DECISION DOCUMENT

Site III-7 Tecumseh Phase III Business Park
Brownfield Cleanup Program
Lackawanna, Erie County
Site No. C915199G
May 2013

Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

DECLARATION STATEMENT - DECISION DOCUMENT

Site III-7 Tecumseh Phase III Business Park
Brownfield Cleanup Program
Lackawanna, Erie County
Site No. C915199G
May 2013

Statement of Purpose and Basis

This document presents the remedy for the Site III-7 Tecumseh Phase III Business Park site, a brownfield cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the Site III-7 Tecumseh Phase III Business Park site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows;

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;

- Reducing direct and indirect greenhouse gas and other emissions;

- Increasing energy efficiency and minimizing use of non-renewable energy;

- Conserving and efficiently managing resources and materials;

- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste.

2. A site cover will be required to allow for commercial use of the site. The cover will consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the

applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

3. Imposition of an institutional control in the form of an environmental easement is required for the controlled property that:

- allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH;

- requires compliance with the Department approved Site Management Plan; and

- requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3.)

4. A Site Management Plan is required, which includes, but not limited to, the following:

- an Institutional and Engineering Control Plan that identifies all use restrictions for the site noted above and details the steps necessary to ensure the following controls remain in place and effective;

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;

- a Monitoring Plan to ensure groundwater quality and to assess the performance and effectiveness of the site cover;

- provisions for the management and inspection of the identified engineering controls;

- maintaining site access controls and Department notification; and

- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

Declaration

The remedy conforms with promulgated standards and criteria that are directly applicable, or that are relevant and appropriate and takes into consideration Department guidance, as appropriate. The remedy is protective of public health and the environment.

5/13/2013

Date

Michael Cruden, Director
Remedial Bureau E

DECISION DOCUMENT

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Lackawanna, Erie County
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SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of contaminants at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of contaminants at this site, as more fully described in this document, has contaminated various environmental media. Contaminants include hazardous waste and/or petroleum.

The New York State Brownfield Cleanup Program (BCP) is a voluntary program. The goal of the BCP is to enhance private-sector cleanups of brownfields and to reduce development pressure on "greenfields." A brownfield site is real property, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repositories:

Lackawanna Public Library
Attn: Jennifer Hoffman
560 Ridge Road
Lackawanna, NY 14218
Phone: 716-823-0630

NYS DEC
Attn: Maurice Moore
270 Michigan Ave.
Buffalo, NY 14203

Phone: 716-851-7220

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location:
The Tecumseh Phase III-7 site (Site) is one of 10 sub-parcels comprising the Tecumseh Phase III Business Park (Phase III). Phase III is located at 1958 Hamburg Turnpike in the City of Lackawanna, New York. Situated in an industrial area, Phase III is part of a larger property that once included the Bethlehem Steel Company (BSC) and is identified on the Erie County Tax maps as SBL 141.11-1.111. Phase III is located west of Route 5 and the Tecumseh Phase II Business Park, south of Gateway Metroport and east of the remaining former Bethlehem Steel property and Lake Erie.

Site Features:
Centrally located within Phase III is the Site, a 39.23 acre, non-descript, sub-parcel with no remarkable or unique features. The mostly rectangular Phase III is approximately 5,500 feet long, averages 1,500 feet wide and is 148.83 acres in size. Bisected by Smokes Creek, Phase III is flat, covered with slag fill and remnants of former steel manufacturing buildings and foundations. Most of the business park is vegetated with natural grasses, shrubs and poplar trees typical of a primary shrub-young forest ecosystem. The entire BSC site is fenced with vehicle access limited to one automatic gate.

Zoning/Use(s):
Phase III and the Site are zoned medium industrial. Surrounding uses near the site include: adjacent, to the west, a rail corridor within Parcel III-10; further west, a portion of the BSC that is a class 2 inactive hazardous waste disposal site being addressed by the responsible party; adjacent along the eastern side is a drainage feature, named the South Water Return Trench; beyond which is the Tecumseh Phase II Business Park Site, Site #C915198; and, to the south are sub-parcels III-5 and III-6. Future use anticipates industrial re-use.

Historic Use(s):
Formerly Phase III was a portion of BSC's steel making operations. Specific processes and steel making facilities performed on or proximate to the Site included:

- Open Hearth Furnaces

- Basic Oxygen Furnace
- Mold Warming and Preparation
- Electrical Substations
- Wastewater Treatment

Geology/Hydrology:
The entire Phase III is filled with between two to eight feet of steel and iron-making slag as well as other fill material being used for backfill. Underlying fill material are lacustrine silts and clays. Native materials are encountered from about 12 to 14 feet below ground surface.

