STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER PROTECTION AND LAND REUSE
REMEDIATION DIVISION
79 ELM STREET, HARTFORD, CT 06106-5127

Environmental Condition Assessment Form (ECAF)

Please complete this form in accordance with the instructions (DEP-PTP-INS-200). Print or type unless otherwise noted. Use an addendum page if necessary.

☐ Please check the box if this form is being submitted with a property transfer filing under Connecticut General Statutes (CGS) Section 22a-134a.

☒ Please check the box if this form is being submitted pursuant to CGS Section 22a-133x.

☒ Please check the box if addendum sheets are attached.

DEP USE ONLY

Part I: Site Information

1. Name of Site: **Meriden-HUB, Former Canberra Industries & Insilco**

   Street Address: **1 & 77 State Street and 30 & 50 East Main Street**

   City/Town: **Meriden** State: **CT** Zip Code: **06450-**

2. EPA ID#: CTD **980909295** DEP-WPC #:

3. Fill in the name of the business/person submitting this form:

   Name: **City of Meriden**

   Mailing Address: **142 East Main Street**

   City/Town: **Meriden** State: **CT** Zip Code: **06450-**

   Business Phone: **203-630-4152** ext. Fax: **203-630-4274**

   Authorized Representative: **Mr Lawrance Kendzoir** Title: **City Manager**

4. Fill in the name of the person who will serve as primary contact for the CT DEP:

   Firm Name: **Metcalf & Eddy, Inc**

   Mailing Address: **860 North Main Street, Ext.**

   City/Town: **Wallingford** State: **CT** Zip Code: **06492-**

   Business Phone: **203-269-7310** ext. **2822** Fax: **203-269-8788**

   Primary Contact: **Dave Williams, CPG,LEP** Title: **Sr. Project Scientist**

5. Fill in the name of the owner of the parcel, if different from the name and address in item 3 above:

   Name: **Same**

   Mailing Address: **Same**

   City/Town: **Same** State: Zip Code: -

   Business Phone: - - ext. Fax: - -

   Contact Person: **Same** Title:

Part I: Site Information (cont.)

6. Pursuant to CGS Section 22a-134a and Section 22a-133x, the Licensed Environmental Professional (LEP) must sign below as supervising the completion of this ECAF. If there is more than one, please attach an addendum with the requested information for each LEP.

Print or type LEP Name: **See Attached**

Firm Name:

Address:

City/Town: State: Zip Code: -

Business Phone: - - ext. Fax: - -

Signature of LEP LEP # 459

Part II: Site History, Waste Management History

1. Summary of industrial/commercial history of site (present and former use, including dates and SIC codes):

See attached

2. Hazardous substances or petroleum products presently or formerly handled at the site (list materials & management method):

See attached

3. RCRA Notifier Status: **See Attached** RCRA Permit Status: **Unknown**

4. Has any enforcement action been taken by CT DEP or EPA regarding waste handling practices at the site, or requiring remediation at the site? ☐ Yes ☒ No

If yes, list action type, date, number, name of party, purpose & status:

None on record

5. Releases reported to CT DEP Oil & Chemical Spills? ☒ Yes ☐ No

If yes, list date, material released and quantity:

See attached

6. Previous Form filings with CT DEP Property Transfer Program? ☐ Yes ☒ No

If yes, list form & date:

7. CT DEP staff involved with assessment or remediation of the site:

Ms. Diane Duva and Mr. David Ringquist

Part II: Site History, Waste Management History (cont.)

8. a. List any release areas or potential release areas on the site, and for each describe the nature of the release, the date and estimated duration of the release, and an estimated volume of the release. For each release area or potential release area indicate whether the area has been investigated or remediated.

   See attached

   b. Specify which release areas are not included under the certification to remediate releases at the establishment being transferred, if applicable.

   All release areas (areas of concern) are included

Part III: Environmental Setting

1. Ground Water

   Ground-water classification: **GB**

   a. Is the ground water on the site used for:

   ☐ drinking water ☐ agricultural uses ☐ industrial purposes

   b. What is the distance from the site to the nearest off-site well, other than a monitoring well?

   1/8 to 1/4 mile, north of site

   c. Is the site within the zone of contribution of a public water supply well? ☐ Yes ☒ No

2. Surface Water

   Surface-water classification: **Class A**

   a. Identify the nearest down-gradient surface-water body: **Harbor, Clark&Jordan Br.**

   b. What is the distance from site to the nearest surface water: **On-site**

3. Public Utilities

   a. Is public water provided to the site? ☒ Yes ☐ No

   Is public water unavailable to any developed area surrounding the site? ☒ Yes ☐ No

   b. Is the site connected to municipal sewers? ☒ Yes ☐ No

   c. Are or have on-site septic system(s) been used at the site? ☐ Yes ☒ No

   If yes, dates in use: **Sewer avail. in 1890s. No record of site septic**

4. Describe the land use on the site and in the area surrounding the site. Identify any sensitive land uses within 1/2 mile of the site?

