Preliminary Close Out Report

Solvents Recovery Service of New England, Inc
Southington, Connecticut
EPA ID# CTD 009717604

September 2018

Prepared by
United States Environmental Protection Agency
Region 1
Boston, Massachusetts

SEMS DocID 100010205

I INTRODUCTION

This Preliminary Close Out Report (PCOR) documents the completion of all physical remedial construction activities performed at the Solvents Recovery Service of New England Inc. Superfund Site ("the Site"). This PCOR was prepared in accordance with *Close Out Procedures for National Priorities List Sites* (OSWER Directive 9320.2-22, updated May 2011).

The remedy has three major components: source control/reduction of contaminants in overburden using *in situ* thermal treatment; excavation, consolidation and capping; and a long-term groundwater component in the overburden and bedrock aquifers that relies on a combination of containment and active treatment, and monitored natural attenuation (MNA). The remedies were constructed according to the remedial design plans and specifications as approved by the EPA.

The groundwater containment system was completed as a removal action in the 1990s; the continued operation and maintenance was incorporated into the 2005 Record of Decision (ROD). EPA conducted a final inspection of the thermally-treated source area on July 15, 2013, and the cap on September 21, 2017. No significant quality assurance issues during construction or implementation of the remedy were noted or all issues were resolved during meetings with the Independent Quality Assurance Team (IQAT). Performance of five-year reviews; operation and maintenance including continued operation of the on-site hydraulic containment and treatment system; implementation of institutional controls; and performance of long-term monitoring will ensure that the remedy continues to be protective in accordance with the ROD, as amended by the 2016 Explanation of Significant Differences (ESD).

II SUMMARY OF SITE CONDITIONS

1. Background

The Site is in the Town of Southington, Hartford County, Connecticut, approximately 15 miles southwest of the City of Hartford. It is located on Lazy Lane, just off the intersection with Route 10 (Queen Street), across from the Southington Police Department and adjacent to the Quinnipiac River (Figure 1). From 1955 to 1991, Solvents Recovery Service, which later became Solvents Recovery Service of New England, Inc. (SRSNE) operated a spent solvent processing and reclamation facility. As a result of past operations at the Site and poor materials processing practices, groundwater, soil and sediment became contaminated; this contamination migrated to abutting properties.

Site Description

The Site, generally depicted on Figure 2, consists of the former SRSNE Operations Area (4 acres); the Cianci Property (10 acres); a railroad easement that, post cap construction, has been turned into a recreational trail; and those areas where groundwater contamination has come to be located, including Southington's Curtiss Street Well Field. The municipal well field is a 28-acre parcel of undeveloped land containing two municipal drinking water wells that were closed in 1979 when they were found to be contaminated with volatile organic compounds (VOCs).

Diversion permits for the two wells are still open and restoration of the overburden aquifer to background potable quality is the remedial goal.

The Quinnipiac River is not used as a drinking water supply. Adjacent to and south of the Site there is limited access to the Quinnipiac River as it is a narrow, shallow meander bordered by steep banks along Queen Street to the east, and, the municipal well field and fenced Cianci property to the west. Seasonally low water and lack of access leads to little to no recreational use of the river near the Site. Downstream of the Site, the Quinnipiac River is used for recreation from Southington to its mouth in New Haven Harbor. Two recreational areas within the Town of Southington, but at least two miles downriver of the Site, provide public access to the river, including canoe access points.

Operational History

Millions of gallons of waste solvents and oils were handled, stored and processed in the SRSNE Operations Area. Spent solvents were processed in a distillation column. Contaminant-laden distillation process water was channeled into a drainage ditch along the railroad right-of-way (ROW) and into a buried culvert that discharged to the Quinnipiac River. Samples of solvents appear to have been discarded into a leach field. The still bottoms and liquid waste by-products were first disposed of in two unlined lagoons in the Operations Area, and later burned in an open pit. Overflow from the lagoons drained onto the abutting Cianci Property. Ash from the burn pit was used as fill in the Operations Area. After 1976, SRSNE began blending the sludge and still bottoms with flammable liquid waste to create a fuel product for use in rotary kilns. In 1988, the batch stills used in the distillation process were removed, and fuel blending became the primary enterprise of the facility until it closed in 1991. Poor materials processing from a variety of practices, including the unloading and loading of tank trucks, the transfer of spent solvents to storage tanks, as well as the improper handling and storage of drums resulted in numerous documented leaks and spills to bare ground and into the overburden aquifer. Facility records from pre-1967 were lost in a fire, but between 1967 and 1991, more than 41 million gallons of waste solvents, paints, fuels, and similar liquids were handled by SRSNE. None of the original facility structures remain.

The SRSNE facility was identified as a major source of the VOC contamination that forced the closure of the municipal production wells in the late 1970s. In 1979, EPA filed suit against the still-operating facility under the Resource Conservation and Recovery Act (RCRA) for contaminating the wells and under the Clean Water Act for the unpermitted discharge of pollutants to the Quinnipiac River. The suit was amended in 1982 to include claims under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). In 1983, SRSNE was added to the National Priorities List. Federal and state regulators, using both enforcement and permitting mechanisms, worked with the owner/operator of the facility to address environmental concerns with limited success. Ultimately, it was the inability to get liability insurance for sudden accidents that forced closure of the company in 1991.

EPA initiated a Remedial Investigation/Feasibility Study (RI/FS) in 1990. Between 1990 and 1992, EPA funded three phases of remedial investigations to determine the nature and extent of contamination at the Site, and to assess human-health and ecological risks. Sampling results

obtained during these investigations revealed that the soils at the Site contained extensive VOCs (chlorinated hydrocarbons, ketones, alcohols, and aromatics), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), dioxins and metals. High concentrations of VOCs (grossly exceeding federal drinking water standards) were also detected in both overburden and bedrock groundwater underlying the Operations Area and the Cianci property. Highly-contaminated groundwater was also found to extend southward from the Cianci property into the Curtiss Street Well Field, and eastward beyond the Quinnipiac River.

After the SRSNE facility closed, CT DEP (now known as Connecticut Department of Energy and Environmental Protection, hereinafter "CT DEEP") took over the operation of an on-site groundwater inceptor system (OIS) constructed by SRSNE in 1985, pursuant to the 1979 RCRA suit, as amended in 1982 for CERCLA. The OIS, comprised of 25 wells screened at the overburden/bedrock interface and a cooling tower/air stripper, collected contaminated groundwater migrating from the Operations Area and treated it on site. In 1992, CT DEEP modified the system to include ultra-violet/oxidation to treat air emissions. CT DEEP operated this system until 1995.

2. Removal Activities

In 1992, EPA conducted a time-critical removal action to address potential health threats associated with PCB contamination in soil and sediment in the drainage ditch on the eastern edge of the Operations Area. During that effort, approximately 19 drums of contaminated material containing up to 100 parts per million (ppm) total VOCs and 350 parts per million (ppm) PCBs were removed.

Also in 1992, EPA initiated an Engineering Evaluation/Cost Analysis (EE/CA) to evaluate alternatives that could be implemented as a non-time critical removal action. After a public comment period, EPA issued an Action Memorandum for a Non-Time Critical Removal Action (NTCRA) at the Site on April 1, 1993, that required (a) the implementation of a groundwater containment and treatment system to prevent the migration of contaminated groundwater in the overburden aquifer; and (b) the performance of certain soil studies to provide EPA with information for its use in planning and directing future responses at the Site. This removal is referred to in Site documents as "NTCRA I" and was performed by a group of potentially-responsible parties (the "SRSNE PRP Group[1]") pursuant to a 1994 Administrative Order on Consent (AOC) (CERCLA Docket No. I-94-1045).

In early 1994, EPA conducted a second time-critical removal action to remove and dispose of laboratory chemicals and asbestos that SRSNE had abandoned at the Site.

Also in 1994, EPA initiated a second EE/CA to evaluate further alternatives that could be implemented as a non-time critical removal action. After a public comment period, EPA issued

[1] EPA notified approximately 1,700 parties who either owned or operated the facility, generated wastes that were shipped to the facility, arranged for the disposal of wastes at the facility, or transported wastes to the facility of their potential liability with respect to the Site. EPA offered two early *de minimis* settlements to a total of 1,308 parties that shipped no more than 10,000 gallons of hazardous substances to the SRSNE facility; 925 parties total joined the *de minimis* settlements.

a second Action Memorandum for a Non-Time Critical Removal Action at the Site on June 1, 1995 (i.e., NTCRA 2) that required among other things, the implementation of a groundwater containment and treatment system to minimize the migration of contaminated groundwater in the bedrock aquifer. This work was performed by the SRSNE PRP Group pursuant to a 1997 AOC (CERCLA Docket No. I-97-1000). Under the 1997 AOC, the SRSNE PRP Group also agreed to perform the remainder of the RI/FS for the Site.

In 1999, the SRSNE PRP Group decontaminated, demolished and removed all remaining original structures within the Operations Area including a modular office, process building, tank farm, drum storage area, processing area, tank car and trailer parking area, and two fuel blending tanks. The debris was non-hazardous and disposed of off site as solid waste.

3. Selected Remedy

On September 30, 2005, EPA issued a Record of Decision that selected a comprehensive remedy for the Site; one that addressed both the source of contamination, and, the management of groundwater migration.

The Remedial Action Objectives selected for the SRSNE Site are as follows:

- Operations Area/Railroad Soil

  Human Health Prevent potential human exposure (dermal contact, ingestion and inhalation) to soil with contaminants that exceed an excess carcinogenic risk of 10^{-4} to 10^{-6}, that pose a non-carcinogenic Hazard Index greater than 1, or that exceed Applicable or Relevant and Appropriate Requirements (ARARs). Prevent migration of contaminants from soils to groundwater that would result in groundwater concentrations in excess of ARARs or which otherwise present an unacceptable risk in groundwater.

  Protection of the Environment Prevent migration of contaminants from soils to groundwater that would result in groundwater concentrations in excess of ARARs.

- Cianci Property Soil

  Human Health Prevent potential human exposure (dermal contact, ingestion and inhalation) to soil with contaminants that exceed an excess carcinogenic risk of 10^{-4} to 10^{-6}, that pose a non-carcinogenic Hazard Index greater than 1, or that exceed ARARs. Prevent migration of contaminants from soils to groundwater that would result in groundwater concentrations in excess of ARARs or which otherwise present an unacceptable risk in groundwater.

  Protection of the Environment Prevent ecological risks associated with SRSNE-related contaminants.

- Overburden NAPL Area

  Human Health Reduce or stabilize contaminants in the NAPL area that would otherwise result in groundwater concentrations that pose a carcinogenic risk of 10^{-4} to 10^{-6}, non-carcinogenic Hazard Index greater than 1, or that exceed ARARs.

  Protection of the Environment Prevent contaminants in the NAPL area to achieve one or more of the following:

  - Shorten the time frame that groundwater standards are exceeded;
  - Shrink the size of the groundwater contaminant plume;
  - Reduce groundwater contaminant concentrations; and
  - Prevent the migration of NAPL.

