LABELLA Associates, P.C.

Engineering
Architecture
Environmental

Port of Rochester
Solid Waste Control Plan

Location:

Port of Rochester
Rochester, New York 14612

Prepared For:

City of Rochester Division of Environmental Quality
30 Church Street
Room 300B
Rochester, New York 14614

LaBella Project No. 209447.01

January 2011

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1.0 INTRODUCTION

1.1 Site Location

The Port of Rochester site is located at 4590, 4630, and 4752 Lake Avenue and 1000 North River Street in the City of Rochester, New York. The Site is generally bounded by Lake Avenue to the west, the Genesee River to the east, Corrigan Street to the north, and River Street to the south (see Figure 1).

The Port of Rochester encompasses an area bounded on the north by Lake Ontario Beach State Park, on the east by the Genesee River, on the west by Lake Avenue, and on the south by land owned by CSX Transportation. In addition the Monroe County Boat Launch (likely to be purchased by the City of Rochester) will be included in this Solid Waste Control Plan (SWCP). The City of Rochester is the owner of most of the parcels within the Port of Rochester. The location of the properties where this SWCP applies is depicted on Figure 1.

1.2 Site History

In the mid to late 1800's to the mid 1920's, Charlotte Iron Works was an operational steel mill located on the western portion of the Site. Foundry waste products, including foundry sand and slag, generated from the facility were used to expand the shoreline eastward toward the Genesee River and subsequently across the Site.

Previously completed subsurface investigations conducted at the Port of Rochester have identified:

- Slag associated with former iron production at the Site; and,
- Mixed fill materials including, but not limited to, as ash, cinders, coals, bricks, concrete, unrecoverable quantities of slag, and railroad ties.

1.3 Purpose & Scope

During development and construction, the presence of the slag materials within the fill profile will require specific handling procedures. These specific handling procedures are cumulatively described in the Beneficial Use Determination (BUD) Application and in this SWCP. Handling procedures for the mixed fill materials excavated as part of the proposed project will be outlined in the Environmental Management Plan (EMP) for the Site.

Developers and Contractors disturbing the subsurface at the Port of Rochester Site shall follow the procedures outlined in this SWCP and the EMP. No slag or processed slag generated from the Port of Rochester Site may be physically removed from the Port of Rochester Site without the expressed written permission from the City of Rochester. This procedure is presented in detail in Section 4.0.

2.0 OBJECTIVE

This SWCP is intended to provide guidance regarding the management and processing of slag material containing minimal amounts of mixed fill materials excavated during the construction and various development activities at the Port of Rochester Site.

2.1 Applicability of Solid Waste Control Plan

This SWCP applies to the excavation, processing, and handling of slag with minimal quantities of mixed fill materials collectively targeted for recovery by the site contractor selected by the City of Rochester to construct the proposed Port of Rochester marina and associated infrastructure.

3.0 BACKGROUND AND SUPPORTING ANALYTICAL DATA

This SWCP utilizes data gathered from the previous subsurface investigative reports and observations made during construction of the Port of Rochester Harbor Improvement and Harbor Ferry Terminal project as well as more recent design investigations. The reports utilized for reference are as follows:

- Phase I Environmental Site Assessment – Charlotte Port of Rochester, New York *by Galson dated April 1999*
- Geotechnical Site Characterization, Port of Rochester Harbor Improvement and Harbor Ferry Terminal *by Haley & Aldrich of New York dated January 22, 2001*
- Port of Rochester Harbor Improvement and Harbor Ferry Terminal - Phase II Environmental Site Assessment, Preliminary Site Characterization Report *by LaBella Associates, P.C. dated May 31, 2001*
- Phase III Environmental Site Assessment: Remediation Closure Report – NYSDEC Spill Number 990601 - Area #1 *by LaBella Associates, P.C. dated October 2002*
- Remedial Investigation Report *by LaBella Associates, P.C. dated March, 2007.*
- Predevelopment Subsurface Conditions analysis Investigation Report *by LaBella Associates, P.C. dated March 2009*
- Data Summary Package: Port Marina Predevelopment Site Conditions Gap Investigation *by LaBella Associates, P.C. dated September 2009*

Based on the aforementioned reports, approximately eight (8) test pits and forty (40) soil borings have been completed within the footprint of the proposed marina. In addition, three (3) groundwater monitoring wells have been installed within the proposed marina footprint.

In addition to the above reports prepared for the Port of Rochester, several miscellaneous environmental documents were generated by LaBella Associates and the City of Rochester during construction of the Port of Rochester Harbor Improvement and Harbor Ferry Terminal Project. These documents specifically addressed New York State Department of Environmental Conservation (NYSDEC) Spill #990601. The documents are:

- Phase II Environmental Site Assessment: Underground Storage Tank Closure Report – Soil Sampling and Analysis: Port of Rochester Orphan Tank Discovered September 2003 *by LeCesse Constriction*
- Underground Storage Tank Removal, Excavation Closure Sampling and Groundwater Sampling Report - North Warehouse, Port of Rochester; Rochester New York: Remediation Closure Report dated January 2003
- Memo - January 15, 2003, Vortex Excavation – Port of Rochester Parking Lot Improvements
- Memo - February 17, 2004, Groundwater Sample Results – Future Underground Storage Tank Excavation, Port of Rochester – Fast Ferry Terminal, Rochester, New York

- Memo – September 11, 2002, Questionable wastewater discharge relating to groundwater encountered and pumped at the South 24" sewer outfall trench; Beach Avenue and North Parking Lot Improvements Project – Port of Rochester
- Drawing showing approximate areas where these issues were addressed
- Letter from the City of Rochester of NYSDEC Active Spill #990601 to the NYSDEC dated May 6, 2004
- Letter from the NYSDEC of Spill #990601 to the City of Rochester dated June 14, 2004

The documents were submitted to the NYSDEC in a letter from the City of Rochester Division of Environmental Quality ("City DEQ") to the NYSDEC dated May 6, 2004, requesting No Further Remedial Action regarding the above listed issues and that the NYSDEC close NYSDEC Spill #990601. The NYSDEC responded to the City DEQ in a letter dated June 14, 2004 and indicated the NYSDEC does not require further remedial work regarding Spill #990601 at this time. A copy of this NYSDEC No Further Action letter is included in Appendix 1. It should be noted that this letter applies only to previously identified petroleum releases at the Port of Rochester; and it does not apply to slag or any man-made fill materials.

These reports and miscellaneous environmental documents may be reviewed at the City of Rochester's Department of Environmental Services located at City Hall, Room 300B. These reports detail locations of historical impacted soil and groundwater and areas where man-made fill materials have been identified.

3.1 Supporting Analytical Data for Slag and Mixed Fill Materials

Representative samples of slag and mixed fill materials were collected from in or near the proposed marina footprint and submitted for laboratory analysis of Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), Target Analyte List (TAL) Metals, including cyanide, and Polychlorinated Biphenyls (PCBs). Additionally, toxicity characteristic leaching procedures (TCLP) and synthetic precipitation leaching procedures (SPLP) were performed on select samples. Tables 2 through 7 summarize the analytical results of the various slag and mixed fill samples submitted for laboratory analysis from samples referenced in the various reports presented in Section 3.0. The locations of test pits and soil borings are presented on Figure 2.

The following is a brief summary of the analytical results contained in Tables 2 through 7. Pertinent soil boring logs are included in Appendix 2.

VOCs

As presented in Table 2, a total of fourteen (14) samples were collected in or near the proposed marina footprint and were submitted for laboratory analysis of VOCs. Four (4) of these samples contained mainly slag, while ten (10) samples contained a mixture of slag along with additional regulated fill materials. The main constituents of each sample are provided in Table 2. None of the samples submitted for laboratory analysis reported detections of VOCs found to be above the NYSDEC Part 375 Restricted Use Soil Cleanup Objectives for the Protection of Groundwater (SCOs for the Protection of Groundwater). Additionally, none of the fourteen (14) samples reported detections of VOCs at concentrations found to exceed the NYSDEC Part 375 Restricted Use Soil Cleanup Objectives for the Protection of Public Health – Restricted Residential Use (SCOs for the Protection of Public Health – Restricted Residential Use).

SVOCs

As presented in Table 2, four (4) samples containing slag were collected in or near the proposed marina footprint and submitted for laboratory analysis of SVOCs. Additionally, nine (9) other samples containing a mixture of slag and other regulated fill materials were all also collected in or near the proposed marina footprint and submitted for laboratory analysis of SVOCs. The main constituents of each sample are provided in Table 3. None of these thirteen (13) samples submitted for laboratory analysis reported detections of SVOCs found to be above the NYSDEC Part 375 SCOs for the Protection of Groundwater. Additionally, none of the thirteen (13) samples reported detections of SVOCs at concentrations found to exceed the NYSDEC Part 375 SCOs for the Protection of Public Health – Restricted Residential Use.

Metals

As presented in Table 4, a total of thirty-four (34) samples were collected in or near the proposed marina footprint and submitted for laboratory analysis of Target Analyte List (TAL) Metals. Of these thirty-four (34) samples, fifteen (15) samples contained mainly slag while the remaining fourteen (14) samples contained a mixture of slag and other regulated fill materials. The main constituents of each sample are provided in Table 4. Metals were detected at concentrations found to be above the SCOs for the Protection of Groundwater in twenty-six (26) of the thirty-four (34) samples submitted for laboratory analysis of TAL Metals. Metals were detected at concentrations found to exceed the SCOs for the Protection of Public Health – Restricted Residential Use in twenty-five (25) of the thirty-four (34) samples submitted for laboratory analysis of TAL Metals.

As presented in Table 5, the TCLP and SPLP analytical results for select samples submitted for analysis of TAL Metals are compared to the TCLP Regulatory Limits and the NYSDEC Part 703 Groundwater Standards, respectively. The following sections present the results of the analyses:

- *TCLP*

  Seven (7) total samples were collected in or near the proposed marina footprint that were submitted for laboratory Toxicity Characteristic and Leaching Procedure (TCLP) metals testing. Six (6) of these samples contained mainly slag while one (1) of these samples contained a mixture of slag and other regulated fill materials. The main constituents of each sample are provided in Table 5. None of the eight (8) samples reported metals at concentrations found to be above the United States Environmental Protection Agency (USEPA) TCLP Regulatory Limits.

- *SPLP*

  Three (3) samples containing mainly slag were collected in or near the proposed marina footprint were submitted for laboratory Synthetic Precipitation and Leaching Procedure (SPLP) metals testing. None of the three (3) samples reported metals at concentrations found to exceed the NYSDEC Part 703 Groundwater Standards.

Based on the TCLP and SPLP laboratory analytical results, the slag located within the proposed marina footprint appears to be a stable material that does not represent a concern for leaching of metals into groundwater.

Pesticides

As presented in Table 6, three (3) samples containing mixed fill materials were collected in or near the proposed marina footprint and submitted for laboratory analysis of Pesticides. None of these three (3) samples reported pesticides at concentrations found to be above either the SCOs for the Protection of Groundwater and above the SCOs for the Protection of Public Health – Restricted Residential Use.

PCBs

As presented in Table 7, two (2) samples containing mixed fill materials were collected in or near the proposed marina footprint and submitted for laboratory analysis of PCBs. PCBs were not detected above the reported laboratory MDLs in either of the two (2) samples submitted for analysis.

4.0 SOLID WASTE CONTROL PLAN (SWCP)

This SWCP has been designed for development and construction activities at the Site associated with the proposed marina. This SWCP only applies to the excavation of the slag layer. The excavation and handling of all other materials is covered by the EMP. The following sections present the types of materials that are anticipated to be encountered during earthwork activities at the Site.

4.1 Slag Material with Minor Amounts of Mixed Fill

Slag layers are present throughout the Site, and cross sections of the slag are depicted on Figures 3 through 5. The slag layer is comprised of mostly slag with minor amounts of mixed fill. Generally, beneath the topsoil or pavement, a layer of mixed fill materials is underlain by the slag layer targeted for excavation and processing. The logs of the borings, test pits, and monitoring wells depicted on the geologic cross sections depicted on Figures 3 through 5.

Typically slag can visually be identified in size ranging from approximately 1 inch to 10 inches in diameter. Photographs taken of the slag waste during previous subsurface investigation work at the Site is included in Appendix 3. These photographs feature blue slag as it is likely that blue slag will be the predominant slag recovered from the proposed marina basin.

The presence of slag can be visually identified during excavation. If questions arise during identification of the solid waste the City DEQ and the Environmental Project Monitor (EPM) shall make the final determination, for the classification on how the spoils generated during the construction activities at the Site will be managed.

Estimates of the total volume of slag indicate that approximately 47,000 cubic yards of recoverable slag is present within the excavation area of Phase I of the proposed marina. The depth of current ground surface elevation to the slag layers varies over the Site. The depth to the bottom of recoverable slag within the proposed marina footprint and immediately adjacent to the marina footprint is depicted on Figure 6.

4.2 Mixed Fill Materials

Beyond the slag materials described above, other regulated fill materials are known to exist within the subsurface at the Site. These mixed fill materials may include:

- Railroad ties
- Railroad ballast
- Ash
- Cinders
- Coal
- Any of the above intermixed with slag that is found to be unrecoverable for processing purposes

Some mixed fill materials will likely be removed from the excavation during the slag reclamation process. These end products will be managed in accordance with the EMP for the Site.

4.3 Solid Waste Control Plan to Guide Excavation of Slag

The SWCP is intended to guide the removal, processing, staging, and management of the excavated slag material. All other materials encountered during the excavation of the Site, including unrecoverable slag, will be managed in accordance with the EMP. The SWCP details the approach and the classification system that will be used to field screen and segregate excavated materials during recovery of the slag layer.

During the excavation activities, soils and other materials from the excavations will be continuously visually assessed for the presence of slag, mixed fill materials, and soils exhibiting staining, odors, or elevated photo-ionization detector (PID) readings (i.e., greater than 25 parts per million) collectively referred to as "evidence of impairment."

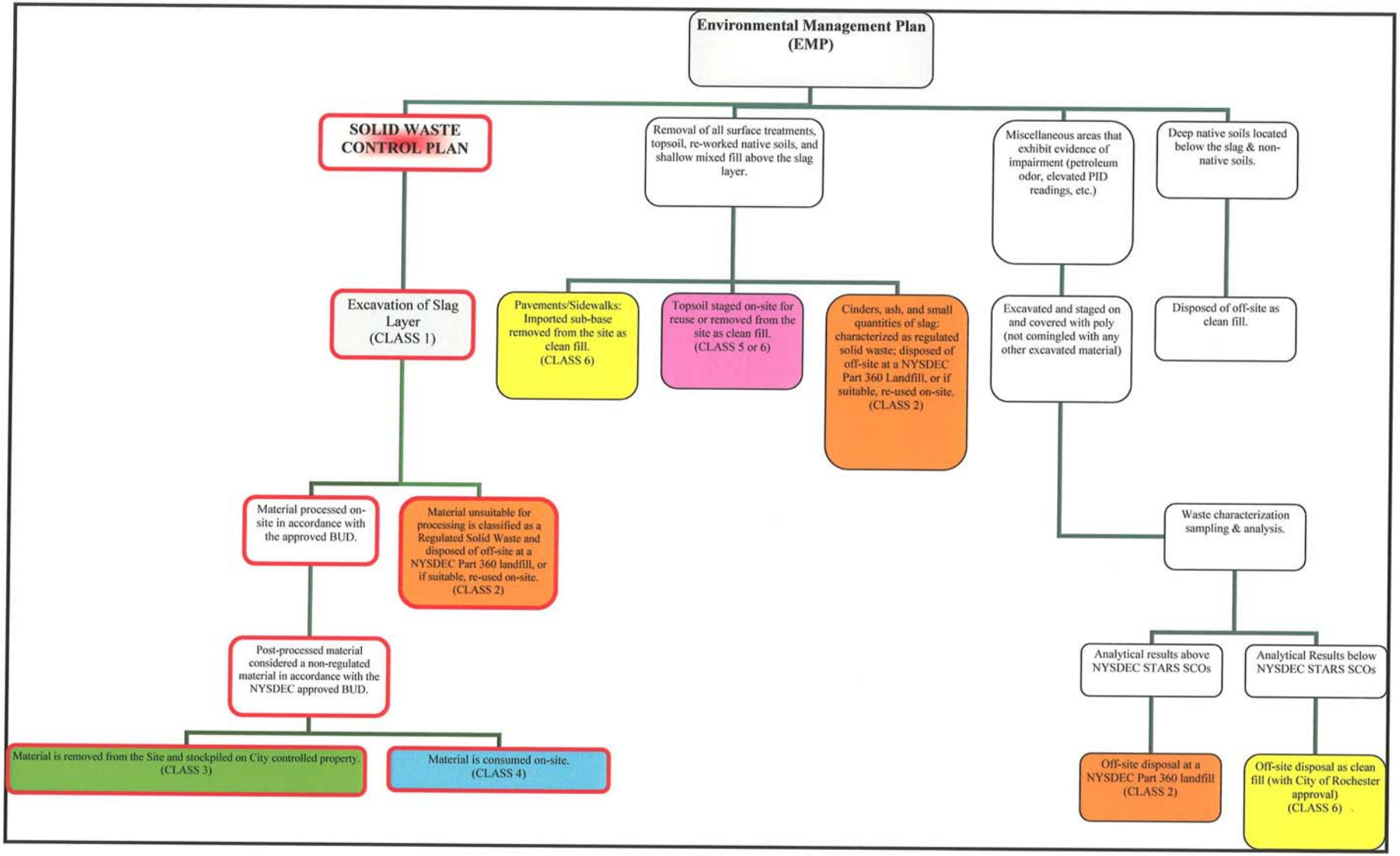
Six (6) classes of materials are expected to be generated by the activities associated with the proposed excavation. Each of these six (6) classes of material will be managed and handled in a manner dictated by the evidence of environmental impairment, visual observations during excavation, or the existing analytical data. These six (6) classes of material are described in the Table 1 on the following page:

Table 1
Materials Handling Descriptions

Class of Material	Physical Description
Class 1	Predominately slag excavated with very minor quantities of mixed fill materials to be processed in accordance with NYSDEC approved BUD.
Class 2	Regulated Solid Wastes (cinders, coals, ash, C&D debris, petroleum impacted soils, and all other miscellaneous debris) disposed of off-site at a NYSDEC Part 360 permitted landfill, or if suitable, re-used on-site in accordance with Part 360-1.7 (b) or the 2002 letter to Dan David of the NYSDEC provided in Appendix 1.
Class 3	Processed Slag to be re-used off-site in accordance with the NYSDEC approved BUD.
Class 4	Processed Slag to be re-used on-site in accordance with the NYSDEC approved BUD.
Class 5	Clean fill (topsoil, undisturbed native soil) to be re-used on site.
Class 6	Clean fill (topsoil, undisturbed native soil) to be removed from the Site.

