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September 9, 2010

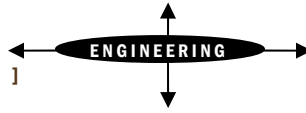
**Prepared For:**

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Attention: Mr. Robert R. Marriam

**Site Specific Work Plan  
Former Zonolite Facility  
19 Wemelco Way  
Easthampton, Massachusetts**

**Prepared By:**

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**SITE SPECIFIC WORK PLAN  
FORMER ZONOLITE FACILITY  
19 WEMELCO WAY  
EASTHAMPTON, MASSACHUSETTS  
PREPARED BY: O'REILLY, TALBOT & OKUN ASSOCIATES, INC.  
SEPTEMBER 9, 2010**

Administrative Settlement Agreement and Order on Consent  
To Perform a Removal Action

**CERCLA Docket No. 01-2010-0019**

## **1.0 INTRODUCTION AND OBJECTIVES**

This report presents a Site Specific Work Plan (SSWP) for the above referenced location (the Site). This report was prepared by O'Reilly, Talbot & Okun Associates, Inc. (OTO), on behalf of W.R. Grace & Co. (Grace) to meet the requirements for a Site Specific Work Plan in accordance with Appendix D, Section E(3) of the Administrative Order on Consent (AOC) between Grace, Oldon Limited Partnership (Oldon), and USEPA.

The SSWP requirements and objectives from the referenced Section of the AOC are described below.

Site Specific Work Plan: Respondents shall submit a work plan that describes how the Respondents will complete the work in the Scope of Work (SOW), including a proposed schedule for performing the work. The plan shall describe the methods that will be used including, but not limited to, personnel and equipment that will be utilized and contingency plans including containment of Asbestos-Containing Soil. For the media characterization, the plan shall include a Sampling and Analysis Plan ("SAP") that will discuss, but not be limited to, sample methodology; the name, address, and point of contact of the laboratory that will be utilized; and quality assurance/quality control ("QA/QC") procedures. The proposed schedule shall require completion of all on-site activities (i.e., not including off-site transport and disposal, or implementation of institutional controls), within 180 days of EPA's approval of the work plan.

## 2.0 SITE AND RELEASE INFORMATION

### 2.1 SITE DESCRIPTION

The Site is composed of several parcels upon which remedial actions will be conducted and includes the following properties:

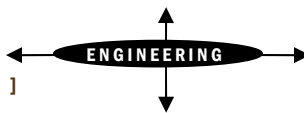
- 1) Former Zonolite Facility - located at 19 Wemelco Way and owned by Oldon Limited Partnership (Oldon);
- 2) Railroad Right-of-Way - a portion of the former Pioneer Valley Rail Line located adjacent to the Former Zonolite Facility, as shown on Appendix C (Figure 1 Site Diagram) of the AOC;
- 3) Cernak Parcel - an area of Asbestos-Containing Soil (ACS) on farmland southeast of the Railroad Right-of-Way, owned by David and Marilyn Cernak;
- 4) DOS Parcel - an area of ACS on the parcel of land located within the Site, northwest of the Former Zonolite Facility, owned by Wemelco Realty Trust; and
- 5) Elastomerics Parcels - areas of ACS on the wooded property located within the Site, across Wemelco Way from the Former Zonolite Parcel and owned by JPS Acquisition Elastomerics Co.

These parcels, which comprise the Site, are generally shown on Figure 1 in Appendix C of the AOC. A copy of this Figure is attached in Appendix A. Further description of these properties is provided below.

#### 2.1.1 Former Zonolite Facility

The Former Zonolite facility is located at 19 Wemelco Way and owned by Oldon. The Former Zonolite facility is an approximate 2.5 acre parcel of land located in a generally rural area of Easthampton, Massachusetts. A Site locus map is provided as Figure 1. A Site Plan is provided as Figure 2. The Former Zonolite facility is occupied by a vacant industrial building. The building is a one-story, concrete slab on grade structure. The area to the north of the building is a paved parking lot. To the east of the building is an undeveloped field that consists of dense grasses and small trees and brush. An easement for the Tennessee Gas Pipeline runs through this portion of the Site, as shown on Figure 2. The Site building was used to process vermiculite into bagged Zonolite insulation.

OTO conducted an online review of the DEP Priority Resource (21E) map which is available online (<http://maps.massgis.state.ma.us/21e/viewer.htm>). The map, attached in Appendix B, indicates the Site lies within a mapped Medium Yield Aquifer and lies within a mapped Zone II of a Public Water Supply Source. These groundwater resource areas are not a concern with respect to this Work Plan because the constituent of concern (asbestos) is not water soluble.



OTO contacted the Easthampton Board of Health, which indicated the Site building is serviced by public water and sewer, and there are no known private supply wells within 500 feet of the Site.

Within the Former Zonolite Facility, the Settlement Agreement describes the five sub areas listed below:

- Area A (an area of < 1% asbestos-containing surface soils located east of Area C);
- Area B (an area of > 1 % asbestos-containing surface and subsurface soils located east of Area C);
- Area C (an area of asbestos-containing surface and subsurface soils located within the Tennessee Gas Pipeline easement);
- Area D (an area of < 1% asbestos-containing surface soils located west of Area C);
- Area E (an area of > 1% asbestos-containing surface soils located west of Area C).

These areas are shown on the Site Plan in Appendix A. Remedial activities proposed for these Areas are described in Section 3.0.

#### 2.1.2 Railroad Right-of-Way

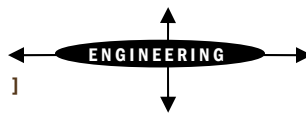
This parcel consists of an approximately 1,000 foot long by 50 foot wide inactive rail easement, owned by the City of Easthampton, within which ACS has been detected in the prior studies summarized in Section 2.2. It is part of a planned municipal bike path construction project. The rail tracks have been removed, while the railroad ties were left in place. The easement is locally overgrown.

#### 2.1.3 Cernak Parcel

This parcel is an approximately 8,000 square foot field located to the south of the Railroad Right-of-Way. The portion of a 78 acre undeveloped lot (Tax Assessor's Map ID 165-47) owned by David and Marilyn Cernak, within which ACS has been detected in the prior studies summarized in Section 2.2. A portion of this Parcel is crossed by the 30 foot wide Tennessee Gas Pipeline.

#### 2.1.4 DOS Parcel

This parcel is an approximately 7,500 square foot area located to the north of the Former Zonolite Facility parking lot. It is the portion of a 1.43 acre industrial property (Tax Assessor's Map 165-1) owned by Wemelco Realty Trust, within which ACS has been detected in the prior studies summarized in Section 2.2. The DOS parcel is a grass covered and undeveloped portion of the Wemelco Realty Trust property used for limited material storage. A several foot high slope descends from the Wemelco Realty property to the abutting 19 Wemelco Way parking lot.



### 2.1.5 Elastomerics Parcels – Northern and Southern

Both of these parcels are on land owned by JPS Acquisition Elastomerics. The Northern Elastomerics Parcel is an approximately 4,000 square foot wooded area located to the west of Wemelco Way and the Former Zonolite Facility parking lot. It is a portion of a 12.8 acre industrial lot (Tax Assessor's Map 164-4).

The Southern Elastomerics Parcel, originally described in the SOW Site Plan as part of the Cernak Parcel, is an approximately 2,000 square foot wooded area located to the southwest of Wemelco Way and south of the Railroad Right-of-Way. It is the portion of a 13.9 acre undeveloped lot (Tax Assessor's Map 164-3).

## 2.2 SUMMARY OF PRIOR SOIL TESTING

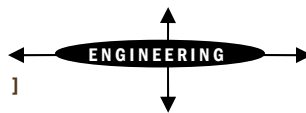
A Phase II Comprehensive Environmental Site Assessment and Phase III Evaluation of Remedial Alternatives was submitted to MassDEP on August 1, 2007. To our knowledge, no subsequent soil testing has been conducted. Recent United States Environmental Protection Agency (USEPA) testing for asbestos fibers in the interior of the Former Zonolite Facility building is provided in Appendix C.

The Phase II report summarized prior Site testing which was performed by USEPA, the Massachusetts Department of Environmental Protection (MassDEP), and Woodard and Curran, Inc. (WCI). This work included ACS testing at over 150 sample locations.

Areas within which ACS concentrations were detected over 1 percent are shown on Figure 3. The main area over one percent is an approximately 40,000 square foot area in the grassed field to the east of the Former Zonolite Facility building. Within this field, asbestos was detected in soil at the surface and locally at depths up to 10 feet. While locally detected at depth, concentrations detected below the upper two feet were typically at trace (< 1 percent) level. Potential exposure and migration of the asbestos in this area of the Site is limited by a thick vegetative mat of dense grasses. An additional isolated area of Site soil with over 1 percent asbestos was found on the Former Zonolite Facility, immediately north of the parking lot. A third off-site area with over 1 percent asbestos is located in the western portion of Railroad Right-of-Way.

In addition to the areas where quantifiable concentrations of asbestos were detected, there are adjacent areas of trace (less than 1 percent) detections which are shown on Figure 2. Most of the areas with trace concentrations lie outside of the Former Zonolite Facility, on the Elastomerics, Railroad Right-of-Way, DOS, and Cernak parcels.

The Phase II report concluded there is no groundwater impact from asbestos due to the stability and low solubility of asbestos. Three sediment samples were collected by MassDEP from a small stream near the eastern border of the property. Only trace concentrations were detected.



Air testing under ambient conditions showed no fiber counts above USEPA and MassDEP limits for post abatement reoccupancy (0.01 fibers per cubic centimeter of air). As such, no air exposure issues were identified provided that areas of soil impact remain in an undisturbed state.

