

Interim Remedial Measure Work Plan: BCP Site #C8281324

Location:

3865 West Henrietta Road Henrietta, New York 14623

Prepared for:

Dorschel Automotive Group 3817 West Henrietta Road Rochester, New York 14623

LaBella Project No. 206139

August 2006

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1.0 Introduction and Purpose

LaBella Associates, P.C. (LaBella) is pleased to submit this Interim Remedial Measure Work Plan (IRM Work Plan) to conduct an IRM for initially addressing soil and groundwater conditions at 3865 West Henrietta Road, Town of Henrietta, Monroe County, New York, herein after referred to as the "Site". An active New York State Department of Environmental Conservation (NYSDEC) Spill (#9701554) is associated with the Site. Previous environmental investigation work completed at the Site (refer to Section 2.0) identified soil and groundwater impacted with petroleum products in the area of a former pump island.

The Site was recently purchased by the RJ Dorschel Group (Dorschel). Dorschel plans to remediate the Site and then redevelop the property as a commercial business. Due to the existence of known contamination in the soil and groundwater at the Site, Dorschel entered the Site into the Brownfield Cleanup Program (BCP) to conduct the Final Remedial Investigation (RI) and remediation work. A Final RI Work Plan has been submitted separately. The Final RI work will further define the extent of contamination at the Site and the extent of the IRM soil removal area. A pre-application meeting was held on February 22, 2006 with NYSDEC representatives, Dorschel, LaBella and Shaw & Knauf, LLP. During that meeting the general additional scope of work was discussed.

2.0 Site History and Description

The Site consists of approximately 1.1 acres of land improved by an approximate 3,750 square foot building which is currently vacant. [Note: Currently, Dorschel anticipates using the existing building with potentially adding a service bay related addition to the building.] The Site is in a commercial area, surrounded by various other commercial properties. A Site Location Map is included as Figure 1.

The following previous environmental reports have been completed for the Site:

• Site Assessment Report, Steve Joy's Sunoco, 3865 West Henrietta Road, Rochester, Monroe County, NY dated April 1997 prepared by Environmental Assessment and Remediation (EAR). EAR advanced seven soil borings at the Site and the report identified petroleum related soil and groundwater contamination at the Site in the area of underground storage tanks (USTs) and gasoline pump islands. Specifically, the volatile organic compounds (VOCs) benzene, toluene, ethylbenzene and xylenes (BTEX) were detected in soil samples at concentrations up to 495,100 parts per billion (ppb) and total BTEX in groundwater samples at concentrations up to 66,500 ppb. The recommended soil cleanup objective (RSCO) referenced in NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4046 dated January 24, 1994 as amended by supplemental tables dated August 22, 2001 for total VOCs is 10,000 ppb. The NYSDEC Division of Water June 1998 Technical Operation and Guidance Series 1.1.1 Ambient Groundwater Standards and Guidance Values (TOGS 1.1.1) lists standards for benzene at 1 ppb and toluene, ethylbenzene, and xylenes at 5 ppb. EAR indicated that groundwater was encountered at depths between approximately 1 to 2-feet below the ground surface. The approximate location of the EAR soil borings are shown on Figure 2.

- Tank Closure Report, 3865 West Henrietta Road, Rochester, NY dated March 31, 1998 prepared by Rowan Environmental Services, Inc. (Rowan). This report provides documentation on the removal of five (5) USTs from the Site in 1998; however, it does not appear that remediation of impacted soil and/or groundwater was conducted.
- Soil Gas Survey and Soil Sampling Report for the Hazardous Waste Assessment of New York Route 15, Town of Henrietta, New York dated March 1998 prepared by URS Greiner Consultants, Inc. (URS). URS conducted this work on behalf of the New York State Department of Transportation (NYSDOT), which consisted of advancing seven soil borings along the eastern edge of the property line in a right-of-way taking area. One of the soil borings advanced along the eastern property line encountered petroleum impacted soil. A sample of the impacted soil was submitted to a laboratory for a Toxicity Characteristic Leachate Procedure (TCLP) extraction and analyzed for VOCs. Six petroleum related VOCs exceeded TCLP extraction guidance values referenced in the NYSDEC Spill Technology and Remediation Series (STARS) memo #1.
- Remedial Investigation Work Plan, NYSDEC Spill #9701554, 3865 West Henrietta Road, Henrietta, New York 14623 dated August 2005 prepared by LaBella. LaBella was retained to conduct an environmental investigation as part of a potential real estate transaction. As part of the work, LaBella met with the NYSDEC (Spills Group) on August 3, 2005 to discuss NYSDEC requirements for investigation of Spill #9701554. Based on this meeting, the following areas of concern required additional investigation:
 - 1. Two Former 1,000-gallon USTs
 - 2. Three Former 6,000-gallon USTs
 - 3. Former Gasoline Pump Islands
 - 4. Septic Tank/Leachfield

As such, LaBella submitted a Remedial Investigation (RI) Work Plan dated August 2005 that provided the anticipated soil and groundwater investigation activities for the Site. The NYSDEC (Spills Group) approved the RI Work Plan in an August 30, 2005 letter.

• Remedial Investigation Report: NYSDEC Spill #9701554, 3865 West Henrietta Road, Henrietta, New York 14623 dated October 2005 prepared by LaBella. This report documents the work completed as part of the RI completed through the NYSDEC (Spills Group). As part of this work, twenty-six (26) soil borings were advanced (designated TB-3 through TB-28) in the areas of concern identified in the RI Work Plan. The approximate locations of the test borings are shown on Figure 2. [Note: Initially two test borings (TB-1 and TB-2) were advanced on the property to the south and these borings are not included on Figure 2.] Five (5) of these test borings were converted into 1-inch diameter polyvinyl chloride (PVC) groundwater monitoring wells. A summary of the RI findings for each area of concern is below.

Two Former 1,000-Gallon USTs

Evidence of impairment was not encountered in the three test borings advanced in this area. Although a soil sample was not submitted from this area, a groundwater sample from MW-3 did not detect concentrations of VOCs or Semi-VOCs (SVOCs) above the NYSDEC TOGS 1.1.1 standards or guidance values. As such, it was concluded that this area does not appear to represent a remedial concern.