In accordance with 6 NYCRR Part 360-1.15(d)(1), the Materials Handling Chart on the following page describes the handling procedures that will be followed to guide the excavation at the Site.

[*Note: The colors associated with each individual class of materials in Table 1 above are intended to match the corresponding colored end products on the chart on the following page for distinction purposes.*]


Environmental Management Plan (EMP)
SOLID WASTE CONTROL PLAN
Removal of all surface treatments, topsoil, re-worked native soils, and shallow mixed fill above the slag layer.
Miscellaneous areas that exhibit evidence of impairment (petroleum odor, elevated PID readings, etc.)
Deep native soils located below the slag & non-native soils.
Excavation of Slag Layer (CLASS 1)
Pavements/Sidewalks: Imported sub-base removed from the site as clean fill. (CLASS 6)
Topsoil staged on-site for reuse or removed from the site as clean fill. (CLASS 5 or 6)
Cinders, ash, and small quantities of slag: characterized as regulated solid waste; disposed of off-site at a NYSDEC Part 360 Landfill, or if suitable, re-used on-site. (CLASS 2)
Excavated and staged on and covered with poly (not comingled with any other excavated material)
Disposed of off-site as clean fill.
Material processed on-site in accordance with the approved BUD.
Material unsuitable for processing is classified as a Regulated Solid Waste and disposed of off-site at a NYSDEC Part 360 landfill, or if suitable, re-used on-site. (CLASS 2)
Waste characterization sampling & analysis.
Post-processed material considered a non-regulated material in accordance with the NYSDEC approved BUD.
Analytical results above NYSDEC STARS SCOs
Analytical Results below NYSDEC STARS SCOs
Material is removed from the Site and stockpiled on City controlled property. (CLASS 3)
Material is consumed on-site. (CLASS 4)
Off-site disposal at a NYSDEC Part 360 landfill (CLASS 2)
Off-site disposal as clean fill (with City of Rochester approval) (CLASS 6)

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Based on the "Materials Handling Chart" presented on the previous page, a variety of materials are anticipated to be encountered during the excavation of the marina basin. As such, the following section details the handling methods and procedures for the processing and destination of each distinct material that is expected to be encountered during the excavation process.

- **Class 1:** *Excavated slag with minor amounts of mixed fill to be screened and processed.*

  The slag layer is expected to be encountered beneath the layer of asphalt or topsoil. Typically, a layer of re-worked soil and/or mixed fill materials (described as Class 2 materials below) are located beneath the asphalt or topsoil and above the slag layer targeted for mining. These mixed fill materials will be removed from the excavation and handled in accordance with the EMP and the Materials Handling Chart above.

  The recovered slag with minor amounts of mixed fill will then be processed. The resulting processed slag will be free of significant quantities of mixed fill materials and, in accordance with the NYSDEC approved BUD, will then be considered a non-regulated material. Some of this material may be used on-site under the NYSDEC Part 360 exemption. The processed material will be transported to a City of Rochester controlled parcel for stockpiling until a use can be determined for this material. Once a use is determined, the NYSDEC will be notified of the project it is intended to be used for, the location, and specific use of the material.

- **Class 2:** *Regulated Solid Wastes (cinders, coals, ash, unrecoverable slag, C&D debris, petroleum-impacted soil and all other miscellaneous debris) disposed of off-site at a NYSDEC Part 360 permitted landfill or if suitable, re-used on-site in accordance with Part 360-1.7 (b) or the 2002 letter to Dan David of the NYSDEC provided in Appendix 1.*

  Various mixed fill materials including, but not limited to cinders, coals, ash, C&D debris, small quantities of slag intermixed with these fill materials, as well as other miscellaneous debris all of which are undesirable and/or considered to be regulated solid wastes are anticipated to be encountered within the marina excavation. These mixed fill materials are inclusive of petroleum impacted soils. These mixed fill materials are generally located beneath the asphalt or topsoil layer and extend several feet beneath the ground surface. Typically these mixed fill materials are underlain by the slag layer targeted for mining. Further details on the handling of the regulated solid wastes are included in the EMP.

  In accordance with NYSDEC Part 360-1.7(b)(4)(iii), all regulated solid wastes (i.e., petroleum impacted soils) found to contain NYSDEC STARS-list volatile organic compounds (VOCs) above the NYSDEC Commissioner's Policy (CP-51) guidance document values will be removed from the Site within 60 days of staging.

In accordance with NYSDEC Part 360-1.14(e)(3), all other regulated solid wastes will be removed from the Site within 90 days of staging. However, if these Class 2 materials are determined to be suitable, Class 2 materials may be re-used on-site in accordance with NYSDEC Part 360-1.7 (b) and the 2002 letter to Dan David of the NYSDEC presented in Appendix 1. Petroleum impacted soils found to be contain NYSDEC STARS-list VOCs above the NYSDEC's CP-51 guidance document will be disposed of off-site at a NYSDEC Part 360 permitted landfill and will not be considered for re-use on-site.

- **Class 3:** *Processed material to be re-used off-site in accordance with the NYSDEC approved BUD.*

  The processed slag will generally be free of significant quantities of mixed fill materials and, in accordance with the NYSDEC approved BUD, will then be considered a non-regulated material. This material will be transported to a City of Rochester controlled parcel for stockpiling until a use can be determined for this material. Once a use is determined, the NYSDEC will be notified of the project it is intended to be used for, the location, and specific use of the material.

  In accordance with NYSDEC Part 360-1.14(e)(3), all slag, once excavated, will be removed from the Site and/or processed within 90 days of staging. Once the slag has been processed, the resulting material will be considered as a non-regulated material (in accordance with the NYSDEC approved BUD).

- **Class 4:** *Processed material to be re-used on-site under NYSDEC Part 360 Exemption.*

  It is anticipated that some quantity of the processed slag may be re-used on-site.

  Approval from the NYSDEC will be needed prior to the re-use of any Class 4 materials on-site.

- **Class 5:** *Clean fill (topsoil, undisturbed native soil) to be re-used on site.*

  Soil that is excavated from the marina basin that is visually observed to be free of slag, mixed fill materials, and does not display evidence of impairment will be considered as "clean fill". Further details on the handling of the excavation materials are included in the EMP.

- **Class 6:** *Clean fill (topsoil, undisturbed native soil, asphalt, and concrete sidewalks) to be removed from the Site as clean fill.*

  Materials that are excavated from the marina basin that are visually observed to be generally free of slag, mixed fill materials, and do not display evidence of impairment will be considered as "clean fill". Further details on the handling of the excavation materials are included in the EMP.

4.4 Construction of Staging Areas

All waste streams will be staged separately. It will be required to cover the Class 2 Materials during non-working hours with a minimum of two layers of 6-mil polyethylene sheeting. The covers will be anchored or weighted at the edges to prevent stormwater and wind borne erosion.

Materials requiring off-site disposal will be disposed of in accordance with all applicable state and federal regulations.

4.5 Waste Stream Tracking

Recoverable slag is anticipated to be processed on-site. Any processed material that is scheduled to be re-used on-site and any waste materials going to a NYSDEC Part 360 landfill will be tracked on an appropriate spread sheet log to allow for accurate material quantification. An example of a Material Tracking spread sheet is included in Appendix 4.

4.6 Unknown Environmental Issues

This SWCP includes procedures and protocols to manage known environmental subsurface impacts at the Site only pertaining to recoverable slag. The EMP should be consulted for details on the handling of all other excavation materials.

5.0 IMPLEMENTATION OF SWCP

During excavation activities at the Port of Rochester, an EPM be assigned to implement the SWCP on a full-time basis. The responsibilities of the EPM with regard to the SWCP are as follows:

- Working with construction manager and City of Rochester to determine staging areas for slag
- Working with Contractors to identify slag
- Work with the Contractors to monitor excavations for evidence of environmental impairment
- Direct the Contractors as to proper staging, covering, and containment of slag
- Implementation of the Health and Safety Plan (HASP) for the SWCP and City of Rochester personnel at the Site. Contractors and other personnel working at the site are responsible for their own HASP (see Section 6.0)
- Implementation of the Community Air Monitoring Plan (CAMP) for the site (see Section 7.0)

6.0 HEALTH AND SAFETY PLAN (HASP)

This SWCP contains a Site Specific HASP for the Port of Rochester developed by LaBella Associates, P.C. This HASP is designated for the activities associated with the implementation of the SWCP and is designed to cover City of Rochester and LaBella personnel only. A copy of this HASP is included in Appendix 5.

Contractors disturbing the subsurface at the Port of Rochester will need to develop and rely on their own HASP to manage health and safety issues associated with potential exposure to site contaminants of concern and any other potential issues.

7.0 COMMUNITY AIR MONITORING PLAN (CAMP)

This SWCP contains a CAMP designed for the excavation, processing, and crushing of the slag material at the Site. This CAMP should be implemented when the slag layer at the Port of Rochester Site has the potential to be disturbed. The EMP includes CAMP measures relating to the disturbances of other regulated materials that may be encountered during excavation activities at the Site. A copy of this CAMP is included in Appendix 6.

The EPM will be responsible to implement the CAMP and will direct the Contractor disturbing the slag layer at the Port of Rochester when abatement measures are required to mitigate particulate and VOC emissions. The Contractor shall implement these measures as directed by the EPM. The Contractor will be required to have a sufficient amount of water trucks, polyethylene sheeting, and other mitigative supplies staged and readily available at the Site.

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Tables

Table 2

Existing Data Consolidation
Port of Rochester
Rochester, New York

Summary of Detected Volatile Organic Compounds (VOCs) in Slag & Mixed Fill Samples
Test Results in micrograms per Kilogram (µg/Kg) or parts per billion (ppb)

Constituent	Slag Samples				Mixed Fill Samples										Part 375 Restricted Use Soil Cleanup Objectives (SCOs) - Protection of Public Health - Restricted Residential Use	Part 375 Restricted Use Soil Cleanup Objectives (SCOs) - Protection of Groundwater
	B-33 (4.0'-8.0')	B-37 (4.0'-8.0')	BS-39 (6.0'-6.7')	TP-7 (1.0')	BH-5 (1.0'-4.2')	BH-6 (1.0'-4.6')	BS-5 (1.0'-6.2')	BS-7 (1.0'-2.8')	BS-9 (2.0'-4.6')	BS-37 (6.0'-7.7')	BS-38 (6.0'-7.1')	Phase I Fill	Phase II Fill (a)	Phase II Fill (b)		
	Black & Gray Slag	Black Slag	Gray Slag	Red Slag	Ash, Cinders, & Slag (color unknown)	Cinders & Slag (color unknown)	Ash, Cinders, Foundry Sand, & Slag (color unknown)	Foundry Sand & Slag (color unknown)	Cinders, Ash, & Slag (color unknown)	Blue/Green Slag & Ash	White/Gray Slag & Ash	Fill Materials (With Blue/Green Slag)	Fill Materials (With Blue/Green Slag)	Fill Materials (With Blue/Green Slag)		
	2000	2000	11/10/2006	9/9/2008	3/1/2007	3/1/2007	3/1/2007	3/1/2007	3/1/2007	11/10/2006	11/10/2006	7/2/2009	7/6/2009	7/6/2009		
Acetone	NA	NA	8 J	ND<40.1 U	14 J	14 J	17 J	7 J	14 J	ND<6 U	13 J	ND<5.7 U	ND<5.2 U	ND<6.7 U	100,000	50
Benzene	ND<10.1 U	ND<10.1 U	ND<5 U	ND<8.02 U	ND<6 U	ND<11 U	ND<5 U	ND<6 U	ND<5 U	ND<6 U	ND<5 U	ND<5.7 U	ND<5.2 U	ND<6.7 U	4,800	60
Carbon disulfide	NA	NA	1 J	ND<8.02 U	ND<6 U	ND<11 U	2 J	ND<6 U	ND<5 U	ND<6 U	ND<5 U	ND<5.7 U	ND<5.2 U	ND<6.7 U	100,000	100,000
Ethylbenzene	ND<10.1 U	ND<10.1 U	ND<5 U	ND<8.02 U	ND<6 U	ND<11 U	ND<5 U	ND<6 U	ND<5 U	ND<6 U	ND<5 U	ND<5.7 U	ND<5.2 U	ND<6.7 U	41,000	1,000
Isopropylbenzene	ND<10.1 U	ND<10.1 U	ND<5 U	ND<8.02 U	ND<6 U	ND<11 U	ND<5 U	ND<6 U	ND<5 U	ND<6 U	ND<5 U	ND<5.7 U	ND<5.2 U	ND<6.7 U	100,000	100,000
Naphthalene	ND<50.3 U	ND<50.7 U	ND<5 U	ND<8.02 U	ND<6 U	ND<11 U	ND<5 U	ND<6 U	ND<5 U	ND<6 U	ND<5 U	2.0 B, J	4.3 B,J	1.80 B,J	100,000	12,000
n-Propylbenzene	ND<10.1 U	ND<10.1 U	ND<5 U	ND<8.02 U	ND<6 U	ND<11 U	ND<5 U	ND<6 U	ND<5 U	ND<6 U	ND<5 U	ND<5.7 U	ND<5.2 U	ND<6.7 U	100,000	3,900
Methylene chloride	NA	NA	13	ND<20.1 U	9 B	40 B	6 B	12 B	10 B	ND<6 U	16	ND<5.7 U	1.1 U	ND<6.7 U	100,000	50
Toluene	ND<10.1 U	ND<10.1 U	ND<5 U	ND<8.02 U	ND<6 U	ND<11 U	ND<5 U	ND<6 U	ND<5 U	ND<6 U	ND<5 U	ND<5.7 U	ND<5.2 U	ND<6.7 U	100,000	700
1,2,4-Trimethylbenzene	ND<10.1 U	ND<10.1 U	ND<5 U	ND<8.02 U	ND<6 U	ND<11 U	ND<5 U	ND<6 U	ND<5 U	ND<6 U	ND<5 U	ND<5.7 U	ND<5.2 U	ND<6.7 U	52,000	3,600
1,3,5-Trimethylbenzene	ND<10.1 U	ND<10.1 U	ND<5 U	ND<8.02 U	ND<6 U	ND<11 U	ND<5 U	ND<6 U	ND<5 U	ND<6 U	ND<5 U	ND<5.7 U	ND<5.2 U	ND<6.7 U	52,000	8,400
sec-Butylbenzene	ND<10.1 U	ND<10.1 U	ND<5 U	ND<8.02 U	ND<6 U	ND<11 U	ND<5 U	ND<6 U	ND<5 U	ND<6 U	ND<5 U	ND<5.7 U	ND<5.2 U	ND<6.7 U	100,000	11,000
p-Isopropyltoluene	ND<10.1 U	ND<10.1 U	ND<5 U	ND<8.02 U	ND<6 U	ND<11 U	ND<5 U	ND<6 U	ND<5 U	ND<6 U	ND<5 U	ND<5.7 U	ND<5.2 U	ND<6.7 U	100,000	100,000
m,p-Xylene	ND<10.1 U	ND<10.1 U	ND<5 U	11.4	ND<6 U	ND<11 U	ND<5 U	ND<6 U	ND<5 U	ND<6 U	ND<5 U	ND<5.7 U	ND<5.2 U	ND<6.7 U	100,000	1,600
o-Xylene	ND<10.1 U	ND<10.1 U	ND<5 U	ND<8.02 U	ND<6 U	ND<11 U	ND<5 U	ND<6 U	ND<5 U	ND<6 U	ND<5 U	ND<5.7 U	ND<5.2 U	ND<6.7 U	100,000	1,600

Notes:

VOC analysis by United States Environmental Protection Agency (USEPA) Method 8260B
NA denotes value not available.
U - Denotes that the compound was not detected above the reported laboratory method detection limit.
J - Denotes an estimated value.