As part of the Phase II Report, Imminent Hazard and Substantial Hazard Evaluations were conducted for the Site to evaluate risks to human health, safety, public welfare, and the environment. Our assessment concluded that under current Site conditions, the Site:

- 1) Does not pose a Substantial Hazard to human health or safety to Site commercial or industrial employees or visitors/trespassers at the Site;
- 2) Does not pose a Substantial Hazard to human health or safety for residents currently residing off-Site and in the vicinity of the Site; and
- 3) Does not pose a Substantial Hazard to the environment or public welfare.

These findings overall conclude that a Condition of No Imminent Hazard and No Substantial Hazard, as those terms are defined under MassDEP regulations (310 CMR 40.0000), exists based on current Site conditions.

In our opinion, the investigations by these parties adequately assessed the nature and extent of impacted media for the purposes of preparing this SSWP. Nevertheless, some recent supplemental soil testing was conducted along the Railroad Right-of-Way in accordance with a June 23, 2010 sampling plan approved by USEPA. This testing was conducted to determine if the ACS from the Railroad Right-of-Way may be co-contaminated from former railroad operations. According to the AOC, "If pre-testing determines that there are no hazardous wastes or that the hazardous wastes do not exceed regulatory limits, the ACS shall be disposed within Area A or B of the Former Zonolite Facility. The test results, presented in Section 2.2.1, confirm the soils to be excavated from the Railroad Right-of-Way are not RCRA hazardous wastes and therefore suitable for on-site placement.

Additional testing to predefine ACS limits in or proximate to wetland portions of the Site has also been conducted as documented in Section 2.2.2. Additional testing is proposed in Section 3.3.

## 2.3 SUMMARY OF RECENT SOIL TESTING

With USEPA approval, two additional testing programs were completed as described below.

### 2.3.1 Railroad Right of Way Testing

The settlement agreement allowed for placement of ACS from the railroad right of way onto a portion of the Former Zonolite facility "if pre-testing determines that there are no hazardous wastes or that the hazardous wastes do not exceed regulatory limits". Samples

were collected in accordance with a June 23, 2010 work plan approved by USEPA. A summary of the program and results is provided below.

### Sample Collection and Shipment

On June 28, 2010, OTO collected four composite samples from a depth of 0 to 6 inches within the former railroad track alignment. Each composite was prepared from three to four subsamples. The subsamples were collected by an asbestos licensed professional using a metal shovel. Composites were prepared by mixing equal volumes of the subsamples in a stainless steel bowl. The composite samples were placed on ice in a cooler and delivered to Con-Test Analytical Laboratory of East Longmeadow, Massachusetts under chain of custody protocols.

The four composites were analyzed for:

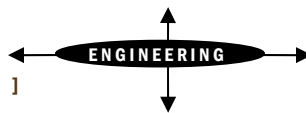
- Corrosivity;
- Flashpoint (ignitability);
- TPH (Total Petroleum Hydrocarbons) by modified EPA Method 8100;
- PAHs by EPA Method 8270C;
- RCRA 8 metals by EPA Methods 6010B and 7471A; and
- PCBs by EPA Method 8082.

Follow-up tests were conducted for extractable lead and for hexavalent chromium. Results are provided in Appendix E and are summarized in Tables 1 and 2.

As indicated, arsenic, chromium and benzo(a)pyrene (BaP) were detected above MassDEP reportable concentrations in at least one of the samples. These compounds are not related to Grace operations at the former Zonolite facility. Rather, they are compounds typically associated with historic rail road operations. In our opinion, the arsenic and BaP are exempt from MassDEP notification requirements consistent with MassDEP's bike path construction policy (Best Management Practices For Controlling Exposure to Soil During Development of Rail Trails). The chromium reportable concentration 30 mg/kg is for its hexavalent form. Since subsequent test indicted no detection of hexavalent chromium, we conclude that chromium is not a reportable condition irrespective of the MassDEP bike path policy document.

MassDEP regulations (310 CMR 40.0370) provides regulations and the bike path policy document to require residues from non-reportable conditions to be managed in a manner which does not result in a significant risk. In our opinion, the excavation of these railroad impacted constituents and placement within the cap discussed in Section 3.2.6 provides appropriate management of the excavated soils in accordance with MassDEP regulations. Residues of the rail road related compounds that may remain at the excavation limits, are outside of the scope of this work plan and are the responsibility of the property owner.





With respect to federal limits, we have evaluated whether the rail road related compounds are a hazardous waste. Test results indicate the soil is not a hazardous waste. The residues do not derive from listed sources. As indicated in Table 2, the tests did not indicate the soil is characteristically hazardous. Included on Table 2 are TCLP (Toxicity Characteristic Leaching Procedure) “trigger” values. These trigger values use the 20 fold dilution inherent in the TCLP test method. Only total concentrations above these trigger values can result in an exceedance of hazardous waste limits. As indicated in Table 2, only chromium exceeded its trigger value of 100 mg/kg. As indicated, three composite samples exceeding the trigger values were tested for leachable chromium by the TCLP method. As indicated, no leachable chromium was detected.

The above data evaluation indicates that on-site placement of the rail road impacted soil beneath the planned Site Cap is consistent with State and Federal regulations and guidance.

### 2.3.2 ACS Testing

A July 7, 2010 work plan was submitted to USEPA for approval to conduct a fast tracked ACS testing on the “Cernak” and “Elastomerics” parcels. These parcels lie within or proximate to wetlands. USEPA approved the scope of work with modifications. The significant modifications were:

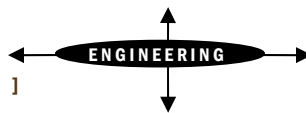
- 1) Samples were collected at 10 foot grid samples;
- 2) The standard 0 to 6 inch sample depths were changed to 0 to 3 inch depths so as to be consistent with prior Site testing;
- 3) Samples were collected with an asbestos coring device, as described further below.

### Sample Collection and Shipment

Grid sample locations are provided in Appendix F. The grid points were established in the areas of prior grid sample locations A+15, A+45, A+50, A+55, AA+45, E+20 and F+20 where prior testing indicated ACS was present. These prior locations, shown on Figure 3, were established by a licensed surveyor as reference points in establishing the grids. Additionally, corner points of the grid areas were surveyed following completion of sampling activities.

The samples were collected by an asbestos licensed professional using a T-handle core sample tool and disposable copper sampling cores. Prior to sampling, a small area of surface vegetation and/or debris was carefully parted or otherwise pushed aside without disturbing underlying soils. Because the soil samples collected were located within/proximate to wetland areas, samples were naturally moist and did not require dust control. At each grid sample location, a disposable 3 inch copper tube was inserted into the core sampler which was then depressed into the soil to a depth of three inches. The core containing the 0” to 3” soil sample was then immediately placed back into the plastic core sleeve and then into a labeled plastic whirl pack bag and sealed. Samples were labeled in the manner discussed in the previous paragraph. Soil samples were submitted to EMSL Analytical, Inc.,





Cinnaminson, NJ, (EMSL) for asbestos testing in accordance with EPA Method 600/R-93/116 using the PLM visual estimation method. Additionally, at the seven prior sampling points (A+15, A+45, A+50, A+55, AA+45, E+20 and F+20), 6 inch sample cores were collected from the interval of 6 to 12 inches. These samples were collected after excavating the upper 6-inches with a hand shovel.

### Results

Analytical results are attached in Appendix F as indicated, asbestos was not detected in the samples. Based on these results, OTO developed the proposed excavation limits for the Cernak and Elastomerics parcels as discussed in Section 3.2.4.

## **3.0 WORK PLAN**

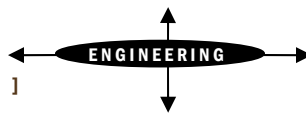
A narrative conceptual plan for this project is presented in Section 3.1. Specific proposed field methods are presented in Section 3.2, while a Sampling and Analysis Plan is provided in Section 3.3. A Project Schedule is provided in Section 3.4.

### **3.1 CONCEPTUAL PLAN**

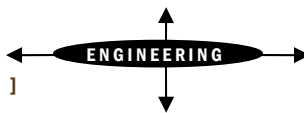
Conceptually, the required scope of work is outlined in Section C of the Scope of Work (SOW) attached to the AOC. The SOW calls for removal of soil with asbestos fibers (referred to as asbestos containing soil or ACS) from the margins of the Former Zonolite Facility and from abutting parcels. The removed ACS is then to be placed on top of the ACS on the Former Zonolite Facility, within what will be referred to as the "Placement Area". The Placement Area (Areas A and B in Appendix A) will then be capped, and institutional controls will be instituted. Additionally, asbestos abatement activity will take place within the Facility building.

The referenced SOW provides specific work tasks to be conducted as listed below:

1. Consult with the local conservation commission, as appropriate, regarding the work to be conducted;
2. Provide site security as necessary based on Site conditions and approved by EPA;
3. If necessary, due to the presence of hazardous wastes determined by pre-testing, excavate Asbestos-Containing Soils located on the Railroad Right-of-Way and prepare for disposal at an EPA-approved disposal facility. If pre-testing determines there are no hazardous wastes or the hazardous wastes do not exceed regulatory limits, the Asbestos-Containing Soils shall be disposed within Area A or B of the Former Zonolite Facility;



