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May 31, 2022

Megan Kuczka
Environmental Program Specialist 1
Division of Environmental Remediation
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203

**Re: Work Plan
Soil Vapor Intrusion Sampling
Main Street Right-of-Way (NYSDEC Spill #9500234)
Buffalo, New York**

Dear Megan:

On behalf of Kaleida Health, C&S Engineers (C&S) is providing this Work Plan to complete a soil vapor intrusion study in the subway tunnel adjacent to the 1001 Main Street building in Buffalo, New York.

BACKGROUND

For over 30 years, leaking underground storage tanks (LUSTs) formerly located at a Mobil Service Station at the corner of Main and High Streets released petroleum products into the subsurface soils and groundwater. Contaminated soils were observed from 10 feet below ground surface (bgs), with the bulk of the contamination in the range of 20 feet bgs to approximately to 40 feet bgs. From the main release area, historic migration of petroleum product entered into a semi-confined coarse sand and gravel lens observed approximately 32 to 35 feet bgs. Petroleum product within this lens generally moved horizontally with groundwater flow.

While much of the contamination was located on the Conventus Site (Brownfield Site No. C915260), an off-site investigation was conducted as part of the Brownfield Cleanup Program (BCP) remedial activities in December 2012. The intent of the off-site investigation was to assess the presence of petroleum contamination that may have migrated from the Conventus Site to the adjacent Main Street Right-of-Way (ROW). That work indicated that the groundwater contaminant plume had indeed migrated to the Main Street ROW and the results were provided to the NYSDEC in August 2013.

While the BCP program does not require the remediation of off-site contamination, Kaleida Health voluntarily entered into the stipulation with the NYSDEC to address off-site contamination concerns. The stipulation requires Kaleida Health to remediate contamination resulting from the former Mobil Service Station release in the area identified as the Main Street Right-of-Way. Because of the depth of contamination and documented low soil contamination levels (Restricted Residential Use SCOs or below), off-site concerns were limited to the presence of dissolved phase petroleum hydrocarbons

above NYSDEC groundwater standards. The concentration and extent of the off-site contaminant plume has been well documented to extend off-site to west under the Main Street ROW.

The contaminated groundwater plume extends under the Main Street sidewalk (generally opposite of the documented groundwater flow direction in the area). The majority of Main Street is underlain by the Niagara Frontier Transportation Authority (NFTA) Light Rail Tunnel. The presence of contamination beneath the Main Street sidewalk may be due to its close proximity to the original source within 1001 Main Street property, or it may be a result of local influence from rail tunnel present under Main Street. The underground rail tunnel and associated drain system acts as a sink for groundwater along the Main Street ROW. Over time, contaminated groundwater on the western BCP boundary has slowly migrated underneath the Main Street sidewalk. The presence of contamination further west of the rail tunnel has not been determined.

The NFTA rail system has three sections:

- The surface tracks that run from the Inner Harbor to West Tupper Street;
- The shallow tunnels (constructed by digging through the overburden) which run from West Tupper Street to W/E Ferry Streets; and
- The deep bored tunnels (bored through the bedrock) which runs from Ferry Street to the end of the line at the University at Buffalo Station.

The project area along Main Street is located in the shallow tunnel section. Per the NFTA, the groundwater seepage into the rail tunnel is directed along the bottom of the tunnel between and along the track base. The water drains into sumps located at the transition to the deep bored tunnels near Ferry Street. These sumps pump the water into the nearby city sanitary sewer system. Therefore, the water collected in the tunnel drainage system in the area of 1001 Main Street runs along the base of the tunnel until it discharges into a sump near Ferry Street, providing no discrete access to the water collection along that length.