Three Former 6,000-Gallon USTs

Evidence of impairment was not encountered in the three test borings advanced in this area. A soil sample from this area did not detect concentrations of VOCs or SVOCs above the reported laboratory detection limits. As such, it was concluded that this area does not appear to represent a remedial concern. [Note: A monitoring well was installed in this area; however, at the time of sampling, this monitoring well (MW-5) was observed to be dry.]

Former Gasoline Pump Islands

Significant evidence of impairment was encountered in seven of the test borings (TB-3, TB-4, TB-5, TB-6, TB-20, TB-21, and TB-28) advanced in the area of the former gasoline pump islands. Two soil samples (from borings TB-21 and TB-28) and a groundwater sample (from MW-1) collected from this area detected VOCs and one SVOC (naphthalene) at concentrations above applicable NYSDEC cleanup criteria. In addition two soil samples (from borings TB-19 and TB-26) and a groundwater sample (from MW-4) were collected from anticipated 'clean' areas to evaluate the extent of contamination. Based on these findings, there appears to be a significant remedial concern in the area of the former gasoline pump islands. The inferred extent of soil and groundwater impairment is shown on Figure 3. It was recommended that the report be provided to the NYSDEC and subsequently, a meeting with the NYSDEC be held in order to determine remedial objectives for the Site.

Septic Tank/Leachfield

Four test borings advanced in the area of the septic tank and leachfield did not encounter evidence of impairment. A soil sample and groundwater sample from this area did not detect concentrations of VOCs or SVOCs above the reported laboratory detection limits. [Note: The groundwater sample (MW-2) was also tested for chlorinated VOCs, which were also not detected above the reported laboratory detection limits.] As such, it does not appear that the septic tank/leachfield area represents a remedial concern at this time.

In addition to the above reports, LaBella also completed a Phase II Environmental Site Assessment (ESA) at 3875 West Henrietta Road (the property directly to the south of the Site), herein after referred to as the "southern adjacent property". This Phase II ESA was conducted in order to evaluate potential impacts from operations at that Site; however, some investigation work was also conducted along the property line of these parcels in order to evaluate potential impacts from the Site to the property to the south. The *Phase II Environmental Site Assessment: Preliminary Site Characterization, 3875 West Henrietta Road, Henrietta New York* report dated November 2005 was submitted to the NYSDEC (Spills Group) in order to request closure of a Spill File (Spill #9970099) associated with contamination in the right-of-way (ROW). A summary of the information from this Phase II ESA that is pertinent to the Site is provided below.

The Phase II ESA conducted at the southern adjacent property consisted of advancing twenty test borings and converting three of these test borings into 1-inch diameter groundwater monitoring wells. Nine of these twenty test borings were completed within approximately 20-feet of the northern property line (i.e., the southern property line of the Site) and two of these borings were converted into monitoring wells. The borings and wells completed within about 20-feet of the property line are shown on Figure 2 and have been designated as OS-TB-5, OS-TB-6, OS-TB-7, OS-TB-10 (OS-MW-1), OS-TB-11, OS-TB-12, OS-TB-18, OS-TB-19 (OS-MW-3), and OS-TB-20. Although slight petroleum odors were noted in four of the nine test borings advanced within twenty feet of the property line, two soil samples (from OS-TB-12 and OS-TB-20) were analyzed from these borings (samples with the highest photo-ionization detector [PID] readings) and these samples did not detect concentrations of VOCs or SVOCs with the exception of one VOC (sec-butylbenzene), which was below the NYSDEC TAGM RSCO. In addition, the two groundwater samples collected from the wells within 20-feet of the property line did not detect concentrations of VOCs or SVOCs above the laboratory detection limits, with the exception of one VOC in OS-MW-3. The concentration of the VOC detected (benzene - 1.81 part per billion [ppb]) is only slightly above the NYSDEC TOGS 1.1.1 standard of 1 ppb. [Note: These slight detections of VOCs in soil and groundwater were in areas of historic petroleum use (i.e., an oil/water separator and former *USTs*) on the adjacent southern property.

Based on the findings from the Phase II ESA for the southern adjacent property, it does not appear that contaminants from the Site have migrated to the south.

3.0 Summary of Geologic and Hydrogeologic Conditions

Site geologic features are based primarily on information obtained from the advancement of the 28 test borings completed as part of the RI.

- Underneath the asphalt pavement, a layer consisting primarily of sand and gravel was encountered to depths generally ranging between 1-foot and 5.5-feet below the ground surface.
- Two soil borings encountered sand and gravel to approximately 10-feet below the ground surface.

- One test boring encountered sand and gravel to 6-feet below the ground surface where equipment refusal was encountered.
- Underlying the sand and gravel, the soil consisted primarily of silt and clay.
- Apparent groundwater was generally encountered in each test boring at approximately 4 feet below the ground surface. Static water levels were collected at the time of groundwater sampling and noted groundwater at depths ranging between approximately 1.7-feet and 5-feet below the ground surface. [Note: A groundwater contour map has not been developed to date.]

4.0 Objectives, Scope and Rationale

The objective of this IRM Work Plan is to address the source area of contamination that was identified as part of previous work conducted at the Site with approval of the NYSDEC (Spills Group). The IRM is proposed in order to remove a significant volume of contamination from the Site and minimize potential off-site impacts. The data obtained during the IRM will also be included in a Final Remedial Investigation Report for the Site.

5.0 Interim Remedial Measure

Since an area of petroleum impacted soil has already been identified and generally delineated from the previous work, it is proposed that an IRM be conducted in order to remove a significant amount of contamination and reduce potential off-site impacts. This section provides a description of the proposed work to be completed. Prior to initiating the IRM, this work plan will be provided to the Town of Henrietta for approval. A copy of the Town of Henrietta approval letter will be provided to the NYSDEC.

The IRM is designed to satisfy the following objectives:

- Excavate petroleum impacted soil from the pump island area.
- Confirm the effectiveness of the soil removal.
- Remediate the petroleum impacted soil at an off-site location in a bio-cell.
- Provide some source area groundwater removal from the area of excavation.

To accomplish the above objectives, the following scope of work is proposed.