- Overburden Groundwater

  Human Health Prevent potential exposure (dermal contact, ingestion and inhalation) to groundwater in the overburden aquifer with contaminants that pose an excess carcinogenic risk of 10^{-4} to 10^{-6}, non-carcinogenic Hazard Index greater than 1, or that exceed ARARs.

  Protection of the Environment Restore groundwater quality to meet ARARs.

- Bedrock NAPL Area

  Human Health Minimize expansion of the extent of contaminated bedrock groundwater due to further NAPL migration.

  Protection of the Environment Minimize expansion of the extent of contaminated bedrock groundwater due to further NAPL migration.

- Bedrock Groundwater

  Human Health Prevent potential human exposure (dermal contact, ingestion and inhalation) to groundwater in the bedrock aquifer with contaminants that pose an excess carcinogenic risk of 10^{-4} to 10^{-6}, non-carcinogenic Hazard Index greater than 1, or that exceed ARARs.

  Protection of the Environment Prevent continuing migration of contaminants that exceed ARARs, and, restore bedrock groundwater to meet ARARs once VOC residuals are depleted.

ROD Summary (2005)

In summary, the remedy selected in 2005 required:

- Treatment of waste oil and solvents (i.e., NAPL) located in the subsurface in the overburden aquifer by heating them in place.

- Construction of a RCRA Subtitle C hazardous waste cap over the former Operations Area and a portion of the railroad ROW after it has been thermally treated. Excavation and relocation of soil/wetland soil that exceeds CT remediation standards under the cap.

- Continued capture and treatment on site of contaminated groundwater in both the overburden and bedrock aquifers (i.e., NTCRA 1 and NTCRA 2) that exceeds federal drinking water standards and risk-based levels.

- Monitored natural attenuation of the groundwater plume outside the capture zone that exceeds background cleanup levels.

- Monitored natural degradation of NAPL in the bedrock aquifer.

- Restriction on uses of the site property in perpetuity to prevent human health exposure to contaminants in the subsurface soils and to prohibit activities that might harm the cap and institutional controls to prevent human exposure to contaminated groundwater and areas with NAPL until federal drinking water standards, risk-based levels, and CT Groundwater Protection Criteria are met. These restrictions also prohibit construction above the groundwater plume in areas that exceed federal and state volatilization criteria.

- Continued groundwater monitoring and maintenance of the cap in the long term. Monitor land use and groundwater use restrictions to ensure compliance. Perform reviews at least every five years to ensure that the remedy remains protective of human health and the environment.

- A contingency that requires additional groundwater containment if the Town of Southington moves to activate municipal production wells in the Curtiss Street Well Field prior to attainment of federal drinking water standards and other risk-based levels throughout the Site.

ESD Summary (2016)

The 2016 ESD documented the following changes to the remedy set forth in the 2005 ROD.

- Eliminating the requirement for on-site treatment of contaminated groundwater and discharge to the Quinnipiac River to allow for off-site treatment at the Town of Southington publicly-owned treatment works facility, if allowable under a CT DEEP General Permit for the Discharge of Remediation Wastewater to the Sanitary Sewer.

- Excavation of contaminated soil along the railroad ROW and consolidating it into the former Operations Area where it will be capped, rather than capping it in place.

- Selection of a new cleanup level for dioxin in soil of 50 parts per trillion (ppt). CT DEEP did not support the use of 50 ppt, and approved a site-specific, recreational direct exposure criterion of 34 ppt. The SRSNE PRP Group agreed to comply with the lower cleanup level.

The remaining components of the original remedy are unchanged.

4. Remedial Action

In October 2008, EPA lodged a Consent Decree (CD) with the United States District Court for the District of Connecticut regarding Civil Actions No. 3:08cv1509 (SRU) and No. 3:08cv1504 (WWE). The CD was entered by the Court in March 2009. The CD and its accompanying Statement of Work (SOW) describe the Remedial Design/Remedial Action (RD/RA) activities to be undertaken by the SRSNE Site Group, an unincorporated association of Settling Defendants to the CD.

Long-term Groundwater Containment and Treatment

Prior to the ROD, two AOCs were issued to contain and treat on site contaminated groundwater in the overburden (NTCRA 1, effective 1994) and bedrock (NTCRA 2, effective 1997). Following entry of the CD, continued operation of the combined NTCRA 1 and NTCRA 2 system became part of the ROD-specified remedial approach for groundwater. The CD required the SRSNE Site Group to implement an environmental monitoring program to evaluate the performance of the circa 1990s groundwater containment and treatment system, and, the effectiveness of natural attenuation processes, in three dimensions, throughout the plume within the overburden and bedrock aquifers. However, it was known at the time of issuance of the ROD that there were spatial gaps in the existing network of monitoring wells. The gaps were addressed during the 2009-2010 field program, when a total of 29 new monitoring wells and piezometers were installed in the five hydraulic units at the Site, at locations approved by EPA, and added to the compliance sampling program (Figures 3A – 3E).

During the purging of one deep bedrock borehole a slight odor was noted in the return water, and a sheen on the bottom ten feet of the down-hole pipe as it was withdrawn. Approximately one and a half gallons of NAPL was removed from that location. Because the pipe used for purging had been placed at a depth of 180 feet below ground surface (bgs), it was interpreted that the primary depth of NAPL entry into the borehole was approximately 170 feet bgs.

Based on the site-specific groundwater flow model, re-calibrated to include the presence of NAPL in deep bedrock, the SRSNE Site Group proposed, and EPA approved the installation in 2012 of three additional well clusters in bedrock to complete the delineation of the groundwater plume in bedrock and overburden in three dimensions, as required by the RD/RA SOW.

In June and August 2012, slightly elevated levels of benzene were detected in a deep bedrock well outside of the hydraulic containment system. To increase the well yield and enhance

bedrock groundwater capture effectiveness, NTCRA 2 recovery well RW-1R was extended with the expectation of intersecting additional water-bearing fractures. RW-1R was originally installed in the winter of 1997-1998 with an open bedrock interval of 82 feet to 172 feet bgs. In Fall 2012, the open bedrock interval was drilled to 271 feet bgs. In July 2014, the SRSNE Site Group proposed, and EPA approved, the installation of a third deep overburden recovery well (RW-15). Overburden recovery wells RW-13 and RW-14 have been in near continuous use since 1999 and 2007, respectively. A targeted cumulative yield of 30 gallons per minute is needed to maintain the overburden hydraulic capture zone. The addition of a third well adds redundancy, and ensures target flow is maintained when a well is taken out of service for operation and maintenance. On March 28, 2018, EPA made the determination that the long-term environmental monitoring program is sufficient to evaluate the effectiveness of natural attenuation processes, in three dimensions, throughout the plume within the bedrock and overburden aquifers.

In situ Thermal Remediation (ISTR)

ISTR was selected to address the solvents and waste oil in the overburden in the former Operations Area. The remedial action goal for this source control component of the remedy was to reduce the VOC contamination to levels that are not indicative of the presence of pooled or residual NAPL. The SRSNE-specific NAPL cleanup levels were developed by EPA's Office of Research and Development.

Site preparation activities began in September 2010 and required major earthworks, utility upgrades, relocation of a major AT&T fiber optic line and modifications to the existing hydraulic containment and on-site treatment system for the groundwater plume. Construction on the ISTR system began in April 2013 with the installation of the following (Figure 4):

- 593 heater wells
- 534 vertical vapor extraction wells across the unsaturated zone
- 260 linear feet of horizontal vapor extraction wells
- 53 boreholes for temperature monitoring
- 20 temperature/pressure monitoring points
- 7 groundwater level and quality monitoring wells

Heating in the 57,000-cubic yard treatment zone was implemented in two phases (to better control vapor recovery) starting on May 15, 2014 and ran continuously until March 2, 2015. Vapor recovery continued through April 2, 2015 until soil temperatures decreased to below 100° C and significant vapor was no longer being generated (Figure 5). Soil samples collected on November 19, 2014 (Phase 1) and February 3, 2015 (Phase II) demonstrated attainment of the NAPL cleanup levels. Approximately 496,000 pounds of VOCs were removed from the subsurface.

De-mobilization of the ISTR system was completed in June 2015. On July 13, 2015, EPA and CT DEEP inspected the site and identified no items for follow up.

Soil Excavation and Consolidation, and Final Cap Construction

The final component of the remedy called for the excavation and consolidation of soils from targeted areas to the former Operations Area prior to construction of a RCRA Subtitle C cap. Initially, the cap was intended to cover soils in a drainage ditch along the railroad ROW that had served as a conveyance for contaminant-laden distillation process water from the Site to a buried culvert that discharged to the Quinnipiac River. Instead, the impacted railroad ROW soils were excavated (to 4 feet) in fall/early winter of 2010 and used as needed grading/fill material in the thermal treatment area. This reduced the amount of clean fill that was imported for the thermal remedial design, and, allowed for the grade to be maintained along the future recreational rails-to-trails corridor. This change to the remedy was documented in the 2016 ESD.

In December 2016, soil from five areas on the Cianci Property, including wetland soils from where the buried culvert discharged into the Quinnipiac River; dioxin-impacted soils in the area of the former open-air incinerator; and other ancillary soils (e.g., miscellaneous soil piles and perimeter swale excavations) were excavated and placed in the footprint of the future cap (Figure 6). An on-site borrow pit was also excavated to offset the loss of storage capacity in the Quinnipiac River floodplain due to the remedial action.

Construction on the RCRA Subtitle C cap in the former Operations Area began in November 2016 and was completed in August 2017. EPA and CT DEEP conducted a preliminary site inspection on July 27, 2017. Punch list items were essentially of the general housekeeping sort – grading, seeding, trash removal, etc. EPA and CT DEEP conducted a final inspection on September 21, 2017. All punch list items had been addressed.

The SRSNE Site Group also integrated into the cap design ballasts for a solar array that will provide the energy for the Site's groundwater containment system. Final details between the SRSNE Site Group and the supplier, C-TEC Solar, are being worked out; panel installation is expected by the end of 2018.

The SRSNE Site Group also voluntarily completed a new section of the nearly 80-mile Farmington Canal Heritage Trail, a rails-to-trails recreational corridor that crosses the toe of the RCRA Subtitle C cap, along with a parking area that serves as access to the trail and overflow parking for community meetings held at the Southington Police Department building across from the Site on Lazy Lane (Figure 5).

5. Institutional Controls (ICs)

The remedy selected in the 2005 ROD relies on institutional controls to:

- Prohibit activities that could harm the capped areas of the Site.
- Prohibit groundwater use or extraction of all groundwater that exceeds federal drinking water standards, risk based levels or CT Groundwater Protection Criteria (except as allowed by approved monitoring plans).

- Prohibit soil excavation and other activities that might result in exposure to contaminated subsurface soils and untreated NAPL and NAPL-contaminated materials in the overburden and bedrock aquifers.

