LaBella Associates, P.C.

Engineering
Architecture
Environmental
Planning

Remedial Investigation Work Plan

Location:

Eldre Corporation
1500 Jefferson Road & 55 Hofstra Road
Henrietta, New York

Prepared for:

Eldre Corporation
1500 Jefferson Road
Henrietta, New York 14623

LaBella Project No. 211670

February 17, 2012

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300 State Street
Rochester, New York 14614

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1.0 INTRODUCTION

This Remedial Investigation (RI) Work Plan (Work Plan) is submitted on behalf of Eldre Corporation in conjunction with an Application for participation in the Brownfields Cleanup Program. Its purpose is to define the nature and extent of contamination at 1500 Jefferson Road and 55 Hofstra Road, Town of Henrietta, Monroe County, New York, defined in the BCP Application as the "Site." A Project Locus Map is included as Figure 1.

Information and data gathered during previous environmental investigations have identified the presence of constituents, including Trichloroethene (TCE) in groundwater and soil at the Site. Based on this information the New York State Department of Environmental Conservation (NYSDEC) was contacted to report the detection of a potential historical release and to discuss entering the site into the Brownfield Cleanup Program (BCP).

Implementation of this RI Work Plan will augment existing information and fill remaining data gaps to identify whether there are on-Site sources of the identified constituents, and, if so, to lay the foundation for evaluating whether, and to what extent, remediation is warranted. The activities outlined in this Work Plan will be completed in accordance with the NYSDEC's Department of Environmental Remediation (DER)-10 (*Technical Guidance for Site Investigation and Remediation*) issued May 3, 2010.

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Description and Surrounding Properties

The Site consists of four contiguous parcels totaling approximately 6.72 acres as described in the table below and as shown on Figure 2:

Parcel Address (collectively the "Site")	Parcel No.	Section No.	Block No.	Lot No.	Acreage
1500 Jefferson Road, Henrietta, NY 14623	27.11	162.08	1	27.11	1.82
1500 Jefferson Road, Henrietta, NY 14623	27.12	162.08	1	27.12	0.14
1500 Jefferson Road, Henrietta, NY 14623	27.21	162.08	1	27.21	1.46
55 Hofstra Road, Henrietta, NY 14623	24	162.08	1	24	3.30

The 1500 Jefferson Road parcels are improved with a 97,250 +/- square (sq) feet (ft) split level building utilized for industrial purposes with offices in the southern portion of the building on the first floor and with manufacturing areas beneath in the basement. The current building consists of four separate additions. The building has a concrete slab on-grade foundation with the exception of the southern portion of the building, which has a basement underneath the offices. Asphalt paved parking lots and driveways are located north, south and east of the building. There is limited vegetative cover on the 1500 Jefferson Road parcels, which includes a small lawn area on the southwestern portion of the parcel with some minor landscaped areas on the southern portion by Jefferson Road.

The 55 Hofstra Road parcel is improved with 6,860 +/- sq ft of building space and an asphalt-paved parking lot and driveways surround the building. There are some limited vegetated drainage swales on the southwestern portion of the parcel and along the western and northern property lines. In addition, there is approximately 0.6 acres of vegetative area on the eastern portion of the 55 Hofstra Parcel.

The Site is currently zoned for commercial (55 Hofstra Parcel) and industrial uses (1500 Jefferson Parcels) and is located in an urban neighborhood.

All of the properties immediately adjacent to the Site are industrial and commercial. The closest residential zoned property is approximately 0.3 miles to the east. The nearest agricultural use is approximately 1.25 miles north of the Site. The parcels comprising the Site are owned by Eldre Corporation, a company that specializes in manufacturing electronic components especially for the electronic equipment industry. The Site produces bus bars, which require a sheet metal fabrication operation that involves the use of chemicals during the plating process.

The Site is bordered by the following properties.

Direction From Site	Owner	Address	Property Usage
North	3131 Winton Road Assoc., LLC	3131 Winton Road	Wegmans Distribution Center
Northeast	Harris Communications	100 Hofstra Road	Undeveloped Land
South	1555 Jefferson Road, LLC	1555 Jefferson Road	Manufacturing
Southwest	Sugar Creek Stores, Inc.	1477 Jefferson Road	Retail Gasoline Station
East	Plaza at Win-Jef, LLC	1-37 Hofstra Road	Retail Plaza
East	Bowl A Roll, Inc.	1560 Jefferson Road	Bowling Alley, Commercial Retail
East	Atlantic Refining & Marketing Corp	1540 Jefferson Road	Retail Gasoline Station
East	1530 Jefferson Road, LLC	1530 Jefferson Road	NYSDOT Regional Headquarters
West	Harris Corporation (Formerly Xerox)	1400 Jefferson Road	Industrial

2.2 Site History

Based upon review of previous environmental documents, the Site was utilized as farmland to the 1950s when the Site was first developed by Fannon Metal Industries. According to historical records, the property appears to be shared with P&F Metal and Finishing during the late 1960s. There appears to be no readily available historical information regarding whether the former occupants of Site used hazardous chemicals or generated hazardous waste. Review of an aerial photograph of the Site dated 1970 identifies an apparent retention pond in the northwestern portion of the 1500 Jefferson Road Parcel with a potential drainage feature from the building to the pond area. These features also are present in aerial photographs dated 1961 and 1976. Eldre has occupied the Site from approximately 1974 to the present.

3.0 PREVIOUS ENVIRONMENTAL REPORTS

The following previous environmental reports exist relating to the Site and were relied upon for the development of this RI Work Plan:

- *Phase II Environmental Site Assessment, 55 Hofstra Road, Rochester, New York,* prepared by LaBella Associates, P.C. dated July 1998
- *Tank Closure, Disposal, & Closure Request Report, NYSDEC Spill #9705148, Genesee Truck Rental, 55 Hofstra Road, Rochester, New York 14623,* prepared by SAW Environmental Services, Inc. dated October 19, 1999
- *Phase II Environmental Site Assessment: Remedial Actions, 55 Hofstra Road, Rochester, New York,* prepared by LaBella Associates, P.C. dated December 1999
- *Phase I Environmental Site Assessment, 1500 Jefferson Road, Henrietta, New York 14623,* prepared by LaBella Associates, P.C. dated February 2000
- *Phase I Environmental Site Assessment, 55 Hofstra Road, Henrietta, New York 14623,* prepared by LaBella Associates, P.C. dated February 2000
- *Phase I Environmental Site Assessment, Eldre Corporation, Rochester, New York* prepared by Groundwater Sciences Corporation dated August 17, 2011
- *Summary Letter, 1500 Jefferson Road, Eldre Corporation, NYSDEC Spill #1109392,* prepared by LaBella Associates, P.C. dated November 29, 2011

The previous environmental reports prepared for the Site were submitted with the BCP Application and pertinent information from these reports is summarized below.

3.1 Phase II Environmental Site Assessment, 55 Hofstra Road, Rochester, New York, prepared by LaBella Associates, P.C. dated July 1998

This investigation was limited to the 55 Hofstra Road parcel as part of environmental due diligence activities during the purchase by Eldre Corporation from the owner at that time (Genesee Truck Rental). The Phase II ESA was conducted to evaluate subsurface soil and groundwater conditions at the 55 Hofstra Road parcel. The Phase II ESA consisted of conducting a geophysical survey, advancing ten (10) soil borings, installing five (5) groundwater monitoring wells and collecting soil and groundwater samples.

As part of the Phase II ESA, an EM-61 geophysical survey was conducted to identify the potential presence and location of unknown USTs at the site. The results of the survey did not identify suspect USTs. The geophysical survey was generally limited to areas within approximately 50 ft of the building at the site.

Subsequent to the completion of the geophysical survey, LaBella completed five groundwater monitoring wells and 10 soil borings at the site in the area of active USTs and pump islands, AST, oil/water separator (OWS), grease pit, sediment trap, and trench floor drain. The testing locations are shown on Figure 3. It should be noted that these features were active at the time of the investigation in 1998 but have been removed (USTs, pump islands, and AST) or are no longer actively used (grease pit (filled in), sediment trap, and trench drain). Additional details on remedial work and other investigations are below.

The results of the Phase II ESA indicated that petroleum impaired soil and groundwater was present at low levels at several locations at the Site. Petroleum related compounds were identified in groundwater samples from MW-2 and MW-4 in excess of NYSDEC groundwater quality standards. Monitoring well MW-2 was located to the east of the pump island area. Monitoring well MW-4 was located south of the building and not in proximity to an apparent source of petroleum impacts; however, MW-4 was in proximity to a former outside truck washing area, which was anticipated to be the source of the impacts (surface infiltration into the monitoring well and not a subsurface issue). Additional testing relating to MW-4 was completed in another investigation also summarized below.

Soil samples from beneath the floor of the building in the vicinity of the drain system and former grease pit indicated staining and petroleum odors in the subsurface soil at several locations in a relatively narrow band approximately 6 -12 inches thick and approximately four feet below the surface of the floor. Samples from deeper levels did not exhibit extensive impairment but petroleum products were present at lower concentrations in these samples. NYSDEC Spill Technology and Remediation Series (STARS) guidance values were not exceeded for any of the samples. The finding of the presence of used oil was attributed to the drain system, the fill lines for the former waste oil UST, or the filled in grease pit.

3.2 Tank Closure, Disposal, & Closure Request Report, NYSDEC Spill #9705148, Genesee Truck Rental, 55 Hofstra Road, Rochester, New York 14623, prepared by SAW Environmental Services, Inc. dated October 19, 1999

Based on the LaBella Phase II ESA, remedial activities were completed to address the findings. This report overlaps with the report in Section 3.3. This report was completed by the consultant representing the owner at the time (Genesee Truck Rental) and the next report was completed on behalf of the buyer (Eldre Corporation). As such, the USTs are the same as those discussed in Section 3.3.

Genesee Truck Rental retained Soil Air and Water Environmental Services (SAW) to complete the removal of two underground storage tanks (USTs) that are 10,000-gallon (gasoline) and 12,000-gallon (diesel) in size from the site. During the removal work, approximately 544.33 tons of affected soil from the former waste oil UST and pump island areas was excavated and transported for disposal to High Acres Landfill located in Perinton, New York. Twelve (12) confirmatory soil samples were collected from the base and sidewalls of the remedial excavations. The approximate extent of each remedial excavation and the location of the confirmatory soil samples are shown on Figure 3.

The confirmatory soil sample results are summarized in Tables included in Appendix 1. As shown, the confirmatory soil samples indicated VOCs were generally below the laboratory detection limit, except for the south and west sidewall samples of the waste oil tank area that contained concentrations of VOCs slightly above the NYSDEC STARS cleanup criteria. It should be noted that when these values are compared to the current NYSDEC Part 375-6 Soil Cleanup Objectives (SCOs), the compounds detected are all below the Unrestricted Use criteria with the exception of the south sidewall sample from the waste oil excavation; however, the detected concentrations are below the restricted Commercial Use SCOs. The LaBella report included in Section 3.3 provides additional detail regarding this tank closure and additional remedial activities completed.

3.3 Phase II Environmental Site Assessment: Remedial Actions, 55 Hofstra Road, Rochester, New York, prepared by LaBella Associates, P.C. dated December 1999

This Phase II ESA Remedial Action Report summarizes remedial activities associated with conditions identified and summarized in LaBella's Phase II ESA Report dated July 1998 (see above summary). The objective of this project was to address the following Issues;

- Closure of remaining Underground Storage Tanks
- Address residuals from Former Waste Oil Tank (NYSDEC Spill #9705148)
- Address shallow soils at the Pump Island
- Address conditions under building floor slab (NYSDEC Spill #9870026)
- Address shallow groundwater (NYSDEC Spill #9870026)
- Address miscellaneous spoil piles

The results of the remedial work are summarized below and the locations of the remedial work are shown on Figure 3.

<u>NYSDEC Spill #9705148</u>

Closure of Remaining Underground Storage Tanks
An approximate total of 30 tons of petroleum-impaired soil, 600 gallons of oil and water, one 10,000 gallon steel gasoline UST and one 12,000-gallon steel diesel UST and their associated piping were excavated from the Site. The soil was transported to High Acres Landfill for disposal. The area of soil removal and the former USTs are shown on Figure 3.

Five (5) confirmatory soil samples were collected from the remedial excavation and the corresponding analytical data, indicated that no residual petroleum hydrocarbon related NYSDEC STARS compounds were present in the soils from the bottom and sidewalls of the excavation at levels above the laboratory method detection limits. The locations of the confirmatory soil samples from this work are shown on Figure 3.

LaBella concluded the removal of the underground storage tank at the Site, the over excavation of impaired soils, and the bottom and sidewall closure sampling and analysis, eliminate environmental concerns regarding the impact of soils at the Site from the presence of these underground storage tanks at the site.

Former Waste Oil Tank Excavation and Sampling
An approximate total of 100 tons of petroleum-impaired soil were excavated from the location of a former waste oil tank. Contaminated soil removed from this area is also discussed in SAW Environmental's October 19, 1999 report. The soil was transported to and disposed of at High Acres Landfill. The approximate extent of the remedial excavation is shown Figure 3.

Four (4) confirmatory soil samples were collected from the excavation area and the corresponding analytical data, indicated that residual petroleum hydrocarbon related NYSDEC STARS compounds were present in the soils from the west and south sidewalls of the excavation at levels above the NYSDEC STARS Guidance Values. However, submission of the two soil samples with elevated levels of STARS compounds for re-analysis after a Toxicity Characteristic

Leachate Procedure (TCLP) extraction resulted in constituent values above the NYSDEC STARS Guidance Values in only the soil sample collected from the south sidewall. Analytical results for the soil sample submitted from the west sidewall had constituent levels (based on TCLP analysis) below the NYSDEC STARS Guidance Values. As noted in the SAW report above, when these values are compared to the current NYSDEC Part 375-6 Soil Cleanup Objectives (SCOs), the compounds detected are all below the Unrestricted Use criteria with the exception of the south sidewall sample from the waste oil excavation; however, the detected concentrations are below the restricted Commercial Use SCOs.

Pump Island Excavation
An approximate total of 430 tons of petroleum-impaired soil were excavated from the site at the location of the former pump island and transported to High Acres Landfill for disposal. The approximate limits of the pump island excavation is shown on Figure 3.

Three (3) confirmatory soil samples were collected from the bottom of the pump island excavation. The approximate locations of the confirmatory soil samples are shown on Figure 3. The corresponding analytical data, indicated that no residual petroleum hydrocarbon related STARS compounds were present in the soils from the bottom and sidewalls of the excavation at levels above the laboratory method detection limits.

The analytical results were submitted to the NYSDEC for review and the NYSDEC issued a "no further action" letter for NYSDEC Spill # 9705148. A copy of the NYSDEC Spill #9705148 no further action letter is included in Appendix 1.

<u>NYSDEC Spill #9870026</u>

Subsurface Condition Under Building Floor Slab
LaBella's previous Phase II ESA included the collection of soil samples from beneath the floor of the building in the vicinity of the drain system and former grease pit indicate that petroleum products were present in the subsurface soil at several locations. The affected soil at these locations was most extensive in a relatively narrow band approximately 6 -12 inches thick approximately four ft below the surface of the floor. Staining and petroleum odor were present in soil samples from this level. Samples from deeper levels did not exhibit extensive impairment but petroleum products were present at lower concentrations in these samples. NYSDEC STARS guidance values were not exceeded for any of the samples.

The owner's representative, SAW Environmental, presented the information from the Investigation completed by LaBella in 1998 to the NYSDEC for review. The NYSDEC required additional sampling to determine if the soils exhibited any of the nuisance characteristics as outlined in the NYSDEC STARS Memo #1. The NYSDEC requested that the soils (from under the structure) be resampled and have a full gas chromatograph scan, with qualification of the top ten tentatively identified compounds (TICs).

SAW Environmental subsequently conducted an additional soil boring and soil sampling investigation. Three soil samples were collected and submitted for analysis from under the floor slab. The analytical results indicated that residual petroleum hydrocarbon related STARS compounds (Semi-VOCs) were present in the soils at levels below the NYSDEC STARS

Guidance Values. The analytical results also indicate that no individual constituent (TIC) exceeded the 10,000 ppb nuisance characteristic as described in the NYSDEC STARS Memo #1.

Shallow Groundwater
Based on the information gathered during Labella's previous Phase II ESA in 1998, it appears that petroleum-impaired groundwater was present at low levels at MW-2 and MW-4.

Monitoring well MW-2 is in relatively close proximity to the UST removal areas and pump island removal area and based on the extensive soil and groundwater removal work to eliminate the source area and residual impacts this well was not sampled again. [*Note: This well is also in proximity to SB-17 and MW-8 installed as part of the 2011 GSC testing and constituents of concern were not encountered in these locations, refer to Section 3.7 below.*]

The compounds detected in MW-4 are gasoline related constituents. The location of well MW-4 was not near the UST's or the fueling operation but was in proximity to an outside truck washing area and the gasoline impacts to the sample from this well were suspected to be related to this activity.

The owner's representative, SAW Environmental, presented the information (regarding MW-4) from the Phase II ESA completed by LaBella in 1998 to the NYSDEC for review. The NYSDEC indicated that resampling of the well should be conducted. SAW attempted to resample MW-4, however the well's protective cover had been destroyed during activities at the Site. SAW installed a new groundwater monitoring well adjacent to MW-4 and purged and sampled the new well on July 15, 1999. The analytical results from the groundwater sample collected from the replacement well for MW-4 indicated that no petroleum hydrocarbon related STARS list VOCs were present in the groundwater at this location above the reported laboratory detection limits.

The results of the additional testing completed in relation to the soils beneath the building and the additional groundwater data from the MW-4 replacement well were submitted to the NYSDEC for review. Based on the additional testing completed, the NYSDEC issued a "no further action" letter for Spill #9870026. A copy of the NYSDEC Spill #9870026 no further action letter is included in Appendix 1.

<u>Miscellaneous Spoil Piles</u>
Although not required by NYSDEC, a test pitting investigation was conducted in regards to several miscellaneous spoil piles present in the undeveloped section of the 55 Hofstra Road parcel portion of the site.

On November 12, 1999, LaBella Associates utilized an Eldre contractor to complete the investigation of the spoil piles present at the Site. The investigation consisted of the excavating through the spoil piles and terminating the test pit once native/undisturbed overburden soils were encountered under the spoil piles.

Each of the spoil piles consisted of a mixture of topsoil, sand, blacktop and concrete. The location of the former soil piles is shown on Figure 3.

Composite soil samples were collected from each of the four spoil piles and submitted for laboratory analysis of STARS list VOCs and STARS list SVOCs. The analytical results from the VOC's indicated that no petroleum related VOC's were detected above the reported laboratory detection limits in the samples from the spoil piles.

Soil sample results from the analysis for SVOC's are detailed in the Table below.

Parameter	**Spoil Pile #1 (ug/Kg)**	**Spoil Pile #2 (ug/Kg)**	**Spoils Pile #3 (ug/Kg)**	**Spoil Pile #4 (ug/Kg)**	**NYSDEC STARS Guidance Values (ug/Kg)**	**NYSDEC Part 375-6.8(a) Unrestricted Use Soil Cleanup Objectives (ug/Kg)**
Naphthalene	ND<343	ND<358	ND<365	ND<367	200	12,000
Acenaphthene	ND<343	ND<358	ND<365	ND<367	400	12,000
Fluorene	ND<343	ND<358	ND<365	ND<367	1,000	30,000
Fluoranthene	*1,180*	ND<358	ND<365	*1,260*	1,000	100,000
Anthracene	ND<343	ND<358	ND<365	ND<367	1,000	100,000
Phenanthrene	541	ND<358	ND<365	579	1,000	100,000
Benz (a) anthracene	*487*	ND<358	ND<365	*521*	0.04	1,000
Chrysene	*817*	ND<358	ND<365	*660*	0.04	1,000
Pyrene	*1,110*	ND<358	ND<365	*1,190*	1,000	100,000
Benzo (b) fluoranthene	*489*	ND<358	ND<365	*523*	0.04	1,000
Benzo (k) fluoranthene	*365*	ND<358	ND<365	*390*	0.04	800
Benzo (g,h,i) perylene	ND<343	ND<358	ND<365	ND<367	0.04	100,000
Benzo (a) pyrene	*357*	ND<358	ND<365	*382*	0.04	1,000
Dibenz (a,h) anthracene	ND<343	ND<358	ND<365	ND<367	1,000	330
Indeno (1,2,3-cd) pyrene	ND<343	ND<358	ND<365	ND<367	0.04	500

Italics denotes constituents above NYSDEC STARS Guidance Values
ND denotes not detected above laboratory detection limits
ug/kg denotes micrograms per Kilogram

The analytical results from the STARS list SVOC indicate that petroleum related SVOCs were detected in the samples from Spoil Piles #1 and #4 and although concentrations from these samples were identified above the NYSDEC STARS Guidance Values (which were relevant criteria at the time), these values are all below the current NYSDEC Part 375-6 Unrestricted Use SCOs.

Additionally, LaBella Associates contacted Mr. Bruce Hoogesteger, Paradigm Environmental Services, to request that the chromatograph generated from the 8270 scan be reviewed to assess the potential origin of the impairment. Based on Mr. Hoogesteger's review of the associated data, it was determined that the elevated levels as indicated by the scan appear to be generated from heavier weight PNA's (i.e.; breakdown of asphalt products). This conclusion is consistent with the field conditions noted at the time of the investigation.

LaBella concluded that based on the analytical data from the soil samples collected from the spoil piles and the opinion to Mr. Hoogesteger regarding the origins of the elevated constituents there does not appear to be an environmental concern regarding the presence of the spoil piles at the site.

3.4 Phase I Environmental Site Assessment, 1500 Jefferson Road, Henrietta, New York 14623, prepared by LaBella Associates, P.C. dated February 2000

The Phase I Environmental Site Assessment (ESA) identified the following Recognized Environmental Conditions (RECs) in connection with the:

- As suspect wastewater retention pond/fill area was located along the northern portion of the 1500 Jefferson Road portion of the Site. This suspect wastewater retention pond/fill area was observed in aerial photographs dated 1961, 1970, and 1976.

Although not listed as a REC, the Phase I ESA indicated that a previous release was reported to the NYSDEC regarding a 275-gallon AST used for storing TCE. It was indicated that in 1985 a truck line ruptured as it was filling the AST that resulted in a spill onto the asphalt-paved surface. The TCE that was spilled was reportedly cleaned up with absorbents.

3.5 Phase I Environmental Site Assessment, 55 Hofstra Road, Henrietta, New York 14623, prepared by LaBella Associates, P.C. dated February 2000

The Phase I ESA completed by LaBella did not identify RECs associated with the site. The Phase I ESA report did discuss remedial activities previously conducted at the site as noted above.

3.6 Phase I Environmental Site Assessment, *Eldre Corporation, Rochester, New York* prepared by Groundwater Sciences Corporation dated August 17, 2011

The GSC Phase I ESA identified the following RECs associated with the Site:

1. *"A release of trichloroethene (TCE) that occurred in 1985 during the filling of a tank is an REC. The presence of a TCE vapor degreaser, a historical TCE storage tank that was installed in 1974, and the on-site usage of TCE for at least 37 years make it difficult to rule out the potential for historical spills.*

2. *The historical presence of underground storage tanks (USTs) containing petroleum at the former Genesee Truck facility (one of the parcels comprising the Property), together with reported tank system failures at the facility were noted as RECs in a December 1999 Phase II ESA Remedial Actions Report. The USTs consisted of a 1,000-gallon waste oil UST that was removed in July 1997, and a 10,000-gallon unleaded gasoline UST and 12,000-gallon diesel UST that were removed in September 1999. Several hundred tons of petroleum-impacted soil was removed from the tank excavations and groundwater quality standards were exceeded in two of five monitoring wells. Although the tanks were removed and "no further action" (NFA) letters were obtained from the New York State Department of Environmental Conservation (NYSDEC), the historical impacts to soil and groundwater are a recognized environmental condition that may warrant further confirmatory sampling.*

3. *A possible fill or solid waste disposal area north of the Eldre manufacturing building was identified on aerial photographs by the Monroe County Environmental Management Council. This condition was noted in a February 2000 Phase I ESA for the Eldre facility and was also noted on aerial photographs reviewed for this ESA. The 2000 Phase I ESA identified this*

suspected fill area as a recognized environmental condition and recommended using test pits and/or soil borings should the owner wish to investigate this area further."

In compiling the BCP Application and RI Work Plan, several items identified in the Phase I ESA completed in August 2011 by GSC were further evaluated and/or updated. A list of these items is below:

1. The property is currently owned by Eldre Corporation. COMIDA transferred title of the property in late 2011. This is indicated in Item 6 of this BCP Application Supplement (Pg 11 & 12). A copy of the Title indicating this information can be provided upon request.
2. The 1500 Jefferson Road parcel was not purchased by Jack Eldre in 1957, rather,, the purchase by Jack Eldre was in 1974. A copy of the Title indicating this information can be provided upon request.
3. The Phase I ESA indicates that there were 'undocumented tank closures' (which is also referenced in previous LaBella Reports) for the 55 Hofstra Property; however, tank closure information and remedial efforts relating to former tanks are documented in the LaBella information SAW Environmental October 19, 1999 Tank Closure, Disposal, & Closure Request Report (identified above and attached) and the LaBella December 1999 Phase II Environmental Site Assessment: Remedial Actions Report(identified above and attached).
4. The 2003 Hydrogen Cyanide 'Spill' was discussed with Eldre Corporation and actually related to an improper mixing of two chemicals in a mixing tank. The mixture caused a reaction which released a gas and caused an evacuation. The issue was reported out of an abundance of caution; however, there was no release to soil or groundwater as the materials were contained in a mixing tank.
5. The possible fill or solid waste area identified in the Phase I ESA includes the apparent pond area (refer to Item 4 below in this BCP Application Supplement). In addition, the subsequent subsurface investigations at the Site did not identify suspect solid waste filling in borings completed in this area; however, chlorinated solvents were identified (refer to LaBella Summary Letter dated November 29, 2011 identified below and attached).

3.7 Summary Letter, 1500 Jefferson Road, Eldre Corporation, NYSDEC Spill #1109392, prepared by LaBella Associates, P.C. dated November 29, 2011

LaBella's letter summarized subsurface soil and groundwater data that was recently obtained as a result of a third party confidential investigation of the property.

The following summarizes the testing completed at the Site by GSC on behalf of the third party in 2011. Refer to Figure 4 for investigative locations.

- A total of twenty-two (22) soil Geoprobe borings were advanced at the Site using a direct-push Geoprobe unit. In addition, ten (10) soil borings were also advanced using split spoons and a hollow stem auger rig and these were converted to 2-inch groundwater monitoring wells.
- Thirty (30) soil samples were submitted for Target Compound List (TCL) Volatile Organic Compounds (VOCs) using United States Environmental Protection Agency (USEPA) Method 8260. Of these samples, sixteen (16) detected VOCs above the reported laboratory detection

limits; however, only six (6) detected concentrations above the NYSDEC Part 375-6 Unrestricted Use Soil Cleanup Objectives (SCOs). It should be noted that five of the six exceedances of the Part 375-6 Unrestricted Use SCOs were due to acetone, which is a known laboratory contaminant. One sample (MW-3 (15'-17')) detected cis-1,2-dichloroethene (cis-1,2-DCE) above the Part 375-6 Unrestricted Use SCO; however, the concentration is below the Part 375-6 Restricted Industrial Use SCO (the 1500 Jefferson Road property's current use, and its zoning, are industrial).

- Five (5) soil samples were analyzed for TCL list Semi-Volatile Organic Compounds (SVOCs) using USEPA Method 8270 and four (4) samples detected SVOCs above the reported laboratory detection limits; however, only one sample (SB-22 (0-2')) detected SVOCs at concentrations above the Part 375-6 Unrestricted Use SCOs.
- Five (5) soil samples were analyzed for Resource Conservation and Recovery Act (RCRA) Metals using USEPA Methods 6010 and 7471 and all five (5) samples detected RCRA Metals above the reported laboratory detection limits; however, only one sample (SB-2 (12' – 14')) detected one metal (arsenic) at a concentration above its Part 375-6 Unrestricted Use SCOs. Site-specific background level for arsenic have not been established.
- Five (5) soil samples were analyzed for Polychlorinated Biphenyls (PCBs) using USEPA Method 8082 and none of the samples detected PCBs above the reported laboratory detection limits.
- Five (5) groundwater grab samples were collected from the soil borings advanced via the Geoprobe unit and each sample detected one or more VOCs above the reported laboratory detection limit. In addition, three of these samples detected one or more VOCs above the NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Groundwater Standards or Guidance Values (TOGS 1.1.1).
- Ten (10) groundwater samples were collected from the 2-inch groundwater monitoring wells installed via hollow stem auger rig after well development. Each of the groundwater samples was analyzed for TCL VOCs using USEPA Method 8260. Six of the ten samples detected VOCs above the reported laboratory detection limits. Of the samples with detections, three were due to methyl-tert-butyl-ether (MTBE) and the other three were due to chlorinated VOCs (trichloroethylene (TCE) and its breakdown compounds). It should be noted that the sample with the highest concentration of chlorinated VOCs (880 parts per billion of TCE in MW-3) was from a well installed in proximity to the sanitary sewer bed that transects the property.

A summary of the laboratory testing results is provided on data summary tables included as Appendix 2. Based on the above findings, NYSDEC was contacted and thus Spill #1109392 was opened.

4.0 SUMMARY OF GEOLOGIC AND HYDROGEOLOGIC CONDITIONS

Information on the geologic and hydrogeologic conditions presented herein are based on the previous environmental investigations, which include soil borings and groundwater monitoring wells. The previous work has generally been limited to approximately 20-ft. +/- below the ground surface and limited to the overburden soil. Site-specific information on depth to bedrock has not been generated to date.

Beneath the pavement layer, there is a layer of sand and gravel fill material that varies from about 1-ft. thick to up to 4-ft. depending on location. Underlying the fill materials, the apparent native soil consists generally of silt with fine-grained sand and lesser amounts of clay and little to trace gravel. It should be noted that, numerous boring observed a layer of sand with lesser amount of silt and gravel at depths between 15 and 20-ft and one boring also noted a sand layer between 8 and 12-ft. In addition, several borings noted a clay layer between 5 and 6-ft. in depth.

The 2011 GSC investigation included installation of ten (10) overburden groundwater monitoring wells and these wells indicated groundwater ranging between approximately 1.5 to 8 ft bgs and that appears to generally flow to the north-northwest. A summary of the groundwater elevation data collected by GSC is included in Appendix 2. One feature of note for groundwater flow is there are two sanitary sewer lines that transect the Site (refer to Figure 4) and may impact groundwater flow. Based on available mapping, the invert elevations on the sewer piping would appear to be at elevation 490'+/-, whereas groundwater elevations ranged between elevations 503' to 496'+/-. As such, the sanitary sewer piping and more likely the bedding around the piping may influence groundwater flow at the Site. Copies of pertinent mapping reviewed are included as Appendix 3.

5.0 OBJECTIVES, SCOPE, AND RATIONALE

The objective of this Work Plan is to determine the nature and extent of contamination at the site. In addition, the BCP general requirements (e.g., "full suite" testing, surface soil sampling, quality assurance/quality control (QA/QC), etc.) will also be fulfilled. Specific Areas of Concern (AOCs) based on the current information for the Site are summarized below.