Table 3

Existing Data Consolidation
Port of Rochester
Rochester, New York

Summary of Detected Semivolatile Organic Compounds (SVOCs) in Slag & Mixed Fill Samples
Test Results in micrograms per Kilogram (µg/Kg) or parts per billion (ppb)

Constituent	Slag Samples				Mixed Fill Samples									Part 375 Restricted Use Soil Cleanup Objectives (SCOs) - Protection of Public Health - Restricted Residential Use	Part 375 Restricted Use Soil Cleanup Objectives (SCOs) - Protection of Groundwater
	Bourne TP-1 (0-2')	TP-10 (3.0')	BS-21 (4.0'-4.5')	TP-7 (1.0')	BS-7 (1.0'-2.8')	BS-13 (2.0'-3.1')	BS-18 (2.0'-3.4')	BS-22 (2.0'-3.0')	BS-27 (4.5'-5.5')	BS-31 (2.0'-2.9')	BS-37 (6.0'-7.7')	BS-38 (6.0'-7.1')	BS-39 (6.0'-6.7')		
	Slag (color unknown)	Red & Blue Slag	Blue/Green Slag	Red Slag	Foundry Sand & Slag (color unknown)	Blue/Green Slag & Ash	Foundry Sand & Blue/Green Slag	Foundry Sand & Slag (color unknown)	Foundry Sand & Black Slag	White, Brown, & Black Slag	Blue/Green Slag & Ash	White/Gray Slag & Ash	Foundry Sand, Ash, & Slag (color unknown)		
	1/11/2000	2/28/2000	11/10/2006	9/9/2008	3/1/2007		11/10/2006	11/10/2006	11/10/2006	11/10/2006	11/10/2006	11/10/2006	11/10/2006		
Anthracene	ND<305 U	ND<318 U	ND<350 U	ND<372 U	61 J	ND<7,200 U	ND<370 U	170 J	ND<400 U	ND<1,900 U	ND<350 U	ND<350 U	ND<340 U	100,000	1,000,000
Acenaphthylene	ND<305 U	ND<318 U	ND<350 U	ND<372 U	ND<370 U	ND<7,200 U	ND<370 U	ND<350 U	ND<400 U	ND<1,900 U	ND<350 U	ND<350 U	ND<340 U	100,000	107,000
Acenaphthene	ND<305 U	ND<318 U	ND<350 U	ND<372 U	26 J	ND<7,200 U	ND<370 U	ND<350 U	ND<400 U	ND<1,900 U	ND<350 U	ND<350 U	ND<340 U	100,000	98,000
Benzo (a) anthracene	ND<356 U	ND<318 U	ND<350 U	ND<372 U	150 J	380 J	22 J	400	22 J	ND<1,900 U	66 J	26 J	ND<340 U	1,000	1,000
Benzo (a) pyrene	ND<356 U	ND<318 U	ND<350 U	ND<372 U	120 J	ND<7,200 U	21 J	410	ND<400 U	ND<1,900 U	ND<350 U	ND<350 U	ND<340 U	1,000	22,000
Benzo (b) fluoranthene	ND<356 U	ND<318 U	ND<350 U	ND<372 U	190 J	ND<7,200 U	23 J	700	26 J	ND<1,900 U	90 J	30 J	ND<340 U	1,000	1,700
Benzo (g,h,i) perylene	ND<356 U	ND<318 U	ND<350 U	ND<372 U	70 J	ND<7,200 U	ND<370 U	200 J	ND<400 U	ND<1,900 U	39 J	21 J	ND<340 U	100,000	1,000,000
Benzo (k) fluoranthene	ND<356 U	ND<318 U	ND<350 U	ND<372 U	200 J	ND<7,200 U	ND<370 U	ND<350 U	ND<400 U	ND<1,900 U	ND<350 U	ND<350 U	ND<340 U	3,900	1,000
Chrysene	ND<356 U	ND<318 U	ND<350 U	ND<372 U	130 J	ND<7,200 U	24 J	400	ND<400 U	ND<1,900 U	61 J	23 J	ND<340 U	3,900	1,000
Dibenz(a,h)anthracene	ND<356 U	ND<318 U	ND<350 U	ND<372 U	22 J	ND<7,200 U	ND<370 U	77 J	ND<400 U	ND<1,900 U	ND<350 U	ND<350 U	ND<340 U	330	1,000,000
Fluoranthene	ND<356 U	ND<318 U	ND<350 U	ND<372 U	320 J	410 J	45 J	780	ND<400 U	ND<1,900 U	94 J	30 J	ND<340 U	100,000	1,000,000
Fluorene	ND<356 U	ND<318 U	ND<350 U	ND<372 U	ND<370 U	ND<7,200 U	ND<370 U	ND<350 U	ND<400 U	ND<1,900 U	ND<350 U	ND<350 U	ND<340 U	100,000	386,000
Indeno (1,2,3-cd) pyrene	ND<305 U	ND<318 U	ND<350 U	ND<372 U	66 J	ND<7,200 U	ND<370 U	200 J	ND<400 U	ND<1,900 U	35 J	17 J	ND<340 U	500	8,200
Naphthalene	ND<305 U	ND<318 U	ND<350 U	11.4	ND<370 U	ND<7,200 U	ND<370 U	ND<350 U	ND<400 U	ND<1,900 U	ND<350 U	ND<350 U	ND<340 U	100,000	12,000
Phenanthrene	ND<305 U	ND<318 U	ND<350 U	ND<372 U	260 J	ND<7,200 U	26 J	710	ND<400 U	ND<1,900 U	46 J	17 J	ND<340 U	100,000	1,000,000
Pyrene	ND<305 U	ND<318 U	ND<350 U	ND<372 U	220 J	460 J	36 J	670	ND<400 U	ND<1,900 U	84 J	29 J	ND<340 U	100,000	1,000,000
Total SVOCs	None Detected	None Detected	None Detected	11.4	1,835	1,250	197	4,717	48	None Detected	515	193	None Detected	*Not Applicable*	*Not Applicable*

Notes:

SVOC analysis by United States Environmental Protection Agency (USEPA) Method 8270C.
ND<372 U - Denotes the compound was not detected above the reported laboratory detection limit shown.
U - Denotes that the compound was not detected above the reported laboratory method detection limit.
J - Denotes an estimated value.

Table 4

Existing Data Consolidation
Port of Rochester
Rochester, New York

Summary of Detected Metals in Slag & Mixed Fill Samples
Test Results in milligrams per Kilogram (mg/Kg) or parts per million (ppm)

USEPA TAL Metals	Slag Samples										Mixed Fill Samples		Part 375 Restricted Use Soil Cleanup Objectives (SCO_s) - Protection of Public Health - Restricted Residential Use	Part 375 Restricted Use Soil Cleanup Objectives (SCO_s) - Protection of Groundwater
	Bourne TP-1	Bourne TP-2	TP-6	TP-6	TP-9	TP-10 (3')	TP-15 (6-8')	TP-18	B-21 (1.0'-4.0')	B-34 (4.0'-5.5')	B-22 (0.0'-1.0')	TP-8 (2-3')		
	Slag (color unknown)	Slag (color unknown)	White Slag	Black Slag	Red Slag	Red & Blue Slag	White Slag	Green Slag	Blue Slag	Red Slag	Cinders & Blue Slag	Slag (color unknown) & Ash		
	1/11/2000	2/28/2000	2/28/2000	2/28/2000	2/28/2000	2/29/2000	2/29/2000	2/29/2000	8/22/2000	8/23/2000	8/22/2000	2/28/2000		
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000	10,000
Antimony	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000	10,000
Arsenic	20.6	0.875	ND<6.23 U	17.6	ND<4.9 U	51.10	7.12	7.12	16.5	ND<0.367 U	91.2	52	16	16
Barium	188	511	81	193	177	22.2	657	ND<4.40 U	72.9	12.7	179	165	400	820
Beryllium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0	NA	72	47
Cadmium	191	2.84	ND<0.623 U	ND<0.535 U	ND<0.49 U	0.604	ND<0.382 U	80.2	ND<0.554 U	13.1	ND<0.558 U	ND<0.584 U	4.3	7.5
Calcium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000	10,000
Chromium	43	ND<1.96 U	2.24	11.8	3.04	3.72	17.8	ND<0.440 U	7.41	9.38	15.5	15.4	110	19
Cobalt	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000	10,000
Copper	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,720
Total Cyanide	ND<1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27	40
Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000	10,000
Lead	191	ND<9.80 U	ND<0.623 U	4.18	ND<0.49 U	5.33	3.29	ND<0.440 U	80.9	15	127	62.8	400	450
Magnesium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000	10,000
Manganese	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,000	2,000
Mercury	ND<0.103 U	ND<0.0690 U	ND<0.0878 U	0.0774	ND<0.098 U	0.240	ND<0.059 U	ND<0.0760 U	ND<0.045 U	0.088	0.138	ND<0.079 U	0.81	0.73
Nickel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	310	130
Potassium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000	10,000
Selenium	ND<1.08 U	ND<0.980 U	ND<6.23	ND<5.35 U	ND<4.9 U	ND<5.03 U	ND<3.82 U	ND<4.40 U	1.31	ND<0.367 U	2.31	1.15	180	4
Silver	ND<1.08 U	ND<0.980 U	3.74	ND<2.15 U	ND<1.96 U	ND<2.01 U	ND<1.53 U	1.76	ND<1.11 U	1.79	2.22	ND<2.34 U	180	8.3
Sodium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000	10,000
Thallium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000	10,000
Vanadium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000	10,000
Zinc	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000	2,480

Notes:

TAL Metals analysis by United States Environmental Protection Agency (USEPA) Methods 6010 and 7471 (Mercury)
Bold type denotes that the compound exceeds its associated 6 NYCRR Part 375-6.8(b) SCO - Protection of Public Health - Restricted Residential Use
Highlighted type denotes that the compound exceeds its associated 6 NYCRR Part 375-6.8(b) SCO - Protection of Groundwater.
ND<372 U - Denotes the compound was not detected above the reported laboratory detection limit shown.
U - Denotes that the compound was not detected above the reported laboratory method detection limit.

Table 4 (continued)

Existing Data Consolidation
Port of Rochester
Rochester, New York

Summary of Detected Metals in Slag & Mixed Fill Samples
Test Results in milligrams per Kilogram (mg/Kg) or parts per million (ppm)

USEPA TAL Metals	Slag Samples					Mixed Fill Samples							Part 375 Restricted Use Soil Cleanup Objectives (SCOs) - Protection of Public Health - Restricted Residential Use	Part 375 Restricted Use Soil Cleanup Objectives (SCOs) - Protection of Groundwater
	B-21 (1.0'-4.0')	BS-12 (0.4'-0.6')	B-34 (4.0'-5.5')	BS-21 (4.0'-4.5')	BS-34 (4.0'-5.5')	BS-18 (2.0'-3.4')	B-22 (0.0'-1.0')	BS-22 (2.0-3.0')	BS-27 (4.5'-5.5')	BS-28 (4.0'-5.4')	BS-31 (2.0'-2.9')	BS-9 (2.0'-4.6')		
	Blue Slag	Gray Slag	Red Slag	Blue/Green Slag	Red Slag	Foundry Sand & Blue/Green Slag	Cinders & Blue Slag	Foundry Sand & Slag (color unknown)	Foundry Sand & Black Slag	Red, White, & Gray Slag & Cinders, Ash, & Foundry Sand	White, Brown, and Black Slag	Cinders, Ash, & Slag (color unknown)		
	8/22/2000	11/10/2006	8/23/2000	11/10/2006	11/10/2006	11/10/2006	8/22/2000	11/10/2006	11/10/2006	11/10/2006	11/10/2006	11/10/2006		
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**21,200**	10,000	10,000
Antimony	NA	ND <14.7 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND <15.6 U	10,000	10,000
Arsenic	**16.5**	5.1	ND<0.367 U	ND<2.0 U	ND<0.367 U	5.1	**91.2**	ND<1.9 U	**18.7**	ND<2.2 U	**18.5**	ND <2.1 U	16	16
Barium	72.9	NA	12.7	NA	12.7	NA	179	NA	NA	NA	NA	362	400	820
Beryllium	NA	0.70 E	NA	NA	NA	NA	1.0	NA	NA	NA	NA	3.2 E	72	47
Cadmium	ND<0.554 U	0.32	**13.1**	ND<0.20 U	**13.1**	0.27	ND<0.558 U	ND<0.19 U	2.7	ND<0.22 U	1.8	ND <0.21 U	4.3	7.5
Calcium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**214,000**	10,000	10,000
Chromium	7.41	9.0 E	9.38	1.4 E	9.38	3.9 E	15.5	1.4 E	62.6 E	1.7	39.0 E	1.8 E	110	19
Cobalt	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.12 B	10,000	10,000
Copper	NA	16.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.1	270	1,720
Total Cyanide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND<1.1 U	27	40
Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,070	10,000	10,000
Lead	80.9	38.1 E	15	NA	15	NA	127	NA	NA	NA	NA	1.2 E	400	450
Magnesium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**13,500**	10,000	10,000
Manganese	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	162	2,000	2,000
Mercury	ND<0.045 U	0.063	0.088	ND<0.019 U	0.088	0.024	0.138	0.021	0.030	0.186	0.025	ND <0.017 U	0.81	0.73
Nickel	NA	10.0 E	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.4 E	310	130
Potassium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,300	10,000	10,000
Selenium	1.31	ND <3.9 U	ND<0.367 U	NA	ND<0.367 U	NA	2.31	NA	NA	NA	NA	ND <4.2 U	180	4
Silver	ND<1.11 U	ND <0.53 U	1.79	NA	1.79	NA	2.22	NA	NA	NA	NA	ND <0.56 U	180	8.3
Sodium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	627	10,000	10,000
Thallium	NA	ND <5.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND <6.2 U	10,000	10,000
Vanadium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.3	10,000	10,000
Zinc	NA	160	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.9	10,000	2,480

Notes:

TAL Metals analysis by United States Environmental Protection Agency (USEPA) Methods 6010 and 7471 (Mercury)
Bold type denotes that the compound exceeds its associated 6 NYCRR Part 375-6.8(b) SCO - Protection of Public Health - Restricted Residential Use.
Highlighted type denotes that the compound exceeds its associated 6 NYCRR Part 375-6.8(b) SCO - Protection of Groundwater.
ND<372 U - Denotes the compound was not detected above the reported laboratory detection limit shown.
U - Denotes that the compound was not detected above the reported laboratory method detection limit.

Table 4 (continued)

Existing Data Consolidation
Port of Rochester
Rochester, New York

Summary of Detected Metals in Slag & Mixed Fill Samples
Test Results in milligrams per Kilogram (mg/Kg) or parts per million (ppm)

USEPA TAL Metals	Slag Samples										Mixed Fill Samples										Part 375 Restricted Use Soil Cleanup Objectives (SCOs) - Protection of Public Health - Restricted Residential Use	Part 375 Restricted Use Soil Cleanup Objectives (SCOs) - Protection of Groundwater
	BS-39 (6.0'-6.7')		TP-7 (1.0')		Phase I Slag (a)		Phase I Slag (b)		Phase II Slag		BS-37 (6.0'-7.7')		BS-38 (6.0'-7.1')		Phase I Fill		Phase II Fill (a)		Phase II Fill (b)			
	Gray Slag		Red Slag		Blue/Green Slag		Blue/Green Slag		Blue/Green Slag		Blue/Green Slag & Ash		White/Gray Slag & Ash		Fill Materials (With Blue/Green Slag)		Fill Materials (With Blue/Green Slag)		Fill Materials (With Blue/Green Slag)			
	11/10/2006		9/9/2008		7/1/2009		7/6/2009		6/29/2009		11/10/2006		11/10/2006		7/2/2009		7/6/2009		7/6/2009			
Aluminum	**44,400**	**E**	9,870		**27,300**	**E**	**23,900**	**E**	**20,600**	**E**	**54,700**	**E**	951		1,720	E	8,800	E	**12,600**	**E**	10,000	10,000
Antimony	ND<151	U	ND<6.62	U	0.56	N,E	0.61	N, E	0.46	N,E	ND<147	U	ND<135	U	4.9	N,E	6.4	N,E	1.9	N,E	10,000	10,000
Arsenic	ND<20.1	U	10.9		5.1	E	7.8	E	8.3	E	**36.3**	**N**	ND<18.0	U	9.50	E	12.4	E	**29.4**	**E**	16	16
Barium	269	E	156.0		171	E	120	E	124	E	368	E	11.6	E	34.6	E	162	E	312	E	400	820
Beryllium	4.2	E	1.39		4.6	E	2.9	E	2.9	E	42.6	N,E	ND<1.8	U	0.31	E	2.7	E	3.5	E	72	47
Cadmium	ND<2.0	U	1.83		ND<0.014	N,E	0.048	N, E	0.67	N,E	**32.0**	**N,E**	ND<1.8	U	3.7	N,E	**5.4**	**N,E**	3.4	N,E	4.3	7.5
Calcium	**202,000**		**54,300**		**251,000***		**243,000**		**166,000**		**251,000**	**E**	**342,000**	**E**	2,790*		**33,800***		**37,300***		10,000	10,000
Chromium	ND<5.0	U	14.4		3.1	E	5.7	E	12.1	E	37.8	N,E	ND<4.5	U	11.1	E	18.4	E	32.8	E	110	19
Cobalt	ND<5.0	U	6.3		ND<0.040	E	ND<0.040	E	1.1	E	31.8	N,E	ND<4.5	U	0.55	E	2.2	E	6.7	E	10,000	10,000
Copper	ND<10.1	U	17.9		3.3*	E	7.7	E	17.4	E	33.6	N	ND<9.0	U	108*	N,E	16.7*	N,E	30.2*	N,E	270	1,720
Total Cyanide	NA		**11,000**		NA		NA		NA		NA		NA		NA		NA		NA		27	40
Iron	4,780	N,E	**50,600**		3,610*		7,170		**51,900**		6,080	N,E	2,980	N,E	**177,000***		**273,000***		**119,000***		10,000	10,000
Lead	ND<10.1	U	35.9		3.3	E	4.9	E	15.1	E	35.4	N	11.4	N,E	145	E	69.8	E	231	E	400	450
Magnesium	**28,600**	**E**	**13,200**		**26,100***	**E**	**39,800**	**E**	**18,200**	**E**	**13,100**	**E**	6,790	E	100*	E	2,370*	E	8,390*	E	10,000	10,000
Manganese	422	E	816		256		312		634		**4,460**	**E**	150	E	43.1		**3,740**		**4,070**		2,000	2,000
Mercury	ND<0.016	U	0.0145		ND<0.0057	U	0.0090		0.0280		ND<0.020	U	0.106		0.068		0.0161		0.10		0.81	0.73
Nickel	ND<5.0	U	14.3		4.1	E	5.6	E	12.0	E	32.5	N	ND<4.5	U	11.8	E	7.5	E	9.9	E	310	130
Potassium	7,060	N,E	1,510		2,290	E	2,500	E	2,250	E	4,260	N	ND<271	U	386	E	1,440	E	1,960	E	10,000	10,000
Selenium	ND<40.2	U	ND<0.552	U	1.1	N	1.3	N	ND<0.77	N	**45.3**	**N**	ND<36.1	U	ND<0.76	N,E	ND<0.77	N,E	ND<1.0	N,E	180	4
Silver	ND<5.0	U	2.4		ND<0.090	E	ND<0.091	E	ND<0.078	E	7.8	N	ND<4.5	U	ND<0.077	E	0.47	E	2.2	E	180	8.3
Sodium	ND<1,410	U	489		1,230		1,160		1,290		3,080	N	ND<1,260	U	112		610		808		10,000	10,000
Thallium	ND<60.4	U	ND<0.662	U	2.3	N	1.8	N	0.55	N	ND<58.6	U	ND<54.1	U	ND<0.24	N,E	ND<0.23	N,E	ND<0.31	N	10,000	10,000
Vanadium	9.800	N,E	25.5		6.3	E	12.1	E	17.8	E	52.0	N,E	ND<4.5	U	12.1	E	15.7	E	35.0	E	10,000	10,000
Zinc	ND<10.1	U	111		3.1	N,E	7.3	N, E	47.7	N,E	38.3	N	25.3	N	13.9	N,E	369	N,E	2,500	N,E	10,000	2,480

Notes:

TAL Metals analysis by United States Environmental Protection Agency (USEPA) Methods 6010 and 7471 (Mercury)
Bold type denotes that the compound exceeds its associated 6 NYCRR Part 375-6.8(b) SCO - Protection of Public Health - Restricted Residential Use.
Highlighted type denotes that the compound exceeds its associated 6 NYCRR Part 375-6.8(b) SCO - Protection of Groundwater.
ND<372 U - Denotes the compound was not detected above the reported laboratory detection limit shown.
U - Denotes that the compound was not detected above the reported laboratory method detection limit.

