STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

PETITION OF WALLINGFORD ENERGY II, LLC

FOR A DECLARATORY RULING TO APPROVE

THE INSTALLATION AND OPERATION OF TWO

50 MW PEAKING UNITS AT AN EXISTING FACILITY

IN WALLINGFORD, CONNECTICUT

WALLINGFORD ENERGY II, LLC

PETITION FOR DECLARATORY RULING

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PETITION FOR DECLARATORY RULING

I. INTRODUCTION

A. Statutory Authority

Pursuant to Section 16-50k of the Connecticut General Statutes ("C.G.S.") and Sections 16-50j-38 to 16-50j-40 of the Regulations of Connecticut State Agencies ("R.C.S.A."), Wallingford Energy II, LLC ("WE II") hereby submits this Petition to the Connecticut Siting Council (the "Council") for a Declaratory Ruling approving WE II's proposal to install and operate two additional electric generating units of approximately 50 megawatts ("MW") each (the "Project") at the existing generating facility owned and operated by an affiliate, Wallingford Energy, LLC in Wallingford (the "Facility"). The Council approved the construction of the Facility by declaratory ruling at the previous site of the Alfred L. Pierce Station in Petition No. 451. The Project is being proposed primarily to help satisfy capacity and fast-start operating reserve needs in the State of Connecticut and New England. The Project is eligible for approval by declaratory ruling pursuant to C.G.S. § 16-50k(a) because it is an electric generating facility that will be

located at a site where an electric generating facility existed prior to July 1, 2004. Further, due to its location, configuration, emissions profile reductions, and expected limited operation as a peaking facility, the Project will not have substantial adverse environmental effects.

B. Project Overview

WE II proposes to add two combustion turbines ("CTs") and appurtenant equipment to the existing Wallingford Energy Facility, which will increase the Facility's overall power output. The primary motivation for this addition is to help satisfy capacity and reserve requirements. The two additional CTs, referred to as Units 6 and 7, will provide quick-start capacity in the Southwest Connecticut zone, a transmission-congested load pocket within the New England electrical system.

Units 6 and 7 will be able to achieve full load output within 10 minutes of being dispatched by the regional grid operator, ISO New England (ISO-NE). The "quick-start" nature of this peaking capacity is vital to the reliable operation of the power system by enabling it to recover from system contingencies, such as a sudden loss of generating capacity or transmission lines outages or unexpected swings in intermittent renewable generation.

Units 6 and 7 will be highly efficient LM6000 aeroderivative engines equipped with selective catalytic reduction (SCR) systems and oxidation catalysts. The Project will not have an adverse effect on the site or environmental resources, such as coastal or water resources by locating the Project at the existing Facility.

C. Applicant Information

Wallingford Energy II, LLC, an independent power producer, is a member of the LS Power Group which has developed, constructed, managed or acquired more than 32,000 MW of competitive power generation. Headquartered in East Brunswick, New Jersey, LS Power Group owns and operates a diverse portfolio of power generating facilities throughout the United States. WE II is a New England Power Pool ("NEPOOL") Member.

II. DESCRIPTION OF THE PROJECT

A. Site Description

The Facility and proposed Project are located at 115 John Street in the Town of Wallingford, Connecticut, as shown on the Site Location Map included as Attachment A (the "Project Site"). Wallingford Energy, LLC leases from the Town of Wallingford approximately 8.5 acres that is currently used for the Facility. Pursuant to agreements with the Town of Wallingford, Wallingford Energy II, LLC intends to be a sublessee of the Project Site in connection with the Project. The physical footprint of the existing Facility covers approximately 4.3 acres of the 8.5 acre Project Site; the Project will utilize approximately 0.9 additional acres of land area on the overall property for the Project's two proposed generating units. Additionally, portions of the broader Facility site will be used for minor relocations of existing equipment and the addition of new Project equipment, such as a generator step-up transformer.

The Project Site is zoned industrial, designated by the Town of Wallingford as an Industrial District I-40. Land to the north, south and west of the Project Site lies within the industrial district and is mostly developed for industrial uses such as manufacturing, the Town of Wallingford wastewater treatment plant and the Town's capped landfill. Properties to the east of the Project Site, across East Street, are zoned residential. Landscaping, berms and screening walls on the Project Site and its parent tract help screen views from these non-industrial properties.

B. Existing Facility

The existing Facility owned by Wallingford Energy, LLC consists of five General Electric LM6000 natural gas-fired combustion turbine units and associated equipment,

with a total output of approximately 219 MW during summer conditions. Major equipment supporting the combustion turbines at the Facility includes: a turbine exhaust system for each combustion turbine with selective catalytic reduction systems and oxidation catalysts; three natural gas compressors; one approximately 410,000 gallon demineralized water storage tank; one 20,000 gallon aqueous ammonia storage tank; three generator step-up transformers; a generator switchgear/breaker unit for each combustion turbine generator; a natural gas-fired anti-icing boiler rated at 33.5 million British thermal units per hour (MMBtu/hr); a 600kW emergency black start generator and dedicated 500 gallon fuel oil tank; water and ammonia injection and auxiliary skids; a sound wall; and plant operations building. Site Plans, included as Attachment B, illustrate the general layout of the existing Facility and proposed Project.

The Facility is electrically connected via two existing 115kV gen-tie lines to the adjacent Wallingford 13M substation owned by the Wallingford Department of Public Utilities. Fuel for the Facility's combustion turbines is supplied by an existing 12-inch diameter natural gas pipeline lateral connected to 10-inch and 16-inch pipelines of the Algonquin Gas Transmission Company system. The Project will share the Facility's electrical and gas interconnections, as well as much of the Facility's equipment.