Potential Areas of Concern

The testing completed to date has indicated that chlorinated VOCs in soil and groundwater are in excess of NYSDEC standards and the source is currently unknown. However, below is a list of potential sources based on historical information available for the Site and surrounding properties.

- Previous Owners/Operators – The Site was formerly owned and operated by Fannon Metal Industries and based on street directories also occupied by P&F Metal and Finishing in 1968. Although details on these operations are unknown, historical metal working operations frequently used chlorinated solvents. In addition, a pond in proximity to monitoring well MW-3 is evident on aerial photographs from 1970 at the time the property was owned by Fannon Metal Industries (the pond no longer exists). Figure 5 illustrates the location of the former pond.
- Current Operations – Eldre utilizes TCE in a degreaser unit (refer to Figure 5 for location) which is positioned in the eastern portion of the building. This degreaser was historically located

slightly south and west of its current location; however, the former location was on the upper floor of the building (i.e., a lower level was below the degreaser and as such any releases would be apparent and not impact the subsurface directly). The degreaser is fully enclosed and there is no known subsurface piping associated with the degreaser. Additionally the degreaser is currently set within a secondary containment with a sump that is lined by epoxy.

The TCE utilized by Eldre is stored above grade within the building in sealed 55-gallon drums and only the necessary amount for operations is stored. An aboveground tank in the building was used historically. Hazardous waste storage is currently by the loading dock on the northern side of the building in a designated area with secondary containment and is locked. The spent solvent is removed and disposed of by Solvents and Petroleum Services in Syracuse, New York. Previously, the hazardous waste storage was also in sealed 55-gallon drums on the inside of the building in proximity to the degreaser at that time.

There has been one known historic spill of TCE at the Site. A hose from the vendor's delivery truck to a former above-ground storage tank in the interior of the building ruptured in 1985 and released a small amount of TCE to the pavement in the driveway on the east side of the building (refer to Figure 5). This was immediately reported to NYSDEC (Spill #8500533), immediately cleaned up with absorbents, and the spill was closed in 1986. No sampling was conducted as part of the cleanup. It should be noted that SB-1 and MW-1 from the recent (2011 GSC) testing were completed in this area.

- Off-Site – There is a manufacturing facility adjacent to the west side of the Eldre facility, which has had releases of various chlorinated solvents. The possibility that this neighboring site or other off site sources caused or contributed to the presence of chlorinated solvents on the Eldre site will be investigated. The primary concern with off-site is focused on the sanitary sewer that transects the property and thus may allow for a preferential pathway (refer to Section 4.0) from off-site onto the Site or potentially discharges to the sewer could have leaked out from the sewer and onto the Site.

In addition to the above noted chlorinated VOCs, the 2011 GSC testing results indicated arsenic in one soil sample at an elevated concentration (sample SB-2 (12' – 14')). Based on the numerous other soil and groundwater samples at the Site without elevated metals concentrations, the elevated arsenic in SB-2 does not appear to constitute an AOC; however, some further testing appears warranted to confirm or deny the presence of arsenic at concentrations of concern in this area.

Based on the above, the following potential AOCs were retained for evaluation as part of this RI:

- AOC 1 –Current Operations (including TCE Degreasing)
- AOC 2 – Historic Operations (including Pond Area)
- AOC 3 – Subsurface Sewer Piping (potential off-Site source)

The location of the potential AOCs are shown on Figure 5, with proposed boring and groundwater monitoring well locations.

The scope of work defined herein is based on previously gathered analytical data; information previously gathered regarding current and historical processes and activities conducted at the Site and the project objectives. The RI work will be a dynamic process with each task providing data to guide remaining tasks. If future tasks are warranted, additional work plan addenda will be submitted to NYSDEC for approval.

The RI work will be completed in general accordance with the NYSDEC's Department of Environmental Remediation (DER)-10 (*Technical Guidance for Site Investigation and Remediation*) issued May 3, 2010.

6.0 REMEDIAL INVESTIGATION

The proposed remedial investigation field activities to be completed as part of the work plan have been separated into tasks and are presented below. A list with contact information of the anticipated personnel involved with the project is included in Appendix 4. Qualifications for the personnel are also included.

During all ground intrusive work conducted at the Site, air monitoring will be conducted in accordance with the New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan (CAMP). A copy of this plan is included as Appendix 5.

6.1 Remedial Investigation Field Plan

The RI Field Plan has been developed as a phased approach to allow each task to provide information to guide remaining tasks. The Tasks in order of completion and the rationale for this is below with detailed information on each task in the subsequent sections:

- *Task 1: Groundwater Contouring* – This task is proposed as the initial task in order to confirm previously identified groundwater flow direction and utilize this information (i.e., potential contaminant transport/migration direction) in subsequent tasks
- *Task 2: Surface Soil Sampling* – This tasks is a program requirement and is not anticipated to provide beneficial information on the nature and extent of the Chlorinated VOC release.
- *Task 3: Interior Shallow Overburden Soil and Groundwater Sampling* – This task is the initial task for evaluating Chlorinated VOCs in the subsurface and will evaluate the current degreasing area as a source of Chlorinated VOCs in soil and groundwater. In addition, this task will also evaluate subsurface conditions downgradient of historic operations. This task is proposed as the initial Chlorinated VOC evaluation in order to determine if the one easily identifiable potential source location (degreaser) could be contributing to VOCs in the subsurface and thus guide the remaining tasks.
- *Task 4: Exterior Shallow Overburden Soil and Groundwater Sampling* – This task is proposed after the interior work since in the event the interior work does not identify impacts, the specific testing locations on the exterior may warrant modification (which would be petitioned for approval by NYSDEC).
- *Task 5: Exterior Deep Overburden Soil and Groundwater Sampling* – This task is proposed to be completed after the source area of chlorinated VOCs has been determined. This task is intended to evaluate the vertical depth of contamination.

- *<u>Task 6: Second Round of Groundwater Samples</u>* – This task is proposed for two purposes: 1) collect a comprehensive round of groundwater data that provides a site-wide view of groundwater impacts at one point in time, and 2) confirm groundwater conditions (i.e., data repeatability) from sampling completed 'pre-BCP' and from the first round testing of each well as part of the RI.

6.1.1 Task 1: Groundwater Contouring

Prior to initiating any additional subsurface activities under the RI, the 10 existing groundwater monitoring wells will be surveyed for elevation and located using a Global Positioning System (GPS) GeoXT with GeoBeacon. The wells will be placed on the existing mapping for the site and static water levels (SWLs) will be collected. Section 6.1.9 of the Quality Control Program (QCP) in Appendix 6 provides additional details on survey work for this project. Based on the survey data and the SWLs, the groundwater elevations will be calculated and a groundwater contour map will be developed. The groundwater flow direction will assist with determining sample locations used in the RI.

6.1.2 Task 2: Surface Soil Sampling

A program requirement of the BCP is the collection and analysis of surface soil samples. The Site is comprised of a building and associated asphalt parking lot with the remaining portions of the property vegetated (~25%). Based on the apparent limited size of the known impacted area at the site as well as the limited vegetated surface, it is proposed that four surface soil samples be collected and analyzed for the "full suite" of parameters (defined above) from the vegetated areas of the Site. The proposed surface soil sampling locations are shown on Figure 5. These locations were selected to evaluate the limited surface soil across the Site, which includes the wooded area on the eastern portion of the 55 Hofstra Road parcel and landscape areas around the periphery of the Site.

The following methods will be used to collect the surface soil samples.

- The sod/vegetative material will be removed with a clean shovel/trowel. The surface soil sample will be collected using new sterile sampling spoons to prevent cross-contamination of the samples from a depth of 0 to 6-inches below the sod/vegetative material.
- Soils will be screened in the field for visible impairment by capturing headspace readings from soils. Headspace readings will be analyzed with a PID for detectable levels of VOCs. Initially, soil will be placed in a plastic Ziploc® bag. The soil in the bag will be mixed thoroughly inside the bag while sealed. After allowing the soil to warm to approximately "room temperature", the PID will be utilized to screen the air from the headspace inside the bag. Additionally, olfactory indications of impairment and evidence of non-aqueous phase liquids (NAPLs) will be observed during surface soil sampling work. Each surface soil sample collected for laboratory analysis will be labeled and preserved in accordance with the QCP included as Appendix 6.
- Each surface soil sample will be submitted for "full-suite" testing (as defined in Section 6.1.1).

In addition to the above sampling, Quality Assurance/Quality Control (QA/QC) samples will also be collected and analyzed (e.g., trip blank, duplicate sample, etc.). The specific QA/QC sampling program is detailed in Section 6.2. The soil samples will be delivered under Chain of Custody procedures to a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP)-certified laboratory. The laboratory will provide a NYSDEC Analytical Services Protocol (ASP) Category B Deliverables data package and a Data Usability Summary Report (DUSR) will be completed.

6.1.3 Task 3: Interior Shallow Overburden Soil and Groundwater Sampling

As previously noted, Eldre Corporation has an active business at the Site and the operations within the main building cannot tolerate dust or any foreign material impacting operations. The interior of the main building in proximity to the TCE degreaser is finished with tile flooring due to wet operations in the area and the area is fully utilized by equipment with the exception of some limited open/accessible areas for walkways. Based on the constraints and sensitive operations only two interior testing locations are currently proposed to evaluate AOC #1 (Current Degreaser) and a portion of AOC #2 (Historic Operations). [*Note: As indicated previously should additional testing points be warranted an addendum to this plan will be submitted.*] The two (2) interior testing locations (shown on Figure 5) will be hand geoprobe advanced soil borings converted into 1-inch groundwater monitoring wells. Details on the proposed installation techniques and sampling are indicated below:

1. Initially, an Underground Facilities Protection Organization (UFPO) stakeout will be conducted at the Site to locate any subsurface utilities in the areas where the subsurface assessment and delineation will take place.
2. LaBella Associates will retain the services of a specialized environmental contractor, to advance the direct push hand "Geoprobe" soil borings and associated sampling program at the Site. It is anticipated that the two (2) testing locations can be advanaced and wells installed in one (1) day. Due to the advancement technique (hand tooling), the depth of the soil boring will depend on the field conditions encountered; however, the goal will be to advanced the borings (and collect samples) to eight feet below the floor surface. It is anticipated that groundwater will be encountered within 4-ft. of the floor surface.
3. To eliminate the potential for fugitive dust impacting the operations at the Site, an enclosure (plastic sheeting and wood) will be constructed around the work area and the enclosure will be operated under negative pressure with venting to the exterior of the building.
4. The drilling equipment will be decontaminated prior to use with an alconox wash, followed by a potable water rinse. Between each soil sample, decontamination procedures will be repeated. Based on the nature of the site, cuttings and decon water will be containerized. All investigation derived waste will be staged on-site for future characterization and disposal. Disposal of Investigation Derived Waste will occur at the end of the Remedial Investigation or if warranted during the remediation phase of the project.
5. Soils from the borings will be continuously assessed in the field by a project team geologist for visible impairment, olfactory indications of impairment, and/or indication of detectable VOCs on a PID. Headspace readings will be analyzed with a PID for detectable levels of VOCs. Initially, soil will be placed in a plastic Ziploc® bag. The soil in the bag will be mixed thoroughly inside the bag while sealed. After allowing the soil to warm to approximately "room temperature", the PID will be utilized to screen the air from the headspace inside the bag. Positive indications from any of these screening methods are collectively referred to as "evidence of impairment." Evidence of impairment that is gathered at the time of the fieldwork is used with observed hydrogeologic conditions to assist in determining the location and depth for soil samples.

Currently it is proposed that two (2) soil samples will be collected from each boring (i.e., 4 samples total). The soil samples will be collected from the apparent 'worst-case' locations within the soil borings advanced in that area. In the event that evidence of impairment is not encountered, the soil samples will be collected from the soil-groundwater interface and the deepest most sample in the boring. In the event that two apparently discrete sources are identified within the same boring, a sample of each 'worst-case' source will be collected/analyzed.

It is proposed that all four (4) of the soil samples be analyzed for TCL VOCs including TICs using USEPA Method 8260 and that one sample from each boring is also analyzed for the "full suite" of parameters (defined in Section 6.1.1 above) in order to evaluate/characterize the types of constituents at the site. [*Note: It is understood that the actual number of samples warranted will be based on the field conditions encountered and the previous work results.*]

In addition to the above sampling, QA/QC samples will also be collected and analyzed (e.g., trip blank, duplicate sample, etc.). The specific QA/QC sampling program is detailed in Section 6.2. The soil samples will be delivered under Chain of Custody procedures to a NYSDOH ELAP-certified laboratory. The laboratory will provide a NYSDEC ASP Category B Deliverables data package and a DUSR will be completed.

6. Each of the two interior soil borings will be converted into 1-inch diameter monitoring wells. The overburden wells will be set to intersect the shallow groundwater table. Each well will be completed with an estimated 5-feet of 1-inch Schedule 40 0.010-slot well screen connected to an appropriate length of schedule 40 PVC well riser to complete the well. The well screen will extend across the contaminated zone, if possible. The annulus will be packed with quartz sand to approximately 1-ft above the screen section. A bentonite seal will be placed on top of the sand pack with the remaining annulus grouted to ground surface. Each well will be completed with a flush mount well cover.
7. The groundwater monitoring wells will be developed by removing at least five well volumes. Subsequent to development, the wells will be allowed to equilibrate for at least 48 hours prior to purging and sampling. All wells will be checked for dense non-aqueous phase liquid (DNAPL) prior to development and sample purging. DNAPL will be evaluated for using an interface probe or a weighted bailer in each well.
8. Subsequent to development, the wells

   will be purged and sampled using low-flow sampling techniques, in general accordance with American Society of Testing and Materials (ASTM) Practice D6771-02. Low flow sampling of the monitoring wells will occur in order to minimize groundwater drawdown and to obtain a representative sample of groundwater conditions. In order to accomplish this task, the following steps will be taken (refer to ASTM Practice D6771-02 for additional details):

   a) The following low flow equipment (or equivalent) will be utilized to conduct low flow groundwater sampling. This equipment includes;

      - QED Sample Pro Bladder Pump
      - Horiba U-22 Water Quality Monitoring System
      - Air Compressor
      - QED MP10 Low Flow Controller
      - ~100' of ¼" Polyethylene Tubing

b) Low flow purging of the monitoring wells will include collection of water quality indicator parameters. Water quality indicator parameters will be recorded at five (5)-minute intervals during the purging of the well. These water quality indicator parameters will include;

- ➢ Water Level Drawdown
- ➢ Temperature
- ➢ pH
- ➢ Dissolved Oxygen
- ➢ Specific Conductance
- ➢ Oxidation Reduction Potential
- ➢ Turbidity

c) Groundwater sampling will commence once the groundwater quality indicator parameters have stabilized for at least three (3) consecutive readings for the following parameters;

- ➢ Water Level Drawdown <0.3'
- ➢ Temperature - +/- 3%
- ➢ pH - +/- 0.1unit
- ➢ Dissolved Oxygen - +/-10%
- ➢ Specific Conductance - +/-3%
- ➢ Oxidation Reduction Potential - +/-10 millivolts
- ➢ Turbidity - +/-10% for values greater than 1 NTU

d) The two (2) interior monitoring wells will both be sampled for 'full-suite' testing, which is defined below:

- VOCs including Tentatively Identified Compounds (TICs) using USEPA Method 8260;
- Semi-VOCs including TICs using USEPA Method 8270;
- Target Analyte List (TAL) Metals using USEPA Methods 6010 and 7471, plus Cyanide using USEPA Method 9012;
- Polychlorinated Biphenyls (PCBs) using USEPA Method 8082; and,
- Pesticides using USEPA Method 8081.

If the recoverable groundwater will not be adequate for all testing parameters, then the following hierarchy will be utilized: 1) VOCs, 2) Metals (including cyanide), 3) SVOCs, 4) PCBs, 5) Pesticides. If recoverable groundwater will not be adequate for all testing parameters, the sampling event will be either extended over multiple days until all samples are collected or the well may be replaced with a larger diameter monitoring well.

9. LaBella will survey the location and elevation of the interior borings/wells so that this information can be added to existing Site Mapping. Additional details on surveying can be found in Section 6.1.9 of the QCP in Appendix 6.

Section 6.1.4 Task 4: Exterior Shallow Overburden Soil and Groundwater Sampling

Based on the results of the interior soil and groundwater sampling , exterior shallow overburden soil and groundwater sampling will be conducted to further evaluate AOC #2 (Historic Operations, including the pond area), AOC #3 (Off-Site sources), the soil sample from SB-2 with an elevated Arsenic concentration, and delineate the extent of the exterior subsurface findings previously identified (MW-3). This portion of the investigation will include two components: 1) Geoprobe soil boring program and 2) Rotary Drill Rig monitoring well installations. Details on the steps included in this Task are below:

<u>Geoprobe soil borings</u>

1. Initially, an Underground Facilities Protection Organization (UFPO) stakeout will be conducted at the Site to locate any subsurface utilities in the areas where the subsurface assessment and delineation will take place.
2. Due to the potential for chlorinated VOCs to be emanating from and/or migrating through utility bedding (i.e., less consolidated media), this task is proposed to include several borings in close proximity to the sanitary sewer piping that transects the property (refer to Figure 5). In order to facilitate this work, an 'air-knife' may be utilized to allow for advancement of soil borings in close proximity to sub-surface utility features. The intent of such work will be to evaluate if the sewer piping is acting as a preferential pathway for chlorinated VOCs from either an on-site source or potentially an off-site source.
3. LaBella Associates will retain the services of a specialized environmental contractor, to implement a direct push "Geoprobe" soil boring and sampling program at the Site. It is anticipated that two days of borings will be conducted at the site for the implementation of this task. Each soil boring will be advanced up to twenty (20) feet below the ground surface or equipment refusal, whichever is first encountered. It should be noted that previous testing at the Site indicates groundwater is located between 1.2 and 8.1 feet below the ground surface.
4. The drilling equipment will be decontaminated prior to use with an alconox wash, followed by a potable water rinse. Between each soil sample, decontamination procedures will be repeated. Based on the nature of the site, cuttings and decon water will be containerized. All investigation derived waste will be staged on-site for future characterization and disposal. Disposal of Investigation Derived Waste will occur at the end of the investigation phase or during the remediation phase of the project.
5. Soils from the borings will be continuously assessed in the field by a project team geologist for visible impairment, olfactory indications of impairment, and/or indication of detectable VOCs on a PID. Headspace readings will be analyzed with a PID for detectable levels of VOCs. Initially, soil will be placed in a plastic Ziploc® bag. The soil in the bag will be mixed thoroughly inside the bag while sealed. After allowing the soil to warm to approximately "room temperature", the PID will be utilized to screen the air from the headspace inside the bag. Positive indications from any of these screening methods are collectively referred to as "evidence of impairment." Evidence of impairment that is gathered at the time of the fieldwork is used with observed hydrogeologic conditions to assist in determining the location and depth for soil samples.
6. Soil samples will be collected from the borings based on data from prior investigations, as well as evidence of impairment, in order to define the horizontal and vertical limits of soil impairment. The soil samples will be collected from the apparent 'worst-case' locations within the soil borings advanced in that area. In the event that evidence of impairment is not

encountered, the soil samples will be collected from the soil-groundwater interface. In the event that two apparently discrete sources are identified within the same boring, a sample of each 'worst-case' source will be collected/analyzed.

It is proposed that three soil samples be analyzed for the "full suite" of parameters (refer to Section 6.1.1) in order to evaluate/characterize the types of constituents at the site. Specifically, this number of full suite samples is based on one full suite test for AOC #2 (Historic Operations), AOC #3 (Subsurface Sewer Piping) and soil in the area of SB-2 with an elevated Arsenic concentration. Additionally, this amount of full suite testing also appears warranted based on the previous extensive testing data that has been collected during previous environmental investigations.

In addition to the full suite testing, this Work Plan includes analyzing one additional soil sample from each boring for Target Compound List VOCs. A table that identifies the anticipated sampling effort is included in Section 6.2.

In addition to the above sampling, QA/QC samples will also be collected and analyzed (e.g., trip blank, duplicate sample, etc.). The specific QA/QC sampling program is detailed in Section 6.2. The soil samples will be delivered under Chain of Custody procedures to a NYSDOH ELAP-certified laboratory. The laboratory will provide a NYSDEC ASP Category B Deliverables data package and a DUSR will be completed.

7. LaBella will locate each of the test borings with a hand-held GPS GeoXT with GeoBeacon so that this information can be added to existing Site Mapping. In addition, a LaBella survey crew will also elevate these wells and this information will be utilized to further refine groundwater contour mapping for the Site. Additional details on surveying can be found in Section 6.1.9 of the QCP in Appendix 6.

Rotary Drill Rig Monitoring Well Installations

Subsequent to completing the Geoprobe soil boring work, LaBella will retain the services of a specialty drilling contractor to install rotary drill rig groundwater monitoring wells at the site. The locations will be based on the Geoprobe results; however, currently it is anticipated that five (5) additional 2-inch groundwater monitoring wells will be installed as part of the rotary drill rig work. The current anticipated locations are illustrated on Figure 5; however, the actual locations may vary based on data generated from previous tasks. NYSDEC will be contacted to discuss final locations and obtain approval in the event that locations vary. The following will be completed as part of this work:

1. Initially, an Underground Facilities Protection Organization (UFPO) stakeout will be conducted at the Site to locate any subsurface utilities in the areas where the subsurface assessment and delineation will take place.
2. In the event that a Geoprobe soil sampling point was advanced in the same location as a monitoring well, then soil sampling will not be completed. However, for locations that a sampling point was not previously advanced in the immediate vicinity, then continuous split spoon soil sampling will be conducted from the ground surface and up to 20-ft. in depth (i.e., anticipated boring termination depth). Details on the advancement of rotary drill rig advance soil borings are provided in Section 6.1.2 of the QCP (Appendix 6). A LaBella Environmental Geologist will screen soils from the drilling in the field for "evidence of impairment." Headspace readings will be analyzed with a PID for detectable levels of VOCs. Initially, soil will be placed in a plastic Ziploc® bag. The soil in the bag will be mixed thoroughly inside the bag while sealed. After allowing the soil to warm to approximately "room temperature", the PID will be utilized to screen the air from the headspace inside the

bag. It should be noted that currently additional soil sampling for laboratory testing is not proposed as part of the rotary drill rig monitoring well installations; however, should unanticipated impacts be identified, then soil samples will be retained for analysis and NYSDEC will be contacted to discuss the parameters to be analyzed.

3. Each overburden well will be installed by advancing minimum 4¼-inch Hollow Stem Augers (HSAs) to the termination depth of the boring. The HSAs will be utilized to install the wells. Each well will be completed with 5 to 10-feet of 2-inch Schedule 40 0.010-slot well screen connected to an appropriate length of schedule 40 PVC well riser to complete the well. The well screen will extend across the contaminated zone, if possible. The annulus between the PVC well screen and boreholewill be packed with quartz sand to approximately 1 to 2-ft above the screen section. The remaining annulus will be bentonite sealed to approximately 1 to 2-ft below ground surface, and then grouted to ground surface. Each well will be completed with a flush mount well cover
4. The drilling equipment for all well locations will be required to be decontaminated prior to use with an alconox wash, followed by a potable water rinse, and decontamination procedures will be repeated throughout the drilling process. Alternatively, steam cleaning/pressure washing of equipment may also be conducted. Based on the nature of the Site, cuttings and decon water will be containerized. All investigation derived waste will be staged on-site for future characterization and disposal. Disposal of any Investigation Derived Waste will occur at the end of the Remedial Investigation or during the remediation phase of the project.
5. The groundwater monitoring wells will be developed using disposable bailers or a pump by removing at least five well volumes. Subsequent to development, the wells will be allowed to equilibrate for at least 48 hours prior to purging and sampling. All wells will be checked for DNAPL prior to development and sample purging. DNAPL will be evaluated for using an interface probe or a weighted bailer in each well.
6. Subsequent to development, the wells will purged and sampled using the same procedures identified in Section 6.1.3 and in accordance with ASTM Practice D6771-02. Field measurements of indicator parameters such as temperature, pH, specific conductance, etc. will be utilized to determine the amount of water to purge and when to sample the wells. These parameters will be measured in the purge water until stabilized (refer to Section 6.1.1). A groundwater sample from each well will be submitted for TCL VOC analysis by USEPA Method 8260. In addition, the full suite of parameters will also be analyzed for from the monitoring well installed within the pond area and in proximity to the sanitary sewer.
7. LaBella will locate each of the new monitoring wells with a hand-held GPS GeoXT with GeoBeacon so that this information can be added to existing Site Mapping. In addition, a LaBella survey crew will also elevate these wells and this information will be utilized to further refine groundwater contour mapping for the Site.

Section 6.1.5 Task 5: Exterior Deep Overburden Soil and Groundwater Sampling

Because TCE is denser than water, one deep overburden soil boring will be advanced and converted into a groundwater monitoring well in a location to be determined, with input from NYSDEC, based on testing results from the previous tasks (not currently shown on Figure 5). The current anticipated steps associated with this are indicated below:

1. Initially, an Underground Facilities Protection Organization (UFPO) stakeout will be conducted at the Site to locate any subsurface utilities in the areas where the subsurface assessment and delineation will take place.

2. In the event that a previous testing point (Geoprobe or a shallow monitoring well installed via rotary drill rig) was advanced in the immediate vicinity, then soil sampling will not be completed to the depth of the previous testing. However, continuous split spoon soil sampling will be conducted from the bottom of the previous sampling point or in the event the location selected does not have a previous sampling point in the immediate vicinity, then continuous split spoon soil sampling will be conducted from the ground surface to the boring termination depth. Headspace readings will be analyzed with a PID for detectable levels of VOCs. Initially, soil will be placed in a plastic Ziploc® bag. The soil in the bag will be mixed thoroughly inside the bag while sealed. After allowing the soil to warm to approximately "room temperature", the PID will be utilized to screen the air from the headspace inside the bag. Currently it is proposed that the deep soil boring be advanced to 35 feet in depth or to equipment refusal (assumed bedrock), whichever is encountered first. Details on the advancement of rotary drill rig advance soil borings are provided in Section 6.1.2 of the QCP. A LaBella Environmental Geologist will screen soils from the drilling in the field for "evidence of impairment."
3. At the deeper well location, it is anticipated that two (2) soil samples will be collected from the borehole and analyzed for TCL VOCs using USEPA Methods 8260. Currently it is anticipated that one sample will be from the deepest recoverable soil sample and a second from approximately 10-feet above that depth (currently these are anticipated to be 35-ft. BGS and 25-ft. BGS). This sampling is intended to define the vertical limit of impacts and as such these samples may be collected from apparent 'clean' soil. In addition to the above sampling, QA/QC samples will also be collected and analyzed (e.g., trip blank, duplicate sample, etc.). The specific QA/QC sampling program is detailed in Section 6.2. The soil samples will be delivered under Chain of Custody procedures to a NYSDOH ELAP-certified laboratory. The laboratory will provide a NYSDEC ASP Category B Deliverables data package and a DUSR will be completed on the lab report.
4. The deep overburden well will be installed by advancing minimum 4¼-inch Hollow Stem Augers (HSAs) to the termination depth of the boring. The HSAs will be utilized to install the wells. The deep well will be completed with 5-feet of 2-inch Schedule 40 0.010-slot well screen connected to an appropriate length of schedule 40 PVC well riser to complete the well. The well screen is intended to be set to monitor a deeper section of groundwater than previously monitored and thus will only be 5-feet in length. The annulus between the PVC well screen and borehole will be packed with quartz sand to approximately 1 to 2-ft above the screen section. The remaining annulus will be bentonite sealed to approximately 1 to 2-ft below ground surface, and then grouted to ground surface. The well will be completed with a flush mount well cover
5. The drilling equipment will be decontaminated prior to use with an alconox wash, followed by a potable water rinse, and decontamination procedures will be repeated at the end of the well installation. Alternatively, steam cleaning/pressure washing of equipment may also be conducted. Based on the nature of the Site, cuttings and decon water will be containerized. All investigation derived waste will be staged on-site for future characterization and disposal. Disposal of any Investigation Derived Waste will occur at the end of the Remedial Investigation or during the remediation phase of the project.
6. The deep groundwater monitoring well will be developed using disposable bailers or a pump by removing at least five well volumes. Subsequent to development, the well will be allowed to equilibrate for at least 48 hours prior to purging and sampling. The deep well will be

checked for DNAPL prior to development and sample purging. DNAPL will be evaluated for using an interface probe or a weighted bailer in each well.

7. Subsequent to development, the deep well will purged and sampled using the same procedures identified in Section 6.1.3 and in accordance with ASTM Practice D6771-02. Field measurements of indicator parameters such as temperature, pH, specific conductance, etc. will be utilized to determine the amount of water to purge and when to sample the well. These parameters will be measured in the purge water until stabilized (refer to Section 6.1.3).
8. LaBella will locate the deep monitoring well with a hand-held GPS GeoXT with GeoBeacon so that this information can be added to existing Site Mapping. In addition, a LaBella survey crew will also elevate the deep well.

Section 6.1.6 Task 6: Second Round of Groundwater Samples

Two rounds of groundwater sampling are expected to be conducted at the Site. The initial round of sampling will be completed as the wells are installed (refer to above Tasks). However, one complete round of static water levels and groundwater samples will also be collected subsequent to the investigation phase being deemed complete (approximately 3 months after sampling the deep well). The second round will include all the wells installed as part of the Remedial Investigation and six (6) of the existing ten (10) monitoring wells. Specifically, existing monitoring wells MW-1, MW-2, MW-3, MW-5 and MW-6 will be sampled. These existing wells were selected based on:

- MW-1 – This well is included for two reasons:1) this well is in proximity to the 1985 surface spill and will re-confirm groundwater was not impacted from this event, and 2) this well is between the current degreaser and the neighboring property to the east and will confirm off-site impacts in this direction are not a concern.
- MW-2 – This well is positioned in proximity to the sewer piping and will evaluate this as a preferential pathway and this well also provides spatial coverage of the site.
- MW-3 – This well was the initial sampling point with the highest concentration of chlorinated VOCs and will be sampled to confirm groundwater conditions.
- MW-5 – This well is in proximity (although appears to be slightly cross-gradient) of the former Pond Area and will be sampled to confirm the extent of impacts in the groundwater.
- MW-6 – This well is downgradient of the current and historic operations and will assist with defining the extent of impacts in the groundwater.

The second round would likely include eight monitoring wells installed as part of the RI (2 interior shallow overburden wells, 5 exterior shallow overburden wells and 1 exterior deep overburden well) and the above noted ‘pre-RI’ wells. The sampling procedures indicated in the previous tasks above (DNAPL check, low-flow purging and sampling) will be utilized.

Based on the current information, VOCs appear to be the only constituents impacting groundwater. As such, it is currently proposed that the second round of groundwater sampling be limited to TCL VOCs. In the event that the testing program from Tasks 1 - 5 above indicate additional constituents of concern for groundwater, then these constituents will be added to the sampling parameters for that well or area. NYSDEC will be contacted prior to conducting the second round of groundwater sampling in order to obtain approval of the sampling paramaters. A summary of all the proposed soil and groundwater testing is shown in Section 6.2. In addition to the above sampling, QA/QC samples will also be collected and analyzed (e.g., trip blank, duplicate sample, etc.). The specific QA/QC sampling program is detailed in

Section 6.2. The groundwater samples will be delivered under Chain of Custody procedures to a NYSDOH ELAP-certified laboratory. The laboratory will provide a NYSDEC ASP Category B Deliverables data package and a DUSR will be completed.