Table 5

Existing Data Consolidation
Port of Rochester
Rochester, New York

Summary of Detected Metals in Slag & Mixed Fill Samples With TCLP & SPLP Results
Test Results in milligrams per Kilogram (mg/Kg) or parts per million (ppm)

USEPA TAL Metals	Slag Samples																		Mixed Fill Samples		Part 375 Restricted Use Soil Cleanup Objectives (SCOs) - Protection of Public Health - Restricted Residential Use	Part 375 Restricted Use Soil Cleanup Objectives (SCOs) - Protection of Groundwater	USEPA TCLP Regulatory Limits	NYSDEC Part 703 Groundwater Standards
	TP-6	* TP-6 (TCLP)	TP-6	* TP-6 (TCLP)	TP-9	*TP-9 (TCLP)	TP-15 (6-8')	* TP-15 (6-8') (TCLP)	* T-16 (2') (TCLP)	* TP-17 (8') (TCLP)	TP-18	* TP-18 (TCLP)	Phase I Slag (a)	† Phase I Slag (a) (SPLP)	Phase I Slag (b)	† Phase I Slag (b) (SPLP)	Phase II Slag	† Phase II Slag (SPLP)	TP-8 (2-3')	* TP-8 (2-3') (TCLP)				
	White Slag	White Slag	Black Slag	Black Slag	Red Slag	Red Slag	White Slag	White Slag	Slag (color unknown)	Gray/Blue Slag	Green Slag	Green Slag	Blue/Green Slag	Blue/Green Slag	Blue/Green Slag	Blue/Green Slag	Blue/Green Slag	Blue/Green Slag	Slag (color unknown) & Ash	Slag (color unknown) & Ash				
	2/28/2000	2/28/2000	2/28/2000	2/28/2000	2/28/2000	2/28/2000	2/29/2000	2/29/2000	2/28/2000	2/29/2000	2/29/2000	2/29/2000	7/1/2009	7/1/2009	7/6/2009	7/6/2009	6/29/2009	6/29/2009	2/28/2000	2/28/2000				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27,300 E	0.937	23,900 E	0.676	20,600 E	0.231	NA	NA	10,000	10,000	Not Available	Not Available
Antimony	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.56 N, E	ND U	0.61 N,E	ND U	0.46 N,E	ND U	NA	NA	10,000	10,000	1	3
Arsenic	ND<6.23 U	ND<0.025 U	17.6	ND<0.025 U	ND<4.9 U	ND<0.025 U	7.12	ND<0.025 U	ND<0.025 U	ND<0.025 U	7.12	ND<0.025 U	5.1 E	ND U	7.8 E	ND U	8.3 E	ND U	52	ND<0.025 U	16	16	5	25
Barium	81	0.1	193	0.25	177	0.3	657	0.35	0.60	0.4	ND<4.40 U	0.75	171 E	0.208	120 E	0.0756 B	124 E	0.0281 B	165	0.2	400	820	0.75	1,000
Beryllium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.6 E	ND U	2.9 E	ND U	2.9 E	ND U	NA	NA	72	47	Not Available	1,100
Cadmium	ND<0.623 U	ND<0.025 U	ND<0.535 U	ND<0.025 U	ND<0.49 U	ND<0.025 U	ND<0.382 U	ND<0.025 U	ND<0.025 U	ND<0.025 U	80.2	ND<0.025 U	ND<0.014 N, E	ND U	0.048 N,E	ND U	0.67 N,E	ND U	ND<0.584 U	ND<0.025 U	4.3	7.5	1	5
Calcium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	351,000	74.6	243,000	45.7	166,000	36.8	NA	NA	10,000	10,000	Not Available	Not Available
Chromium	2.24	ND<0.025 U	11.8	ND<0.025 U	3.04	ND<0.025 U	17.8	ND<0.025 U	ND<0.025 U	ND<0.025 U	ND<0.440 U	ND<0.025 U	3.1 E	ND U	5.7 E	0.0014 B	12.1 E	ND	15.4	ND<0.025 U	110	19	5	50
Cobalt	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND<0.040 E	ND U	ND<0.040 E	ND U	1.1 E	ND U	NA	NA	10,000	10,000	Not Available	Not Available
Copper	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.3* E	ND U	7.7 E	ND U	17.4 E	ND U	NA	NA	270	1,720	Not Available	200
Total Cyanide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND U	NA	ND U	NA	ND U	NA	NA	27	40	Not Available	Not Available
Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,610*	ND U	7,170	ND U	51,900	ND U	NA	NA	10,000	10,000	Not Available	3,000
Lead	ND<0.623 U	ND<0.025 U	4.18	ND<0.025 U	ND<0.49 U	ND<0.025 U	3.79	0.045	0.045	0.045	ND<0.440 U	0.045	3.3 E	ND U	4.9 E	ND U	15.1 E	ND U	NA	ND<0.025 U	400	450	5	25
Magnesium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26,100 F	0.0799 B	39,800 F	ND U	18,200 F	0.102 B	NA	NA	10,000	10,000	Not Available	35,000
Manganese	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	756	ND U	312	ND U	634	ND U	NA	NA	2,000	2,000	Not Available	300
Mercury	ND<0.0878 U	ND<0.0020 U	0.0774	ND<0.0020 U	ND<0.098 U	ND<0.0020 U	ND<0.059 U	ND<0.0020 U	ND<0.0020 U	ND<0.0020 U	ND<0.0760 U	ND<0.0020 U	ND<0.0057 U	ND U	0.0090	ND U	0.0280	ND U	ND<0.079 U	ND<0.0020 U	0.81	0.73	0.2	0.7
Nickel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.1 E	ND	5.6 E	ND U	12.0 E	ND U	NA	NA	310	130	Not Available	100
Potassium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,790 E	2.07	2,500 E	2.86	2,250 E	1.17	NA	NA	10,000	10,000	Not Available	Not Available
Selenium	ND<6.23	ND<0.025 U	ND<5.35 U	ND<0.025 U	ND<4.9 U	ND<0.025 U	ND<3.82 U	ND<0.025 U	ND<0.025 U	ND<0.025 U	ND<4.40 U	ND<0.025 U	1.1 N	0.0334	1.3 N	0.026 B, G	ND<0.77 N	0.0162 B	1.15	ND<0.025 U	180	4	1	10
Silver	3.74	ND<0.1 U	ND<2.15 U	ND<0.1 U	ND<1.96 U	ND<0.1 U	ND<1.53 U	ND<0.1 U	ND<0.1 U	ND<0.1 U	1.76	ND<0.1 U	ND<0.090 E	0.0 N	ND<0.091 E	0.0013 B	ND<0.078 E	0.086 B	ND<2.34 U	ND<0.1 U	180	8.3	5	50
Sodium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,230	9.29	1,160	11.2	1,290	20	NA	NA	10,000	10,000	Not Available	20,000
Thallium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.3 N	ND U	1.8 N	ND U	0.55 N	ND U	NA	NA	10,000	10,000	Not Available	0.5
Vanadium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.3 E	0.0122 B	12.1 E	0.0089 B	17.8 E	0.203 B	NA	NA	10,000	10,000	Not Available	Not Available
Zinc	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.1 N, E	0.0101 B	7.3 N,E	0.0083 B	47.7 N,E	ND U	NA	NA	10,000	2,480	Not Available	2,000

Notes:

TAL Metals analysis by United States Environmental Protection Agency (USEPA) Methods 6010 and 7471 (Mercury)
Bold type denotes that the compound exceeds its associated 6 NYCRR Part 375-6.8(b) SCO - Protection of Public Health - Restricted Residential Use
Highlighted type denotes that the compound exceeds its associated 6 NYCRR Part 375-6.8(b) SCO - Protection of Groundwater
ND - Denotes the compound was not detected above the reported laboratory detection limit shown.
U - Denotes that the compound was not detected above the reported laboratory method detection limit.
* Indicates that a Toxicity Characteristic Leaching Procedure (TCLP) was performed on this sample.
† Indicates that a Synthetic Precipitation Leaching Procedure (SPLP) was performed on this sample.

Table 6

Existing Data Consolidation
Port of Rochester
Rochester, New York

Summary of Detected Pesticides in Mixed Fill Samples
Test Results in micrograms per Kilogram (µg/Kg) or parts per billion (ppb)

Parameter/Sample ID #	Mixed Fill Samples			Part 375 Restricted Use Soil Cleanup Objectives (SCOs) - Protection of Public Health - Restricted Residential Use	Part 375 Restricted Use Soil Cleanup Objectives (SCOs) - Protection of Groundwater
	BS-5 (1.0' to 6.2')	BS-7 (1.0' to 2.8')	BS-9 (2.0' to 4.6')		
	Ash, Cinders, Foundry Sand & Slag (color unknown)	Foundry Sand & Slag (color unknown)	Cinders, Ash, & Slag (color unknown)		
	3/1/2007	3/1/2007	3/1/2007		
beta-BHC	24	ND <1.9	ND <1.8	360	90
delta-BHC	ND <19	1.6 J	1.4 J	100,000	250
gamma-BHC	ND <19	1.2 J	ND <1.8	100,000	100,000
4,4'-DDD	ND <19	1.0 J	ND <1.8	13,000	14,000
4,4'-DDT	35	2.5	2.2	7,900	136,000
Diedrin	ND <19	ND <1.9	1.1 J	200	100
Endosulfan II	9.4 J	0.95 J	0.85 J	24,000	102,000
Endosulfan Sulfate	14 J	0.99 J	1.0 J	24,000	1,000,000
Endrin	17 J	ND <1.9	ND <1.8	11,000	60
Endrin Aldehyde	ND <19	ND <1.9	1.2 J	100,000	100,000
Heptachlor Epoxide	ND <19	ND <1.9	0.92 J	2,100	380
Methoxychlor	20	2.0	ND <1.8	100,000	100,000

Pesticides analysis by United States Environmental Protection Agency (USEPA) Method 8081B.
NA denotes value not available.
ND <19 - Denotes that the compound was not detected above the reported laboratory method detection limit.
J - Denotes an estimated value.

Table 7

Existing Data Consolidation
Port of Rochester
Rochester, New York

Summary of Detected Polychlorinated Biphenyls (PCBs) in Mixed Fill Samples
Test Results in micrograms per Kilogram (µg/Kg) or parts per billion (ppb)

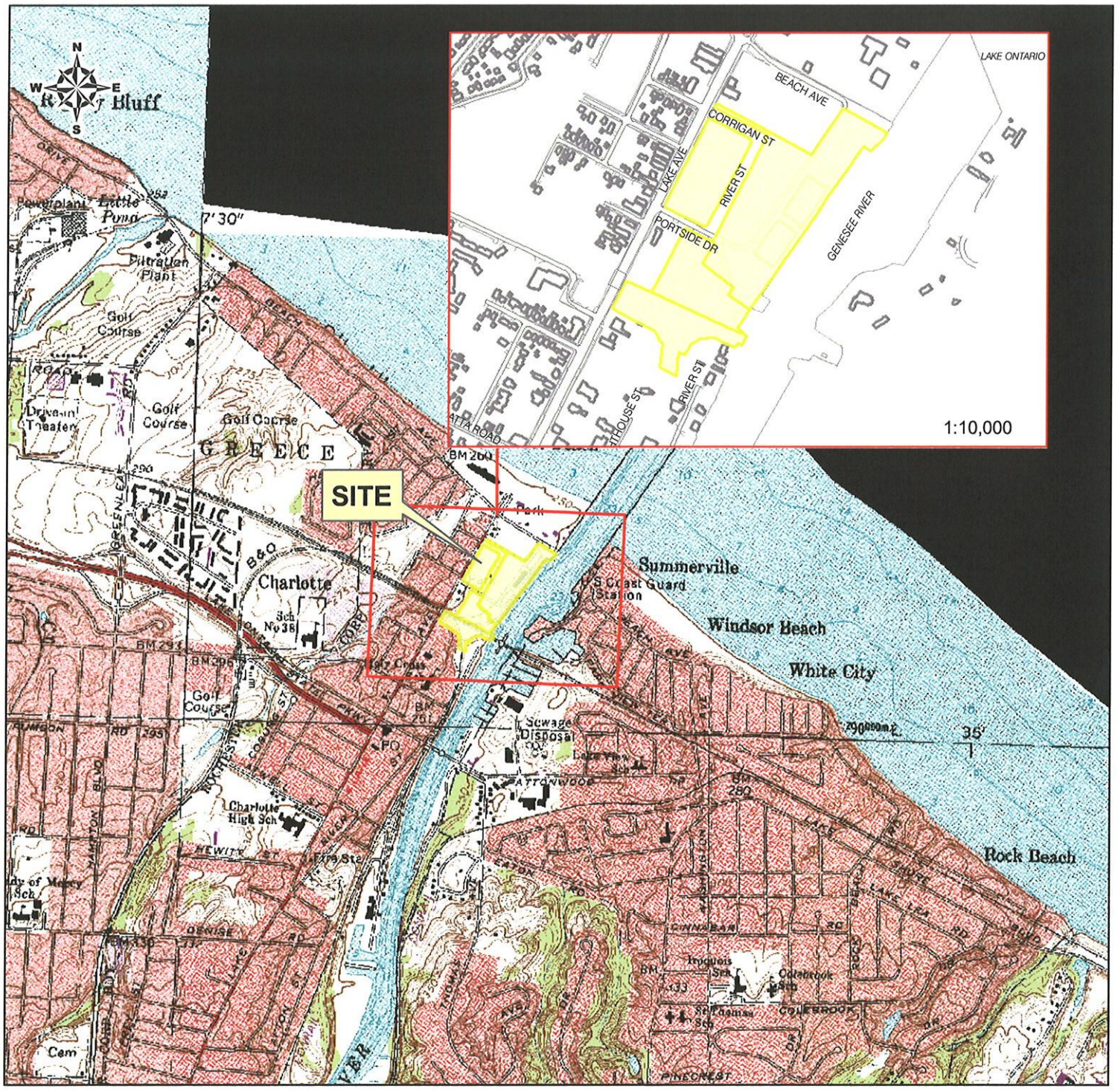
Parameter/Sample ID #	Mixed Fill Samples		Part 375 Restricted Use Soil Cleanup Objectives (SCOs) - Protection of Public Health - Restricted Residential Use	Part 375 Restricted Use Soil Cleanup Objectives (SCOs) - Protection of Groundwater
	HA-114 (2.0'-4.0')	HA-117 (2.0'-4.0')		
	Foundry Sand & Slag (color unknown	Foundry Sand & Slag (color unknown		
	6/2/2000	6/2/2000		
PCB 1016	ND	ND	1,000	3,200
PCB 1221	ND	ND	1,000	3,200
PCB 1232	ND	ND	1,000	3,200
PCB 1242	ND	ND	1,000	3,200
PCB 1248	ND	ND	1,000	3,200
PCB 1254	ND	ND	1,000	3,200
PCB 1260	ND	ND	1,000	3,200

Notes:

PCBs analysis by United States Environmental Protection Agency (USEPA) Method 8082.
ND - Denotes compound not detected above the reported laboratory method detection limits.

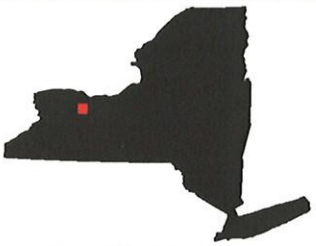
LABELLA
LaBella Associates, P.C.
300 State Street
Rochester, New York 14614

Figures



Location within City of Rochester

Location within Monroe County



Location within NY State

PROJECT/DRAWING NUMBER

209447.01

FIGURE 1

DRAWING TITLE

SITE LOCATION AND VICINITY MAP

1:24,000

ISSUED FOR: FINAL

DESIGNED BY: RCN

DRAWN BY: RCN

REVIEWED BY: DEP

DATE: 9/3/2010

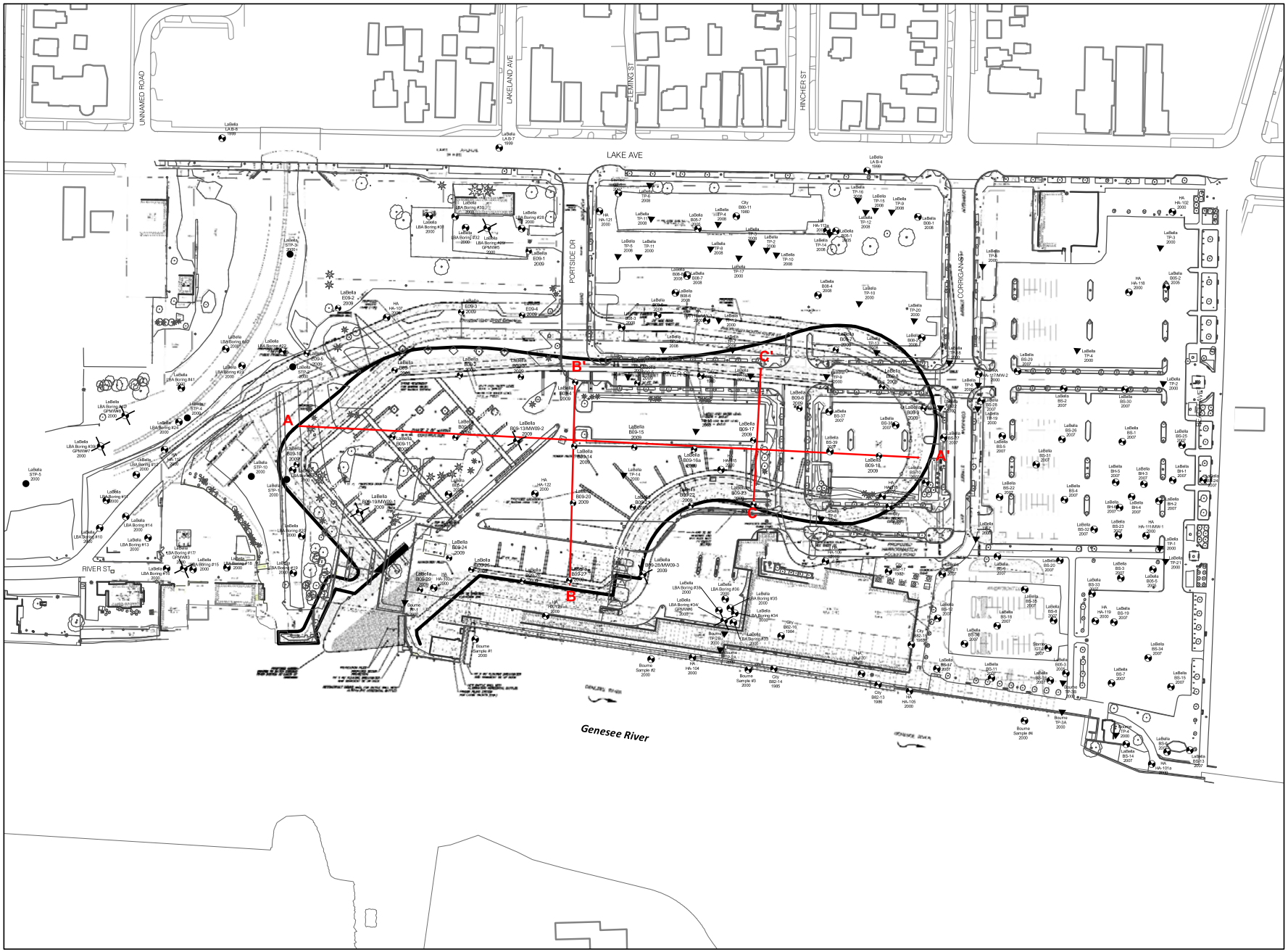
PROJECT/CLIENT

SOLID WASTE CONTROL PLAN

PORT OF ROCHESTER
Proposed Marina

LABELLA Associates, P.C.