4. Excavate Asbestos-Containing Soils within the Cernak Parcel, the DOS Parcel, and the Elastomerics Parcel, and prepare for disposal within Area A or Area B of the Former Zonolite Facility;
5. Excavate Asbestos-Containing Soil located within Area C of the Former Zonolite Facility to limits mutually agreed by EPA, Respondents, and Tennessee Gas Pipeline based on appropriate sampling data, likely exposure scenarios, and pipeline-related engineering and structural characteristics. Dispose excavated Asbestos-Containing Soils in Area A or Area B of the Former Zonolite Facility;
6. Plan and implement confirmatory soil sampling (prior to or after excavations described above, with the timing based on engineering judgments) to provide reasonable documentation that: (i) Asbestos-Containing Soil has been removed from the Railroad Right-of-Way, the Cernak Parcel, the DOS Parcel, the Elastomerics Parcel, and Areas A, D and E of the Former Zonolite Facility; (ii) Asbestos-Containing Soil has been removed to the level required;
7. Take required actions as needed to facilitate vegetation cutting, surveying, site grading, excavation or grading of Asbestos-Containing Soils in Areas A and B of the Former Zonolite Facility, relocation of Asbestos-Containing Soil, installation of a minimum two foot cover consisting of a demarcation (geotextile) layer covered with at least two feet of compacted non-asbestos-containing material and hydroseeded;
8. Take required actions to remove Amphibole Asbestos Fibers and materials containing such Fibers from the building located on the Former Zonolite Facility. Asbestos containing materials and related abatement disposable equipment (PPE, polyethylene, equipment filters, etc.) will be disposed at an approved landfill that is permitted to accept asbestos waste. These actions shall be sufficient such that an Asbestos Project Monitor licensed by the Massachusetts Division of Occupational Safety confirms in a report that the building meets all applicable state and federal regulatory requirements for post asbestos abatement clearance in accordance with 40 CFR Part 763 Subpart 3 (AHERA).
9. To the extent feasible, avoid or limit disturbance of the existing vegetative mat and underlying Asbestos-Containing Soil in Area A and B;
10. Coordinate transportation and disposal of waste streams related to Asbestos-Containing Soils, other hazardous substances (if any that are located on Respondents' property or caused by Respondents), railroad-specific hazardous wastes, if any, that fail federal or Massachusetts regulatory limits for hazardous wastes, decontamination waste and spent personal protective equipment ("PPE") at a disposal facility licensed to accept such waste, as agreed upon with EPA;
11. Repair any response-related damage to the Site; and



12. Implement institutional controls, as necessary.

Item 8 above has been modified from the SOW to reflect that asbestos containing materials will be disposed off-site in lieu of disposal within areas A or B.

### 3.2 FIELD METHODS

The conceptual elements listed above are divided into the categories of Site work listed below.

- Conservation Commission Coordination
- Security
- Preparation of Areas A and B on Former Zonolite Facility to receive excavated ACS from other areas
- Excavation and on-site transport of ACS
- Confirmatory soil testing
- Placement and capping of ACS
- Off-site Disposal
- Institutional Controls
- Building Asbestos Fiber Abatement

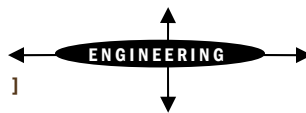
Methods including, but not limited to, personnel and equipment that will be utilized for these tasks are provided below. The methods include, where appropriate, contingency plans including containment of ACS. The Health and Safety Plan (HASP) under which this work will be conducted, including air monitoring for the benefit of Site workers and the general public, will be submitted under separate cover. The HASP will include a recommended air monitoring program.

#### 3.2.1 Conservation Commission

Grace/OTO met with Mr. Stuart Beckley of the Easthampton Conservation Commission (Concom) on June 30, 2010 to review wetland permit requirements for the work described herein. Mr. Beckley indicated the work required filing of an NOI (Notice of Intent) under the state Wetlands Protection Act. Mr. Beckley indicated he would assist Grace in expediting review and approval of the NOI. The NOI was submitted on July 26, 2010. A copy of the NOI has been provided to USEPA and MassDEP. An Order of Conditions for the proposed work is anticipated in mid to late September.

#### 3.2.2 Security

Access to areas of active Site work will be limited at the end of each construction day within temporary construction fencing. Such fencing will be required until soil confirmation data indicate remediation criteria have been achieved as described in Section 3.3. Similar fencing and signage will be required by the contractor in areas of planned ACS placement and shall



remain until soil cover is placed as described in Section 3.2.6. A construction trailer will be located at the entrance to the construction site and will serve as the project command post.

The Easthampton police department will be notified of the work and asked to regularly check the Site.

### 3.2.3 Preparation of Areas A and B (Placement Area)

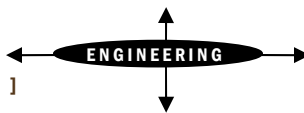
Figure 4 shows the limits of Areas A and B within which ACS will be placed from excavation areas described in Section 3.2.5. These areas, collectively referred to as the "Placement Area", will be surveyed and marked separately in the field prior to the start of construction.

Prior to the start of work, the contractor will establish an equipment decontamination area at the edge of the Placement Area. It will consist of a minimum of 20 by 20 foot area of crushed stone within which high pressure water will be used to remove accumulated soil from equipment tracks and tires before the vehicles move out of the Placement Area. A soil berm will be placed at the downslope end of the decontamination area to prevent migration of rinse water outside the decontamination limits.

Trees, brush, and grass will be cut with standard equipment to within an inch of ground surface, with care taken not to disturb surrounding soils. This level of vegetation cutting (one inch or less) will be maintained prior to ACS placement described in Section 3.2.6. Within one day prior to ACS placement, the licensed herbicide Roundup, or equivalent, will be applied in accordance with labeling to inhibit further growth prior to cap placement.

Use of vehicles, which have the potential to create ruts within the Placement Area, will not be permitted. Because the cut vegetation was not in contact with ACS, no special disposal requirements will apply to this material, and the material may be ground or chipped within the Placement Area, provided that work is conducted within a temporary gravel work mat constructed for that purpose. Alternately, brush materials may be processed within the paved parking lot. While contractor methods are intended to avoid disturbance of ACS present under the vegetative cover, the contractor will be required to have high pressure water immediately available in the event underlying soils are disturbed and need to be wetted to prevent dust generation.

As shown on Figure 4, there are two small hummocks which will need to be graded to blend in with the general topography. Grading of these limited areas is estimated to involve less than 100 cubic yards of material. The margins of the placement area will need to be cut up to 2 feet below current grade to allow post capping grades to match existing grades at the margins of the cap. Grading of the hummocks and the margins of the Placement Area are the only portions of the Placement Area where an exposure of underlying ACS is anticipated during construction. As such, special care will be taken as these areas are graded. Water will be constantly sprayed as this soil is graded to minimize potential for dust generation. Additionally, the grading work will not be authorized in winds over 20 mph. Grading work



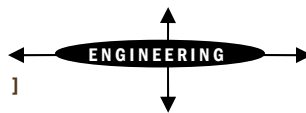
is expected to be completed within one day. A temporary cover consisting of either a minimum of 6 inches of asbestos free soil or plastic sheeting will be placed over the area at the end of each construction day and immediately upon completion of grading. Such temporary cover will be maintained until cap placement described in Section 3.2.6.

#### 3.2.4 Excavation, Backfilling and Transport of ACS

ACS will be excavated from the Railroad Right-of-Way, Former Zonolite Facility Areas C, D and E, and from the DOS, Cernak, and Elastomerics Parcels. Anticipated lateral limits of excavation are shown on Figure 4. Lateral excavation limits for the Cernak and Elastomerics Parcels shown on Figure 4 have been established by the testing program presented in Section 2.3. Limited testing at 6 to 12 inches in these areas indicated excavations in these parcels are expected to be 6 –inches. However, final vertical limits in these parcels will be based on the Sampling program presented in Section 3.3. Final lateral and vertical limits in other areas will also be determined based on testing described in Section 3.3. Excavations will extend vertically to a depth of at least 6-inches below grade.

General Requirements that apply to excavation loading and transport of ACS from each of the planned excavation areas are listed below:

- ACS from these areas will be removed for placement within Areas A and B;
- ACS is defined in the AOC as soil with asbestos identified using the test method described in Section 3.3;
- ACS with less than 1 percent asbestos fibers, based on characterization results, may be placed in either Areas A or B, while ACS over 1 percent may be placed only in Area B;
- In each of the excavation areas, water will be sprayed liberally to the areas of active excavation areas and loading. High pressure water will be available from the Site building or from an on-site hydrant with city approval;
- Excavation work will not be allowed during periods of high wind (over 20 mph);
- Trucks and excavation equipment will be located either outside limits of excavation or within remediated areas;
- Smooth face buckets will be used for ACS excavation;
- Unless verified by post excavation testing, excavations will be made in at least 2 vertical lifts so as to limit the potential for cross contamination of the final excavation surface during the excavation process.
- Excavated ACS will be placed into dump trucks to avoid spilling of soil onto non impacted areas. No over filling will be permitted;
- As a contingency against possible loading spills, 6 mil plastic sheeting will be placed on the ground between the excavation area and the dump truck to catch any soil spills;
- At the end of each construction day, temporary plastic sheeting will be placed and secured to prevent exposure to disturbed ACS;
- Temporary plastic sheeting will be maintained in excavated areas until pre or post characterization testing indicated remediation criteria are met;



- Siltation fencing will be placed on the downslope margins of excavations and soil management areas to minimize potential for migration of ACS outside of planned areas of excavation;
- No loading of ACS will be allowed above the walls of the dump truck, so as to limit the potential for ACS spills during transport of the excavated soil to the Placement Area; and
- Dump trucks will be required to use dust covers to limit potential for dust generation and will be driven at speeds less than 5 mph on site.
- Unless otherwise indicated, excavated areas will be backfilled with topsoil and hydroseeded.

In addition to the general requirements provided above, additional requirements will apply to specific portions of the Site as described below.

#### Railroad Right-of-Way

Rail ties will be removed and disposed off-site at a licensed solid waste facility. Prior to removal from the excavation area, free soil will be removed within ACS areas not yet excavated, or within the decontamination pad. Within the area of planned bike path construction shown on Figure 4, common granular fill will be used as backfill and will not require hydroseeding as bike path construction is expected to shortly follow backfilling.

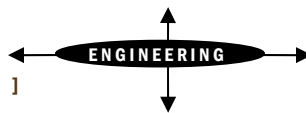
As in option to save mature trees within the Right-of Way and as specifically agreed to by USEPA, soil testing described in Section 3.3, may be used to limit otherwise required excavation in the immediate vicinity of saved trees.