Section 6.1.7 Task 7: Qualitative Exposure Assessment

A Qualitative Exposure Assessment will be conducted and it will evaluate whether potential or completed exposure pathways exist. This assessment will be based on the data generated during previous work and as part of this Work Plan and will include the following areas of evaluation:

- Source Area – The source area will be evaluated to assist with the nature and extent and fate and transport evaluation of the exposure assessment
- Fate & Transport – The property boundary data will be evaluated for potential off-site migration via soil, groundwater, and/or soil gas
- Route of Exposure – The results of site sampling will be interpreted to determine if constituent concentrations are at levels that have the potential to be inhaled or injested
- Receptor Population – The Site will be evaluated to determine the size and makeup of potential down-gradient receptors including residents, workers, and neighbors

No Fish and Wildlife Resources Impact Analysis (FWRIA) will be completed for the Site based on the absence of fish and/or wildlife resources on or adjacent to the Site, per NYSDEC DER-10 Paragraph 3.10.1(b)1.

Section 6.1.6 Soil Gas Sampling

Soil gas (including sub-slab soil vapor, indoor air and exterior soil gas) testing is not contemplated at this time due to the following:

1. The facility currently utilizes TCE as part of its operations and thus false positive results would likely occur. In addition, OSHA standards would take precedent for indoor air concentrations due to the operational use of TCE.
2. The historical findings are limited to the western portion of the Site and are at least 300 feet or more from the nearest off-site structure and thus the potential for off-site migration is limited.
3. The property to the west (1400 Jefferson Road) is an Inactive Hazardous Waste Disposal Site (IHWDS) Site and has impacts of chlorinated VOCs on-site due to former operations at this facility. It is understood that a portion or all of this facility already has an active sub-slab depressurization system (SSDS) in-place.

This approach will be re-evaluated in the event that Tasks 1-6 identified above indicate that soil gas sampling is warranted.

6.2 Summary of Laboratory Testing and Quality Assurance/Quality Control Plan

The types and amount of samples and parameters/analytical testing methods are summarized below for the overall Remedial Investigation. It should be noted that the sampling plan below may change based on the field conditions. Specific testing locations/sampling parameters will be determined based on field conditions and previous testing and discussed with NYSDEC prior to submission to the laboratory. The sampling completed will conform to the requirements of the BCP/DER-10 and specific requirements from NYSDEC and NYSDOH.

Table 1
Sampling Plan with QA/QC Samples

Area of Concern	Test Parameters & Number of Samples (soil/groundwater)				
	TCL VOCs(1)	TCL SVOCs(2)	Pesticides(3)	TAL Metals & Cyanide (4)	PCBs(5)
Task 1: Baseline Groundwater Sampling	6 / 0	4 / 0	4 / 0	4 / 0	4 / 0
QA/QC for Task 1					
Field Blanks	1 / 0	1 / 0	1 / 0	1 / 0	1 / 0
Duplicates	1 / 0	1 / 0	1 / 0	1 / 0	1 / 0
MS/MSD(6)	1 / 0	1 / 0	1 / 0	1 / 0	1 / 0
Sub-Total QA/QC	3 / 0	3 / 0	3 / 0	3 / 0	3 / 0
Total Task 1 Soil Samples	**9 / 0**	**7 / 0**	**7 / 0**	**7 / 0**	**7 / 0**
Task 2: Surface Soil Samples	4 / 0	4 / 0	4 / 0	4 / 0	4 / 0
QA/QC for Task 2					
Field Blanks	1 / 0	1 / 0	1 / 0	1 / 0	1 / 0
Duplicates	1 / 0	1 / 0	1 / 0	1 / 0	1 / 0
MS/MSD(6)	1 / 0	1 / 0	1 / 0	1 / 0	1 / 0
Sub-Total QA/QC	3 / 0	3 / 0	3 / 0	3 / 0	3 / 0
Total Task 2 Soil Samples	**7 / 0**	**7 / 0**	**7 / 0**	**7 / 0**	**7 / 0**
Task 3: Interior Soil and Groundwater Samples	4 / 2	2 / 2	2 / 2	2 / 2	2 / 2
QA/QC for Task 3					
Field Blanks	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1
Duplicates	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1
MS/MSD(6)	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1
Sub-Total QA/QC	3 / 3	3 / 3	3 / 3	3 / 3	3 / 3
Total Task 3 Soil and Groundwater Samples	**6 / 5**	**5 / 5**	**5 / 5**	**5 / 5**	**5 / 5**
Task 4: Exterior Soil and Groundwater Samples	21 / 5	3 / 2	3 / 2	3 / 2	3 / 2
QA/QC for Task 4					
Field Blanks	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1
Duplicates	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1
MS/MSD(6)	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1
Sub-Total QA/QC	*3 / 3*	*3 / 3*	*3 / 3*	*3 / 3*	*3 / 3*
Total Task 4 Soil and Groundwater Samples	**24 / 8**	**6 / 5**	**6 / 5**	**6 / 5**	**6 / 5**

Table 1
Sampling Plan with QA/QC Samples
(Continued)

Task 5: Exterior Deep Soil and Groundwater Samples	2 / 1	0 / 0	0 / 0	0 / 0	0 / 0
QA/QC for Task 5					
Field Blanks	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0
Duplicates	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0
MS/MSD(6)	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0
Sub-Total QA/QC	*3 / 3*	0 / 0	0 / 0	0 / 0	0 / 0
Total Task 5 Soil and Groundwater Samples	**5 / 4**	**0 / 0**	**0 / 0**	**0 / 0**	**0 / 0**
Task 6: Second Round of Groundwater Samples	0 / 8	0 / 0	0 / 0	0 / 0	V
QA/QC for Task 6					
Field Blanks	0 / 1	0 / 0	0 / 0	0 / 0	1 / 1
Duplicates	0 / 1	0 / 0	0 / 0	0 / 0	1 / 1
MS/MSD(6)	0 / 1	0 / 0	0 / 0	0 / 0	1 / 1
Sub-Total QA/QC	*0 / 3*	0 / 0	0 / 0	0 / 0	*3 / 3*
Total Task 6 Soil and Groundwater Samples	**0 / 11**	**0 / 0**	**0 / 0**	**0 / 0**	**0 / 0**
Total Samples	**51 / 28**	**25 / 10**	**25 / 10**	**25 / 10**	**25 / 10**

(1) – denotes TCL VOCs including TICs analysis by USEPA Method 8260
(2) – denotes TCL SVOCs including TICs analysis by USEPA Method 8270
(3) – denotes Pesticides analysis by USEPA Method 8081
(4) – denotes TAL Metals analysis by USEPA Methods 6010 and 7471 and Cyanide via USEPA Method 9012
(5) – denotes PCBs analysis by USEPA Method 8082
(6) – MS/MSD testing indicates the number of samples tested (i.e., 2 per MS/MSD) and not the number of MS/MSD samples.

Activities completed at the Site will be managed under LaBella's Quality Control Program, which is included in Appendix 6. Specific QA/QC sampling to be completed as part of this project is included in the Tasks described above. A Data Usability Summary Report (DUSR) will be conducted on the sampling completed as part of the RI.

7.0 Health and Safety Plan

A Health and Safety Plan (HASP) has been developed for the Site and is included in Appendix 7.

8.0 Reporting and Schedule

Subsequent to completing the work outlined above a Remedial Investigation Report will be developed in accordance with NYSDEC DER-10. Data will also be submitted to the NYSDEC EQuIS team in an acceptable electronic data deliverable format. The anticipated schedule for the work to be completed is included in Appendix 8. This schedule is dependent on NYSDEC approvals and does not account for potential delays due to public comments, weather conditions, contractor availability, etc.

9.0 Citizen Participation Activities

A citizen participation plan (CPP) will be developed for the project and submitted separately within 20-days of an executed Brownfield Cleanup Agreement (BCA). The CPP will include the following (at a minimum):

- Updates to the names and addresses on the BCP Application (if any)
- Identifies major issues related to the Site
- A description of citizen participation activities already performed
- Identifies the document repository
- Includes a description and schedule of public participation activities

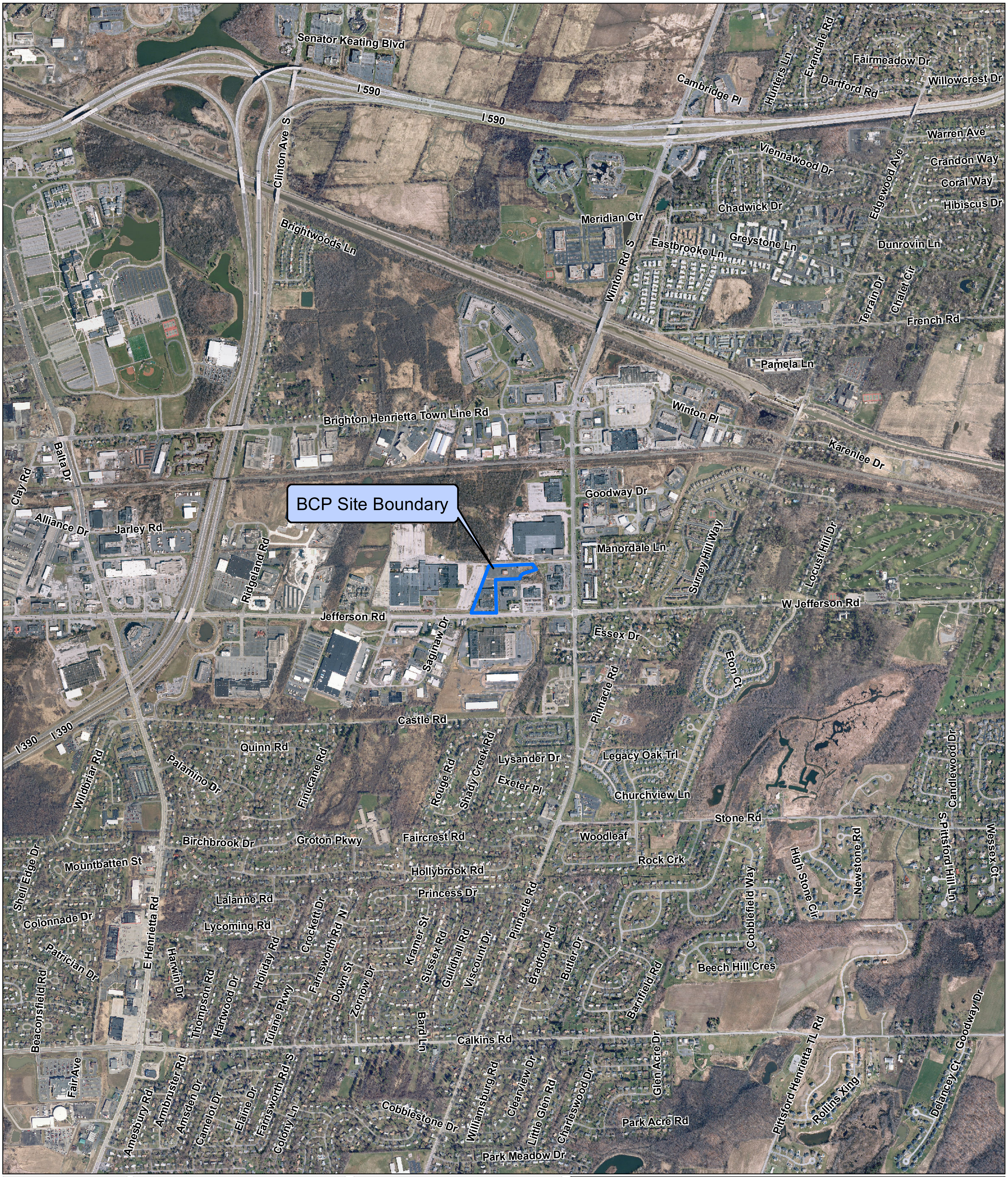
Although the CPP will describe the activities and schedule of the citizen participation activities subsequent to signing of the BCA, until that time, it is understood that the following citizen participation activities will be completed, subsequent to the NYSDEC determining that the BCP application is complete.

- A newspaper notice will be published
- The required notice will be sent to the Site Contact List
- A certification of sending the public notice will be sent to the NYSDEC within 10-days of sending
- Proof of the newspaper notice will also be sent (i.e., receipt and/or copy of newspaper notice) within 10-days of receiving
- The BCP application and this Work Plan will be placed in the document repository for a 45-day waiting period

Y:\ELDRE CORPORATION\211670\REPORTS\RI WORK PLAN\RPT.2012-3-9.ELDRE_RIWP (FINAL DRAFT VERSION).DOC

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

Figures



PROJECT/DRAWING NUMBER

211670

FIGURE 1

DRAWING TITLE

SITE LOCATION WITH 2009 AERIAL PHOTOGRAPHY

ISSUED FOR	DESIGNED BY:	IPJ
FINAL	DRAWN BY:	IPJ
DATE: 2/21/2012	REVIEWED BY:	DPN

PROJECT/CLIENT

RI Work Plan

1500 Jefferson Road and
55 Hofstra Road
Henrietta, New York

Client: Eldre Corporation

LABELLA Associates, P.C.

Engineering
Architecture
Environmental
Planning

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

0 0.15 0.3 0.6 Miles

1 inch = 2,000 feet

N W E S

Path: Y:\Eldre Corporation\211670\Drawings\RIWP\Figure 1 Aerial Photo Site Location (IPJ 2012-02-21).mxd

User: ipjeffers

Y:\Eldre Corporation\211670\Drawings\RI WP\Figure2_11x17.mxd

LABELLA Associates, P.C.

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

RI Work Plan
1500 Jefferson Road &
55 Hofstra Road
Henrietta, New York

Client:
Eldre Corporation

BCP Parcels and Surrounding Properties

N
W E
S

0 150

1 inch = 150 feet

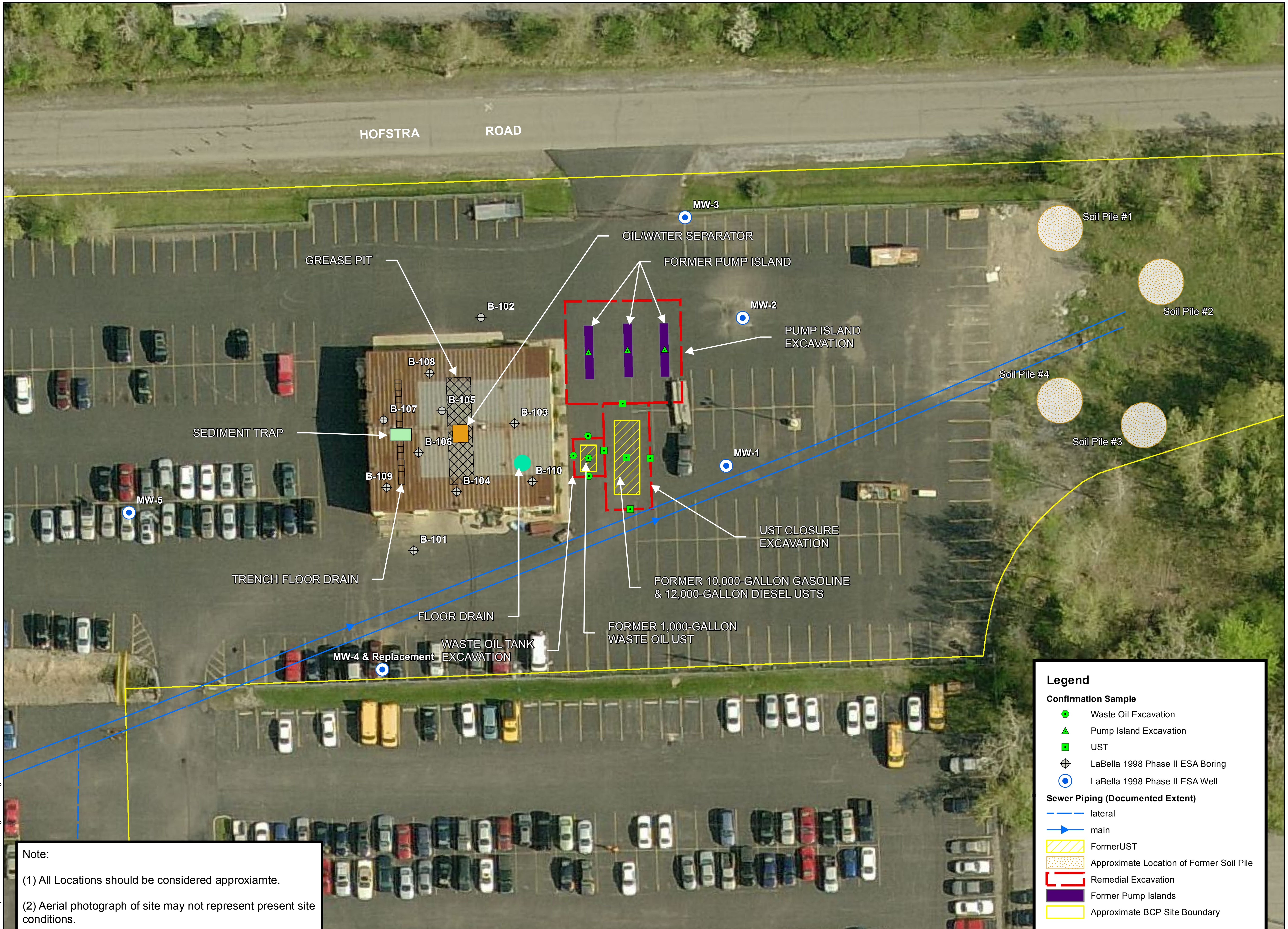
Issued For: **FINAL**

Date: 02/17/2012

Drawn By: MFP

211670

FIGURE 2



Y:\Eldre Corporation\211670\Drawings\RIWP\Figure3HistoricalWork_11x17.mxd

LABELLA Associates, P.C.

RI Work Plan
1500 Jefferson Road &
55 Hofstra Road
Henrietta, New York

Client:
Eldre Corporation

55 Hofstra Road
Historical Environmental
Work Summary

N
W E
S

1 inch = 40 feet

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Date: 02/17/2012

Drawn By: MFP

211670

FIGURE 3

Note:

(1) Groundwater services investigation locations were located with a GPS and provided to LaBella.

(2) Aerial photograph of site may not represent current site conditions.

Legend

- Groundwater Services Soil Boring
- Groundwater Services Monitoring Well

Sewer Piping

- lateral
- main
- Approximate BCP Site Boundary

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

RI Work Plan
1500 Jefferson Road &
55 Hofstra Road
Henrietta, New York

Client:
Eldre Corporation

Groundwater Services Investigation Locations

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Date: 02/20/2012

Drawn By: MFP

211670

FIGURE 4

Y:\Eldre Corporation\211670\Drawings\RI\WP\Figure5ProposedRIWP_11x17.mxd

LABELLA Associates, P.C.

RI Work Plan
1500 Jefferson Road &
55 Hofstra Road
Henrietta, New York

Client:
Eldre Corporation

Areas of Concern and Proposed Remedial Investigation Locations

N
W E
S

0 100
1 inch = 100 feet

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Date: 02/20/2012

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211670

FIGURE 5

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

Appendix 1

Documentation on NYSDEC
Spill #9705148 & #9870026

REFERNCE PAGE FOR ANALYTICAL SUMMARY TABLES

Eldre Corporation
1500 Jefferson Road & 55 Hofstra Road, Henrietta, New York

Qualifiers

U - The compound was not detected at the indicated concentration.

***** - NYSDEC Soil Policy CP-51 Soil Cleanup Objective

Highlighted Result - Indicates result exceedes the NYSDEC Soil Cleanup Objective

SVOCs - Semi-Volatile Organic Compounds

VOCs - Volatile Organic Compounds

RUSCO - Restricted Use Soil Cleanup Objective

ug/kg - micrograms per kilogram

ug/L - micrograms per Liter

NYS - New York State

STARS - Spill Techology and Remediation Series

NA - Not Applicable

TABLE 1

55 Hofstra Road, Henrietta, New York
Remedial Excavation Confirmation Soil Samples
NYSDEC STARS List VOCs

				UST Remedial Excavation Confirmation Soil Samples					Waste Oil Tank Remedial Excvation Confirmation Samples			
Sample ID	**Units**	**NYS Part 375-6.8(a) Unrestricted Use Soil Cleanup Objectives**	**NYS Part 375-6.8(b) Commercial Restricted Use Soil Cleanup Objective**	**North Sidewall**	**East Sidewall**	**West Sidewall**	**South Sidewall**	**Bottom**	**North Sidewall**	**West Sidewall**	**South Sidewall**	**Bottom**
Methyl tert-Butyl Ether	ug/Kg	930	500000	9.60 U	9.98 U	10.07 U	6.06 U	6.39 U	7.26 U	9.67 U	13.4 U	8.96 U
Benzene	ug/Kg	60	44000	9.60 U	9.98 U	10.07 U	6.06 U	6.39 U	7.26 U	9.67 U	13.4 U	8.96 U
Toluene	ug/Kg	700	500000	9.60 U	9.98 U	10.07 U	6.06 U	6.39 U	7.26 U	9.67 U	13.4 U	8.96 U
Ethylbenzene	ug/Kg	1000	390000	9.60 U	9.98 U	10.07 U	6.06 U	6.39 U	7.26 U	9.67 U	249	8.96 U
m,p-Xylene	ug/Kg	260	500000	9.60 U	9.98 U	10.07 U	6.06 U	6.39 U	7.26 U	18.0	**615**	8.96 U
o-Xylene	ug/Kg	260	500000	9.60 U	9.98 U	10.07 U	6.06 U	6.39 U	7.26 U	15.4	**553**	8.96 U
Isopropylbenzene	ug/Kg	2300*	NA	9.60 U	9.98 U	10.07 U	6.06 U	6.39 U	7.26 U	9.67 U	93.8	8.96 U
n-Propylbenzene	ug/Kg	3900	500000	9.60 U	9.98 U	10.07 U	6.06 U	6.39 U	7.26 U	11.9	293	8.96 U
1,3,5-Trimethylbenzene	ug/Kg	8400	190000	9.60 U	9.98 U	10.07 U	6.06 U	6.39 U	7.26 U	48.5	690	8.96 U
tert-Butylbenzene	ug/Kg	5900	500000	9.60 U	9.98 U	10.07 U	6.06 U	6.39 U	7.26 U	13.9	186	8.96 U
1,2,4-Trimethylbenzene	ug/Kg	3600	190000	9.60 U	9.98 U	10.07 U	6.06 U	6.39 U	7.26 U	122	1500	8.96 U
sec-Butylbenzene	ug/Kg	11000	500000	9.60 U	9.98 U	10.07 U	6.06 U	6.39 U	7.26 U	9.67 U	56.8	8.96 U
p-Isopropyltoluene	ug/Kg	10000*	NA	9.60 U	9.98 U	10.07 U	6.06 U	6.39 U	7.26 U	9.81	139	8.96 U
n-Butylbenzene	ug/Kg	12000*	NA	9.60 U	9.98 U	10.07 U	6.06 U	6.39 U	7.26 U	9.67 U	13.4 U	8.96 U
Naphthalene	ug/Kg	12000	500000	48.0 U	49.9 U	53.4 U	30.3 U	31.9 U	36.3 U	48.3 U	213	8.96 U

				Pump Island Remedial Excavation Confirmation Soil Samples			Soil Pile Investigation			
Sample ID	**Units**	**NYS Part 375-6.8(a) Unrestricted Use Soil Cleanup Objectives**	**NYS Part 375-6.8(b) Commercial Restricted Use Soil Cleanup Objective**	**Bottom-West**	**Bottom-Center**	**West Sidewall**	**Soil Pile #1**	**Soil Pile #2**	**Soil Pile #3**	**Soil Pile #4**
Methyl tert-Butyl Ether	ug/Kg	930	500000	8.72 U	7.10 U	9.86 U	10.3 U	10.4 U	5.49 U	8.08 U
Benzene	ug/Kg	60	44000	8.72 U	7.10 U	9.86 U	10.3 U	10.4 U	5.49 U	8.08 U
Toluene	ug/Kg	700	500000	8.72 U	7.10 U	9.86 U	10.3 U	10.4 U	5.49 U	8.08 U
Ethylbenzene	ug/Kg	1000	390000	8.72 U	7.10 U	9.86 U	10.3 U	10.4 U	5.49 U	8.08 U
m,p-Xylene	ug/Kg	260	500000	8.72 U	7.10 U	9.86 U	10.3 U	10.4 U	5.49 U	8.08 U
o-Xylene	ug/Kg	260	500000	8.72 U	7.10 U	9.86 U	10.3 U	10.4 U	5.49 U	8.08 U
Isopropylbenzene	ug/Kg	2300*	NA	8.72 U	7.10 U	9.86 U	10.3 U	10.4 U	5.49 U	8.08 U
n-Propylbenzene	ug/Kg	3900	500000	8.72 U	7.10 U	9.86 U	10.3 U	10.4 U	5.49 U	8.08 U
1,3,5-Trimethylbenzene	ug/Kg	8400	190000	8.72 U	7.10 U	9.86 U	10.3 U	10.4 U	5.49 U	8.08 U
tert-Butylbenzene	ug/Kg	5900	500000	8.72 U	7.10 U	9.86 U	10.3 U	10.4 U	5.49 U	8.08 U
1,2,4-Trimethylbenzene	ug/Kg	3600	190000	8.72 U	7.10 U	9.86 U	10.3 U	10.4 U	5.49 U	8.08 U
sec-Butylbenzene	ug/Kg	11000	500000	8.72 U	7.10 U	9.86 U	10.3 U	10.4 U	5.49 U	8.08 U
p-Isopropyltoluene	ug/Kg	10000*	NA	8.72 U	7.10 U	9.86 U	10.3 U	10.4 U	5.49 U	8.08 U
n-Butylbenzene	ug/Kg	12000*	NA	8.72 U	7.10 U	9.86 U	10.3 U	10.4 U	5.49 U	8.08 U
Naphthalene	ug/Kg	12000	500000	43.6 U	35.5 U	49.3 U	51.6 U	51.8 U	27.5 U	40.4 U

TABLE 2

55 Hofstra Road, Henrietta, New York
Remedial Excavation Confirmation Soil Samples
NYSDEC STARS List SVOCs

				UST Remedial Excavation Confirmation Soil Samples					Waste Oil Tank Remedial Excvation Confirmation Samples			
Sample ID	**Units**	**NYS Part 375-6.8(a) Unrestricted Use Soil Cleanup Objectives**	**NYS Part 375-6.8(b) Commercial Restricted Use Soil Cleanup Objective**	**North Sidewall**	**East Sidewall**	**West Sidewall**	**South Sidewall**	**Bottom**	**North Sidewall**	**West Sidewall**	**South Sidewall**	**Bottom**
Naphthalene	ug/Kg	12000	500000	384 U	336 U	342 U	325 U	360 U	362 U	356 U	356 U	353 U
Acenaphthene	ug/Kg	20000	500000	384 U	336 U	342 U	325 U	360 U	362 U	356 U	356 U	353 U
Fluorene	ug/Kg	30000	500000	384 U	336 U	342 U	325 U	360 U	362 U	356 U	356 U	353 U
Fluoranthene	ug/Kg	100000	500000	384 U	336 U	342 U	325 U	360 U	362 U	356 U	356 U	353 U
Anthracene	ug/Kg	100000	500000	384 U	336 U	342 U	325 U	360 U	362 U	356 U	356 U	353 U
Phenanthrene	ug/Kg	100000	500000	384 U	336 U	342 U	325 U	360 U	362 U	356 U	356 U	353 U
Benzo(a)anthracene	ug/Kg	1000	5600	384 U	336 U	342 U	325 U	360 U	362 U	356 U	356 U	353 U
Chrysene	ug/Kg	1000	56000	384 U	336 U	342 U	325 U	360 U	362 U	356 U	356 U	353 U
Pyrene	ug/Kg	100000	500000	384 U	336 U	342 U	325 U	360 U	362 U	356 U	356 U	353 U
Benzo(b)fluoranthene	ug/Kg	1000	5600	384 U	336 U	342 U	325 U	360 U	362 U	356 U	356 U	353 U
Benzo(k)fluoranthene	ug/Kg	800	56000	384 U	336 U	342 U	325 U	360 U	362 U	356 U	356 U	353 U
Benzo(g,h,i)perylene	ug/Kg	100000	500000	384 U	336 U	342 U	325 U	360 U	362 U	356 U	356 U	353 U
Benzo(a)pyrene	ug/Kg	1000	1000	384 U	336 U	342 U	325 U	360 U	362 U	356 U	356 U	353 U
Dibenz(a,h)anthracene	ug/Kg	330	560	384 U	336 U	342 U	325 U	360 U	362 U	356 U	356 U	353 U
Indeno(1,2,3-cd)pyrene	ug/Kg	500	5600	384 U	336 U	342 U	325 U	360 U	362 U	356 U	356 U	353 U

				Pump Island Remedial Excavation Confirmation Soil Samples			Soil Pile Investigation			
Sample ID	**Units**	**NYS Part 375-6.8(a) Unrestricted Use Soil Cleanup Objectives**	**NYS Part 375-6.8(b) Commercial Restricted Use Soil Cleanup Objective**	**Bottom-West**	**Bottom-Center**	**West Sidewall**	**Soil Pile #1**	**Soil Pile #2**	**Soil Pile #3**	**Soil Pile #4**
Naphthalene	ug/Kg	12000	500000	360 U	359 U	383 U	343 U	359 U	365 U	367 U
Acenaphthene	ug/Kg	20000	500000	360 U	359 U	383 U	343 U	359 U	365 U	367 U
Fluorene	ug/Kg	30000	500000	360 U	359 U	383 U	343 U	359 U	365 U	367 U
Fluoranthene	ug/Kg	100000	500000	360 U	359 U	383 U	1180	359 U	365 U	1260
Anthracene	ug/Kg	100000	500000	360 U	359 U	383 U	343 U	359 U	365 U	367 U
Phenanthrene	ug/Kg	100000	500000	360 U	359 U	383 U	541	359 U	365 U	579
Benzo(a)anthracene	ug/Kg	1000	5600	360 U	359 U	383 U	487	359 U	365 U	521
Chrysene	ug/Kg	1000	56000	360 U	359 U	383 U	617	359 U	365 U	660
Pyrene	ug/Kg	100000	500000	360 U	359 U	383 U	1110	359 U	365 U	1190
Benzo(b)fluoranthene	ug/Kg	1000	5600	360 U	359 U	383 U	489	359 U	365 U	523
Benzo(k)fluoranthene	ug/Kg	800	56000	360 U	359 U	383 U	365	359 U	365 U	390
Benzo(g,h,i)perylene	ug/Kg	100000	500000	360 U	359 U	383 U	343 U	359 U	365 U	367 U
Benzo(a)pyrene	ug/Kg	1000	1000	360 U	359 U	383 U	357	359 U	365 U	382
Dibenz(a,h)anthracene	ug/Kg	330	560	360 U	359 U	383 U	343 U	359 U	365 U	367 U
Indeno(1,2,3-cd)pyrene	ug/Kg	500	5600	360 U	359 U	383 U	343 U	359 U	365 U	367 U

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 8
6274 East Avon-Lima Road, Avon, New York 14414-9519
Phone: (716) 226-2466 • FAX: (716) 226-8139
Website: www.dec.state.ny.us

John P. Cahill
Commissioner

November 16, 1999

Mr. Jon Heerkens
SAW Environmental
81 O'Connor Road
Fairport, New York 14450

Dear Mr. Heerkens:

RE: Genesee Truck Rental
55 Helstra Road
Henrietta (T), Monroe County
Spill No. 9870025

This Department has received your request for site closure dated November 4, 1999. Enclosed in the Closure Request are analytical results from additional groundwater and soil samples that were requested by this Department.