Over the past several years, in-situ chemical injections have greatly reduced groundwater contamination and reduced the size and potential migration of the groundwater plume. However, the effectiveness of in-situ treatments has waned over time. Based on the accumulated data collected to date and the conversation with the NYSDEC on October 1, 2021, C&S recommended the remediation be halted and the groundwater monitoring schedule be reduced to annual sampling on MS-MW02 only. On November 1, 2021, the NYSDEC agreed to a reduced in-situ treatment and sampling schedule. In the October meeting, the NYSDEC noted potential soil vapor concerns to the adjacent subway. In an effort to investigate this potential exposure pathway, Kaleida Health and C&S present this scope of work to evaluate potential soil vapor concerns from the Main Street spill.

SCOPE OF WORK

- An indoor air questionnaire and building inventory survey will be conducted prior to air sampling. To the extent that the NFTA is willing to share, maintenance products used on the subway cars will be listed.
- Prior to sampling, C&S will screen the sampling areas for volatile organic vapors (VOVs) utilizing a photoionization detector (PID) with a 10.6 eV lamp.
- C&S will prepare an inventory of petroleum or chemical storage in the vicinity of the sampling areas, that could affect sampling results.

- Sampling protocol will follow New York State Department of Health (NYSDOH) Guidance on Evaluating Soil Vapor Intrusion in the State of New York (2006), with updates (SVI Guidance).
- C&S will collect air samples to evaluate indoor air quality. The indoor air samples will be located as shown in the attached figure and based on input from NFTA staff. The sampling devices will be placed approximately three to five feet off the ground for sample collection purposes and samples will be collected using a Summa canister equipped with a laboratory calibrated regulator over a 24-hour period.
- C&S will collect one outdoor air sample to characterize background air quality in the vicinity of the building as a means to evaluate the sub-slab and indoor air results. The sampling device will be located downwind of the structure and will be placed approximately three to five feet off the ground for sample collection purposes. The outdoor air sample will be collected using a Summa canister equipped with a laboratory calibrated regulator over a 24-hour period.
- The air samples will be collected at a rate not to exceed 0.2 L/m to ensure that representative sample of tunnel air will be obtained.
- The samples will be sent to a certified laboratory and analyzed for volatile organic compounds (VOCs) by USEPA Method TO-15. Detection limits are 1 µg/m³.
- A brief letter report will be prepared and will contain the following:
 - summary of the field activities, including locations of the samples;
 - comparison of analytical data to NYSDOH standards and guidance;
 - indoor air questionnaire and building inventory survey; and
 - data usability summary report.

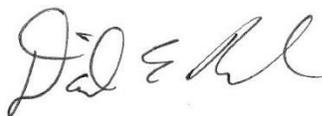
SCHEDULE

C&S is prepared to initiate this project as soon as approval of the scope of work is received from the NYSDEC. We expect the work to be completed within six weeks of initiation.

Should you have any questions regarding this work plan or the information contained herein, please feel free to contact me at (716) 847-1630.

Sincerely,

C&S ENGINEERS, INC.