#### Tennessee Gas Pipeline

Vertical excavation limits within the Tennessee Gas Pipeline easement will be developed from a pre-excavation sampling program described in Section 3.3. Grace/OTO met with Tennessee Gas Pipeline officials on June 29, 2010 to discuss logistical issues related to excavation within their easement. Based on that discussion, the special requirements for ACS excavation in this area are presented below.

- Pre-excavation testing described in Section 3.3 will be conducted to pre-determine excavation depths within the easement area.
- While the pipeline bottom is likely 3 to 4 feet below grade, hand excavation will be conducted to verify depth prior to developing the required detailed excavation plan described below.
- Once the specific excavation details are developed from sampling data described above, they will need to be submitted to Tennessee Pipeline for approval.
- Excavations within the easement will be conducted by a specialty contractor approved by Tennessee Gas Pipeline.
- Tennessee Gas Pipeline personnel will be on-site when testing, and excavation work is to be conducted within the easement.





### Wetland Area Excavation and Restoration

Excavation methods and backfill requirements for wetland areas and buffer zones will be subject to an order of conditions obtained from the Easthampton Conservation Commission (Concom). Proposed methods are provided in a Notice of Intent (NOI) filed with the Concom on July 26, 2010. Key technical elements of the submitted NOI are outlined below. Figure 4 shows wetland areas relative planned excavation areas. As indicated on this Plan, two areas of excavation are planned within wetland areas. These are the Southern Elastomerics parcel and a portion of the Cernak Parcel.

Where feasible, woody vegetation (shrubs) will be preserved during the excavation, which will be conducted with a combination of hand excavation; vacuum truck; and where conditions permit, a rubber tired/track excavator. Although herbaceous vegetation and woody seedlings will be removed during the excavation process, the excavation of wetlands soils will be conducted to avoid the root systems of mature trees and shrubs, where practicable. Following excavation of the Southern Elastomerics Parcel, a mixture of equal volumes of organic and mineral materials (man made topsoil) will be backfilled to reestablish grades. Well-decomposed clean leaf compost is the preferred soil amendment to achieve these standards. Constructed soils used in the restoration areas will possess approximately 12% organic carbon. To return excavated areas to original grades, the grading of soils will be done by hand.

It is proposed that the wet meadow community in the Cernak Parcel wetland be restored using a wetland seed mix following excavation. In this regard, the *New England Wetmix* (wetland seed mix) available from NEWP has been specified and contains seeds of a wide variety of native grasses, sedges, rushes, and herbs which are suitable for sites that are not permanently inundated, such as wet meadows. Species included in this seed mix represent many of the species observed within Wetland C, in addition to other herbaceous species such as: *Verbena hastata* (blue vervain); *Mimulus ringens* (square-stemmed monkey flower); and *Eupatorium perfoliatum* (boneset) amongst others. The mix will be applied by hydro-seeding. The manufacturers recommended application rate is 1lb/2,500 ft<sup>2</sup> as a wet meadow seeding.

Following grading, the new wetland soils will be seeded with a wetland seed mix. In this regard, the *New England Erosion Control/Restoration Mix for Detention Basins and Moist Sites* available from New England Wetland Plants (NEWP) will be applied to exposed wetland soils in Wetland A and B. Plant species in this mix include: sensitive fern; woolgrass; and green bulrush amongst others. The manufacturer's recommended application rate is 35 lbs/acre (1,250 ft<sup>2</sup>/lb). This seed mix was selected given the presence of an intact forested canopy, low light levels, and the fact that certain of the species are already present within Wetlands B.



### DOS Parcel

At the request of the parcel owner, this area will be backfilled with sand and gravel and will not be hydroseeded.

### 3.2.5 Confirmatory Soil Testing

Confirmatory soil testing methods are presented in Section 3.3.

### 3.2.6 Placement and Capping of ACS

ACS, transported from the excavations described in Section 3.2.4, will be placed within the prepared Placement Area described in Section 3.2.3. Water will be sprayed on the soil as it is placed and graded within the disposal area. After grading, the contractor will be required to place temporary cover over the exposed ACS. Such cover can consist of geotextile fabric or 6 mil plastic sheeting. No more than 500 square feet of exposed ACS will be allowed without temporary cover, and temporary cover must be applied to all areas of exposed ACS at the end of each work day.

ACS shall be placed so as to prevent subsequent trucks from having to cross over and disturb previously placed ACS and to maintain the integrity of the temporary cover.

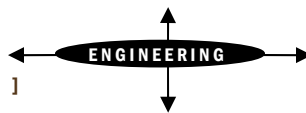
The final cap will be installed on the Placement Area as soon as practical after ACS placement. The contractor will be encouraged to initiate cap construction in portions of the Placement Area as work proceeds. The final cap shall consist of:

- 1) A non woven geotextile fabric (Mirafi 140 or equivalent) placed above the ACS to completely cover the Placement Area, with at least one (1) foot of overlap between the sheets;
- 2) A minimum of 18 inches of granular fill; and
- 3) Six inches of topsoil.

The cap will be graded to match bordering grades and with slopes no steeper than three (horizontal) to one (vertical). This will require excavation of up to 2 feet of soil within 10 feet of the property lines.

The topsoil will consist of fertile, friable natural topsoil without admixture of subsoil, refuse, or other foreign matter, and come from a well-drained site. It shall be a soil as determined by mechanical analysis (ASTM D-422), based on the "USDA Classification System," with textural properties as follows:

Soil Component Type	Range of Percentage in Soil
Clay (less than 0.002 mm dia)	max. 2.5%
Silt (0.002-0.05 mm dia range)	5% to 20%



Sand (0.05-2.0 mm dia range)	60% to 90% - 25% fine - 40% med. - 35% coarse
Acidity	6.0 to 7.0
Organic Matter	min. 4% max. 8%

The topsoil surface will be hydroseeded and watered as necessary to develop a stable vegetative cover that will limit cap erosion. Any erosion damage that effects cap integrity will be repaired by the contractor until the vegetation cover is established.

Topsoil shall be placed during dry weather and on dry unfrozen subgrade to a minimum depth of 6 inches. During spreading, vegetable matter and foreign non-organic material shall be removed.

Seeding will be conducted from April 1 to May 31 or from September 1 to October 31, depending on the project schedule. Soils within the Placement Area will be covered with a uniform coat of the seed mixture and at the recommended application rate. The warm season grass seed mix specified for the Placement Area has a manufacturer's recommended application rate of 23 lbs/acre. The cellulose fiber mulch will be applied at a minimum rate of 1,500 lbs/acre.

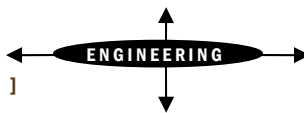
Upon completion, the hydroseeded surfaces in the Placement Area will be watered on a prescribed schedule. Areas of soil erosion will be hand-graded and seeded-over with the hydroseed mixture. Watering and seeding-over will be conducted until the vegetation has become established and soils within the Placement Area are stable.

### 3.2.7 Building Amphibole Fiber Abatement

Amphibole Asbestos Fibers are defined as the five classes of amphibole fibers regulated as asbestos by the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA). The five classes include fibrous tremolite, actinolite, anthophyllite, crocidolite, and amosite. Such fibers have been detected within the Former Zonolite Building as noted in Appendix C.

These materials will be abated by a Massachusetts licensed asbestos contractor such that an Asbestos Project Monitor licensed by the Massachusetts Division of Occupational Safety confirms in a report that the building meets all applicable state and federal regulatory requirements for post asbestos abatement clearance in accordance with 40 CFR Part 763 Subpart 3 (AHERA).

The asbestos abatement within the building will involve two phases of work. The first phase is to remove and dispose the vermiculite insulation from the ceiling joist cavities above the office area. This abatement will be performed by a Massachusetts licensed asbestos abatement contractor. The vermiculite will be removed using high capacity vacuums with



HEPA filtration. The ceiling cavities will be cleaned using HEPA vacuums and wet wiping cleaning methods.

The second phase of the abatement involves the cleaning of the interior building surfaces of dust and debris. The cleaning methods will be performed using HEPA vacuums and wet wiping cleaning techniques.

At the conclusion of the asbestos abatement activities, the area will be inspected by a Massachusetts Licensed Asbestos Project Monitor. The office ceiling joist cavities shall be clean of visible vermiculite insulation, dust, and other debris. The interior building surfaces shall be dry and clean of visible debris and dust. Asbestos clearance air sampling will be performed following the visual inspection. The clearance air monitoring will be performed using high volume industrial hygiene sampling pumps with 0.8 micron mixed cellulose ester fiber air sampling cassettes. The samples will be analyzed according to the NIOSH 7400 methodology by phase contrast microscopy. The samples may also be analyzed by Transmission Electron Microscopy (TEM) according to the EPA Level II methodology to determine the specific amphibole fiber content. The post abatement clearance sampling procedures will be performed in accordance with the MassDEP and EPA protocol.

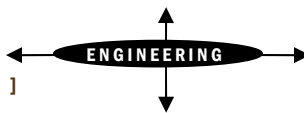
#### 3.2.8 Institutional Controls

Upon completion of field work, an Activity and Use Limitation (AUL) will be prepared and filed with the Hampshire County Registry of Deeds in accordance with 310 CMR 40.1070. The AUL will restrict use of the capped area in the following ways:

- 1) No buildings will be allowed;
- 2) Residential development will be precluded, as well as use as a school, park, or recreational area;
- 3) Excavation within the capped area will be prevented or controlled;
- 4) The cap will require ongoing maintenance and repair, and will require an annual inspection to confirm its integrity is being maintained;
- 5) A fence will be placed and maintained near the boundary of the cap with the future rail trail; and
- 6) "No Trespassing" signs will be placed every 100 feet along the fence.

#### 3.2.9 Waste Stream Disposal

OTO will coordinate transportation and disposal of waste streams related to Asbestos-Containing Soils and other hazardous substances if any are located on the Former Zonolite Facility or caused by former operations on that property; railroad-specific hazardous wastes, if any, that fail federal or Massachusetts regulatory limits for hazardous wastes; decontamination waste; and spent personal protective equipment ("PPE") at a disposal facility licensed to accept such waste, as agreed upon with EPA.