   The site and surrounding area are zoned commercial land and are part of the downtown business district.

Part III: Environmental Setting (cont.)

5. Provide a brief geologic and hydrogeologic summary of the site and surrounding area:

   See attached

Part IV: Environmental Assessment

1. Field investigation/ Environmental Assessment:
   a. Date(s) performed: Phase 1: / / Phase 2: / / Phase 3: / /
   b. Potential release areas (#): Identified: **see** Tested: Release detected: **attach**
2. Soil Investigation:
   a. How many of soil samples were screened/analyzed?
      Waste / Shallow soil / Soil >2' deep /
   b. What techniques were used to investigate soil?
      ☐ Soil gas survey Other surveys (specify):
      Subsurface sampling techniques (specify): **See attached**
3. Ground Water Investigation:
   a. How many samples of ground water and how many rounds of sampling were used in the investigation? **See attached**
   b. How many monitoring wells were used to investigate the ground water? **See attached**
      For each well list the well number, type of well, and geologic unit that the well is screened in or open to. Use an addendum sheet, if necessary. (Refer to instructions)
      See attached
   c. How many other types of wells were used? Provide the type and address for each well.
      N/A
   d. Is the extent of each ground-water plume resulting from releases at the site fully characterized? ☒ Yes ☐ No
   e. What techniques were used to investigate the ground water?
      ☒ Ground water quality testing ☐ Pump testing ☐ Geophysical logging
      Other techniques (specify): **See attached**
4. Indicate phases of environmental assessment completed to date:
   ☒ Investigation ☒ Remedial design ☐ Remediation ☐ Post-remedial Monitoring

Part V: Contaminants in the Environment

1. Contaminated Soil or Wastes on the Site - List the contaminant codes for substances detected in waste or soil on the site and for each contaminant the highest concentration detected: (Note where not applicable "NA" or not tested "NT")

   a. Waste or waste residue: **N/A**

   b. Soil: **See attached**

2. Contaminated Ground Water Resulting from Releases on the Site - List the contaminant codes for substances detected in ground water and for each contaminant the highest concentration detected: (Note where not applicable "NA" or not tested "NT")

   a. Ground water in overburden on-site: **See attached**

   b. Ground water in overburden off-site: **Not tested**

   c. Ground water in bedrock on site: **Not tested**

   d. Ground water in bedrock off-site: **Not tested**

3. Contaminated Surface Water Resulting from Releases on the Site - List the number of surface water samples taken; contaminant codes for substances detected resulting from releases on the site; and for each contaminant the highest concentration detected.

   Not tested

4. Non-Aqueous Phase Liquids (NAPL) - Describe whether NAPLs resulting from a release at the site are present or potentially present in the following settings:

   a. Are NAPLs present in the unsaturated zone? ☐ Yes ☒ No ☐ Potentially
   Product(s):

   b. Are NAPLs present in unconsolidated material below the water table?
   ☐ Yes ☒ No ☐ Potentially
   Product(s):

   c. Are NAPLs present in the bedrock below the water table?
   ☐ Yes ☐ No ☐ Potentially
   Product(s): **Not tested**

5. Briefly describe the extent and distribution of contaminated soil/waste, ground water, surface water and/or NAPLs resulting from releases on the site. If applicable, specify which contaminants are not subject to the certification to remediate releases at the establishment being transferred.

   See attached

Part V: Contaminants in the Environment (cont.)

6. List for each release area the codes for contaminants of concern, and for each contaminant the following: the number of samples in which the contaminant was detected; the maximum and typical concentrations of the contaminant; and depth at which the maximum concentration was detected: Enter a check if an addendum table is used. ☒

Provide site name, address and town from Part I, Item 1:

Name of site: **Meriden-HUB (See attached)**

Street Address or Description of Location: **Same**

City/Town: **Meriden** State: **CT** Zip Code: **06450-**

Release Area	Contaminants of concern tested	Contaminants in soil/waste	Contaminants in ground water	Contaminants in surface water

Part VI: Supporting Documents (see instructions for details)

1. ☒ Site Map attached Latitude & Longitude (d/m/s): N: **41.32.22** W: **72.47.56**

2. Enter a check mark for features included on Site Plans: Number of sheets attached:

☒ structures/boundaries	☐ potential release areas	☐ areas remediated
☐ material management areas	☒ sampling locations	☐ water table elevations
☐ waste management areas	☒ monitoring wells ☐	limits of ground-water plume
☐ UST and AST locations	☒ release areas	☐ topography/drainage

