

Report to Council of Non-Bid Public Works Construction Project Completed Using City Staff

Project: John Nolen Service Road Emergency Storm Repair-2021

Date: 1/14/2022

Agency: Engineering

Final Cost: \$64,340.39

Background

The corrugated metal storm sewer pipe (CMP) failed and a hole formed in the pavement while a contractor was seal coating the John Nolen Dr service road. Engineering Operations attempted to review the extent of failure and quality of the pipe using CCTV inspection. However, the pipe was full due to the connection to Lake Monona. It was decided to replace the CMP pipe and structure from the bike path to the east terrace of the service road, approximately 115 linear feet.

This particular repair required pipes and structures larger than typical sewer repairs and had to be special ordered. Material orders were delayed due to steel supply shortages. After finally receiving materials in late fall, Engineering Operations started work on replacing the CMP. Groundwater control and backflow from Lake Monona posed a significant challenge during removal and installation. Trench safety and identifying utility conflicts were managed carefully.

This report is intended to inform the Mayor and Common Council and to satisfy the requirements of Wisconsin Statute 62.15(14).

Scope of Work

Failure of the corrugated metal pipe caused a sinkhole in pavement requiring an emergency storm repair. The storm sewer pipe discharges to Lake Monona which remains substantially filled with stormwater, and groundwater seeped into the excavation trench. Traffic controls, dewatering, and stormwater protection were installed to complete the replacement of storm structures and sewer pipe. 115 linear feet of 29"x45" elliptical concrete storm pipe was installed, and a 6' storm structure was replaced. The repair required excavation and restoration of the commuter path (asphalt), street (asphalt) with curb & gutter (concrete), and vegetated terrace (terrace seeding & matting). In addition concrete sidewalk was removed and replaced.

Recycling and Waste Disposal

The salvaged corrugated metal pipe has been recycled..

Cost Detail

Final project cost was \$64,340.39. Line items costs are provided below.

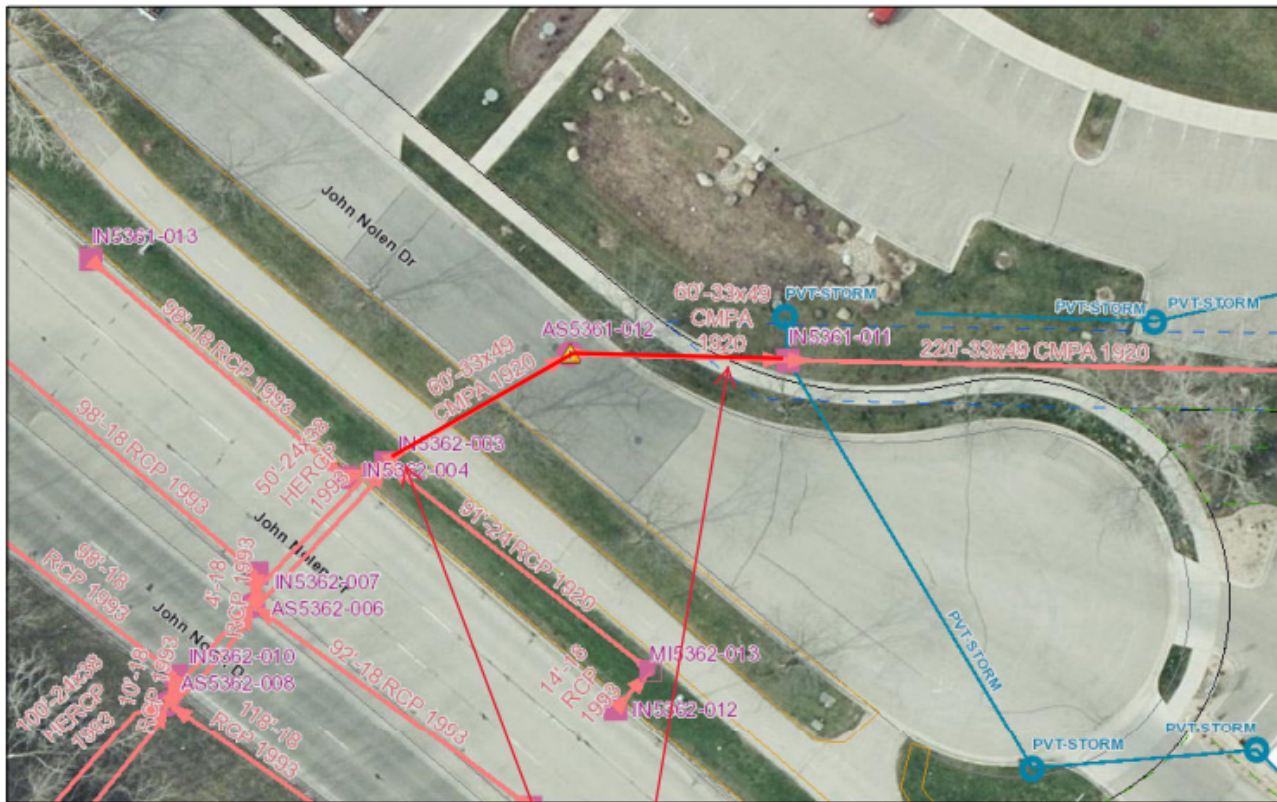
ITEM	COST
Wages and Benefits	\$ 26,331
Equipment	\$ 20,974
Materials and Supplies	\$ 17,035
TOTAL	\$ 64,340.39

Cost Analysis

The following information is intended to compare an emergency repair of this size to a typical Public Works project bid cost. Based on the average bid prices paid for similar materials, labor and equipment for the years 2018-2020, we estimate that sewer pipe and structure materials would cost \$33,410. Mobilization and traffic control bids would average \$12,000, stormwater control bids average \$8000 for similar site conditions, and \$7500 for removal and replacement of concrete, asphalt, and terrace restoration. 15% Engineering for design, permitting, and inspection would add \$9200. In total, based on Public Works bid prices, the project would cost approximately \$70,110.

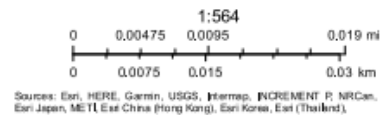
Engineering Operations were able to inspect, plan, design, order materials, and complete the repair with reasonable schedule flexibility at a cost below the Public Works estimation of bid costs.

John Nolen Dr Storm 1



August 18, 2021

- | | | | | |
|----------------------|-------------------|-------------------------|-------------------|--------------|
| polylineLayer | pointLayer | Storm Pipe | Access Structures | Other |
| Override 1 | Override 1 | Storm Structures | Apron | Lift Station |
| | Pipe Breaks | Other | Inlet | |



Storm Main/Structure Replacement
 828 John Nolen Dr
 10' x 12' Excavation/Asphalt/Bike Path
 10' x 32' Excavation/Asphalt
 10' x 42' Excavation/Topsoil/Terrace
 5' x 15' Excavation/Concrete/SW
 2.5' x 25' Excavation Concrete/C&G
 WO# 91782

Traffic Control Plan
 pg# 24, 55 WZS handbook
 map for traffic control
 BP detour on separate attachment