Soil Excavation Work

1. The petroleum impacted soils from the pump island area will be excavated to the extent practicable. Currently, the inferred extent of soil requiring remediation is provided on Figure 3. As shown on Figure 3, this area is approximately 5,800 square feet. The vertical extent of contamination that appears to require remediation ranges from 0 to 6-feet in depth to 0 to 10-feet in depth; however, in some locations the uppermost 3 to 4-feet of soil does not appear to be impacted. [Note: This area is based on the previous environmental work completed at the Site; however, some additional investigation work has been proposed as part of the Final Remedial Investigation Work Plan submitted for the Site. Although significant variations in the area and

volume of soil to be removed are not anticipated, the final area for removal will be based on the additional data.]

- 2. Excavated soils will be screened in the field for visible impairment, olfactory indications of impairment, and/or indication of detectable VOCs with a photo-ionization detector (PID) collectively referred to as "evidence of impairment". Soils that are not observed to be impacted (i.e., no staining or petroleum odors) and PID readings less than 100 parts per million (ppm) will be segregated for potential use as backfill. These segregated 'clean' soils will be stockpiled onsite and sampled in general accordance with NYSDEC STARS Memo #1. In the event that sample results indicate contaminant concentrations are below the NYSDEC TAGM 4046 Soil Cleanup Objectives to Protect Groundwater Quality the soils will be reused as backfill, if not, the soils will be transported to the bio-cell.
- 3. A LaBella geologist will be on-site during the work. Soil at the bottom and along the sidewalls of the impaired soil excavation will be sampled in general accordance with the NYSDEC DER-10 and the results will be compared NYSDEC TAGM 4046 RSCOs and/or the proposed BCP Track 2 Soil Cleanup Objectives. These 'confirmatory soil samples' will be collected in order to confirm that the excavation has removed soils above the NYSDEC criteria.

The specific confirmatory soil sampling procedures from NYSDEC DER-10 Section 5.4 (a) are provided for reference below:

- 1. All sampling should be conducted pursuant to sections 3.2 through 3.11 of NYSDEC DER-10;
- 2. For soils, if excavation is conducted, the minimum post remediation sampling frequency should be:
 - i. For excavations less than 20 feet in perimeter, at least one bottom sample and one sidewall sample biased in the direction of surface runoff.
 - ii. For excavations 20 to 300 feet in perimeter:
 - (1) For surface spills, one sample from the top of each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.
 - (2) For subsurface spills, one sample from the bottom of each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.
 - iii. For larger excavations, sampling frequency may be reduced if documentation acceptable to the DER is provided in the remedial action report, in accordance with section 5.8, specifying why the sample frequency was considered adequate.
 - iv. For volatile organics bottom samples taken within 24 hours of excavation, samples should be taken from the zero to six inch interval at the excavation floor. Samples taken after 24 hours should be taken at six to twelve inches. For excavations open longer than two weeks, volatile organics sample depth for bottom samples should be in accordance with section 3.5.1.
 - v. Each excavation within a larger excavation will be considered a separate excavation and should comply with (a)(2) i-iv above.

- vi. For tanks, if contaminated soil is removed, post remediation soil samples for laboratory analysis should be taken immediately after contaminated soil removal pursuant to section 5.5(b)4(ii) and (iii). If the excavation is enlarged horizontally beyond the immediate tank removal area, additional soil samples will be taken pursuant to (a)2i through iv above.
- 3. Post-remediation sample locations and depth should be biased towards the areas and depths of highest contamination identified during previous sampling episodes unless field indicators such as field instrument measurements or visual contamination identified during the remedial action indicate that other locations and depths may be more heavily contaminated. In all cases, post-remediation samples should be biased toward locations and depths of the highest expected contamination.
- 3. The petroleum impacted soils will be loaded directly into trucks for transport to the off-site biocell location. The trucks will be 360-permitted vehicles. The bio-cell will be constructed at 70 Telco Road, which is a parcel owned by the BCP volunteer. The haul route for transporting the petroleum-impacted soil and the location of the parcel are illustrated on Figure 4.
- 4. The soil excavation will be backfilled with bank run gravel (or similar) to about 3 to 6-inches below grade. The backfill will be placed in approximate 1-foot lifts and tamped with the excavation equipment. Subsequent to completing the backfilling work (and potentially allowing for settling), the disturbed area will be asphalt paved and sealed.

Bio-Cell Construction

- LaBella will design the bio-cell in general accordance with NYSDEC STARS Memo #2: Bio-cell
 and Bio-pile Designs for Small Scale Petroleum Contaminated Soil Projects (Last Revised, May
 1996) and NYSDEC Region 8 Guidance on Ex-Situ Bio-remediation of Petroleum Contaminated
 Soil.
- 2. As requested in the Region 8 Guidance, Figures 5 and 6 include information on the site that the Bio-Cell will be constructed. Specifically, Figure 5 illustrates the following
 - property lines, parking areas, roadways, etc.;
 - proposed bio-cell location; and,
 - nearby receptors surface water bodies (~400 ft.), commercial structures (~100 ft. and ~300 ft.) and regulated wetlands (~75 ft.).

The following additional items requested in the Region 8 Guidance were not shown on Figure 5 due to the following reasons:

- Structures on-site there are no structures located on the proposed Bio-Cell site; however, structures on neighboring properties are shown. [Note: The nearest structure is a building approximately 100 ft. south of the proposed Bio-Cell location and this building is only used for occasional training (i.e., not routinely occupied) by Frontier Communications. In addition, a majority of the land in the area of the biocell is vacant land.]
- Water supplies Based on discussions with the Town of Henrietta Engineer, there are no known water supply wells within a ½-mile radius of the proposed Bio-Cell location.
- 100 Year Flood Plains This entire area of Henrietta is located within the 100-year flood plains.
- 3. Initially, two soil samples will be collected from the impaired soil at the time of excavation. These soil samples will be used for establishing levels of impairment, fertilizer requirements, and a baseline to track the remedial progress of soil in the bio-cell. The samples will be tested for TPH analysis by United States Environmental Protection Agency (USEPA) Method 418.1 and NYSDEC STARS-List VOCs using USEPA Method 8260.
- 4. Currently the anticipated volume of impaired soil to be remediated is approximately 1,000 cubic yards; however, the actual amount may vary. The impaired soil will be placed on polyethylene sheeting with a protective layer of 3 to 4-inches of sand or other fine grained aggregate. The sand or aggregate layer will act as a barrier to keep intact the integrity of the polyethylene sheeting when soil in the bio-cell is 'flipped'. The impacted soil will then be mixed with an appropriate amount of 19:3:3 ratio granular fertilizer as recommended in NYSDEC STARS Memo #2. [Note: The amounts of fertilizer will be determined based on the results of the above testing.] In addition to the fertilizer, bales of straw will be added to the bio-cell in order to provide pore space for bacterial growth. Approximately 1 bale of straw will be mixed in per 20 cubic yards of soil. The bio-cell will be surrounded by an approximately 1.5 to 2.5-foot high earthen berm. In addition, the polyethylene sheeting from the bottom of the bio-cell will be extended over the berms and will be anchored on the outer edge of the berm.
- 5. A leachate collection sump will be situated at the down gradient corner of the bio-cell. Placement of the sump at the down gradient corner of the cell will take advantage of the slope of the Site. The placement of this sump coupled with the slope of the Site should facilitate any accumulation of liquids within the biocell to drain into the depression of sheeting formed by the sump. In addition, polyvinyl chloride (PVC) piping with slotted screens will be placed within the bio-cell to promote air movement. Currently it is anticipated that three lengths of PVC piping will be installed within the bio-cell on approximate 20 foot centers. The piping will be connected to a manifold and a vent stack will be installed for promoting air movement within the bio-cell. A plan view and a schematic of the bio-cell is included as Figure 7.

Bio-Cell Monitoring

- 1. The bio-cell will be monitored after significant precipitation events for leachate and surface runoff. Significant rain events will be considered rainfall greater than 0.5-inches as measured at the Rochester Airport. The sump will also be monitored to evaluate for liquids within the sump. In the event that water has accumulated within the sump, the water will be redistributed within the bio-cell.
- 2. In accordance with NYSDEC guidelines, LaBella will periodically check the soil pile to ensure that the pile remains intact and operational. The checks of the bio-cell will be documented and quarterly the field logs will be submitted to NYSDEC. Approximately every 6-months, the bio-cell will be screened with a PID and a sampled for TPH using USEPA Method 418.1.
- 3. The piles will be covered with polyethylene sheeting during the winter months when the average temperature is generally below 40 degrees Fahrenheit (between September and May of each year). In the event that odor complaints are received, the NYSDEC will be notified and the biocell may be covered throughout the year
- 4. The bio-cell will be 'flipped' at a minimum of at least once a year in order to introduce additional oxygen into the bio-cell to promote the bioremediation of the petroleum impaired soils and to mix the soil. LaBella will notify the NYSDEC prior to each occasion the bio-cell will be 'flipped'. A LaBella representative will monitor this operation and assess the integrity of the bio-cell and evaluate the progress of the bioremediated soils with a hand held photoionization detector (PID). In addition, during flipping of the bio-cell, at least two soil samples will be collected for NYSDEC STARS-List VOCs to assess the status of the bio-cell at that time.
- 5. In the event that field screening of the bio-cell indicates the soil may have been remediated to acceptable levels, soil samples will be collected in accordance with NYSDEC STARS Memo #1. When laboratory analysis indicates that the petroleum hydrocarbons in the bio-cell have been reduced to NYSDEC acceptable levels, a letter of completion will be prepared requesting permission to utilize the soil for an alternative beneficial re-use (most likely spread out on-site). [Note: Currently it is assumed that additional contaminant parameters will not be identified during the Final RI work; however, in the event that other contaminants are encountered additional 'closeout' sampling may be required.]
- 6. The bio-cell monitoring and closure work will also be presented in the Remedial Work Plan for the Site.

6.0 Health and Safety Plan

A Health and Safety Plan (HASP) has been developed for the Site and was included with the Final RI Work Plan.

7.0 Community Air Monitoring Plan

During the remedial work at the Site and at the bio-cell location, air monitoring will be conducted to ensure the safety of site workers and the surrounding community. Specifically, the air monitoring will be conducted during the excavation of soil, the construction of the bio-cell, and during the turning of the bio-cell. Air monitoring will be conducted in accordance with the NYSDOH Generic Community Air Monitoring Plan (CAMP) presented in NYSDEC DER-10 Appendix 1A. A copy of the Generic CAMP is included in Appendix 1.

8.0 Reporting and Schedule

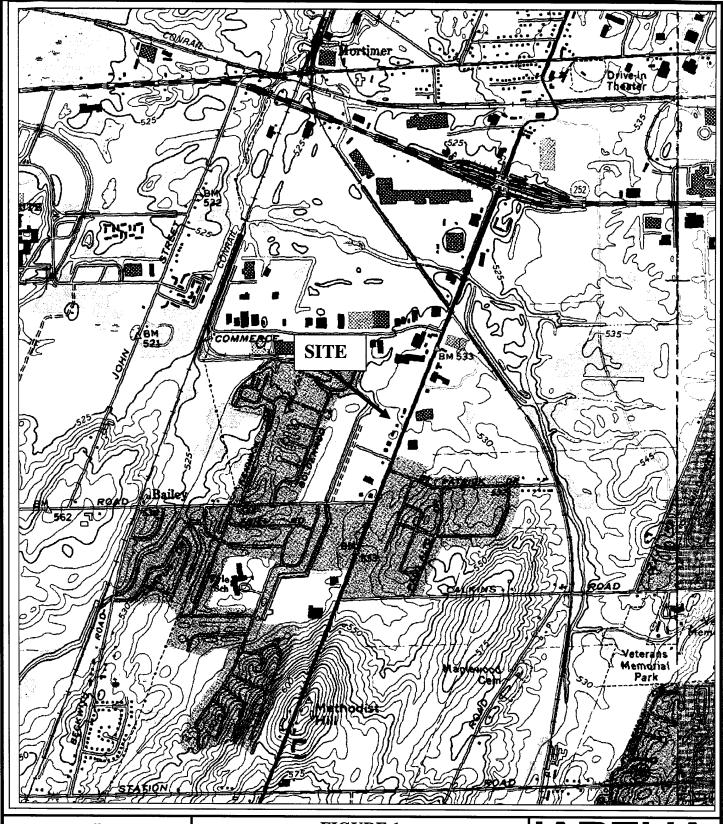
Subsequent to completing the IRM work a report documenting the work completed will be developed and submitted to NYSDEC. Specifically, the report will include the volume of impacted soil placed in the bio-cell; materials and volumes mixed with the bio-cell; results of initial sampling; and any deviations from the work plan.