The Facility originally entered service in 2001 on the former site of the Alfred L. Pierce Station, an approximately 22.5 MW coal-fired steam electric generation facility dating from 1953 that was later converted to oil-firing.

C. Facility Redevelopment

1. Proposed Combustion Turbines

The proposed Project's two additional CTs will be LM6000 aeroderivative combustion turbines, each with a nominal rating of 50 MW and equipped with an SCR and oxidation catalyst. Units 6 and 7 will be efficient, simple-cycle peaking units with fast-start capability. These characteristics provide several benefits. As fast start turbines, Units 6 and 7 can be offline while providing 10 and 30 minute reserves in the ISO-NE market, rather than continuously operating at low load to be able to respond timely to increased demand or system contingencies. Unlike traditional steam units in Connecticut that must operate at their economic minimum output to provide emergency reserves, Units 6 and 7 will only be called on based on economic merit or when needed to resolve contingencies and to maintain system reliability. As a result, Units 6 and 7 can provide valuable operating reserve services without producing air emissions, while more efficient but less responsive units are meeting system energy requirements. Being more efficient than many of the oil-fired steam units currently in operation in Connecticut, Units 6 and 7 require less fuel per unit of energy produced and are highly flexible in responding to the needs of the system. Both of these characteristics help to moderate wholesale electricity prices.

2. Lower Emissions

The two LM6000 CTs to be employed in the Project proposed by WE II will fire only natural gas, pursuant to agreements with the Town of Wallingford, greatly limiting the Project's emission profile compared to other combustion fuels. Post combustion emission controls will include an SCR system for the reduction of oxides of nitrogen (NOx) emissions. The existing aqueous ammonia tanks in use at the Facility are of sufficient capacity to support the two proposed turbines. Catalytic oxidation will be

employed in order to control carbon monoxide (CO) and volatile organic compounds (VOCs). An air permit application has been submitted to the Connecticut Department of Energy and Environmental Protection which includes a 4,000 hour per year operational limit for each proposed CT. This limitation is anticipated to be included as a condition of the final issued air permit. A more detailed description of the emission profile for the Project is provided in Section IV of this Petition. A copy of the air modeling analysis submitted to Connecticut Department of Energy Environmental Protection ("DEEP"), which demonstrates the Project's compliance with all applicable emission regulations and air quality standards, is available upon request.

3. Electrical Interconnection

WE II proposed to install a new generator step-up transformer ("GSU") which, in combination with or independent from an open terminal on an existing Facility GSU, will be used to step up the voltage of the output from Units 6 and 7 to 115kV for transmission on the bulk electrical system. As depicted in the Site Plans in Attachment B, a new gen-tie line will connect the Project's new GSU to existing Wallingford 13M ring bus at the existing breaker position that is to be used for Units 3-7 once the Project is complete.

Additional minor changes to the Wallingford Electric Division's system adjacent to the facility will be required, as described in detail in Section III.C below. These changes will be addressed in a separate petition to construct and/or notice submitted to the Council, which will be sponsored by the Wallingford Electric Division.

4. Site Aesthetics

The general visual character of the Project Site area is influenced by existing structures located around the Facility such as nearby manufacturing industries, a

wastewater treatment plant and adjacent Pierce Station. The existing 100 foot tall exhaust stacks are generally the Facility's most identifiable feature from nearby vantage points, as most of the Facility's existing generating equipment is surrounded by the brick façade acoustic and visual screening wall. Most Project elements, located among the existing Facility, will not be distinguishable from offsite views. The primary observable visual component of the Project will be the two new exhaust stacks proposed to be approximately 100 feet above grade; like the existing Facility, the Project's generating equipment will sit behind a brick façade acoustic and visual screening wall to screen off-site views.

Most existing landscaping, including the coniferous tree-lined berms predominantly screening views from the residential area along East Street, will remain intact. The existing screening trees along ThermoSpas Access Road on the northern portion of the Project Site will be relocated, if possible, further north to allow room for the two additional CTs and the Project's acoustic and visual screening wall; the relocated trees are shown on the Site Plans included as Attachment B. If it is infeasible to relocate the existing trees, new evergreen trees will be planted. Grass will be planted on areas not subject to vehicle or foot traffic and walkways and driveways will be of crushed stone or concrete. Project buildings and equipment will generally match the architectural character of the existing Facility. Photographs of the Project Site and visual renderings of the Project are included as Attachment C.

5. Sound Attenuation

The Connecticut noise control standards provided in the Connecticut State Code (RCSA Section 22a-69-1 to 22a-69-7.4), along with the Wallingford noise ordinance

(Ordinance #499), limit noise generated by an industrial facility to 61 dBA and 51 dBA at any residential property during the day and night, respectively. Further, noise levels originating at industrial facilities are not to exceed 70 dBA at industrial zones at any time. Continuous noise which possesses one or more audible discrete tones is considered excessive at 5 dBA below the standards listed above.

The existing Facility includes the following noise mitigation:

- Acoustical enclosures for the air compressors, water injection, ammonia injection and auxiliary skids;
- Building housing for the gas compressor coolers;
- A 50 foot tall barrier wall that extends on three sides of the existing facility;
- 20 foot tall barrier walls for the main transformers; and
- Noise control, which is a function of the SCR duct, for the turbine exhaust noise.

The Noise Study Report for the Project, provided in Attachment F, incorporates the following noise mitigation features for new Project equipment in order to achieve the noise levels presented therein:

- GE's "Mitigated Package" design (or equivalent);
- Stack exit silencing for the two new turbines;
- A 50 foot barrier wall, similar to that used by the Facility, for the additional two units; and
- A 25 foot barrier wall for the new transformer.

