

# Excavation Work Plan

For Brownfield Cleanup Program  
Phase II/III Business Park Areas

*Steel Winds II Site  
Lackawanna, New York*

July 2011

0165-003-101  
1858685.2 6/14/2011

Prepared For:

Erie Wind, LLC

Prepared By:



---

**EXCAVATION WORK PLAN**  
for  
**BROWNFIELD CLEANUP PROGRAM**  
**PHASE II/III BUSINESS PARK AREAS**

**STEEL WINDS II PROJECT**  
**LACKAWANNA, NEW YORK**

---

July 2011

0165-003-101  
1858685.2 6/14/2011

Prepared for:

**Erie Wind, LLC**

Prepared By:



Benchmark Environmental Engineering & Science, PLLC

2558 Hamburg Turnpike, Suite 300

Buffalo, NY 14218

(716) 856-0599

# EXCAVATION WORK PLAN

## Steel Winds II Project

### Table of Contents

<b>1.0</b>	<b>INTRODUCTION AND DESCRIPTION OF PLANNED WORK.....</b>	<b>1</b>
1.1	Introduction and Background .....	1
1.2	Site Location and Description.....	1
1.3	Summary of Remedial Status.....	2
1.4	Proposed Excavation Work.....	2
	1.4.1 Substation 11A Oil Containment.....	2
	1.4.2 Underground Conduits.....	2
	1.4.3 Collection System Poles.....	3
<b>2.0</b>	<b>EXCAVATION WORK PLAN.....</b>	<b>4</b>
2.1	Qualified Environmental Professional.....	4
2.2	Notification .....	5
2.3	Soil Screening Methods .....	5
2.4	Stockpile Methods .....	7
2.5	Materials Excavation and Load Out .....	7
2.6	Materials Transport Off-Site.....	8
2.7	Materials Disposal Off-Site .....	8
2.8	Materials Reuse On-Site .....	9
2.9	Fluids Management.....	9
2.10	Characterization, Sampling, & Documentation of Off-Site Sources .....	9
2.11	Backfill from Off-Site Sources .....	10
2.12	Stormwater Pollution Prevention.....	11
2.13	Contingency Plan.....	12
2.14	Community Air Monitoring Plan.....	13
2.15	Odor Control Plan.....	13
2.16	Dust Control Plan.....	13
2.17	Noise .....	14

# EXCAVATION WORK PLAN

## Steel Winds II Project

### Table of Contents

#### LIST OF TABLES

---

Table 1	Criteria for Imported Soils
---------	-----------------------------

#### LIST OF FIGURES

---

Figure 1	Site Location and Vicinity Map
Figure 2	Proposed Project Access and Easement Locations

#### APPENDICES

---

Appendix A	Substation 11A Secondary Containment Design
Appendix B	NYSDOH Generic Community Air Monitoring Plan (CAMP)

## 1.0 INTRODUCTION AND DESCRIPTION OF PLANNED WORK

### 1.1 Introduction and Background

This Excavation Work Plan (EWP) describes the procedures that will be used by Erie Wind, LLC (Erie Wind) in connection with excavation work that is planned on a portion of the Steel Winds II project site. The excavation work is associated with the installation of above and below ground collection system infrastructure and secondary containment work at an existing substation and will be performed in easement areas on portions of the Tecumseh Redevelopment Inc. (Tecumseh) Phase II and III Business Park Areas (BPA). The BPAs are subject to the New York State (NYS) Brownfield Cleanup Program (BCP) administered by the New York State Department of Environmental Conservation (NYSDEC). For purposes of this EWP, the Erie Wind easement areas on the BPAs will be referred to as the “Site.” Excavations on other portions of the Steel Winds II project site not performed within the BCP Phase II or Phase III BPAs will not be subject to this EWP (see Figure 2).

This EWP has been prepared by Benchmark Environmental Engineering & Science, PLLC (Benchmark), on behalf of Erie Wind, in accordance with the requirements set forth under NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation (May 3, 2010) and the guidelines provided by NYSDEC.

### 1.2 Site Location and Description

Tecumseh owns approximately 1,100-acres of land located on the west side of New York State Route 5 (Hamburg Turnpike) in the City of Lackawanna, NY (see Figures 1 and 2). The majority of Tecumseh’s property is located in the City of Lackawanna (the City), with portions of the property extending into the Town of Hamburg. Tecumseh’s property is bordered by NY State Route 5 on the east; Lake Erie to the west and northwest; and other industrial properties to the south and northeast.

Figure 2 shows those areas of Tecumseh’s property that the Steel Winds II project will traverse, including the easement areas within the Phase II and Phase III BPAs that are the subject of this EWP. Figure 2 also provides an overview of the Steel Winds II project which is a six-wind turbine expansion of the existing Steel Winds project.

### 1.3 Summary of Remedial Status

The Remedial Investigation/Alternatives Analysis (RI/AA) Report for the Phase II Business Park Area (BPA) was submitted to the NYSDEC in May 2011. A portion of the Phase II BPA was remediated in December 2010 along the corridor for the railroad realignment project. The RI/AA Report for the Phase III BPA was submitted to the NYSDEC in October 2010.

### 1.4 Proposed Excavation Work

Proposed excavation work within both BCP Areas will be performed in order to facilitate the installation of two secondary containment structures adjacent to Substation 11A, installation of an underground electrical conduit, as well as utility pole installation along an easement corridor. Excavation and installation details are provided below.

#### *1.4.1 Substation 11A Oil Containment*

The excavation work at Substation 11A will include two, 35-ft by 35-ft secondary oil containment bays ranging in depth from approximately one foot around the perimeter to three to four feet in the center. There will be four, 24-inch diameter pipes sunk an additional 36-inches in the deeper parts of each bay.

A subgrade retaining wall to help support the bays will involve 4-foot deep excavations along the sides of the bays. The same wall system is also being installed in and around other parts of the substation to support a series of lined trenches that would carry a potential oil spill into the bays. Approximately 2,000 to 3,000 cubic feet (CF) of material will be excavated in connection with the installation of the walls to support the trenches.

The design drawings of the proposed secondary containment work are presented in Appendix A. Each bay will involve the excavation of approximately 3,000 CF of material.

#### *1.4.2 Underground Conduits*

Underground conduits will be installed approximately 60 feet from the eastern-most utility pole into Substation 11A. The conduit installation requires trenching for two sets of conduits approximately 3 feet wide by 3 feet deep by 60 feet long. Approximately 1,000 CF of material will be excavated.

### ***1.4.3 Collection System Poles***

The collection system utility poles (13 to 14) vary in height and require a minimum 10% embedment. The average installation depth of the poles is approximately 6 feet below ground surface (fbgs), with a footprint of approximately 4 feet by 3 feet to accommodate a ground rod and wire installation. Approximately 1,000 CF of excavated material will be generated for these poles. Anchors will be installed for the guy wires on these utility poles; however, an insignificant volume of material will be excavated to anchor the guy wires.

## 2.0 EXCAVATION WORK PLAN

Excavation oversight work planned within the Phase II and Phase III BPAs of the Steel Winds II project site will be performed in compliance with this EWP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in the Steel Winds II Health and Safety Plan (HASP) and the NYSDOH Generic Community Air Monitoring Plan (CAMP) prepared for the Site. The Steel Winds II HASP was prepared in accordance with DER-10, 29 CFR 1910, 29 CFR 1926, and other applicable Federal, State and local regulations, which can be provided upon NYSDEC request. The NYSDOH Generic CAMP is provided in Appendix B. Any intrusive construction work will be performed in compliance with the EWP, HASP and CAMP (when applicable).

Erie Wind will inform its contractors performing the work described in this EWP that they will be responsible, in consultation with oversight environmental professionals, for the safe performance of all intrusive work in compliance with their own construction HASP, as well as the structural integrity of all excavations, proper disposal of excavation de-water, control of runoff from open excavations into remaining contamination, and for any structures that may be affected by excavations (such as building foundations and bridge footings). The construction HASP will be prepared in accordance with DER-10, 29 CFR 1910, 29 CFR 1926, and other applicable Federal, State and local regulations, which can be provided upon NYSDEC request.