The IRM work is currently scheduled to begin on September 18, 2006. It is anticipated that the IRM will require about 5 business days to complete.

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Figures



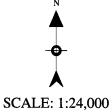
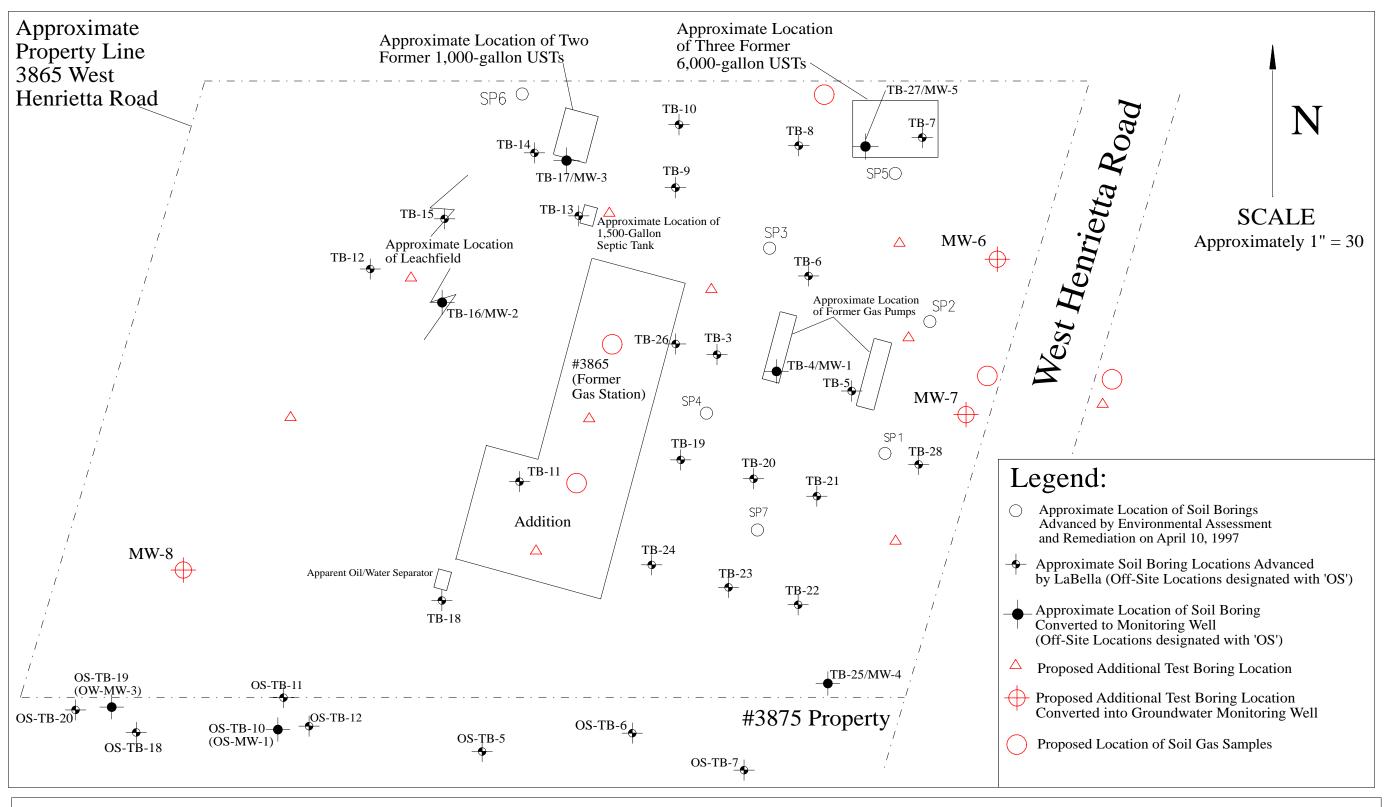


FIGURE 1 SITE LOCATION MAP

Interim Remedial Measure Work Plan BCP Site #C8281324 3865 West Henrietta Road Henrietta, New York 14623

LABELLA

PROJECT NO. 206139



PROJECT/DRAWING NO. DRAWING TITLE SITE PLAN WITH PREVIOUS 205323 ON-SITE/OFF-SITE AND PROPOSED **TEST BORING LOCATIONS** ISSUED FOR DESIGNED BY: DPN FIGURE 2]