Based on the information provided, no further investigation or remedial action is necessary at this time. This spill will be removed from the Department's active files. However, please be aware that this ruling does not preclude reactivation of this case should new information become available, receptors are impacted by, and/or off-site migration of contamination is discovered in the future.

If you have any questions or concerns regarding this matter, you may contact me at the above address or by telephone.

Sincerely,

Carl A. Hettenbaugh

Carl A. Hettenbaugh
Environmental Engineering Technician III
Division of Environmental Remediation
Bureau of Spill Prevention and Response

CAH:map

cc: Monroe County Health Department

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 8
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Website: www.dec.state.ny.us

John P. Cahill
Commissioner

November 16, 1999

Mr. Glenn White
SAW Environmental
81 O'Connor Road
Fairport, New York 14450

Dear Mr. White:

RE: Genesee Truck Rental
1520 Jefferson Road
Henrietta (T), Monroe County
Spill No 9705148

This Department has received and reviewed the Tank Closure Report you submitted for the referenced site.

Based on the information provided, no further investigation or remedial action is necessary at this time. This ruling does not preclude reactivation of this case should new information become available, receptors are impacted by, and/or off-site migration of contamination is discovered in the future.

If you have any questions or concerns regarding this matter, you may contact me at the above address or by telephone.

Sincerely,

Carl A. Hettenbaugh

Carl A. Hettenbaugh
Environmental Engineering Technician III
Division of Environmental Remediation
Bureau of Spill Prevention and Response

CAH:map

cc Monroe County Health Department

454-3066
[illegible]

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

Appendix 2

Data Summary Tables for
Groundwater Sciences Corporation
2011 Phase II ESA

Soil Chemistry Data - Phase II Soil Borings
Eldre Corp.
DRAFT

Parameter	Units	Ind SCO	GW SCO	SB-2	SB-2(B)	SB-3	SB-5	SB-6	SB-7	SB-9	SB-10	SB-11	SB-13	SB-14	SB-15	SB-16	SB-17	SB-18	SB-21	SB-22
			Depth:	12-14'	2-4'	15-16'	1.3-2.0'	10.5-11.0'	1.3-1.8'	4.0-4.5'	14.0-14.5'	10.0-10.5'	7.0-7.5'	10-11'	9.0-9.5'	12.0-12.5'	11-12'	7.0-7.5'	6.0-6.5'	0-2'
			Lab ID:	6413423	6413422	6413427	6413424	6413428	6413420	6413426	6413412	6413411	6413417	6413413	6413414	6413415	6413418	6413416	6413425	6413419
Volatile Organic Compounds																				
Acetone	ug/kg	1,000,000	50		120	ND	310	52	63	26	ND	17 J	10 J	8 J	19 J	ND	ND	13 J	68	ND
2-Butanone	ug/kg	1,000,000	120		27	ND	64	9 J	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	11 J	ND
n-Butylbenzene	ug/kg	1,000,000	12,000		ND	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	ND	ND	ND	54 J
sec-Butylbenzene	ug/kg	1,000,000	11,000		ND	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ug/kg	NS	NS		2 J	3 J	3 J	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	2 J	ND
cis-1,2-Dichloroethene	ug/kg	1,000,000	250		1 J	210	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ug/kg	1,000,000	190		1 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/kg	NS	NS		2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Tertiary Butyl Ether	ug/kg	1,000,000	930		ND	ND	ND	ND	ND	ND	ND	ND	2 J	ND	ND	ND	ND	ND	2 J	ND
Methylene Chloride	ug/kg	1,000,000	50		4 J	4 J	ND	4 J	3 J	5 J	12	5 J	9	2 J	16	ND	ND	6	15	ND
n-Propylbenzene	ug/kg	1,000,000	3,900		7	ND	ND	ND	ND	2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ug/kg	NS	NS		ND	ND	ND	ND	ND	9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/kg	1,000,000	700		1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ug/kg	400,000	470		ND	ND	ND	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ug/kg	13,000	20		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3 J	ND
Semivolatile Organic Compounds																				
Acenaphthene	ug/kg	1,000,000	98,000	ND			ND										ND		ND	890
Acenaphthylene	ug/kg	1,000,000	107,000	ND			ND										ND		ND	48 J
Anthracene	ug/kg	1,000,000	1,000,000	ND			7 J										ND		ND	1,100
Benzo(a)anthracene	ug/kg	11,000	1,000	ND			37										ND		6 J	3,700
Benzo(a)pyrene	ug/kg	1,100	22,000	ND			48										ND		6 J	3,800
Benzo(b)fluoranthene	ug/kg	11,000	1,700	4 J			82										ND		10 J	5,900
Benzo(g,h,i)perylene	ug/kg	1,000,000	1,000,000	ND			35										ND		5 J	2,800
Benzo(k)fluoranthene	ug/kg	110,000	1,700	ND			29										ND		ND	2,300
Chrysene	ug/kg	110,000	1,000	4 J			57										ND		10 J	4,300
Dibenz(a,h)anthracene	ug/kg	1,100	1,000,000	ND			9 J										ND		ND	720
Fluoranthene	ug/kg	1,000,000	1,000,000	7 J			120										ND		23	11,000
Fluorene	ug/kg	1,000,000	386,000	ND			ND										ND		ND	570
Indeno(1,2,3-cd)pyrene	ug/kg	11,000	8,200	ND			35										ND		5 J	2,600
Naphthalene	ug/kg	1,000,000	12,000	ND			5 J										ND		ND	200
Phenanthrene	ug/kg	1,000,000	1,000,000	ND			51										ND		11 J	6,800
Pyrene	ug/kg	1,000,000	1,000,000	5 J			95										ND		19 J	8,200
Metals																				
Arsenic	mg/kg	16	16	38.9			6.05										3.74		6.15	4.94
Barium	mg/kg	10,000	820	32.9			113										29.3		291	29.2
Cadmium	mg/kg	60	8	0.512 J			1.01										0.424 J		0.958	0.638
Chromium	mg/kg	6,800	NS	8.54			23.4										7.81		29.4	9.96
Lead	mg/kg	3,900	450	5.95			16.5										4.00		10.3	10.3
Mercury	mg/kg	6	1	ND			0.0225 J										ND		0.0101 J	0.0188 J

Only parameters with at least one detection are listed.
All samples were collected from 9/19/2011 to 9/20/2011.
ug/kg = micrograms per kilogram (dry weight)
mg/kg = milligrams per kilogram (dry weight)
NS = Not specified
ND = Not detected
J = Estimated value below limit of quantitation

Ind SCO = Soil Cleanup Objective for Industrial Use, from 6 NYCRR Subpart 375-6: Table 375-6.8(b)
GW SCO = Soil Cleanup Objective protective of groundwater, from 6 NYCRR Subpart 375-6: Table 375-6.8(b)

Soil Chemistry Data - Phase III Monitoring Wells
Eldre Corp.
DRAFT

			Location:	MW-1	MW-1	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-6	MW-6	MW-7	MW-8	MW-9	MW-10
			Depth:	5-7'	10-12'	15-17'	15-17'	15-17'	15-17'	15-17'	5-7'	10-12'	15-17'	15-17'	15-17'	15-17'	15-17'
			Lab ID:	6445368	6445369	6445370	6445375	6445379	6445381	6445374	6445371	6445372	6445373	6445377	6445378	6445380	6445382
Parameter	**Units**	**Ind SCO**	**GW SCO**														
Methyl Tertiary Butyl Ether	ug/kg	1,000,000	930	ND	ND	ND	52 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ug/kg	400,000	470	ND	ND	ND	ND	520	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ug/kg	1,000,000	250	ND	ND	ND	ND	290	ND	ND	ND	ND	ND	ND	ND	ND	ND

Only SW-846 Method 8260B parameters with at least one detection are listed.
All samples were collected from 10/17/2011 to 10/20/2011.
ug/kg = micrograms per kilogram
ND = Not detected
J = Estimated value below limit of quantitation
Ind SCO = Soil Cleanup Objective for Industrial Use, from 6 NYCRR Subpart 375-6: Table 375-6.8(b)
GW SCO = Soil Cleanup Objective protective of groundwater, from 6 NYCRR Subpart 375-6: Table 375-6.8(b)

Groundwater Chemistry Data - Phase II Soil Borings (no purging)
Eldre Corp.
DRAFT

Parameter	Units	NYSGQS	SB-1		SB-9		SB-16		SB-18		SB-22	
		Date:	09/20/11		09/20/11		09/19/11		09/19/11		09/20/11	
		Lab ID:	6413432		6413433		6413429		6413430		6413431	
Acetone	ug/l	50	11	J	ND		11	J	7	J	ND	
Benzene	ug/l	1	0.6	J	0.9	J	ND		ND		1	J
cis-1,2-Dichloroethene	ug/l	5	**17**		**28**		ND		ND		ND	
trans-1,2-Dichloroethene	ug/l	5	5		ND		ND		ND		ND	
Methyl Tertiary Butyl Ether	ug/l	10*	ND		5	J	ND		ND		**60**	
Tetrachloroethene	ug/l	5	ND		3	J	ND		ND		ND	
Toluene	ug/l	5	**15**		0.8	J	3	J	ND		5	
Trichloroethene	ug/l	5	2	J	**47**		ND		ND		ND	
Vinyl Chloride	ug/l	2	ND		**6**		ND		ND		ND	
m+p-Xylene	ug/l	5	ND		ND		ND		ND		2	J

Only SW-846 Method 8260B parameters with at least one detection are listed.
ug/l - micrograms per liter
ND = Not detected
J = Estimated value below limit of quantitation
NYSGQS = New York State Groundwater Quality Standard, from 6 NYCRR Part 703.
* Guidance Value
Bold typeface indicates that the parameter was detected at a concentration greater than the NYSGQS or guidance value.

Groundwater Chemistry Data - Phase III Monitoring Wells
Eldre Corp.
DRAFT

		Location:	**MW-1**	**MW-2**	**MW-2**	**MW-3**	**MW-4**	**MW-5**	**MW-6**	**MW-7**	**MW-8**	**MW-9**	**MW-10**
		Date:	10/18/11	10/19/11	10/19/11	10/20/11	10/20/11	10/18/11	10/18/11	10/19/11	10/20/11	10/20/11	10/20/11
		Lab ID:	6445347	6445348	6445349	6447011	6445350	6445345	6445346	6445344	6445343	6445351	6447012
Parameter	**Units**	**NYSGQS**			(Dupl.)								
Trichloroethene	ug/l	5	2 J	ND	ND	**880**	ND	ND	3 J	ND	ND	ND	ND
cis-1,2-Dichloroethene	ug/l	5	**10**	ND	ND	**740**	ND	ND	**11**	ND	ND	ND	ND
trans-1,2-Dichloroethene	ug/l	5	2 J	ND	ND	**6**	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ug/l	2	ND	ND	ND	**8**	ND	ND	1 J	ND	ND	ND	ND
1,1-Dichloroethene	ug/l	5	ND	ND	ND	2 J	ND	ND	ND	ND	ND	ND	ND
Acetone	ug/l	50	12 J	8 J	8 J	8 J	ND	8 J	ND	ND	ND	ND	ND
Methyl Tertiary Butyl Ether	ug/l	10*	ND	**58**	**61**	ND	ND	**38**	ND	ND	ND	ND	**44**
m+p-Xylene	ug/l	5	ND	1 J	1 J	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	ug/l	5	ND	0.8 J	0.8 J	ND	ND	ND	ND	ND	ND	ND	ND

Only SW-846 Method 8260B parameters with at least one detection are listed.
ug/l - micrograms per liter
ND = Not detected
J = Estimated value below limit of quantitation
NYSGQS = New York State Groundwater Quality Standard, from 6 NYCRR Part 703.
* Guidance Value
Bold typeface indicates that the parameter was detected at a concentration greater than the NYSGQS or guidance value.

Eldre Corp. - Rochester, NY
Survey Coordinates and Groundwater Elevations

					Date:	10/21/11	10/21/11
Well	**Northing (Y)**	**Easting (X)**	**Ground Surface Elevation (ft amsl)**	**Measuring Point Elevation (ft amsl)**	**Stickup (ft)**	**Depth to Water (ft)**	**Groundwater Elevation (ft amsl)**
MW-1	1126702.36	1414553.15	508.40	507.86	-0.54	3.94	503.92
MW-2	1126944.52	1414647.70	500.60	500.28	-0.32	3.61	496.67
MW-3	1126871.04	1414369.41	505.10	504.69	-0.41	8.11	496.58
MW-4	1126556.43	1414259.52	516.00	515.65	-0.35	6.61	509.04
MW-5	1126960.02	1414500.49	499.80	499.31	-0.49	1.23	498.08
MW-6	1126808.91	1414454.01	504.90	504.53	-0.37	4.11	500.42
MW-7	1127126.61	1414604.52	500.30	499.93	-0.37	1.91	498.02
MW-8	1127144.99	1414788.85	500.40	499.98	-0.42	1.34	498.64
MW-9	1126948.10	1414766.69	501.00	500.52	-0.48	2.14	498.38
MW-10	1126953.49	1414892.40	500.90	500.47	-0.43	1.44	499.03

Note: All wells have flush-mount surface completions.

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

Appendix 3
AVAILABLE SITE MAPPING

LEGEND

	BOUNDARY LINE
	EXIST. R.O.W. LINE
	EXIST. EASEMENT LINE
	EXIST. CENTER LINE
—W—	EXIST. WATER MAIN
—G—	EXIST. GAS MAIN
—U.E.—	EXIST. UNDERGROUND ELECTRIC
	EXIST. STORM DRAIN
	EXIST. SANITARY SEWER
	EXIST. SWALE
	EXIST. CONC. CURB .5' REVEAL
	EXIST. STEEL GUARD RAIL
	EXIST. DRAINAGE INLET
	EXIST. SANITARY MANHOLE
WV	EXIST. WATER VALVE
	EXIST. FIRE HYDRANT
	EXIST. UTILITY POLE
	EXIST. GUY ANCHOR
	EXIST. END SECTION
	EXIST. SIGN
	EXIST. ELECTRIC MANHOLE
	EXIST. LIGHT POLE W/ CONC. BASE
	EXIST. REBAR
	EXIST. IRON PIN
D	WALL MOUNTED OVERHEAD LIGHT
	EXIST. TREES
CR	CONCRETE RAMP
CW	CONCRETE SIDEWALK
	STORM SEWER MANHOLE

MONROE COUNTY HEALTH DEPARTMENT

MONROE COUNTY DEPARTMENT OF HEALTH

July 6, 2000

These plans for watermain extension for Eldre Corporation Henrietta W.D. No. 1 Ext. No. 2, Town of Henrietta are hereby approved pursuant to 10NYCRR5 of the State Sanitary Code subject to the conditions of the Approval

DIRECTOR OF HEALTH

MONROE COUNTY DEPARTMENT OF HEALTH
CONDITIONS OF APPROVAL

APPROVAL OF THIS SUBDIVISION IS GRANTED ON CONDITION:

1. THAT the proposed facilities for water supply and sewage disposal are installed in conformity with said plans on file with the Monroe County Department of Health.
2. THAT the original subdivision map as approved this date shall be filed in the Office of the Clerk of the County of Monroe.
3. THAT the owner of the subdivision shall furnish each purchaser of a lot with a copy of the approved plan, or in the case of sale of developed lots, the owner of the subdivision shall furnish each purchaser with an accurate "As Built" plan depicting all installed facilities including sanitary sewage, storm water, and water supply.
4. THAT adequate erosion control measures shall be employed by the owner of the subdivision during all phases of construction.

APPROVALS

BY: Mark S. Ryan DATE: 5/31/00
DIRECTOR OF ENGINEERING/PLANNING

BY: K. Deneman DATE: 6/1/00
DEPUTY ADMINISTRATOR OF PUBLIC UTILITY SERVICES

BY: [signature] DATE: 6/1/00
FIRE MARSHAL

WATERMAIN NOTES (ADDED 6-12-00)

1. The watermain shall be disinfected equal to AWWA Standard Specifications for the disinfection of watermains, Designation C-651, by using the continuous feed method. Following flushing, samples of the water shall be collected from the main and each branch. Fire hydrants are NOT acceptable sampling points. Water samples shall be collected by the Monroe County Health Department and the main shall not be placed in service until the water has been approved and notification thereof received.

   All water main fittings not receiving 24-hour chlorine disinfection contact time must be swab disinfected 30 minutes prior to installation.

   The sampling point(s) must be decontaminated by flaming.

   Fire hydrants are not acceptable sampling points.

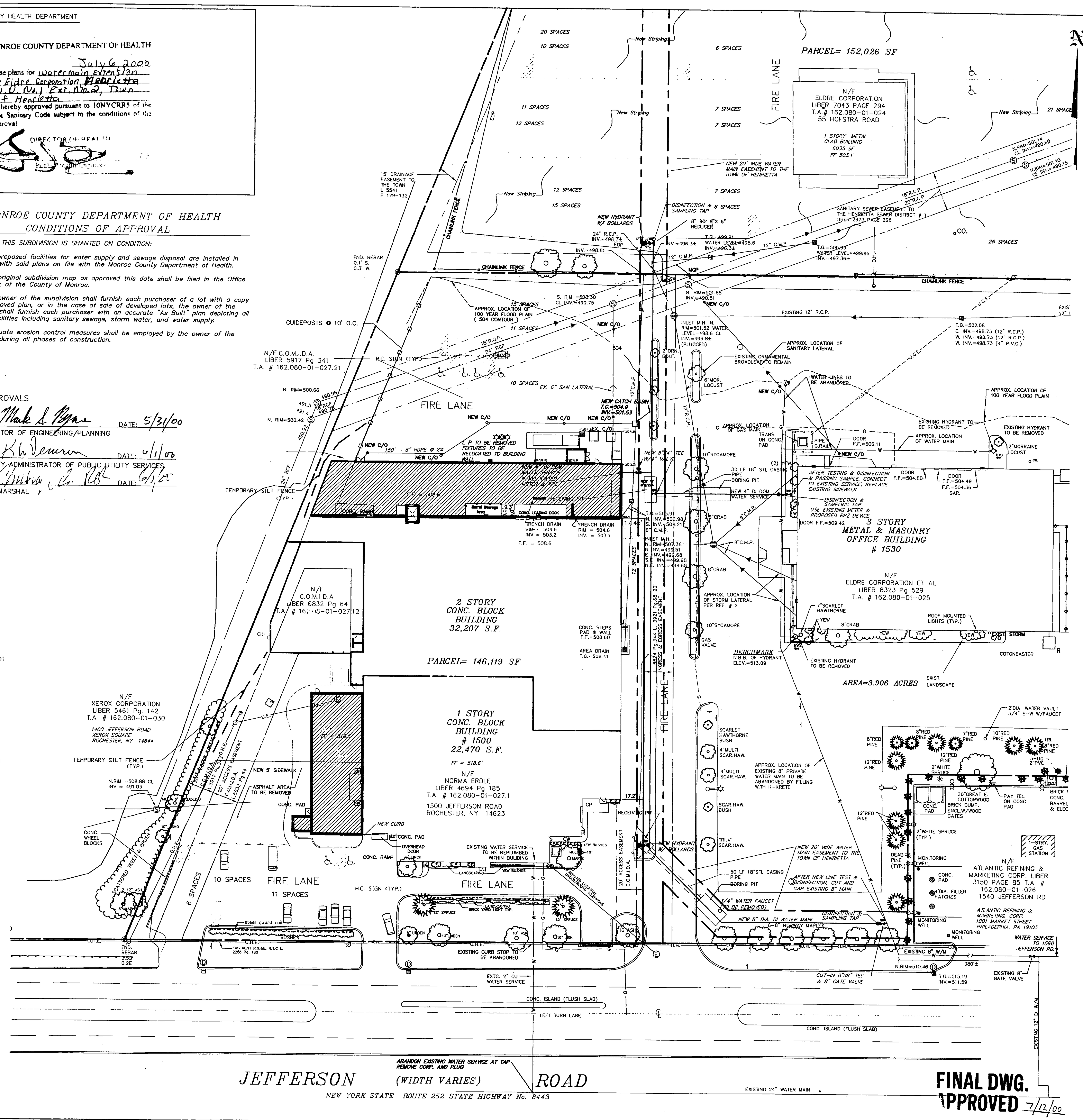
   The Monroe County Department of Health must receive at least 48-hours advance notification requesting sampling services. Sampling will not be performed prior to receipt from a New York State licensed or registered design professional (engineer, architect or land surveyor with a special exemption under Section 7208(n) of the Education Law) certifying that the water supply improvements, testing and disinfection procedures were completed in accordance with the approved plans, reports, specifications and any approved amendments. The Department will collect samples for free chlorine residual, total and fecal coliform and 24-hour bacterial plate count.

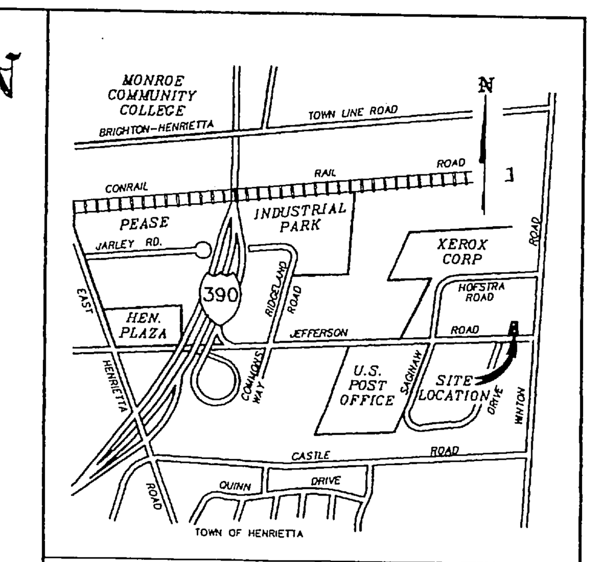
   The water main shall not be placed into service until so authorized by the Monroe County Department of Health.

2. Minimum separation between watermain and sewer mains to be 18" vertically measured from the outside of the pipes at the point of crossing. Minimum horizontal separation between watermains and sewer mains to be 10 feet measured from the outside of the pipes. One full length of watermain shall be centered under or over the sewer so that both joints will be as far from the sewer as possible. Where a watermain crosses under a sewer, adequate structural support (compacted selected fill) shall be provided for the sewers to prevent excessive deflection of joints and settling on and breaking the watermains.

3. When installing fire hydrants, should groundwater be encountered within seven (7) feet of the finished grade, fire hydrant weep holes (drains) shall be plugged.

4. The water main shall be pressure/leakage tested in accordance with the minimum requirements of the AWWA Standard C600 (latest version) or in accordance with more stringent requirements imposed by the supplier of water.





LOCATION SKETCH
N.T.S.

ABBREVIATIONS

N/F	NOW OR FORMERLY
TA #	TAX ACCOUNT NUMBER
TEL	TELEPHONE
OHE	OVERHEAD ELECTRIC
UE	UNDERGROUND ELECTRIC
G	GAS
W	WATER
PVC	POLYVINYL CHLORIDE
CMP	CORRUGATED METAL PIPE
INV	INVERT
MH	MANHOLE
CB	CATCH BASIN
DI	DRAIN INLET
T/G	TOP OF CB GRATE
CONC	CONCRETE
EOP	EDGE OF PAVEMENT
FF	FINISHED FLOOR
FNC	FENCE
IP	IRON PIPE
BLDG	BUILDING

DRAWING ALTERATION

The following paraphrased from the New York Education Law, Article 145, Section 7209, and Chapter II, Section 79-1.4, and applies to this drawing: "It is a violation of this law for any person unless he is acting under the direction of a licensed professional engineer, licensed landscape architect or licensed land surveyor to alter an item in any way. If an item bearing seal of an engineer, landscape architect or land surveyor is altered, the altering engineer, landscape architect or land surveyor shall affix to the item his seal and the notation "altered by" followed by his signature and the date of such alteration and a specific description of the alteration".

no.	date	revision	by
	6/12/00	ADDITION OF WATERMAIN NOTES	RLW
5	5/25/00	GENERAL REVISIONS	MPC
4	5/10/00	REVISED PER TOWN OF HENRIETTA COMMENTS	MDV
3	4/26/00	REVISED PER TOWN OF HENRIETTA COMMENTS	MDV
2	1/24/00	REVISED PER TOWN OF HENRIETTA COMMENTS	PM
1	11/11/99	REVISED PER TOWN OF HENRIETTA COMMENTS	MDV

project title:

ELDRE CORPORATION BUILDING ADDITION

drawing title:

UTILITY PLAN

client:

ELDRE CORPORATION
1500 JEFFERSON ROAD
ROCHESTER, NY 14623
716-427-7280

project location:

TOWN OF HENRIETTA
BEING PART OF LOT 4, SECOND RANGE,
OF LOTS TOWNSHIP 12 RANGE 7
COUNTY OF MONROE STATE OF NEW YORK

STATE OF NEW YORK — ROBERT L. WEISENREDER — No. 060494 — Licensed Professional Engineer

Environmental Design & Research, P.C.
engineers • surveyors • ecologists • architects • landscape architects

Syracuse • Rochester • Buffalo
6710 West Henrietta Road, Rush, New York 14543
(716)359-4200 • FAX (716)334-4489

scale: 1" = 40'	cad file: 844/LA/SITE.dwg
drawn by: D.G.P.	checked by: W.J.A.
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LaBella Associates, P.C.
300 State Street
Rochester, New York 14614

Appendix 4

NYSDEC Contact List and Statement of Qualifications

1500 Jefferson Road & 55 Hofstra Road
Eldre Corporation
Remedial Investigation

Henrietta, New York

Contact List Information

Environmental Professional: LaBella Associates

Environmental Director	Greg Senecal, CHMM*	ph. 585-295-6243 cell 585-752-6480
Project Manager	Dan Noll, P.E.*	ph. 585-295-6611 cell 585-301-8458
Quality Assurance Officer	Emily Gillen	ph. 585-295-6268
Field Geologist & Site Safety Officer	Jason Jaskowiak, EIT*	ph. 585-295-6289 cell 585-576-3267
LaBella Safety Director	Richard Rote, CIH*	ph. 585-295-6241

BCP Participant: Eldre Corporation

Contact: Lee Moss - phone – 585-427-7280

Drilling Contractor: TBD

* denotes LaBella's assumption that each of these individuals qualifies as a Qualified Environmental Professional as defined in NYSDEC Part 375-1.2(ak). Alternate QEPs are also included in the following qualifications in the event one or more of these persons are needed to complete the RI.

Gregory Senecal, CHMM

Education:

- SUNY Environmental Science and Forestry at Syracuse: BS, Environmental Science
- SUNY Cobleskill: AAS, Fisheries and Wildlife Technology

Certification/Registration:

- Certified Hazardous Materials Manager (CHMM)
- Certified Hazardous Waste Operations & Emergency Response (40 Hour OSHA Health and Safety Training 29)
- Advanced CPR and First Aid

Mr. Senecal is Director of Environmental Services and is a Certified Hazardous Materials Manager. He is responsible for the direction of all environmental investigation related projects undertaken by the firm. Mr. Senecal has 20 years experience in designing, managing, and conducting numerous, remedial projects, Brownfield assessment and redevelopment projects, groundwater monitoring well installations, test pit excavations, and underground petroleum storage tank removals and spill cleanups.

Mr. Senecal coordinates staffing and client relationships for many of the firm's environmental clients. This effort includes working closely with the client, and forming the best technical project teams for the diverse array of environmental consulting and engineering services offered by the firm.

Key Projects:

- **690 St. Paul Street, NYSDEC Brownfield Cleanup Project, Rochester, NY**
  Mr. Senecal is serving as the project director for this multi faceted Brownfield investigation and cleanup project. Mr. Senecal acts as the liaison between the building owners, the former owner (Bausch & Lomb), the Building tenant (City of Rochester School District), and the numerous regulatory agencies involved in the project. This project includes a large SVI investigation, design and installation of a SVI mitigation system, monthly performance monitoring of indoor, sub slab, and exterior air, and communication of the above results to the agencies, tenants, and various stakeholder groups this project also included several IRM's for the removal of orphan tanks and petroleum impacted soils. The RI is currently focusing on the identification and delineation of suspected TCE plumes on the property and under the building structures.

- **Buffalo Avenue Industrial Corridor Brownfield Opportunity Area Pre-Nomination Study, Niagara Falls, NY**
  Mr. Senecal served as the project director for this 1500 acre, 2500 industrial parcel Brownfield Opportunity Area Project. Mr. Senecal coordinated the effort between LaBella's Planning and environmental division. Mr. Senecal also oversaw the schedule and public outreach components of the project.

- **Vacuum Oil/South Genesee Brownfield Opportunity Area: Pre-Nomination Study, Rochester, NY**
  Director of the Project Team for the City of to prepare a pre-nomination study for the proposed Vacuum Oil-South Genesee River Corridor Brownfield Opportunity Area. LaBella developed mapping that allowed for the Brownfield Opportunity Area boundaries to be established in a logical manner at the 56 acre 1.2 mile long corridor along the Genesee River. LaBella conducted economic and demographic research for the project site and gathered zoning, occupancy, and environmental information for potential underutilized Brownfield properties within the BOA.

- **Oswego River Corridor BOA, Oswego County, NY**
  Environmental Division Director for this 1,300 acre BOA on the Lake Ontario and Oswego River waterfronts. The project will focus on opportunities to redevelop strategic sites on the waterfront, downtown and underutilized or contaminated brownfields.

- **Tonawanda BOA, Town of Tonawanda, NY**

Environmental Division Director responsible for technical environmental services for this 1,000 acre BOA on the Niagara River.

- **Foster Wheeler Plant Site Characterization, Dansville, NY**
  Project Manager for this due diligence investigation consisted of a complete Phase I Environmental Site Assessment and Phase II Site Characterization.

- **Environmental Term Agreement, City of Rochester, NY**
  Client Manager who directs all of the projects under the term. Projects range from Phase I Environmental Site Assessments to Site Characterizations, Remedial Cost Estimates, and Brownfield Cleanups.

- **Port of Rochester Redevelopment Project Phase II Site Characterization, Rochester, NY**
  Project Manager for complete Phase II Site Characterization, which involved sub surface characterization of approximately 38 acres. Mr. Senecal directed the environmental team who received a beneficial re-use determination to re use 80,000 cubic yards of iron foundry slag as on site fill.

- **Bureau of Water, Lighting, & Parking Meter Operations, Rochester, NY**
  Mr. Senecal served as Client Manager to remediate the Water Bureau site to obtain regulatory closure or inactivation. The project scope includes the redevelopment of the current site for reuse as a new facility for the operations center.

- **CSXT Train Derailment & Hazardous Materials Spill, Rochester, NY**
  Project Manager responsible for review of all delineation reports, implementation of additional delineation studies, review of remedial work plans, and oversight of all facets of the execution of IRM as it related to achieving a cleanup that would limit long term liability for the City and allow for the planned redevelopment to occur.