3. Site Size: Acres: **14** Acres undeveloped: **0**
   % impervious: **Not estimated** Building sq. footage: **226,000 sf**

4. This assessment is based on the following reports (title; date; consultant): *Make note of whether the report is on file with DEP - "*". Note by using "+" if report is attached.*
   See Part IV (attached)

Part VII: Certification

"I have personally examined and am familiar with the information submitted in this document and all attachments, and certify that based on reasonable investigation the submitted information is true and accurate to the best of my knowledge and belief. I certify that this form is complete and accurate as prescribed by the Commissioner without alteration of the text."

_____ / /
Authorized Signature (as specified in instructions) Date

Lawrance J. Kendzoir **City Manager**
Name of Authorized Representative (print or type) Title (if applicable)

Representing: **City of Meriden**

Mailing Address: **142 East Main Street**

City/Town: **Meriden** State: **CT** Zip Code: **06450-**

Phone: **203-630-4274**

STATE OF }
          } SS.
COUNTY OF } *(Town)*

The foregoing was subscribed to and sworn to before me this day of , 20 ,

by
(Name of Signatory, Title and Company, if applicable)

who personally appeared, and that person, as such, satisfactorily proven to be authorized to do so, executed the foregoing instrument for the purposes therein contained.

_____
Signature of Notary/Commissioner of Superior Court Name of Notary/Commissioner of Superior Court (print or type)

My commission expires / / .

Environmental Conditions Assessment Form Addendum
Meriden HUB Site
1 & 77 State Street and 30 & 50 East Main Street, Meriden, CT

Part I, No. 6: David T. Williams, CPG, LEP, RS
Metcalf and Eddy, Inc.
Senior Project Scientist
860 North Main Street Ext.
Wallingford, CT 06492

Signature _____ LEP # 459

Part II: Site History, Waste Management History

Question 1. Summary of industrial/commercial history of site (present and former use, including dates and SIC codes)

In 1863 the Meriden Britannia Company, a silver plate and sterling silver flatware manufacturer, expanded its operations onto the site. In 1898 the company merged with several other silver manufacturers and became the International Silver Company (Insilco). Insilco operated on the site until the late 1950s. Several other businesses operated on the site during this period, including auto service and filling stations, dry cleaners, a glass cutting factory and a door manufacturing company.

By 1970, the previous site buildings had been razed, and a large building which contained Meriden Mall and two smaller buildings, each containing banks, were located on the site. Harbor Brook, which flowed through the center of the site, had been diverted into a subsurface drainage structure. In 1976, the mall building was renovated to contain a factory and several small retail stores. The factory area was occupied by Canberra Industries from 1983 to1993. Canberra Industries manufactured instruments used to measure radiation.

In 1993, Canberra Industries relocated, however the stores in the building as well as the two banks continued to operate through 2003. Presently, all of the retail stores are closed, and the large building is vacant. One of the bank buildings is still operating, and the other one has been razed. See attached Figure 1 (Site Location Map).

Uses	1987 SIC	2002 NAICS
Flatware	3914, 3421	332211
Silverware	3914, 3479	339912
Auto service, gas station	5541	447190
Dry cleaners	7212, 7216	812320
Glass cutting	5023	423220
Door Mfg.	2431	321911
Mfg. radiation instruments	3844	334517
Photograph shop	7384	812922
Welding shop	7699, 7623, 7694	811310
Plumbing supply	5074	444190

Question 2. Hazardous substances or petroleum products presently of formerly handled at the site (list materials and management methods)

From 1984 to 1993, Canberra Industries was listed as a Large Quantity Generator (LQG) of Hazardous Waste. A 1987 Generator Hazardous Waste Report lists several compounds generated at the site by Canberra. The compounds included tin and lead scrap solder, 1,1,1-trichloroethane, methyl alcohol, nitric acid, hydrofluoric acid, hydroquinone acid, acetic acid, ammonium hydroxide, wave solder oil, sodium/lithium nitrate solution, acetone, freon, kerosene, methanol, aqueous dross oil, pentane, and trichloroethylene. The CTDEP approved a change of status from generator to non-handler of hazardous wastes for Canberra at the site in December 1994.

Potential hazardous substances associated with the former site activities include VOCs, TPH, heavy metals and radioactive materials. Lead, asbestos and PCBs are present in the building materials.

Solvents (used were for cleaning and degreasing), acids and alkaline solutions (used for pickling and plating), cutting and lubricating oils (used in the Meriden Britannia Company and Insilco manufacturing operations), and cooling water (used to cool the casting molds) and wastewater containing heavy metals may have been discharged on the site or into the former Harbor Brook bed.