FINAL DRAWN BY: DPN DATE: **MARCH 2006** REVIEWED BY: GRS

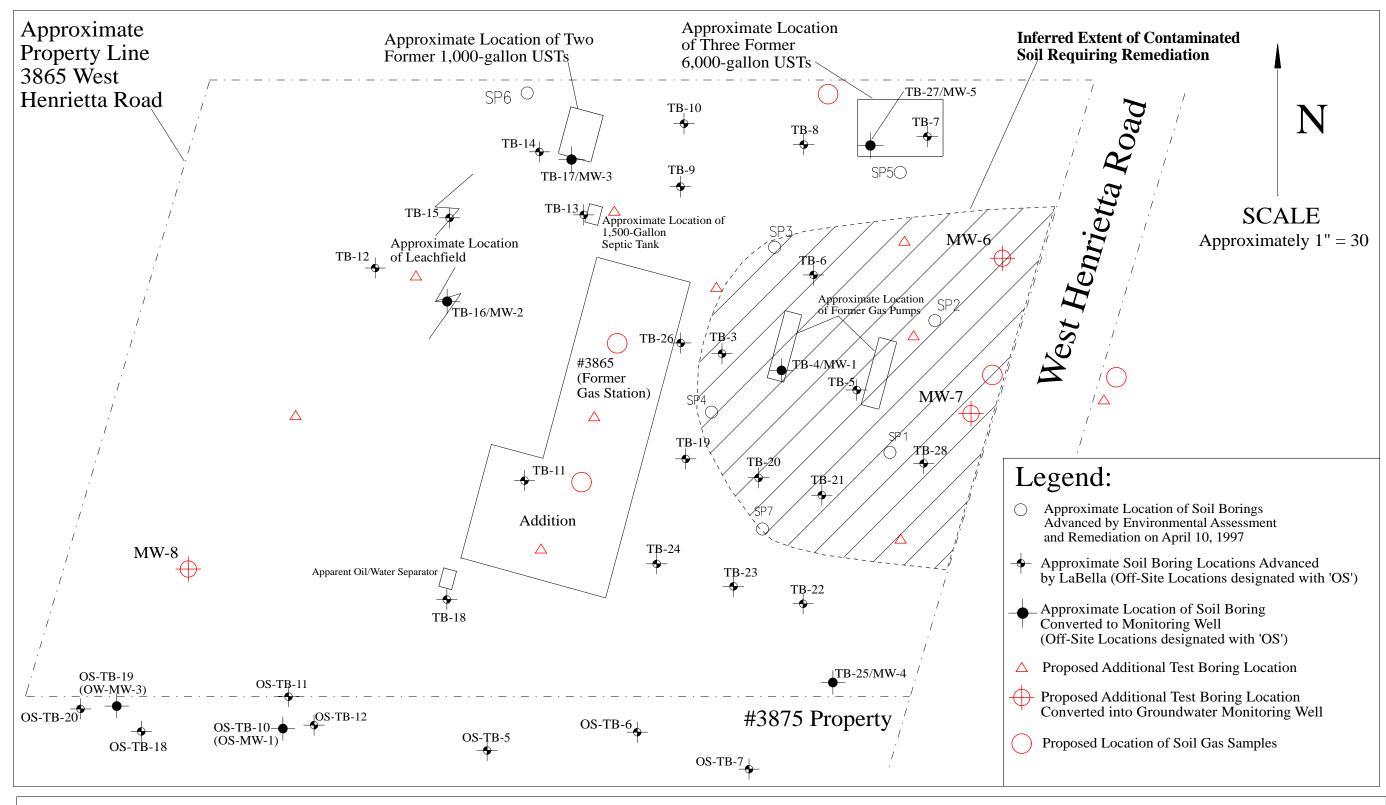
PROJECT/LOCATION

FINAL REMEDIAL **INVESTIGATION &** INTERIM REMEDIAL MEASURE WORK PLAN

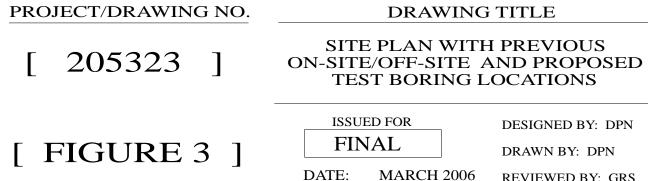
NYSDEC SPILL #9701554 3865 WEST HENRIETTA RD ROCHESTER, NEW YORK