- Prohibit construction above the groundwater plume that exceeds the State's volatilization criteria, unless construction is designed to prevent vapor intrusion consistent with State requirements.

- Otherwise impose such restrictions necessary to protect human health and the environment and maintain the integrity of the remedy.

As required by the 2009 CD and RD/RA SOW, the SRSNE Site Group submitted, and in April 2018, EPA and CT DEEP approved, an IC Plan. The primary mechanism for implementing the required restrictions is expected to be an Environmental Land Use Restriction (ELUR) and Grant of Easement that is granted to the Commissioner of the CT DEEP by the property owner and is recorded on the municipal land records. The parcels and types of restrictions needed on those parcels is shown on Figure 7. With approval of the IC Plan, the SRSNE Site Group will begin to develop parcel-specific ELUR documentation beginning with the two parcels (former Operations Area and Cianci Property) that are within their control pursuant to a 1994 Consent Decree between the Group and Carlton Boll, the former owner/operator of Solvents Recovery Service.

The restrictions on the use of groundwater will extend from the Operations Area and Cianci Property to all downgradient areas where the contaminated plume that exceeds federal drinking water standards, risk-based levels or applicable CT remediation standards have come to be located. The restrictions will also include a buffer zone adequate to ensure that new private or public water supply wells in the vicinity would not induce movement of the contaminants into uncontaminated areas or interfere with any remedial action at the Site. The SRSNE Site Group will coordinate with the Southington Health Department to establish a formal ordinance or policy to preclude new well authorizations within the buffer zone (<50,000 gallons per day) without first allowing an opportunity for the Group to assess the potential impact of such well(s) on the affected groundwater area. This approach is like that being used at the former Pratt & Whitney Aircraft site also in Southington.

In addition to the ICs described above, in September 2014, a Memorandum of Agreement (MOA) was executed by and between EPA, CT DEEP, the Town of Southington, the Southington Water Department (SWD) and the SRSNE Site Group to address the contingency in the 2005 ROD for additional groundwater containment. The MOA establishes a process that will be undertaken in the event that the SWD moves to re-initiate municipal water supply pumping within the Curtiss Street Well Field prior to the attainment of federal drinking water standards or other risk-based levels throughout the Site. Such notification of intent by the SWD will result in the SRSNE Site Group taking very specific steps to evaluate potential risks triggered by the SWD's reactivation plan, identify management alternatives, and to design and implement additional remedial measures as needed to mitigate unacceptable risk. The MOA serves as an IC protective of potential future groundwater extraction in the currently inactive Town Well Field property; as such no ELUR restricting groundwater use is needed on that parcel.

Once implemented, compliance with the restrictions will be monitored and enforced to ensure that the institutional controls remain effective. Over time, EPA and CT DEEP will also evaluate whether restrictions can be removed or modified because acceptable levels have been met at the Site.

III Demonstration of Cleanup Activity Quality Assurance and Quality Control

The methods, procedures, inspections and tests were performed in accordance with various Construction Quality Assurance Plans prepared as part of remedial designs approved by EPA and CT DEEP. The construction contractors' Quality Control Plans were implemented and verified by an Independent Quality Assurance Team (IQAT). Thermal treatment of the NAPL source area in the overburden aquifer is complete, with substantial review and involvement by EPA's thermal expert (Dr. Eva Davis). Excavation, consolidation and capping of surficial soils in the former Operations Area, railroad ROW and Cianci Property is complete. The hydraulic containment and treatment system is functioning as designed. The constructed remedy is complete and is consistent with the 2005 ROD, 2016 ESD, and all remedial design plans and specifications.

As stipulated in the RD/RA SOW (Appendix B to the 2009 CD), the SRSNE Site Group was responsible for retaining the services of an IQAT during all active phases of construction. The functions and responsibilities of the IQAT, with respect to design and construction include:

- Review design criteria, plans and specifications for clarity and completeness;
- Train Construction Quality Assurance (CQA) inspection personnel on project QA requirements and procedures;
- Schedule and coordinate CQA inspections;
- Verify that the Quality Control (QC) plan for construction and remediation activities are implemented in accordance with the site-specific QA plans;
- Perform independent on-site inspections of the work as needed to assess compliance with the approved design criteria, plans and specifications; and
- Report the results of all inspections, including findings that the work is not acceptable quality or fails to meet the specified design requirements to the Settling Defendants (i.e., the SRSNE Site Group), EPA and CT DEEP.

Members of the IQAT participated in and routinely reported out to EPA and CT DEEP during regular monthly conference calls – weekly during active construction – with the SRSNE Site Group's project team. In addition, IQAT summaries were included with the SRSNE Site Group's required monthly progress reports. No significant quality assurance issues during construction or implementation of the remedy were noted or all issues were resolved during IQAT meetings.

IV Schedule of Activities for Site Completion

It is estimated that all activities associated with site completion will be performed according to the schedule below:

Schedule for Site Completion

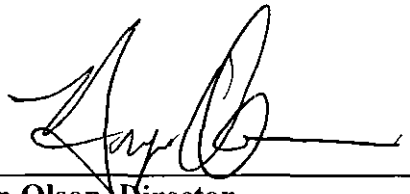
Task	Date	Responsible Organization
Record ELURs and other ICs	September 2020	SRSNE Site Group, CT DEEP
Third Five-Year Review (FYR)	September 2020	EPA
Fourth FYR (every 5 years thereafter)	September 2025	EPA
Complete Groundwater Treatment*	September 2048	SRSNE Site Group
Final Site Inspection	September 2048	EPA, CT DEEP
Final Closeout/Final Remedial Action Report	December 2048	EPA
Propose Site Deletion from NPL	March 2049	EPA
NPL Site Deletion	December 2049	EPA

* Based on uncertainty with regards to residual contaminant concentrations (post ISTR treatment) as well as estimates of attenuation rates, a default of 30 years is presumed for continued groundwater treatment.

V Five-Year Reviews

Hazardous substances will remain at the Site above levels that allow unlimited use and unrestricted exposure after the completion of the action. Pursuant to CERCLA §121(c) and as provided in the current guidance on FYRs (OSWER Directive 9355.7-03B-P, June 2001), EPA must conduct statutorily required FYRs. The first FYR was conducted in September 2010; the second was completed in September 2015. These reviews concluded that the remedy is protective of human health and the environment.

Approved by:



9/4/18

Bryan Olson, Director
Office of Site Remediation and Restoration

Date

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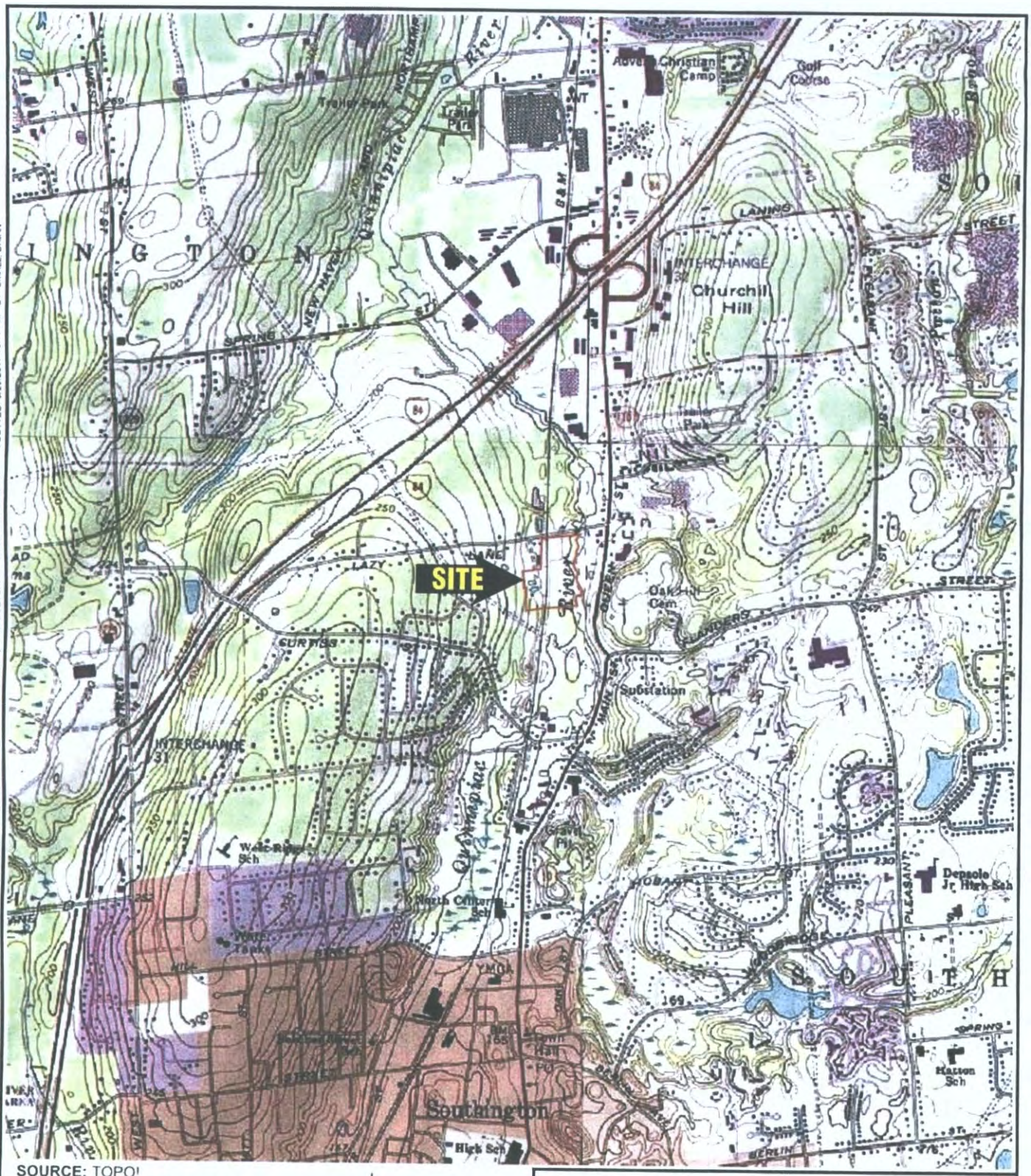
Attachment A