D. Construction Plan

Prior to the start of construction, WE II is required to obtain certain permits from various regulatory agencies. Major pre-construction permits include:

- **Air Permit Modifications**. WE II submitted an application to DEEP to amend the Facility's air permits to include the Project on February 4, 2015. Following this submittal WE II further refined the Project's layout which allowed the existing Facility to maintain 100-foot stack heights and for the new Project stacks to be erected to a height of 100 feet as well. WE II submitted an updated application reflecting these changes to the Project on July 20, 2015. WE II anticipates the issuance of draft air permits during the first quarter of 2016;
- **Inland Wetlands and Watercourses Permit.** WE II submitted an application to the Wallingford Inland Wetlands and Watercourses Commission (IWWC) on June 2, 2015 and received unanimous approval on July 1, 2015. A copy of the IWWC's approval is included in Attachment J. No equipment, facilities, or surface disturbance associated with this proposed expansion will occur within a wetland or watercourse. The need for regulatory approval by the IWWC was triggered due to the creation of approximately 14,600 square feet of surface area – in excess of 10,000 square feet regulatory thresholds, and the modification of the existing outlet control structure on the existing stormwater basin; and
- **Special Permit & Site Plan Approval.** WE II submitted an application to the Wallingford Planning & Zoning Commission on June 5, 2015 and received unanimous approval on July 13, 2015. A copy of the Special Permit and site plan approval is included in Attachment K.

Once all necessary pre-construction permits are received, WE II plans to manage a third-party contractor for the construction of the Project. The contractor will be responsible for obtaining ordinary course construction permits, procuring materials and equipment, subcontracting as warranted and managing day-to-day construction activities. Major development and construction activities and anticipated completion dates are as follows:

Major State, Local and Federal Permit Applications Filed	August 2015
Issue Contractor Notice to Proceed	June 2016
Combustion Turbines Delivered	June 2017
Begin Startup and Testing	December 2017
Commercial Operations Date	April 2018
Start of Capacity Commitment Period	June 1, 2018

A Project Schedule is included as Attachment D.

III. NEED FOR THE PROJECT

A. Future Electrical Needs in Connecticut and New England

ISO-NE is the not-for-profit corporation responsible for the reliable and economical operation on New England's electric power system, including comprehensive system planning management and administration of the region's wholesale electricity markets. As part of its planning role, ISO-NE prepares an annual Regional System Plan, the most recent version of which (the "2014 RSP") was released November 6, 2014.[1] The Regional System Plan presents, among other information, electrical demand forecasts on a 10-year planning horizon and details about the types of electrical market resources needed to meet system needs.

The 2014 RSP forecasts that although annual energy usage is essentially stagnant after accounting for projected energy efficiency, peak load will continue to grow over the planning horizon.[2] ISO-NE estimates that peak load will grow in excess of 1% annually in each of: the Southwest Connecticut subarea (in which Wallingford is located), the Connecticut zone, and New England as a whole.[3] This load growth, combined with a concentration of recently announced retirements and the limited volume of new resources results in ISO-NE forecasting that the system will reach a resource shortage of more than 400 MW in 2019, growing in excess of 1 GW by 2022. The resource shortage could

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[1] ISO New England Inc. 2014 Regional System Plan. November 6, 2014.
[2] 2014 Regional System Plan, p. 48.
[3] 2014 Regional System Plan, p. 43.

become further exacerbated if additional resources were to retire or fewer resources were imported from neighboring regions.[4]

WE II proposes the Project as an efficient means to help satisfy the growing peak needs in the region while recognizing the limited forecasted annual energy usage growth. Significantly, DEEP in its latest Integrated Resources Plan identified this project as one of the projects that would be available in forecasting the adequacy of the electric supply to meet summer peak demand in the 2014 to 2024 time period. [5]

Beyond providing peak capacity, the fast response characteristics of the Project will help satisfy other needs identified by ISO-NE. According to the 2014 RSP, "In addition to capacity resources being available to meet the region's actual demand for electricity, as discussed in Section 4.1, the system needs a certain amount of resources that can provide operating reserves and system regulation. The overall mix of resources providing operating reserves must be able to respond quickly to system contingencies stemming from equipment outages."[6] Through its planning process, ISO-NE analyzes requirements both system-wide and within load pockets. The operating characteristics and location of the Project enable it to provide these reserves within two of the three major import areas currently identified by ISO-NE: Greater Southwest Connecticut and Greater Connecticut. In the conclusion of the 2014 RSP, ISO-NE identifies the addition of fast-start resources in these load pockets as providing improved system performance.[7] Beyond improving system operation, ISO-NE expects that additional responsive

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[4] 2014 Regional System Plan, p. 62.
[5] Integrated Resources Plan for Connecticut, March 17, 2015, p. 11.
[6] 2014 Regional System Plan, p. 65.
[7] 2014 Regional System Plan, p. 192.

resources will support the integration of the growing volume of renewable resources on the system. "The need for flexible resources to provide operating reserves as well as other ancillary services, such as regulation and ramping, will likely increase as a result of unit retirements and the addition of intermittent resources, particularly wind and PV."[8] In its 2014 Regional Energy Outlook, ISO-NE identifies the integration of renewable resources as one of the three most important challenges affecting future reliability of the system,[9] a challenge which the Project is well suited to help meet.