### 2.1 Qualified Environmental Professional

In the following sections, there are several references to a “qualified environmental professional.” Per Section 1.3(a) of DER-10 (May 2010), a qualified environmental professional is a person, including a firm headed by such person, who possesses sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding the presence of releases or threatened releases to the surface or subsurface of a site or off-site areas, sufficient to meet the objectives and performance factors for the areas of practice identified by this guidance. Such a person must:

- i. hold a current professional engineer's or a professional geologist's license or registration and have the equivalent of three (3) years of full-time relevant experience in site investigation and remediation of the type detailed in this guidance; or

- ii. be a site remediation professional licensed or certified by the federal government, a state or a recognized accrediting agency, to perform investigation or remediation tasks identified by this guidance, and have the equivalent of three (3) years of full-time relevant experience. Examples of such license or certificate include the following titles:
  - a. Licensed Site Professional, by the State of Massachusetts;
  - b. Licensed Environmental Professional, by the State of Connecticut;
  - c. Qualified Environmental Professional by the Institute of Professional Environmental Practice; or
  - d. Certified Hazardous Materials Manager, by the Institute of Hazardous Materials Management.

## 2.2 Notification

The required notifications for this project have been submitted to the NYSDEC, which includes this EWP.

## 2.3 Soil Screening Methods

Visual, olfactory, and photoionization detector (PID) soil/fill screening will be performed by a qualified environmental professional during all intrusive work performed at the Site. Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed. The soil/fill will be inspected for staining or discoloration, and will be field screened for the presence of volatile organic compounds (VOCs) with a PID, calibrated as per the manufacturer's requirements. Excavated soil/fill that does not exhibit visual or olfactory evidence of contamination and for which PID measurements of the atmosphere at the soil/fill interface are not above background will be segregated and initially designated as "clean" until laboratory analytical results are confirmed below the 6NYCRR Part 375 Commercial Soil Cleanup Objectives (CSCOs). Once confirmed "clean" via analytical testing, the material will either be returned to the subsurface as backfill (as needed) or spread out at the surface to match the existing grade. Segregated "clean" soil/fill determined to exceed the CSCOs will be managed as described in Section 2.5. Soil/fill characterization sampling, analysis, and reuse of segregated "clean" soil/fill will be performed in accordance with DER-10, Section 5.4(e) by Benchmark on behalf of Tecumsch.

Excavated soil/fill that exhibits “source area” characteristics or is “grossly contaminated” will be segregated from “clean” soil/fill and placed on and covered with poly-sheeting. This determination will be made in consultation with the NYSDEC and Benchmark on behalf of Tecumseh. Source area characteristics are defined as heavy staining, strong chemical odors, free product, or elevated PID readings (i.e., sustained readings of 20 parts per million above background or greater). As defined in 6NYCRR Part 375-1.2(u), grossly contaminated media means soil, sediment, surface water, or groundwater that contains sources or substantial quantities of mobile contamination in the form of non-aqueous phase liquid (NAPL), as defined in subdivision 375-1.2 (ac), that is identifiable either visually, through strong odor, by elevated contaminant vapor levels, or is otherwise readily detectable without laboratory analysis. Pre-disposal waste characterization sampling and analysis of segregated impacted soil/fill will be performed by Benchmark on behalf of Tecumseh.

If source area and/or grossly contaminated media characteristics are identified in soil/fill in a proposed construction area, an alternative construction location beyond the impacted area may be used following Erie Wind’s consultation with and approval by Tecumseh and/or Benchmark; however, the location and description of the identified impacts will be conveyed by Erie Wind so that Tecumseh and/or Benchmark can implement the appropriate delineation and/or remediation activities. If an alternative construction location is not an option, the excavation will continue vertically and laterally until Erie Wind, Tecumseh, Benchmark, and NYSDEC agree that source area and/or grossly contaminated media characteristics are no longer evident in proximity to the improvement (e.g., utility pole, secondary containment, or underground conduit) such that the structural integrity of that improvement would not be compromised by future investigation and/or remedial actions performed by Tecumseh. Verification sampling, if required, will be performed by Benchmark on behalf of Tecumseh, unless NYSDEC is on-site to determine if the excavation no longer exhibits “source area/grossly contaminated media” characteristics.

The length of time that potentially impacted soil can be temporarily stockpiled and covered while awaiting analytical results shall be limited to 90 days or as otherwise agreed to by the mutual consent of Tecumseh and NYSDEC. Benchmark on behalf of Tecumseh will perform sampling and analysis in accordance with DER-10.

## 2.4 Stockpile Methods

Due to the small quantities of excavated material expected during this project (approximately 300 cubic yards, CY), it is not anticipated that enough spoils will be generated to warrant a stockpile. However, if soil/fill stockpiles are created, they will be:

- continuously encircled with a berm and/or silt fence and hay bales will be used as needed near catch basins, surface waters and other discharge points;
- placed on and kept covered at all times with appropriately anchored poly-sheeting;
- routinely inspected with damaged tarp covers promptly replaced;
- inspected at a minimum once each week and after every storm event with the results recorded in a logbook and maintained at the Site and available for inspection by NYSDEC.

## 2.5 Materials Excavation and Load Out

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material. The presence of utilities and easements on the Site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this EWP is posed by utilities or easements on the Site.

If soils exceeding reuse criteria are excavated, loaded vehicles leaving the Site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and New York State Department of Transportation (NYSDOT) requirements (and all other applicable transportation requirements).

If necessary, a truck wash will be operated on-site. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the Site until the activities performed under this section are complete. Locations where vehicles enter or exit the Site shall be inspected daily for evidence of off-site soil tracking in the affected area (as opposed to across the site).

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the Site are clean of dirt and other materials derived from the Site during intrusive excavation activities. Cleaning of the

adjacent streets will be performed as needed to maintain a clean condition with respect to contaminated Site-derived materials.

## 2.6 Materials Transport Off-Site

If required, all transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

If deemed necessary, all trucks will be washed prior to leaving the Site. Truck wash waters will be collected and disposed of off-site in an appropriate manner.

Waste characterization analysis will determine the final disposal location (e.g., permitted landfill) as well as truck transport routes used.

All trucks loaded with Site materials will exit the vicinity of the Site using only approved truck routes. The approved truck routes take into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport. Trucks will be prohibited from stopping and idling in the neighborhood outside the Site.

Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site excavation. Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

## 2.7 Materials Disposal Off-Site

Excavated soil/fill that is determined to be impacted based on the initial screening results (see Section 2.3) and therefore segregated from “clean” soil/fill, will be managed, sampled, and analyzed by Benchmark on behalf of Tecumseh in accordance with DER-10. If the impacted material is determined to exceed the CSCOs, it will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If “clean” soil/fill from this Site is proposed for unregulated off-site disposal (i.e., clean soil removed for

development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this Site will not occur without formal NYSDEC approval.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Track 1 unrestricted Soil Cleanup Objectives (SCOs) is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

## **2.8 Materials Reuse On-Site**

On-site reuse of excavated material is acceptable provided that the material does not exhibit visual or olfactory evidence of contamination and PID measurements of the atmosphere at the soil/fill interface do not exceed 5 ppm above background. Excavated material that has been designated as “clean” by the screening criteria (see Section 2.3) and has been properly segregated from impacted soil/fill, can be reused as backfill, where necessary, or spread out at the surface to match the existing grade. Excavated material designated as “clean” can only be reused within the BPA where it was originally generated, in other words, “clean” soil/fill excavated from BPA Phase II, must be reused in BPA Phase II. Any soil/fill reuse of segregated “clean” soil/fill will be performed in accordance with DER-10, Section 5.4(e).

## **2.9 Fluids Management**

If deemed necessary, all liquids to be removed from the Site, including excavation dewatering, will be handled, transported and disposed off-site in accordance with applicable local, State, and Federal regulations.

## **2.10 Characterization, Sampling, & Documentation of Off-Site Sources**

Although it is not anticipated that off-site material will be required during any portion of this project, this section addresses the contingency for the characterization, sampling, and documentation of off-site material use, should it become necessary.

Any off-site material used on the Site shall be tested to assure conformance with the criteria identified on Table 1, which represents the lesser of commercial Soil Cleanup Objectives (SCOs) or levels protective of groundwater quality as published in 6NYCRR Part

375-6.8. If an off-site soil borrow source is of unknown origin or originates from a commercial, industrial or urban site, then a tiered approach based on the volume of soil being imported will be used to determine the frequency of characterization sampling. In such instances, a minimum of one sample will be collected for each 250 cubic yards (CY) up to 1,000 CY of material. If more than 1,000 CY of soil are imported from the same general vicinity and all samples of the first 1,000 CY meet the criteria listed in Table 1, the sample collection frequency may be reduced to one sample for each additional 1,000 CY of soil from the same general vicinity, up to 5,000 CY. For borrow sources greater than 5,000 CY, sampling frequency may be reduced to one sample per 5,000 CY, provided all earlier samples met Table 1 criteria.

For off-site soil borrow sources originating from known, virgin sources, a similar sampling frequency as described above will be employed but initial sampling will be at a frequency of one per 1,000 CY in lieu of one per 250 CY.