Question 3. RCRA Status

Large Quantity Generator (LQG) from 1984 to 1993; Generator # CTD980909295; Non-handler of hazardous waste in 1994.

Question 5. Releases reported to CTDEP Oil & Chemical Spills

The following releases were reported and were presented in the *Phase I Environmental Site, The "HUB" Property*, M&E, 1995.

On February 7, 1990, approximately 10-gallons of hydrofluoric and nitric acid were spilled at Canberra Industries (1 State Street) due to a punctured 55-gallon drum. It was reportedly contained and removed.

On July 5, 1991, approximately one-gallon of gasoline/chlorox was released to a storm drain by the HUB Laundromat. The Fire Department reportedly flushed the storm drain. None of the material was recovered.

Question 8a. Release areas or potential release areas

As part of a preliminary Conceptual Site Model (CSM), potential migration pathways and receptors and Areas of Concern (AOCs) were evaluated in the *Targeted Brownfields Assessment Report* (M&E, 2004). The CSM identified 11 Areas of Concern (AOCs), where activities on site could cause releases of contaminants to the soil and groundwater. See attached Figure 2 (Soil Remediation Exceedance Criteria Summary Plan).

AOC 1 – Site-Wide Fill***
AOC 2 – Former Harbor Brook Fill*
AOC 3 – Former Meriden Britannia Company/ (Insilco) ***
AOC 4 – Former Dry Cleaners and Welding Shop*
AOC 5 – Former Gasoline Filling Station***
AOC 6 – Former Auto Sales and Service**
AOC 7 – Former Machine Shop**
AOC 8 – Former Welding Shop*

AOC 10 – Former Plumbing/Pipe Shop***
AOC 11 – Former Canberra Industries**

* Indicates the AOC was investigated by M&E in 2004.
** Indicates the AOC was investigated by Consulting Environmental Engineers in 2005.

Part III: Environmental Setting

Question 5. Geologic and hydrogeologic summary

Surficial Geology
The Geologic Map of the Meriden Quadrangle, Connecticut (Hanshaw, 1962) indicates that the surficial material beneath the site consist of valley train deposits. Valley train deposits are described as yellowish gray sand and fine gravel overlying ice-contact stratified drift. In several areas, massive red clay is present underlying the valley train deposits.

Phase II observations indicate approximately 6-8 feet of reworked fill and urban fill material overlying the site. Urban fill material is composed of sand, gravel, b brick, wood, coal, asphalt, ash, cinders and slag to varying depths. Underling the urban fill material is native material. Groundwater is present throughout the site at depths ranging from 5.5' to 12 feet below ground surface (bgs). In the vicinity of Harbor Brook, fine sand, silt and organic material were noted at approximately 8 feet bgs.

Bedrock Geology
The Bedrock Geologic Map of the Meriden Quadrangle, New Haven, Hartford and Middlesex Counties, Connecticut (Hanshaw, 1968) indicates the site is underlain by the New Haven Arkose. Arkose is classified as poorly sorted sandstone, predominately composed of the minerals quartz and feldspar.

Soil Classification
The Soil Survey of New Haven County, Connecticut (USDA, SCS, 1981), has classified the soil at the site as Urban Land. No hydric (wetland) soils are identified for the site.

Surface Water
The Water Quality Classification Map (CTDEP, 1993) indicates that the three channelized brooks, Harbor Brook, Clark Brook and Jordan Brook at their confluence beneath the site are classified as Class A.

Groundwater
The Water Quality Classification Map (CTDEP, 1993) indicates groundwater beneath the site is classified GB. The water table gently slopes to the west towards Harbor Brook, which appears to be a local discharge point for the site.

Part IV: Environmental Assessment

Questions 1 through 4 Investigations/Assessments

The following is a list of investigations/assessments that have been completed for the site. ECAF questions 1 through 4 are addressed below by individual investigation/assessment. A total of eight investigations/assessments have been completed for the site.

1) ***Phase I Environmental Site Assessment, The HUB Property, 1 & 77 State Street, 30 & 50 East Main Street, Meriden, Connecticut* (M&E, February 1995)**

Potential Release Areas
Three potential sources of on-site contamination (releases) were identified. No testing was performed.

- Improper handling and disposal of waste gasoline and chlorox by the Hub Laundromat. Waste was discharged to the storm drain.
- Handling of old appliance parts and waste oil from these appliances.
- Canberra Industries, Inc. was listed as a large quantity generator (LQG) of hazardous waste. Approximately 10-gallons of hydrofluoric and nitric acid were spilled at Canberra Industries (1 State Street) due to a punctured 55-gallon drum.

