

January 3, 2017



Mr. Chad Staniszewski
Mr. Eugene Melnyck
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, NY 14203

Dear Mr. Staniszewski & Mr. Melnyck:

OU3 Geotechnical Investigation Work Plan

On behalf of ExxonMobil and Elk Street Redevelopment LLC, and per the requirements of the Brownfield Cleanup Program, Amec Foster Wheeler is submitting this subsurface investigation work plan for a limited geotechnical investigation at the ExxonMobil Operable Unit 3 (OU3) property located on Elk Street in Buffalo, New York. The limited investigation consists of advancing two soil borings and retaining soil samples for index and strength testing. The field investigation and following laboratory program will be used to support the bulkhead design as part of the OU3 remedy.

SCOPE OF WORK

The proposed remedial investigation consists of advancing two geotechnical borings. The locations of the proposed borings are shown on the attached Figure 1, OU3 Geotechnical Investigation Plan. The intent of the investigation is to supplement a pre-design investigation completed by Arcadis in December 2015. During the 2015 investigation and subsequent geotechnical laboratory testing, drained strength data of the soft lacustrine clays were not developed. The intent of the proposed investigation is to collect undisturbed (Shelby tube) samples of the lacustrine clay for geotechnical laboratory testing, including testing to develop drained strength of the lacustrine deposit. The following procedures will be adhered to at each boring location:

- Borings will be advanced using drive and wash or hollow stem auger methods.
- Standard penetration testing (SPTs) will be conducted at 5-foot intervals from ground surface to the top of bedrock. SPT sampling will be conducted in accordance with ASTM D1586.
- In addition to the SPT sampling, undisturbed samples of the lacustrine clay that underlies the overburden fill materials, will be collected using thin walled Shelby tube samplers in accordance with ASTM D1587 (conventional) or ASTM D6519 (piston sampler). It has been assumed that up to four Shelby tubes will be collected per borehole.

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- Investigation derived waste will be containerized in 55 gallon drums and handled in accordance with the site-wide soil management plan.
- Amec Foster Wheeler will provide an engineer or geologist to observe and log the explorations, document the locations of each exploration, and collect soil samples for laboratory testing.
- All down-hole equipment will be decontaminated prior to being demobilized from the site at the completion of field activities.

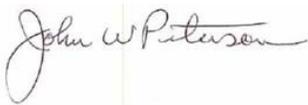
All field work will be conducted in adherence to the current site Health and Safety Plan including appropriate personal protection equipment and air monitoring procedures. It is anticipated that the subsurface investigation will be completed over the course of three days.

At the conclusion of the field investigation, a laboratory analytical testing program will be initiated. It is anticipated that the laboratory program will include the following material index and strength testing:

- Moisture Content (ASTM D2216)
- Consolidate Incremental Consolidation (ASTM D4767)
- CK₀U Triaxial Compression (GTX-S1020)
- Direct Simple Shear (ASTM D6528)
- One Dimensional Consolidation (ASTM D2435)
- Atterberg Limits (ASTM D4318)
- Laboratory vane Shear (ASTM D4648)

Sincerely,

AMEC FOSTER WHEELER ENVIRONMENT & INFRASTRUCTURE



John Peterson
Senior Project Manager



Richard Egan
Senior Geotechnical Engineer

Attachments



Title:	OU 3 Geotechnical Investigation Plan	
	By: RSE	Date: 12/19/2016
	Elk Street Commerce Park, Buffalo, NY	
Project:	Elk Street Redevelopment LLC	
Client:	Elk Street Redevelopment LLC	
Scale:	NTS	

Project No:

Figure No:
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