



## Memorandum

**To:** Bassett Creek Watershed Management Commission (BCWMC)  
**From:** Barr Engineering Co. (Barr)  
**Subject:** Item 5Ciii: Bassett Creek Double Box Culvert Estimated Costs for Recommended Repairs – Minneapolis, MN  
BCWMC October 15, 2020 Meeting Agenda  
**Date:** October 7, 2020  
**Project:** 23270051.48 2020

### 5Ciii Bassett Creek Double Box Culvert Estimated Costs for Recommended Repairs – Minneapolis, MN

#### Recommendations:

1. Plan for Bassett Creek Double Box Culvert repairs before 2025
2. Add repair project to BCWMC Capital Improvement Program

#### General Project Information

On behalf of the BCWMC, the Commission Engineer conducted a condition inspection of the Bassett Creek Double Box Culvert (Double Box Culvert) during October 2019. The purpose of the inspection was to compare the current tunnel conditions to past inspections, identify changes in condition over time, and provide recommendations to the Commission regarding future monitoring and repair. The report *Bassett Creek Double Box Culvert Inspection Report, October 2019* was presented to the BCWMC at its June 18, 2020 meeting. Based on the 2019 inspection observations, and evaluation of tunnel condition over time, the following repairs were recommended:

**Shear Key Joint Repair:** It is recommended that the BCWMC repair the shear key joint material to minimize infiltration and potential for soil transport into the tunnel. It is recommended that this work occur in the next 5 years.

**Crack Sealing, Deposit Removal:** Various degrees of infiltration were observed throughout the tunnel, occurring at cracks, joints, and other defects. At four locations, continuous infiltration was observed that equates to a grade 4 PACP (Pipeline Assessment Certification Program) defect. It is recommended that the BCWMC repair these points of infiltration, and remove deposits as necessary to improve the operational condition of the tunnel, and slow degradation of the concrete. It is recommended that this work be coordinated with the shear key joint repair work.

**Repair Exposed Reinforcement:** At two locations, exposed reinforcement was observed that equates to a grade 5 PACP defect. It is recommended that the BCWMC repair these areas to minimize further degradation of the reinforcement and concrete. It is recommended that this work be coordinated with the shear key joint repair and crack sealing repair work.

At their June 18, 2020 meeting, the Commission directed the Commission Engineer to develop an estimate (opinion) of costs for repairs.

## Opinion of Costs for Maintenance Repairs

In 2016, the Commission approved [policies for the Bassett Creek Flood Control Project \(FCP\)](#) to provide guidance to the BCWMC and member cities for maintaining the FCP. Based on the FCP policies, the recommended box culvert repairs would be considered Major Maintenance and Repair, with repair costs over \$100,000. The FCP policies also call for the Commission to add identified FCP major repairs, rehabilitation and replacement projects to the BCWMC CIP and to fund the projects using the BCWMC's ad valorem levy (via Hennepin County) (although it is recognized that some funding could be sought from other partners or sources). The FCP policies further note that the Commission will need to amend the BCWMC Watershed Management Plan to add these projects to the CIP and to change (or add to) the funding mechanisms for project implementation. Therefore, the Commission Engineer recommends that the Commission to move forward with repairs by adding the project to the BCWMC's CIP within the next 5 years.

The engineer's opinion of repair costs is provided in the following table:

BASSETT CREEK TUNNEL - DOUBLE BOX CULVERT				Engineers Opinion of Costs	
Item	Description	Unit	Est. Quantity	Unit Price	Extension
A	Mobilization	LS	1	\$150,000	\$150,000
B	Water Management	LS	1	\$100,000	\$100,000
C	Erosion Control	LS	1	\$20,000	\$20,000
D	Traffic Control	LS	1	\$10,000	\$3,000
F	Crack Repair	LF	2,500	\$90	\$225,000
G	Chemical Grout	GAL	500	\$75	\$37,500
H	Encrustation Demolition and Disposal	LS	1	\$20,000	\$20,000
I	Shear Key Joint Repairs	EA	60	\$3,500	\$210,000
<b>CONSTRUCTION SUBTOTAL</b>					<b>\$765,500</b>
J	Permitting	LS	1	\$10,000	\$10,000
K	Bid Administration	LS	1	\$10,000	\$10,000
L	Construction Administration	LS	1	\$140,000	\$140,000
M	Quantity Inspection	LS	1	\$5,000	\$5,000
N	Engineering (plans and specs)	LS	1	\$76,550	\$76,550
<b>SUBTOTAL</b>					<b>\$1,007,050</b>
Contingency (20%)				\$201,410	\$202,950
<b>TOTAL</b>					<b>\$1,210,000</b>