Soil Investigation
No soil samples collected or analyzed.

Groundwater Investigation
No groundwater samples collected or analyzed.

2) ***Final Report Harbor Brook Flood Control and Restoration Project*, (Milone & MacBroom, April 2000) (complete report unavailable for review)**

Potential Release Areas
Lead, petroleum hydrocarbons and volatile organic compounds (VOCs) were detected in the soil and groundwater along the north side of the site structure. Lead and petroleum hydrocarbons detected in the soil above the residential direct exposure criteria (RDEC).

Soil Investigation
Utilizing an auger rig, four soil borings were completed as monitoring wells. A total of eight soil samples (two from each boring) were collected and analyzed for site specific COCs. All eight samples were collected below two feet in depth. It is assumed that soil samples were collected utilizing the standard split spoon method.

Groundwater Investigation
Monitoring wells (MW-1, MW-3, MW-4 and MW-5) were installed but not sampled. No groundwater samples collected or analyzed. Boring logs were unavailable for review so details regarding well type, and screened intervals are unknown. Based on sample depths (2 -12.5 bgs), and the depth to groundwater (6-8 feet bgs) however, it appears the wells are water table wells, constructed to intersect the water table.

3) ***Final Preliminary Environmental Site Investigation, HUB Mall and Factory H, Meriden, Connecticut* (Nobis Engineering, Inc., November 2001) (complete report unavailable for review)**

Potential Release Areas
Vinyl chloride was detected in the groundwater at concentrations which exceed the residential and industrial/commercial volatilization criteria. Copper was detected in the groundwater above the surface water protection criteria.

Soil Investigation
No soil samples collected or analyzed.

Groundwater Investigation
In accordance with the EPA Low Flow Sampling Method, one round of groundwater samples were collected from the four Milone and MacBroom monitoring wells {MW-1 HM, MW-3 HM (MW-3 HM2–assumed to be a duplicate), MW-4 HM, and MW-5 HM}. Samples were analyzed for site specific COCs.

4) ***Asbestos and Lead Building Surveys, 77 State Street, Meriden, Connecticut* (Abacus Environmental, Inc., November 2003)**

Potential Release Areas
Floor tiles, mastic hot water gaskets and floor flashing were identified as containing asbestos. Lead based paint on building surfaces was also identified.

No soil or groundwater samples were collected.

5) ***Phase I Environmental Site Assessment, Meriden HUB, Non-Superfund Targeted Brownfield Assessment, Meriden, Connecticut* (M&E, March 2004)**

Potential Release Areas
A number of recognized environmental conditions (RECs) were identified.

Previous studies are referenced but no soil or groundwater sampling was performed.

6) ***Targeted Brownfields Assessment Report, Meriden HUB Site, 1 & 77 State Street and 30 & 50 East Main Street, Meriden, Connecticut* (M&E, December 2004)**

Potential Release Areas
As listed in Part II of the ECAF, 11 areas of concern have been identified for the site. Constituents of concern (COCs) included SVOCs, ETPH, VOCs and metals. Elevated COC concentrations and/or RSR exceedances were detected in the soil and/or the groundwater in AOC-1, 2, 3, 4, 5, 8 and 10.

Soil Investigation
Four test pits (TP-1, TP-2, TP-3 and TP-4) were excavated 8-12 feet bgs. Groundwater was encountered 8-11.8 feet bgs. Field screening was performed on excavated soil using a photoionization detector (PID). No readings above 0.0 ppm were detected. One composite soil sample was collected from each test pit. Samples were composted between 1-8 feet bgs and 1-12 feet bgs.

Utilizing a hollow stem auger drilling rig and the split spoon sampling method, nine soil borings (MW-101, MW-102, B-03, MW-104, B-105, MW-106, MW-107, MW-108 and MW-109) were completed on-site, and a total of 15 soil samples were collected from seven borings. Refusal prohibited the collection of soil samples from soil borings B-103 and B-105. Two composite soil samples were collected from each boring. Samples were collected from upper (0-8 feet bgs) and lower (8-16 feet bgs) depth intervals. One discrete sample was collected. All of the split spoon samples (50 total) were screened using a PID.

Groundwater Investigation
Seven overburden monitoring wells (MW-101, MW-102, MW-104, MW-106, MW-107, MW-108 and MW-109) were installed and are screened across an upper 6-10 foot thick zone of fill and the underlying native material. All wells were constructed as standard water table wells, consisting of two-inch diameter well screen (10 foot lengths) and riser.

