Date:	April 24, 2020
Project:	Temporary Site Civil & Maintenance of Flow for Stormwater & Sanitary Sewer Design
Submittal:	Final Report
Re:	**CEE 4905 Senior Design Spring 2020**

FROZEN CONSTRUCTION

WHERE WE DON'T JUST BUILD...
WE CREATE

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LETTER OF TRANSMITTAL

To: Dr. Melanie Kueber Watkins **Copy to:** Russ Lutch

Attn: Final Design

WE ARE SENDING YOU: ☒ Attached ☐ Under separate cover

via hand the following items:

	Description
	Final Report, design details, plans of entire design including: construction staging/security fencing, land use & watershed map, stormwater control, pump design, flume design, structural plan, and grading plan.

☐ For payment	☐ Approved as submitted	☐ Resubmit	copies for approval
☐ For your use	☐ Approved as noted	☐ Submit	copies for distribution
☐ As requested	☐ Returned for corrections	☐ Return	signed copies
☒ For review & comments	☐ Rejected ☐ For Recording		

REMARKS:

This report, titled "Northeast Boundary Tunnel (NEBT) Mount Olivet Construction Sites Temporary Site Civil & Maintenance of Flow for Stormwater & Sanitary Sewer Design Draft Report", represents the efforts of undergraduate students in the Civil and Environmental Engineering Department of Michigan Technological University. While the students worked under the supervision and guidance of associated faculty members, the contents of this report should not be considered professional engineering.

BY: *Corrina Kostrzewa*

Frozen Construction

If enclosures are not as noted, kindly notify us at once.

Northeast Boundary Tunnel (NEBT)
Mount Olivet Construction Sites

Temporary Site Civil & Maintenance of Flow for Stormwater & Sanitary Sewer Design

Submitted by:

Brett Cianek, Corrina Kostrzewa, Mike Summerfield, Conrad Truettner

Submitted to:

DC Water Clean Rivers
Melanie Kueber Watkins, PE, PhD, Michigan Technological University
Russell Lutch, PE, Brierley Associates Corporation

04-24-2020

Michigan Technological University
Civil and Environmental Engineering Department
1400 Townsend Drive
Houghton, MI 49931

Disclaimer

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Acknowledgments

Frozen Construction would like to thank client contact Russ Lutch of Brierley Associates, senior design faculty advisor Dr. Melanie Kueber Watkins, and the Civil & Environmental Engineering Department.

1.0 Executive Summary

Frozen Construction was contracted by Brierley Associates, in conjunction with Midwest Consulting, to perform work on the NorthEast Boundary Tunnel in Washington, D.C. Frozen completed designs for site maintenance, stormwater control, erosion control, and a temporary flume structure. Midwest Consulting performed Support of Excavation, organized traffic control, and provided dewatering designs. Frozen Construction's temporary flume design will allow the existing seven foot combined sewer to be replaced by the temporary flume so that construction of the permanent diversion structure can be completed below. The sites were graded to ensure that stormwater flowed into retention basins, which are also part of the erosion control for the project sites. This project is estimated to cost a combined total of $9,458,000 with a time of completion of 155 days from demolition to restoration.

2.0 Project Overview

The Northeast Boundary Tunnel is a project being completed in Washington, D.C. by Brierley Associates. The NEBT project is owned by DC Water Clean Rivers. Frozen Construction's role on this project is as an engineering sub-consultant to Brierley Associates. Frozen Construction is working on two separate sites on Mount Olivet Road as a part of this project as seen in Appendix A. The Diversion Site is at the intersection of West Virginia Avenue and Mount Olivet Road, while the Shaft Site is two-tenths of a mile east on Mt. Olivet Road. The tunnel is being constructed to store stormwater overflow from the existing combined sewer so that backup and flooding do not occur in the combined sewers during storm events. Frozen Construction is responsible for designing the temporary flume, site planning, stormwater control, and permitting for the two sites. Throughout the project, Frozen Construction will be collaborating with Midwest Consulting who will be completing Support of Excavation. The tasks that Frozen Construction will be collaborating on with Midwest Consulting include the following: deliverables, construction staging, estimating, and scheduling.