B. Recent Electrical Market Signals

In order to provide cost-effective solutions to New England's electrical needs, including those identified in the preceding section, ISO-NE operates a number of wholesale markets. The Forward Capacity Market (FCM) ensures the sufficiency of installed capacity to meet electricity demand primarily three years in the future by sending locational signals to attract investment in new resources when needed.[10] The primary market mechanism for securing forward capacity is the Forward Capacity Auction (FCA), which ISO-NE holds in the first quarter each year. Inherent in the FCM design, resources offering at a price sufficient to clear against the sloped demand curve are deemed prudent to reliably and stably meet long-term capacity needs. This sloped demand curve, first implemented in the most recent Forward Capacity Auction in February 2015, FCA 9, was developed through comprehensive evaluations within a

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[8] 2014 Regional System Plan, p. 192.

[9] ISO New England Inc. 2014 Regional Energy Outlook. January 2014. p. 16.
[10] 2014 Regional System Plan, p. 32.

stakeholder process and ultimately approved by the Federal Energy Regulatory Commission.

WE II offered the Project and successfully cleared 90 MW of capacity in FCA 9 in February 2015, incurring an obligation for the Project to be in-service by June 1, 2018. The FCA 9 clearing price for most resources in New England, $9.55/kW-m, exceeded the previous highest price by approximately 35% - a clear indication that reserve margins are tightening and FCM is functioning as designed to help incent prudent new resources like the Project. Clearing as a fully-merchant resource with no planned out-of-market revenues demonstrates that the Project is needed to satisfy the goals of FCM.

From a historical context, FCA 9 is indicative of a recently emerging trend that ISO-NE reserve margins are decreasing. The results of the prior FCA in February 2014, which covers the 2017/2018 capacity commitment period, was different from all seven previous FCAs in that the volume of capacity procured in FCA 8 was less than the Net Installed Capacity Requirement by nearly 150 MW[11] – i.e., there were not enough resources willing to offer at or below the clearing price to satisfy the region-wide reliability requirement. As described in the previous section, ISO-NE projects that this trend could continue without new resources.[12]

Among other factors, accelerated generation retirements could greatly increase the need for new capacity. In its 2014 Regional Energy Outlook, ISO-NE identified generation retirements as one of the most serious challenges presented by the evolution of

[11] 2014 Regional System Plan, p. 58.
[12] 2014 Regional System Plan, p. 62.

the regional electrical system.[13] Retirements from an aging generation fleet due to in part to unattractive economics and environmental regulations could mean that as much as 6,000 MW of capacity would need to be replaced or repowered – a trend already in progress as evidenced by the nearly 2,500 MW of retirements announced in 2013 alone.[14]

In addition to capacity, the fast start capability of the Project helps meet reserve needs through the ISO-NE Forward Reserve Market. Under the rules currently in place, winter period reserve prices have risen from $0.35/kW-m net of capacity prices for 2012/2013 to $5.78 for 2014/2015.[15] Similarly dramatic increases have been realized for summer periods, jumping nearly 20-fold from 2012 to 2014 – an indication of tightening reserve supplies. Although the Connecticut zone's summer 2015 prices fell year over year, certain factors such as the separation of the northeastern Massachusetts/Boston zone played a role that may diminish over time with the buildout of the Greater Boston project and other transmission upgrades. The Project's quick response capabilities allow its participation in FRM thereby providing more competitive in-market outcomes to help keep prices in check.

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[13] ISO New England Inc. 2015 Regional Energy Outlook. January 2015. p. 19.
[14] 2014 Regional Energy Outlook. p. 14-15.
[15] Connecticut Department of Energy and Environmental Protection. 2014 Integrated Resources Plan for Connecticut. March 17, 2015. p. 22.

C. ISO-NE Interconnection Study

WE II submitted a generator interconnection request to ISO-NE in February 2014, which was assigned to the QP-440 queue position. ISO-NE completed the Project's System Impact Study Report in April 2015. The report shows that two upgrades are needed to support the Project's interconnection:

- Upgrade the approximately 150 feet long, 115kV, 1305 line to a nominal rating of at least 255 mega-volt amps ("MVA");
- Replace four circuit switchers at the Wallingford 115kV substation.

Following discussions with ISO-NE and the Wallingford Electric Department, WE II does not expect these upgrades will present any fatal flaw issues for permitting or construction as the upgrades are limited in scope and are located on existing utility station properties, thereby limiting the risk of substantial adverse impacts to the environment or community. WE II anticipates completing the interconnection study process in the third quarter of 2015 with the execution of a Large Generator Interconnection Agreement for the Project.

In addition to the generator interconnection studies, the Project was studied through the Overlapping Impact Analysis ("OIA") in the FCM qualification process. ISO-NE delivered the results of the OIA to WE II in August 2014. The OIA identifies six potential transmission issues, three of which are already being sufficiently upgraded independently of the Project per the 2014 Regional System Plan and one other which has been upgraded independent of the Project since the OIA was released.

The two remaining issues, comprised of the two ownerships of the full length of the 115kV 1208 line, arise under the loss of two outlet lines from the Wallingford 13M

substation – either as a result of a double circuit tower contingency for the 1630/1640 towers or a breaker failure contingency at the Wallingford 13M substation. ISO-NE has confirmed that the resulting 1208 overload can be resolved by addressing the aforementioned contingencies on the Wallingford Electric Department system.

Working with the Wallingford Electric Department, WE II has identified conceptual solutions for the two contingencies: one placing the 1630 and 1640 on separate structures and the other a minor reconfiguration of the Wallingford substation to resolve the stuck breaker issue.

The upgrades identified within this section, including the reconductoring of the 1305 line and upgrade of the four circuit switchers, are not within the scope of the current petition. The Wallingford Electric Department, as the owner of the equipment and facilities discussed herein, will be submitting a separate petition and/or notice (as appropriate), outlining the planned substation and transmission upgrades. As with the interconnection process projects, WE II expects that the Project-specific upgrades can be accomplished without substantial adverse impacts. ISO-NE and the Wallingford Electric Department have confirmed that all such upgrades are able to be completed in time for the start of the Capacity Commitment Period associated with FCA 9; WE II is in ongoing discussions with these parties to ensure that the schedule is met.