The top of the well screens were placed approximately two foot above the water table. Well depths range from 14 feet bgs to 20 feet bgs, and groundwater was encountered 6 - 12 feet bgs.

In accordance with the EPA Low Flow Sampling Method, one round of groundwater samples were collected from MW-102, MW-106, MW-108, MW-109 and existing well MW-3.

7) ***Phase II Environmental Site Assessment and Ground Water Monitoring Meriden-HUB Former Canberra Industries/Meriden Mall Facility, 1 & 77 State and 30 & 50 East Main Streets, Meriden, Connecticut*** **(Consulting Environmental Engineers, October 2005)**

Potential Release Areas
A total of eight AOCs were investigated; AOCs 1, 3, 5, 6, 7, 9, 10 and 11. In addition to soil and groundwater sampling in these eight AOCs by Consulting Environmental Engineers (CEE), previous investigation findings are referenced. COCs were detected in exceedances of RSR criteria in AOC-1, 3, 6, 7, 10 and 11.

Soil Investigation
Utilizing a direct push geoprobe rig and four foot long macro-cores, a total of 57 soil probes (CEE-1 to CEE-56) were completed and a total of 47 soil samples were collected and analyzed for AOC specific COCs. Of the 47 soil samples, seven were collected 0-3 feet bgs. The remaining 40 samples were collected from depths below three feet.

A total of 30 samples were screened using a PID and PetroFlag test kits. four were collected from the upper 2.5 feet. The remaining 27 samples were collected from depths below 2.5 feet.

Groundwater Investigation
In accordance with the EPA Low Flow Sampling Method, one round of samples were collected from 12 temporary monitoring well points (CEE-2, 6, 8a, 15, 17, 23, 31, 41, 47, 49, 54, 56) installed by CEE and 10 existing monitoring wells (MW-3, MW-4, MW-5, MW-101, MW-102, MW-104, MW-106, MW-107, MW-108 and MW-109). Samples were analyzed for site AOC specific COCs. Temporary wells were constructed of one-inch diameter PVC using 15 foot screen sections, placed 7-8 feet into the water table.

8) ***Phase III Environmental Site Assessment Report (Draft), Meriden-HUB Former Canberra Industries and International Silver Company (Insilco) Facility, East Main Street and State Street, Meriden, Connecticut*** **(M&E, March 2007)**

Potential Release Areas
See previous release areas. No additional soil or groundwater sampling was performed during this investigation. The Phase III Environmental Site Assessment Report is a compilation of previous work.

Part V: Contaminants in the Environment

Question 1b Contaminants On-Site (Soil)

TCE	25.6 mg/kg (max)	Total SVOCs	495 mg/kg (max)
ETPH	12,200 mg/kg (max)	Total Lead	6,630 mg/kg (max)
PCBs	0.109 mg/kg (max)	Total Arsenic	15.5 mg/kg (max)
		Total Antimony	716 mg/kg (max)
		Total Mercury	27 mg/kg (max)
		Total Chromium	189 mg/kg (max)

Leachable (SPLP) Lead	0.454 mg/l (max)
Leachable (SPLP) Antimony	1.63 mg/l (max)

Question 2a Contaminants On-Site (Groundwater)

VC	8.3 µg/l (max)	Total Arsenic	18.9 µg/l (max)
CN	66.5 µg/l (max)	Total Lead	17.1 µg/l (max)
TCE	11.6 µg/l (max)	Total Mercury	4.87 µg/l (max)
ETPH	100 µg/l (max)	Total Zinc	513 µg/l (max)

Question 5 Extent and Distribution of Contaminants

A total of 11 AOCs have been identified for the site. COCs (ETPH, SVOCs and metals), which exceed one or more of the RSR criteria, are distributed throughout site in individual AOCs. Refer to Figure 2 in Part V, No. 6.

The entire site is covered by varying degrees of contaminated urban fill (AOC-1), which in a number of locations, extends to the water table, and could be considered a source of the contamination detected in the groundwater on-site. The average thickness of the urban fill is 4-8 feet across the site (at or near the surface) but extends to depths equal to or greater than 12 feet in several areas. ETPH, SVOCs and metal contamination in exceedance of the RSR criteria exist in the urban fill material.

The potential migration pathways are limited to the leaching of contaminants from the soil and/or urban fill into the groundwater and resulting transport to the groundwater discharge point. Potential receptors appear to be limited to humans and fauna that may be exposed to the contaminated groundwater. The site and surrounding areas are serviced by a public drinking water supply.

Question 6 Concentrations of Contaminants in Each Release Area

Within each AOC, releases may have occurred. However, due to the historic nature of the site and site activities, individual release areas have not been identified. Instead, AOCs have been identified based on the CSM.

