



**CONESTOGA-ROVERS
& ASSOCIATES**

**SPOT SEWER REPAIR AND SEDIMENT SAMPLING
WORK PLAN**

**LASALLE AREA - COLVIN BOULEVARD AND
96TH STREET**

**GLENN SPRINGS HOLDINGS, INC.
NIAGARA FALLS, NEW YORK**

PREPARED BY:
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1.0 INTRODUCTION

The following Work Plan has been prepared in response to the determination of chemical impacts to sediments found within a sanitary sewer pipe being repaired by a contractor employed by the City of Niagara Falls (CNF) and the Niagara Falls Water Board (NFWB). The sanitary sewer maintenance and repair activities were being completed by a third party subcontractor to correct a deflection within the sanitary sewer piping (i.e., the sewer pipe was sagging or had a low spot).

On or around January 11, 2011, the CNF/NFWB contractor encountered a strong industrial sewage odor upon breaking into the section of the sanitary sewer line in need of repair. Due to the proximity of the repair work to the Love Canal Site, work activities were halted, and the New York State Department of Environmental Conservation (NYSDEC), the NFWB, the CNF, and Glenn Springs Holdings, Inc. (GSH) were notified of the discovery. GSH immediately initiated an investigation into the potential source of the sewer impact. Subsequent laboratory analysis of sediments originating from within the sanitary sewer pipe indicated elevated concentrations for chlorinated compounds.

GSH commenced an internal document and treatment system evaluation and assessment to determine the origin of the impacted materials. The internal investigation confirmed that the Love Canal treatment system was functioning properly and as designed; including full compliance with treatment requirements and full compliance with engineering requirements such as little to no detections of chemistry in perimeter wells and an inward hydraulic gradient. The internal investigation also identified that historically, sediment was present within the sanitary sewer line that contained similar chemistry as the current data. GSH has submitted a detailed report outlining the investigation activities and conclusions under separate cover. As a result of the evaluation, GSH concluded that the impacted sediments were isolated to that area of the sewer and resulted from impacted sediments being inadvertently left within this section of the pipe after sewer cleaning was completed in the mid-1980s due to the presence of a low spot in the sewer.

The final piece of information that was used to develop the following scope of work to address the isolated impacted sediments were video inspections completed by the NFWB in 2000. GSH reviewed the video inspection information for the section of sanitary sewer beneath Colvin Boulevard from 95th Street to 102nd Street. This section of the Colvin Boulevard sanitary sewer parallels the North end of the Love Canal Site. No additional areas of sediment accumulation or pipe failure was observed during the video review. Overall, the integrity and competency of the sewer was observed to be in good to excellent condition.

Based on GSH's investigation, it was concluded that the low section of the sewer pipe acted as a sediment trap and the impacted sediments were isolated to a small section of the sewer piping and that removal of the sagging pipe and its contents is the recommended approach for managing the impacts.

The remainder of the Work Plan outlines the scope of work to be completed.

1.1 OBJECTIVES

The primary objectives are to:

- Excavate and remove any impacted materials (piping and limited bedding material)
- Collect and analyze soil/sediment samples from the bottom of the excavation and the end walls from the bedding material of the sanitary sewer pipe remaining in-place
- Backfill and return street (Colvin Boulevard) to normal use

1.2 REPORT ORGANIZATION

This Work Plan is organized as follows:

- Section 1.0 - Introduction: Presents an overview of the project to date
- Section 2.0 - Background: Provides a description of GSH's understanding of the work area conditions and chemical impacts within that area
- Section 3.0 - Proposed Scope of Work: Provides a summary of the scope of work and activities to be conducted
- Section 4.0 - Community Air Monitoring: Provides a description of steps that will be taken to monitor the work zone to ensure work activities and the residual chemical impacts do not adversely effect the quality of life and health of the community surrounding the work area
- Section 5.0 - Reporting: Describes the reports that will be prepared and submitted following completion of this scope of work
- Section 6.0 - Schedule: Presents a preliminary project schedule

2.0 SITE DESCRIPTION AND HISTORY

2.1 SITE BACKGROUND

The work area is located on Colvin Boulevard between 96th Street and 97th Street, in the City of Niagara Falls, New York. Located to the North, East, and West of the work area is residential housing, while to the south/southwest is the Love Canal Landfill Facility.

2.2 SANITARY SEWER

The sanitary sewer requiring repairs is located beneath the median area of Colvin Boulevard running in an east to west direction. The sewer pipe consists of a 15-inch diameter vitrified tile pipe and is buried approximately 20 feet below ground surface. Approximately 50 linear feet of sewer pipe requires repair.