Railroad specific hazardous wastes were not identified in testing of this soil. As such, no plan for such off-site disposal is warranted.

PPE, decontamination wastes, including plastic sheeting used for temporary cover, will be bagged and disposed as asbestos containing debris within an EPA approved landfill that is permitted to accept asbestos waste.

The only other waste stream expected to be generated for off-site disposal is rail ties to be removed during the Railroad Right-of-Way excavation described in Section 3.2.4. This disposal by Grace is a voluntary action to accommodate the city and is not specifically required under the AOC. The ties will be sprayed with water within non-excavated areas of the Railroad Right-of-Way to remove visible soils to the extent feasible. They will then be staged outside excavation areas for loading and off-site transport to a licensed solid waste facility. As required under the AOC, USEPA approval of the disposal facility will be obtained prior to any off-site waste shipments of the materials described above.

### 3.3 SAMPLING AND ANALYSIS PLAN

This section provides a plan for pre- and post- excavation asbestos testing to verify remediation target levels have been achieved in areas of planned soil removal and in building asbestos fiber abatement. The work will be conducted in accordance with the QAPP attached as Appendix D.

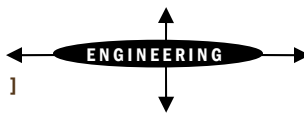
#### 3.3.1 Soil Sampling and Analysis

##### **General**

To the extent feasible, soil samples will be collected prior to excavation to pre-establish lateral and vertical excavation limits. Such limits have been established for the Cernak and Elastomerics parcels as documented in Section 2.2. The samples will be collected by an OTO asbestos licensed professional using the sampling techniques described in Section 2.2. Sample locations will be pre-established in the field by a licensed land surveyor, who will also locate nearby prior sample locations for reference purposes.

##### **Lateral Limit Pre-Characterization Sampling**

Figure 4 shows proposed sample locations to pre-define lateral limits of excavation. Included on Figure 4 are sample locations proposed in our July 7, 2010 submittal to USEPA for the Cernak and Elastomeric Parcels. The lateral limit sample locations will be collected from the interval of 0 to three inches below grade using the methods described in Section 2.2.



The samples will be placed in a cooler shipped to EMSL Analytical, Inc. of Cinnaminson, New Jersey under chain of custody protocols. EMSL is a Massachusetts certified asbestos laboratory (#AAA000188) and is AIHA accredited (# 180179).

### **Vertical Limit Pre-Characterization Sampling**

Vertical limit pre-characterization sampling will be used to pre-define final excavation depths in areas of the Railroad Right-of-Way, Elastomerics, Cernak and DOS Parcels where prior testing has indicated trace levels of asbestos in surficial soils. These areas will be sampled prior to excavation as described below.

Initially, 3 to 6 inch depth samples will be collected from the planned excavation areas, consistent with methods described in Section 2.3. Five individual samples will be collected and composited for each 2,500 square foot area. The “five point composite” sample will be tested for asbestos as described below. Individual samples that make up each composite will be retained for possible individual analysis if the composite tests positive for asbestos. Depending on test results, additional vertical limit testing may be needed.

Within the Pipeline easement area, we will use a hand auger or a hollow stem auger drilling rig to drill to a depth of one foot below the bottom of the pipeline, expected at a depth of approximately 4 to 5 feet below grade. Sample locations will be determined in the field in consultation with representative of the Tennessee Pipeline, but will generally be collected at a rate of one sample per 500 square feet. The depth of the pipeline will be determined at two locations by hand excavation in conjunction with a backhoe, or with a probe rod. Three inch soil samples will be collected at intervals of two feet or less. Each sample will be analyzed individually so as to better understand the variability of conditions within the easement. The pipeline borings will be used to define planned excavation depths. However, final excavation limits will be confirmed as described below.

### **Post Excavation Confirmatory Sampling**

For excavated areas where prior testing as indicated asbestos concentrations over 1 percent and for areas other than the Railroad Right-of-Way, Cernak, Elastomerics and DOS Parcels, five point post-excavation composite samples will be collected for each 2,500 square feet as described above.

### **Tree Characterization**

The City of Easthampton may request that certain trees along the Railroad Right-of-Way not be removed during Grace's remediation activities. To verify that no ACM lies within 5 feet of a tree, four samples will be collected from a depth of 0 to 3 inches below grade at a 5 foot radius from the tree. This soil will remain in place to prevent root damage caused by excavation.

### **Soil Analytical Protocols**

The samples will be placed in a cooler shipped to EMSL Analytical, Inc. under chain of custody protocols. EMSL is a Massachusetts certified asbestos laboratory (#AAA000188), and is AIHA accredited (# 180179). Laboratory Contact information is provided below.

Name: EMSL Analytical, Inc.  
Address: 200 Route 130 North, Cinnaminson, NJ 08077-2892  
Contact Name: Stephen Siegel  
Phone: 800-220-3675

Samples will be analyzed for asbestos in accordance with EPA Method 600/R-93/116 using the PLM visual estimation method. Additional Quality Assurance Protocols will be provided within the QAPP to be submitted under separate cover.

### **Pre-Characterization Report**

Pre-characterization ACS data will be submitted in a report to USEPA. The report will include test results, a sample location plan of surveyed sample locations, an updated plan (s) showing proposed lateral and vertical excavation limits and estimated excavation volumes, and recommendations for additional testing if warranted.

### **Post Excavation Characterization (If Warranted)**

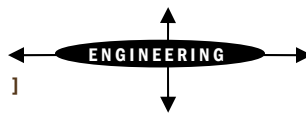
To the extent the pre-characterization soil testing described above is insufficient to pre-determine vertical and lateral limits of excavation, excavation sidewall and base of excavation samples will be collected and tested in accordance with the methodology presented above. While specific locations cannot be identified at this time, we will propose locations in our Pre-Characterization Report as noted in Section 3.3.1. Minimum sample density will be:

- 50 lineal feet or less for sidewalls; and
- 2500 square feet or less for base of excavation samples.

#### 3.3.2 Amphibole Fiber Testing

Following abatement of amphibole fibers inside the building, as noted in Section 3.2.7, post abatement clearance testing will be conducted.

The sampling will use high volume industrial hygiene sampling pumps with 0.8 micron mixed cellulose ester fiber air cassettes. The industrial hygiene sampling pumps will be pre and post calibrated using a primary standard. The air samples will be collected by a Massachusetts licensed Asbestos Project Monitor. The samples will be analyzed by phase contrast microscopy according to the NIOSH 7400 methodology. The samples may also be analyzed by Transmission Electron Microscopy (TEM) according to the EPA Level II methodology to determine the specific amphibole fiber content. The post abatement



clearance sampling procedures will be performed in accordance with the MassDEP and EPA protocol.

### 3.4 SCHEDULE AND REPORTING

During the Removal Action, we will prepare and submit to EPA a report every two weeks detailing Site activities, problems encountered, other important issues, and activities anticipated in the two weeks to follow.

Unless otherwise approved by EPA, within 180 days of EPA approval of this Work Plan, we will complete transportation and disposal of waste-streams designated for off-site disposal to an EPA approved disposal facility. At this time, these waste streams are expected to consist of rail ties, PPE waste plastic sheeting used for daily cover, and asbestos waste generated from the building amphibole fiber abatement described in Section 3.2.7. Within 45 days of such transportation, a Final Report will be submitted in accordance with Section 300.165 of the NCP entitled "OSC Reports." The Final Report shall include all waste manifests (legible), signed by the disposal facility and any other disposal documents.

### 3.5 PERSONNEL

The technical leads for the work described above are provided below.

**Kevin O'Reilly, LSP** –Principal-in-Charge, Project Manager

**Robert Kirchherr, CSP** – Health and Safety Lead, Senior Asbestos Professional

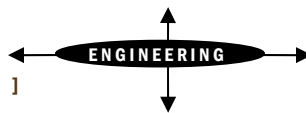
**Mike Talbot, PE, LSP** – Professional Engineer, Landfill Design Lead

**Valerie Tillinghast, LSP** – QAPP Lead

**Jeff Park** - Wetlands

Resumes for these individuals are attached in Appendix G. Roles may be modified during field implementation.