Release Area (Area of Concern)	COCs	COCs in Soil/Fill	COCs in Groundwater
AOC-1	TPH	(ETPH) 2,030 mg/kg	
	VOCs	VOCs (<GBPMC, RDEC)	VOCs <SWPC, RVC
	SVOCs	Total SVOCs >35 mg/kg	Total SVOCs <40 µg/l
	Metals	Total Lead 677 mg/kg	Lead 15 µg/l
	PCBs	Not Detected	Arsenic 18.9 µg/l

AOC-2	Same as AOC-1	(ETPH) 1,500 mg/kg Total SVOCs 88 mg/kg Total VOCs (Not Detected) Total Arsenic 10.7 mg/kg Total Chromium 189 mg/kg PCBs (Not Detected)	Lead 17.1 µg/l Phenanthrene 4 µg/l VOCs Not detected ETPH Not detected
AOC-3	TPH VOCs SVOCs Metals PCBs	(ETPH) 1,700 mg/kg TCE 25.6 mg/kg Total Antimony 105mg/kg Total Arsenic 11 mg/kg Total Lead 6,630 mg/kg SVOCs >10mg/kg	TPH 550 µg/l VC 8.3 µg/l Arsenic 4 µg/l Cyanide 66.5 µg/l Zinc 513 µg/l Mercury 4.87 µg/l
AOC-4	PCE Metals TPH	Not Detected Total Arsenic 12.6 mg/kg (ETPH) <100 mg/kg	PCE Not detected ETPH Not detected
AOC-5	TPH VOCs (Total) SVOCs (Total) PCBs Metals	(ETPH) 430 mg/kg <2 mg/kg <5 mg/kg Not Detected <RDEC, GBPMC	ETPH Not detected VOCs <SWPC, RVC
AOC-6	TPH VOCs (Total) PCBs SVOCs Metals	(ETPH) 470 mg/kg 11.5 mg/kg Not Detected >RDEC, I/CDEC <RDEC, GBPMC	TCE 13.5 µg/l PCBs Not detected SVOCs Not detected Metals Not detected or <SWPC
AOC-7	TPH VOCs SVOCs Metals	(ETPH) 796 mg/kg Not Detected >RDEC, I/CDEC <RDEC, GBPMC	TCE 8.5 µg/l SVOCs Not detected Metals Not detected or <SWPC
AOC-8	TPH VOCs (Total) Metals	Not Detected <1.0 mg/kg Total Arsenic (11 mg/kg)	ETPH Not detected VOCs Not detected or <SWPC
AOC-9	VOCs TPH	Not Detected (418.1) 2,144 mg/kg	VOCs Not detected ETPH Not detected
AOC-10	VOCs (Total) TPH SVOCs (Total) Metals	<2 mg/kg ETPH 100 mg/kg <1.5 mg/kg Total Arsenic (15.5 mg/kg)	VOCs Not detected ETPH Not detected SVOCs Not detected Metals <SWPC
AOC-11	TPH VOCs (Total) SVOCs Metals	(ETPH) 1,060 mg/kg <1mg/kg >RDEC, I/CDEC Total Antimony 68.3 mg/kg SPLP Lead 0.302 mg/l SPLP Antimony 0.124 mg/l	TCE 6.8 µg/l SVOCs Not detected Metals Not detected or <SWPC

LAST UPDATE: Monday, March 05, 2007 10:57:33 AM
PLOT DATE: Monday, March 05, 2007 11:30:12 AM