300 STATE STREET
ROCHESTER, NY 14614
P: (585) 454-6110
F: (585)454-3066
www.labellapc.com



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PORT OF ROCHESTER

SOLID WASTE CONTROL PLAN

BORINGS & CROSS SECTION TRANSECTS

September 2010

Legend

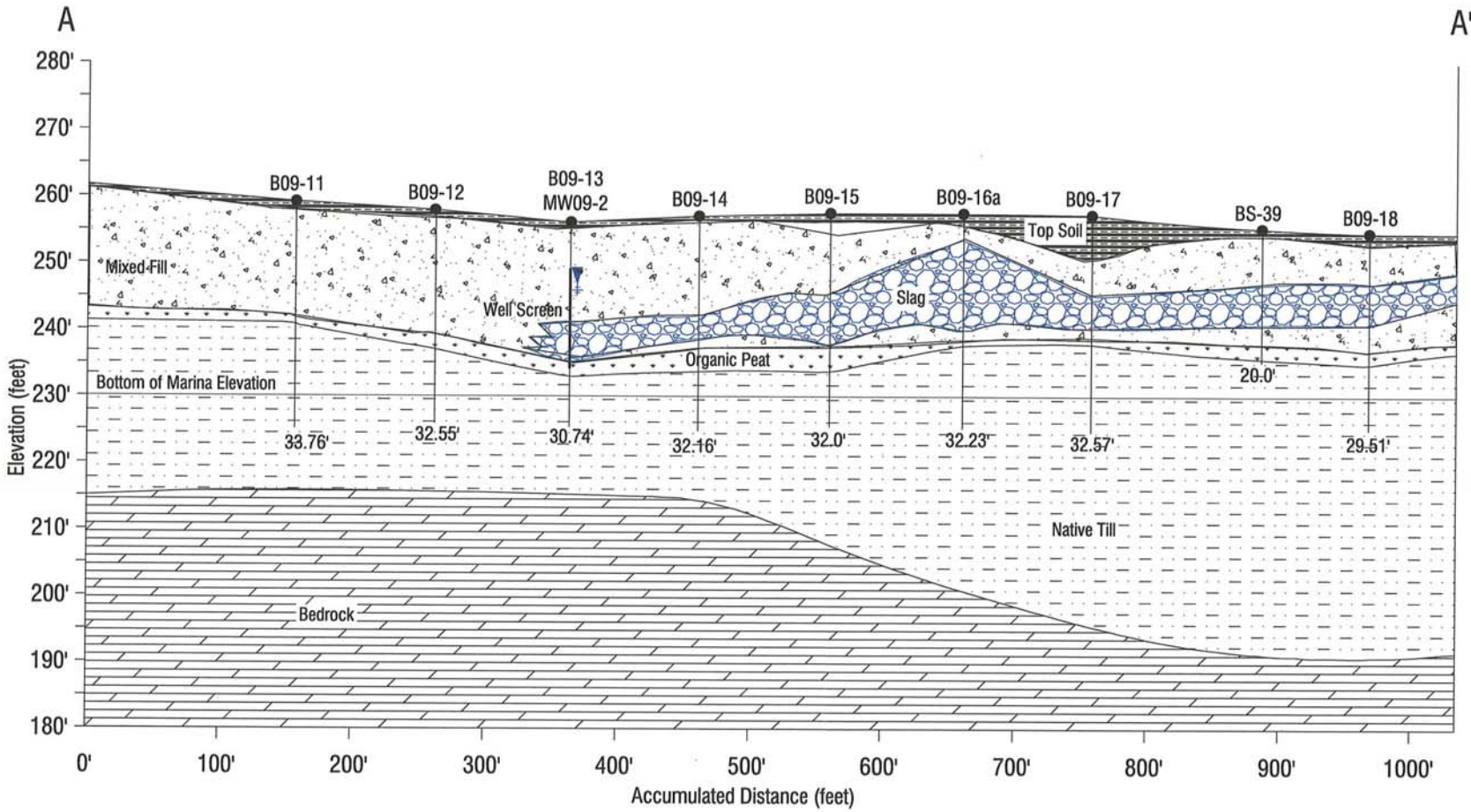
- Soil Boring
- Hand Auger Point
- Monitoring Well
- Test Pit
- Cross Section Transects
- Proposed Public Boardwalk (updated April 2009)
- Former Vortex Sewer

Sources:
(1) City of Rochester Site Survey, 2008.
(2) Passero Figure 7, updated April 2009.
(3) LaBella Port Redevelopment Mapping 2003
(4) LaBella GIS data 2005 through 2009
(5) City of Rochester GIS (buildings and street features)

0 150
1 inch = 150 feet

209447.01

FIGURE 2



LEGEND

- Approximate Static Groundwater Elevation
- Topsoil
- Mixed Fill
- Slag
- Organic Peat
- Native Till
- Bedrock
- Soil Boring Location
- 30.0' Depth to Boring Bottom

NOTE:

1. Formations based on contours generated using Golden Surfer 8 software.
2. Subsurface formations inferred in areas below the terminal depth of borings and beyond the first and last point.
3. Bedrock surface based on points that do not fall near the cross section axis and therefore not shown.

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PROJECT/CLIENT
SOLID WASTE CONTROL PLAN
Port of Rochester
Proposed Marina
Rochester, New York

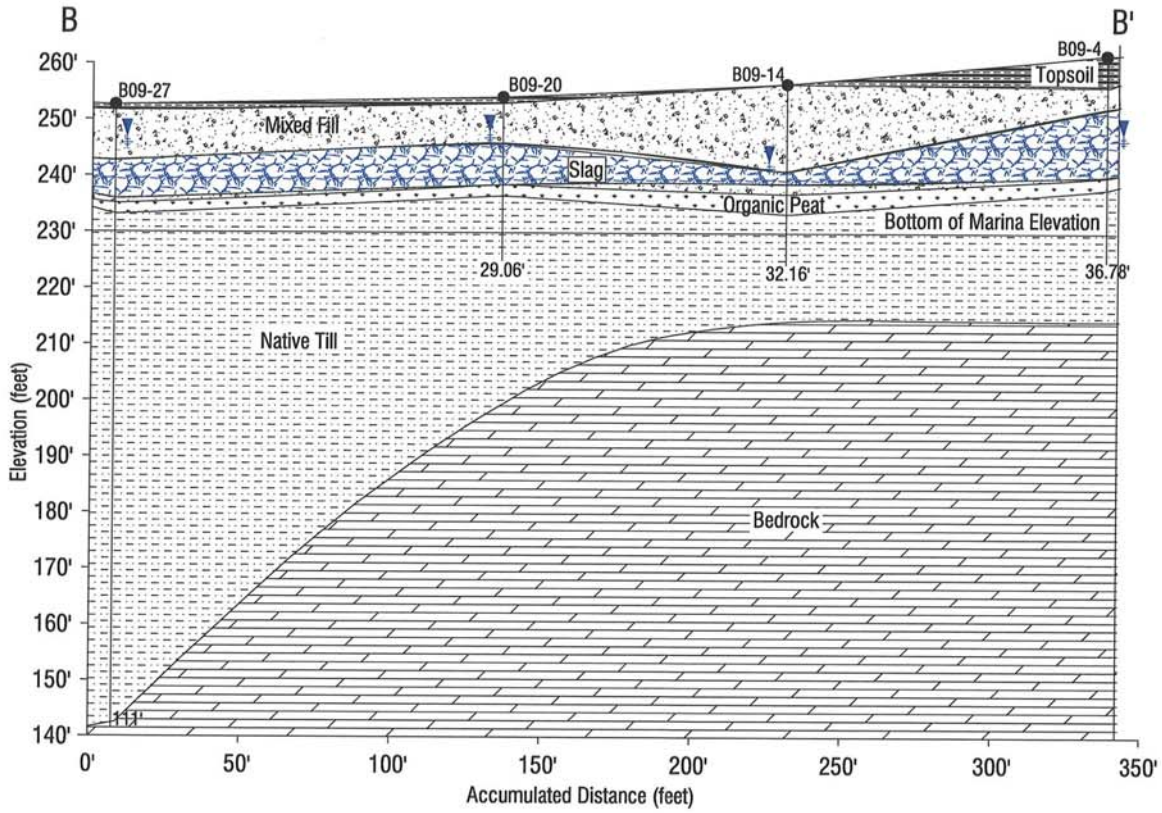
DRAWING TITLE
GEOLOGIC CROSS SECTION
A-A'

SSRD DR
FINAL

DESIGNED BY: DPG
DRAWN BY: RCR
REVIEWED BY: DEP
DATE: SEPTEMBER 2010

PROJECT/DRAWING NUMBER
209447.01

FIGURE 3



GENERAL GROUNDWATER FLOW DIRECTION

LEGEND

- Approximate Static Groundwater Elevation
- Topsoil
- Fill - Regulated Waste
- Slag
- Organic Peat
- Native Till
- Bedrock
- Soil Boring Location
- 30.0' Depth to Boring Bottom

NOTE:
1. Formations based on contours generated using Golden Surfer 8 software.
2. Subsurface formations inferred in areas below the terminal depth of borings and beyond the first and last point.
3. Bedrock surface based on points that do not fall near the cross section axis and therefore not shown.

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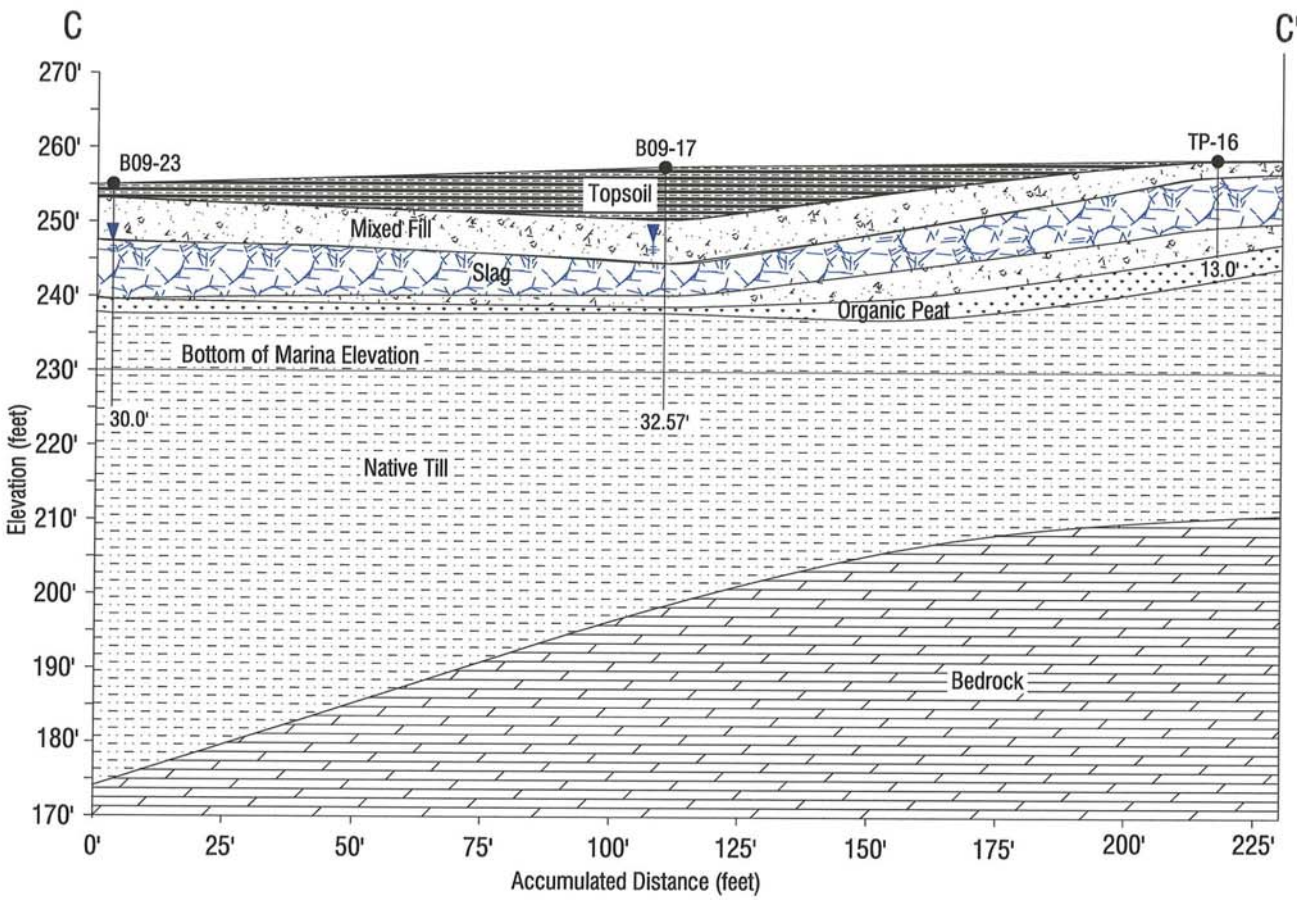
PROJECT/CLIENT
SOLID WASTE CONTROL PLAN
Port of Rochester
Proposed Marina
Rochester, New York

DRAWING TITLE
GEOLOGIC CROSS SECTION
B-B'

ISSUED FOR: FINAL
DATE: SEPTEMBER 2010
DESIGNED BY: EPG
DRAWN BY: RCN
REVIEWED BY: DSP

PROJECT/DRAWING NUMBER
209447.01

FIGURE 4



GENERAL GROUNDWATER FLOW DIRECTION

LEGEND

- Approximate Static Groundwater Elevation
- Topsoil
- Mixed Fill
- Slag
- Organic Peat
- Native Till
- Bedrock
- Soil Boring Location
- 30.0' Depth to Boring Bottom

NOTE:
1. Formations based on contours generated using Golden Surfer 8 software.
2. Subsurface formations inferred in areas below the terminal depth of borings and beyond the first and last point.
3. Bedrock surface based on points that do not fall near the cross section axis and therefore not shown.

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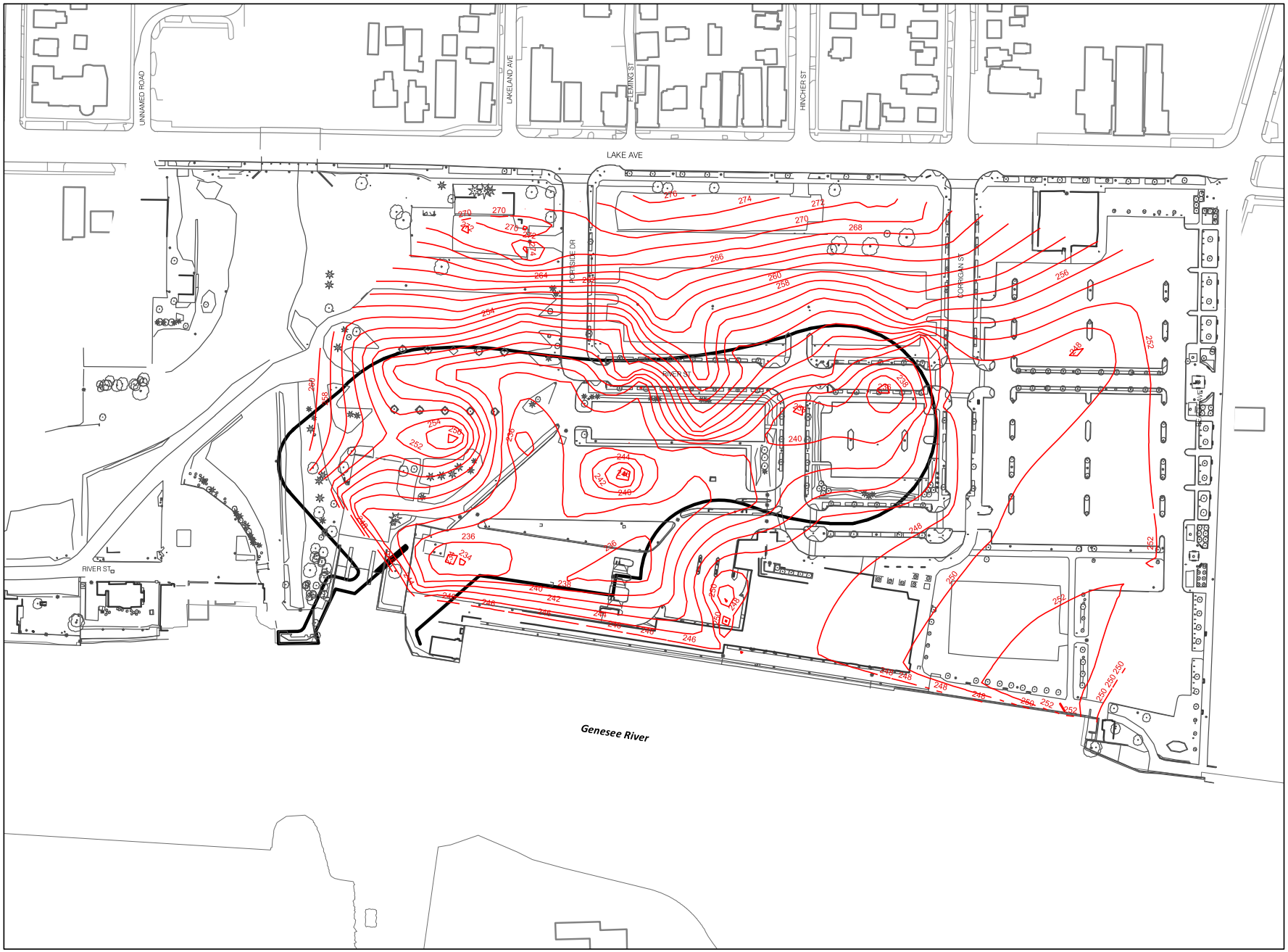
PROJECT/CLIENT
SOLID WASTE CONTROL PLAN
Port of Rochester
Proposed Marina
Rochester, New York

DRAWING TITLE
GEOLOGIC CROSS SECTION
C-C'

ISSUED FOR: FINAL
DATE: SEPTEMBER 2009
DESIGNED BY: EPG
DRAWN BY: RCN
REVIEWED BY: EPP

PROJECT/DRAWING NUMBER
209447.01

FIGURE 5



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PORT OF ROCHESTER

SOLID WASTE CONTROL PLAN

BOTTOM OF RECOVERABLE SLAG CONTOURS

September 2010

Legend

- Bottom of Slag Contours August 2009
- Proposed Public Boardwalk (updated April 2009)

Notes:
(1) Contours generated with Golden Surfer 8 software using the Natural Neighbor algorithm.
(2) Elevation in feet, based on the City of Rochester Datum.