- **Rochester Rhinos Stadium Brownfield Redevelopment, Rochester, NY**
  Mr. Senecal served as Project Manager of the NYSDEC Voluntary Cleanup of this prominent urban redevelopment site. The voluntary clean was based around a soils management plan approach that included the re-use of approximately sixty thousand yards of low level petroleum contaminated soils as on site fill under parking lots and in landscaped berm areas of the property.

- **Seneca Nation: USEPA Brownfield Cleanup Grant**
  Client Manager responsible for the preparation of a USEPA funded Brownfield Cleanup. The site consists of a vacant rail yard that is contaminated with diesel fuel and heavy metals. The cleanup involves removal and ex-situ bio-remediation of petroleum impacted soils and an environmental management approach that allows for the re-use of railroad ballast and shallow soil impacted with low levels of heavy metals and semi volatile organic compounds as fill under paved parking lots.

- **NYSDOT Hazardous Waste Projects, Region 4 and Region 5, NY**
  Project Manager
    - Development of a characterization workplan to satisfy City, NYSDEC, NYSDOH, MCEMC, and NYSDOT requirements

- Implementation of a multiple phase workplan including shallow soil sampling, test pitting, drilling, geo-probing, and groundwater monitoring well installation
- Environmental liaison between LaBella Associates, the NYSDOT, the NYSDEC, and the City of Rochester
- Direction of investigative and remedial work
- Evaluation of contamination levels and impacts
- Responsible for final report preparation for the City and the NYSDEC

- **Automotive Service Center, Voluntary Cleanup Investigation, Rochester, NY**
  Project Manager responsible for the delineation of an area of impairment for the client, and the release of future environmental liability for the client from the NYSDEC.

- **Pennsylvania Act II Site Characterization, Soil and Groundwater Remediation, Coudersport, Pennsylvania**
  Mr. Senecal was Project Manager for a Pennsylvania Department of Environmental Protection Act II Voluntary Cleanup project. The site consisted of approximately five acres of land, two vacant gas stations and an agricultural chemical retail store.

- **Former Trucking Maintenance Facility, Phase II Site Characterization and Remedial Measures, Bloomfield, New York**
  Project Manager for a multi-phased site characterization and remedial effort. Mr. Senecal was responsible for the oversight of the spill closure, design of a sub slab venting system, removal of 800 tons of impaired soil, and negotiations with the NYSDEC.

- **Former Gas Station, Design and Construction of Bio Remediation Project, Rush, New York**
  Mr. Senecal was Project Manager for the removal of three underground gasoline storage tanks and approximately 600 tons of impaired soil. The design and implementation of a bio-cell remediation for the impaired soils, achieved NYSDEC Spill Closure and resulted in a 50 % savings compared to off-site land filling of the soils.

Daniel Noll, PE

Education:

- Clarkson University: BS, Chemical Engineering

Certification/Registration:

- Professional Engineer, NY
- 40 Hour OSHA Certified Hazardous Waste Site Worker Training
- 8 Hour OSHA Certified Hazardous Waste Site Worker Refresher Training

Mr. Noll has over 14 years of experience with environmental projects at industrial/manufacturing facilities and environmental investigation projects for a variety of clients including developers, financial institutions, industrial clients, and municipalities. Mr. Noll has managed numerous Phase II Environmental Site Assessments and remediation projects such as groundwater monitoring programs, soil vapor investigations, test pit investigations, geo-probe investigations underground storage tank removals, soil removals, bio-cell remediations, and in-situ groundwater remediation. Mr. Noll also has experience with the design and installation oversight of mitigation systems. In addition, Mr. Noll has assisted industrial, municipal and agricultural clients with permitting and annual reporting for State Pollution Discharge Elimination System (SPDES) permits, Part 360 Land Application permits, Composting permits, and Petroleum Bulk Storage (PBS) registrations.

Key Projects:

<u>Brownfield Cleanup Program Projects</u>

- **Carriage Cleaners - BCP Site, Springs Land Company, Rochester, NY**
  As Project Manager, Mr. Noll completed a Brownfield Cleanup Program (BCP) Application & Work Plan to conduct a Remedial Investigation at a former dry cleaning facility. A soil, groundwater, and soil gas study was undertaken to develop remedial costs and assist with redeveloping the property. Subsequently, an Interim Remedial Measure was completed to remove the source area of impacts from the Site. Mr. Noll designed a remedial system for on-going treatment of the residual groundwater plume. Mr. Noll attended Town Board Meetings regarding this project.

- **Former Manufacturing Facility - BCP Site, American Siepmann Corporation, Henrietta, NY**
  Mr. Noll is project manager for this Brownfield Cleanup Program (BCP) Site and has overseen the installation of a groundwater monitoring well network and subsequent routine sampling as part of a Monitored Natural Attenuation (MNA) program for remediation of chlorinated groundwater impacts at the Site.

- **Former Manufacturing Facility - BCP Site, Stern Family Limited Partnership, Rochester, NY**
  Mr. Noll was project engineer for this BCP Site which has undergone a Remedial Investigation, Interim Remedial Measures, and installation of a sub-slab depressurization system. Mr. Noll completed and stamped the Final Engineering Report required to obtain the Certificate of Completion for the property owner and allow them to obtain their tax credits.

- **Former Gasoline/Service Station - BCP Site, RJ Dorschel Corporation, Rochester, NY**
  Mr. Noll was project manager for this BCP Site, which included conducting Remedial Investigations at two adjoining parcels, implementing Interim Remedial Measures, and developing the Final Engineering Report and Site Management Plan. This project also included implementing the necessary Citizen Participation requirements. This project obtained the Certificate of Completion and thus the NYS tax credits.

- **Former Bausch & Lomb Facility – BCP Site, Genesee Valley Real Estate, Rochester, NY**

Mr. Noll is project manager for this Brownfield site that was a former manufacturing facility from the 1930s to the 1970s. The project included a Remedial Investigation (RI) of a 4-acre parcel with ten areas of concern identified based on historic information. The RI identified four areas requiring remedial actions and Interim Remedial Measures were planned. The areas of remediation included petroleum impacted soil and groundwater including free floating petroleum product, chlorinated solvent contamination including bedrock impacts at depth.

- **Comfort Inn – BCP Site, Bajrangee, Inc., Rochester, NY**
  Mr. Noll is project manager for this Brownfield site that included conducting a design phase investigation to determine the extent of remedial work. The remediation work included excavation of chlorinated solvent impacts to soil and groundwater from the basement of the building. This included designing proper shoring to facilitate the removal action. A second phase of the remediation includes injection of treatment chemicals to address downgradient groundwater impacts.

- **Vacuum Oil – BCP Site, One Flint Street Associates, Rochester, NY**
  Mr. Noll is project manager for this Brownfield site that is the oldest oil refinery in the United States. The current project includes developing a remedial investigation plan for two parcels that have had a history of oil refining since the 1800s. The remedial investigation was designed to fill data gaps from previous studies in order to minimize cost to the Client.

NYSDEC Petroleum Spill Investigation and Remediation Projects

- **Former Genesee Hospital, Alexander Associates, Rochester, NY**
  Mr. Noll was Project Manager for a Phase II ESA of a former hospital campus and adjoining parking garage. This assessment included evaluating potential impacts from the hospital chemical storage area, backup generators and associated fuel tanks, and historical site uses which included a former car dealership and service center. The Phase II ESA progressed in to the remediation of a NYSDEC Spill prior to redevelopment of the property. The investigation and remediation work obtained closure of a 20+ year old spill in less than 6-months.

- **Petroleum Spill Site Remediation, DeCarolis Truck Rental, Rochester, NY**
  Mr. Noll was Project Engineer for this site, responsible for the coordination of the removal/disposal of approximately 800 tons of petroleum impacted soil and developed a confirmatory soil sampling program. Mr. Noll also coordinated work with NYSDEC and completed post removal monitoring in order to close the spill file.

- **Petroleum Soil Removal & Oxygen Injection System, City of Rochester, Rochester, NY**
  As Project Engineer, Mr. Noll developed a soil and groundwater study to investigate former underground storage tanks at a former gasoline/auto repair facility. A remedial alternatives analysis was conducted to evaluate several options for remediating soil and groundwater at the site including light non-aqueous phase liquid. Mr. Noll followed this project through remediation which consisted of removing about 1,500 cy of soil and designing/installing an oxygen injection system to remediate groundwater over time.

Dennis Porter, CHMM

Education:

- SUNY Oswego: BS, Biology

Certification/Registration:

- Certified Hazardous Materials Manager (CHMM)
- Certified Hazardous Waste Operations & Emergency Response (40 Hour OSHA Health and Safety Training 29)

Professional Affiliations:

- New York State Commercial Association or Realtors
- CHMM Local Chapter

Mr. Porter is the Phase II Environmental Site Assessment and Remediation Program Manager and is a Certified Hazardous Materials Manager. He has managed numerous Phase I and II Environmental Site Assessments, Remedial Investigations, Feasibility Studies, industrial hygiene studies, project monitoring and asbestos sampling surveys. Mr. Porter also has significant experience in Brownfield Redevelopment and completed numerous Site Redevelopment Projects under the NYSDEC's Brownfield Cleanup Program.

Key Projects:

BROWNFIELDS

- **NYS Environmental Restoration Program, Former Photech Imaging, City of Rochester, Rochester, NY**
  The City of Rochester received a NYSDEC Environmental Restoration Program grant for $3.9 million with $1.2 million in matching City funds. Mr. Porter served as the Project Manager responsible for all aspects of the project including; design phase investigations, building demolition, bid documents, contractor interviews & selection, remedial action work plans, waste profiling, contract implementation and construction management. Primary contaminants at this 12.5 acre site include asbestos, heavy metals and Semi-Volatile Organic Compounds (SVOCs) Metals contamination, primarily Silver, Cadmium and Chromium have been distributed across the site from the historical manufacturing operations.

- **NYS Environmental Restoration Program, Penn Yan Marine, Yates County, Penn Yan, NY**
  Yates County received a NYSDEC Environmental Restoration Program grant to conduct environmental investigations, remedial action work plans, and design documents to investigate and develop cleanup plans for a vacant and contaminated former boat manufacturing facility. Mr. Porter served as the Project Manager working closely with Yates County and the NYSDEC to design an environmental cleanup at the site, which will be consistent with the future use of the waterfront as a mixed use marine community.

- **NYSDEC Brownfield Cleanup Program, Greenport Crossings, Hudson, NY**
  As Project Manager, Mr. Porter completed a Brownfield Cleanup Program (BCP) Application & Work Plan to conduct a Remedial Investigation at a former industrial facility. A soil, groundwater, and soil gas study was undertaken to develop remedial costs and assist with the redevelopment of property. Subsequently, an Interim Remedial Measure was designed to remove the source area of impacts from the Site. The Project also included the demolition of the existing 100,000SF structure; completion of a Remedial Alternatives Analysis; and development of an Environmental Management Plan. Mr. Porter also presented at Town Board Meetings to assist in securing Municipal Approval for the proposed redevelopment.

- **NYSDEC Brownfield Cleanup Program, Penfield, NY**
  Mr. Porter served as the Remedial Program Manager for the Project. This complex project involved a detailed investigation and characterization regarding multiple source areas of chlorinated solvent contamination which included installing shallow overburden and deep overburden groundwater monitoring wells and an extensive soil boring grid. In addition, an exposure assessment for evaluating potential on-site and off-site exposures was

completed. This project was further complicated by the close proximity of the Site to residential properties and a commercial Day Care Facility. The RI concluded that an Interim Remedial Measure (IRM) was warranted to immediately remove a source area in order to minimize off-site migration and significantly reduce groundwater impacts in a cost effective and timely manner.

- **NYSDEC Brownfield Cleanup Program, Wolcott, NY**
  Mr. Porter served as the Project Manager for all facets of environmental investigation, characterization and remediation associated with an area of mercury contamination. A Remedial Investigation (RI) was designed in accordance with the NYSDEC BCP in order to provide for the investigation and characterization of the extent of mercury contamination at the site including the evaluation of human exposures to mercury. The selected remedial approach will be to cap the area of mercury contaminated soil with asphalt. This approach will allow for the reduction in potential human exposure to the contaminated soils through direct contact, allow the site owner to develop additional vehicle parking for the employees and eliminate the need for costly off-site landfill disposal of the mercury impacted soils.

- **NYSDEC Brownfield Cleanup Program, North Goodman, Rochester, NY**
  As Project Manager, Mr. Porter guided the Client through the NYSDEC Brownfield Cleanup Program. The project involved the Developer acquiring the contaminated parcel from the existing owner, assuming all responsibility for cleanup and subsequently entering into the NYSDEC Brownfield Cleanup Program as a Volunteer. This complex project involved detailed investigation and characterization regarding multiple source areas, defining off-site migration pathways, installation of a sub-slab vapor mitigation system for the existing structure and completing the evaluation of bedrock groundwater.

- **NYSDEC Brownfield Cleanup Program, Henrietta, NY**
  LaBella Associates, P.C. was retained by a local manufacturing company to complete the site remediation under the NYSDEC Brownfield Cleanup Program. The project was initiated by another consultant; however, due to cost overruns and timing of the work, the Client selected LaBella to complete the project. Mr. Porter served as the Remedial Program Manager for this Project. Timely response and client involvement was the key to bringing the project back on-track.

- **NYSDEC Brownfield Cleanup Program, Former Monoco Oil Facility, Pittsford, New York – Mark IV**
  As Project Manager, Mr. Porter completed a Brownfield Cleanup Program (BCP) Application & Work Plan to conduct a Remedial Investigation at a former bulk petroleum facility. A soil, groundwater, and soil gas study was undertaken to develop remedial costs and assist with redeveloping the property. Subsequently, an Interim Remedial Measure was designed to remove the source area of impacts from the Site.

- **USEPA Brownfield Cleanup Grant: Seneca Nation of Indians, Salamanca, NY**
  Mr. Porter served as the Remedial Design Manager and assisted in authoring a United States Environmental Protection Agency (USEPA)

Brownfield Cleanup Grant for the Seneca Nation. The successful grant application that was prepared sought $200,000 for the cleanup of a vacant rail yard that is contaminated with diesel fuel and heavy metals. The rail yard is located in the Seneca Nation's Allegheny territory in Salamanca, New York.

- **USEPA Brownfield Cleanup Grant: 935 Broad Street, City of Rochester, NY**
  Mr. Porter served as the Project Manager for the City of Rochester during the design and implementation of a comprehensive Remedial Investigation, Remedial Alternatives Analysis, Site Re-Use Concept Plan and a Corrective Action Plan for a Former Gasoline Station at 935 West Broad Street. This project was funded under the NYSDEC 1996 Clean Water/Clean Air Bond Act.

- **USEPA Brownfield Cleanup Grant: Former Photech Imaging, 1000 Driving Park, City of Rochester, NY**
  The City of Rochester received a USEPA Remediation Grant for $200,000 to remediate an area of hazardous and non-hazardous contamination associated with the facilities former silver wastewater recovery system. Mr. Porter served as the Project Manager responsible for all aspects of the project including; design phase investigations, remedial design, bid documents, contractor interviews & selection, remedial action work plans, waste profiling, contract implementation and construction management.

NEW YORK STATE BROWNFIELD OPORTUNITY AREAS (BOAs)

- **Brownfield Opportunity Area: Pre-Nomination Study, City of Rochester, Rochester, NY**
  Mr. Porter worked on the Project Team for the City of to prepare a pre-nomination study for the proposed Vacuum Oil-South Genesee River Corridor Brownfield Opportunity Area. LaBella developed mapping that allowed for the Brownfield Opportunity Area boundaries to be established in a logical manner at the 56 acre 1.2 mile long corridor along the Genesee River. LaBella conducted economic and demographic research for the project site and gathered zoning, occupancy, and environmental information for potential underutilized Brownfield properties within the Brownfield Opportunity Area.

- **Vacuum Oil/South Genesee Brownfield Opportunity Area: Pre-Nomination Study, Rochester, NY**
  Mr. Porter worked on the Project Team for the City of to prepare a pre-nomination study for the proposed Vacuum Oil-South Genesee River Corridor Brownfield Opportunity Area. LaBella developed mapping that allowed for the Brownfield Opportunity Area boundaries to be established in a logical manner at the 56 acre 1.2 mile long corridor along the Genesee River. LaBella conducted economic and demographic research for the project site and gathered zoning, occupancy, and environmental information for potential underutilized Brownfield properties within the BOA.

- **Buffalo Avenue Industrial Corridor Brownfield Opportunity Area Pre-Nomination Study, Niagara Falls, NY**
  Mr. Porter worked on the Project Team for the City of to prepare a pre-nomination study for this 1500 acre, 2500 industrial parcel Brownfield Opportunity Area Project. Mr. Porter assisted in the coordination;

Richard Rote, MS, CIH

Education:

- University of Rochester: MS, Industrial Hygiene
- St. Lawrence University: BS, Geology

Certification/Registration:

- Certified Industrial Hygienist
- NYSDOL Project & Air Monitor
- Hazardous Waste Operations & Emergency Response

Professional Affiliations:

- American Industrial Hygiene Association
- American Board of Industrial Hygience
- Air & Waste Management Association
- American Society of Safety Engineers

Mr. Rote is a Certified Industrial Hygienist with a background in occupational and public safety. He brings to his projects an expertise in asbestos, lead, PCB and the management of other hazardous materials. Projects have included building surveys, hazard assessments, abatement project planning, and project inspection and monitoring. Mr. Rote manages our in-house laboratory for asbestos air and bulk samples, as well as managing air monitoring projects. His responsibility is to identify environmental impacts, and design and manage appropriate environmental responses for these projects.

Key Projects:

- **Asbestos Term Agreement, NYSDOT, NY**
  Mr. Rote is Project Manager for LaBella Associates' sixth Term Agreement for Asbestos Management. His responsibilities include coordinating scheduling and supervising field work, reviewing final reports and contract management. Services are provided to four regions and included asbestos sampling, analysis, Project Design, Project Monitoring and Air Monitoring. Over the six consecutive term agreements, Mr. Rote's group has inspected hundreds of bridges and completed over one hundred pre-demolition surveys of other structures. (1990 – 2010)

- **Wegmans Food Markets, M&T Bank Pre-demo Abatement, Rochester, NY**
  Mr. Rote was the project manager for the regulated building materials inspection and abatement design required to accomplish the demolition of the bank and the adjacent parking garage. The inspection revealed spray-on fireproofing and other ACMs, as well as extensive use of PCB caulk around the exterior of both structures and on the interior side of windows. Fireproofing was identified between structural steel and exterior pre-fabricated cement panels, requiring partial demolition of the panels to gain access for abatement in otherwise inaccessible locations. This was a unique and challenging project, requiring innovative design and flexible response.

- **Wegmans Food Markets, Asbestos Inspection, Design, & Monitoring for Store Demolition**
  Project Manager for hazardous materials management services provided to Wegmans for over 10 years, including the demolition of buildings at 10 retail store sites. Mr. Rote is responsible for the management of all services, including building inspection, abatement design, bid document preparation, bid support and project and air monitoring.

  Mr. Rote's team has provided the same services for pre-renovation projects that have occurred in Wegmans stores, as well a number of leased spaces.

- **Environmental Testing Term Agreement, Monroe County, Rochester, NY**
  Project Manager for our tenth year of term agreement experience (with renewals) for hazardous materials inspection and abatement design with Monroe County. Projects have ranged from small utility spaces to large multi-story office/housing complexes. Recently completed projects include:
  - Public Safety Building
  - Psychiatric Center
  - Walters Building & staff residence (ACM, lead & PCB)
  - Terrance Building (ACM, lead & PCB)

- Monroe County Jail (Lead paint testing)
- MCC Field House Addition
- Monroe Community Hospital renovations
- MCC Window Replacement

- **Monroe County Water Authority, 2010 Roof Replacement Projects**
  Mr. Rote was the Project Manager for an asbestos inspection and abatement design project required for roof replacements at two facilities. Testing was completed, specs and drawings prepared, and a cost estimate generated for both sites. Project Monitoring services were provided for one roof project completed in 2010.

- **Asbestos Abatement and Inspection, Gates Chili Central School District, Gates, NY**
  Project Manager for asbestos and lead paint inspection, and abatement design related to improvements and modifications to 10 buildings. The project required coordination between the project team, school staff, and several architectural firms.

- **Hazardous Materials Management, Gates Chili High School, Gates, NY**
  Project Manager for comprehensive pre-renovation hazardous materials identification and abatement design services. Extensive renovations required the abatement of asbestos, lead, PCBs and mercury prior to construction.

- **Asbestos Inspection, Design, and Monitoring for Renovation, Rush Henrietta Central School District, Henrietta, NY**
  Project Manager for regulated building materials management services provided to the school district for the renovation of six schools. Services, including hazardous materials inspection, abatement design, bid document preparation, bid support and project and air monitoring, have been provided over a 10 year period.

- **Asbestos Inspection, English Village Apartments**
  Project Manager for asbestos and lead paint inspection of a limited number of units to develop an Asbestos-containing Materials report that was representative of 550 units present at the site. The client's requirement for an accurate abatement cost estimate and sufficient documentation for bidding and abatement were successfully satisfied (2003).

- **Environmental Services, NYSTA, NY**
  Project Manager for a multi-disciplined professional service agreement. Responsibilities included supervising asbestos inspections, testing, abatement design, Project Monitoring and contract management.

- **Seneca Nation of Indians**
  Completed a renovation feasibility study of a vacant 70,000 square foot health care facility. The study included mechanical, electrical, structural and hazardous material investigations.

- **Holy Family Catholic Community**
  A hazardous materials pre-demo inspection was performed at the St. Joseph School. Abatement and demolition design and bid support services were

provided. Project Monitoring was performed during abatement and construction management services were provided during demolition.

- **Asbestos Inspection and Abatement Design for Pioch Hall, Basil Hall, and Science Center, St. John Fisher College, Rochester, NY**
  Project Manager for the asbestos inspections and abatement design services. Planned renovations and selective demolition required inspection and testing materials likely to be disturbed by the project. The project required coordination with college staff, the contractor and school schedules.

- **Bureau of Water, Lighting, and Parking Meter Operations, Rochester, NY**
  Mr. Rote served as Project Manager, where preexisting asbestos inspection reports were field verified, and previously untested materials were sampled and submitted for analysis. The buildings were assessed for lead, mercury lamps and PCBs. A detailed cost estimate, abatement specifications, and drawings were prepared.

- **Port of Rochester Redevelopment, Rochester, NY**
  Project Manager for the asbestos inspection, abatement design and project monitoring services were a component of a much larger project involving the design and construction of a new ferry and customs terminal at the Port of Rochester.

- **Former Photech Plant Pre-demolition Inspection, City of Rochester, Rochester, NY**
  Project Manager for the comprehensive inspection of hazardous and Regulated Building Materials at a former industrial site, abandoned for many years. Inspection and design were hampered by years of vandalism and widespread industrial chemical contamination. Staff completed inspections, prepared a pre-demo report, abatement drawings, specifications, provided bid support, and project and air monitoring.

- **Hazardous Materials Inspection and Testing, Garlock Sealing Technologies, Palmyra, NY**
  Mr. Rote was Project Manager for the comprehensive hazardous materials inspection and testing of an 80 year old industrial building slated for a complete renovation. Specifications and drawings were prepared for the abatement of ACM, PCB, and mercury-containing items.

- **Horning Construction Company**
  Provided site inspection and work practice consultation regarding concerns over an abatement sub-contractor's work performance.

- **SUNY Fredonia, Alumni Hall Bathroom Updates, Fredonia, NY**
  Project Manager of inspection and abatement design services for the management of asbestos, PCB, lead and mercury related to the rehabilitation of eight student bathrooms in Alumni Hall. Tile floors and walls were cored to determine the presence of asbestos-containing waterproofing. Specifications and drawings were prepared for the abatement of asbestos, lead and mercury-containing light bulbs. Abatement was completed in the spring of 2011. LaBella provided project and air monitoring services during abatement of asbestos plaster ceilings and insulated light fixtures from the eight bathrooms.

Emily Gillen

Education:

- Clarkson University: BS Environmental Science & Policy – Minor in Environmental and Occupational Health

Certification/Registration:

- Occupational Safety and Health Administration 40-Hour Hazardous Waste Operations and Emergency Response Course
- Occupational Safety and Health Administration 8-Hour Hazardous Waste Operations and Emergency Response Refresher Course – April 2010

Ms. Gillen is an Environmental Analyst with four years of experience conducting Phase I and Phase II Environmental Site Assessments and remedial projects. Current work includes soil and groundwater sampling, soil vapor analysis, petroleum storage tank removals, and review and evaluation of analytical groundwater monitoring data. From these experiences, she commands a solid understanding of both state and federal regulations.

Key Projects:

- **Groundwater Sampling & Analysis, Cannon Industries, Inc., 525 Lee Road, Rochester, NY**
  Conducted quarterly low-flow groundwater sampling to investigate contamination associated with the Site's use as an industrial facility.

- **Site Management Plan, BCP Site #C828134, Former Steve Joy's Sunoco, Henrietta, NY**
  Conducted semi-annual low-flow groundwater sampling for long term management of remaining contamination associated with the Site's use as an auto repair facility. Annual inspection of the sub-slab depressurization system and monitoring of bio-cell soils associated with this Site.

- **Remedial Investigation, BCP Site #C828159, 690 St. Paul Street, Rochester, NY**
  Conducted low-flow groundwater sampling to investigate contamination associated with the Site's use as an industrial facility. Assisted with a sub-slab vapor evaluation in accordance with applicable NYSDOH regulations and guidance documents.

- **Soil Vapor Intrusion Assessment, NYSDEC Site #828023, Former Emerson Street Landfill, Rochester, NY**
  Conducted development and low-flow groundwater sampling for chlorinated volatile organic compounds associated with the Site's historic use as a municipal landfill. Conducted facility site inspections to determine the need for soil vapor intrusion (SVI) investigations at various properties within the footprint of the former landfill. Assisted with soil/fill relocation and soil management between two parcels on the former landfill.

- **UST Removal, First Niagara Bank, 155 Pinnacle Road, Pittsford, NY**
  Served as Project Manager for the completion of a Phase II ESA: UST Exploration and Removal at a church. Duties included oversight of test pitting to determine tank locations, oversight of tank removal and collection and evaluation of analytical confirmatory soil samples, budget tracking and completion of the Phase II ESA Report.

INDUSTRIAL HYGIENE

Ms. Gillen has experience with a variety of industrial hygiene projects and environmental studies resulting in an in-depth knowledge of a variety of sample collection techniques. Industrial hygiene projects include:

- **OSHA Personnel Exposure Studies**
- **Noise Exposure Studies**
- **OSHA Compliance Programs and Audits**
- **Indoor Air Quality Studies**
- **Mold Assessment and Testing**

Jason Jaskowiak, EIT

Education:

- State University of New York at Buffalo: MS, Civil/Environmental Engineering
- State University of New York at Buffalo: BS, Environmental Engineering
- Monroe Community College: AS, Science

Certification/Registration:

- Engineer in Training
- Confined Space Certified
- PACP/MACP Certified

Proffesional Affiliations:

- American Water Works Association
- Tau Beta Pi National Engineering Honor Society
- Chi Epsilon National Civil Engineering Honor Society

Mr. Jaskowiak is an Environmental Engineer with over three years of environmental consulting experience. Project experience includes: waterworks business operations plan development, drinking water modeling, traffic control plans, transportation analysis, sanitary sewer evaluation studies, sampling plans, stormwater illicit discharge survey's, GIS data collection and editing, waste water analysis (TSS, VSS, BOD, pH, TDS, alkalinity), stormwater modeling and design, septic design, permitting, Phase I research, Grant applications , site exploration supervision and soil sampling data analysis.

Key Projects:

Work completed under previous employment:
STORMWATER PROJECTS

- **Stormwater System Condition Assessment, Pensacola, FL**
  Project engineer responsible for conducting field assessment of storm sewer manhole, inlet and pipe conditions. Assessment included smoke testing, visual inspection and asset measurements. Collected location information of stormwater features via GPS and photography. Summarized data for delivery.

- **Best Management Practice Assessment, Quantico, VA**
  Project engineer responsible for locating, recording and evaluating all stormwater best management practices on the Quantico Marine Corps base main side. Recommended best management practice rehabilitation based on field observations and developed associated cost estimates. Developed and created deliverables.

- **Stormwater Illicit Discharge Survey, Washington Navy Yard, Washington D.C.**
  Project engineer responsible for locating, recording and evaluating all stormwater outfalls on the Washington Navy Yard. Suspected illicit discharge flows were sampled on site and evaluated for pH, turbidity, chlorine and temperature. Developed and created deliverables.

- **Stormwater Illicit Discharge Survey, Quantico, VA**
  Project engineer responsible for locating, recording and evaluating all stormwater outfalls on the Quantico Marine Corps base main side. Suspected illicit discharge flows were sampled on site and evaluated for pH, turbidity, chlorine and temperature. Developed and created deliverables.

- **Superfund Remediation Site, NY**
  Modeled stormwater conditions for proposed site remediation strategies and predevelopment conditions utilizing Win TR-55. Designed an appropriate stormwater collection and treatment system for implementation.

WASTEWATER PROJECTS

- **Sanitary Sewer Evaluation Study of Newport News, VA**
  Project engineer involved in the field assessment of sanitary sewer and manhole conditions. Assessment included visual inspection and smoke testing to locate defects. Collected points of interest via GPS and photography and summarized data for delivery. Developed and created deliverables.

- **Pilot Septic System Analysis, Lewiston, NY**
  Analyzed treated and pre-treated wastewater utilized in a septic system which utilized tire derived aggregate as a media in the leach field trenches. Analysis included TSS, VSS, BOD, pH, TDS and alkalinity which was compared to the performance of standard media.

DRINKING WATER PROJECTS

- **Drinking Water Distribution System Evaluation, Camp Lemonnier, Djibouti, Africa**
  Project engineer responsible for determining hydraulic parameters of a drinking water distribution system and treatment plant in order to create a hydraulic model. Collected data on water usage, monitored system pressures, measured C-factors in strategic system locations and collected GPS information on water system features.

- **Waterworks Business Operations Plan, Fort Monroe, Hampton, VA**
  Project engineer responsible for the development and completion of a Waterworks Business Operations Plan. Assisted a unique client in transitioning historic Fort Monroe from an Army base to a business and residential area. Worked with incoming management to develop the requirements of owning and operating a public water system including: revenue sources, budgeting, emergency planning, inventories, sampling plans and personnel assignments.

- **Treatment and Distribution System Evaluation, MCAS Cherry Point, NC**
  Project engineer consolidated existing data and updated a hydraulic model of the drinking water distribution system. Created and evaluated scenarios of distribution and treatment alternatives to manage high disinfection byproduct concentrations within the water system.

- **Disinfection Byproduct Rule Sampling Plan, MCAS Cherry Point, NC**
  Project engineer responsible for updating the Disinfection Byproduct Rule Sampling Plan for the Marine Corps Air Station Cherry Point. Developed and created deliverables.

- **Total Coliform Rule Sampling Plan, MCAS Cherry Point, NC**
  Project engineer responsible for updating the Total Coliform Rule Sampling Plan for the Marine Corps Air Station Cherry Point. Developed and created deliverables.

MISCELLANEOUS PROJECTS

- **Landfill Sampling and Pilot Well Monitoring, Camp Lejuene, NC**
  Project engineer conducted sampling of groundwater and leachate at the Camp Lejuene landfill. Water parameter data was also collected from former USGS pilot wells at various locations throughout the base.