**ATTACHMENTS:**

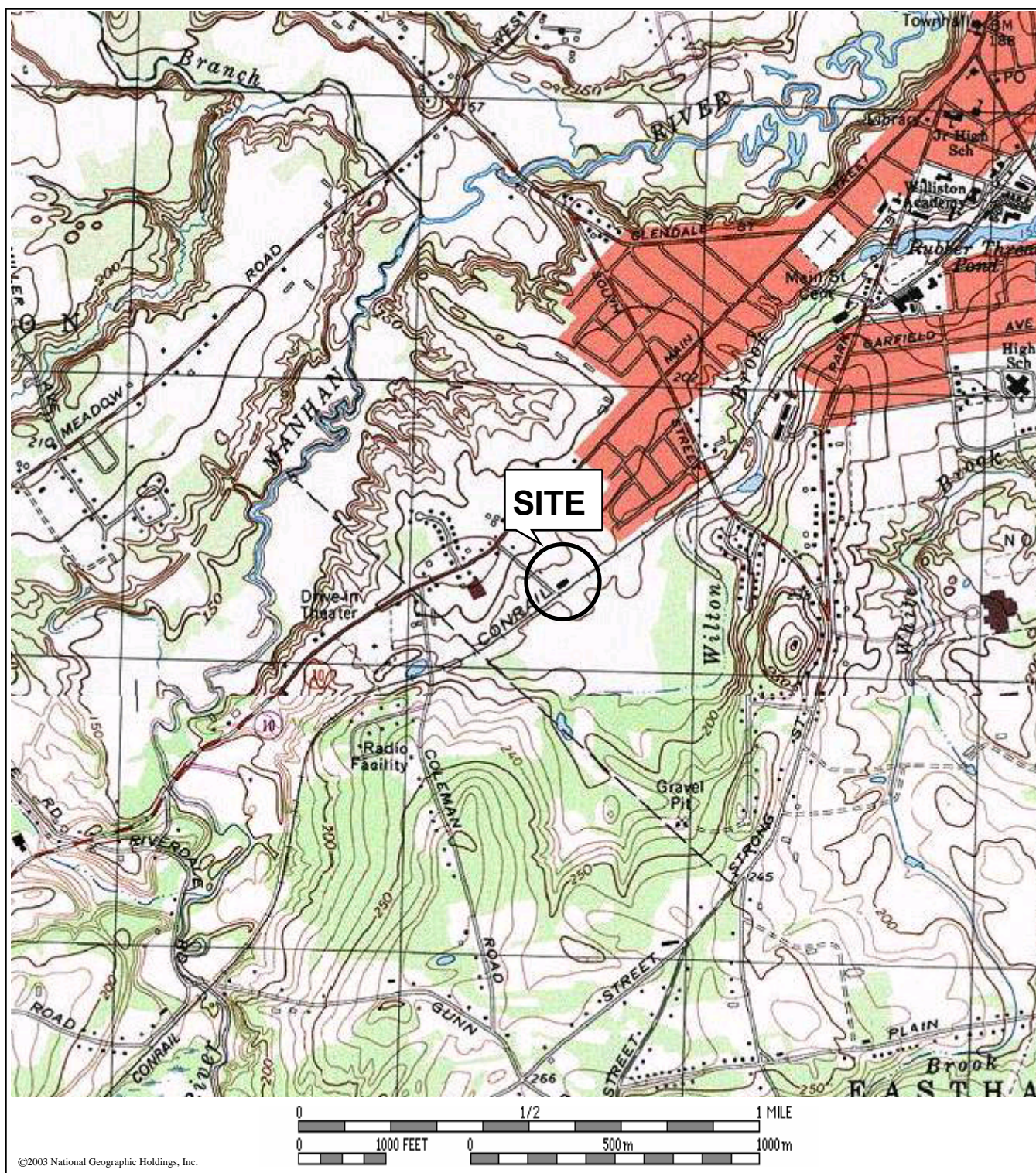
**FIGURES**

Figure 1	Site Locus
Figure 2	Site Plan
Figure 3	Asbestos Containing Soil
Figure 4	Proposed Soil Excavation and Placement Areas
Figure 5	Proposed Soil Sampling Locations

**APPENDICES**

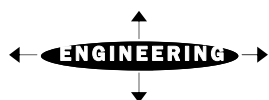
Appendix A	AOC Site Plan
Appendix B	MassGIS Map
Appendix C	EPA Indoor Air Testing
Appendix D	Quality Assurance Project Plan (QAPP)
Appendix E	Rail Road Right of Way Soil Data
Appendix F	July 2010 ACS Data
Appendix G	Staff Resumes

## Figures



**O'Reilly, Talbot & Okun**

[ A S S O C I A T E S ]



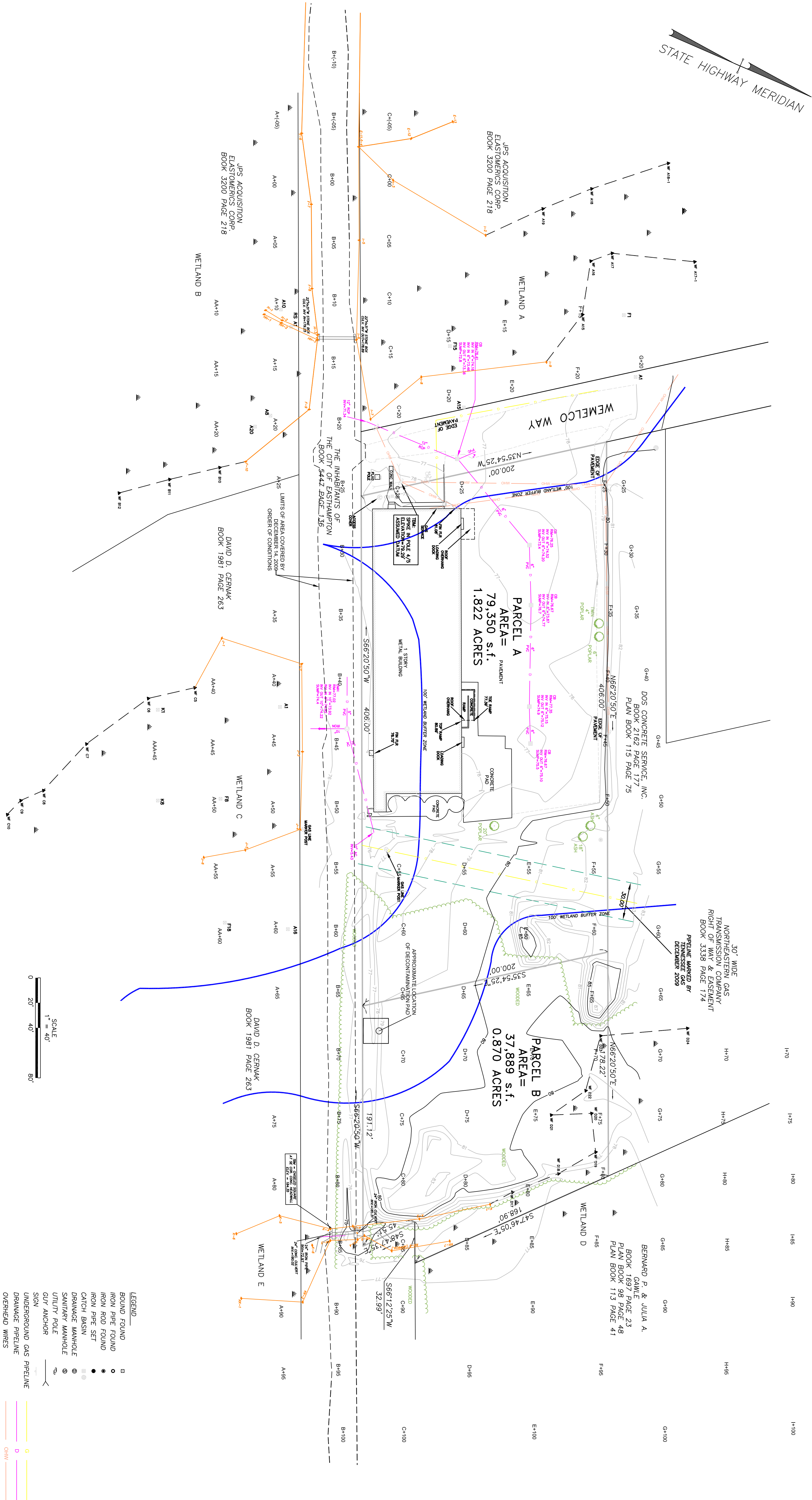
W.R. Grace & Co. Former Zonolite Facility  
19 Wemelco Way  
Easthampton, Massachusetts

## SITE LOCUS

July, 2010

Figure 1





NOTES:

1. FOR REFERENCE TO ENCLOSED PERIMETER SEE BOOK 2876 PAGE 334 AND PLAN BOOK 115 PAGE 75.
2. UNDERGROUND UTILITY LOCATIONS SHOWN HEREON ARE BASED UPON SURFACE FEATURES AS LOCATED BY SURVEY AND AVAILABLE RECORD DATA. LOCATIONS SHOULD BE VERIFIED WITH THE APPROPRIATE UTILITY COMPANY AND/OR MUNICIPAL DEPARTMENT PRIOR TO FINAL DESIGN AND/OR CONSTRUCTION.
3. ELEVATIONS ARE BASED ON A LOCALLY ASSUMED DATUM.
4. THE GAS PIPELINE AS SHOWN ON THIS PLAN IS THE RESULT OF FIELD SURVEY TO LOCATE THE PIPELINE AS MARKED ON THE GROUND BY TENNESSEE GAS PIPELINE CO. DURING DECEMBER 2009. TENNESSEE GAS PIPELINE CO. MUST BE NOTIFIED BEFORE ANY CONSTRUCTION ACTIVITY OCCURS IN THE VICINITY OF THE GAS PIPELINE.
5. WETLAND DELINEATION BY O'REILLY, TALBOT & OKUN ASSOCIATES, INC., DURING JULY 2010.

**O'REILLY, TALBOT & OKUN**  
[ ASSOCIATES ]

PROJECT MANAGEMENT  
ENGINEERING  
GEOTECHNICAL  
ENGINEERING  
ASBESTOS PLANNING  
& MANAGEMENT  
RISK ASSESSMENT  
CORROSION CMO

200 WASHINGTON STREET  
SUITE 500  
SPRINGFIELD, MA 01103  
PHONE: (413) 786-0222  
FAX: (413) 786-0222  
EMAIL: OFFICE@OTOKUN.COM