Bedrock is Middle Devonian age, Skaneateles Formation, consisting of Levanna shale and Stafford limestone of the Hamilton Group. Bedrock varies from about 24 feet deep in the southeastern corner of the site to 45 feet deep with the near the northern border of Phase III.

Due to the porous nature of the slag/soil fill there is very little storm water retention, or surface runoff, as most of the precipitation seeps into the highly permeable slag/soil fill. Any surface waters flow into the South Water Return Trench which parallels the eastern border of the property and flows southerly where it empties into Smokes Creek which discharges to the west into Lake Erie.

Groundwater, when encountered, is about 7 feet deep trending westerly and northerly toward Lake Erie.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to commercial use (which allows for industrial use) as described in Part 375-1.8(g) were/was evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the Remedial Investigation (RI) to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is available in the RI Report.

SECTION 5: ENFORCEMENT STATUS

The Applicant(s) under the Brownfield Cleanup Agreement is a/are Volunteer(s). The Applicant(s) does/do not have an obligation to address off-site contamination. However, the Department has determined that this site does not pose a significant threat to public health or the environment; accordingly, no enforcement actions are necessary.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- soil

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized below. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

Benz(a)anthracene Benzo[k]fluoranthene

Benzo(a)pyrene	Lead
Dibenz[a,h]anthracene	Mercury
Indeno(1,2,3-cd)pyrene	Naphthalene
Arsenic	Petroleum Products

The contaminant(s) of concern exceed the applicable SCGs for:

- groundwater
- soil

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document.

The following IRM(s) has/have been completed at this site based on conditions observed during the RI.

Soil Removal

An IRM to remove and treat or properly dispose source material in soil was completed in December 2012.

Approximately 181 cubic yards of soil were found to contain levels of arsenic considered to present a potential for human contact and were a continuing source of degradation to the environment. The IRM has removed and disposed off-site, 361.34 tons of these source materials.

During geophysical testing for construction of a new manufacturing building, petroleum products were detected in a porous smear zone above the water table. Approximately 2,640 tons of impacted soil were excavated and are being bio-remediated on Tecumseh property.

While excavating the petroleum impacted soil, a small area of a tar-like substance believed to be a mold releasing compound, was discovered. Sampling determined that the material was non-hazardous. Impacted soil and tar-like material were removed. A total of 785.94 tons of impacted material was disposed properly off-site.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

Prior to Remediation:

Based upon investigations conducted to date, the primary contaminants of concern for soils at the Tecumseh Phase III-7 site are metals, including arsenic and lead. Contaminants of concern to a lesser extent are semi-volatile organic compounds (SVOCs) including polycyclic aromatic hydrocarbons (PAHs), such as benzo(a)anthracene, benzo(a)pyrene, benzo(k)fluoranthene, dibenzo(a,h,)anthracene and indeno(1,2,3-cd)pyrene.

The nature and extent of metals contamination is consistent with the former site use as a steel manufacturing facility. Widespread exceedances of unrestricted use site cleanup objectives (SCOs) are common in the soil and fill. When compared to the unrestricted SCO of 13 ppm for arsenic, levels ranging from 4.6 to 130 ppm, exceed the SCO in 20 of 33 of the samples and when compared to the commercial SCO of 16 ppm, exceed in 19 of 33 samples. Lead, from 15 to 1,140 ppm, exceeds the unrestricted SCO (63 ppm) in 29 of 33 samples but when compared to commercial SCO (1,000 ppm), only one sample exceeded the SCO.

SVOCs, like metals are widespread throughout the Phase III Business Park. Most of the contaminants are PAHs and are usually associated with those activities that include burning of fossil fuels and heavy rail use, both of which were ubiquitous at the former steel mill. At the Site the above noted contaminants exceed the unrestricted SCOs in almost all of the samples. Indeno(1,2,3-cd)pyrene, (SCO 0.5 ppm), which ranged from ND to 47 ppm, exceeded the unrestricted SCOs in 25 of 33 samples. Benzo(a)pyrene (SCO 1 ppm), which ranged from ND to 14 ppm, exceeded the unrestricted SCO in 21 of 33 samples. Benzo(k)fluoranthene, (SCO 0.8 ppm), ranging from ND to 26 ppm, benzo(a)anthracene, ranging from ND to 37 ppm, (SCO of 1 ppm) and dibenzo(a,h)anthracene, (SCO of 0.33 ppm), ranging from ND to 12 ppm, exceed the unrestricted SCO in 20, 19 and 10 of 33 samples, respectively.