IV. ENVIRONMENTAL IMPACTS

A. Air Emissions

The Project is designed to meet all applicable State and Federal air quality requirements, as well as the terms of the Permits to Construct and Operate to be issued under RCSA Section 22a-174-3a. WE II submitted permit applications to DEEP on February 4, 2015, which were supplemented with revised applications on July 20, 2015. WE II can provide a copy of these applications to the Council upon request, as well as any permits issued once received from DEEP.

The Facility is a PSD major source due to emissions of a PSD pollutant (e.g., carbon monoxide) in excess of 100 tons per year (tpy), and the addition of the two new units will trigger PSD review for particulate matter (PM2.5/PM10/PM) and greenhouse gases (GHG). The Project will not trigger nonattainment new source review (NNSR) for NOx or VOCs due to emissions of each pollutant less than 25 tpy. As with the existing units 1-5, the two additional simple cycle natural gas-fired LM6000 CTs proposed to be installed by WE II will make use of several control technologies in order minimize emissions. Control strategies were selected based upon a Best Available Control Technology (BACT) analysis pursuant to RCSA 22a-174-3a(j)(1)(C) and (D) for emissions of NOx, CO, VOC, GHG, and PM/PM10/PM2.5.[16] The BACT analysis has been submitted to DEEP and is available upon request. A BACT analysis was not conducted for other subject pollutants as the potential emissions did not meet the State's 15 tpy threshold. Chosen methods of control include the implementation of an ammonia

[16] PSD BACT requirements are triggered for PM2.5, PM10, and GHG; state BACT requirements are triggered for NOx, CO, VOC, and PM.

(NH_3) based SCR system on each unit to reduce NOx emissions. A tempering air system may be employed to lower exhaust temperatures, preserving the lifespan of the catalyst within the SCR system. Further, each unit will be equipped with an oxidation catalyst which will minimize emissions of CO and VOC. Finally, WE II is proposing that each unit be limited to 4,000 hours per year of operation.

The air modeling analysis submitted to DEEP, which may be made available upon request, details the approach, development, and results of dispersion modeling for the proposed Project. The findings of this modeling demonstrate that the Project protects ambient air quality, meeting all applicable air quality standards and that the Project and the Facility will neither cause nor contribute to any violations of the applicable Connecticut Ambient Air Quality Standards (CAAQS), National Ambient Air Quality Standards (NAAQS), or PSD increments.

B. Wetlands

A wetlands delineation, performed prior to the Facility's construction, found that wetlands were not present within any areas to be disturbed by the construction or operation of the Facility. The Project is to be constructed within the boundaries of the previously delineated existing Facility site, which was graded during construction and has been maintained in a well-drained condition during the Facility's operation. Therefore, no impacts to wetlands or associated upland review areas are expected from the Project.

Town wetland regulations require projects that will result in the addition of more than 10,000 square feet of surfaced area to seek approval from the IWWC. Because the Project will add approximately 14,600 square feet of surfaced area, WE II submitted an application to the IWWC on June 2, 2015. The Town of Wallingford's Environmental

Planner conducted a site visit on June 22, 2015 to confirm the jurisdictional status of potentially regulated areas. The IWWC unanimously approved WE II's application on July 1, 2015, a copy of which is included in Attachment J.

C. Coastal Resources

The Project will not be located within the coastal boundary or the coastal area and therefore is not subject to the Coastal Management Act or a Coastal Consistency Review.

D. Natural Diversity Database

A preliminary review of the December 2014 version of DEEP's map of Natural Diversity Data Base ("NDDB") Areas was conducted and determined that the Project Site is not located within a "shaded area" that depicts known locations of endangered or threatened species and significant natural communities. However, in the interest of enhanced diligence regarding potential effects on natural resources that goes beyond the minimum requirements, WE II submitted a Connecticut Natural Diversity Data Base Review Request form to DEEP's Bureau of Natural Resources Wildlife Division. This review yielded a finding of no anticipated negative impacts from the proposed Project. The submitted application and agency response is provided in Attachment H.

E. Subsurface Environmental Conditions

EA Engineering, Science, and Technology, Inc. (EA) completed a Phase I Environmental Site Assessment (ESA) of Wallingford Energy, LLC in May of 2013. The Phase I report provided as Attachment G concludes no corrective or remedial action is currently required at the Project Site.

F. Water Resources

1. Water Supply

Baseload electric power generating facilities that include a steam cycle and wet cooling typically require large amounts of water, on the order of several million gallons per day (MGD). The proposed Project includes the addition of simple cycle combustion turbines in peaking service. Therefore, WE II is not proposing to add a steam cycle or wet cooling, and the water use rates for the new turbines will be relatively limited, at 0.1 MGD or less.

Water demand for the Project is estimated to average 10,000 gallons per day or less and approximately 257,400 gallons annually based on historic dispatch at the Facility. During extreme peak periods, each unit could use up to approximately 100,000 gallons per day if operated for the full 24 hours. However, the Facility has never experienced more than an approximately 16-hour dispatch in its fifteen year history, and even this event occurred only during an extreme system outage. Water use for the turbines, all of which is demineralized, may be broken down approximately as follows:

- 62.5% for NOx control (water injection)
- 25.0% Sprint (power augmentation)
- 12.5% for evaporative cooling

WE II considered the use of greywater or treated wastewater as potential water supply options; however, the use of such water streams would require extensive treatment to remove suspended solids, dissolved solids, or other components prior to being used in the generating units in order to prevent damage to sensitive turbine system components. Such treatment processes would result in negative environmental impacts such as energy use, chemical storage, and production of a waste stream for disposal. Additionally, purification of greywater or treated wastewater could result in costly capital and

operating expenditures. Moreover, greywater and treated wastewater streams can be unreliable as sources of water supply due to seasonal fluctuations in flow rates (e.g., lower flows during summer months when the Project is more likely to need water) or due to maintenance, outages, or malfunctions of the upstream collecting or treatment facilities. For these reasons, WE II does not consider greywater and treated wastewater as appropriate water supply options for the Project.