SCALE: 1" = 40'  
PROJ. NO.: J2118-01-01  
DRAWN: CDA  
CHECKER: KLOUP  
DATE: 08/02/10  
REV.: 09/08/10

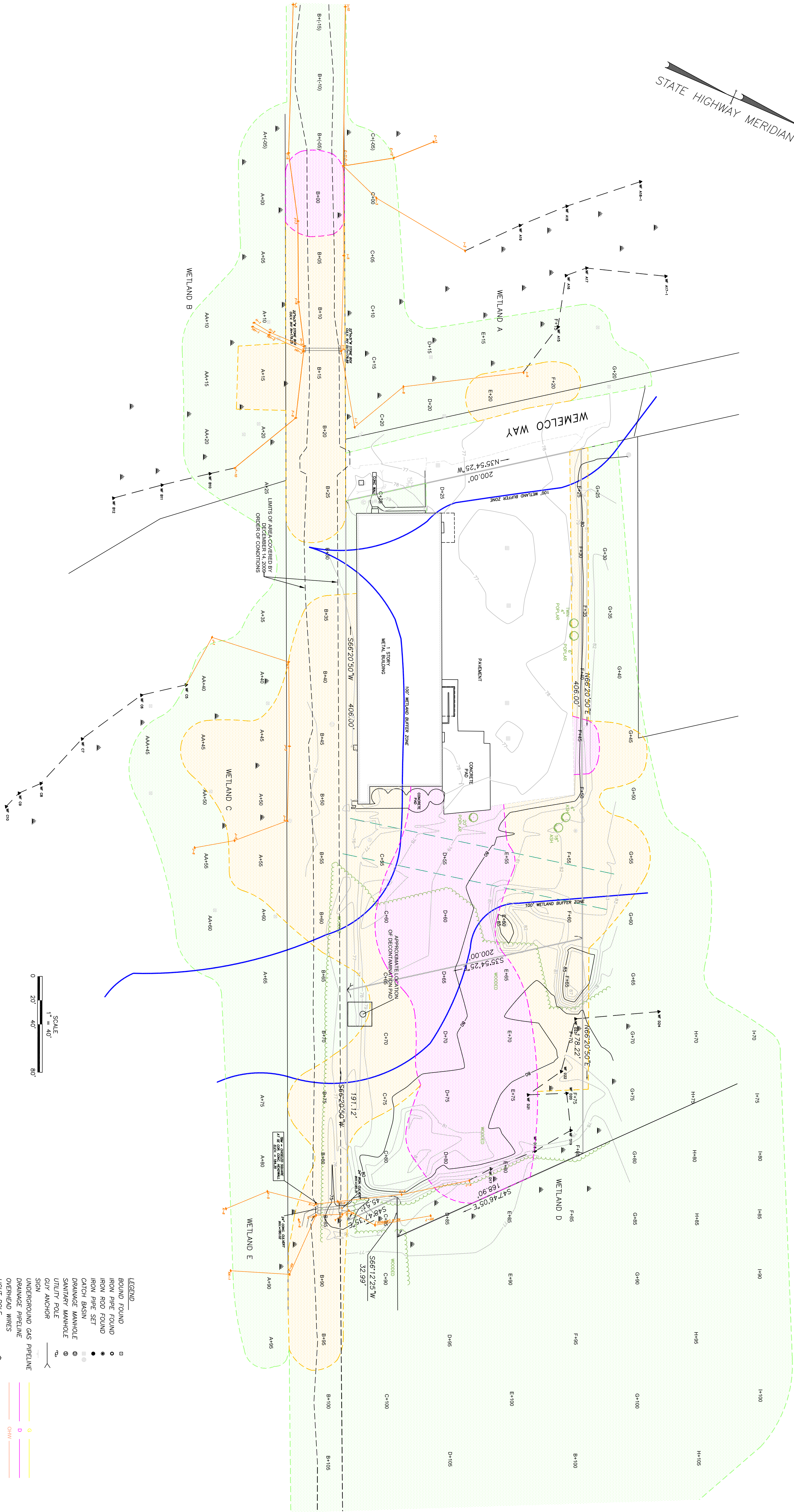
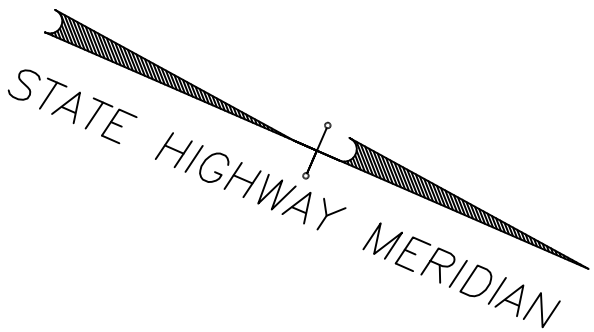
PROJECT TITLE:  
**W.R. GRACE  
& CO.**

**FORMER  
ZONOLITE  
FACILITY**

19 WEMELCO WAY,  
EASTHAMPTON,  
MASSACHUSETTS

DRAWING TITLE:  
**SITE  
PLAN**





NOTES:

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- LEGEND
- BOUND FOUND
  - IRON PIPE FOUND
  - IRON ROD FOUND
  - IRON PIPE SET
  - CATCH BASIN
  - DRAINAGE MANHOLE
  - SANITARY MANHOLE
  - UTILITY POLE
  - GUY ANCHOR
  - SIGN
  - UNDERGROUND GAS PIPELINE
  - DRAINAGE PIPELINE
  - OVERHEAD WIRES
  - LIGHT POLE
  - HYDRANT
  - WATER GATE
  - TEST PIT
  - WETLAND FLAG
  - EDGE OF WETLANDS
  - WETLAND FLAG (TIGHT & BOND)
  - EDGE OF WETLANDS (TIGHT & BOND)
  - EDGE OF 100' WETLAND BUFFER ZONE
  - CHAIN LINK FENCE
  - EDGE OF WOODS
  - CONTOUR
  - SURFACE SAMPLE
  - LOCATIONS (OCTOBER TO DECEMBER 2000)
  - LIMITS OF AREA COVERED BY DECEMBER 14, 2009 ORDER OF CONDITIONS
- ASBESTOS IN SOIL ANALYTICAL RESULTS:
- NO ASBESTOS DETECTED
  - < 1% ASBESTOS DETECTED
  - > 1% ASBESTOS DETECTED

DRAWING TITLE:

ASBESTOS  
CONTAINING  
SOIL

19 WEMELCO WAY,  
EASTHAMPTON,  
MASSACHUSETTS

FORMER  
ZONOLITE  
FACILITY

W.R. GRACE  
& CO.

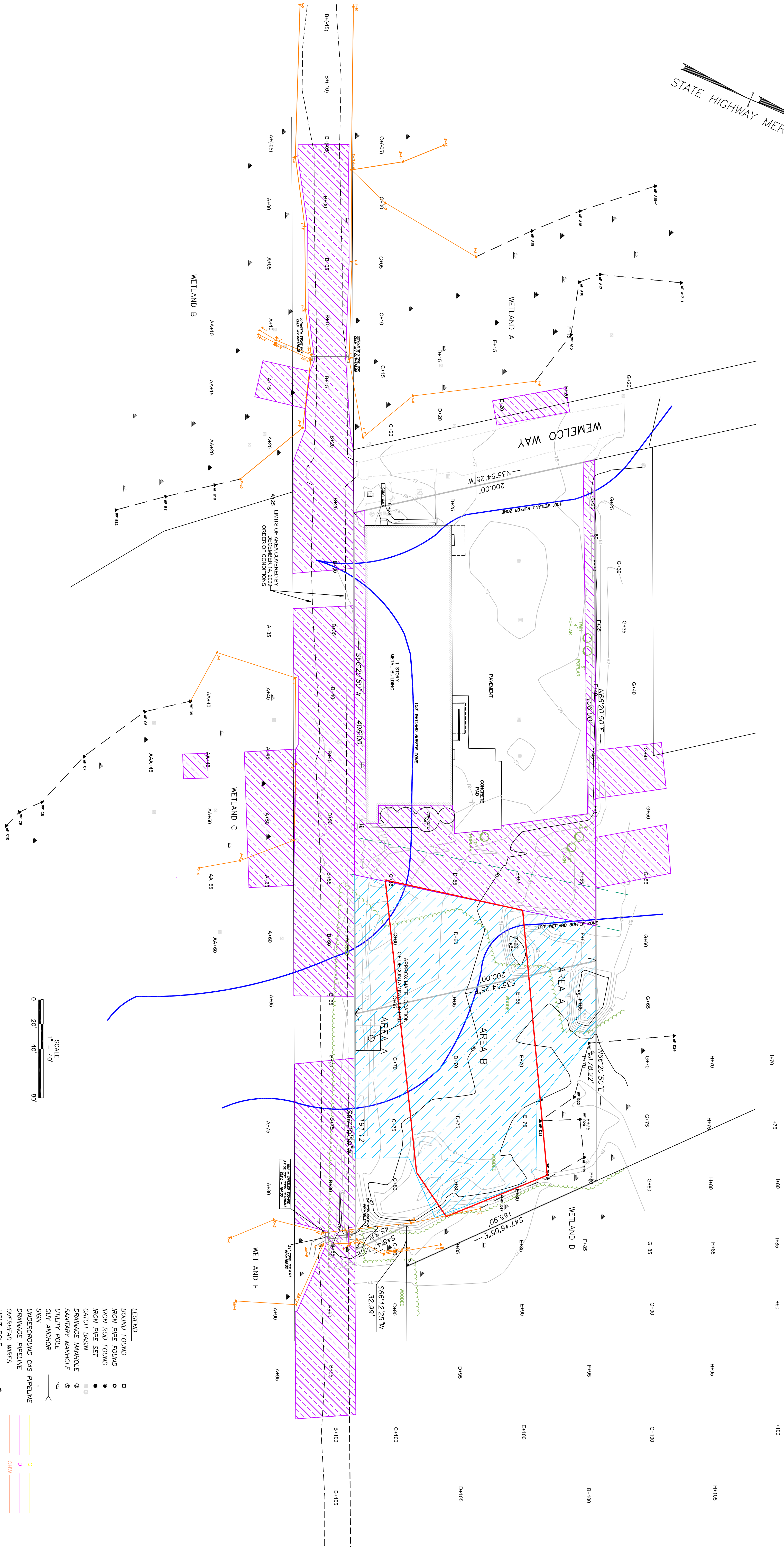
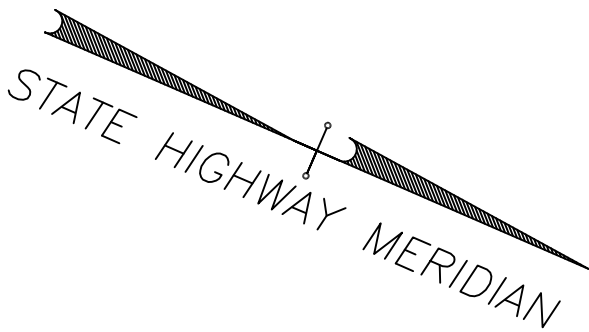
PROJECT TITLE:

SCALE: 1" = 40'  
PROJ. NO.: J2118-01-01  
DRAWN: CDA  
CHECKER: KLOUP  
DATE: 08/02/10  
REV.: 09/09/10

PROJECT MANAGEMENT  
ENGINEERING  
ENGINEERING  
ENGINEERING  
ASBESTOS PLANNING  
& MANAGEMENT  
RISK ASSESSMENT  
COMPOSITE CAD  
NATURAL STREET  
SUITE 300  
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PHONE: (413) 786-0222  
FAX: (413) 786-0222  
EMAIL: OFFICE@OTOKUN.COM

O'REILLY, TALBOT & OKUN  
[ ASSOCIATES ]





- NOTES:
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  - SANITARY MANHOLE
  - UTILITY POLE
  - GYL ANCHOR
  - SOIL
  - UNDERGROUND GAS PIPELINE
  - DRAINAGE PIPELINE
  - OVERHEAD WIRES
  - LIGHT POLE
  - HYDRANT
  - WATER GATE
  - TEST PIT
  - WETLAND FLAG
  - EDGE OF WETLANDS
  - WETLAND FLAG (TIGHE & BOND)
  - EDGE OF WETLANDS (TIGHE & BOND)
  - EDGE OF 100' WETLAND BUFFER ZONE
  - CHAIN LINK FENCE
  - CONTOUR
  - SURFACE SAMPLE
  - LOCATIONS (OCTOBER TO DECEMBER 2000)
  - LIMITS OF AREA COVERED BY OF CONDITIONS
  - EXCAVATION AREAS
  - EXCAVATED SOILS PLACEMENT AREA

O'REILLY, TALBOT & OKUN  
[ ASSOCIATES ]

PROJECT MANAGEMENT  
• ENVIRONMENTAL  
ENGINEERING  
• GEOTECHNICAL  
ENGINEERING  
• ASBESTOS PLANNING  
& MANAGEMENT  
• RISK ASSESSMENT  
• COMPLIANCE CDO

200 WASHINGTON STREET  
SUITE 500  
SPRINGFIELD, MA 01103  
PHONE: (413) 796-0222  
FAX: (413) 796-0222  
EMAIL: OFFICE@OTOCADV.COM

SCALE: 1" = 40'  
PROJ. NO.: J2118-01-01  
DRAWN: CDA  
CHECKED: KLOUP  
DATE: 08/02/10  
REV.: 09/09/10

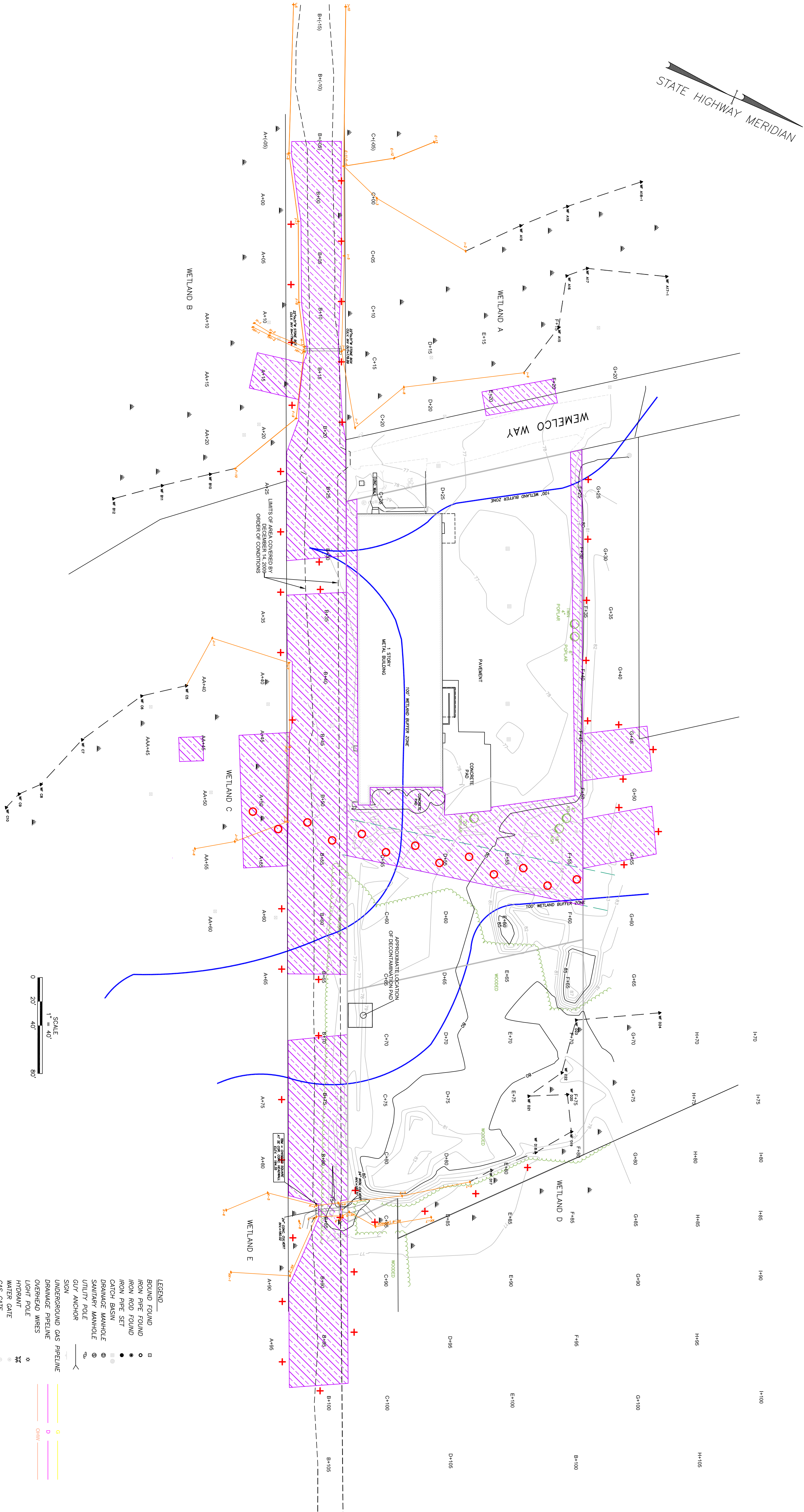
PROJECT TITLE:  
W.R. GRACE  
& CO.

FORMER  
ZONOLITE  
FACILITY

19 WEMELCO WAY,  
EASTHAMPTON,  
MASSACHUSETTS

DRAWING TITLE:  
PROPOSED  
SOIL  
EXCAVATION  
AND  
PLACEMENT  
AREAS





- LEGEND**
- BOUND FOUND
  - IRON PIPE FOUND
  - IRON ROD FOUND
  - IRON PIPE SET
  - CATCH BASIN
  - DRAINAGE MANHOLE
  - SEWAGE MANHOLE
  - UTILITY POLE
  - UTILITY ANCHOR
  - SIGN
  - UNDERGROUND GAS PIPELINE
  - DRAINAGE PIPELINE
  - OVERHEAD WIRES
  - LIGHT POLE
  - HYDRANT
  - WATER GATE
  - GAS GATE
  - TEST PIT
  - WETLAND FLAG
  - EDGE OF WETLANDS
  - WETLAND FLAG (TIEH & BOND)
  - EDGE OF WETLANDS (TIEH & BOND)
  - EDGE OF 100' WETLAND BUFFER ZONE
  - CHAIN LINK FENCE
  - CONTOUR
  - SURFACE SAMPLE
  - LIMITS OF AREA COVERED BY (OCTOBER TO DECEMBER 2000)
  - LIMITS OF AREA COVERED BY (DECEMBER 14, 2009 ORDER OF CONDITIONS)
  - EXCAVATION AREAS
  - PROPOSED LATERAL LIMIT (0 TO 3 INCHES)
  - PROPOSED BOPINGS (EASTMENT)
- SCALE**
- 1" = 40'
- 0 20' 40' 80'

- NOTES:**
1. FOR REFERENCE TO ENCLOSED PERIMETER SEE BOOK 2876 PAGE 334 AND PLAN BOOK 115 PAGE 75.
  2. UNDERGROUND UTILITY LOCATIONS SHOWN HEREON ARE BASED UPON SURFACE FEATURES AS LOCATED BY SURVEY AND AVAILABLE RECORD DATA. LOCATIONS SHOULD BE VERIFIED WITH THE APPROPRIATE UTILITY COMPANY AND/OR MUNICIPAL DEPARTMENT PRIOR TO FINAL DESIGN AND/OR CONSTRUCTION.
  3. ELEVATIONS ARE BASED ON A LOCALLY ASSUMED DATUM.
  4. THE GAS PIPELINE AS SHOWN ON THIS PLAN IS THE RESULT OF FIELD SURVEY TO LOCATE THE PIPELINE AS MARKED ON THE GROUND BY TENNESSEE GAS PIPELINE CO. DURING DECEMBER 2009. TENNESSEE GAS PIPELINE CO. MUST BE NOTIFIED BEFORE ANY CONSTRUCTION ACTIVITY OCCURS IN THE VICINITY OF THE GAS PIPELINE.
  5. WETLAND DELINEATION BY O'REILLY, TALBOT & OKUN ASSOCIATES, INC., DURING JULY 2010.

**O'REILLY, TALBOT & OKUN**  
[ ASSOCIATES ]

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• RISK ASSESSMENT  
• COMPLIANCE COO

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**FORMER  
ZONOLITE  
FACILITY**

**19 WEMELCO WAY,  
EASTHAMPTON,  
MASSACHUSETTS**

DRAWING TITLE:  
**PROPOSED  
SOIL  
SAMPLING  
LOCATIONS**