Site Maps & Figures



SOURCE: TOPO!
QUAD: MERIDEN, CT
DATE: 1992

0 2000' 4000'
GRAPHIC SCALE

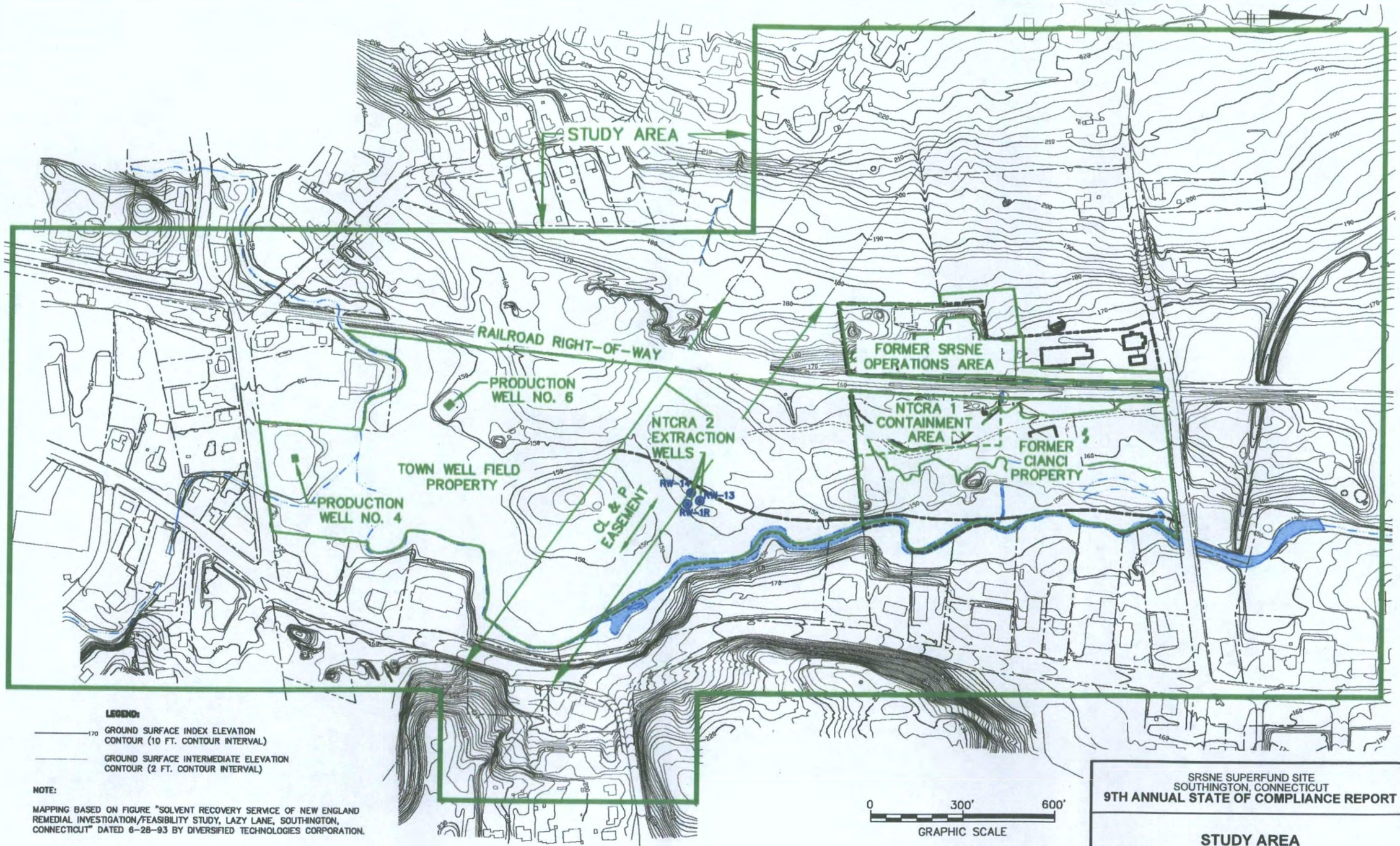
SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT
9TH ANNUAL STATE OF COMPLIANCE REPORT

SITE LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1

CITY MANCHESTER DIV/GROUP ENVCAD DB B SMALL PM TM
G:\ENVCAD\Manchester\ACT\B0034614\0001\00100\8th Annual Report\Site Location Map.dwg LAYOUT 1 SAVED 3/23/2016 11:13 AM ACADVER 19.1S (LMS TECH) PAGESETUP ---- PLOTSTYLETABLE ---- PLOTTED 3/29/2017 10:11 AM BY SMALL, BRIAN



LEGEND:

170 GROUND SURFACE INDEX ELEVATION CONTOUR (10 FT. CONTOUR INTERVAL)

GROUND SURFACE INTERMEDIATE ELEVATION CONTOUR (2 FT. CONTOUR INTERVAL)

NOTE:

MAPPING BASED ON FIGURE "SOLVENT RECOVERY SERVICE OF NEW ENGLAND REMEDIAL INVESTIGATION/FEASIBILITY STUDY, LAZY LANE, SOUTHINGTON, CONNECTICUT" DATED 6-28-93 BY DIVERSIFIED TECHNOLOGIES CORPORATION.

SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT
9TH ANNUAL STATE OF COMPLIANCE REPORT

STUDY AREA

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2

CITY: SYRACUSE, NY GROUP: ENVCAD DB: P. LISTER, R. BASSETT, P. LISTER PM: M. GEFELL TR: R. STEVENSON LYR: ON=*;OFF=REF
G:\ENVCAD\Manchester\ACT\B0054634\0091\00\Main Annual Report\54634B02.DWG LAYOUT: 2 SAVED: 3/23/2016 11:08 AM ACADVER: 19.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 3/28/2017 10:11 AM BY: SMALL, BRIAN
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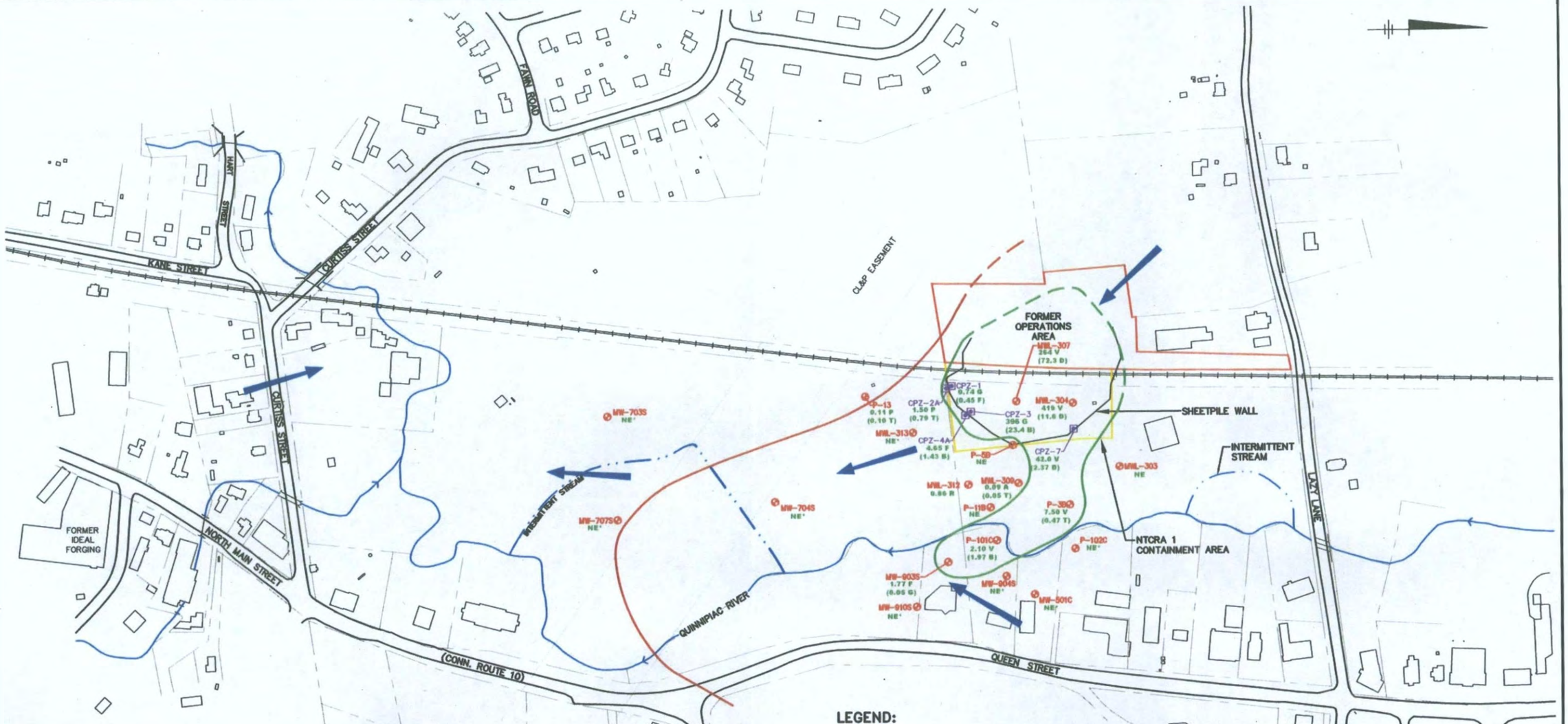

NOTES:

1. MAPPING BASED ON FIGURE "SOLVENT RECOVERY SERVICE OF NEW ENGLAND REMEDIAL INVESTIGATION/FEASIBILITY STUDY, LAZY LANE, SOUTHINGTON, CONN." DATED 6-28-93 BY DIVERSIFIED TECHNOLOGIES CORPORATION.

2. POSTED DATA ARE THE LATEST SAMPLING RESULTS AT EACH WELL, AS OF JUNE 2016.

3. THE ESTIMATED OVERBURDEN CAPTURE ZONE WAS ESTIMATED BASED ON PARTICLE TRACKING USING THE CURRENT MODFLOW MODEL AND A COMBINED NTCRA 2 EXTRACTION RATE OF 35 GALLONS PER MINUTE.

KEY:

- A 1,1-DICHLOROETHANE
- B BENZENE
- D CIS-1,2-DICHLOROETHENE
- F TETRAHYDROFURAN
- G CHLOROETHANE
- N ACETONE
- P TETRACHLOROETHENE
- R TRANS-1,3-DICHLOROPROPENE
- T TRICHLOROETHENE
- V VINYL CHLORIDE
- NE EXCEEDANCE RATIO LESS THAN 0.10

LEGEND:

- SHALLOW OVERBURDEN MONITORING WELL
- PIEZOMETER
- ESTIMATED EXTENT OF GROUNDWATER VOC EXCEEDANCES OF MCLs OR CT DEEP CLASS GA GWPCs (2014-2016 SAMPLING RESULTS) (DASHED WHERE INFERRED)
- ESTIMATED NTCRA 2 CAPTURE ZONE BOUNDARY
- GENERALIZED GROUNDWATER FLOW DIRECTION
- P-101C 2.10 V (1.97 B) — WELL WITH REGULATORY EXCEEDANCE RATIO. NUMBERS >1.0 INDICATE GROUNDWATER REGULATORY LIMIT EXCEEDED. NUMBERS <1.0 INDICATE EXCEEDANCE RATIO FOR COMPOUNDS DETECTED BELOW REGULATORY LIMIT. FIRST NUMBER INDICATES MAXIMUM MULTIPLE OF A DETECTED VOC OVER REGULATORY LIMIT (e.g., 130 INDICATES 130 x LIMIT). LETTER INDICATES COMPOUND WITH INDICATED EXCEEDANCE RATIO (e.g., P = TETRACHLOROETHENE). NUMBERS IN PARENTHESES INDICATE OTHER EXCEEDANCE RATIOS FOR SELECT COMPOUNDS AND WELLS. COMPOUNDS DETECTED IN BLANK(S) ARE NOT INCLUDED IN THIS EVALUATION.
- * NO DETECTIONS ABOVE INTERIM CLEANUP LEVELS (ICLs) AT THIS LOCATION.