- **Transportation Analysis of MCB Camp Lejeune, NC**
  Project engineer utilized GIS data to create network datasets and perform a multitude of transportation analysis via Arc GIS Network Analyst. Developed and created deliverables. Completed in February, 2010

Michael Pelychaty

Education:

- SUNY Fredonia: BS, Geology
- Monroe Community College: AAS, Science

Certification/Registration:

- 40-Hour OSHA HAZWOPER

Mr. Pelychaty is a staff environmental geologist. He has over eleven years of experience in the field of Environmental Management relating to Phase I and Phase II Environmental Site Assessments, Remedial Investigations, Brownfield Remedial Investigations and Corrective Actions.

Current work includes numerous environmental site assessments and audits in New York and Pennsylvania. The site assessments include assessment of environmental liability associated with properties such as warehouses, gas stations, auto repair facilities, manufacturing facilities, farms, commercial properties, and residential homes. While conducting these investigations, Mr. Pelychaty has obtained a solid understanding of the many environmental issues facing property owners, municipalities, and developers.

Key Projects:

- **Former Photech Imaging Site, City of Rochester, Rochester, NY**
  Mr. Pelychaty served as Geologist overseeing the building decontamination and demolition of 15 buildings compromising 108,000 square feet of space. The site was originally developed in 1948 for manufacturing photographic film and paper. Several different companies have owned and operated the facility for photographic paper and film production through 1991. Large amounts of chemicals, wastes, and various supplies and materials were left "as-is" on-site when the facility was abandoned in 1991.

  The project scope involved assessing and characterizing building materials and left over waste streams for proper disposal. As part of the project a portion of the buildings floors and walls were identified to be impacted with heavy metals that required remediation prior to demolition. Mr. Pelychaty developed a remedial work plan to scarify building materials to allow demolition of the buildings were the impacts were identified.

  Over 350 shipments of various waste streams were removed and disposed of during building decontamination and demolition activities that included hazardous waste, regulated waste, construction and demolition debris, etc. The various waste were tracked and documented for the City of Rochester to confirm proper disposal.

- **Corrective Action Measures at Rotary and Mariner Sites, Broad & Plymouth, LLC, Rochester, NY**
  Mr. Pelychaty served as Geologist to develop a corrective action plan to obtain regulatory closure for two former gasoline stations located in a prime downtown development area. This project involved the removal and disposal of over 1,000 tons of petroleum impacted soil and the decommissioning of 6 underground tanks. Regulatory closure of the release occurred shortly after the corrective action measures were completed allowing for the property owner to redevelop the site.

- **Interim Remedial Measures and Remedial Investigation at Lake Ontario Mariners Marina, The Upstate Bank, Henderson Harbor, NY**
  Mr. Pelychaty served as Geologist for all facets of environmental investigation, characterization and remediation associated with an area of mercury contamination. An Interim Remedial Measure (IRM) Work Plan was designed in accordance with the NYSDEC VCP in order to provide for the removal and disposal of 500 tons of contaminated soils and 5 underground storage tanks that represented the source of contamination at

the site. This approach allowed the client to perform the majority of the remedial activities required at the site at a faster rate versus waiting for government and public feedback and wait periods. Subsequent to the completion of the IRM, Mr. Pelychaty developed a Remedial Investigation (RI) Work Plan to delineate the remaining areas of subsurface impacts that were unable to be addressed during the IRM.

- **Phase II ESA, 5450 Southwestern Blvd, Wal-Mart, APD Engineering, Hamburg, NY**
  Mr. Pelychaty served as a Geologist overseeing the implementation of a geophysical survey, test pits, and soil borings to investigate potential for subsurface environmental issues that could affect redevelopment of the site. As part of the investigation, regulated solid waste was identified which involved the development of an environmental management plant to facilitate the handling of regulated waste during redevelopment and to comply with local regulations.

- **Phase I & II ESA, 500 Ann Page Road, Wal-Mart, APD Engineering, Horseheads, NY**
  Mr. Pelychaty served as a Geologist for to investigate potential sub-surface environmental issues associated with historical uses of the site as a manufacturing facility. This project involved the implantation of over twenty-five test boring and six groundwater monitoring wells in areas of suspect concern identified in the Phase I ESA.

- **UST Removals, Industrial Park Circle, Gallina Development Corporation, Gates, NY**
  Mr. Pelychaty oversaw the removal of six underground storage tanks in accordance with state and local regulations. This project also involved the removal of impacted soil as a result of the tank leaking. This project was accomplished during a short time period to facilitate future sale of the site.

- **Former Gasoline/Service Station, BCP Site, Rochester**
  Mr. Pelychaty is Environmental Geologist for this BCP Site, which has including conducting Remedial Investigations at two adjoining parcels, implementing Interim Remedial Measures, and developing Remedial Investigation and Interim Remedial Measure reports. This project also including implementing the necessary Citizen Participation requirements.

- **Former Manufacturing Facility, BCP Site, Henrietta, NY**
  Mr. Pelychaty is currently serving as Environmental Geologist for this Brownfield Cleanup Program (BCP) Site. Some responsibilities included: overseeing the installation of a groundwater monitoring well network and subsequent routine sampling as part of a Monitored Natural Attenuation (MNA) program for remediation chlorinated groundwater impacts at the Site.

- **935 Broad Street, City of Rochester, NY**
  Mr. Pelychaty served as Environmental Geologist for the City of Rochester during the design and implementation of a comprehensive Remedial Investigation, Remedial Alternatives Analysis, Site Re-Use Concept Plan and a Corrective Action Plan for a Former Gasoline Station at 935 West Broad Street. This project was funded under the NYSDEC 1996 Clean Water/Clean Air Bond Act. Over 1,000 tons of petroleum contaminated

soil was removed as part of the project and the installation of a groundwater remediation system.

- **Valeo, Facility Wide Decommissioning**
  Mr. Pelychaty served as Environmental Geologist representing Valeo during the decommissioning of the Complex which consists of an approximately 22-acre site with 1.5 million square feet of manufacturing and warehouse space. LaBella provided Valeo with comprehensive environmental engineering design and management services associated with the phased reduction of operations at the Facility. In addition to the technical decommissioning of much of the manufacturing related infrastructure, it was paramount that LaBella design and manage each aspect to the project to minimize Valeo's long term liability associated with the Facility.

- **NYSDEC Brownfield Cleanup Program, Wolcott, NY**
  Mr. Pelychaty served as Environmental Geologist for all facets of environmental investigation, characterization and remediation associated with an area of mercury contamination. A Remedial Investigation (RI) was designed in accordance with the NYSDEC BCP in order to provide for the investigation and characterization of the extent of mercury contamination at the site including the evaluation of human exposures to mercury. The selected remedial approach will be to cap the area of mercury contaminated soil with asphalt. This approach will allow for the reduction in potential human exposure to the contaminated soils through direct contact, allow the site owner to develop additional vehicle parking for the employees and eliminate the need for costly off-site landfill disposal of the mercury impacted soils.

- **Bureau of Water, Lighting, and Parking Meter Operations, Rochester, NY**
  Mr. Pelychaty served as Environmental Geologist to remediate the Water Bureau site to obtain regulatory closure or inactivation. This project involved the removal and disposal of over 20,000 tons of petroleum impacted soil and the installation of a groundwater treatment system. The project scope includes the redevelopment of the current site for reuse as a new facility for the operations center.

- **Port of Rochester Re-Development Project Phase II Site Characterization, Rochester, NY**
  Environmental Geologist for the complete Phase II Site Characterization, which involved sub surface characterization of approximately 38 acres. The site received a beneficial re-use determination to re use 80,000 cubic yards of iron foundry slag as on site fill.

- **CSXT Train Derailment & Hazardous Materials Spill, Rochester, NY**
  Environmental Geologist responsible for all delineation reports, additional delineation studies, remedial work plans, and assisted in the execution of IRM as it related to achieving a clean up that would limit long term liability for the City and allow for the planned redevelopment to occur.

- **Phase I and II ESA, Village of Clyde, NY**
  Environmental Geologist who performed a Phase I Environmental Site Assessment (ESA) that identified several potential areas of concern at a facility that contained petroleum bulk storage, drywells, and underground

hydraulic lifts. Based on the findings of the Phase I ESA, Mr. Pelychaty oversaw the Phase II ESA that involved the advancement of test pits to investigate the identified areas of concern.

- **Phase I and II ESA, Village of Newark**
  Environmental Geologist who performed oversight of the removal and the construction of approximately 5,000 cubic yards of petroleum impacted soil into a bio-cell. Projects tasks involved continuously screening the excavation with a photo-ionization detector and for olfactory observations that would identify areas of soil impairment.

ASBESTOS / IH

Mr. Pelychaty has over six years of experience in the field of Environmental Management relating to asbestos project monitoring, Phase I and Phase II Environmental Site Assessments, and Indoor Air Quality tests, including mold. Mr. Pelychaty's responsibilities for Asbestos project monitoring and air monitoring include observation of work practices for compliance with applicable regulations, inspection of work areas for quantification and completion of work, and air monitoring for contamination and regulatory compliance.

PROJECT MONITORING

- **Asbestos Term Agreement, NYSDOT Regions 3, 4, 5, & 6, NY**
  Mr. Pelychaty routinely provides Project Monitor and Air Monitor services on projects throughout the state. Mr. Pelychaty's work includes observation of work practices for compliance with applicable regulations, inspection of work areas for quantification and completion of work, air monitoring for contamination and regulatory compliance. Representative projects under the term include:
  - Route 31, Belgium, PIN 3037.56.321
  - Route 481, Rehabilitation of 28 Bridges, PIN 3056.13.311
  - Route 20A Over Cazenovia Creek, PIN 5010.18.301
  - Route 33 Over Beach Road, PIN 5512.35.321
  - Route 173 Onondaga Hill, PIN 3019.12.321
  - Route 5 and CSX, Batavia, PIN 4005.06.321
  - Route 81, 15 Structures, Syracuse, PIN 3501.49.312
  - Reconstruction of Route 277, Union and William Street, PIN 5131.25.321
  - Demolition of 9 homes, Route 15 & 86, PIN 6008.47.321
  - Rehabilitation of Route 14 over South Street and Seely Creek, PIN 6108.48.321
  - Rehabilitation of 5 Bridges, Route 3, PIN 3015.28.321
  - Route 173, House Demolition, PIN 3019.12.321

- **Hazardous Waste Assessments, NYSDOT, NY**
  Mr. Pelychaty has performed numerous Hazardous Waste Contaminated Materials Assessments, NYSDOT Phase I Sampling and Testing Studies, and numerous Phase I and II environmental site assessments and audits in New York. This work includes soil and groundwater sampling, underground storage tank removals, and monitoring well installation, purging and sampling. Projects include:

- Lake Avenue, City of Rochester, PIN 4067.01
- Routes 36 & 408, Village of Mt. Morris, PIN 4096.24
- Sweethome Road, Town of Amherst, PIN 5803.35, D010148
- NY Route 165/384 River Road, Wheatfield, NY, PIN 5019.10.101
- NY Route 305, Portville, NY, HW/CM Assessment, PIN 5031.03

- **Air and Project Monitoring, Rush Henrietta Central School District**
  Mr. Pelychaty has provided project monitoring and air monitoring services on a number of different school renovation projects in this school district. Monitoring services include daily observation of contractor conformance with specifications and regulations, and required air monitoring. Projects have included six different schools over four years. (2004 – 2007)

- **Asbestos Inspection, Design, and Monitoring for Demolition, Wegmans Food Markets**
  Mr. Pelychaty has provided project monitoring and air monitoring services on a number of different store renovation projects. Monitoring services include daily observation of contractor conformance with specifications and regulations, and required air monitoring. Projects have included eight different stores over seven years. (2000 – 2007).

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

Appendix 5

NYSDOH Generic Community Air Monitoring Plan

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the

work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

<u>December 2009</u>

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

Appendix 6

Quality Control Program

LABELLA Associates, P.C.
Engineering
Architecture
Environmental
Planning

Quality Control (QC) Program

Location:

Eldre Corporation
1500 Jefferson Road & 55 Hofstra Road
Henrietta, New York

Prepared for:

Eldre Corporation
1500 Jefferson Road
Henrietta, New York 14623

LaBella Project No. 211670

February 17, 2012

Quality Control (QC) Program

Location:

Eldre Corporation
1500 Jefferson Road & 55 Hofstra Road
Henrietta, New York

Prepared for:

Eldre Corporation
1500 Jefferson Road
Henrietta, New York 14623

LaBella Project No. 211670

February 17, 2012

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

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1. Introduction

LaBella's Quality Control (QC) Program is an integral part of its approach to environmental investigations. By maintaining a rigorous QC program, our firm is able to provide accurate and reliable data. QC also provides safe working conditions for all on-site workers.

The Quality Control program contains procedures, which provide for collected data to be properly evaluated, and which document that quality control procedures have been followed in the collection of samples. The quality control program represents the methodology and measurement procedures used in collecting quality field data. This methodology includes the proper use of equipment, documentation of sample collection, and sample handling practices.

Procedures used in the firm's Quality Control program are compatible with federal, state, and local regulations, as well as, appropriate professional and technical standards.

This QC program has been organized into the following areas:

- QC Objectives and Checks
- Field Equipment, Handling, and Calibration
- Sampling Techniques
- Sample Handling and Packaging

2. Quality Control Objectives

The United States Environmental Protection Agency (EPA) has identified five general levels of analytical data quality as being potentially applicable to site investigations conducted under CERCLA. These levels are summarized below:

- **Level I** - Field screening. This level is characterized by the use of portable instruments, which can provide real-time data to assist in the optimization of sampling point locations and for health and safety support. Data can be generated regarding the presence or absence of certain contaminants (especially volatiles) at sampling locations.
- **Level II** - Field analysis. This level is characterized by the use of portable analytical instruments, which can be used on site or in mobile laboratories stationed near a site (close-support labs). Depending upon the types of contaminants, sample matrix, and personnel skills, qualitative and quantitative data can be obtained.
- **Level III** - Laboratory analysis using methods other than the Contract Laboratory Program (CLP) Routine Analytical Services (RAS). This level is used primarily in support of engineering studies using standard EPA-approved procedures. Some procedures may be equivalent to CLP RAS, without the CLP requirements for documentation.
- **Level IV** - CLP Routine Analytical Services. This level is characterized by rigorous QC protocols and documentation and provides qualitative and quantitative analytical data. Some regions have obtained similar support via their own regional laboratories, university laboratories, or other commercial laboratories.

- **Level V -** Non-standard methods. Analyses, which may require method modification and/or development. CLP Special Analytical Services (SAS) are considered Level V.

Unless stated otherwise, all data will be generated in accordance with Level IV. When CLP methodology is not available, federal and state approved methods will be utilized. Level III will be utilized, as necessary, for non-CLP RAS work which may include ignitability, corrosivity, reactivity, EP toxicity, and other state approved parameters for characterization. Level I will be used throughout the RI for health and safety monitoring activities.

All measurements will be made to provide that analytical results are representative of the media and conditions measured. Unless otherwise specified, all data will be calculated and reported in units consistent with other organizations reporting similar data to allow comparability of data bases among organizations. Data will be reported in ug/L and mg/L for aqueous samples, and ug/kg and mg/kg (dry weight) for soils, or otherwise as applicable.

The characteristics of major importance for the assessment of generated data are accuracy, precision, completeness, representativeness, and comparability. Application of these characteristics to specific projects is addressed later in this document. The characteristics are defined below.

2.1. Accuracy

Accuracy is the degree of agreement of a measurement or average of measurements with an accepted reference or "true" value and is a measure of bias in the system.

2.2. Precision

Precision is the degree of mutual agreement among individual measurements of a given parameter.

2.3. Completeness

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount expected to be obtained under correct normal conditions.

2.4. Representativeness

Representativeness expresses the degree to which data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition

Careful choice and use of appropriate methods in the field will ensure that samples are representative. This is relatively easy with water or air samples since these components are homogeneously dispersed. In soil and sediment, contaminants are unlikely to be evenly distributed, and thus it is important for the sampler and analyst to exercise good judgment when removing a sample.

2.5. Comparability

Comparability expresses the confidence with which one data set can be compared to another. The data sets may be inter- or intra- laboratory.

3. Measurement of Data Quality

3.1. Accuracy

Accuracy of a particular analysis is measured by assessing its performance with "known" samples. These "knowns" take the form of EPA standard reference materials, or laboratory prepared solutions of target analytes spiked into a pure water or sample matrix. In the case of GC or GC/MS analyses, solutions of surrogate compounds, which can be spiked into every sample and are designed to mimic the behavior of target analytes without interfering with their determination, are used.

In each case the recovery of the analyte is measured as a percentage, correcting for analytes known to be present in the original sample if necessary, as in the case of a matrix spike analysis. For EPA supplied known solutions, this recovery is compared to the published data that accompany the solution.

For the firm's prepared solutions, the recovery is compared to EPA-developed data or the firm’s historical data as available. For surrogate compounds, recoveries are compared to EPA CLP acceptable recovery tables.

If recoveries do not meet required criteria, then the analytical data for the batch (or, in the case of surrogate compounds, for the individual sample) are considered potentially inaccurate. The analyst or his supervisor must initiate an investigation of the cause of the problem and take corrective action. This can include recalibration of the instrument, reanalysis of the QC sample, reanalysis of the samples in the batch, or flagging the data as suspect if the problems cannot be resolved. For highly contaminated samples, recovery of the matrix spike may depend on sample homogeneity. As a rule, analyses are not corrected for recovery of matrix spike or surrogate compounds.

3.2. Precision

Precision of a particular analysis is measured by assessing its performance with duplicate or replicate samples. Duplicate samples are pairs of samples taken in the field and transported to the laboratory as distinct samples. Their identity as duplicates is sometimes not known to ASC and usually not known to bench analysts, so their usefulness for monitoring analytical precision at bench level is limited. For most purposes, precision is determined by the analysis of replicate pairs (i.e., two samples prepared at the laboratory from one original sample). Often in replicate analysis the sample chosen for replication does not contain target analytes so that quantitation of precision is impossible. For EPA CLP analyses, replicate pairs of spiked samples, known as matrix spike/matrix spike duplicate samples, are used for precision studies. This has the advantage that two real positive values for a target analyte can be compared.

Precision is calculated in terms of Relative Percent Difference (RPD).

- Where X_1 and X_2 represent the individual values found for the target analyte in the two replicate analyses or in the matrix spike/matrix spike duplicate analyses.
- RPDs must be compared to the method RPD for the analysis. The analyst or his supervisor must investigate the cause of RPDs outside stated acceptance limits. This may include a visual inspection of the sample for non homogeneity, analysis of check samples, etc. Follow-up action may include sample reanalysis or flagging of the data as suspect if problems cannot be resolved.
- During the data review and validation process (see Section 9), field duplicate RPDs are assessed as a measure of the total variability of both field sampling and laboratory analysis.

3.3. Completeness

Completeness for each parameter is calculated as follows:

- The firm's target value for completeness for all parameters is 100%. A completeness value of 95% will be considered acceptable. Incomplete results will be reported to the site managers. In planning the field sample collection, the site manager will plan to collect field duplicates from identified critical areas. This procedure should assure 100% completeness for these areas.

3.4. Representativeness

The characteristic of representativeness is not quantifiable. Subjective factors to be taken into account are as follows:

- The degree of homogeneity of a site
- The degree of homogeneity of a sample taken from one point in a site
- The available information on which a sampling plan is based

To maximize representativeness of results, sampling techniques and sample locations will be carefully chosen so that they provide laboratory samples representative of the site and the specific area. Within the laboratory, precautions are taken to extract from the sample bottle an aliquot representative of the whole sample. This includes premixing the sample and discarding pebbles from soil samples.

4. QC Targets

Target values for detection limit, percent spike recovery and percent "true" value of known check standards, and RPD of duplicates/replicates are included in the QCP, Analytical Procedures. Note that tabulated values are not always attainable. Instances may arise where high sample concentrations, non homogeneity of samples, or matrix interferences preclude achievement of target detection limits or other quality control criteria. In such instances, the firm will report reasons for deviations from these detection limits or noncompliance with quality control criteria.

5. Sampling Procedures

This section describes the sampling procedures to be utilized for each environmental medium that will be collected and analyzed in accordance with appropriate state and federal requirements. All procedures described are consistent with EPA sampling procedures as described in USEPA SW-846, third edition, Final Update IV, February 2007. All samples will be delivered to the laboratory within 24 to 28 hours of collection.

6. Soil & Groundwater Investigation

The groundwater sampling plan outlined in this subsection has been prepared in general accordance with RCRA Groundwater Monitoring Draft Technical Guidance (November, 1992), Office of Solid Waste.

Prior to drilling, all drill sites will be cleared with appropriate utility companies to avoid potential accidents relating to underground utilities.

6.1. Test Borings and Well Installation

6.1.1. Drilling Equipment

<u>Direct Push “Geo-Probe” Soil Borings:</u>

Borings will be advanced with a “geo-probe” direct push sampling system. The use of direct push technology allows for rapid sampling, observation, and characterization of relatively shallow overburden soils. The geo-probe utilizes a four-foot macro-core sampler, with disposable polyethylene sleeves. Soil cores will be retrieved in four-foot sections, and can be easily cut from the polyethylene sleeves for observation and sampling. The macro-core sampler will be decontaminated between samples and borings using an alconox and water solution.

<u>Drill Rig Advanced Soil Borings:</u>

The drilling and installation of monitoring wells will be performed using a rotary drill rig which will have sufficient capacity to perform 4 1/2-inch inside diameter (ID) hollow-stem auger drilling in the overburden, retrieve split-spoon samples, and perform necessary rock coring to provide a minimum 3-inch diameter core, known in the industry as "NX." The borehole may be reamed to 5 1/2-inch diameter prior to monitoring well installation as cased hole in the bedrock, or may be left as open hole, with NYSDEC concurrence.

6.1.2. Drilling Techniques

<u>Direct Push “Geo-Probe” Advanced Borings:</u>

Prior to initiating drilling activities, the Geo-probe, macro cores, drive rods, pertinent equipment, well pipe and screens will be steam cleaned or washed with an alconox and water solution followed by a clean water rinse. This cleaning procedure will also be used between each boring. These activities will be performed in a designated on-site decontamination area. Throughout and after the cleaning processes, direct contact between the equipment and the ground surface will be avoided. Plastic sheeting and/or clean support structures (e.g., pallets, sawhorses) will be used. The drilling rig and all equipment will be steam cleaned upon completion of the investigation and prior to leaving the site.

Test borings will be advanced with 2-inch direct push macro-cores through overburden soils. Drilling fluids, other than water from a NYSDEC-approved source, will not be allowed without special consideration and agreement from NYSDEC. The use of lubricants is also not allowed unless approved by the NYSDEC representative.

It will be the responsibility of the consultant to arrange for the appropriate drilling equipment to be present at the site. Standby time to arrange for additional equipment or a water supply will not be allowed unless caused by unexpected site conditions.

During the drilling, a Photoionization detector (PID) will be used to monitor the gases exiting the hole. Macro-core cuttings will be contained if the PID meter readings are greater than 5 ppm above background or the cuttings show visible evidence of contamination.

Drill Rig Advanced Borings:

Prior to initiating drilling activities, the drilling rig, augers, rods, split spoons, pertinent equipment, well pipe and screens will be steam cleaned. This cleaning procedure will also be used between each boring. These activities will be performed in a designated on-site decontamination area. Throughout and after the cleaning processes, direct contact between the equipment and the ground surface will be avoided. Plastic sheeting and/or clean support structures (e.g., pallets, sawhorses) will be used. The drilling rig and all equipment will be steam cleaned upon completion of the investigation and prior to leaving the site.

Test borings will be advanced with 4 1/2-inch (ID) hollow stem augers through overburden, and NX-sized diamond core barrels in competent rock, driven by truck-, track-, or trailer-mounted drilling equipment. Alternative methods of drilling or equipment may be allowed or requested for site-specific criteria, but must be approved by the NYSDEC. Drilling fluids, other than water from a NYSDEC-approved source, will not be allowed without special consideration and agreement from NYSDEC. The use of lubricants is also not allowed unless approved by the NYSDEC representative. One sample from each drilling water source may be analyzed for full TCL.

During the drilling, a photoionization detector (PID) will be used to monitor the gases exiting the hole. Auger cuttings will be contained if the PID meter readings are greater than 5 ppm above background or the cuttings show visible evidence of contamination.

Where bedrock wells are required, test borings shall be advanced into rock with NX coring tools. Only water from an approved source shall be used in rock coring. The consultant shall monitor and record the petrology, core recovery, fractures, rate of advance, water levels, and water lost or produced in each test boring. The Rock Quality Determination (RQD) value shall be calculated for each 5-foot core. Each core shall be screened with a PID upon extraction to determine proper handling procedure. All core samples shall be retained and stored by the consultant, for review by NYSDEC, in an approved wooden core box for a period of not less than one year.

Bedrock well installation will involve construction of a rock socket. The socket will be drilled into the top of rock at each bedrock well location to allow permanent 3-inch casing to be grouted securely in place prior to completion of the well. The purpose for this is to provide a seal at the overburden/bedrock interface and into the upper bedrock surface, to prevent the entrance of overburden water into the bedrock.

To construct the rock socket, a core hole will be reamed out to a minimum diameter of 3 7/8-inches and set into the first 5-feet of bedrock. This will allow the placement of permanent 3-inch diameter Polyvinyl chloride (PVC) well casing into the bedrock surface. The method selected may be percussion or rotary drilling at the option of the subcontractor. The method and equipment selected must be capable of penetrating the bedrock at each well location to a depth required by the work plan and will be selected based on the results of the rock coring performed.

While the augers are seated on top of bedrock, a cement grout will be tremied into the bedrock socket. Once sufficient grout has been place, the 3-inch PVC casing will be lowered into the bedrock socket. A PVC plug will be placed in the end of the 3-inch PVC casing, prior to insertion in the borehole, to prevent grout from entering the PVC casing. Once the 3-inch PVC casing is in place, the augers can be removed and the remaining grout should be added. After the grout and 3-inch PVC casing have set up for 24 hours, the remaining amount of bedrock can be NX cored through the 3-inch PVC casing to a depth determined by the work plan.

6.1.3. Well Casing (Riser)

Direct Push Geo-Probe Groundwater Monitoring Wells:

Direct Push Geo-Probe advanced groundwater-monitoring wells utilized 1.25-inch threaded flush joint PVC pipe.

Drill Rig Advanced Groundwater Monitoring Wells:

The well riser shall consist of 2-inch or 4-inch diameter, threaded flush-joint PVC pipe. All well risers will conform to the requirements of ASTM-D 1785 Schedule 40 pipe, and shall bear markings that will identify the material as that which is specified. All materials used to construct the wells will be NSF/ASTM approved.

6.1.4. Well Screen

Direct Push Geo-Probe Groundwater Monitoring Wells:

Direct Push Geo-Probe advanced groundwater-monitoring wells utilized 1.25-inch well screen. Groundwater-monitoring wells will set to intersect the top of the shallow overburden groundwater table. Each geo-probe advanced well will be equipped with 10 feet of .010 inch slotted PVC screen connected to an appropriate length of PVC riser to complete the well installation.

Drill Rig Advanced Groundwater Monitoring Wells:

Generally, wells will be constructed with 10-foot machine-slotted screens, unless otherwise specified or dictated by field conditions (i.e., screens of less than 10-feet in length may be used, depending on the characteristics of the well). The well screen slot size will be selected based on the filter pack grain size and the ability to hold back 85 percent or more of the filter pack materials. Screen and riser sections shall be joined by flush-threaded coupling to form watertight unions that retain 100% of the strength of the casing. Solvent PVC glue shall not be used at any time in the construction of the wells. The bottom of the screen shall be sealed with a treated cap or plug. No lead shot or lead wool is to be employed in sealing the bottom of the well or for sealant at any point in the well.

All risers and screens shall be set round, plumb, and true to line.

6.1.5. Artificial Sand Pack

Granular backfill will be chemically and texturally clean (as determined using a 10x hand lens), inert, siliceous, and of appropriate grain size for the screen slot size and the host environment. Sand pack grain size will be selected based on sieve analyses of formation samples. The sand pack will be installed using a tremie pipe and the casing will be equipped with centralizers (wells 15 ft. or deeper only) to minimize the tendency for particle separation and bridging... Prior to casing and screen insertion, a minimum of 1-foot of gravel-pack bedding will be placed in the bottom of the hole. The well screen and casing will be installed, and the sand pack placed around the screen and casing to a depth extending at least 25 percent of the screen length above the top of the screen.

6.1.6. Bentonite Seal

A minimum 2-foot thick seal of tamped bentonite pellets will be placed directly on top of the sand pack, and care will be taken to avoid bridging. The seal will be measured immediately after placement, without allowance for swelling.

6.1.7. Grout Mixture

Upon completion of the bentonite seal, the well will be grouted with a non-shrinking cement grout (e.g., Volclay®) mix to be placed from the top of the bentonite seal to the ground surface. The cement grout shall consist of a mixture of Portland cement (ASTM C 150) and water, in the proportion of not more than 7 gallons of clean water per bag of cement (1 cubic foot or 94 pounds). Additionally, 3% by weight of bentonite powder shall be added, if permitted.

6.1.8 Surface Protection

At all times during the progress of the work, precautions shall be used to prevent tampering with or the entrance of foreign material into the well. Upon completion of the well, a suitable lockable cap shall be installed to prevent material from entering the well. The PVC well riser shall be protected by a flush mounted road box set into a concrete pad. A concrete pad, sloped away from the well, shall be constructed around the flush mount road box at ground level.

Any well that is to be temporarily removed from service or left incomplete due to delay in construction shall be capped with a watertight cap and equipped with a "vandal-proof" cover, satisfying applicable NYSDEC regulations or recommendations.

6.1.9. Surveying

Horizontal coordinates (northings and eastings) will be provided for all sample locations (soil borings, test pits, new and existing monitoring wells, surface soils, soil vapor, indoor air, etc.). Horizontal coordinates will be expressed longitude and latitude (based on the World Geodetic System of 1984 datum, i.e. WGS84) reported in decimal degrees. Note that the longitude must be reported as negative for locations in the western hemisphere.

Vertical elevations will also be measured for monitoring wells. Vertical elevations will be provided to the nearest 0.01 foot using the NAVD88 coordinates system. Elevations for the top of grade (or top of floor for any locations inside buildings) and the top of inner casing for monitoring wells will also be included. If the inner casing is uneven, place a permanent mark where the measurement was made, preferably on the north side of the inner casing.

6.1.10. Well Development

After completion of the well, but not sooner than 24 hours after grouting is completed, development will be accomplished using pumping, bailing, or surge blocking. No dispersing agents, acids, disinfectants, or other additives will be used during development or introduced into the well at any other time. During development, water will be removed throughout the entire water column by periodically lowering and raising the pump intake (or bailer stopping point).

Well development will include washing the entire well cap and the interior of the well casing above the water table, using only water from the well itself. As a result of this operation, the well casing will be free of extraneous materials (grout, bentonite, and sand) inside the riser, well cap, and blank casing between top of the well casing and water table. This washing will be conducted before and/or during development; not after development. Development water will be either properly contained and treated as waste until the results of chemical analysis of samples are obtained or discharged on site as determined by the site-specific work plans and/or consultation with the NYSDEC representatives on site.

The development process will continue until a stabilization of pH, specific conductance, temperature, and clarity (goal of <50 NTUs) of the discharge is achieved or for a maximum of two hours.