Grab samples will be collected for VOC analysis. For all other required analyses, a minimum of four grab samples will be collected to form a single composite sample. Approximately equal aliquots of the grab samples will be composited in the field using a stainless steel trowel and bowl. The trowel and bowl shall be decontaminated with a non-phosphate detergent (e.g., Alconox®) and potable water wash solution followed by a distilled water rinse between sampling locations. The soil samples will be analyzed in accordance with USEPA SW-846 Methodology by a New York State Department of Health (NYSDOH) ELAP-certified laboratory.

## 2.11 Backfill from Off-Site Sources

Although it is not anticipated that off-site material will be required during any portion of this project, this section addresses the contingency for off-site material borrow sources, should it become necessary. The criteria under which off-site material may be used as subgrade backfill are presented below.

- **Off-Site Soil/Fill:** Off-site soil/fill may be used as subgrade backfill provided that it originates from known sources having no evidence of disposal or releases of hazardous substances; hazardous, toxic or radioactive wastes; or petroleum, and is tested and meet the criteria shown on Table 1. In addition, no off-site materials meeting the definition of a solid waste as defined in 6 NYCRR, Part 360-1.2 (a) shall be used as backfill. The criteria presented in Table 1 represent the

lesser of Commercial SCOs or levels protective of groundwater quality as published in 6NYCRR Part 375-6.8.

- **Other Off-Site Material:** The following material may be imported, without chemical testing, as backfill beneath pavement, building floors, or the imported clean soil cover (i.e., the uppermost 1 or 2 feet, depending on the site's use restriction), provided it contains less than 10% (by weight) material that would pass through a size 200 sieve: 1) Rock or stone, consisting of virgin material from a permitted mine or quarry; 2) Recycled concrete, brick, or asphalt from a NYSDEC-registered or permitted C&D debris processing facility (as specified in Section 360-16.1 of 6 NYCRR Part 360) that conforms to Section 304 of the New York State Department of Transportation Standard Specifications Construction and Materials Volume 1 (2002). As stated in Section 360-16.4(b)(2), the facility may only accept recognizable, uncontaminated, non-pulverized C&D debris or C&D debris from other authorized C&D processing facilities. According to Section 360-16.2(c), "uncontaminated" means C&D debris that is not mixed or commingled with other solid waste at the point of generation, processing, or disposal, and that is not contaminated with spills of a petroleum product, hazardous waste, or industrial waste.

Refer to Section 2.10 for characterization, sampling, and documentation requirements for importing backfill from off-site sources.

All materials proposed for import onto the Site will be approved by the qualified environmental professional and will be in compliance with provisions in this EWP prior to receipt at the Site.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the Site.

Trucks entering the Site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

## 2.12 Stormwater Pollution Prevention

Erie Wind has obtained coverage for this project under the NYSDEC's SPDES General Permit (GP-02-01) and has prepared a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will be implemented prior to and during all intrusive activities of the Steel Winds II project.

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials. Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

### **2.13 Contingency Plan**

If underground tanks or other previously unidentified contaminant sources are found during intrusive activities, Erie Wind's contractor will suspend excavation activities, and Tecumseh, Benchmark, and the NYSDEC will be notified.

Sampling will be performed by Benchmark on behalf of Tecumseh of product, sediment, and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Benchmark will arrange for chemical analysis for a full list of analytes (TAL metals; TCL volatile organic compounds, TCL semi-volatile organic compounds, TCL pesticides, and PCBs), unless the Site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Erie Wind's contractor will promptly communicate the identification of unknown or unexpected contaminated media by screening during invasive Site work by phone to NYSDEC's Project Manager as well as to Tecumseh and Benchmark. Further reporting of the presence of petroleum to the NYSDEC spills hotline is not necessary since the Phase II and III BPAs are already in a NYSDEC regulated program (e.g., BCP).

## 2.14 Community Air Monitoring Plan

The SWII HASP includes a NYSDOH Generic Community Air Monitoring Plan (CAMP) obtained from DER-10 that will be followed during the excavation work. Exceedances of action levels listed in the CAMP will be reported to the NYSDEC Project Manager. The SWII HASP will be provided upon request and the CAMP is presented in Appendix B.

## 2.15 Odor Control Plan

This odor control plan is capable of controlling emissions of nuisance odors off-site. Specific odor control methods to be used on a routine basis are described below. If nuisance odors are identified at the Site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. Erie Wind will notify NYSDEC, Tecumseh, and Benchmark of all odor events and of any other complaints about the excavation project. Implementation of all odor controls, including the halt of work, is the responsibility of Erie Wind.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

## 2.16 Dust Control Plan

Particulate monitoring will be performed along the downwind perimeter of the Site during subgrade excavation, grading, and handling activities in accordance with the

NYSDOH Generic CAMP presented in Appendix B. Dust suppression techniques will be employed as necessary to mitigate fugitive dust from non-vegetated or disturbed soil/fill during all intrusive activities. All reasonable attempts will be made to keep visible and/or fugitive dust to a minimum. Techniques to be used may include one or more of the following:

- Applying water on haul roads.
- Wetting equipment and excavation faces.
- Spraying water on buckets during excavation and dumping.
- Hauling materials in properly tarped containers or vehicles.
- Restricting vehicle speeds on-site.
- Covering excavated areas and materials after excavation activity ceases.
- Reducing the excavation size and/or number of excavations.

## 2.17 Noise

Excavation work will be performed in accordance with applicable noise control ordinances for the City of Lackawanna. At a minimum, construction will be limited to typical daylight work hours without notice (and approval) from the City.

# TABLES

**TABLE 1**  
**CRITERIA FOR IMPORTED SOILS**

**Excavation Work Plan  
Steel Winds II Project  
Lackawanna, New York**

Parameter	Cover Soil Criteria <sup>1</sup>
<b>Volatile Organic Compounds (mg/kg)</b>	
1,1,1-Trichloroethane	0.68
1,1-Dichloroethane	0.27
1,1-Dichloroethene	0.33
1,2-Dichlorobenzene	1.1
1,2-Dichloroethane	0.02
1,2-Dichloroethene(cis)	0.25
1,2-Dichloroethene(trans)	0.19
1,3-Dichlorobenzene	2.4
1,4-Dichlorobenzene	1.8
1,4-Dioxane	0.1
Acetone	0.05
Benzene	0.06
Butylbenzene	12
Carbon tetrachloride	0.76
Chlorobenzene	1.1
Chloroform	0.37
Ethylbenzene	1
Hexachlorobenzene	3.2
Methyl ethyl ketone	0.12
Methyl tert-butyl ether	0.93
Methylene chloride	0.05
Propylbenzene-n	3.9
Sec-Butylbenzene	11
Tert-Butylbenzene	5.9
Tetrachloroethene	1.3
Toluene	0.7
Trichloroethene	0.47
Trimethylbenzene-1,2,4	3.6
Trimethylbenzene-1,3,5	8.4
Vinyl chloride	0.02
Xylene (mixed)	1.6
<b>Semi-Volatile Organic Compounds (mg/kg)</b>	
Acenaphthene	98
Acenaphthylene	107
Anthracene	500
Benzo(a)anthracene	1
Benzo(a)pyrene	1
Benzo(b)fluoranthene	1.7
Benzo(g,h,i)perylene	500
Benzo(k)fluoranthene	1.7
Chrysene	1

**TABLE 1**  
**CRITERIA FOR IMPORTED SOILS**

**Excavation Work Plan**  
**Steel Winds II Project**  
**Lackawanna, New York**

Parameter	Cover Soil Criteria <sup>1</sup>
<b>Semi-Volatile Organic Compounds (mg/kg)</b>	
Dibenz(a,h)anthracene	0.56
Fluoranthene	500
Fluorene	386
Indeno(1,2,3-cd)pyrene	5.6
m-Cresol(s)	0.33
Naphthalene	12
o-Cresol(s)	0.33
p-Cresol(s)	0.33
Pentachlorophenol	0.8
Phenanthrene	500
Phenol	0.33
Pyrene	500
<b>Metals (mg/kg)</b>	
Arsenic	16
Barium	400
Beryllium	47
Cadmium	7.5
Chromium, Hexavalent <sup>2</sup>	19
Chromium, Trivalent <sup>2</sup>	1500
Copper	270
Cyanide	27
Lead	450
Manganese	2000
Mercury (total)	0.73
Nickel	130
Selenium	4
Silver	8.3
Zinc	2480
<b>PCBs/Pesticides (mg/kg)</b>	
2,4,5-TP Acid (Silvex)	3.8
4,4'-DDE	17
4,4'-DDT	47
4,4'-DDD	14
Aldrin	0.19
Alpha-BHC	0.002
Beta-BHC	0.009
Chlordane (alpha)	2.9
Delta-BHC	0.25
Dibenzofuran	210
Dieldrin	0.1
Endosulfan I	102