Prior to construction of the Facility, the original developer investigated the possibility of providing water to the Facility by constructing a groundwater wellfield in the Town of North Haven, along with an underground water pipeline connecting the wellfield to the Facility. This option was discarded during the initial development and permitting phase. WE II agrees with the elimination of a groundwater wellfield for water supply and concludes that water supply via a groundwater wellfield is not an appropriate water supply option due to the environmental impacts of constructing a network of wellfield water collection lines and potentially affecting flows in the Quinnipiac River.

The existing Facility uses potable water from the Wallingford Water Division, which has sufficient capacity to supply the Facility and the Project; requires only minimal processing prior to use in the generating units; and is a reliable source of water supply not subject to seasonal fluctuations in availability. Based on these factors, WE II has selected this water supply to serve the needs of the Project.

Upon review of the water usage rates discussed herein, the Town of Wallingford's Department of Public Utilities Water and Sewer Division provided confirmation that the Town's existing water system is able to support the Project without modification, as detailed in the Water and Sewer Division's review letter included as Attachment L.

In addition to discussing proposed water use and discharge, the letter included as Attachment L from the Town of Wallingford's Department of Public Utilities Water and Sewer Division makes note of water main and sanitary sewer line proximity matters. These have been addressed through the planned relocation of the water mains and avoidance of the sanitary sewer lines. The Grading & Utility Plan provided as part of the Project's Site Plan in Attachment B illustrates the aforementioned accommodations and demonstrates that there will be no detrimental impact to the Town's utilities.

2. Water Discharges

As indicated by the Town of Wallingford's Department of Public Utilities Water and Sewer Division in the letter provided as Attachment L, the anticipated incremental increase of a single operations staff member will result in a negligible increase in sanitary flow. The department has "no concerns regarding the existing sewer system's capability to handle the expansion of the facility."[17]

Process effluent water from the Project will be comprised mainly of evaporative cooler blowdown – a continuous removal of water from the recirculating loop to maintain an acceptable concentration level of dissolved solids. The rate of blowdown for each of the evaporative coolers of the proposed turbines will be approximately 3 gallons per minute when evaporative coolers are operating (generally during CT operations at temperatures of about 60° F and warmer). For the Facility, this blowdown stream is directed to the existing stormwater retention basin under DEEP general permit

[17] Letter from Erik Krueger of the Town of Wallingford Department of Public Utilities Water & Sewer Divisions (provided as Attachment L)

GCW050008; WE II will convey the blowdown stream for the Project's generating units to the same location.

3. Site Stormwater Runoff

The existing Facility utilizes a 15,900 square foot stormwater retention basin designed to accommodate the runoff from a 100-year storm event. Stormwater runoff is collected in a closed stormwater drainage system, treated by a low-flow oil/water separator, and sent into the stormwater retention area located in the southern portion of the Project Site. The location of the stormwater retention basin, along with other stormwater collection system features and floodplain limits, is shown in Attachment B.

The proposed expansion Project will increase impervious surface area at the Facility by approximately 14,600 square feet, which results in an estimated stormwater runoff volume increase of approximately 4,530 cubic feet for the 100-year storm event. This increase represents less than a 4% increase in stormwater runoff sent to the stormwater retention basin. Due to the high level of conservatism that was used in the initial design for the Facility, WE II's engineer has determined that the existing stormwater retention basin is capable of accommodating the relatively small incremental increase in design storm runoff from both the Facility and Project. Therefore, the existing stormwater retention basin will not require expansion or modification. The only improvement to the existing stormwater retention system is the addition of a brick and mortar vee notch weir to the existing basin outlet structure, which will accommodate the Project's stormwater flows without modifying the basin itself. The details of the new weir and the Project Site stormwater calculations are provided in Attachment E.

G. Sound

WE II commissioned a Noise Study Report, provided in Attachment F, to assess potential sound impacts resulting from the Project. Table 1 shown below (identified as Table 7 in the Noise Study Report) displays the calculated Facility and Project combined noise level and applicable standard at various locations. As shown in the table, the Project is expected to comply with all applicable standards.

Table 1: Calculated Facility Noise Levels Compared to the Connecticut Noise Standard (dBA)

Location	Calculated Facility and Project Noise Level	Applicable Standard
East and Park Streets	50.4	51
East and Carlton Streets	46.5	51
Clifton Street	40.3	51
Eagle Memorial Park	42.7	51
South and West Streets	43.0	51
David Drive and Cook Hill Road	47.3	51
Pierce Station Property Line	46.9	70
Industrial Property Line 1	66.8	70
Industrial Property Line 2	65.2	70

Table 2 below (Table 6 of the Noise Study Report) shows the Project's increase over existing Facility operational noise levels. All increases are less than 3 dBA, which is generally considered to be imperceptible or barely perceptible. A decrease in noise is projected at the Pierce Station property line location. This reduction is due to a sound barrier that was constructed at the Pierce Station after the existing Wallingford project was licensed.