SOURCE:
USGS QUADRANGLE
MERIDEN, CT
MAP VERSION 1992

0 2000 4000 6000
1" = 2000'
SCALE FEET

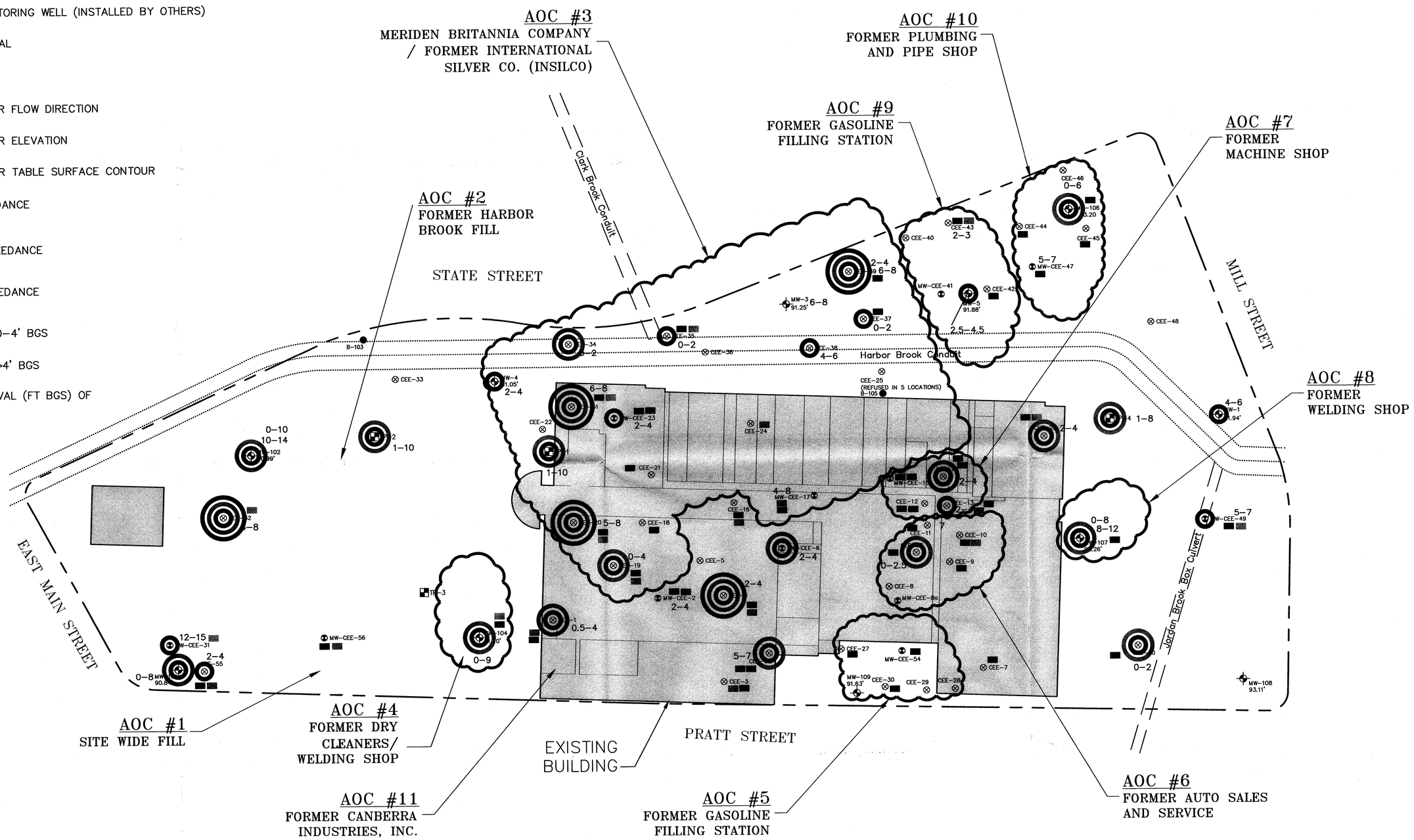
METCALF & EDDY | AECOM

MILONE & Mac BROOM AND CITY OF MERIDEN, CONNECTICUT
MERIDEN HUB
FIGURE 1
SITE LOCATION MAP

PATH/FILENAME: P:\60017968-MER\C\CZMER002.DWG
ANSI A - 3-8-05

LEGEND

- CEE-33 — SOIL BORING
- MW-CEE-41 — SOIL BORING / TEMPORARY MONITORING WELL
- MW-1 91.94' — EXISTING MONITORING WELL (INSTALLED BY OTHERS)
- B-103 — BORING REFUSAL
- TP-4 — TEST PIT
- GROUND WATER FLOW DIRECTION
- 91.00' — GROUND WATER ELEVATION
- GROUND WATER TABLE SURFACE CONTOUR
- R DEC EXCEEDANCE
- I/C DEC EXCEEDANCE
- GB PMC EXCEEDANCE
- URBAN FILL 0–4' BGS
- URBAN FILL >4' BGS
- 0–2 — DEPTH INTERVAL (FT BGS) OF EXCEEDANCE



REFERENCE:

CONSULTING ENVIRONMENTAL ENGINEERS, INC.
PHASE II ESA REPORT, MERIDEN HUB
MERIDEN, CONNECTICUT.

METCALF & EDDY | AECOM

SCALE: 1" = 50' (0 50 100 150 SCALE FEET)

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

MILONE & Mac BROOM, INC AND CITY OF MERIDEN, CONNECTICUT
INTERIM REMEDIAL ACTION PLAN
MERIDEN HUB SITE
77 STATE STREET, MERIDEN, CT

FIGURE 2
SOIL REMEDIATION CRITERIA EXCEEDANCE SUMMARY PLAN

FEBRUARY 2007

JOB 60017968
FILE NO.
CAD FILE CZMER002A
SHEET

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