**TABLE 1**  
**CRITERIA FOR IMPORTED SOILS**

**Excavation Work Plan  
Steel Winds II Project  
Lackawanna, New York**

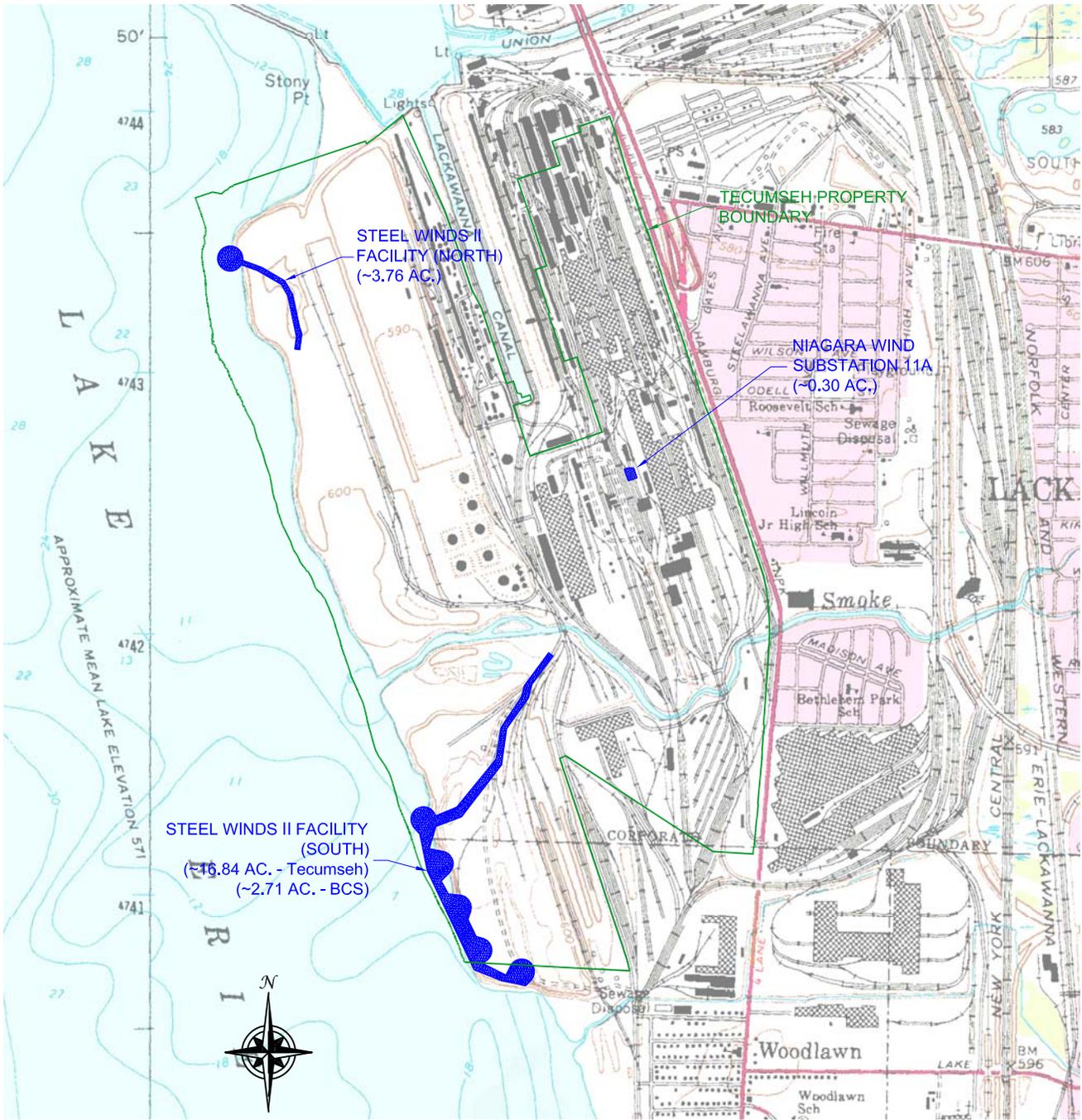
Parameter	Cover Soil Criteria <sup>1</sup>
<b>PCBs/Pesticides (mg/kg)</b>	
Endosulfan II	102
Endosulfan sulfate	200
Endrin	0.06
Heptachlor	0.38
Lindane	0.1
Polychlorinated biphenyls	1

**Notes:**

<sup>1</sup> Soil criteria are lesser of concentrations protective of groundwater or commercial health-based soil cleanup objectives per 6 NYCRR 375-6.8(b).

<sup>2</sup> The SCO for Hexavalent or Trivalent Chromium is considered to be met if the analysis for the total species of this contaminant is below the specific SCO for Hexavalent Chromium.

# FIGURES



SCALE: 1 INCH = 2000 FEET  
 SCALE IN FEET  
 (approximate)



2558 HAMBURG TURNPIKE  
 SUITE 300  
 BUFFALO, NY 14218  
 (716) 856-0599

**SITE LOCATION AND VICINITY MAP**  
 EXCAVATION WORK PLAN

STEEL WINDS II  
 LACKAWANNA, NEW YORK

PREPARED FOR  
 FIRST WIND ENERGY, LLC

PROJECT NO.: 0165-003-101

DATE: JUNE 2011

DRAFTED BY: BCH

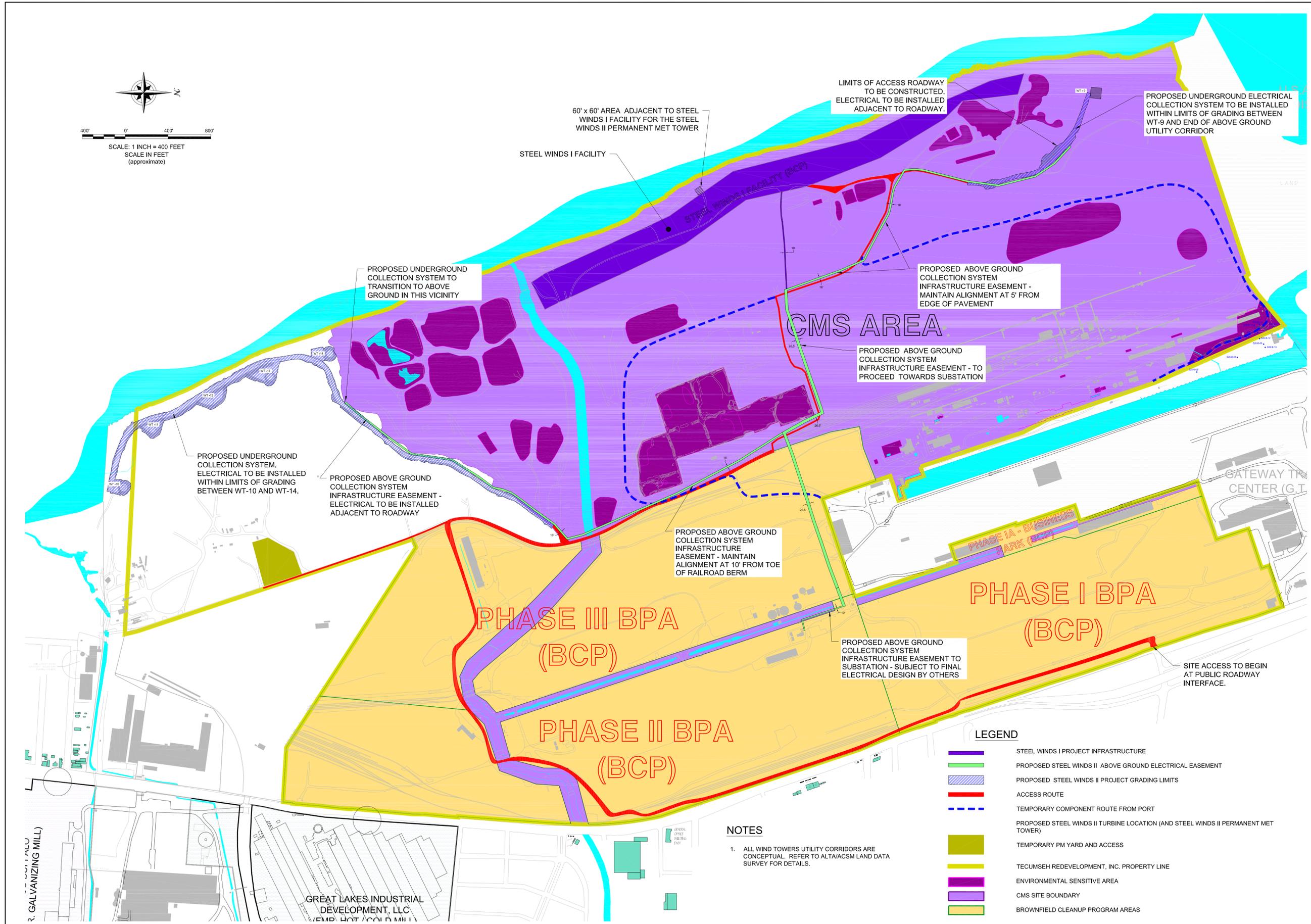
NO.	BY	DATE	REMARKS


DRAWN BY: AJZ/BCH	DATE: JUNE 2011
CHECKED BY:	
APPROVED BY:	

DISCLAIMER: BENCHMARK E.S. PLLC, IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL USE ONLY. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN CONSENT OF BENCHMARK E.S. PLLC.