After final development of the well, water levels will be recorded and approximately 1 liter of water from the well will be collected in a clear glass jar, labeled and photographed, and submitted as part of the well log. The photograph will be taken to show the relative clarity of the water. Visual identification of the physical characteristics of removed sediments will also be recorded.

7. Geologic Logging and Sampling

At each investigative location, the boring will be advanced through overburden using either a drill rig and hollow-stem auger or direct push technology; soils will be visually inspected for stains and monitored with a PID to help determine potential for vertical migration of contaminants. Soil samples will be collected continuously in both the unsaturated soil zone and the saturated zone. Selected wells will be sampled continuously over the entire depth of the well. The sampling device will be decontaminated according to procedures outlined in the Decontamination section of this document. The split-spoon sampler will be driven into the soil using a 140-pound safety hammer and allowed to free-fall 30-inches, in accordance with ASTM-D 1586-84 specifications. The number of blows required to drive the sampler each 6-inches of penetration will be recorded. Soil samples will be screened in the field for volatile organic vapors using a PID, classified in accordance with Unified Soil Classification System (USCS) specifications, and logged. Samples will be stored in glass jars until they are needed for testing or the project is complete.

Monitoring well borings will be advanced to maximum design depth below the ground surface, as indicated by the work plan for each site. If hard boulders or bedrock result in auger refusal, rock coring will be used to advance the hole to design depth. If hydrogeologic conditions are favorable for well installation at a depth less than design, the well will be installed at the boring or coring termination depth. In the event that maximum design depth is reached and hydrogeologic conditions are not suitable for well installation, the maximum drilling depth will be revised. Hydrogeologic suitability for well emplacement will be determined by the supervising geologist in consultation with NYSDEC, based on thickness and estimated hydraulic conductivity of the saturated zone encountered. If necessary, the borehole will be advanced to water or abandoned.

Boulders and bedrock encountered during well installation shall be cored by standard diamond-core drilling methods using an "NX" size core barrel. All rock cores recovered will be logged by a geologist, labeled, photographed, and stored in wooden core boxes. The photographs will be submitted as part of the completed boring logs. The cores will be stored by the firm until the project is completed or for at least one year. Drilling logs will be prepared by an experienced geologist or geotechnical engineer, who will be present during all drilling operations. One copy of each field boring and well construction log, including color photographs of the rock core, if encountered, and groundwater data, will be submitted as part of the RI report. The RQD value shall be calculated for each 5-foot section. Information provided in the logs shall include, but not be limited to, the following:

- Date, test hole identification, and project identification
- Name of individual developing the log
- Name of driller and assistant(s)
- Drill, make and model, auger size
- Identification of alternative drilling methods used and justification thereof (e.g., rotary drilling with a specific bit type to remove material from within the hollow stem augers)
- Standard penetration test (ASTM D-1586) blow counts
- Field diagram of each monitoring well installed with the depth to bottom of screen, top of screen, and pack, bentonite seal, etc.

- Reference elevation for all depth measurements
- Depth of each change of stratum
- Thickness of each stratum
- Identification of the material of which each stratum is composed, according to the USCS system or standard rock nomenclature, as appropriate
- Depth interval from which each sample was taken
- Depth at which hole diameters (bit sizes) change
- Depth at which groundwater is encountered
- Depth to static water level and changes in static water level with well depth
- Total depth of completed well
- Depth or location of any loss of tools or equipment
- Location of any fractures, joints, faults, cavities, or weathered zones
- Depth of any grouting or sealing
- Nominal hole diameters
- Amount of cement used for grouting or sealing
- Depth and type of well casing
- Description of well screen (to include depth, length, location, diameter, slot sizes, material, and manufacturer)
- Any sealing-off of water-bearing strata
- Static water level upon completion of the well and after development
- Drilling date or dates
- Construction details of well
- An explanation of any variations from the work plan

8. Hydraulic Conductivity Testing Procedures

Although not currently included as part of the Remedial Investigation, in the event hydraulic conductivity testing is warranted, such testing procedures are defined herein. Single-well, rising head tests will be performed in order to determine the in-place hydraulic conductivity of unconsolidated and/or consolidated geologic materials, which occur in the monitoring interval of newly, installed wells. The tests will be performed by a qualified hydrogeologist. These tests involve lowering the water level in the well and measuring the change in head with respect to time as the well is allowed to recover. In wells, which are slow to recover, the water level will be bailed down as described below. The measurements in these wells will be taken manually. Wells, which recover too quickly for this method, will be tested by removing one bailer of water and the recovery measured by means of a pressure transducer system.

The rising head tests for wells with rapid recovery rates will be conducted as follows:

- The static water level in the well to be tested is measured and recorded.
- The pressure transducer is placed in the well to a minimum depth of three feet below the static water level.
- Readings are made using the data logger until three consecutive readings are the same (equilibrium conditions).

- The data logger is then calibrated to read 0.00 feet at static conditions. A pre-cleaned bailer is then lowered into the well and placed just below the water surface.
- Water level measurements are made until the water level returns to static conditions following introduction of the bailer. If static conditions are not reached within 15 minutes following introduction of the bailer, the well will be tested using the procedures described below for slow recovery wells.
- Once static conditions are reestablished, the bailer is rapidly removed from the water column thereby creating an instantaneous decline of the water level in the well. Coincident with the withdrawal of the bailer, automatic logging of the water levels is initiated using the data logger. The primary goal in the recovery test is to "instantaneously" remove a volume of water that will result in a measurable head decline, the recovery of which (to static conditions) can be monitored over time. Such an instantaneous withdrawal results in recovery due to contributions of flow from the surrounding formation. This flow is controlled by its hydraulic conductivity and not by other factors such as storage effects.
- The water level measurements will continue until water levels recover to within a minimum of 10 percent of the original static water level (90 percent recovery), or an elapsed time of one hour. If the well has not recovered to static conditions after one hour at the discretion of the hydrogeologist, the transducer will be removed and the well will be tested at a later date using the procedures described below for slow recovery wells.
- Data stored in the data loggers will be "dumped" to a hard copy printout using a field printer or to a magnetic disk using a portable computer. If field printouts are used, they will be dated and signed by the hydrogeologist.

For wells with slow recovery rates, the following procedures will be used:

- The static water level is measured and recorded.
- The well is bailed by hand until the depth to water appears to stabilize based on the depth of travel of the bailer rope or to the top of the open or screened interval in wells which are screened below the standing water level.
- The bailer is then removed and water level measurements are collected by hand (measuring tape or electronic water level indicator) at a frequency, which will provide approximately 15 to 20 data, points during recovery (to within 10 percent of the total drawdown), if feasible. Water level measurements are recorded on the hydraulic conductivity testing report.
- A pre-cleaned bailer (one for each well) will be used in the rising head testing. All equipment entering the well, such as the transducer and transducer cable, will be cleaned prior to reuse in accordance with the Decontamination section below. All well water and rinse water generated by the tests will be collected in appropriate containers and disposed of in accordance with the Investigation Derived Materials section below.
- The data from both types of rising head tests will be reduces and evaluated.
- The following equation will be used to calculate the in-situ hydraulic conductivity of the formation opposite the interval of the piezometer (Hvorslev, 1951).

$$k = \frac{d^2 \ln\left[\frac{2mL}{D}\right]}{8L(t_2 - t_1)} \ln\frac{H_1}{H_2}$$

Where:

K = hydraulic conductivity (ft./min.)
d = casing diameter (ft.)
L = intake length (ft.)
D = intake diameter (ft.)
t_1 = time 1 from semilog graph (min.)
t_2 = time 2 from semilog graph (min.)
H_1 = residual head (ft.) corresponding to t_1
H_2 = residual head (ft.) corresponding to t_2
m = square root of the ratio of horizontal to vertical permeability (an estimated value)

9. Groundwater Sampling Procedures

The groundwater in all new and existing monitoring wells will be allowed to stabilize for 7 days following development and permeability testing. Water levels will be measured to within 0.01 foot prior to purging and sampling. A temporary staff gauge or other surface water elevation measuring device will be established on any nearby surface water body, which may significantly influence groundwater movement. The surface elevation of these water bodies will be checked whenever groundwater elevations are measured. Purging and sampling of each well will be accomplished using precleaned dedicated PVC bailers on new polypropylene line. Purging will be less aggressive than development to avoid turbidity problems (e.g., avoid "free-falling" bailers). In general, wells will be purged until the pH, conductivity, temperature, and turbidity of the water being pumped from the well have stabilized. All wells will be purged of at least three well-bore volumes or to dryness.

Groundwater samples will be collected according to the following procedures and in the volumes specified in Table 5-1:

- Water clarity will be quantified during sampling with a turbidity meter
- When transferring water from the bailer or pump line to sample containers, care will be taken to avoid agitating the sample, since agitation promotes the loss of volatile constituents
- Any observable physical characteristics of the groundwater (e.g., color, sheen, odor, turbidity) at the time of sampling will be recorded
- Weather conditions (i.e., air temperature, sky condition, recent heavy rainfall, drought conditions) at the time of sampling will be recorded

All groundwater samples and their accompanying QC samples will be run for volatile organic chemicals using NYSDEC ASP 91-1.

10. Sub-Slab Soil Vapor and Soil Gas Investigations

The sub-slab soil vapor and soil gas investigation procedures are based on the New York Department of Health *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* dated October 2006.

The applicable procedures to be implemented are summarized below:

1. Soil gas sampling points are generally installed using direct push technology to approximately 4 to 5 feet in-depth. A porous, inert backfill material (e.g., glass beads or coarse sand) will be used to create a sampling zone of 1 to 2 feet in length. The soil gas sampling points will be constructed of inert tubing (e.g., polyethylene, stainless steel, or Teflon®) of the appropriate size (typically 1/8 inch to 1/4 inch diameter) and of laboratory or food grade quality to the surface. The soil gas sampling points will be sealed above the sampling zone with a minimum 1-foot bentonite slurry. In addition, the sampling zone will be a minimum of 3-feet below the ground surface in order to minimize outdoor air infiltration. The remainder of the borehole will be backfilled with clean material. Soil gas sampling points will be finished with protective casings that are grouted in place to minimize infiltration of water or outdoor air and to prevent damage to the soil gas sampling point.
2. Subsequent to installation, the probes will be allowed to equilibrate at least 24 hours prior to purging and sampling. Initially, one to three probe volumes (i.e., the volume of the sample probe and tube/riser pipe) will be purged in order to ensure that the samples collected are representative of soil gas conditions. The flow rate during purging will not exceed 0.2 liters per minute (L/min) to minimize outdoor air infiltration.
3. During purging of the sample point, a tracer gas evaluation will be conducted to verify the integrity of the soil gas probe seal. An appropriate tracer gas will be used (e.g., sulfur hexafluoride (SF6), helium, etc.). An enclosure will be constructed around the soil gas sampling point (e.g., plastic bag, plastic bucket, etc.) and sealed to the sample point casing. Subsequently, the enclosure will be enriched with the tracer gas. The purged soil gas will then be tested for the tracer gas by an appropriate meter (i.e., a meter capable of measuring the concentration of the tracer gas in at least percentage increments). In the event that the tracer gas is detected at a concentration of 10% or greater, the sample point will be resealed and retested prior to sampling.
4. Soil gas samples will be collected over the same general time period and in the same manner at all locations to minimize possible discrepancies. Soil gas samples will be collected using Summa Canisters® equipped with flow control regulators. The regulators will be calibrated by the laboratory for a sampling time of 6-hours. The Summa Canister will be connected to the soil gas sampling point via inert tubing (e.g., polyethylene, stainless steel, or Teflon®).
5. In addition to the soil gas samples, one exterior ambient air sample will also be collected. The ambient air sample will be collected from about 3 to 4-ft. above the ground using a Summa Canister over the same approximate sampling period. In addition, the ambient air sample will be collected from the apparent upgradient location (i.e., upwind).
6. Subsequent to completing soil gas sampling, the samples will be sent under chain of custody control to the laboratory for testing. The samples will be tested for VOCs using USEPA Method TO-15. A minimum detection limit of 1 $\mu g/m^3$ should be achievable based on the sample volume and analytical method.

7. At the time of sampling, the NYSDOH indoor air quality questionnaire and building inventory form will be completed. The following information (but not limited to) will be documented as part of these forms:
   - inventory of volatile chemicals used at the Site during normal operations of the facility
   - a sketch of the Site and sampling locations relative to area streets, neighboring properties and structures (with estimated distance to the site), outdoor ambient air sample location(s), if applicable, and orientation (north arrow)
   - weather conditions (e.g., precipitation, outdoor temperature, barometric pressure, wind speed and direction) should be noted for the past 24 to 48 hours
   - any pertinent observations should be recorded, such as odors and readings from field instrumentation

8. In addition to the above information, a sample log sheet summarizing the following information for each sample will be documented:
   - sample identification
   - date and time of sample collection
   - sampling depth
   - identity of sampler(s)
   - sampling methods and devices
   - purge volumes
   - volume of soil vapor extracted
   - the vacuum before and after samples are collected
   - apparent moisture content (dry, moist, saturated, etc.) of the sampling zone
   - chain of custody protocols used to track samples from sampling point to analysis

11. Management of Investigative-Derived Waste

Purpose:

The purposes of these guidelines are to ensure the proper holding, storage, transportation, and disposal of materials that may contain hazardous wastes. Investigation-derived waste (IDW) included the following:

- Drill cuttings, discarded soil samples, drilling mud solids, and used sample containers
- Well development and purge waters and discarded groundwater samples
- Decontamination waters and associated solids
- Soiled disposable personal protective equipment (PPE)
- Used disposable sampling equipment
- Used plastic sheeting and aluminum foil
- Other equipment or materials that either contain or have been in contact with potentially-impacted environmental media
- Because these materials may contain regulated chemical constituents, they must be managed as a solid waste. This management may be terminated id characterization analytical results indicate the absence of these constituents

Procedure:

1. Contain all investigation-derived wastes in Department of Transpiration (DOT)-approved 55-gallon drums, roll-off boxes, or other containers suitable for the wastes.
2. Contain wastes from separate borings or wells in separate containers (i.e. do not combine wastes from several borings/wells in a single container, unless it is a container used specifically for transfer purposes, or unless specific permission to do so has been provided by the LaBella Project Manager. Unused samples from surface sample locations within a given area may be combined.
3. To the extent practicable, separate solids from drilling muds, decontamination waters, and similar liquids. Place solids within separate containers.
4. Transfer all waste containers to a staging area. Access to this area will be controlled. Waste containers must be transferred to the staging area as soon as practicable after the generating activity is complete.
5. Pending transfer, all containers will be covered and secured when not immediately attended,
6. Label all containers with regard to contents, origin, and date of generation. Use indelible ink for all labeling.
7. Collect samples for waste characterization purposes, use boring/well sample analytical data for characterization.
8. For wastes determined to be hazardous in character, be aware on accumulation time limitations. Coordinate the disposal of these wastes with the Owner and NYSDEC.
9. Dispose of investigation-derived wastes as follows;
    - Soil, water, and other environmental media for which analysis does not detect organic constituents, and for which inorganic constituents are at levels consistent with background, may be spread on-site or otherwise treated as a non0-waste material.
    - Soils, water, and other environmental media in which organic compounds are detected or metals are present above background will be disposed as industrial waste. Alternate disposition must be consistent with applicable State and Federal laws.
    - Personal protective equipment, disposable bailers, and similar equipment may be disposed as municipal waste, unless waste characterization results mandate disposal as industrial wastes

12. Decontamination

Sampling methods and equipment have been chosen to minimize decontamination requirements and to prevent the possibility of cross-contamination. Decontamination of equipment will be performed between discrete sampling locations. Equipment used to collect samples between composite sample locations will not require decontamination between collection of samples. All drilling equipment will be decontaminated prior to drilling, after drilling each monitoring well, and after the completion of all drilling. Special attention will be given to the drilling assembly, augers, and PVC casing and screens.

Drilling decontamination will consist of either:

- Steam cleaning & scrubbing with brushes with steam rinse, OR
- Scrubbed with brushes in trisodium phosphate or alconox solution with potable water rinse.

Split spoons and other non-disposable equipment will be decontaminated between each sampling event.

13. Sample Containers

The volumes and containers required for the sampling activities are included in pre-washed sample containers will be ordered directly from a firm, which prepares the containers in accordance with EPA bottle washing procedures.

Table 1
Water Samples

Type of Analysis	Type and Size of Container	Number of Containers and Sample Volume (per sample)	Preservation	Maximum Holding Time
Purgeable (volatile) Organics	40-ml glass vial with Teflon-backed septum	Two (2); fill completely, no air space	Cool to 4° C (ice in cooler)	7 days

* Holding time is based on verified time of sample receipt at laboratory.

Note: *All sample bottles will be prepared in accordance with USEPA bottle washing procedures. These procedures are incorporated in LaBella Associates Quality Control Procedures Manual, January, 1992*

TABLE 2
Soil Samples

Type of Analysis	Type and Size of Container	Number of Containers and Sample Volume (per sample)	Preservation	Maximum Holding Time
Purgeable (volatile) Organics	8-oz, glass jar with Teflon-lined cap	Two (2), fill as completely as possible	Cool to 4° C (ice in cooler)	7 days
RCRA Characterization	8-oz. glass jar with Teflon-lined cap	One (1); fill completely	Cool to 4° C (ice in cooler)	Must be extracted within 10 days; analyzed with 30 days

* Holding time is based on the times from verified time of sample receipt at the laboratory.

Note: All sample bottles will be prepared in accordance with USEPA bottle washing procedures. These procedures are incorporated in LaBella Associates Quality Control Procedures Manual, January, 1992.

TABLE 3
List of Major Instruments for Sampling and Analysis

- MiniRae 3000 PID
- Organic Vapor Analyzer Foxboro (128)
- Hollige Series 963 Nephlometer (turbidity meter)
- pH/Temperature/Conductivity Meter - Portable
- Hewlett Packard (HP) 1000 computer with RTE-6 operating system; and HP 9144 computer with RTE-4 operating system equipped with Aquarius software for control and data acquisition from gas chromatograph/mass spectrometer (GC/MS) systems; combined wiley and National Bureau of Standards (NBS) mass spectral library; and data archiving on magnetic tape
- Viriam 6000 and 37000 gas chromatrographs equipped with flame ionization, electron capture, photoionization and wall detectors as appropriate for various analyses,, and interfaced to Variam DS604 or D5634 data systems for processing data.
- Spectra-Physics Model SP 4100 and SP 4270 and Variam 4270 cam puting integrators
- Perkin Eimer (PE) 3000% and 3030% fully Automated Atomic Absorption Spectrophotometers (AAS) with Furnace Atomizer and background correction system
- PE Plasma II Inductively Coupled Argon Plasma (ICAP) Spectre meter with PE7500 laboratory computer
- Dionex 20001 ion chromatograph with conductivity detector for anion analysis, with integrating recorder

14. Sample Custody

This section describes standard operating procedures for sample identification and chain-of-custody to be utilized for all Phase II field activities. The purpose of these procedures is to ensure that the quality of the samples is maintained during their collection, transportation, and storage through analysis. All chain-of-custody requirements comply with standard operating procedures indicated in EPA sample handling protocol.

Sample identification documents must be carefully prepared so that sample identification and chain-of-custody can be maintained and sample disposition controlled. Sample identification documents include:

- Field notebooks,
- Sample label,
- Custody seals, and
- Chain-of-custody records.

15. Chain-of-Custody

The primary objective of the chain-of-custody procedures is to provide an accurate written or computerized record that can be used to trace the possession and handling of a sample from collection to completion of all required analyses. A sample is in custody if it is:

- In someone's physical possession;
- In someone's view;
- Locked up; or
- Kept in a secured area that is restricted to authorized personnel.

15.1. Field Custody Procedures

- As few persons as possible should handle samples.
- Sample bottles will be obtained precleaned from a source such as I-Chem. Coolers or boxes containing cleaned bottles should be sealed with a custody tape seal during transport to the field or while in storage prior to use.
- The sample collector is personally responsible for the care and custody of samples collected until they are transferred to another person or dispatched properly under chain-of-custody rules.
- The sample collector will record sample data in the notebook of field log sheet.
- The site manager will determine whether proper custody procedures were followed during the fieldwork and decide if additional samples are required.

15.2. Sample Tags

Sample tags attached to or affixed around the sample container must be used to properly identify all samples collected in the field. The sample tags are to be placed on the bottles so as not to obscure any QC lot numbers on the bottles; sample information must be printed in a legible manner using waterproof ink. Field identification must be sufficient to enable cross-reference with the logbook. For chain-of-custody purposes, all QC samples are subject to exactly the same custodial procedures and documentation as "real" samples.

15.3. Transfer of Custody and Shipment

- The coolers in which the samples are packed must be accompanied by a chain-of-custody record. When transferring samples, the individuals relinquishing and receiving them must sign, date, and note the time on the chain-of-custody record. This record documents sample custody transfer.
- Shipping containers must be sealed with custody seals for shipment to the laboratory. The method of shipment, name of courier, and other pertinent information are entered in the "Remarks" section of the chain-of-custody record and traffic reports.
- All shipments must be accompanied by the chain-of-custody record identifying their contents. The original record accompanies the shipment. The other copies are distributed appropriately to the site manage.

- If sent by mail, the package is registered with return receipt requested. If sent by common carrier, a bill of lading is used. Freight bills, Postal Service receipts, and bill of lading are retained as part of the permanent documentation.

15.4. Chain-of-Custody Record

The chain-of-custody record must be fully completed in duplicate, using black carbon paper where possible, by the field technician who has been designated by the project manager as responsible for sample shipment to the appropriate laboratory for analysis. In addition, if samples are known to require rapid turnaround in the laboratory because of project time constraints or analytical concerns (e.g., extraction time or sample retention period limitations, etc.), the person completing the chain-of-custody record should note these constraints in the "Remarks" section of the record.

15.5. Laboratory Custody Procedures

A designated sample custodian accepts custody of the shipped samples and verifies that the sample identification number matches that on the chain-of-custody record and traffic reports, if required. Pertinent information as to shipment, pickup, and courier is entered in the "Remarks" section.

15.6. Custody Seals

Custody seals are preprinted adhesive-backed seals with security slots designed to break if the seals are disturbed. Sample shipping containers (coolers, cardboard boxes, etc., as appropriate) are sealed in as many places as necessary to ensure security. Seals must be signed and dated before use. On receipt at the laboratory, the custodian must check (and certify, by completing the package receipt log and LABMIS entries) that seals on boxes and bottles are intact. Strapping tape should be placed over the seals to ensure that seals are not accidentally broken during shipment.

16. Documentation

16.1. Sample Identification

All containers of samples collected from the project will be identified using the following format on a label or tag fixed to the sample container (labels are to be covered with Mylar tape):

XX-YY-O/D

- XX This set of initials indicates the specific Phase II sampling project
- YY These initials identify the sample location. Actual sample locations will be recorded in the task log.
- O/D An "O" designates an original sample; "D" identifies it as a duplicate.

The LaBella representative reserves the right to alternate samples identification based on type of work being conducted. Such as, collection of soil sample from borings may be: XX-YY-ZZ where as XX is the boring type, YY is the boring number, and ZZ is the depth the sample was collected.

Each sample will be labeled, chemically preserved, if required and sealed immediately after collection. To minimize handling of sample containers, labels will be filled out prior to sample collection. The sample label will be filled out using waterproof ink and will be firmly affixed to the sample containers. The sample label will give the following information:

- Name of sampler
- Date and time of collection
- Sample number
- Analysis required
- Preservation

16.2. Daily Logs

Daily logs and data forms are necessary to provide sufficient data and observations to enable participants to reconstruct event that occurred during the project and to refresh the memory of the field personnel if called upon to give testimony during legal proceedings. All daily logs will be kept in a bound waterproof notebook containing numbered pages or recorded on boring logs. All entries will be made in waterproof ink, dated, and signed. No pages will be removed for any reason. Corrections will be made according to the procedures given at the end of this section. The daily logs will include a site log and task log.

The site log is the responsibility of the site manager and will include a complete summary of the day's activity at the site.

The **Task Log** will include:

- Name of person making entry (signature)
- Names of team members on-site
- Levels of personnel protection
  - Level of protection originally used
  - Changes in protection, if required
  - Reasons for changes
- Time spent collecting samples
- Documentation on samples taken, including
  - Sampling location and depth station numbers
  - Sampling date and time, sampling personnel
  - Type of sample (grab, composite, etc.)
  - Sample matrix
- On-site measurement data
- Field observations and remarks
- Weather conditions, wind direction, etc.
- Unusual circumstances or difficulties
- Initials of person recording the information

17. Corrections to Documentation

17.1. Notebook

As with any data logbooks, no pages will be removed for any reason. If corrections are necessary, these must be made by drawing a single line through the original entry (so that the original entry can still be read) and writing the corrected entry alongside. The correction must be initialed and dated. Most corrected errors will require a footnote explaining the correction.

17.2. Sampling Forms

As previously stated, all sample identification tags, chain-of-custody records, and other forms must be written in waterproof ink. None of these documents are to be destroyed or thrown away, even if they are illegible or contain inaccuracies that require a replacement document.

If an error is made on a document assigned to one individual, that individual may make corrections simply by crossing a line through the error and entering the corrected information. The incorrect information should not be obliterated. Any subsequent error discovered on a document should be corrected by the person who made the entry. All corrections must be initialed and dated.

17.3. Photographs

Photographs will be taken as directed by the site manager. Documentation of a photograph is crucial to its validity as a representation of an existing situation. The following information will be noted in the task log concerning photographs:

- Date and location photograph was taken
- Photographer (signature)
- Weather conditions
- Description of photograph taken
- Reasons why photograph was taken

After the photographs have been developed, the information recorded in the field notebook should be transferred to the back of the photographs.

18. Sample Handling, Packaging, and Shipping

The transportation and handling of samples must be accomplished in a manner that not only protects the integrity of the sample, but also prevents any detrimental effects due to the possible hazardous nature of samples. Regulations for packaging, marking, labeling, and shipping hazardous materials are promulgated by the United States Department of Transportation (DOT) in the Code of Federal Regulation, 49 CFR 171 through 177. All samples will be delivered to the laboratory with 24 to 48 hours from the day of collection.

All chain-of-custody requirements must comply with standard operating procedures in the EPA sample handling protocol. All sample control and chain-of-custody procedures applicable to the Consultant are presented in the Field Personnel Chain-of-Custody Documentation and Quality Control Procedures Manual, January 1992.

18.1. Sample Packaging

Samples must be packaged carefully to avoid breakage or contamination and must be shipped to the laboratory at proper temperatures. The following sample packaging requirements will be followed:

- Sample bottle lids must never be mixed. All sample lids must stay with the original containers.
- The sample volume level can be marked by placing the top of the label at the appropriate sample height, or with a grease pencil. This procedure will help the laboratory to determine if any leakage occurred during shipment. The label should not cover any bottle preparation QC lot numbers.
- All sample bottles are placed in a plastic bag to minimize the potential for vermiculite contamination.
- Shipping coolers must be partially filled with packing materials and ice when required, to prevent the bottles from moving during shipment.
- The sample bottles must be placed in the cooler in such a way as to ensure that they do not touch one another.
- The environmental samples are to be cooled. The use of "blue ice" or some other artificial icing material is preferred. If necessary, ice may be used, provided that it is placed in plastic bags. Ice is not to be used as a substitute for packing materials.
- Any remaining space in the cooler should be filled with inert packing material. Under no circumstances should material such as sawdust, sand, etc., be used.
- A duplicate custody record and traffic reports, if required must be placed in a plastic bag and taped to the bottom of the cooler lid. Custody seals are affixed to the sample cooler.

18.2. Shipping Containers

Shipping containers are to be custody-sealed for shipment as appropriate. The container custody seal will consist of filament tape wrapped around the package at least twice and custody seals affixed in such a way that access to the container can be gained only by cutting the filament tape and breaking a seal.

Field personnel will make arrangements for transportation of samples to the lab. When custody is relinquished to a shipper, field personnel will telephone the lab custodian to inform him of the expected time of arrival of the sample shipment and to advise him of any time constraints on sample analysis. The lab must be notified as early in the week as possible, and in no case later than 3 p.m. (EST) on Thursday, regarding samples intended for Saturday delivery.

18.3. Marking and Labeling

- Use abbreviations only where specified.
- The words "This End Up" or "This Side Up" must be clearly printed on the top of the outer package. Upward pointing arrows should be placed on the sides of the package. The words "Laboratory Samples" should also be printed on the top of the package.
- After a sample container has been sealed, two chain-of-custody seals are placed on the container, one on the front and one on the back. The seals are protected from accidental damage by placing strapping tape over then.
- If samples are designated as medium or high hazard, they must be sealed in metal paint cans, placed in the cooler with vermiculite and labeled and placarded in accordance with DOT regulations.
- In addition, the coolers must also be labeled and placarded in accordance with DOT regulations if shipping medium and high hazard samples.

19. Calibration Procedures and Frequency

All instruments and equipment used during sampling and analysis will be operated, calibrated, and maintained according to the manufacturer's guidelines and recommendations as well as criteria set forth in the applicable analytical methodology references. Operation, calibration, and maintenance will be performed by personnel properly trained in these procedures. Documentation of all routine and special maintenance and calibration information will be maintained in an appropriate logbook or reference file, and will be available on request. Table 7-1 lists the major instruments to be used for sampling and analysis. Brief descriptions of calibration procedures for major field and laboratory instruments follow.

20. Field Instrumentation

20.1. Photovac Micro Tip Flameionizer (FID)

Standard operating procedures for the FID require that routine maintenance and calibration be performed every six months. Field calibration will be performed on a daily basis. The packages used for calibration are non-toxic analyzed gas mixtures available in pressurized containers.

20.2. Photovac/MiniRea Photoionization Detector (PID)

Standard operating procedures for the PID require that routine maintenance and calibration be performed every six months. Field calibration will be performed on a daily basis. The packages used for calibration are non-toxic analyzed gas mixtures available in pressurized containers.

20.3. Organic Vapor Analyzer

Organic vapor analyzers (OVAs) are calibrated and routine maintenance performed every six months when the units are not in use. Calibration is performed and the major system checks are performed prior to the instrument being released for field use.

Calibration of the OVA 128 GC must be performed by a factory-authorized service representative. The instrument is removed from its protective case and the probe is connected to the base unit. After checking for an airtight seal in the sample line (plugging the sample inlet to stop the pump), the hydrogen supply is turned on and the pressure is set to 10 psi. The electronics are turned on and the instrument is allowed to warm up for at least 5 minutes. After warm up, the instrument is zeroed on the "X10" scale using the adjust knob. The flame is then lit and a gas-tight sample bag is filled with a mixture of 100 ppm methane in air. The sample bag is then attached to the probe inlet and the internal pump is allowed to draw in as much sample as is needed. R32 on the control board is adjusted to read 100 ppm on the "X10" scale and then the hydrogen supply is shut down. The pump can now be turned off and the sample bag removed. Using the adjust knob, the meter is set to read 4 ppm on the "X1" scale. Switching back to the "X10" scale the adjust knob is again used to set the meter to 40 ppm. The scale is then set to "X100" and R33 is adjusted until the meter reads 40 ppm on the "X100" scale.

