 project ranged from \$62 per ton up to \$72 per ton, depending on the location and width of the road as well as any obstructions or complications identified in the field. The cost of hot mix asphalt is also greatly dependent on oil prices, so we have assumed an approximate 10 percent increase over the highest amount paid in 2019 and estimated the cost at \$80 per ton.

Installation of the sewer main costs were obtained through communication with a local contractor who noted that the depth of the main along with the dewatering that would be required would result in a much larger cost. The contractor provided staff with an estimate of \$370 per foot which includes construction of seven manholes. Other estimates for the miscellaneous utilities, stone, sheet piling and culverts were obtained from average costs experienced on Wisconsin Department of Transportation related projects.

Should you have any questions, feel free to contact me at 414-247-6624.

Respectfully submitted,

Village of Fox Point

A handwritten signature in black ink, appearing to read "Scott Brandmeier", with a long horizontal line extending to the right.

Scott Brandmeier

Director of Public Works and Village Engineer