DRAFT

SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT
MONITORED NATURAL ATTENUATION REPORT

VOC EXCEEDANCE PLUME SHALLOW OVERBURDEN

ARCADIS Design & Consultancy for natural and built assets

FIGURE 3A

CITY: MANCHESTER, CT DIV/GROUP: ENV DB: B.SMALL PM: J. HOLDEN TM/TR: R. STEVENSON
G:\ENVICAD\Manchester\ACT\80054\54004\011\22\20\2016 MNA\54634C07.DWG LAYOUT: 7 SAVED: 9/26/2016 10:42 AM ACADVER: 19.1S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: --- PLOTTED: 9/26/2016 10:43 AM BY: SMALL, BRIAN
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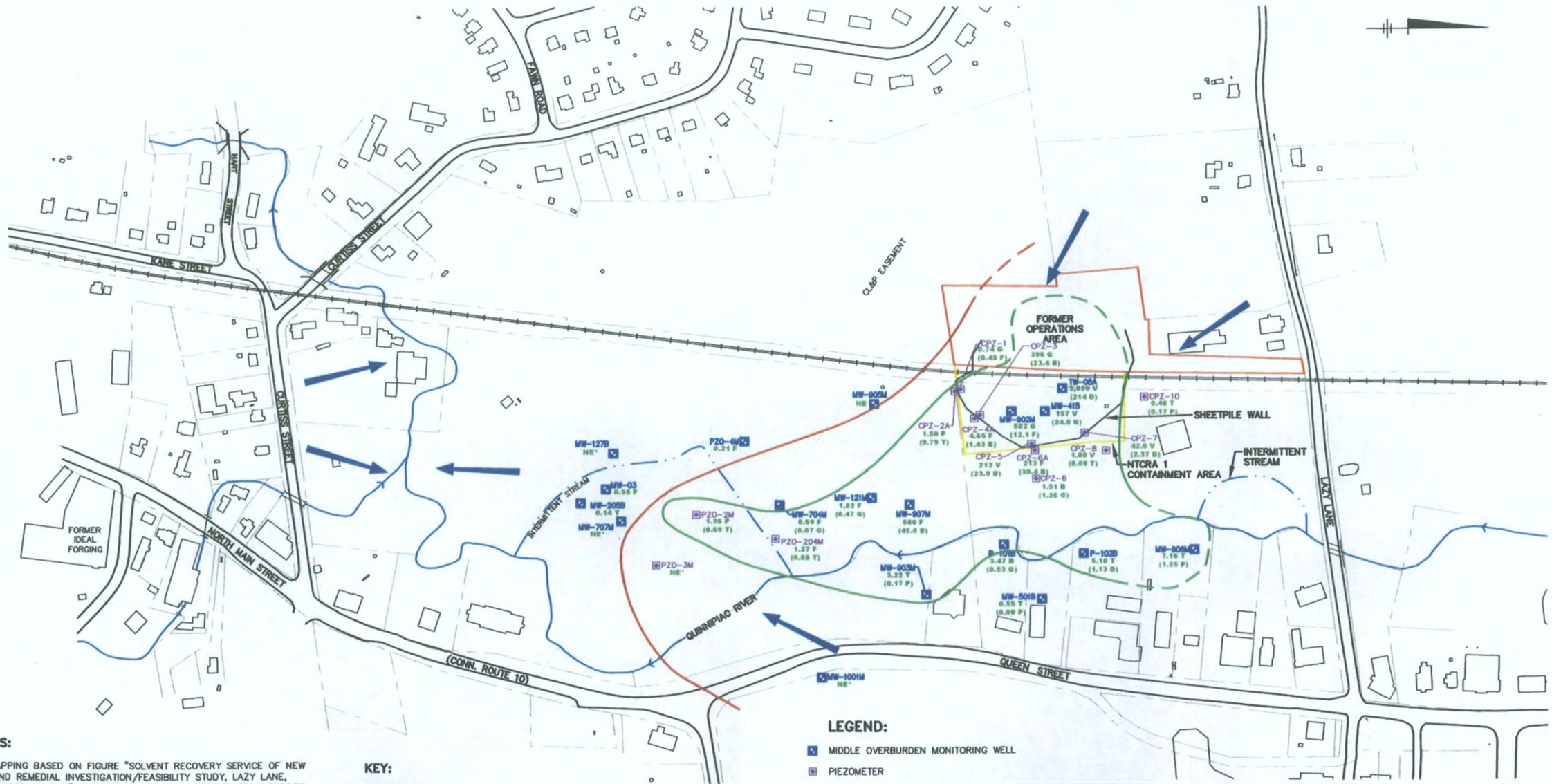

NOTES:

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2. POSTED DATA ARE THE LATEST SAMPLING RESULTS AT EACH WELL, AS OF JUNE 2016.

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KEY:

- B BENZENE
- D CIS-1,2-DICHLOROETHENE
- F TETRAHYDROFURAN
- G CHLOROETHANE
- P TETRACHLOROETHENE
- T TRICHLOROETHENE
- V VINYL CHLORIDE
- NE EXCEEDANCE RATIO LESS THAN 0.10

LEGEND:

- MIDDLE OVERBURDEN MONITORING WELL
- PIEZOMETER
- ESTIMATED EXTENT OF GROUNDWATER VOC EXCEEDANCES OF MCLs OR CT DEEP CLASS GA GWPCs (2014-2016 SAMPLING RESULTS) (DASHED WHERE INFERRED)
- ESTIMATED NTCRA 2 CAPTURE ZONE BOUNDARY
- GENERALIZED GROUNDWATER FLOW DIRECTION
- MW-903M 3.22 T (0.17 P) — WELL WITH REGULATORY EXCEEDANCE RATIO. NUMBERS >1.0 INDICATE GROUNDWATER REGULATORY LIMIT EXCEEDED. NUMBERS <1.0 INDICATE EXCEEDANCE RATIO FOR COMPOUNDS DETECTED BELOW REGULATORY LIMIT. FIRST NUMBER INDICATES MAXIMUM MULTIPLE OF A DETECTED VOC OVER REGULATORY LIMIT (e.g., 130 INDICATES 130 x LIMIT). LETTER INDICATES COMPOUND WITH INDICATED EXCEEDANCE RATIO (e.g., P = TETRACHLOROETHENE). NUMBERS IN PARENTHESES INDICATE OTHER EXCEEDANCE RATIOS FOR SELECT COMPOUNDS AND WELLS. COMPOUNDS DETECTED IN BLANK(S) ARE NOT INCLUDED IN THIS EVALUATION.
- * NO DETECTIONS ABOVE INTERIM CLEANUP LEVELS (ICLs) AT THIS LOCATION.

DRAFT

SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT
MONITORED NATURAL ATTENUATION REPORT

VOC EXCEEDANCE PLUME MIDDLE OVERBURDEN

ARCADIS Design & Consultancy for natural and built assets

FIGURE 3B

CITY: MANCHESTER, CT DIV/GROUP: ENV DB: B.SMALL PM: J. HOLDEN TM/TR: R. STEVENSON
G:\ENVCAD\Manchester\ACT\60054634\00011\022000\2016 MNA\54634C08.DWG LAYOUT: 8 SAVED: 9/23/2016 3:18 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 9/26/2016 10:43 AM BY: SMALL, BRIAN
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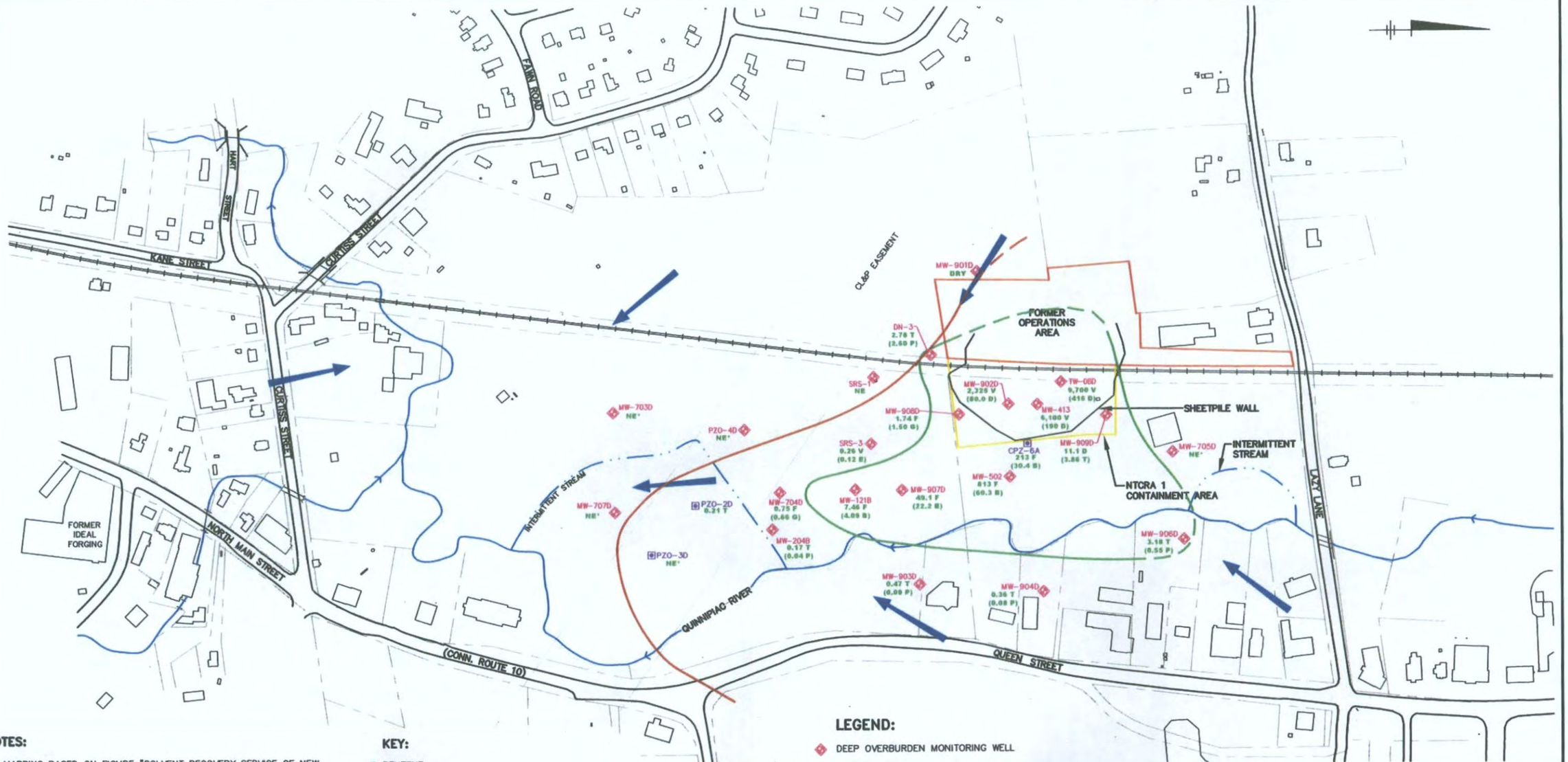

NOTES:

1. MAPPING BASED ON FIGURE "SOLVENT RECOVERY SERVICE OF NEW ENGLAND REMEDIAL INVESTIGATION/FEASIBILITY STUDY, LAZY LANE, SOUTHINGTON, CONN." DATED 6-28-93 BY DIVERSIFIED TECHNOLOGIES CORPORATION.