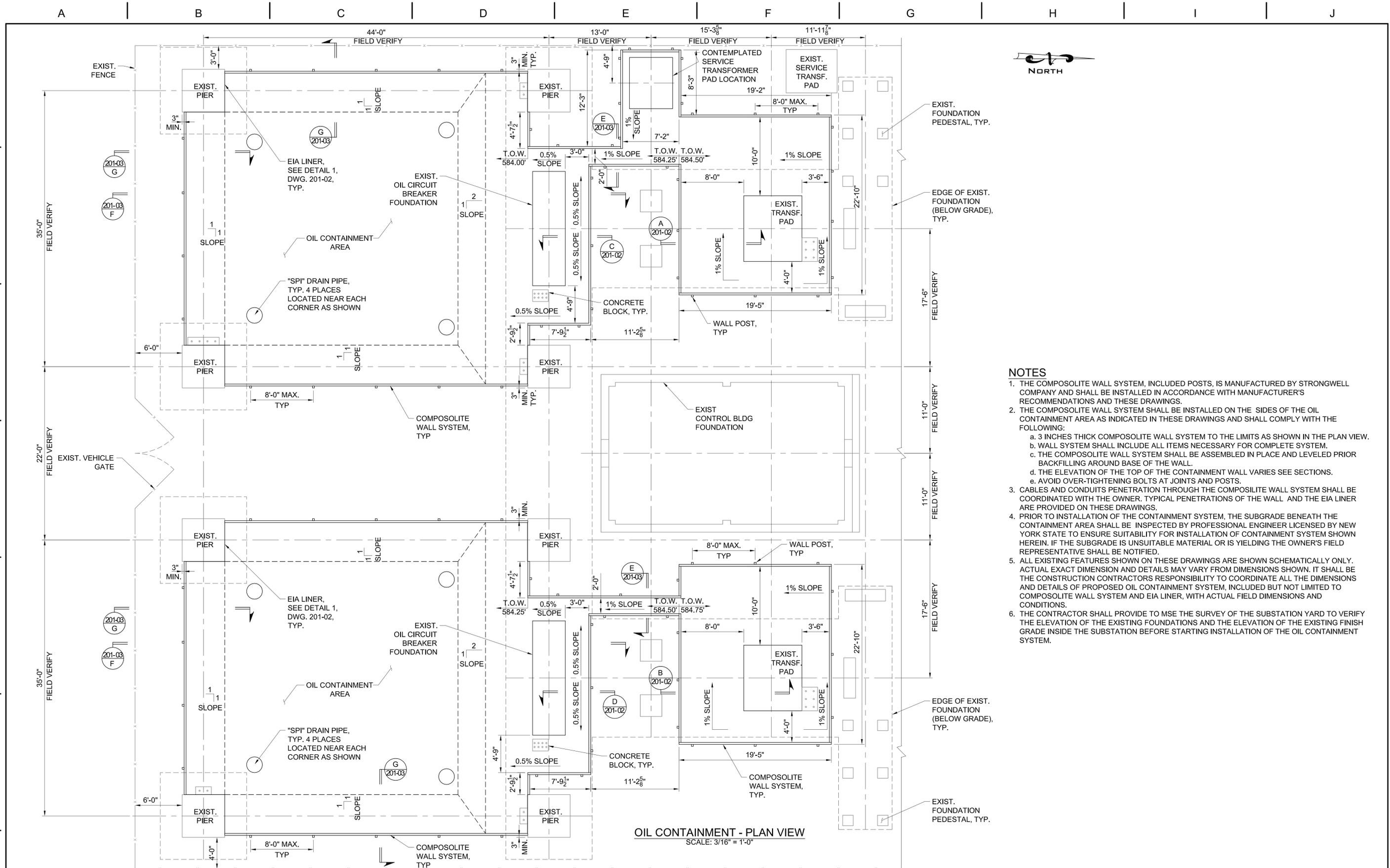
**PROPOSED PROJECT ACCESS & EASEMENT LOCATIONS**  
 STEEL WINDS II FACILITY  
 LACKAWANNA, NEW YORK  
 PREPARED FOR  
 NIAGARA WIND POWER & ERIE WIND, LLC

**FIGURE 2**



# APPENDIX A

## SUBSTATION 11A SECONDARY CONTAINMENT DESIGN



- NOTES**
1. THE COMPOSOLITE WALL SYSTEM, INCLUDED POSTS, IS MANUFACTURED BY STRONGWELL COMPANY AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND THESE DRAWINGS.
  2. THE COMPOSOLITE WALL SYSTEM SHALL BE INSTALLED ON THE SIDES OF THE OIL CONTAINMENT AREA AS INDICATED IN THESE DRAWINGS AND SHALL COMPLY WITH THE FOLLOWING:
    - a. 3 INCHES THICK COMPOSOLITE WALL SYSTEM TO THE LIMITS AS SHOWN IN THE PLAN VIEW.
    - b. WALL SYSTEM SHALL INCLUDE ALL ITEMS NECESSARY FOR COMPLETE SYSTEM.
    - c. THE COMPOSOLITE WALL SYSTEM SHALL BE ASSEMBLED IN PLACE AND LEVELED PRIOR BACKFILLING AROUND BASE OF THE WALL.
    - d. THE ELEVATION OF THE TOP OF THE CONTAINMENT WALL VARIES SEE SECTIONS.
    - e. AVOID OVER-TIGHTENING BOLTS AT JOINTS AND POSTS.
  3. CABLES AND CONDUITS PENETRATION THROUGH THE COMPOSOLITE WALL SYSTEM SHALL BE COORDINATED WITH THE OWNER. TYPICAL PENETRATIONS OF THE WALL AND THE EIA LINER ARE PROVIDED ON THESE DRAWINGS.
  4. PRIOR TO INSTALLATION OF THE CONTAINMENT SYSTEM, THE SUBGRADE BENEATH THE CONTAINMENT AREA SHALL BE INSPECTED BY PROFESSIONAL ENGINEER LICENSED BY NEW YORK STATE TO ENSURE SUITABILITY FOR INSTALLATION OF CONTAINMENT SYSTEM SHOWN HEREIN. IF THE SUBGRADE IS UNSUITABLE MATERIAL OR IS YIELDING THE OWNER'S FIELD REPRESENTATIVE SHALL BE NOTIFIED.
  5. ALL EXISTING FEATURES SHOWN ON THESE DRAWINGS ARE SHOWN SCHEMATICALLY ONLY. ACTUAL EXACT DIMENSION AND DETAILS MAY VARY FROM DIMENSIONS SHOWN. IT SHALL BE THE CONSTRUCTION CONTRACTORS RESPONSIBILITY TO COORDINATE ALL THE DIMENSIONS AND DETAILS OF PROPOSED OIL CONTAINMENT SYSTEM, INCLUDED BUT NOT LIMITED TO COMPOSOLITE WALL SYSTEM AND EIA LINER, WITH ACTUAL FIELD DIMENSIONS AND CONDITIONS.
  6. THE CONTRACTOR SHALL PROVIDE TO MSE THE SURVEY OF THE SUBSTATION YARD TO VERIFY THE ELEVATION OF THE EXISTING FOUNDATIONS AND THE ELEVATION OF THE EXISTING FINISH GRADE INSIDE THE SUBSTATION BEFORE STARTING INSTALLATION OF THE OIL CONTAINMENT SYSTEM.