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



REVIEWED BY: GRS



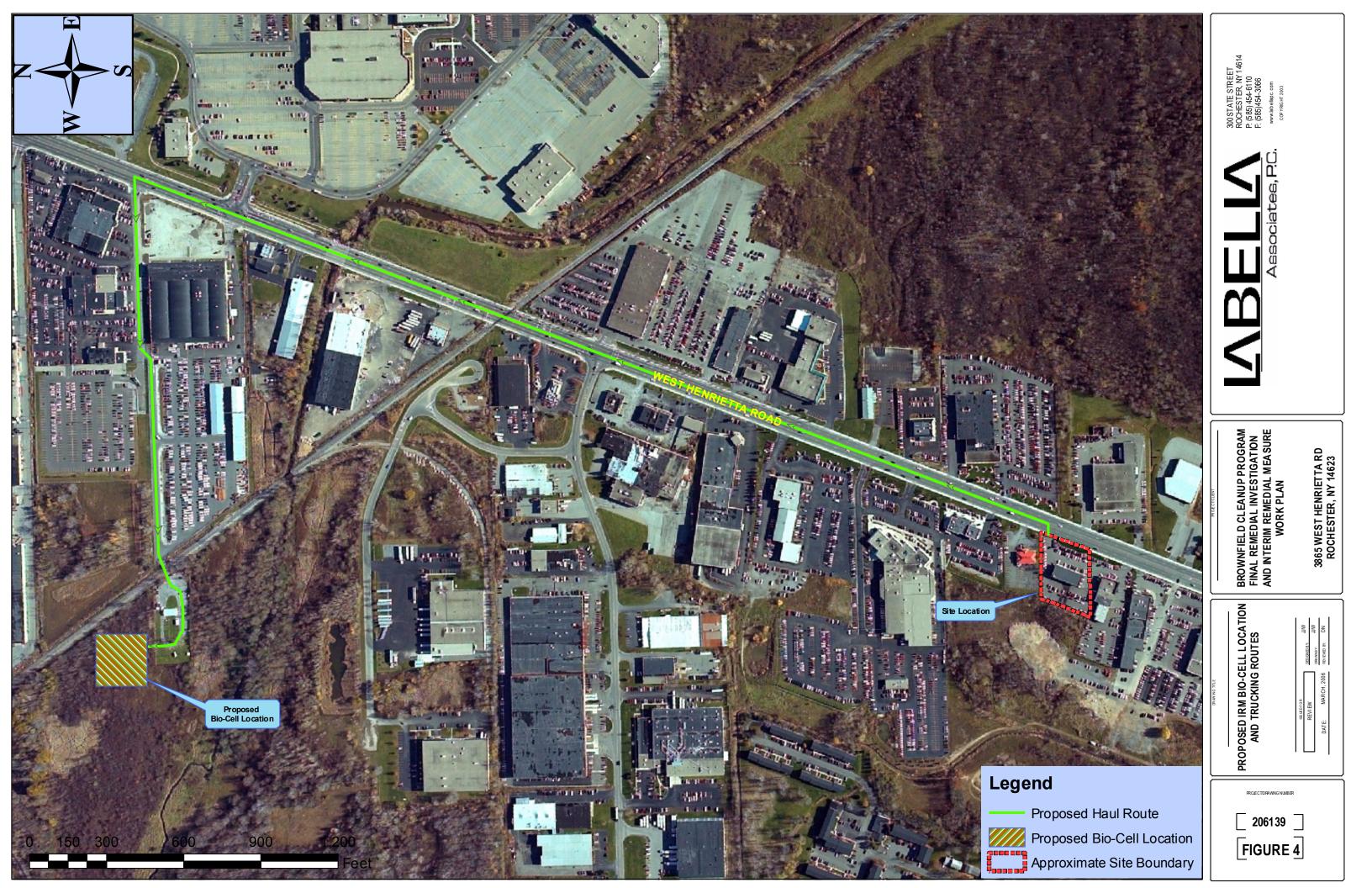
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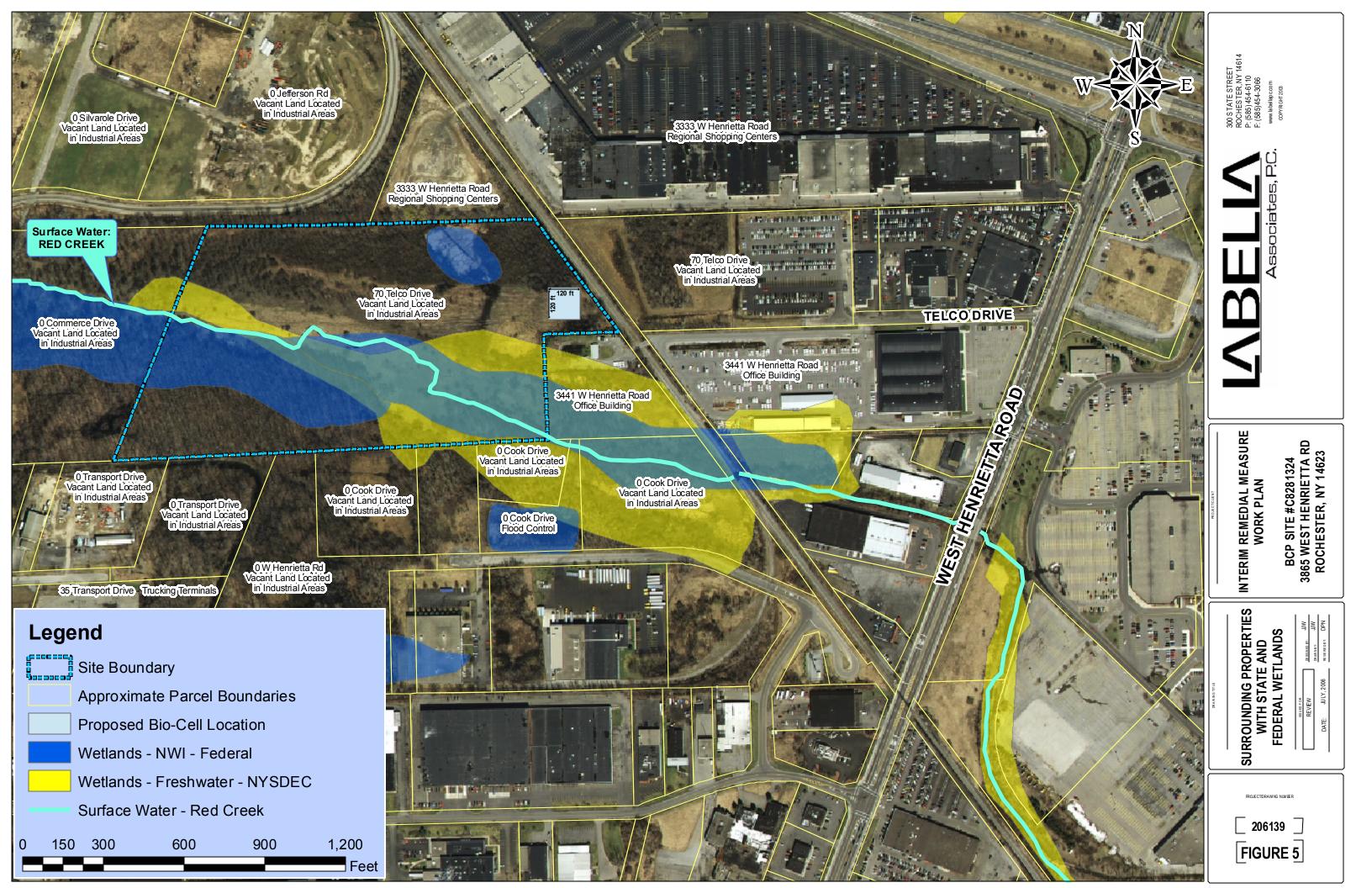
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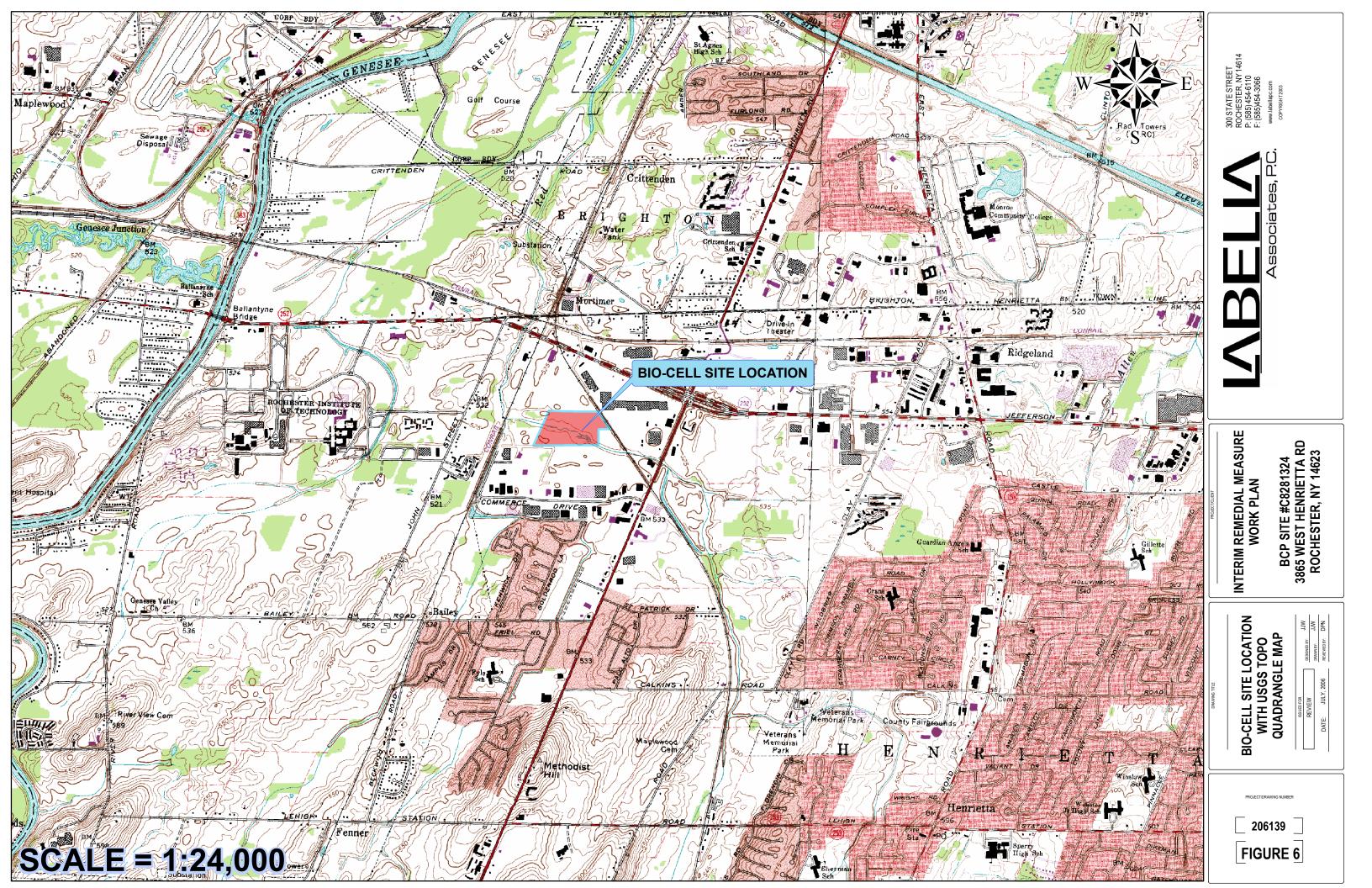
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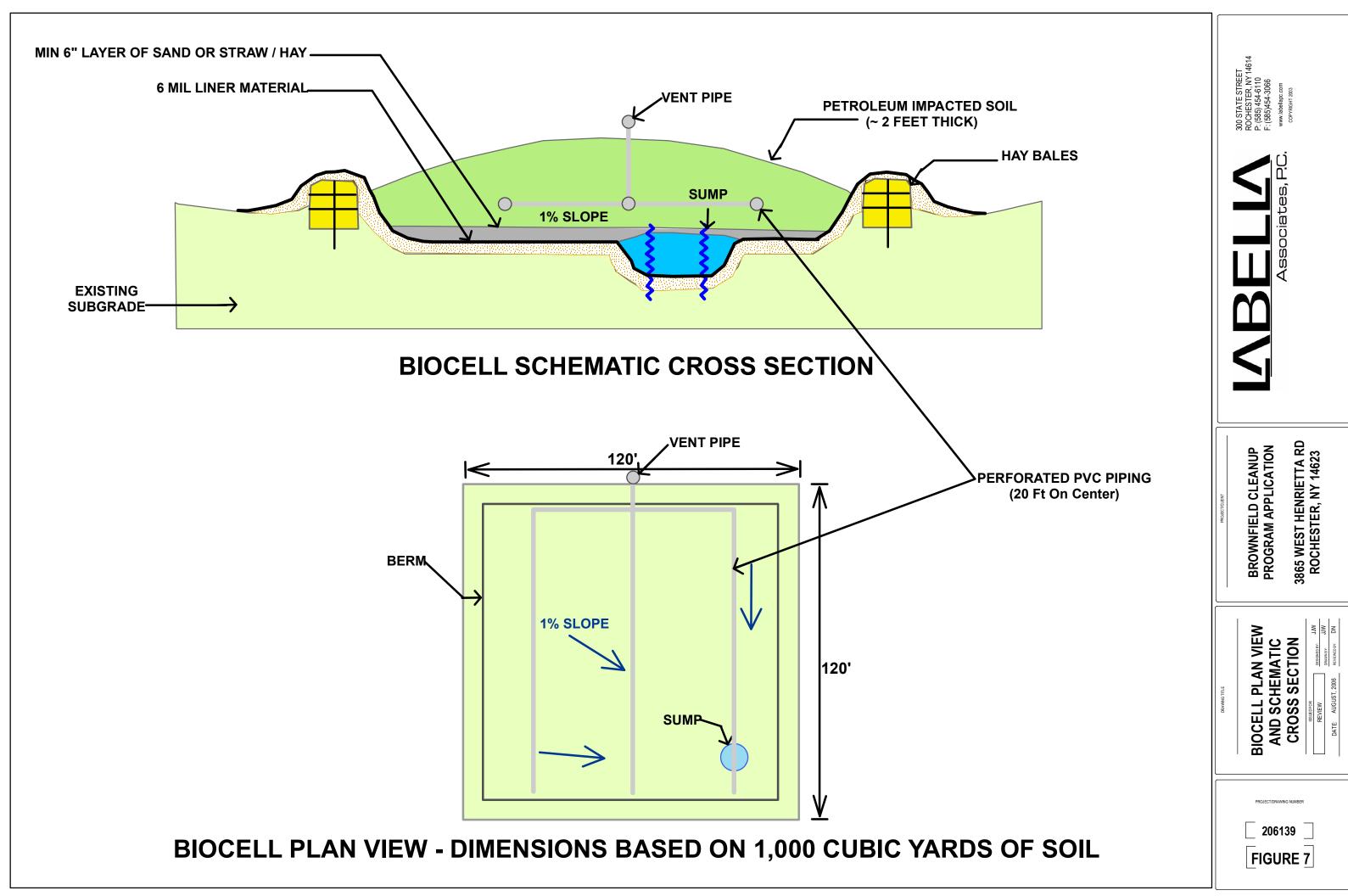


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Appendix 1

NYSDOH Generic Community Air Monitoirng Plan

APPENDIX 1A

New York State Department of Health Generic Community Air Monitoring Plan

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 volatile organic compounds (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 NYSDEC/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 <u>non-intrusive</u> 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. 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.

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

All 15-minute readings must be recorded and be available for State (DEC and DOH) 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.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m³) 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/m³ above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m³ 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/m³ of the upwind level and in preventing visible dust migration.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.