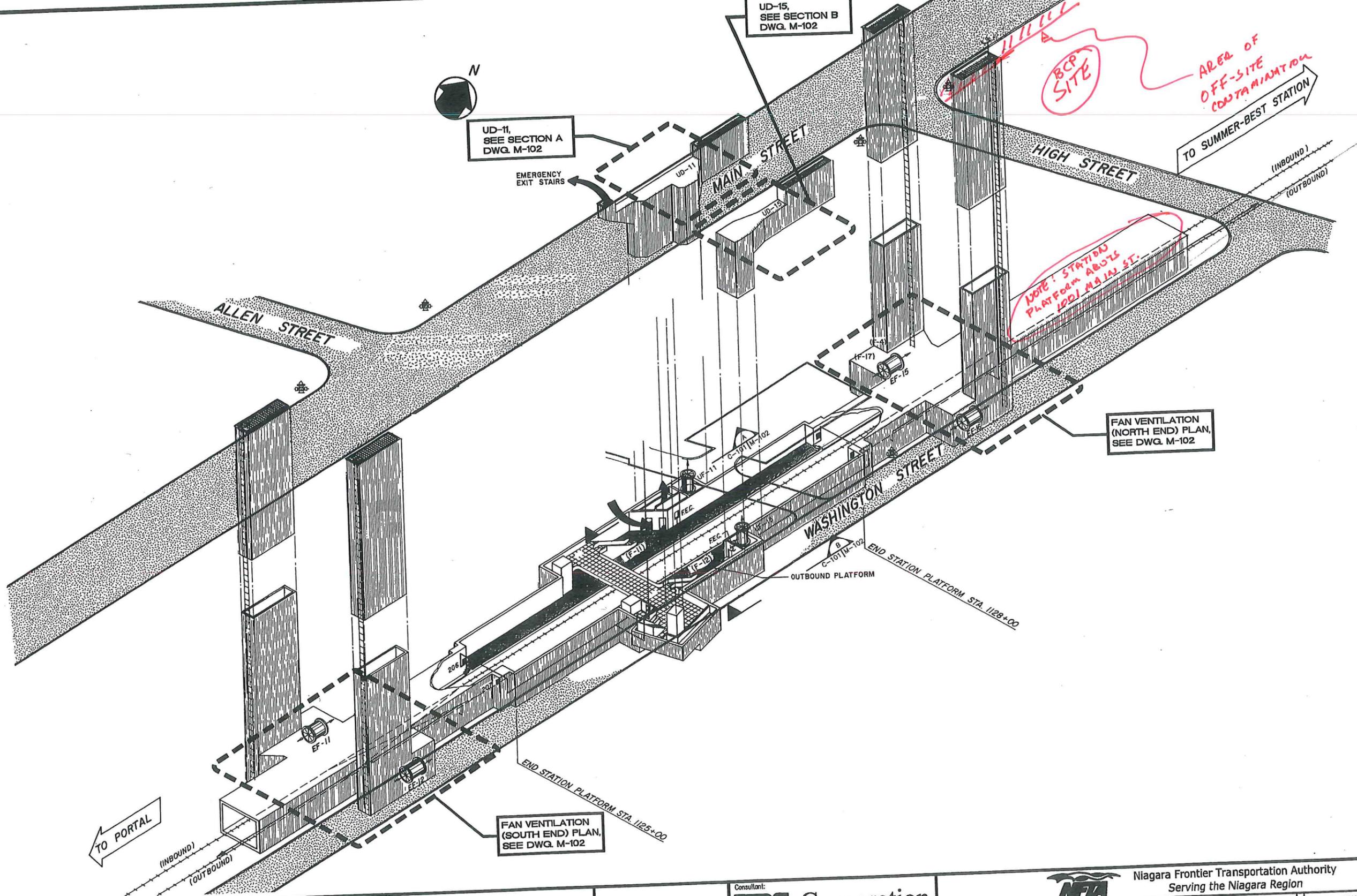


Daniel E. Riker, P.G.
Department Manager – Environmental Services



Cody Martin
Project Environmental Scientist

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UD-11, SEE SECTION A DWG. M-102

UD-15, SEE SECTION B DWG. M-102

FAN VENTILATION (NORTH END) PLAN, SEE DWG. M-102

FAN VENTILATION (SOUTH END) PLAN, SEE DWG. M-102

BCP SITE

AREA OF OFF-SITE CONTAMINATION TO SUMMER-BEST STATION

NOTE: STATION PLATFORM ABOVE 100' MA 1A ST.

Consultant:
URS Corporation
 New York
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 (716)856-5636 - (716)856-2545 fax

NFTA Niagara Frontier Transportation Authority
 Serving the Niagara Region

NO.	REVISION	BY	DATE
0	BID DOCUMENT	RPM	3/20/06

NFTA PROJECT NO. 16 LU 0501
 LRRT-VENTILATION DAMPER REPLACEMENT - PHASE II
 ALLEN/MEDICAL CAMPUS STATION

SCALE - NONE	03/20/06
FIELD EDIT	-
DRAWN BY	KAA
CHECKED BY	RAM
DRAWING FILE NAME: ALLENMED.dwg	
DRAWING #	

ISOMETRIC

C-101