Table 2: Noise Modeling Results Compared to Existing Facility Sound Levels (dBA)

Location	Modeled Existing Facility Noise Level	Modeled Post-Project Noise Level	Increase Over Existing Facility Operational Noise Level
East and Park Streets	49.6	50.4	0.8
Pierce Station Property Line	49.3	46.9	-2.4
East and Carlton Streets	45.7	46.5	0.8
Clifton Street	39.5	40.3	0.8
Eagle Memorial Park	41.7	42.7	1.0
South and West Streets	40.1	43.0	2.9
South Turnpike Road	46.9	48.8	1.9
David Drive and Cook Hill Road	44.6	47.3	2.7

H. Traffic

The Project is expected to have a minimal impact on traffic levels of service. Construction is temporary with a relatively short duration, approximately a year in total.

Table 3 provides an estimate of the daily construction workforce and average deliveries by construction month.

Table 3: Estimated Daily Construction Traffic

Construction Month	Average Workers per Day	Average Deliveries per Day*
1	7	2
2	30	2
3	52	3
4	78	2
5	103	4
6	89	2
7	77	1
8	77	1
9	77	1
10	97	1
11	46	1
12	19	1
Overall Maximum	103	20**
Overall Average	63	1.3

* Average deliveries are rounded up to the next whole number assuming 22 working days per month
**Conservative maximum estimate, likely corresponding to concrete pours or SCR delivery

According to the Town of Wallingford Economic Development office, the industries adjacent to the Project Site, now or formerly known as ThermoSpas and Allegheny Ludlum, have reached a peak employment of 266 and 185, respectively,

within the last ten years. The peak traffic generated during construction of the Project, about 123 workers and deliveries, is expected to be less than half of what the adjacent industries generated along the same roadways on a permanent basis in recent years. Therefore, WE II does not expect construction traffic to exceed that of the previous normal operations of these industries.

Preliminarily, WE II proposes to use property adjacent to and north of the ThermoSpas Access Road for construction laydown and contractor parking. Construction traffic, including deliveries, would therefore primarily access the proposed construction parking and laydown site via South Colony Road to John Street and finally to East Street. Therefore, construction traffic would be taking the same routes as historically used by the now-closed adjacent industries. Because the Project construction traffic is expected to be temporary, relatively short in duration, and not exceed local historic traffic flows, WE II does not expect Project construction will create significant adverse traffic impacts.

During operations, WE II anticipates that the Project will result in the addition of one staff operator to the Facility's current staff of seven employees. Deliveries would at most be expected to increase proportionately with the addition of two new units to the existing five (i.e., 40% or less). The current Facility typically has fewer than 5 deliveries each month, which translates to an anticipated 8 deliveries or less per month for the Facility and Project together once the Project is operational. With these minimal trip increases over existing conditions, the Project's permanent impact on traffic during operations will be negligible.

V. STATE AND MUNICIPAL CONSULTATIONS

WE II has been in contact with all regulatory agencies involved in the Project; has coordinated with the following Town of Wallingford divisions: Mayor's office, Town Council, Fire Department, Water and Sewer Division, Electric Division, Inland Wetland and Watercourses Commission, and Planning and Zoning Commission; and has offered public outreach efforts to solicit feedback on improving the Project.

WE II reached out to the neighboring residents to engage their involvement. On August 4, 2014, WE II held a neighborhood meeting at Wallingford Town Hall to offer residents an opportunity to learn about the proposed Project and provide an avenue for communication. Conversations with everyone contacting WE II, including the community and regulatory agencies, have been positive. All parties have recognized the benefits of adding new, reliable and efficient generation at the current Facility.

The Project has required a substantial amount of coordination and cooperation with the Town of Wallingford. WE II worked with the Town on expanding the Project Site lease agreement and tax payment agreements to encompass both the Facility and the Project. The Town Council approved agreements permitting the expansion Project at a public meeting in January 2015. WE II submitted applications for review to the IWWC and the Planning and Zoning Commission, receiving unanimous approval from both in July 2015. The Project's electrical study processes, both interconnection and OIA, have included significant coordination with the Wallingford Electric Department. As evidenced by WE II's progress in each of these areas, the Town has demonstrated its support of the WE II's efforts and commitment to the Project's success. An Authorization and Consent to Submit Applications for Permits and Approvals, executed

by the Wallingford Mayor, included at Attachment I, references the Host Community Agreement which includes terms that provide for the Town's support in the development of the Facility; these provisions then carry through to the Project through the terms of the lease amendment expressly permitting the expansion Project, as approved by the Town Council.

In addition to coordination with the Town, WE II has submitted applications for the Project to DEEP's Bureau of Air Management Engineering & Enforcement Division. As initial consultations and pre-application meetings with CT DEEP have been productive and positive, WE II does not foresee significant obstacles within this permitting process.

Going forward, WE II is open to holding additional community meetings with local community groups in cooperation with the Town of Wallingford. Additionally, WE II will continue to consult with the Town of Wallingford's planning authorities and as the Project moves forward and will notify the Council of significant developments.

VI. CONCLUSION

Based on the foregoing and the associated attachments, WE II respectfully requests that the Council approve the Project by Declaratory Ruling as allowed under C.G.S. § 16-50k. The Project will provide needed electric generation capacity and reserves and will increase reliability without substantial adverse environmental effects.