When compared to the commercial use SCOs only benzo(a)pyrene (1 ppm), exceeded the same number of samples as unrestricted with 21 of 33 samples exceeding. Benzo(k)fluoranthene, (SCO of 56 ppm) exceeded the commercial SCO in 12 of 33 samples. Benzo(a)anthracene (5.6 ppm) exceeded the commercial SCO in 9 samples. Dibenzo(a,h)anthracene (0.56 ppm) exceeded the commercial SCO in 8 samples. Indeno(1,2,3-cd))pyrene (5.6 ppm) exceeded the commercial SCO in 4 of 33 samples.

Acetone at 0.051 ppm and methylene chloride at 0.055 ppm, were the only volatile organic compounds (VOCs) to exceed their respective unrestricted SCO of 0.05 ppm. No VOCs exceeded commercial use SCOs at the Site

Groundwater was sampled from two monitoring wells on the site and one downgradient from the site. Low levels of PAHs exceeding the groundwater quality standards (GwQS) including naphthalene at 290 ppb (10 ppb, GwQS) and benzo(a)anthracene at 2 ppb (0.002 ppb), were present in one of the on-site monitoring wells. Test pit data surrounding the monitoring well did not indicate a source area(s) near this well. The other on-site monitoring well showed a low pH of 6.47 units (6.5 to 8.5).

The downgradient well exhibited a high pH of 10.0 units, exceeding the GwQS. High pH groundwater is common in areas where there was large quantities of limestone or slag were used, stored or produced. Groundwater is not used at the site and deed restricted from use for either

potable or non-potable purposes without treatment. The site does not pose a significant threat to the closest surface water (i.e., the South Water Return Trench).

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure*.

The site is completely fenced, which restricts public access. However, persons who enter the site could contact residual contaminants in the soil by walking on the site, digging or otherwise disturbing the soil. People are not expected to come into direct contact with contaminated groundwater unless they dig below the ground surface. The area is served by a public water supply that is not contaminated by the site.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.

RAOs for Environmental Protection

- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and the evaluation of the remedial criteria are presented in the Alternative Analysis. The remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation and 6 NYCRR Part 375.

The selected remedy is a Track 4: Restricted use with site-specific soil cleanup objectives remedy.

The selected remedy is referred to as the Tecumseh Phase III-7 Remediation remedy.

The elements of the selected remedy, as shown in Figure 2, are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows;

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;

- Reducing direct and indirect greenhouse gas and other emissions;

- Increasing energy efficiency and minimizing use of non-renewable energy;

- Conserving and efficiently managing resources and materials;

- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste.

2. A site cover will be required to allow for commercial use of the site. The cover will consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

3. Imposition of an institutional control in the form of an environmental easement is required for the controlled property that:

- allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH;

- requires compliance with the Department approved Site Management Plan; and

- requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3.)

4. A Site Management Plan is required, which includes, but not limited to, the following:

- an Institutional and Engineering Control Plan that identifies all use restrictions for the site noted above and details the steps necessary to ensure the following controls remain in place and effective;

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;

- a Monitoring Plan to ensure groundwater quality and to assess the performance and effectiveness of the site cover;

- provisions for the management and inspection of the identified engineering controls;