2. POSTED DATA ARE THE LATEST SAMPLING RESULTS AT EACH WELL, AS OF JUNE 2016.

3. THE ESTIMATED OVERBURDEN CAPTURE ZONE WAS ESTIMATED BASED ON PARTICLE TRACKING USING THE CURRENT MODFLOW MODEL AND A COMBINED NTCRA 2 EXTRACTION RATE OF 35 GALLONS PER MINUTE.

KEY:

- B BENZENE
- D CIS-1,2-DICHLOROETHENE
- E 1,1-DICHLOROETHANE
- F TETRAHYDROFURAN
- P TETRACHLOROETHENE
- T TRICHLOROETHENE
- V VINYL CHLORIDE
- NE EXCEEDANCE RATIO LESS THAN 0.10

LEGEND:

- DEEP OVERBURDEN MONITORING WELL
- PIEZOMETER
- ESTIMATED EXTENT OF GROUNDWATER VOC EXCEEDANCES OF MCLs OR CT DEEP CLASS GA GWPCs (2014-2016 SAMPLING RESULTS) (DASHED WHERE INFERRED)
- ESTIMATED NTCRA 2 CAPTURE ZONE BOUNDARY
- GENERALIZED GROUNDWATER FLOW DIRECTION
- MW-502 813 F (60.3 B) — WELL WITH REGULATORY EXCEEDANCE RATIO. NUMBERS >1.0 INDICATE GROUNDWATER REGULATORY LIMIT EXCEEDED. NUMBERS <1.0 INDICATE EXCEEDANCE RATIO FOR COMPOUNDS DETECTED BELOW REGULATORY LIMIT. FIRST NUMBER INDICATES MAXIMUM MULTIPLE OF A DETECTED VOC OVER REGULATORY LIMIT (e.g., 130 INDICATES 130 x LIMIT). LETTER INDICATES COMPOUND WITH INDICATED EXCEEDANCE RATIO (e.g., P = TETRACHLOROETHENE). NUMBERS IN PARENTHESES INDICATE OTHER EXCEEDANCE RATIOS FOR SELECT COMPOUNDS AND WELLS. COMPOUNDS DETECTED IN BLANK(S) ARE NOT INCLUDED IN THIS EVALUATION.
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DRAFT

SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT
MONITORED NATURAL ATTENUATION REPORT

VOC EXCEEDANCE PLUME DEEP OVERBURDEN

ARCADIS Design & Consultancy for natural and built assets

FIGURE 3C

CITY: MANCHESTER, CT DIV/GROUP: ENV DB: B.SMALL PM: J. HOLDEN TM/TR: R. STEVENSON
G:\ENVCAD\Manchester\ACT\B0054634\0011\02200\2016 MNA\54634C09.DWG LAYOUT: 9 SAVED: 9/26/2016 10:43 AM ACADVER: 19.1S (LMS TECH) PAGESETUP: — PLOTSTYLETABLE: — PLOTTED: 9/26/2016 10:43 AM BY: SMALL, BRIAN
XREFS: 54634X01 54634X00 IMAGES: PROJECTNAME: —

NOTES:

1. MAPPING BASED ON FIGURE "SOLVENT RECOVERY SERVICE OF NEW ENGLAND REMEDIAL INVESTIGATION/FEASIBILITY STUDY, LAZY LANE, SOUTHINGTON, CONN." DATED 6-28-93 BY DIVERSIFIED TECHNOLOGIES CORPORATION.

2. POSTED DATA ARE THE LATEST SAMPLING RESULTS AT EACH WELL, AS OF JUNE 2016.

3. THE ESTIMATED BEDROCK CAPTURE ZONE WAS ESTIMATED BASED ON PARTICLE TRACKING USING THE CURRENT MODFLOW MODEL AND A COMBINED NTCRA 2 EXTRACTION RATE OF 35 GALLONS PER MINUTE.

KEY:

- B BENZENE
- D CIS-1,2-DICHLOROETHENE
- E 1,1-DICHLOROETHENE
- F TETRAHYDROFURAN
- G CHLOROETHANE
- P TETRACHLOROETHENE
- T TRICHLOROETHENE
- V VINYL CHLORIDE
- NE EXCEEDANCE RATIO LESS THAN 0.10

LEGEND:

- SHALLOW BEDROCK MONITORING WELL
- PIEZOMETER
- ESTIMATED EXTENT OF GROUNDWATER VOC EXCEEDANCES OF MCLs OR CT DEEP CLASS GA GWPCs (2014-2016 SAMPLING RESULTS) (DASHED WHERE INFERRED)
- ESTIMATED NTCRA 2 CAPTURE ZONE BOUNDARY
- GENERALIZED GROUNDWATER FLOW DIRECTION
- P-11A 403 V (40.9 D) — WELL WITH REGULATORY EXCEEDANCE RATIO. NUMBERS >1.0 INDICATE GROUNDWATER REGULATORY LIMIT EXCEEDED. NUMBERS <1.0 INDICATE EXCEEDANCE RATIO FOR COMPOUNDS DETECTED BELOW REGULATORY LIMIT. FIRST NUMBER INDICATES MAXIMUM MULTIPLE OF A DETECTED VOC OVER REGULATORY LIMIT (e.g., 130 INDICATES 130 x LIMIT). LETTER INDICATES COMPOUND WITH INDICATED EXCEEDANCE RATIO (e.g., P = TETRACHLOROETHENE). NUMBERS IN PARENTHESES INDICATE OTHER EXCEEDANCE RATIOS FOR SELECT COMPOUNDS AND WELLS. COMPOUNDS DETECTED IN BLANK(S) ARE NOT INCLUDED IN THIS EVALUATION.
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DRAFT

0 300' 600'

SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT
MONITORED NATURAL ATTENUATION REPORT

VOC EXCEEDANCE PLUME SHALLOW BEDROCK

ARCADIS Design & Consultancy for natural and built assets

FIGURE 3D

CITY: MANCHESTER, CT DIV/GROUP: ENV DB: B.SMALL PM: J. HOLDEN TM/TR: R. STEVENSON
G:\ENVCAD\Manchester\ACT\B0054634\0001\02200\2016 MNA\54634C10.DWG LAYOUT: 10 SAVED: 9/15/2016 9:56 AM ACADVER: 19.1S (LMS TECH) PAGESETUP: — PLOTSTYLETABLE: — PLOTTED: 9/15/2016 9:56 AM BY: SMALL, BRIAN
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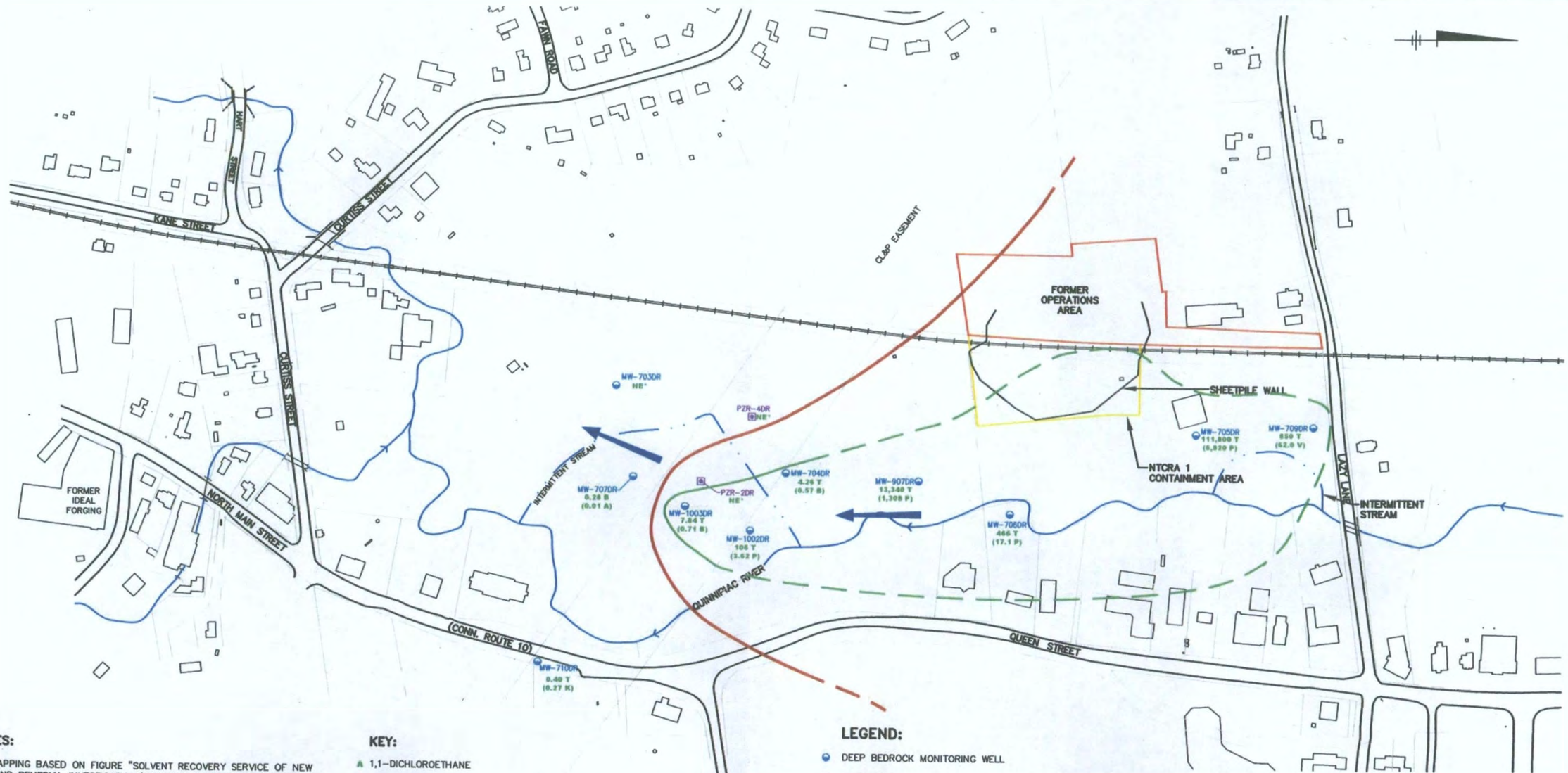