2.3 SEDIMENT CHEMISTRY

One sediment/soil sample was collected by the City's consultant when the initial impacts were discovered. It is unclear from discussions with City personnel as to the exact location where the sample was collected and the sample matrix. The sample was submitted to TestAmerica, Amherst, New York for volatile and semi-volatile organic chemical analysis (VOCs and SVOCs). Based on the results of the testing, the following list of primary compounds was identified as being present:

- Benzene
- Monochlorobenzene
- cis-1,2-Dichloroethene
- 1,2-Dichlorobenzene
- 1,4-Dichlorobenzene
- 1,2,4-Trichlorobenzene
- Toluene
- Hexachlorobenzene
- Hexachlorobutadiene

Additional VOC and SVOC compounds were detected at negligible levels.

3.0 PROPOSED SCOPE OF WORK

The proposed scope includes the following activities:

- Excavate 50 to 60 feet of 15-inch diameter VT sanitary sewer pipe
- Replace sewer pipe with sanitary sewer piping in accordance with the NFWB/CNF project specifications (NFWB LaSalle Area Spot Sewer Repairs [Various Locations] S.C. 1645), dated October 2010
- Collect confirmatory soil samples from the bottom of the excavation from beneath the location of the pipe and from the ends of the excavation from the bedding material of the sanitary sewer that is remaining in-place
- Analyze confirmatory soil samples for VOC and SVOCs following United States Environmental Protection Agency (USEPA) Methods SW846 8260 and 8270, respectively
- Backfill to grade and reopen Colvin Boulevard to through-traffic

Each of these activities is described in more detail in the following subsections.

3.1 EXCAVATION OF DAMAGED SANITARY SEWER PIPING

GSH will retain an environmental contractor to perform the sewer repairs. All personnel working at the Site will be 40-Hour HAZWOPER trained. The environmental contractor will excavate down to the damaged pipe. All materials lying above the pipe will be stockpiled for reuse during backfilling activities. Once the pipe is encountered, all piping and bedding material will be placed in lined roll-offs for later characterization and disposal, if necessary. Full roll-offs will be moved and staged at the Love Canal Landfill Facility.

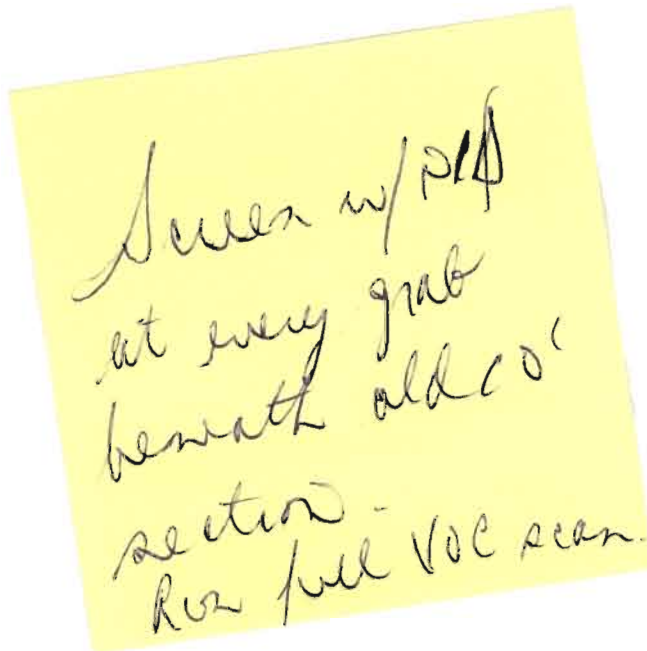
Once the impacted pipe and bedding materials have been removed to the satisfaction of GSH's oversight engineer/consultant, the new pipe will be placed and backfilled with granular material in accordance with the NFWB project specifications. The sewer will be excavated in 10-foot sections since the replacement piping is 10-foot in length. All work will be conducted to the satisfaction of the City's on-Site engineer/representative.

3.2 CONFIRMATORY SAMPLING

As each 10-foot section of piping is removed and prior to the placement of the new pipes bedding material, a soil sample will be collected from the bottom of the excavation and placed in a discrete sample jar. It is estimated that five to six grab samples from the bottom of the excavation will be collected. Once all bottom grab samples have been collected, a composite sample of the grabs will be made and placed in a discrete sample jar for submission to an Environmental Laboratory Approval Program (ELAP)-certified testing laboratory for VOC and SVOC analysis.