- maintaining site access controls and Department notification; and

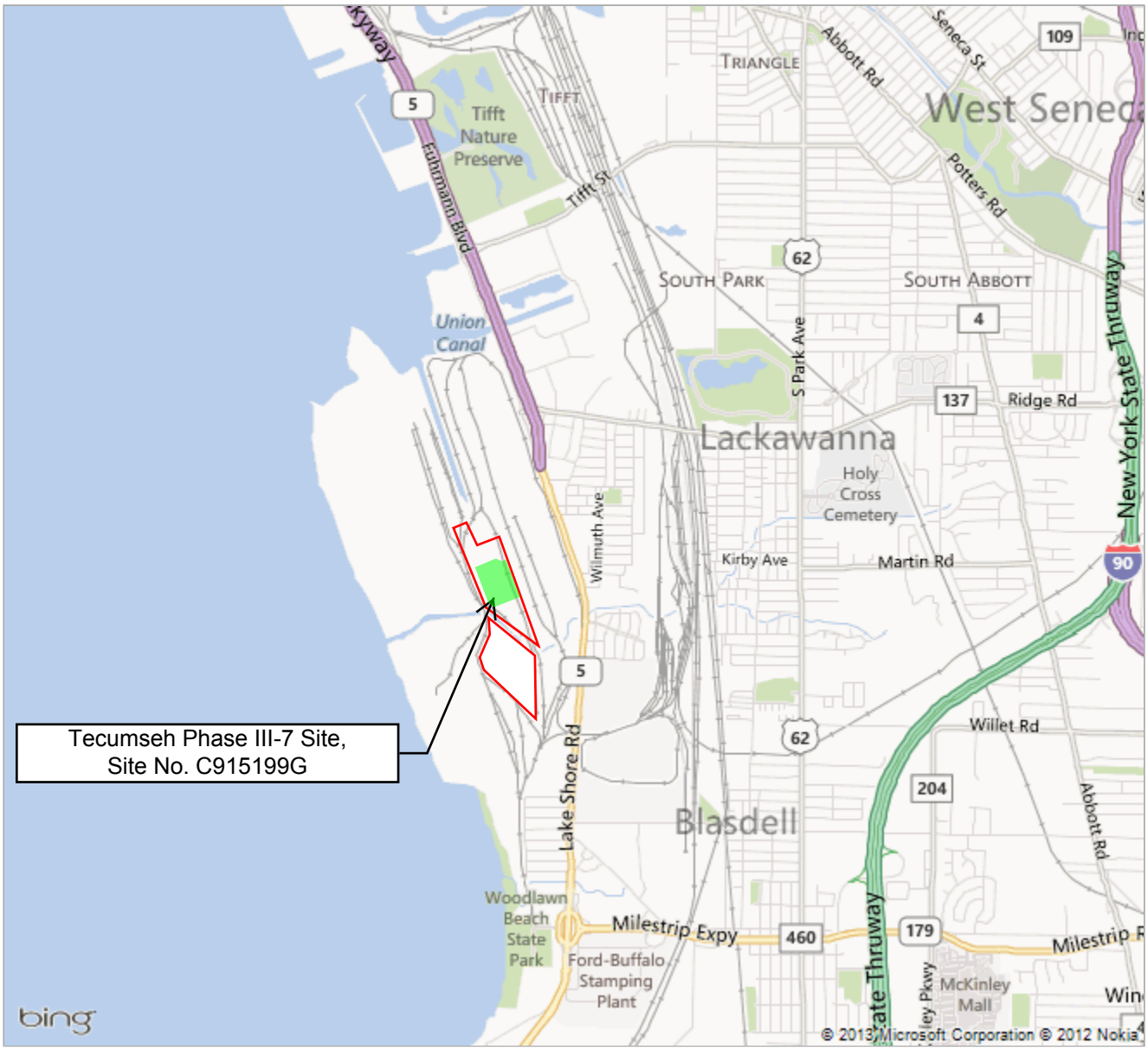
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