**OIL CONTAINMENT - PLAN VIEW**  
SCALE: 3/16" = 1'-0"

**PROPRIETARY INFORMATION NOTICE**  
CG POWER SOLUTIONS USA INC CLAIMS PROPRIETARY RIGHTS, INCLUDING FOREIGN AND DOMESTIC COPYRIGHT AND INTELLECTUAL PROPERTY RIGHTS, TO THE DESIGN, DRAWING, INFORMATION AND LAYOUT DISCLOSED HEREIN. THIS DRAWING IS ISSUED FOR ITS INTENDED PURPOSE ONLY AND MAY NOT BE REPRODUCED OR DISCLOSED TO OTHERS WITHOUT THE EXPRESS WRITTEN CONSENT OF CG POWER SOLUTIONS USA INC.  
© 2011 CG POWER SOLUTIONS USA INC - ALL RIGHTS RESERVED

REV.	DATE:	DESCRIPTION:	DRAWN BY:	CHECKED BY:	APPROVED BY:	REV.	DATE:	DESCRIPTION:	DRAWN BY:	CHECKED BY:	APPROVED BY:
1	28JAN'11	ISSUED FOR REVIEW	JRM	DS	RHC						

**PRELIMINARY  
DRAWING  
NOT FOR  
CONSTRUCTION**

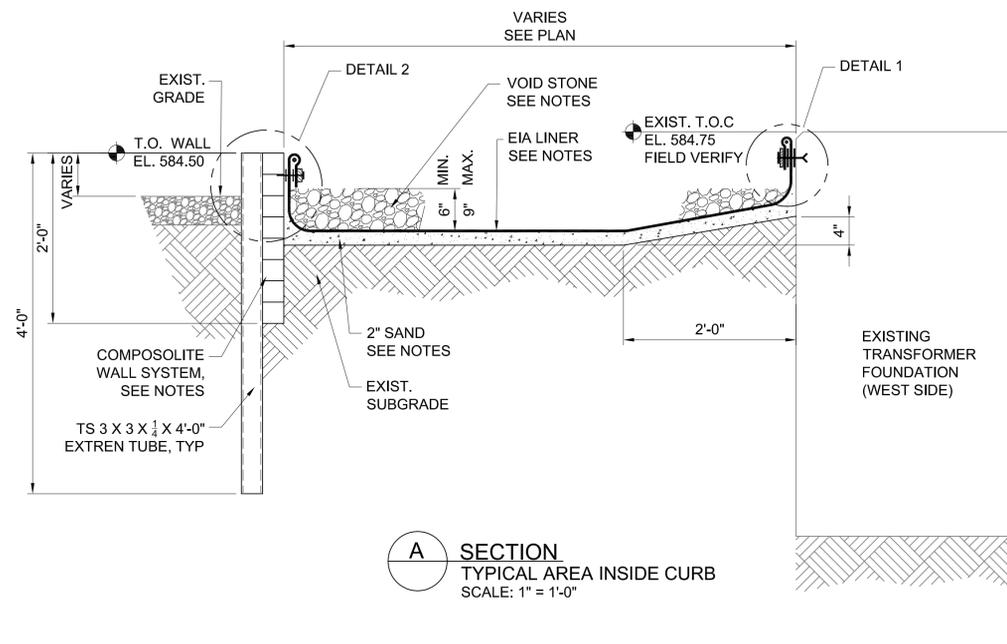


**STEEL WINDS PROTECTION & CONTROL UPGRADES**  
NIAGARA WIND POWER & ERIE WIND, LLC

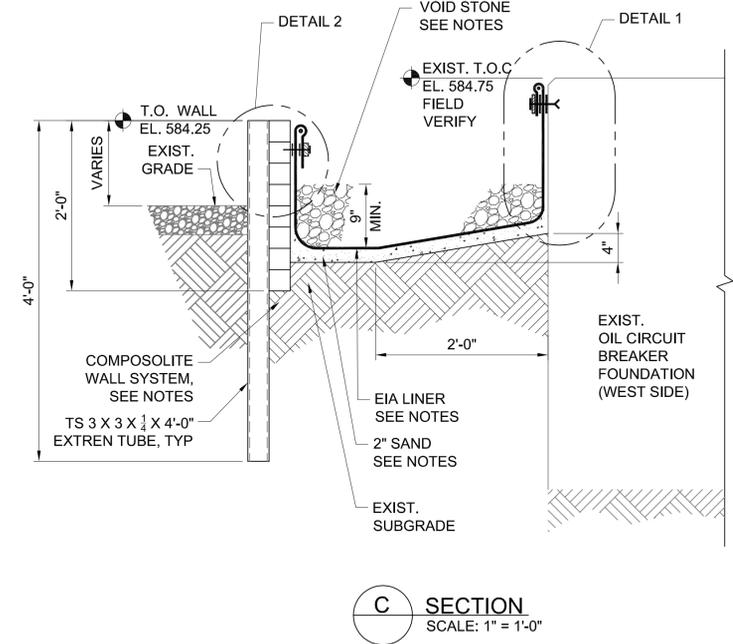
13.8 KV COLLECTION SUBSTATION  
OIL CONTAINMENT PLAN VIEW

PROJ. NO.: T014-007C	SCALE: 3/16" = 1'-0"
DWG. NO.: 201	SHEET: 1
	REV.: 1

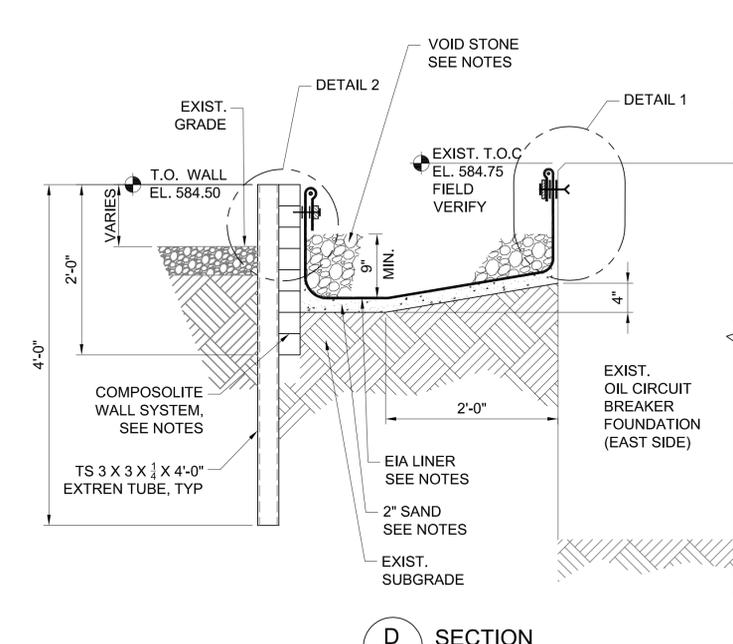
A | B | C | D | E | F | G | H | I | J



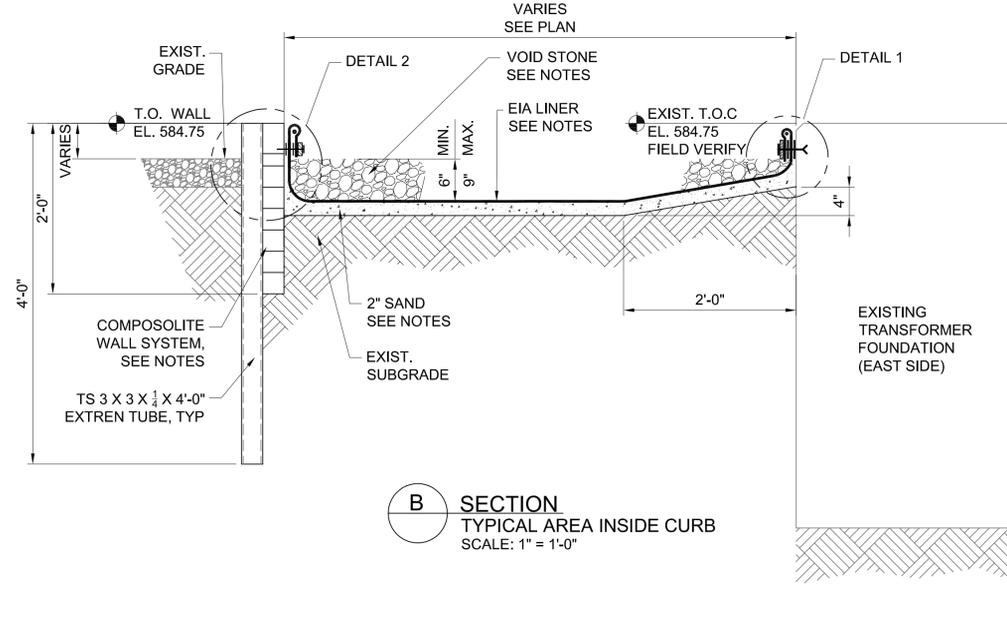
**A SECTION**  
TYPICAL AREA INSIDE CURB  
SCALE: 1" = 1'-0"