In addition to the collection of a composite bottom sample, one soil grab sample will be collected from the endwalls of the excavation. Specifically, a soil sample will be collected from the bedding material of the sanitary sewer pipe that is remaining in-place. These two grab samples will also be submitted to the laboratory for VOC and SVOC analysis.

Once all new piping has been placed and confirmatory samples collected, the remaining bedding material will be placed and the excavation backfilled to grade.



Screen w/ PIP
at every grab
beneath old coc
section -
Res full VOC scan.

4.0 COMMUNITY AIR MONITORING

A Site-specific Health and Safety Plan (HASP) has been developed for the work activities. All work will be conducted in accordance with this work plan, the HASP, and the NFWB project specifications.

4.1 COMMUNITY AIR MONITORING

In order to ensure the safety of the project workers as well as the residents of the neighborhood, continuous air monitoring will be conducted during all work activities. At a minimum, a photoionization detector (PID) equipped with a 10.3 eV lamp will be used along with an O₂/lower explosive limit (LEL) meter and a H₂S meter to monitor air quality within the excavation and along the perimeter of the work area (i.e., at the exclusion zone fence line).

GSH's consultant will collect PID, O₂/LEL, and H₂S measurements from the perimeter of the work area (north, south, east, and west) once per hour and record the readings in the field notebook. Should any readings be detected, they will be compared to the HASP Action Levels to determine the appropriate action to be taken based on the readings.

4.2 HASP

A HASP has been prepared in accordance with 29 Code of Federal Regulations (CFR) Part 1910 and 29 CFR 1926. The HASP specifies protective measures and procedures to be followed during the field activities to minimize exposure of workers and the surrounding community to hazardous Site-related materials.

5.0 REPORTING

Following completion of all activities, a draft report will be prepared presenting the work activities. The report will include, but not be limited to, a summary of the work activities completed, photographs of work activities, construction information as required by the NFWB project specifications, confirmatory soil sampling data, and air monitoring data. Data will be presented in both tabular and graphic forms as applicable.

The draft report will be submitted to the NYSDEC and the NFWB for review and comment. Any comments that should be received from the NYSDEC and NFWB regarding the draft report will be addressed, and the final report will be revised accordingly. The revised final report will then be submitted to NYSDEC, USEPA, and the NFWB.

6.0 SCHEDULE

GSH anticipates commencing work activities Monday, January 31, 2011. Contractor mobilization will occur on Monday. Work activities will start as early as Monday afternoon or Tuesday morning.

From: <Clint_Babcock@oxy.com>
To: <bpsadows@gw.dec.state.ny.us>
CC: <dhoyt@croworld.com>, <gpsutton@gw.dec.state.ny.us>, <mjf13@health.state...>
Date: 1/31/2011 2:31 PM
Subject: RE: Spot Sewer Repair And Sediment Sampling Work Plan - LaSalle Area - Colvin Blvd. and 96th St.

Thank you Mr. Sadowski. We appreciate the Agency's prompt response and will proceed with the work modifying the proposed plan based on the Agency comments below. We will be providing a status update at the end of each day's work and will make every effort to get this work done safely, quickly and to everyone's satisfaction.

Regards, Clint

-----Original Message-----

From: Brian Sadowski [mailto:bpsadows@gw.dec.state.ny.us]
Sent: Monday, January 31, 2011 1:11 PM
To: Babcock, Clint
Cc: dhoyt@croworld.com; Gregory Sutton; mjf13@health.state.ny.us; rroll@nfwb.org
Subject: Spot Sewer Repair And Sediment Sampling Work Plan - LaSalle Area - Colvin Blvd. and 96th St.

Dear Mr. Babcock,

This message is a follow up to the telephone conversation between Greg Sutton, Dennis Hoyt and myself on January 28th, 2011. That follow up, is Department approval on the Work Plan regarding the above subject site. There are however four comments on the continuance of the approval.

1. Collect a sample at each 10' foot interval, screen with a PID and save for a composite (we reconsidered the composite approach and agree with that approach).
2. Collect discrete samples at any and all points if the soil/sediment appears to be contaminated by discoloration, screens "hot" with a PID, is olfactory and/or obvious to be NAPL.
3. Collect a discrete sample at the beginning of the trench and at the end.
4. Analyze all soil/sediment samples for Love Canal indicator chemicals; complete VOC , SVOC and Pesticide scan.

Should you have any questions on the above, please feel free to contact me at 716-851-7220. Thank you.