bing Maps

FIGURE 1

Site Location
Tecumseh Phase III Business Park

Phase III-7 Site
Site No. C915199G



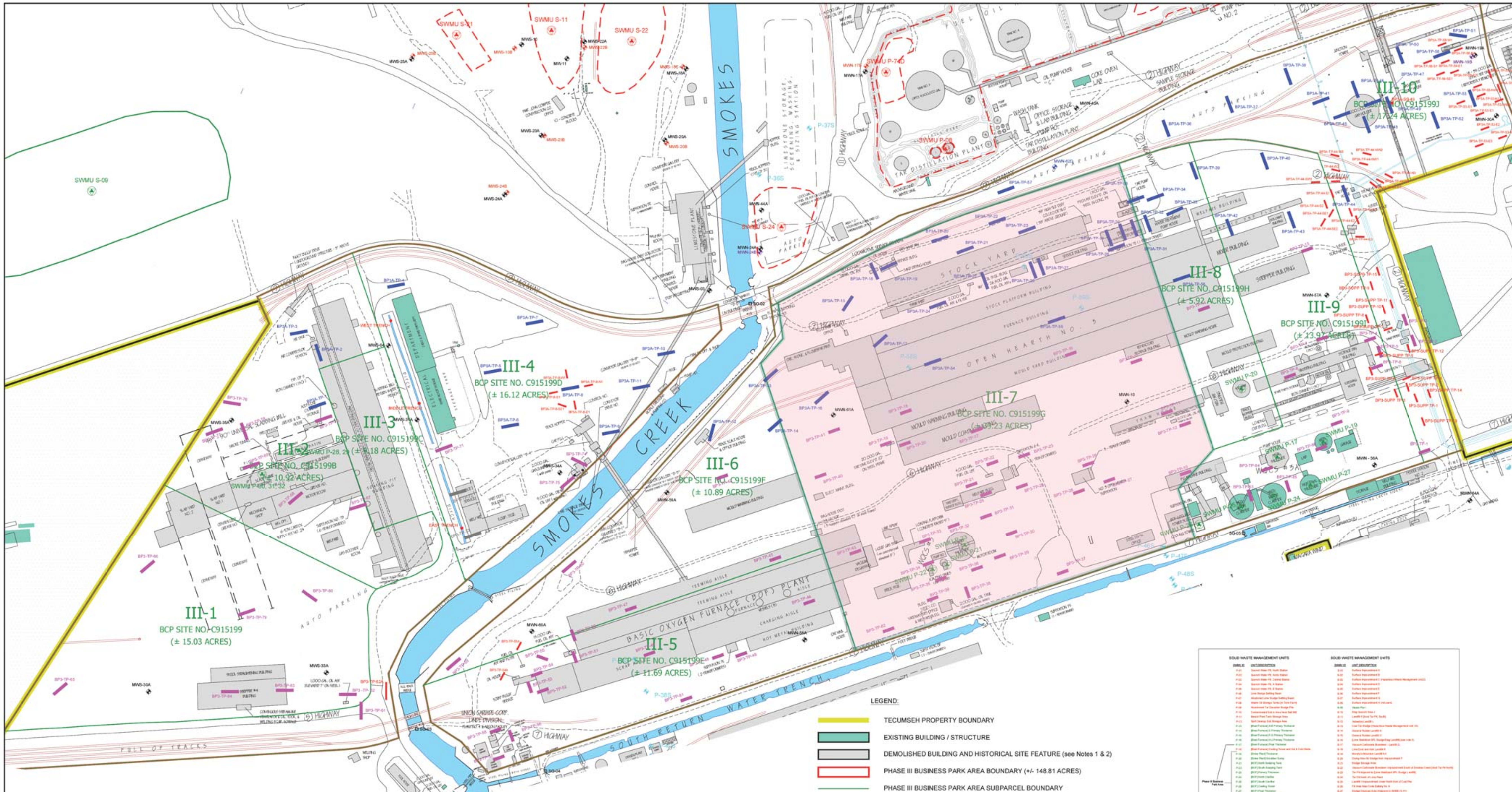


FIGURE 2
SITE MAP AND SAMPLE LOCATIONS
TECUMSEH PHASE III-7 SITE
SITE NO. C915199G

170' 0' 170' 340'

SCALE: 1 INCH = 170 FEET
SCALE IN FEET
(approximate)

LEGEND:

Symbol	Description
(yellow line)	TECUMSEH PROPERTY BOUNDARY
(green box)	EXISTING BUILDING / STRUCTURE
(grey box)	DEMOLISHED BUILDING AND HISTORICAL SITE FEATURE (see Notes 1 & 2)
(red box)	PHASE III BUSINESS PARK AREA BOUNDARY (+/- 148.81 ACRES)
(green line)	PHASE III BUSINESS PARK AREA SUBPARCEL BOUNDARY
(pink line)	RAILROAD TRACK
SWMU P-64	APPROXIMATE LOCATION OF SOLID WASTE MANAGEMENT UNIT (SWMU) - REQUIRES NO FURTHER ACTION
SWMU S-22	APPROXIMATE LOCATION OF SOLID WASTE MANAGEMENT UNIT (SWMU) - REQUIRES FURTHER ACTION
P-58S	PIEZOMETER
SG-03	STAFF GAUGE
MWN-15A	FILL UNIT MONITORING WELL
MWN-15B	SAND UNIT MONITORING WELL
MWN-15D	BEDROCK UNIT MONITORING WELL
MWN-19B	MISCELLANEOUS UNIT MONITORING WELL
BP3-TP-40	PHASE III BPA TEST PIT LOCATION
BP3-TP-72	PHASE III BPA TEST PIT LOCATION (NOT COLLECTED)
BP3A-TP-17	PHASE IIIA BPA TEST PIT LOCATION
TP-44-01	DELINEATION TEST PIT LOCATION
BP3A-SS-49	PHASE IIIA BPA SURFACE SOIL LOCATION

NOTES:

1. Building locations are based on historical surveys and maps, all locations should be considered approximate.
2. All buildings known to exist on site since 1944 are shown, some buildings were expanded or demolished following 1944, maximum building extents are shown.

TurnKey Environmental Restoration, LLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

JOB NO.: 0071-009-320

REVISIONS

NO.	BY	DATE	REMARKS

SEAL

DRAWN BY: BCH
DATE: DECEMBER 2011
CHECKED BY:
APPROVED BY:

SAMPLE LOCATIONS

REMEDIAL INVESTIGATION / ALTERNATIVES ANALYSIS REPORT
PHASE III BUSINESS PARK AREA
LACKAWANNA, NEW YORK

PREPARED FOR
TECUMSEH REDEVELOPMENT INC.

FIGURE 2