Sources:
(1) City of Rochester Site Survey, 2008.
(2) Passero Figure 7, updated April 2009.
(3) LaBella Port Redevelopment Mapping 2003
(4) LaBella GIS data 2005 through 2009
(5) City of Rochester GIS (buildings and street features)

0 150
1 inch = 150 feet

209447.01

FIGURE 6

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LaBella Associates, P.C.
300 State Street
Rochester, New York 14614

Appendix 1

Miscellaneous Letters

New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Technical Support
6274 East Avon-Lima Road, Avon, New York 14414
Phone: (585) 226-2466 • **FAX:** (585) 226-8139
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

June 14, 2004

Mr. Joseph J. Biondolillo
Sr. Environmental Specialist
City of Rochester
Division of Environment Quality
30 Church Street
Room 300B
Rochester, New York 14614

Dear Mr. Biondolillo:

Re: NYSDEC Spill # 9970601
Port of Rochester
Lake Avenue
Rochester (C), Monroe County

Let this letter serve as follow up to both your May 24, 2004 submission and the June 8, 2004 meeting and site visit attended by this Department, the City of Rochester and LaBella Associates, regarding the above referenced spill location. Based upon the remedial work completed at the site, the information contained in the May 24, 2004 submission, previously submitted information and the current and expected future use of the property, the Department does not require any additional remedial work at this time. This spill has been removed from the Department's active files. However, be aware that this ruling does not preclude reactivation of this case should new information become available and/or an impact to receptors be discovered in the future.

If there are any questions or comments, feel free to contact me at either the above address or by telephone at 585-226-5438.

Sincerely,

Michael F. Zamiarski, P.E.
Environmental Engineer II
Bureau of Technical Support
Division of Environmental Remediation

cc: Greg Senecal, LaBella Associates, P.C.

LABELLA

LaBella Associates, P.C.
Engineering, Architecture,
Environmental Consulting, and Surveying

Sergio Esteban, P.E.
Michael W. Haley, L.S.
Robert A. Healy, A.I.A.
Salvatore A. LaBella, P.E.
James R. McIntosh, P.E.
Michael S. Schatton, P.E.

January 21, 2002

Dan David, P.E.
New York State Department of Environmental Conservation
Region 8 Solid Waste Division
6274 East Avon Lima Road
Avon, New York 14414

RECEIVED
JAN 23 2002
SOLID HAZARDOUS MATERIALS
REGION8

RE: Port of Rochester, North Parking Lot/Beach Avenue Pedestrian Improvements
Northern Street Design and Construction Project
Port of Rochester, Rochester, New York
LaBella Project # 99150 Phase 2320

Dear Mr. David:

This letter is a follow up to our conversation on Monday, January 14, 2002, regarding the above referenced construction project.

During our conversation, we discussed the management of fill materials containing slag, coal, cinders, railroad ballast, and ash at the City of Rochester-Port of Rochester Redevelopment Project Site. This area of solid waste/fill encompasses approximately 13 acres on the north portions of the Site, and appears to be from historical filling associated with railroad terminals and sidings and a large iron foundry and blast furnace. The Port of Rochester Redevelopment Plan envisions paved parking lots and commercial development pads in this area of the project Site. See attached Figure.

I indicated to you that the fill materials containing slag, coal, cinders, railroad ballast, and ash had been sampled and analyzed, and that the material contained levels of arsenic above NYSDEC TAGM #4046 published Eastern USA background levels. Representative samples were submitted for TCLP analysis for metals. No TCLP failures were realized in the samples of slag and ash fill that were exposed to the toxicity leaching procedure. A copy of the Phase II Environmental Assessment: Preliminary Site Characterization Report was submitted to the NYSDEC Spills Group in 2001.

In two discreet areas, this material also contained levels of NYSDEC regulated Semi Volatile Organic (Polycyclic Aromatic Hydrocarbons) at levels slightly above NYSDEC TAGM #4046 guidance values. This condition was previously reported to the NYSDEC Region 8 Spills Group. The NYSDEC added the information to the existing spill file; NYSDEC Spill #990601. LaBella is currently addressing issues associated with these two areas with the NYSDEC Spills Group.

Upcoming construction activities that are anticipated to occur within the next year may disturb this layer of solid waste/fill are the re-grading and repaving of the Northern parking lots, and the construction of new roadways, parking lots, and associated utilities in the north central portion of the Site. See attached Figure.

You indicated that the department considers the above referenced materials as solid waste that could not be treated as a Construction and Demolition solid waste, due to the nature of its origin as a solid waste derived from an industrial source. Furthermore you indicated that the department would not approve of the disposal of this material at Construction and Demolition debris landfills.

300 State Street, Rochester, NY 14614 (716) 454-6110 FAX (716) 454-3066
20 Seneca Street, Hornell, NY 14843 (607) 324-0222 FAX (607) 324-7665
403 E. Main Street, Elkland, PA 16920 (814) 258-5673 FAX (814) 258-7116

We discussed the option of excavating the fill materials containing slag, coal, cinders, railroad ballast, and ash and placing these solid wastes into other similar filled areas of the Site for use as additional fill. You indicated that this solid waste management option was acceptable to the Department and in accordance with 6 NYCRR Part 360-1.7(b)(9). You also indicated that the department would recommend particulate air-monitoring and dust suppression measures as necessary during construction activities.

At this time, we anticipate proceeding with the on Site management of the above referenced solid waste in accordance with 6NYCRR Part 360-1.7(b)(9).

If you feel that this letter represents an accurate representation of our conversation and agreement, please sign in the space provided and return a copy of this letter to me via fax (585) 454-3066 to serve as documentation of our conversation and agreement.

Thank you for your assistance in this matter. If you have any questions, please do not hesitate to contact me at (585)-454-6110.

Sincerely,

LABELLA ASSOCIATES, P.C.

Gregory R. Senecal

Gregory Senecal, CHMM
Phase I &II Program Manager

David Durand
NYSDEC Region 8 ~~Solid Waste~~
Regional Solid & Hazardous
Materials Engineer

Attachments

cc: S. Esteban; LaBella
S. Metzger; LaBella
R. VenVertloh; LaBella
C. Ecklund; LaBella
J. Biondolillo; City of Rochester
B. Price; City of Rochester

J2A21DP1

While I don't believe we discussed monitoring specifically, acceptable "handling, relocation and disposal practices" must minimize the likelihood of either blowing dust or runoff of excavated materials.

Engineering
Architecture
Environmental

LABELLA
Associates, P.C.

300 State Street, Suite 201, Rochester, NY 14614

Phone 585.454.6110
Fax 585.454.3066
www.labellapc.com

January 24, 2002

William M. Price, RLA
Project Manager
City of Rochester
DES/Engineering and Architecture
30 Church Street, Room 300B
Rochester, NY 14614-1279

Re: Worker Health and Safety Related to Excavation of Slag-Containing Materials
Port of Rochester Harbor Improvement and Harbor Ferry Terminal
City of Rochester ID #99021
NYSDOT PIN 4752.60 and 4752.62
LaBella Project No. 99150

Dear Mr. Price:

We have conducted testing to evaluate the potential for exposure to hazardous gases and vapors as a result of disturbing subsurface slag-containing materials during trenching operations.

Three test pits were excavated to a depth of approximately 6 feet. Slag-containing materials were encountered in each test pit. The sampling procedure consisted of placing an evacuated Silco Canister at the bottom of the pit immediately upon reaching the desired depth, and opening the sample valve. Sample duration was approximately 1 minute or less. The odor of hydrogen sulfide was detected in each test pit.

The Silco Canisters were sent to Performance Analytical, Inc. for sample analysis. The analytical methods applied to the samples include EPA Method TO-15 by GC/MS for Tentatively Identified Compounds (TICs) and GC/SCD Analysis for 20 sulfur compounds. Laboratory results are attached.

The sample results indicate that no sulfur or sulfide compounds were present above the method detection limit, which is in the part per billion range. Hydrogen sulfide is obviously present at concentrations above the odor threshold, but below the method detection limit. A series of light-weight organic com-pounds was detected in each sample. The detected compounds probably represent ambient concentrations of vehicle combustion emissions. They are present at concentrations well below hazardous levels.

Planned excavations of these soils will not present an inhalation hazard to construction workers in the vicinity of excavating.

As noted, the odor of hydrogen sulfide is detectable during active excavation and subsequent disturbance of the slag. As a result there is a possibility that the odor of hydrogen sulfide may present a community nuisance during construction but it is not expected to present a health hazard.

Very truly yours,

LABELLA ASSOCIATES, P.C.

Richard K. Rote, CIH

RKR/deh
Attachments
Cc: Sergio Esteban, LaBella Associates, P.C.
LaBella Project File No. 99150, Nos. 1 and 9
N/J2A24RR1

LABELLA
LaBella Associates, P.C.
300 State Street
Rochester, New York 14614

Appendix 2

Boring, Test Pit, and Monitoring Well Logs

LABELLA Associates, P.C. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Port of Rochester 2005 Geotechnical Borings Rochester, New York	BORING **B05-1** SHEET 1 OF 2 JOB # 205182 CHKD. BY:

CONTRACTOR: Target Drilling — BORING LOCATION

DRILLER Ben Sirigusa & Steve Kahn — GROUND SURFACE ELEVATION — DATUM

LABELLA REPRESENTATIVE: C. Stiles — START DATE 09-May-05 — END DATE 09-May-05

TYPE OF DRILL RIG: CME Model 75 Truck-mounted Rotary Drill Rig

AUGER SIZE AND TYPE 3.25-Inch ID

OVERBURDEN SAMPLING METHOD 2" x 2' Split-spoon w/140# Hammer

ROCK DRILLING METHOD Not Applicable

WATER LEVEL DATA				
DATE	TIME	WATER	CASING	REMARKS

DEPTH	SAMPLE BLOWS / 6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (INCHES)	SAMPLE DESCRIPTION	PID READINGS	NOTES
1	3 2 4 10	S-1	0'-2'	6	15"	**FILL MATERIAL** 0.0' Brown Clayey SILT, little(-) f Sand, trace(-) mf angular Gravel, trace organics in top 4" (roots, root traces, humus, etc.), moist, no odors. 1.2' Brown to orange-brown cmf GRAVEL (slag), some cmf Sand (slag), slightly moist, no odors.	0.0	
2 3	50/6"	S-2	2'-4'	>50	4"	2.0' Concrete fragments. 2.2' Brown to orange-brown cmf GRAVEL (slag), some cmf Sand (slag), moist, no odors.	0.2	
4 5	4 4 6	S-3	4'-6'	10	21"	4.0' Brown SILT, little(+) $mf^{(+)}$ Sand, trace mf angular to subangular Gravel, moist, no odors. 5.2' Brown SILT, some(-) mf angular to subangular Gravel, little(+) $mf^{(+)}$ Sand, moist, no odors.	0.0	
6 7	6 7 15	S-4	6'-8'	31	7"	6.0' As above, but damp, no odors..	0.0	
8 9	16 16 12 9	S-5	8'-10'	15	4"	8.0' As above, but wet, no odors..	0.0	
10 11	6 4 3 4	S-6	10'-12'	4	6"	10.0' As above, saturated, no odors. 10.3' Black to dark brownish-black $cm^{(+)}f$ angular to subrounded GRAVEL, some cmf Sand, wet, no odors.	0.0	
12 13	50/3" 16 9	S-7	12'-14'	22	18"	12.0' As above, with concrete fragments, wet, no odors. **ALLUVIAL MATERIAL** 12.5' Gray Clayey SILT, little(-) f Sand, damp to wet, stratified, no odors.	0.0	
14 15	13 18 6 8	S-8	14'-16'	20	20"	14.0' As above	0.0	
16	12 14							

LEGEND

S - SPLIT SPOON SOIL SAMPLE

U - UNDISTURBED SOIL SAMPLE

C - ROCK CORE SAMPLE

NOTES:

GENERAL NOTES:

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

LABELLA Associates, P.C. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Port of Rochester 2005 Geotechnical Borings Rochester, New York	BORING **B05-2** SHEET 1 OF 2 JOB # 205182 CHKD. BY:

CONTRACTOR: Target Drilling — BORING LOCATION

DRILLER Ben Sirigusa & Steve Kahn — GROUND SURFACE ELEVATION — DATUM

LABELLA REPRESENTATIVE: C. Stiles — START DATE 10-May-05 — END DATE 10-May-05

TYPE OF DRILL RIG: CME Model 75 Truck-mounted Rotary Drill Rig

AUGER SIZE AND TYPE 3.25-Inch ID

OVERBURDEN SAMPLING METHOD 2" x 2' Split-spoon w/140# Hammer

ROCK DRILLING METHOD Not Applicable

WATER LEVEL DATA				
DATE	TIME	WATER	CASING	REMARKS

DEPTH	SAMPLE BLOWS / 6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (INCHES)	SAMPLE DESCRIPTION	PID READINGS	NOTES
1	2 1 3 7	S-1	0'-2'	4	13"	**FILL MATERIAL** 0.0' Dark brown f SAND, some(-) Silt, trace(-) f subangular Gravel, organics (roots, root traces, humus, etc.), slightly moist, no odors. 0.4' Dark brown $m^{(+)}f$ SAND (foundry sand), little(-) mf subrounded to angular Gravel (slag & stone), moist, no odors.	0.0	
2 3	11 12 11 6	S-2	2'-4'	23	13"	2.0' As above, moist, no odors. 2.3' Very dark brown to grayish-brown $cmf^{(+)}$ SAND, some(+) cmf angular to subrounded Gravel, trace Silt, moist to damp, no odors.	0.2	
4 5	6 6 5 4	S-3	4'-6'	11	16"	4.0' As above, damp, no odors. **ALLUVIAL MATERIAL** 4.3' Gray f SAND, trace Silt, damp, no odors.. . . . Grading to . . . Gray Clayey SILT, some(-) f Sand, wet, no odors.	0.0	
6 7	3 3 7 6	S-4	6'-8'	10	18"	6.0' Gray SILT & CLAY, little(+) f Sand, massive, wet to saturated, no odors. 7.0' Gray cm SAND, wet to saturated, no odors. 7.1' Dark brown PEAT, little Silt, trace f Sand, saturated, no odors.	0.0	
8 9						7.2' Gray $cm^{(+)}f$ SAND, saturated, no odors.	0.0	
10 11							0.0	
12 13								
14 15 16								

LEGEND

S - SPLIT SPOON SOIL SAMPLE

U - UNDISTURBED SOIL SAMPLE

C - ROCK CORE SAMPLE

NOTES:

GENERAL NOTES:

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.

2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

LABELLA Associates, P.C. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Port of Rochester 2005 Geotechnical Borings Rochester, New York	BORING **B05-3** SHEET 1 OF 2 JOB # 205182 CHKD. BY:

CONTRACTOR:	Target Drilling	BORING LOCATION	
DRILLER	Ben Sirigusa & Steve Kahn	GROUND SURFACE ELEVATION	DATUM
LABELLA REPRESENTATIVE:	C. Stiles	START DATE 19-May-05	END DATE 19-May-05

TYPE OF DRILL RIG:	CME Model 75 Truck-mounted Rotary Drill Rig
AUGER SIZE AND TYPE	3.25-Inch ID
OVERBURDEN SAMPLING METHOD	2" x 2' Split-spoon w/140# Hammer
ROCK DRILLING METHOD	Not Applicable

WATER LEVEL DATA				
DATE	TIME	WATER	CASING	REMARKS

DEPTH	SAMPLE BLOWS / 6"	SAMPLE NO.	SAMPLE DEPTH (FT.)	SAMPLE N-VALUE /RQD(%)	SAMPLE RECOVERY (INCHES)	SAMPLE DESCRIPTION	PID READINGS	NOTES
1	10 21	S-1	0' - 2'	33	8"	**FILL MATERIAL** 0.0' Dark brown cmf(+) SAND, little mf subrounded Gravel, trace Silt, organic material present (roots, root traces, humus, etc.), moist, no odors.	0.0	
2	12 13					0.3' Gray cmf SAND, little f angular to subrounded Gravel (Includes slag and, cinders), moist, no odors.		
3	7 8	S-2	2' - 4'	23	14"	0.6' Dark brown m SAND (Foundry sand), little mf andgual to subrounded Gravel (slag), moist, no odors.	0.0	
4	15 16					2.0' As above, but damp to wet, no odors.		
5	7 10	S-3	4' - 6'	18	21"	**ALLUVIAL MATERIAL** 4.0' Dark gray SILT, little(-) f SAND, stratified, wet to damp, no odors.	0.0	
6	8 7					**LACUSTRINE MATERIAL** 5.5' Gray alternating varves of Clayey SILT and CLAY, damp to saturated @ ~6.0-ft., no odors.		
7	8 8	S-4	6' - 8'	20	11"	6.3' Gray $mf^{(+)}$ SAND, saturated, no odors.	0.0	
8	12 10							
9								
10								
11								
12								
13								
14								
15								
16								

LEGEND

S - SPLIT SPOON SOIL SAMPLE
U - UNDISTURBED SOIL SAMPLE
C - ROCK CORE SAMPLE

NOTES:

GENERAL NOTES:

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

LABELLA Associates, P.C. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Port of Rochester 2005 Geotechnical Borings Rochester, New York	BORING **B05-4** SHEET 1 OF 2 JOB # 205182 CHKD. BY:

CONTRACTOR:	Target Drilling	BORING LOCATION			
DRILLER	Ben Sirigusa & Steve Kahn	GROUND SURFACE ELEVATION		DATUM	
LABELLA REPRESENTATIVE:	C. Stiles	START DATE	06-May-05	END DATE	06-May-05