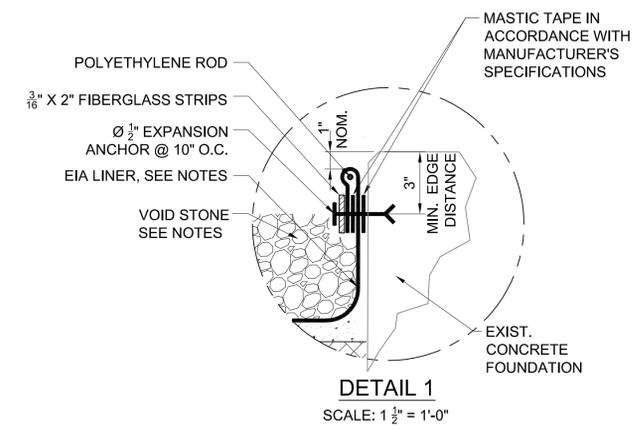
**C SECTION**  
TYPICAL AREA INSIDE CURB  
SCALE: 1" = 1'-0"



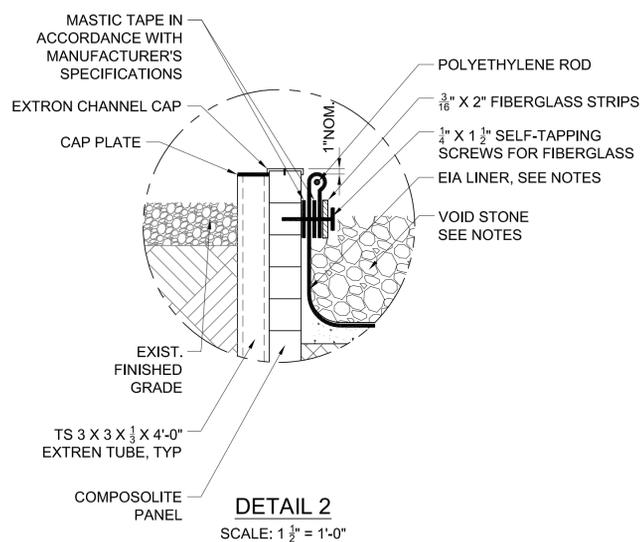
**D SECTION**  
TYPICAL AREA INSIDE CURB  
SCALE: 1" = 1'-0"



**B SECTION**  
TYPICAL AREA INSIDE CURB  
SCALE: 1" = 1'-0"



**DETAIL 1**  
SCALE: 1 1/2" = 1'-0"



**DETAIL 2**  
SCALE: 1 1/2" = 1'-0"

**NOTES**

- LINER SHALL BE INSTALLED ON THE BOTTOM AND SIDES OF THE OIL CONTAINMENT AREA AS INDICATED IN THESE DRAWINGS AND SHALL COMPLY WITH THE FOLLOWING:
  - "EIA" (ETHYLENE INTERPOLYMER ALLOY) LINER PRODUCT 8138 XR-5 MANUFACTURED BY SEAMAN CORPORATION (LOCATED IN WOOSTER, OHIO), OR ACCEPTED EQUIVALENT.
  - INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS, INCLUDING THERMALLY WELDED SEAMS, AND PENETRATIONS ALSO, USE FIBERGLASS STRIPS, NEOPRENE GASKET MATERIALS AND SILICONE SEAL AROUND ALL INNER AND OUTER CONCRETE SURFACES.
  - A BEDDING LAYER OF SAND CONFORMING TO NEW YORK STATE DOT SPECIFICATION, SECTION 703, SEE REQUIREMENTS BELOW AND SHALL BE PLACED IMMEDIATELY BELOW THE LINER. THICKNESS OF SAND BEDDING SHALL BE AS SHOWN ON THESE DRAWINGS. SAND FOR TRANSFORMER OIL CONTAINMENT AREA SHALL MEET THE MINIMUM REQUIREMENTS AS LISTED BELOW:
 

SIEVE SIZE	% PASSING BY WEIGHT
#4	100
#8	95 TO 100
#50	10 TO 40
#100	0 TO 15
  - SAND SHALL BE CONSISTENT OF WELL GRADED INERT MATERIAL.
  - SAND SHALL BE WELL GRADED FROM COURSE TO FINE AND SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
 

SIEVE SIZE	% PASSING BY WEIGHT
#4	100
#8	95 TO 100
#50	10 TO 40
#100	0 TO 15
- ALL FIELD SEAMS WILL BE TESTED USING THE AIR LANCE METHOD. A COMPRESSED AIR SOURCE WILL DELIVER A MINIMUM OF 55PSI TO A 3/16-INCH NOZZLE. THE NOZZLE WILL BE DIRECTED TO THE LIP OF THE FIELD SEAM IN A NEAR PERPENDICULAR DIRECTION TO THE LENGTH OF THE FIELD SEAM. THE NOZZLE WILL BE HELD 4 INCHES MAXIMUM FROM THE SEAM AND TRAVEL AT A RATE NOT TO EXCEED 40 FEET PER MINUTE. ANY LOOSE FLAPS OF 1/8" OR GREATER WILL REQUIRE REPAIR. ALL FIELD SEAMS SHOULD ALSO BE INSPECTED UTILIZING THE VACUUM BOX TECHNIQUE AS DESCRIBED IN STANDARD PRACTICE FOR GEOMEMBRANE SEAM EVALUATION BY VACUUM CHAMBER (ASTM D5641-94) USING A 3 TO 5 PSI VACUUM PRESSURE. ALL LEAKS SHALL BE REPAIRED AND TESTED.
- OIL CONTAINMENT AREA SHALL BE FILLED WITH "VOID STONE" COMPLYING WITH THE FOLLOWING:
  - VOID STONE SHALL CONSIST OF WASHED ROUNDED GRAVEL UNIFORMLY GRADED TO 1-INCH SIZE (100% PASSING 1 1/2" SIEVE, 0% PASSING 3/8" SIEVE). MATERIAL SHALL CONSIST OF CLEAN, HARD, DURABLE PARTICLES.
  - A MINIMUM POROSITY OF 35% OR VOID RATIO OF 54% IS REQUIRED, AND CONTRACTOR SHALL SUBMIT CERTIFICATION OF THIS.
  - VOID STONE SHALL MEET MATERIAL REQUIREMENTS AS PER NEW YORK STATE DOT SPECIFICATION SECTION 703.6, TYPE 2.
  - AN INITIAL LAYER OF VOID STONE SHALL BE PLACED BY HAND ON THE LINER TO PREVENT DAMAGE TO THE LINER. THICKNESS OF INITIAL LAYER SHALL BE 3 INCHES MINIMUM. MECHANICAL MEANS SHALL NOT BE USED TO PLACE INITIAL LAYER. SUBSEQUENT PLACEMENT SHALL USE MEANS AND METHODS THAT DO NOT DAMAGE LINER.
- FOR LOCATION AND ELEVATION SEE FOUNDATION PLAN DWG 201-01.
- FOR ADDITIONAL FOUNDATION DETAILS SEE DWG 201-03.
- FIELD LOCATE AND CONFIRM ALL FOUNDATIONS

PROPRIETARY INFORMATION NOTICE  
CG POWER SOLUTIONS USA INC CLAIMS PROPRIETARY RIGHTS, INCLUDING FOREIGN AND DOMESTIC COPYRIGHT AND INTELLECTUAL PROPERTY RIGHTS, TO THE DESIGN, DRAWING, INFORMATION AND LAYOUT DISCLOSED HEREIN. THIS DRAWING IS ISSUED FOR ITS INTENDED PURPOSE ONLY AND MAY NOT BE REPRODUCED OR DISCLOSED TO OTHERS WITHOUT THE EXPRESS WRITTEN CONSENT OF CG POWER SOLUTIONS USA INC.  
© 2011 CG POWER SOLUTIONS USA INC - ALL RIGHTS RESERVED

REV.	DATE:	DESCRIPTION:	DRAWN BY:	CHECKED BY:	APPROVED BY:	REV.	DATE:	DESCRIPTION:	DRAWN BY:	CHECKED BY:	APPROVED BY:
1	28JAN'10	ISSUED FOR REVIEW	JRM	DS	RHC						

