



## MEMORANDUM

To: Eric Atkins – Mall of America

From: Justin Woffinden, Matt Jensen – Kimley-Horn

CC: Derek Berube, Jesse Featherstone – Metro Transit

Date: August 22, 2019

Subject: **Mall of America Transit Station Renovations – Abandonment of Existing Water Mains and Filling of Annular Space in Casing Pipes**

### INTRODUCTION

The existing Mall of America east side 12" combination fire and water service has been relocated as a part of the Transit Station Renovations project, as the new transit station building is located directly over the existing service location. As part of the new service, the existing 12" water main has been realigned in a new 24" casing under the new transit station, and the existing 12" water main under the transit station was cut and capped outside the building envelope.

An existing 8" water main is also located under a portion of the new transit station. A newly constructed 8" water main in a new 20" casing was installed directly over the top of the existing 8" main. The existing 8" pipe was cut and capped outside the building envelope, and the new pipe was connected to the remaining pipe left in place using two 45-degree bends.

All joints on the new 12" and 8" water mains were constructed with mechanical restraints, per City standards.

### ABANDONMENT OF EXISTING PIPES

The existing 12" and 8" water main pipes running under the new transit station were not removed as part of the project, due to the need to maintain service during construction and the contractor's approach to construction phasing. It is proposed that the pipes be capped and abandoned in place and filled with foamcrete cellular concrete or flowable grout. The existing water service is also to be abandoned and filled with foamcrete or grout back to the cap in the existing water service room.

### ANNULAR SPACE IN CASING PIPES

The ideal installation for water main installed in a casing pipe includes the filling of the annular space between the carrier pipe and the steel casing pipe with blown in sand. The contractor attempted to complete the sand blowing operation, but due to the amount of dust created by the need to vent the pipes, the Mall of America asked the contractor to stop operations. The filling of the annular space

with sand is not necessary, as both carrier pipes are constructed with fully restrained joints and supported by center restrained spacers per the City of Bloomington standards. Proper end cap treatments of the casing pipes are required to protect the carrier pipe within the casings.