The OVA has a detection limit of 0.1 ppm in methane equivalents and a working range of 0 to 1,000 ppm. During daily field use, system checks are performed which involve calibration and maintenance of the pump systems, gases, and filters. Care is taken to check for and prevent clogging or leaks. Quad rings and the burner chamber are examined on a weekly basis. Routine biannual maintenance includes a thorough cleaning as well as a re-examination of the pump system for leaks and wear. Parts are replaced as necessary. Instrument operation is verified by calibrating and running the OVA for 4 to 6 hours. An instrument specific logbook is maintained with the OVA to document its use and maintenance.

20.4. Conductance, Temperature, and pH Tester

Temperature and conductance instruments are factory calibrated. Temperature accuracy can be checked against an NBS certified thermometer prior to field use if necessary. Conductance accuracy may be checked with a solution of known conductance and recalibration can be instituted, if necessary.

To recalibrate conductance, remove the black plug revealing the adjustment potentiometer screw. Add standard solution to cup, discard and refill. Repeat procedure until the digital display indicates the same value twice in a row. Adjust the potentiometer until the digital display indicates the known value of conductance. To increase the digital display reading, turn the adjustment potentiometer screw counter-clockwise (clockwise to decrease).

To standardize the pH electrode and meter, place the pH electrode in the 7.0 buffer bottle. Adjust the "ZERO" potentiometer on the face of the tester so that the digital display indicates 7.00.

Then place the pH electrode in the 4.0 or 10.0 buffer bottle (depending on where you expect the actual measurement to be). Adjust the "SLOPE" potentiometer on the face of the tester so that the digital display indicates the value of the buffer chosen.

Note: There is interaction between the "ZERO" and "SLOPE" adjustments, so the procedure should be repeated several times.

Do not subject the pH electrode to freezing temperatures.

It is good practice to rinse the electrode in distilled water when going from one buffer to another. When not in use the cap should be kept on the electrode. Keeping the cotton in the cap moist will keep the electrode ready to use. Moisten the cotton frequently (once a week, usually).

20.5. 0_2/Explosimeter

The primary maintenance item of the Model 260 is the rechargeable 2.4 volt (V) nickel cadmium battery. The battery is recharged by removing the screw cap covering receptacle and connecting one end of the charging cable to the instrument and the other end to a 115V AC outlet.

The battery can also be recharged using a 12V DC source. An accessory battery charging cable is available, one end of which plugs into the Model 260 while the other end is fitted with an automobile cigarette lighter plug.

Recommended charging time is 16 hours.

Before the calibration of the combustible gas indicator can be checked, the Model 260 must be in operating condition. Calibration check-adjustment is made as follows:

1. Attach the flow control to the recommended calibration gas tank.
2. Connect the adapter-hose to the flow control.
3. Open flow control valve.
4. Connect the adapter-hose fitting to the inlet of the instrument; after about 15 seconds the LEL meter pointer should be stable and within the range specified on the calibration sheet accompanying the calibration equipment. If the meter pointer is not in the correct range, stop the flow; remove the right hand side cover. Turn on the flow and adjust the "S" control with a small screwdriver to obtain a reading as specified on the calibration sheet.
5. Disconnect the adapter-hose fitting from the instrument.
6. Close the flow control valve.
7. Remove the adapter-hose from the flow control.
8. Remove the flow control from the calibration gas tank.
9. Replace the side cover on the Model 260.

CAUTION: Calibration gas tank contents are under pressure. Use no oil, grease, or flammable solvents on the flow control or the calibration gas tank. Do not store calibration gas tank near heat or fire or in rooms used for habitation. Do not throw in fire, incinerate, or puncture. Keep out of reach of children. It is illegal and hazardous to refill this tank. Do not attach the calibration gas tank to any other apparatus than described above. Do not attach any gas tank other than MSA calibration tanks to the regulator.

20.6. Nephelometer (Turbidity Meter)

The Series 95 nephelometer is calibrated before each use. Allow the instrument to warm up for approximately 2 hours. Using turbidity-free deionized water, zero the meter. Set the scale to 100, fill with a 40 NTU standard (AEPA-1 turbidity standard from Advanced Polymer Systems, Inc.), and insert into the instrument. Adjust the standardize control to give a readout of 200. Re-zero the instrument and repeat these steps with the scale set at 10 and 1 using 4.0 and 0.4 NTU standards, respectively. These standards are prepared by diluting aliquots of the 40 NTU standard.

21. Internal Quality Control Checks

QC data are necessary to determine precision and accuracy and to demonstrate the absence of interferences and/or contamination of field equipment. Field-based QC will comprise at least 10% of each data set generated and will consist of standards, replicates, spikes, and blanks. Field duplicates and field blanks will be analyzed by the laboratory as samples and will not necessarily be identified to the laboratory as duplicates or blanks. For each matrix, field duplicates will be provided at a rate of one per 10 samples collected or one per shipment, whichever is greater. Field blanks which consist of trip, routine field, and rinsate blanks will be provided at a rate of one per 20 samples collected for each parameter group, or one per shipment, whichever is greater.

Calculations will be performed for recoveries and standard deviations along with review of retention times, response factors, chromatograms, calibration, tuning, and all other QC information generated. All QC data, including split samples, will be documented in the site logbook. QC records will be retained and results reported with sample data.

21.1. Blank Samples

Blank samples are analyzed in order to assess possible contamination from the field and/or laboratory so that corrective measures may be taken, if necessary. Field samples are discussed in the following subsection:

21.2. Field Blanks

Various types of blanks are used to check the cleanliness of field handling methods. The following types of blanks may be used: the trip blank, the routine field blank, and the field equipment blank. They are analyzed in the laboratory as samples, and their purpose is to assess the sampling and transport procedures as possible sources of sample contamination. Field staff may add blanks if field circumstances are such that they consider normal procedures are not sufficient to prevent or control sample contamination, or at the direction of the project manager. Rigorous documentation of all blanks in the site logbooks is mandatory.

- **Routine Field Blanks** or bottle blanks are blank samples prepared in the field to access ambient field conditions. They will be prepared by filling empty sample containers with deionized water and any necessary preservatives. They will be handled like a sample and shipped to the laboratory for analysis.

- **Trip Blanks** are similar to routine field blanks with the exception that they are **not** exposed to field conditions. Their analytical results give the overall level of contamination from everything except ambient field conditions. One trip blank is typically collected with every batch of water samples for volatile organic analysis. Each trip blank will be prepared by filling a 40-ml vial with deionized water prior to the sampling trip, transported to the site, handled like a sample, and returned to the laboratory for analysis without being opened in the field.
- **Field Equipment Blanks** are blank samples (sometimes called transfer blanks or rinsate blanks) designed to demonstrate that sampling equipment has been properly prepared and cleaned before field use, and that cleaning procedures between samples are sufficient to minimize cross contamination. If a sampling team is familiar with a particular site, they may be able to predict which areas or samples are likely to have the highest concentration of contaminants. Unless other constraints apply, these samples should be taken last to avoid excessive contamination of sampling equipment.

21.3. Field Duplicates

Field duplicate samples consist of a set of two samples collected independently at a sampling location during a single sampling event. In some instances the field duplicate can be a blind duplicate, i.e., indistinguishable from other analytical samples so that personnel performing the analyses are not able to determine which samples are field duplicates. Field duplicates are designed to assess the consistency of the overall sampling and analytical system.

21.4. Quality Control Check Samples

Inorganic and organic control check samples are available from EPA free of charge and are used as a means of evaluating analytical techniques of the analyst. Control check samples are subjected to the entire sample procedure, including extraction, digestion, etc., as appropriate for the analytical method utilized.

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

Appendix 7
Health & Safety Plan

LABELLA
Associates, P.C.

Engineering
Architecture
Environmental
Planning

Site Health and Safety Plan

Location:

Eldre Corporation
1500 Jefferson Road & 55 Hofstra Road
Henrietta, New York

Prepared for:

Eldre Corporation
1500 Jefferson Road
Henrietta, New York 14623

LaBella Project No. 211670

February 17, 2012

Site Health and Safety Plan

Location:

Eldre Corporation
1500 Jefferson Road & 55 Hofstra Road
Henrietta, New York

Prepared for:

Eldre Corporation
1500 Jefferson Road
Henrietta, New York 14623

LaBella Project No. 211670

February 17, 2012

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

Table of Contents

SITE HEALTH AND SAFETY PLAN

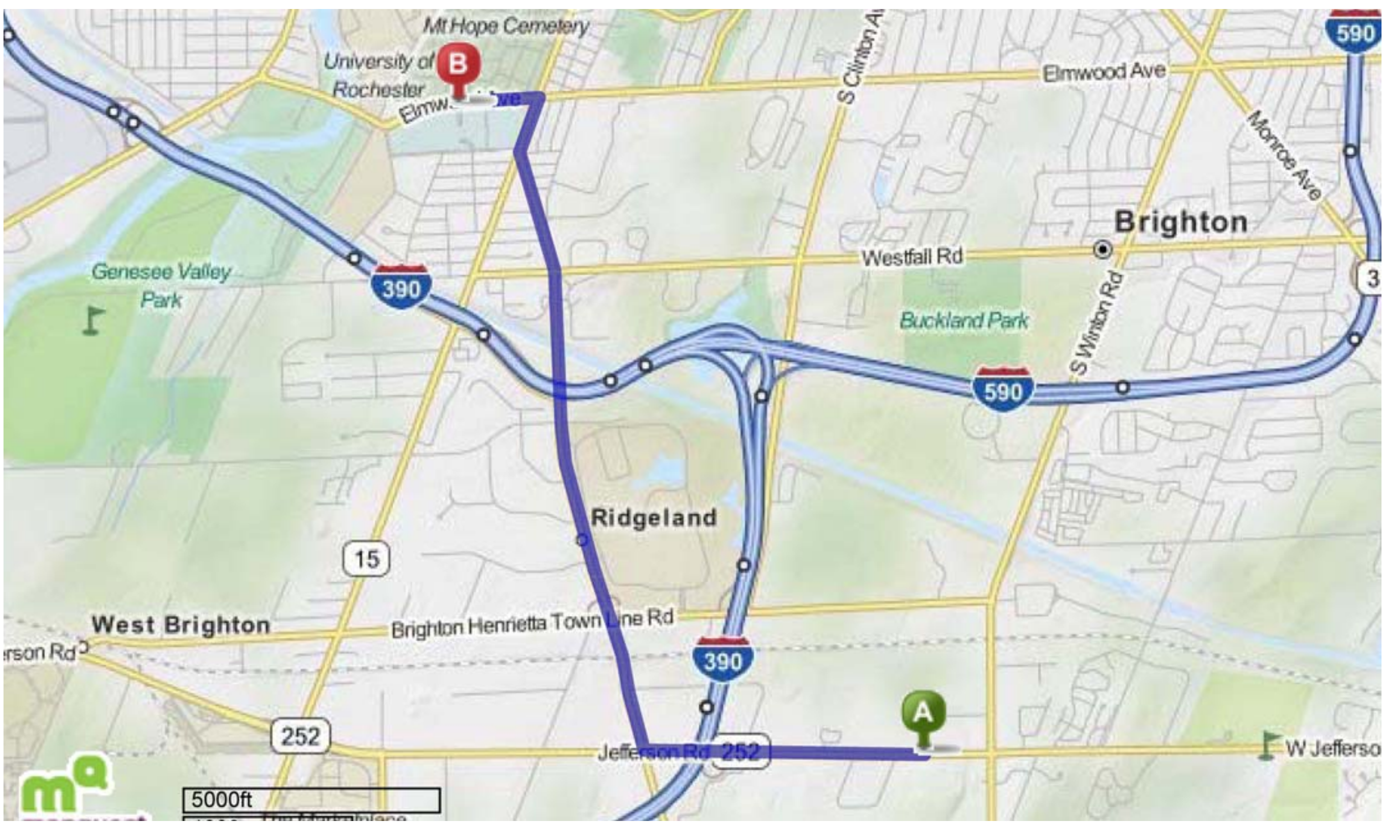
Project Title:	Eldre Corporation, Brownfield Cleanup Program
Project Number:	211670
Project Location (Site):	1500 Jefferson Road & 55 Hofstra Road, Henrietta, New York 14623
Environmental Director:	Gregory R. Senecal, CHMM
Project Manager:	Dan P. Noll, P.E.
Plan Review Date:	February 2012
Plan Approval Date:	February 2012
Plan Updated:	
Plan Approved By:	Richard K. Rote, CIH
Site Safety Supervisor:	Michael F. Pelychaty
Site Contact:	Lee Moss (Eldre Corporation)
Safety Director:	Richard K. Rote, CIH
Proposed Date(s) of Field Activities:	To Be Determined
Site Conditions:	Sloping downward from south to north
Site Environmental Information Provided By:	Phase I ESA and Phase II ESA by LaBella Associates
Air Monitoring Provided By:	LaBella Associates, P.C.
Site Control Provided By:	Contractor(s)

EMERGENCY CONTACTS

	Name	Phone Number
Ambulance:	As Per Emergency Service	911
Hospital Emergency:	Strong Memorial Hospital	585-275-2100
Poison Control Center:	Finger Lakes Poison Control	585-275-3232
Police (local, state):	Monroe County Sheriff	911
Fire Department:	Henrietta Fire Department	911
Site Contacts:	Lee Moss (Eldre Corporation)	585-427-7280
Agency Contact:	NYSDEC – Bart Putzig NYSDOH – TBD Finger Lakes Poison Control MCDOH – TBD	585-226-5349 TBD 1-800-222-1222 TBD
Environmental Director:	Gregory R. Senecal, CHMM	Direct: 585-295-6243 Cell: 585-752-6480
Project Manager:	Dan P. Noll, P.E.	Direct: 585-295-6611 Cell: 585-301-8458
Site Safety Supervisor:	Michael F. Pelychaty	Direct: 585-295-6253 Cell: 585-451-6225
Safety Director	Richard K. Rote, CIH	Direct: 585-295-6241

MAP AND DIRECTIONS TO THE MEDICAL FACILITY
- STRONG MEMORIAL HOSPITAL -

A	**1500 Jefferson Rd**, Rochester, NY 14623-3110	
	1. Start out going **west** on **Jefferson Rd / RT-252** toward **Saginaw Dr**. Map	**1.1 Mi** *1.1 Mi Total*
15A	2. Turn **right** onto **E Henrietta Rd / RT-15A**. Map *E Henrietta Rd is 0.3 miles past Ridgeland Rd* *Malcho's Mobil is on the corner* *If you are on Jefferson Rd and reach Clay Rd you've gone about 0.4 miles too far*	**2.4 Mi** *3.6 Mi Total*
15	3. Turn **slight right** onto **Mt Hope Ave / RT-15**. Map *Mt Hope Ave is just past Rosemount St* *South Presbyterian Church is on the right*	**0.2 Mi** *3.8 Mi Total*
	4. Turn **left** onto **Elmwood Ave**. Map *If you reach Cook St you've gone a little too far*	**0.3 Mi** *4.1 Mi Total*
	5. Make a **U-turn** at **Thomas H Jackson Dr** onto **Elmwood Ave**. Map *If you reach Kendrick Rd you've gone about 0.3 miles too far*	**0.01 Mi** *4.1 Mi Total*
	6. **601 ELMWOOD AVE** is on the **right**. Map *If you reach East Dr you've gone about 0.1 miles too far*	
B	**Strong Memorial Hospital** 601 Elmwood Ave, Rochester, NY 14642 (585) 275-2100	



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 Remedial Investigation (RI) at 1500 Jefferson Road and 55 Hofstra Road, Henrietta, Monroe County, New York. This HASP only reflects the policies of LaBella Associates P.C. The requirements of this HASP are applicable to all approved LaBella personnel at the work site. This document's project specifications 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 any other regulatory body.

2.0 Responsibilities

This HASP presents guidelines to minimize the risk of injury to project personnel, and to provide rapid response in the event of injury. The HASP is applicable only to activities of approved LaBella personnel and their authorized visitors. The Project Manager shall implement the provisions of this HASP for the duration of the project. It is the responsibility of LaBella 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:

- Management of environmental investigation and remediation activities
- Environmental Monitoring
- Collection of samples
- Management of study derived waste.

4.0 Work Area Access and Site Control

The contractor(s) 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 approved 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 hard hat, safety glasses and steel toe shoes are required.

5.2 Excavation Hazards

Potential Hazard:
Excavations and trenches can collapse, causing injury or death. Edges of excavations can be unstable and collapse. Toxic and asphyxiant gases can accumulate in confined spaces and trenches. Excavations that require working within the excavation will require air monitoring in the breathing zone (refer to Section 9.0).

Excavations left open create a fall hazard which can cause injury or death.

Protective Action:
Personnel must receive approval from the Project Manager to enter an excavation for any reason. Subsequently, approved personnel are to receive authorization for entry from the Site Safety Officer. Approved personnel are not to enter excavations over 4 feet in depth unless excavations are adequately sloped. Additional personal protective equipment may be required based on the air monitoring.

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

Fencing and/or barriers accompanied by "no trespassing" signs should be placed around all excavations when left open for any period of time when work is not being conducted.

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 Project Manager is responsible for making First Aid supplies available at the work site to treat minor injuries. 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 Project Manager. Serious injuries are to be reported immediately to the Site Safety Officer

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 ground intrusive 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. Approved employees will not work in environments where hazardous concentrations of organic vapors are present. Air monitoring (refer to Section 9.0) of the work area will be performed at least every 60 minutes or more often using a Photoionization Detector (PID). Personnel are to leave the work area whenever PID measurements of ambient air exceed 25 ppm consistently for a 5 minute period. In the event that sustained total volatile organic compound (VOC) readings of 25 ppm are encountered personnel should upgrade personal protective equipment to Level C (refer to Section 8.0) and an Exclusion Zone should be established around the work area to limit and monitor access to this area (refer to Section 6.0).

5.5 Injuries Due to Extreme Hot or Cold Weather Conditions

Potential Hazards:
Extreme hot weather conditions can cause heat exhaustion, heat stress and heat stroke or extreme cold weather conditions can cause hypothermia.

Protective Action:
Precaution measures should be taken such as dress appropriately for the weather conditions and drink plenty of fluid. If personnel should suffer from any of the above conditions, proper techniques should be taken to cool down or heat up the body and taken to the nearest hospital if needed.

6.0 Work Zones

In the event that conditions warrant establishing various work zones (i.e., based on hazards - Section 5.4), the following work zones should be established:

Exclusion Zone (EZ):
The EZ will be established in the immediate vicinity and adjacent downwind direction of site activities that elevate breathing zone VOC concentrations to unacceptable levels based on field screening. These site activities include contaminated soil excavation and soil sampling activities. If access to the site is required to accommodate non-project related personnel then an EZ will be established by constructing a barrier around the work area (yellow caution tape and/or construction fencing). The EZ barrier shall encompass the work area and any equipment staging/soil staging areas necessary to perform the associated work. The contractor(s) will be responsible for establishing the EZ and limiting access to approved personnel. Depending on the condition for establishing the EZ, access to the EZ may require adequate PPE (e.g., Level C).

Contaminant Reduction Zone (CRZ):
The CRZ will be the area where personnel entering the EZ will don proper PPE prior to entering the EZ and the area where PPE may be removed. The CRZ will also be the area where decontamination of equipment and personnel will be conducted as necessary.

7.0 Decontamination Procedures

Upon leaving the work area, approved 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. Personnel assigned to this project should be prepared with a change of clothing whenever on site.

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

8.0 Personal Protective Equipment

Generally, site conditions at this work site will require Level D protection or modified Level D. However, air monitoring will be conducted to determine if up-grading to Level C PPE is required (refer to Section 9.0). Descriptions of the typical safety equipment associated with Level D and Level C are provided below:

Level D:
Hard hat, safety glasses, rubber nitrile sampling gloves, steel toe construction grade boots, etc.

Level C:
Level D PPE and full or ½-face respirator and tyvek suit (if necessary). [*Note: Organic vapor cartridges are to be changed after each 8-hours of use or more frequently(refer to manufacturer specifications for proper use).*]

9.0 Air Monitoring

According to 29 CFR 1910.120(h), air monitoring shall be used to identify and quantify airborne levels of hazardous substances and health hazards in order to determine the appropriate level of employee protection required for personnel working onsite. Air monitoring will consist at a minimum of the procedure listed below. Air monitoring instruments will be calibrated and maintained in accordance with the manufacturer's specifications.

The Air Monitor will utilize a photoionization Detector (PID) to screen the ambient air in the work areas (excavation, soil staging, and soil grading areas) for total Volatile Organic Compounds (VOCs) and a DustTrak tm Model 8520 aerosol monitor or equivalent for measuring particulates. Work area ambient air will generally be monitored in the work area and downwind of the work area. Air monitoring of the work areas and downwind of the work areas will be performed at least every 60 minutes or more often using a PID and the DustTrak meter. In addition, the Community Air Monitoring Plan (CAMP) will also be followed (refer to Appendix 3 of the RI Work Plan).

If sustained PID readings of greater than 25 ppm are recorded in the breathing zone then either personnel are to leave the work area until satisfactory readings are obtained or approved personnel may re-enter the work areas wearing at a minimum a ½ face respirator with organic vapor cartridges for an 8-hour duration (i.e., upgrade to Level C PPE). Organic vapor cartridges are to be changed after each 8-hours of use or more frequently, if necessary. If PID readings are sustained, in the work area, at levels above 50 ppm for a 5 minute average, work will be stopped immediately until safe levels of VOCs are encountered or additional PPE will be required (i.e., Level B).

If downwind PID measurements reach or exceed 25 ppm consistently for a 5 minute period downwind of the work area, PID readings will be taken within the buildings (if occupied) on Site to ensure that the vapors are not penetrating any occupied building and effecting the personnel working within. If the PID measurements reach or exceed 25 ppm within the nearby buildings, the personnel should be evacuated via a route in which they would not encounter the work area. The building should then be ventilated until the PID measurements within the building are at or below background levels.

10.0 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.

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

11.0 Medical Surveillance

Medical surveillance will be provided to all employees who are injured due to overexposure from an emergency incident involving hazardous substances at this site.

12.0 Employee Training

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

Individuals involved with the remedial investigation must be 40-hour OSHA HAZWOPER trained with current 8-hour refresher certification.

Table 1
Exposure Limits and Recognition Qualities

Compound	PEL-TWA (ppm)(b)(d)	TLV-TWA (ppm)(c)(d)	STEL (ppm)(b)	LEL (%)(e)	UEL (%)(f)	IDLH (ppm)(g)(d)	Odor	Odor Threshold (ppm)	Ionization Potential
Acetone	750	500	NA	2.15	13.2	20,000	Sweet	4.58	9.69
Anthracene	.2	.2	NA	NA	NA	NA	Faint aromatic	NA	NA
Benzene	1	0.5	5	1.3	7.9	3000	Pleasant	8.65	9.24
Benzo (a) pyrene (coal tar pitch volatiles)	0.2	0.1	NA	NA	NA	700	NA	NA	NA
Benzo (a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (b) Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (k) Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	NA	NA	NA	NA	NA	NA	NA	NA	10.88
Carbon Disulfide	20	1	NA	1.3	50	500	Odorless or strong garlic type	.096	10.07
Chlorobenzene	75	10	NA	1.3	9.6	2,400	Faint almond	0.741	9.07
Chloroform	50	2	NA	NA	NA	1,000	ethereal odor	11.7	11.42
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethylene	200	200	NA	9.7	12.8	400	Acrid	NA	9.65
1,2-Dichlorobenzene	50	25	NA	2.2	9.2		Pleasant		9.07
Ethylbenzene	100	100	NA	1.0	6.7	2,000	Ether	2.3	8.76
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	500	50	NA	12	23	5,000	Chloroform-like	10.2	11.35
Naphthalene	10, Skin	10	NA	0.9	5.9	250	Moth Balls	0.3	8.12
n-propylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
p-Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethane	NA	NA	NA	NA	NA	NA	Sweet	NA	NA
Toluene	100	100	NA	0.9	9.5	2,000	Sweet	2.1	8.82
Trichloroethylene	100	50	NA	8	12.5	1,000	Chloroform	1.36	9.45
1,2,4-Trimethylbenzene	NA	25	NA	0.9	6.4	NA	Distinct	2.4	NA
1,3,5-Trimethylbenzene	NA	25	NA	NA	NA	NA	Distinct	2.4	NA
Vinyl Chloride	1	1	NA	NA	NA	NA	NA	NA	NA
Xylenes (o,m,p)	100	100	NA	1	7	1,000	Sweet	1.1	8.56
Metals									
Arsenic	0.01	0.2	NA	NA	NA	100, Ca	Almond		NA
Cadmium	0.2	0.5	NA	NA	NA				NA
Chromium	1	0.5	NA	NA	NA				NA
Lead	0.05	0.15	NA	NA	NA	700			NA
Mercury	0.05	0.05	NA	NA	NA	28	Odorless		NA
Selenium	0.2	0.02	NA	NA	NA	Unknown			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.

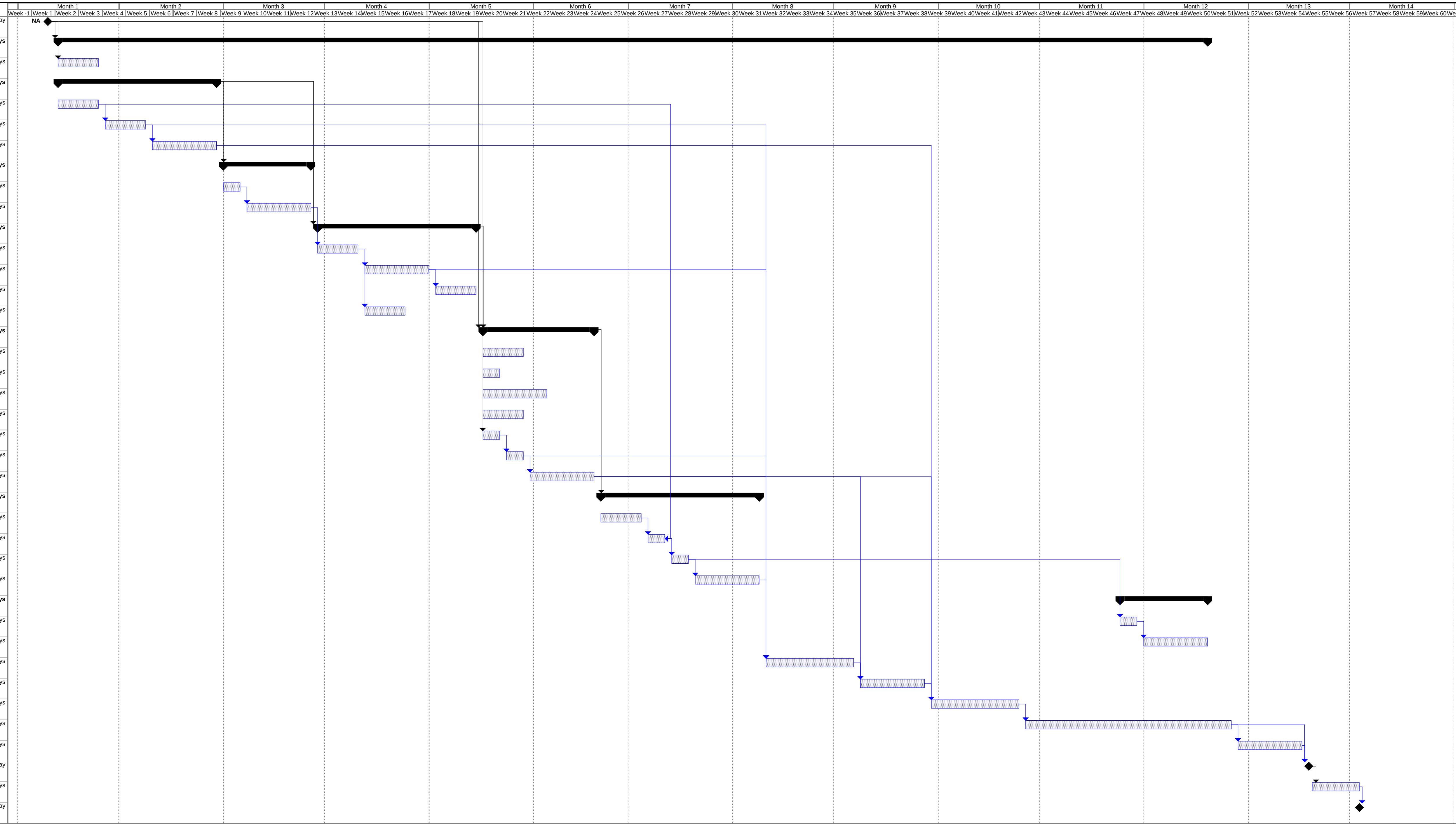
LaBella Associates, P.C.
300 State Street
Rochester, New York 14614

Appendix 8

Anticipated Project Schedule

Eldre Corporation
Brownfield Cleanup Program
Estimated Remedial Investigation Schedule*
1500 Jefferson Road and 55 Hofstra Road

ID	Task Name	Duration
1	Formal DEC Approval of RI Work Plan	1 day
2	**Implement RI Fieldwork**	**245 days**
3	Coordination of Subconsultants	10 days
4	**Task 1: Baseline Groundwater Sampling**	**35 days**
5	Well Surveying	10 days
6	Groundwater Sampling	10 days
7	Laboratory Testing, Data Reduction and Interim Reporting to NYSDEC	15 days
8	**Task 2: Surface Soil Sampling**	**20 days**
9	Surface Soil Sampling	5 days
10	Laboratory Testing, Data Reduction and Interim Reporting to NYSDEC	15 days
11	**Task 3: Interior Soil and Groundwater Sampling**	**35 days**
12	Contractor Coordination	10 days
13	Boring Advancment and Well Install	15 days
14	Groundwater Sampling	10 days
15	Laboratory Testing, Data Reduction and Interim Reporting to NYSDEC	10 days
16	**Task 4: Exterior Soil and Groundwater Sampling**	**25 days**
17	Contractor Coordination	10 days
18	Boring Advancment	5 days
19	Laboratory Testing, Data Reduction and Interim Reporting to NYSDEC	15 days
20	Contractor Coordination	10 days
21	Well Installation	5 days
22	Groundwater Sampling	5 days
23	Laboratory Testing, Data Reduction and Interim Reporting to NYSDEC	15 days
24	**Task 5: Exterior Deep Soil and Groundwater Samples**	**35 days**
25	Contractor Coordination	10 days
26	Boring Advancment and Well Install	5 days
27	Groundwater Sampling	5 days
28	Laboratory Testing, Data Reduction and Interim Reporting to NYSDEC	15 days
29	**Task 6: Second Round of Groundwater Sampling**	**20 days**
30	Groundwater Sampling	5 days
31	Laboratory Testing, Data Reduction and Interim Reporting to NYSDEC	15 days
32	Data Usability Summary Reports	20 days
33	Qualitative Exposure Assessment	15 days
34	Draft Remedial Investigation Report (w/o 2nd round of groundwater)	20 days
35	DEC Review of RI Report (45 Calender Days)	45 days
36	Revisions to RI Report (and inclusion of 2nd round groundwater data)	15 days
37	Significant Threat Determination by NYSDEC	1 day
38	Formal DEC Approval of RI Report	10 days
39	Begin Remedial Alternatives Analysis	1 day



Note: Interim Remedial Measures (not shown) may be implemented throughout the Remedial Investigation.

Task	Progress	Milestone	Summary	Rolled Up Task	Rolled Up Milestone	Rolled Up Progress	Split
External Tasks	Project Summary	Group By Summary	Deadline				

*** Schedule may vary based on responses of regulatory agencies, field conditions, site accessibility, contractor availability, etc**