TYPE OF DRILL RIG: CME Model 75 Truck-mounted Rotary Drill Rig
AUGER SIZE AND TYPE 3.25-Inch ID
OVERBURDEN SAMPLING METHOD 2" x 2' Split-spoon w/140# Hammer
ROCK DRILLING METHOD Not Applicable

WATER LEVEL DATA				
DATE	TIME	WATER	CASING	REMARKS

DEPTH	SAMPLE BLOWS / 6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (INCHES)	SAMPLE DESCRIPTION	PID READINGS	NOTES
1	7 7 7 7	S-1	0'-2'	14	9"	**FILL MATERIAL** 0.0' Brown SILT, little f Sand, trace mf angular Gravel, trace organics (roots, root traces, humus, etc.), moist, no odors. 0.2' Brown cmf SAND, little mf(+) angular to subrounded Gravel (Slag & Asphalt), moist to damp, no odors.	0.0	
3	13 13 10 9	S-2	2'-4'	23	9"	2.0' As above. 2.3' Black cmf SAND, little s angular to subrounded Gravel (Slag), moist no odors.	0.2	
5	7 7 4 4	S-3	4'-6'	11	13"	2.6' Brown cmf SAND, little mf(+) angular to subrounded Gravel (Slag & Asphalt), moist to damp, no odors. 4.0' Dark brown m SAND (foundry sand), trace m subrounded Gravel, damp to wet, no odors.	0.0	
7	4 10 20 20	S-4	6'-8'	30	9"	6.0' As above, but saturated. 6.6' Grayish-black mf angular GRAVEL (slag), some(-) cm Sand, saturated, no odors.	0.0	
9	15 10 15 22	S-5	8'-10'	25	5"	8.0' Bluish-gray cm(+)f angular to subangular GRAVEL, little cmf Sand, saturated, no odors.	0.0	
11	21 12 21 18	S-6	10'-12'	33	5"	10.0' As above, saturated, no odors.	0.0	
13	7 10 9 4	S-7	12'-14'	19	2"	12.0' As above, saturated, no odors.	0.0	
15	3 3 4 6	S-8	14'-16'	7	14"	**ALLUVIAL MATERIAL** 14.0' Alternating layers of dark brown SILT, some peat with Gray Clayey SILT, saturated, no odors. 14.5' Gray Clayey SILT, stratified, marsh gas odor.	0.0	

LEGEND
S - SPLIT SPOON SOIL SAMPLE
U - UNDISTURBED SOIL SAMPLE
C - ROCK CORE SAMPLE

NOTES:

GENERAL NOTES:
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

LABELLA ASSOCIATES, P.C. 300 STATE STREET ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Port of Rochester 2005 Geotechnical Borings Rochester, New York	BORING # **B05-4** SHEET 2 OF 2 JOB # 205182 CHKD. BY

DEPTH	SAMPLE					SAMPLE DESCRIPTION	PID READINGS	NOTES
	BLOWS / 6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (INCHES)			
17	6 5 5 5	S-9	16'-18'	10	20"	16.0' Brown Silty Peat. 16.2' Brown to grayish-brown SILT, trace(+) cmf Sand, trace(-) f angular Gravel, very soft & plastic, saturated, no odors.	0.0 0.0	
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								

LEGEND

S - SPLIT SPOON SOIL SAMPLE
U - UNDISTURBED SOIL SAMPLE
C - ROCK CORE SAMPLE

NOTES:

GENERAL NOTES:

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

LABELLA Associates, P.C. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Port of Rochester 2005 Geotechnical Borings Rochester, New York	BORING **B05-5** SHEET 1 OF 2 JOB # 205182 CHKD. BY:

CONTRACTOR: Target Drilling — BORING LOCATION

DRILLER Ben Sirigusa & Steve Kahn — GROUND SURFACE ELEVATION — DATUM

LABELLA REPRESENTATIVE: C. Stiles — START DATE 09-May-05 — END DATE 09-May-05

TYPE OF DRILL RIG: CME Model 75 Truck-mounted Rotary Drill Rig

AUGER SIZE AND TYPE 3.25-Inch ID

OVERBURDEN SAMPLING METHOD 2" x 2' Split-spoon w/140# Hammer

ROCK DRILLING METHOD Not Applicable

WATER LEVEL DATA

DATE	TIME	WATER	CASING	REMARKS

DEPTH	SAMPLE BLOWS / 6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (INCHES)	SAMPLE DESCRIPTION	PID READINGS	NOTES
1	7, 19, 23, 28	S-1	0'-2'	42	20"	**FILL MATERIAL** 0.0' Brown f SAND and SILT, trace(+) mf(+) angular to subrounded Gravel, organics (roots, root traces, humus, etc.), slightly moist, no odors. 0.3' Brown to grayish-brown cmf SAND, little cmf(+) angular to subangular Gravel, (concrete, slag and asphalt), slightly moist, no odors.	0.0	
2								
3	23, 14, 15, 19	S-2	2'-4'	29	13"	2.0' Tan mf(+) SAND, trace f Gravel, trace(-) Silt, moist to damp, no odors. 2.8' Dark grayish-brown mf SAND, trace(-) f angular to subrounded Gravel, (slag) trace(-) Silt, damp to wet, no odors.	0.2	
4								
5	6, 4, 4, 4	S-3	4'-6'	8	20"	**ALLUVIAL MATERIAL** 4.0' Gray to dark gray m(+)f SAND, wet, no odors with 1" thick interbed of dark brown SILT and f SAND @ 4.7-ft. BGS, saturated, no odors.	0.0	
6								
7	2, 4, 7, 4	S-4	6'-8'	11	12"	6.0' Gray mf SAND, trace(+) Clayey SILT, saturated, no odors.	0.0	
8								
9	12, 4, 18, 29	S-5	8'-10'	22	19"	8.0' As above, saturated, no odors.. 8.9' Gray mf SAND, trace(+) Clayey SILT, little(+) mf rounded to subrounded Gravel, saturated, no odors.	0.0	
10								
11	21, 14, 6, 7	S-6	10'-12'	20	18"	10.0' As above, saturated, no odors.. 11.2' Reddish-gray to gray c(+)mf rounded to subrounded GRAVEL, saturated very slight naphthalene odor.	0.0	
12								
13								
14								
15								
16								

LEGEND

S - SPLIT SPOON SOIL SAMPLE

U - UNDISTURBED SOIL SAMPLE

C - ROCK CORE SAMPLE

NOTES:

GENERAL NOTES:

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

LABELLA ASSOCIATES, P.C. 300 STATE STREET ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Port of Rochester 2005 Geotechnical Borings Rochester, New York	BORING # **B05-5** SHEET 2 OF 2 JOB # 205182 CHKD. BY

DEPTH	SAMPLE					SAMPLE DESCRIPTION	PID READINGS	NOTES
	BLOWS / 6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (INCHES)			
17	6 5 5 5	S-9	16'-18'	10	20"	16.0' Brown Silty Peat. 16.2' Brown to grayish-brown SILT, trace(+) cmf Sand, trace(-) f angular Gravel, very soft & plastic, saturated, no odors.	0.0 0.0	
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								

LEGEND

S - SPLIT SPOON SOIL SAMPLE
U - UNDISTURBED SOIL SAMPLE
C - ROCK CORE SAMPLE

NOTES:

GENERAL NOTES:

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

LABELLA Associates, P.C. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT Port of Rochester 2005 Geotechnical Borings Rochester, New York	BORING **B05-7** SHEET 1 OF 2 JOB # 205182 CHKD. BY:

CONTRACTOR: Target Drilling | BORING LOCATION

DRILLER Ben Sirigusa & Steve Kahn | GROUND SURFACE ELEVATION | DATUM

LABELLA REPRESENTATIVE: C. Stiles | START DATE 09-May-05 | END DATE 09-May-05

TYPE OF DRILL RIG: CME Model 75 Truck-mounted Rotary Drill Rig

AUGER SIZE AND TYPE 3.25-Inch ID

OVERBURDEN SAMPLING METHOD 2" x 2' Split-spoon w/140# Hammer

ROCK DRILLING METHOD Not Applicable

WATER LEVEL DATA				
DATE	TIME	WATER	CASING	REMARKS

DEPTH	SAMPLE BLOWS / 6"	SAMPLE NO.	SAMPLE DEPTH (FT.)	SAMPLE N-VALUE /RQD(%)	SAMPLE RECOVERY (INCHES)	SAMPLE DESCRIPTION	PID READINGS	NOTES
1	7 8 9	S-1	0'-2'	17	7"	**FILL MATERIAL** 0.0' Brown cmf(+) SAND, some cmf angular to subrounded Gravel, slightly moist, very slight weathered petroleum odor.	0.1	
2	7							
3	50/4"	S-2	2'-4'	>50	3'	2.0' Gray concrete fragments.	0.0	
4								
5	13 14 15	S-3	4'-6'	29	20	**ALLUVIAL MATERIAL** 4.0' Grayish-brown to brown SILT, little f SAND, stratified, moist, no odors.	0.0	
6	18							
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								

LEGEND

S - SPLIT SPOON SOIL SAMPLE

U - UNDISTURBED SOIL SAMPLE

C - ROCK CORE SAMPLE

NOTES:

GENERAL NOTES:

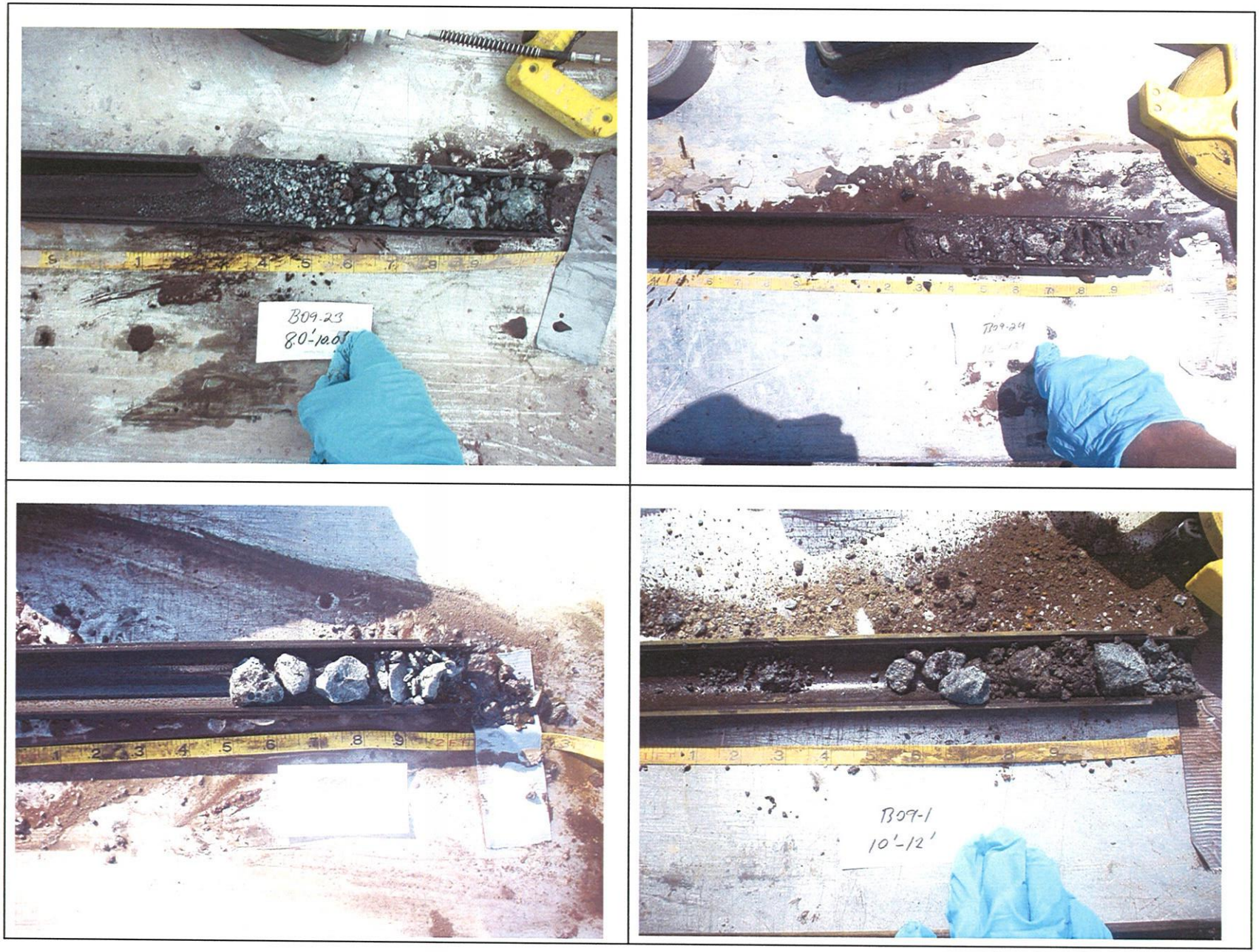
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.

2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

LABELLA
LaBella Associates, P.C.
300 State Street
Rochester, New York 14614

Appendix 3

Photographs of Blue Slag



Solid Waste Control Plan
Proposed Marina
Port of Rochester,Rochester, New York 14606

LABELLA

LABELLA
LaBella Associates, P.C.
300 State Street
Rochester, New York 14614

Appendix 4

Example of Material Tracking Spreadsheet

PORT OF ROCHESTER ENVIRONMENTAL MANAGEMENT PLAN
WASTE STREAM TRACKING FORM

	DATE	TRUCKING COMPANY	TRUCK I.D.	TRUCK LISCENSE PLATE NO.	MANIFEST NO.	TYPE OF WASTE STREAM	WASTE DISPOSAL LOCATION	TIME TRUCK OFF-SITE	LANDFILL TICKET NO.
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									

SHEET ____ OF ____

LABELLA
LaBella Associates, P.C.
300 State Street
Rochester, New York 14614

Appendix 5

Example of Health & Safety Plan

LABELLA Associates, P.C.

Engineering
Architecture
Environmental

Port of Rochester
Site Health and Safety Plan

Location:

Port of Rochester
Rochester, New York 14612

Prepared For:

City of Rochester Division of Environmental Quality
30 Church Street
Room 300B
Rochester, New York 14614

LaBella Project No. 209447.01

June 2010

Port of Rochester
Site Health and Safety Plan

Location:

Port of Rochester
Rochester, New York 14612

Prepared For:

City of Rochester Division of Environmental Quality
30 Church Street
Room 300B
Rochester, New York 14614

LaBella Project No. 209447.01

June 2010

LaBella Associates, P.C.
300 State Street
Rochester, New York 14614

Table of Contents

SITE HEALTH AND SAFETY PLAN

Project Title:	Port of Rochester
Project Number:	205182
Project Location (Site):	Port of Rochester, Rochester, New York 14608
Project Manager:	Gregory R. Senecal, CHMM
Plan Approval Date:	_____
Plan Review Date:	_____
Site Safety Supervisor:	Michael Pelychaty
Site Contact	Michael Pelychaty
LaBella Safety Director	Richard Rote, CIH
Proposed Date(s) of Field Activities:	To Be Determined
Site Conditions:	Level to moderately sloping, encompassing approximately 5 +/- acres
Site Environmental Information Provided By:	Prior Environmental Reports by H&A of New York, Day Environmental, LaBella Associates, P.C., etc.
Air Monitoring Provided By:	LaBella Associates
Site Control Provided By:	To Be Determined

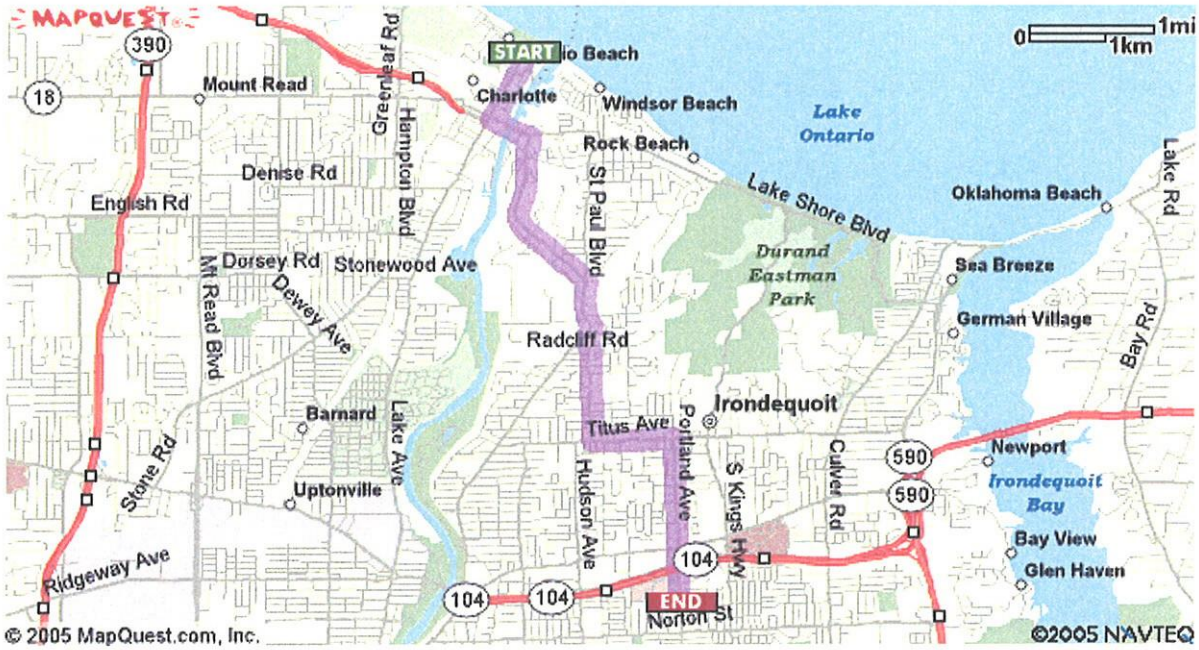
EMERGENCY CONTACTS

	Name	Phone Number
Ambulance:	As Per Emergency Service	911
Hospital Emergency:	Rochester General Hospital	585-922-4000
Poison Control Center:	Finger Lakes Poison Control	585-275-3232
Police (local, state):	City of Rochester Police Department	911
Fire Department:	City of Rochester Fire Department	911
Site Contact:	Michael Pelychaty	585-451-6225
Agency Contact	NYSDEC – To Be Determined MCDOH – To Be Determined NYSDOH – To Be Determined	
Project Manager	Gregory R. Senecal, CHMM LaBella Associates, P.C.	Direct: 585-295-6243 Cell: 585-752-6480
Safety Supervisor	Michael Pelychaty LaBella Associates, P.C.	Direct: 585-295-6253
LaBella Associates Safety Director	Richard Rote, CIH LaBella Associates, P.C.	Direct: 585-295-6241

MAP AND DIRECTIONS TO THE MEDICAL FACILITY
ROCHESTER GENERAL HOSPITAL

Directions

1:	Start out going NORTHWEST on CORRIGAN ST toward LAKE AVE.
2:	Turn LEFT onto LAKE AVE.
3:	Turn LEFT onto STUTSON ST.
4:	STUTSON ST becomes PATTONWOOD DR/CR-99.
5:	Turn RIGHT onto POW MIA MEMORIAL AVE/THOMAS AVE/CR-124.
6:	Turn RIGHT onto ST PAUL BLVD/CR-122.
7:	Stay STRAIGHT to go onto COOPER RD/CR-116.
8:	Turn LEFT onto TITUS AVE/CR-91.
9:	Turn RIGHT onto PORTLAND AVE/CR-114.
10:	End at Rochester General Hospital, **1425 Portland Ave** Rochester, NY 14621-3001



LABELLA

1.0 INTRODUCTION

The purpose of this Health and Safety Plan (HASP) it to provide guidelines for responding to potential health and safety issues that may be encountered during the earthwork construction at the port of Rochester. The requirements of this HASP are applicable to all LaBella Associates personnel and their authorized visitors at the work site. This document's Environmental Management Plan (EMP), and the Community Air Monitoring Plan (CAMP), are to be consulted for guidance in preventing and quickly abating any threat to human safety or the environment. The provisions of the HASP do not replace or supersede any regulatory requirements of the USEPA, NYSDEC, OSHA or and other regulatory body.