**PRELIMINARY  
DRAWING  
NOT FOR  
CONSTRUCTION**

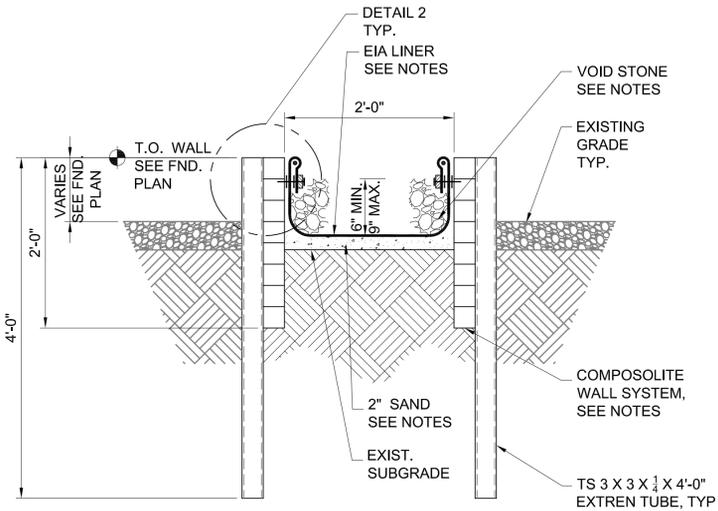


STEEL WINDS PROTECTION & CONTROL UPGRADES  
NIAGARA WIND POWER & ERIE WIND, LLC  
13.8 KV COLLECTION SUBSTATION  
OIL CONTAINMENT PLAN  
SECTIONS & DETAILS

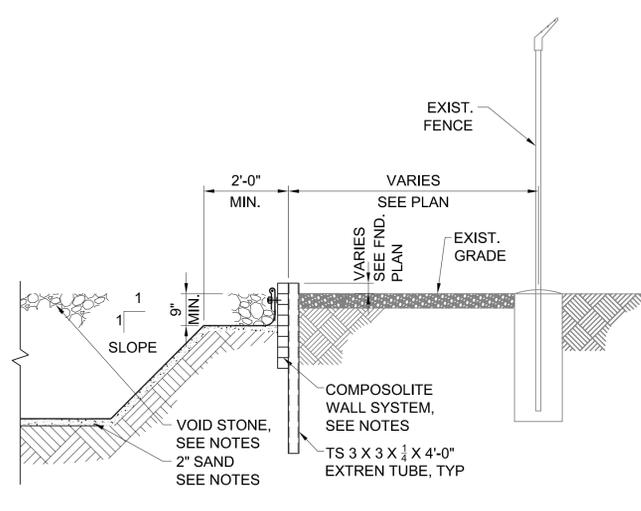
PROJ. NO.: T014-007C	SCALE: 1" = 1'-0" U.N.O.
DWG. NO.: 201	SHEET: 2
	REV.: 1

A | B | C | D | E | F | G | H | I | J

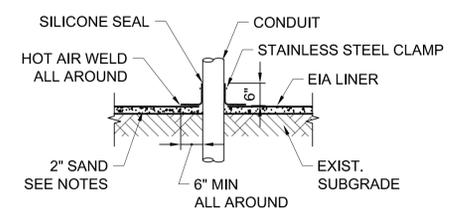
A | B | C | D | E | F | G | H | I | J



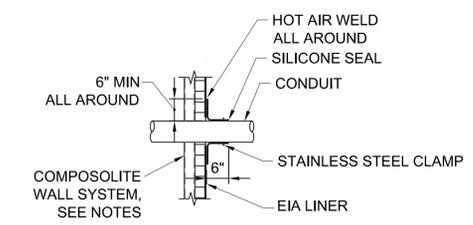
**E SECTION**  
SCALE: 1" = 1'-0"



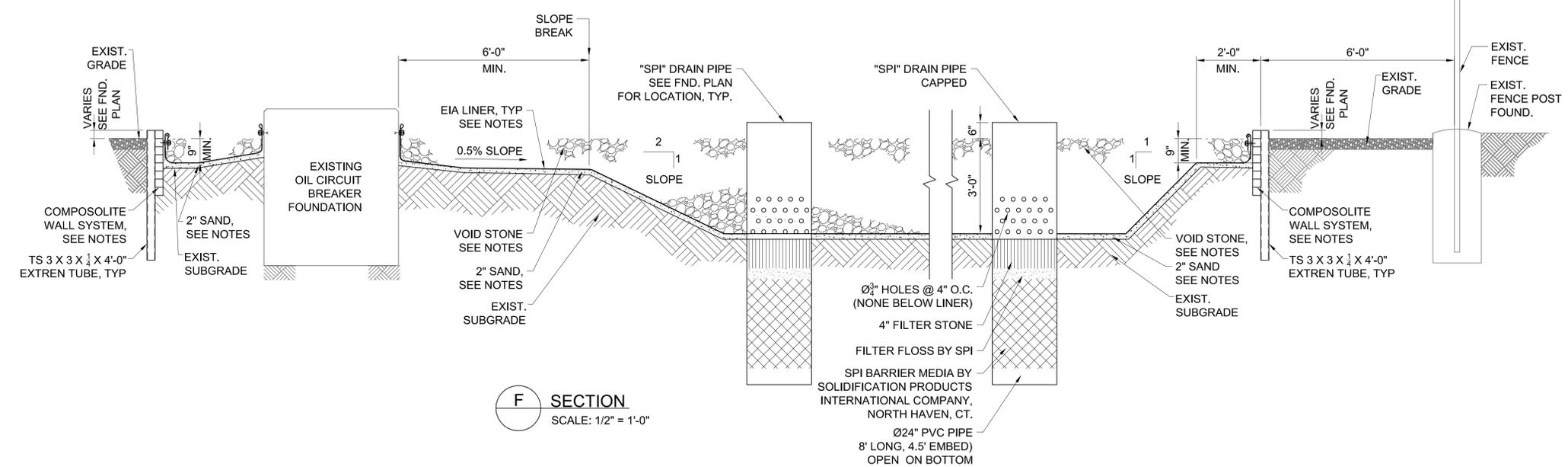
**G SECTION**  
TYPICAL AREA INSIDE CURB  
SCALE: 1/2" = 1'-0"



**TYPICAL VERTICAL CONDUIT PENETRATION DETAIL**  
SCALE: 1/2" = 1'-0"



**TYPICAL HORIZONTAL CONDUIT PENETRATION DETAIL**  
SCALE: 1/2" = 1'-0"



**F SECTION**  
SCALE: 1/2" = 1'-0"

- NOTES:**
1. FOR LOCATION AND ELEVATION SEE FOUNDATION PLAN DWG 201-01.
  2. FOR ADDITIONAL FOUNDATION DETAILS SEE DWG 201-02.
  3. FIELD LOCATE AND CONFIRM ALL FOUNDATIONS.

**PROPRIETARY INFORMATION NOTICE**  
CG POWER SOLUTIONS USA INC CLAIMS PROPRIETARY RIGHTS, INCLUDING FOREIGN AND DOMESTIC COPYRIGHT AND INTELLECTUAL PROPERTY RIGHTS, TO THE DESIGN, DRAWING, INFORMATION AND LAYOUT DISCLOSED HEREIN. THIS DRAWING IS ISSUED FOR ITS INTENDED PURPOSE ONLY AND MAY NOT BE REPRODUCED OR DISCLOSED TO OTHERS WITHOUT THE EXPRESS WRITTEN CONSENT OF CG POWER SOLUTIONS USA INC.  
© 2011 CG POWER SOLUTIONS USA INC - ALL RIGHTS RESERVED

REV.	DATE:	DESCRIPTION:	DRAWN BY:	CHECKED BY:	APPROVED BY:	REV.	DATE:	DESCRIPTION:	DRAWN BY:	CHECKED BY:	APPROVED BY:
1	28JAN'11	ISSUED FOR REVIEW	JRM	DS	RHC						

**PRELIMINARY DRAWING NOT FOR CONSTRUCTION**

CG Power Solutions  
www.cgpowersolutions.com

**STEEL WINDS PROTECTION & CONTROL UPGRADES**  
NIAGARA WIND POWER & ERIE WIND, LLC

13.8 KV COLLECTION SUBSTATION  
OIL CONTAINMENT PLAN  
SECTIONS & DETAILS

PROJ. NO.: T014-007C	SCALE: 1/2" = 1'-0" U.N.O.
DWG. NO.: 201	SHEET: 3
	REV.: 1

A | B | C | D | E | F | G | H | I | J

# APPENDIX B

## NYSDOH GENERIC COMMUNITY AIR MONITORING PLAN (CAMP)

## 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 ( $\text{mcg}/\text{m}^3$ ) 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  $150 \text{ mcg}/\text{m}^3$  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  $150 \text{ mcg}/\text{m}^3$  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  $150 \text{ mcg}/\text{m}^3$  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.

December 2009