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KEY:

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- B BENZENE
- G CHLOROETHANE
- K 1,2-DICHLOROETHANE
- P TETRACHLOROETHENE
- T TRICHLOROETHENE
- V VINYL CHLORIDE
- NE EXCEEDANCE RATIO LESS THAN 0.10

LEGEND:

- DEEP BEDROCK MONITORING WELL
- PIEZOMETER
- ESTIMATED EXTENT OF GROUNDWATER VOC EXCEEDANCES OF MCLs OR CT DEEP CLASS GA GWPCs (2014-2016 SAMPLING RESULTS) (DASHED WHERE INFERRED)
- ESTIMATED NTCRA 2 CAPTURE ZONE BOUNDARY
- GENERALIZED GROUNDWATER FLOW DIRECTION
- MW-907DR 13,340 T (1,308 P) — WELL WITH REGULATORY EXCEEDANCE RATIO. NUMBERS >1.0 INDICATE GROUNDWATER REGULATORY LIMIT EXCEEDED. NUMBERS <1.0 INDICATE EXCEEDANCE RATIO FOR COMPOUNDS DETECTED BELOW REGULATORY LIMIT. FIRST NUMBER INDICATES MAXIMUM MULTIPLE OF A DETECTED VOC OVER REGULATORY LIMIT (e.g., 130 INDICATES 130 x LIMIT). LETTER INDICATES COMPOUND WITH INDICATED EXCEEDANCE RATIO (e.g., P = TETRACHLOROETHENE). NUMBERS IN PARENTHESES INDICATE OTHER EXCEEDANCE RATIOS FOR SELECT COMPOUNDS AND WELLS. COMPOUNDS DETECTED IN BLANK(S) ARE NOT INCLUDED IN THIS EVALUATION.
- * NO DETECTIONS ABOVE INTERIM CLEANUP LEVELS (ICLs) AT THIS LOCATION.

DRAFT

0 300' 600'

SRSNE SUPERFUND SITE
SOUTHINGTON, CONNECTICUT
MONITORED NATURAL ATTENUATION REPORT

VOC EXCEEDANCE PLUME DEEP BEDROCK

ARCADIS Design & Consultancy for natural and built assets

FIGURE 3E

CITY: MANCHESTER, CT DIV/GROUP: ENV DB: B.SMALL PM: J. HOLDEN TM/TR: R. STEVENSON
G:\ENVCAD\Manchester\ACT\B0054\04\00\102260\2016 MNA\5453AC11.DWG LAYOUT: 11 SAVED: 9/15/2016 9:58 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 9/15/2016 9:59 AM BY: SMALL, BRIAN
IMAGES: PROJECTNAME: ----
XREFS: 5453X01 5453X00

THERMAL TREATMENT ZONE

PROPOSED SHEEPILE LOCATION

PROPOSED SHEET PILE LOCATION

THERMAL TREATMENT ZONE

N

APPROX. SCALE

0 20' 40' 60' 80'

LEGEND

- HEATER WELL 15' (ZONE A)– 80
- HEATER WELL 18' (ZONE B)– 249
- HEATER WELL(ZONE B DEEP)– 14
- HEATER WELL 24' (ZONE C)– 237
- HEATER WELL(ZONE C DEEP)– 13
- VAPOR EXTRACTION WELL – 534
- PROPOSED SHEET PILE (INSTAQLLED BY OTHERS PRIOR TO ISTR)
- THERMAL TREATMENT ZONE
- SURFACE COVER
- GROUNDWATER MONITORING WELL – 7
- TEMPERATURE MONITORING WELL
  - CENTROID – 35
  - 3 FEET FROM HEATER – 11
  - PERIMETER – 8
- PRESSURE MONITORING WELL – 20
- ARCADIS MONITORING WELL – 44
- HORIZONTAL VAPOR EXTRACTION WELL (HVEW)
- HVEW WELLHEAD – 6

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REVISIONS

REV	DATE	BY	CHK	ENG	DESCRIPTION	APPROVED
F	04/24/13	DC			NUMBERED HO, TMP & PMP WELLS	
E	07/11/11	DC	DB		UPDATED LEGEND, ADDED ZONE B DEEP AND ZONE C DEEP HEATER WELLS	RS

TERRATHERM

SRSNE SUPERFUND SITE

WELLFIELD LAYOUT

SIZE	FILE NO.	DWG NO.	REV
D	C104		F

SCALE AS SHOWN | DWG | SHEET 1 OF 1

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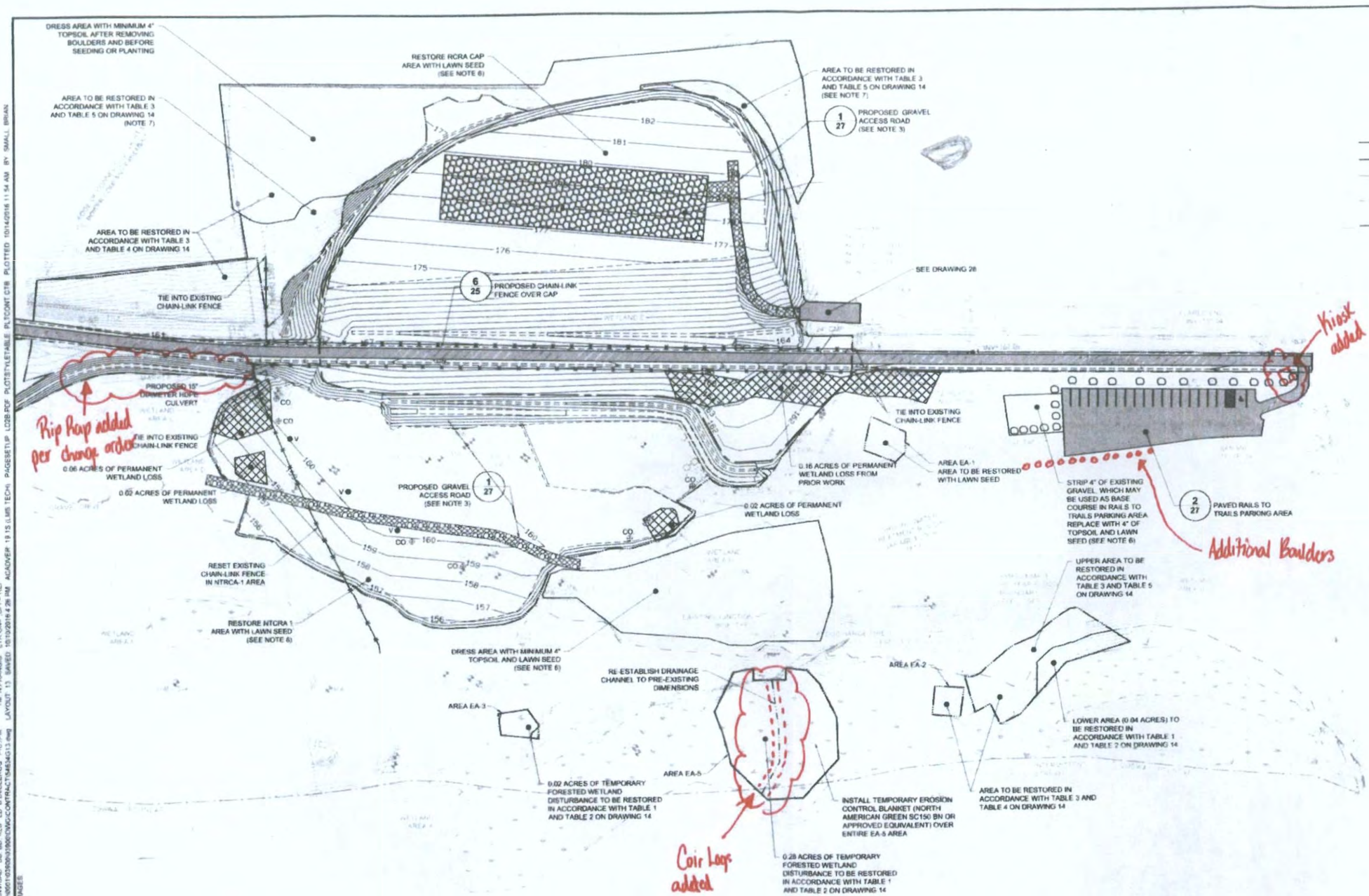
Figure 5

Photo 1: During *In Situ* Thermal Remediation (ISTR)

Photo 2: Cap Construction Complete (Sept 2017)



LEGEND:

- APPROXIMATE LIMIT OF WORK
- LIMIT OF RCRA CAP
- 150 PROPOSED FINAL GRADE/RESTORATION CONTOUR (1-FOOT CONTOUR INTERVAL)
- PROPOSED GRADE BREAK
- PROPOSED CHAIN-LINK FENCE OVER CAP (6/26)
- PROPOSED ROCK/BOULDER LOCATION
- PROPOSED ASPHALT PAVEMENT LIMITS
- PROPOSED GRAVEL ACCESS ROAD (1/27)
- RCRA STONE SURFACING IN SOLAR DEVELOPMENT AREAS (1/9)
- WETLAND LOSS AREA
- CO CLEANOUT LOCATION
- V NTCRA 1 VALVE
- X/XX DETAIL REFERENCE NUMBER / DRAWING REFERENCE NUMBER

NOTES:

1. REFER TO DRAWINGS 1 AND 2 FOR ADDITIONAL BASEMAP AND LEGEND INFORMATION
2. SEE DRAWING 14 FOR PLANTING SCHEDULE WITH SEED MIX AND PLANTING TABLES
3. TOP SURFACE OF ACCESS ROAD SHALL MATCH THE FINAL GRADE OF ADJACENT AREAS
4. REUSE EXISTING ROCK/BOULDERS FROM AREA ON SOUTHWEST SIDE OF CAP AS SHOWN ON DRAWING 3 SPACING SHALL BE WIDE ENOUGH TO ALLOW PEDESTRIAN AND BICYCLE PASSAGE BETWEEN BOULDERS, BUT NOT WIDE ENOUGH TO ALLOW PASSAGE OF MOTORIZED VEHICLES
5. EXCAVATION AREAS EA-1 AND EA-2 TO BE BACKFILLED TO WITHIN 4" OF ORIGINAL GRADE WITH GENERAL FILL AND 4" OF TOPSOIL TO RE-ESTABLISH ORIGINAL GRADE PRIOR TO PLANTING. AREAS EA-3 AND EA-5 (RESTORED WETLANDS) TO BE BACKFILLED TO WITHIN 12" OF ORIGINAL GRADE WITH GENERAL FILL AND 12" OF TOPSOIL TO RE-ESTABLISH ORIGINAL GRADE PRIOR TO PLANTING
6. LAWN AREAS SHALL BE RESTORED WITH THE FOLLOWING SEED MIXTURE: 65% KENTUCKY BLUEGRASS, 30% PERENNIAL RYE GRASS AND 16% FESTUE. THE SEED MIXTURE WILL BE SEEDED AT A RATE OF 150 POUNDS PER ACRE
7. TREES AND SHRUBS SHALL NOT BE PLANTED WITHIN THE RIGHT-OF-WAY FOR THE FIBER OPTIC LINE
8. ANCILLARY AREAS DISTURBED IN THE COURSE OF THE WORK (EG. STAGING AREAS, TEMPORARY CHECK DAMS AND TEMPORARY ACCESS POINTS) SHALL BE RESTORED CONSISTENT WITH SURROUNDING AREAS AT NO ADDITIONAL COST TO THE OWNER

AS-BUILT DRAWING No. 18

1"=50' 50' 0 50' 100'

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING — USE TO VERIFY FIGURE REPRODUCTION SCALE

No	Date	Revisions	By	Ckd

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Professional Engineer's Name: JEFFREY HOLDEN
Professional Engineer's No: 0523403
State: CT | Date Signed | Project Mgr: ABM/ANE
Designed by: MWF | Drawn by: BS | Checked by: JEM

ARCADIS Design & Consultancy for natural and built assets
ARCADIS U.S. INC.