2.0 RESPONSIBILITIES

The HASP presents guidelines to minimize the risk of injury, to project personnel, and to provide rapid response in the event of injury. The LaBella Associates HASP is applicable only to activities of LaBella personnel and their authorized visitors. The LaBella Associates Project Manager shall implement the provisions of this HASP for the duration of the project. It is the responsibility of employees to follow the requirements of this HASP, and all applicable company safety procedures.

3.0 ACTIVITIES COVERED

The activities covered under this HASP are limited to the following:

- Observation and inspection of construction activities
- Environmental Monitoring
- Collection of samples
- Assistance with the on-Site management of excavated soil and fill.

4.0 WORK AREA ACCESS AND SITE CONTROL

The general contractor will have primary responsibility for work area access and site control.

5.0 POTENTIAL HEALTH AND SAFETY HAZARDS

This section lists some potential health and safety hazards that project personnel may encounter at the project site and some actions to be implemented by LaBella Associates personnel to control and reduce the associated risk to health and safety. This is not intended to be a complete listing of any and all potential health and safety hazards. New or different hazards may be encountered as site environmental and site work conditions change. The suggested actions to be taken under this plan are not to be substituted for good judgment on the part of project personnel. At all times the Site Safety Officer has responsibility for site safety and his or her instructions must be followed.

5.1 Hazards Due to Heavy Machinery

Potential Hazard:
Heavy machinery including trucks, excavators, backhoes, etc will be in operation at the site. The presence of such equipment presents the danger of being struck or crushed. Use caution when working near heavy machinery.

Protective Action:
Make sure that operators are aware of your activities, and heed operator's instructions and warnings. Wear bright colored clothing and walk safe distances from heavy equipment. A safety orange vest, hard hat, and steel toe shoes are required.

5.2 Excavation Hazards

Potential Hazard:
Excavations and trenches can collapse, causing injury or death. Edges of excavation can be unstable and collapse. Toxic and asphyxiant gases can accumulate in confined spaces and trenches.

Protective Action:
LaBella Associates personnel are not to enter excavations over 4 feet in depth unless excavations are adequately sloped. LaBella Associates personnel must receive approval from the LaBella Project Manager to enter an excavation for any reason. Subsequently, LaBella personnel are to receive authorization for entry from the Site Safety Officer.

LaBella Associates personnel should exercise caution near all excavations at the site as it is expected that excavation sidewalls will be unstable.

5.3 Cuts, Punctures and Other Injuries

Potential Hazard:
In any excavation or construction work site there is the potential for the presence of sharp or jagged edges on rock, metal materials, and other sharp objects. Serious cuts and punctures can result in loss of blood and infection.

Protective Action:
The LaBella Associates Project Manager is responsible for making First Aid supplies available at the work site to treat minor injuries. The First Aid supplies will be kept in the work trailer. The Site Safety Officer is responsible for arranging the transportation of authorized on-site personnel to medical facilities when First Aid treatment in not sufficient. Do not move seriously injured workers. All injuries requiring treatment are to be reported to the LaBella Project Manager. Serious injuries are to be reported immediately (see Section 9.0 - Emergency Action Plan).

5.4 Injury Due to Exposure of Chemical Hazards

Potential Hazards:
Volatile organic vapors from petroleum products, chlorinated solvents or other chemicals may be encountered during excavation activities at the project work site. Inhalation of high concentrations of organic vapors can cause headache, stupor, drowsiness, confusion and other health effects. Skin contact can cause irritation, chemical burn, or dermatitis.

Protective Action:
The presence of organic vapors may be detected by their odor and by monitoring instrumentation. LaBella Associates employees will not work in environments where hazardous concentrations of organic vapors are present. Air monitoring performed by LaBella Associates (see Section 8.0) of the work area will be performed at least every 30 minutes or more often using a Photoionization Detector (PID) or a Flame Ionization Detector (FID). LaBella Associates personnel are to leave the work area whenever PID or FID measurements of ambient air exceed 25 ppm consistently for a 15 minute period.

6.0 DECONTAMINATION PROCEDURES

Upon leaving the work area, LaBella Associates personnel shall decontaminate footwear as needed. Under normal work conditions detailed personal decontamination procedures will not be necessary. Work clothing may become contaminated in the event of an unexpected splash or spill or contact with a contaminated substance. Minor splashes on clothing and footwear can be rinsed with clean water. Heavily contaminated clothing should be removed if it cannot be rinsed with water. LaBella Associates personnel should be prepared with a change of clothing whenever on site.

LaBella will use the contractor's disposal container for disposal of PPE.

7.0 PERSONAL PROTECTIVE EQUIPMENT

Conditions requiring a level of protection greater than Level D are not expected at this work site. Typical safety equipment identified in company safety and health procedures is required, i.e., hard hat, safety glasses, orange vest, rubber nitrile sampling gloves, splash resistant coveralls, construction grade boots, etc. Additional site-specific personal protective equipment is not necessary when working under the conditions of this plan.

8.0 AIR MONITORING

The LaBella Associates representative/EPM will utilize a PID to screen the ambient air in the work areas (excavation, soil staging, and soil grading areas) for total Volatile Organic Compounds (VOCs). Work area ambient air will generally be monitored downwind of the excavation or earthwork area in the general breathing zone

Air monitoring of the work areas will be performed at least every 30 minutes or more often using a photoionization Detector (PID). LaBella Associates personnel are to leave the work area whenever PID measurements of ambient air exceed 25 ppm consistently for a 5 minute period.

LaBella personnel may re-enter the work areas wearing a ½ face respirator with organic vapor cartridges for an 8-hour duration when VOC concentrations average between 25-50 ppm. Organic vapor cartridges are to be changed after each 8-hour of use. If PID readings are sustained at levels above 50 ppm for a 5 minute average, work will be stopped immediately until safe levels of VOCs are encountered.

At all times, the Site Safety Officer has authority over actions of LaBella Associates personnel and their guests at the site and his or her requests for evacuation are to be heeded without delay. Skin and clothing should be rinsed with clean water if chemical exposure has occurred as a result of splash or spill. Contaminated clothing must be removed; LaBella personnel should bring a change of clothes to the site. Water repellant suits will be provided to help prevent contamination of clothing. Medical attention should be provided if skin irritation has occurred. Please refer to Table 1 outlining chemical compounds detected in recent soil samples at the proposed Port of Rochester.

9.0 EMERGENCY ACTION PLAN

In the event of an emergency, employees are to turn off and shut down all powered equipment and leave the work areas immediately. Employees are to walk or drive out of the Site as quickly as possible and wait at the assigned 'safe area'. Follow the instructions of the Site Safety Officer.

LaBella Associates employees are not authorized or trained to provide rescue and medical efforts. Rescue and medical efforts will be provided by local authorities.

10.0 MEDICAL SURVEILLANCE

LaBella Associates will provide medical surveillance to all LaBella employees who are injured due to overexposure from an emergency incident involving hazardous substances at this site.

11.0 EMPLOYEE TRAINING

LaBella personnel who are not familiar with this site plan will receive training on its entire content and organization before working at the Site.

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Table 1
Exposure Limits and Recognition Qualities

Compound	PEL-TWA (ppm)(b)(d)	TLV-TWA (ppm)(c)(d)	LEL (%)(e)	UEL (%)(f)	IDLH (ppm)(g)(d)	Odor	Odor Threshold (ppm)	Ionization Potential
Acetone	750	750	2.5	13	20,000	Sweet	13	9.69
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	1(1)	10	1.3	7.9	Ca	Pleasant	4.7	9.24
Benzo (a) pyrene (coal tar pitch volatiles)	0.2	0.2	NA	NA	700	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100	100	1.0	6.7	2,000	Ether	2.3	8.76
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Ideno (1,2,3-cd) pyrene		065	NA	NA	Ca	Na	Na	Na
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	10, Skin	10	0.9	5.9	250	Moth Balls	0.3	8.12
n-propylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA
p-Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	100	100	0.9	9.5	2,000	Sweet	2.1	8.82
1,2,4-Trimethylbenzene	NA	25	0.9	6.4	NA	Distinct	2.4	NA
1,3,5-Trimethylbenzene	NA	25	NA	NA	NA	Distinct	2.4	NA
Xylenes (o,m,p)	100	100			1,000	Sweet	1.1	8.56
Metals								
Arsenic	0.01	0.2	NA	NA	100, Ca	Almond		NA
Barium	0.5	0.5	NA	NA	1,100			NA
Cadmium	0.2	0.5	NA	NA				NA
Chromium	1	0.5	NA	NA				NA
Lead	0.05	0.15	NA	NA	700			NA
Mercury	0.05	0.05	NA	NA	28	Odorless		NA
Selenium	0.2	0.02	NA	NA	Unknown			NA
Silver	0.01	0.01	NA	NA				NA

(a) Skin = Skin Absorption
(b) OSHA-PEL Permissible Exposure Limit (flame weighted average, 8-hour): NIOSH Guide, June 1990
(c) ACGIH – 8 hour time weighted average from Threshold Limit Values and Biological Exposure Indices for 2003.
(d) Metal compounds in mg/m3
(e) Lower Exposure Limit (%)
(f) Upper Exposure Limit (%)
(g) Immediately Dangerous to Life or Health Level: NIOSH Guide, June 1990.

Notes:
1. All values are given in parts per million (PPM) unless otherwise indicated.
2. Ca = Possible Human Carcinogen, no IDLH information.

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Rochester, New York 14614

Appendix 6

Community Air Monitoring Plan

LABELLA Associates, P.C.

Engineering
Architecture
Environmental

Community Air Monitoring Plan for: Earthwork Construction Activities

Location:

Port of Rochester
Rochester, New York

Prepared for:

City of Rochester
Division of Environmental Quality
30 Church Street, Room 300B
Rochester, New York 14614

LaBella Project No. 209447.01

June 2010

Community Air Monitoring Plan for: Earthwork Construction Activities

Location:

Port of Rochester
Rochester, New York

Prepared for:

City of Rochester
Division of Environmental Quality
30 Church Street, Room 300B
Rochester, New York 14614

LaBella Project No. 209447.01

June 2010

LaBella Associates, P.C.
300 State Street
Rochester, New York 14614

TABLE OF CONTENTS

1.0 INTRODUCTION

This Community Air Monitoring Plan (CAMP) has been prepared by LaBella Associates on behalf of the City of Rochester Department of Environmental Quality (DEQ). This CAMP addresses potential Volatile Organic Vapor (VOC) and particulate emissions that may occur during the earthwork portion of construction activities at the Port of Rochester. The Port of Rochester encompasses approximately 26 acres in the City of Rochester, Monroe County, New York 14612 (see Figure 1) herein after referred to as the "Site."

Potential future earthwork construction activities are covered by this CAMP. Low levels of VOCs, semi-VOCs, and metals have been detected in the soil, fill, and groundwater at the Site. The volatilization of organic compounds through disturbance of soil and groundwater at the Site can potentially result in nuisance odors or health threats to the neighborhood in the immediate vicinity of the Site. Inorganic compounds, present in dust, could potentially be disturbed during earthwork construction activities. This CAMP describes daily air monitoring activities intended to identify and control environmental conditions presenting the potential for neighborhood exposure to ambient airborne hazards resulting from fugitive emissions during earthwork construction activities at the Site.

Pursuant to the New York State Department of Environmental Conservation (NYSDEC) Technical Administrative Guidance Manual (TAGM) #4031 – Fugitive Dust Suppression and particulate Monitoring Program at Inactive Hazardous Waste Sites, (HWR-89-4031), this CAMP addresses methods that will be utilized to monitor particulate (dust) levels at the perimeter of, and within the work areas (excavation, soil staging, and soil grading areas) of the Site. If elevated levels of particulate emissions are encountered, this CAMP identifies the procedures that will be employed to mitigate elevated particulate levels.

Perimeter air monitoring procedures for VOCs are also included in this CAMP. VOC monitoring of the work areas (excavation, soil staging, and soil grading areas) of the Site will also be conducted per the Health and Safety Plan (HASP).

2.0 METHODOLOGY

This CAMP has been designed for construction activities at the Port of Rochester. The CAMP pertains primarily to earthwork activities that disturb, man-made fill, soil and groundwater at the Port of Rochester. Previously completed soil investigations have indicated that petroleum soil and groundwater impairment is not significant or wide spread and located at intermittent locations. Fill containing metals is typically located throughout the Port of Rochester. No significant vapor emissions are expected. However, the following procedures will be implemented to monitor and, if necessary, mitigate the potential migration of fugitive particulate and/or VOC emissions at the Site.

2.1 Site Perimeter Monitoring

Each day of field work during the intrusive earthwork, a wind sock or flag will be used to monitor wind direction in the work areas (excavation, soil staging, and soil grading areas). Based upon daily wind conditions three temporary monitoring points, one up and two downwind of the work areas, will be identified at the perimeter of the Site or field work area.

Real time particulate monitoring will be performed utilizing aerosol monitors capable of measuring particulate concentrations of Particulate Matter 10 μm in size (PM_{10}) or less. VOC monitoring will be performed with a Photo-ionization Detector (PID) equipped with at 10.6 eV lamp. Sufficiently wet Site conditions, such as after precipitation, may temporarily eliminate the need for particulate monitoring.

Each day, prior to the commencement of the intrusive earthwork work, background concentrations of particulate and VOCs will be measured and recorded as 5 minute averages at the identified upwind and downwind locations with the typical construction equipment engines and any other gas/diesel engines operating on Site.

Afterward, measurements will be recorded at approximate 30 minute intervals. The recorded 5 minute averages will be used to determine the difference in value between upwind and downwind particulate and VOC concentrations. Work will be temporarily halted and engineering controls, as per Section 2.3 or 2.5, will be implemented if the difference between the upwind and downwind particulate measurements exceed 100 $\mu g/m^3$, or downwind VOC readings exceed upwind readings by 5 parts per million (ppm). It should be noted that downwind VOC readings will be adjusted for engine exhaust. If work is required to be temporarily halted, the Contractor will be required to implement dust suppression methods or other means to control dust and VOCs.

2.2 Work Area Monitoring

In addition to monitoring the perimeter of the work Site for VOCs and particulates, the immediate work areas (excavation, staging, and grading areas) will be monitored for VOCs as per the HASP developed for this project. Real time readings from the Work Area Perimeters will be observed and recorded as 5 minute averages at 30 minute intervals. If measurements exceed 25 ppm, as a 5 minute average, the requirements of Section 2.4 will be implemented.

2.3 Fugitive Dust Control

If the monitoring at the Site Perimeter, as described in Sections 2.1, indicates an upwind/downwind difference in fugitive particulate emissions greater than 100 $\mu g/m^3$, the contractor will be required to implement dust control measures that may include the following methods:

- Apply water on haul roads
- Wetting equipment and excavation faces
- Restricting vehicle speeds to 10 mph
- Hauling material in properly tarped containers
- Spraying water in buckets during excavation and dumping
- Reducing excavation size and/or number of excavations

The contractor will be required to have a water truck or equivalent equipment on site for dust suppressions methods.

2.4 Minor Vapor Emission Response Plan

If any single Work Area Perimeter ambient air reading of total VOCs exceeds 25 ppm in the ambient air above background, as a 5 minute average, continuous Site Perimeter air monitoring shall be conducted at the downwind monitoring location.

Work activities may continue if total organic vapors in the ambient air are less than 25 ppm over background at the Work Area Perimeter, provided that the organic vapor levels measured at the Site Perimeter remain below 5 ppm over background.

Work activities may need to be modified as per the HASP if VOC measurements remain at 25 ppm or above in the ambient air at the Work Area Perimeter. See the HASP for further details.

All work activities must be halted and the Major Vapor Emission Response Plan (Section 2.5) will be implemented immediately if organic vapor levels exceed 5 ppm in the ambient air, as a 5 minute average, over background at the Site Perimeter.

2.5 Major Vapor Emission Plan

Engineering controls to abate the VOC emissions source will immediately be put into effect if total organic vapor levels in the ambient air exceed 5 ppm above background at the Site Perimeter. These engineering controls may include:

- Vapor suppression utilizing foam vapor suppressants, polyethylene sheeting, or water
- Backfilling of excavations
- Covering emission sources with stockpiled materials

If the measures taken to abate the emission source are ineffective and the total organic vapor readings continue at 5 ppm or above background for more than 15 minutes at the Site Perimeter, then the following actions shall be placed into effect.

- Occupants of the residential and commercial buildings will be advised to stay inside their respective structure and to close all windows.
- All personnel listed in the Emergency Contacts section of the HASP for this project will be contacted.
- The Site Safety Supervisor will immediately contact the local authorities and advise them of the circumstances.
- Continuous air monitoring will be conducted at the Site Perimeter and 1 minute average measurements will be recorded every 15 minutes. Air monitoring may be halted or modified by the Site Safety Supervisor when two successive measurements are below 5 ppm.

If readings remain elevated above 5 ppm over background for a period of 60 minutes the Site Safety Officer will request that local authorities evacuate the occupants of the buildings.