SOLVENTS RECOVERY SERVICE OF NEW ENGLAND, INC. (SRSNE) SUPERFUND SITE • SOUTHINGTON, CONNECTICUT
RCRA CAP 100% DESIGN

SITE RESTORATION PLAN

GENERAL

ARCADIS Project No: B0054634.0001.03000
Date: OCTOBER 2016
ARCADIS OF NEW YORK
6723 TOWNPATH RD
PO BOX 66
SYRACUSE, NEW YORK
TEL: 315 446 9120

6

CITY: SYRACUSE, NY DIV/GROUP: ENVICAD DB: BD, KLS, LD, B DeCLERCQ PIC PIN: TM: N.FRANGIS LYR:On=*;Off=*REF* G:\ENVCAD\Active\ACT\B0054634\0001\03000\03000\CONTRACT\54634G13.dwg LAYOUT: 13 SAVED: 10/10/2016 4:26 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: LD2B.PDF PLOTSTYLETABLE: PLTCONT.CTB PLOTTED: 10/14/2016 11:54 AM BY: SMALL, BRIAN
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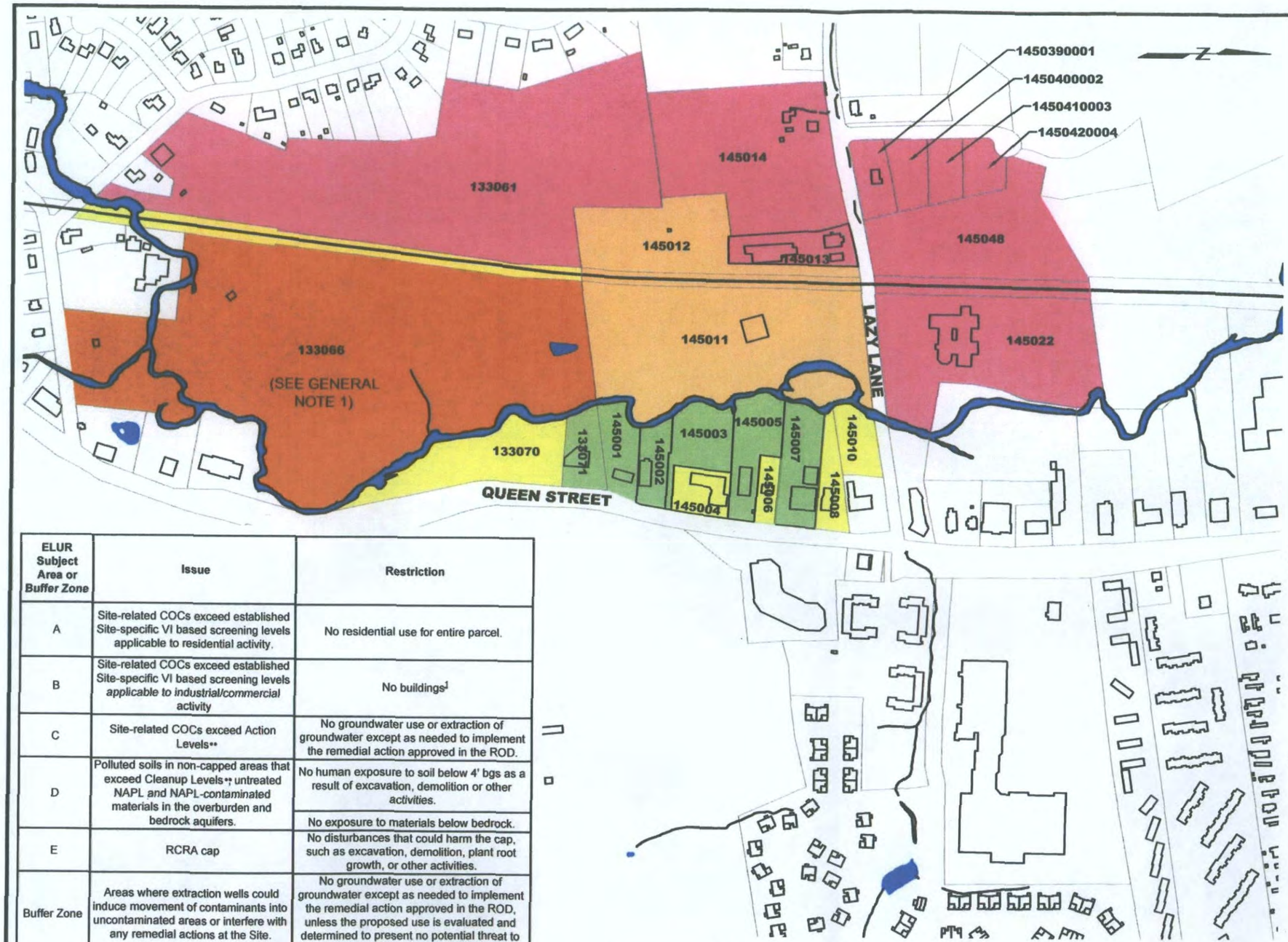

LEGEND:

- RAILROAD
- STREAM
- BUILDING
- LAKE
- RIVER
- PARCEL BOUNDARY
- RESTRICTIONS ASSOCIATED WITH SUBJECT AREA C APPLY
- RESTRICTIONS ASSOCIATED WITH SUBJECT AREA C AND D APPLY
- RESTRICTIONS ASSOCIATED WITH SUBJECT AREA D APPLY
- RESTRICTIONS ASSOCIATED WITH SUBJECT AREA A, B, C, D, AND E APPLY
- BUFFER ZONE (PROPERTIES NOT PRESENTLY AFFECTED BY THE PLUME, BUT WHICH COULD BE AFFECTED IF A WATER SUPPLY WELL WAS INSTALLED AND OPERATED IN A MANNER THAT COULD CAUSE THE PLUME TO MIGRATE BEYOND ITS CURRENT CONFIGURATION) (SEE GENERAL NOTE 2).

ELUR Subject Area or Buffer Zone	Issue	Restriction
A	Site-related COCs exceed established Site-specific VI based screening levels applicable to residential activity.	No residential use for entire parcel.
B	Site-related COCs exceed established Site-specific VI based screening levels *applicable to industrial/commercial* activity	No buildings[1]
C	Site-related COCs exceed Action Levels**	No groundwater use or extraction of groundwater except as needed to implement the remedial action approved in the ROD.
D	Polluted soils in non-capped areas that exceed Cleanup Levels*; untreated NAPL and NAPL-contaminated materials in the overburden and bedrock aquifers.	No human exposure to soil below 4' bgs as a result of excavation, demolition or other activities.
		No exposure to materials below bedrock.
E	RCRA cap	No disturbances that could harm the cap, such as excavation, demolition, plant root growth, or other activities.
Buffer Zone	Areas where extraction wells could induce movement of contaminants into uncontaminated areas or interfere with any remedial actions at the Site.	No groundwater use or extraction of groundwater except as needed to implement the remedial action approved in the ROD, unless the proposed use is evaluated and determined to present no potential threat to public health or the environment.

Notes:

1. Note that buildings could be constructed within this area provided that they include appropriate vapor barriers or other measures to mitigate potential vapor intrusion. This would require an ELUR release pending approval by the USEPA and CT DEEP that the measures will be a suitable control.
2. The more stringent of the federal drinking water standards (i.e., Maximum Contaminant Levels (MCLs) or the Connecticut Groundwater Protection Criteria (GWPC).
3. Per Table L-2 of the Statement of Work (SOW).

GENERAL NOTES:

1. PARCEL 133066 IS THE TOWN WELL FIELD PROPERTY. IT FALLS WITHIN THE AFFECTED GROUNDWATER PLUME AND WOULD BE SUBJECT TO THE RESTRICTIONS OF SUBJECT AREA C. HOWEVER, AS REQUIRED BY THE SOW, AN ALTERNATIVE APPROACH FOR GROUNDWATER MANAGEMENT EXISTS WITHIN THIS PROPERTY (THE MEMORANDUM OF AGREEMENT AND SUPPLEMENTAL CONTAINMENT ACTION PLAN; SEE SECTION 4.3 OF THE IC PLAN TEXT). RESTRICTING PARCEL GROUNDWATER USE ON THIS PARCEL VIA AN ELUR WOULD BE INCONSISTENT WITH THOSE COMPONENTS OF THE APPROVED REMEDY.
2. THE SRSNE SITE GROUP PROPOSES TO WORK WITH THE SOUTHINGTON HEALTH DEPARTMENT AND CT DEEP PERMITTING AUTHORITY TO ESTABLISH MEASURES WHEREBY APPLICATIONS FOR NEW WELL INSTALLATIONS MINIMUM, THAT THE PERMITTING AGENCY WOULD CONSULT WITH THE SRSNE SITE GROUP TO SIMULATE THE LOCATION AND EXPECTED FLOW RATE OF SUCH NEW WELL(S) TO ASSESS THE POTENTIAL FOR AFFECTING THE SRSNE-RELATED PLUME (AS IT EXISTS AT THAT FUTURE POINT IN TIME) PRIOR TO ISSUING ANY PERMIT.

0 400 800

SCALE: 1" = 400'

SOURCE:

1. PLAN BASED ON MAP PREPARED BY ARCADIS TITLED *PARCELS PROPOSED FOR ELURs* DATED 8/29/2012.

Institutional Control Plan
SRSNE Superfund Site
Southington, Connecticut

GEI Consultants

PARCELS PROPOSED FOR ELURs AND BUFFER ZONE DESIGNATION

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