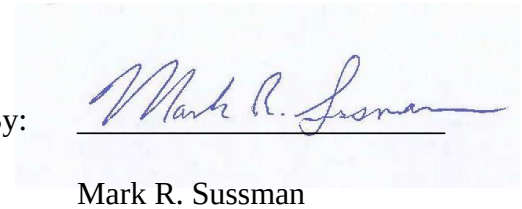
Finally, in accordance with R.C.S.A. § 16-50j-39, the names addresses and telephone numbers of the persons to whom correspondence or communications in regard to this Petition are to be directed are:

Wallingford Energy II, LLC
Attn: Blake Wheatley
400 Chesterfield Center, Suite 110
St. Louis, MO 63017
Telephone: (636) 532-2200
Facsimile: (636) 532-2250

Mark R. Sussman, Esq.
Patricia L. Boye-Williams, Esq.
Murtha Cullina LLP
CityPlace I, 29th Floor
185 Asylum Street
Hartford, CT 06103-3469
Telephone: (860) 240-6000
Facsimile: (860) 240-6150

Respectfully submitted,

WALLINGFORD ENERGY II, LLC

By: 

Mark R. Sussman
Patricia L. Boye-Williams
Murtha Cullina LLP
CityPlace I, 29th Floor
185 Asylum Street
Hartford, CT 06103-3469
Telephone: (860) 240-6000
Its Attorneys

ATTACHMENTS

A. Site Location Map

B. Site Plans

C. Site Photos and Artist's Rendering

D. Project Schedule

E. Site Engineering and Stormwater Management Report

F. Noise Study Report

G. Phase I Environmental Site Assessment Report

H. DEEP Natural Diversity Database Letter & Agency Response

I. Authorization and Consent to Submit Applications for Permits and Approvals

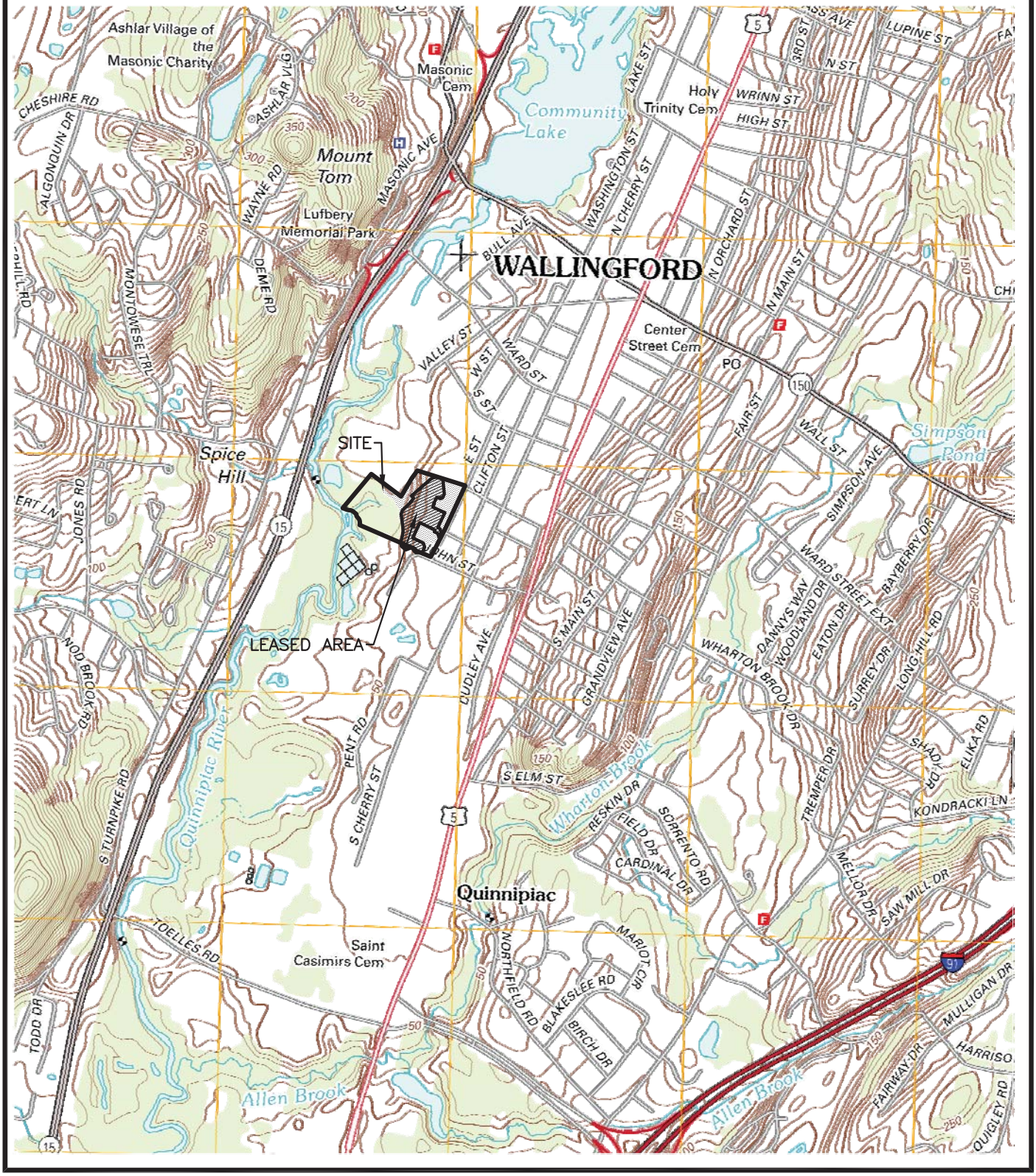
J. IWWC Approval

K. Special Permit and Site Plan Approval

L. Wallingford Division of Water and Sewer Letter

M. Notice of Petition & Map of Abutters

Attachment A – Site Location Map



GODFREY HOFFMAN ASSOCIATES, LLC
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LOCATION MAP

WALLINGFORD ENERGY II, LLC

DRAWN BY:	MP
CHECKED BY:	JR
SCALE:	1"=2000'
PROJECT:	15-011
DATE:	6-2-2015

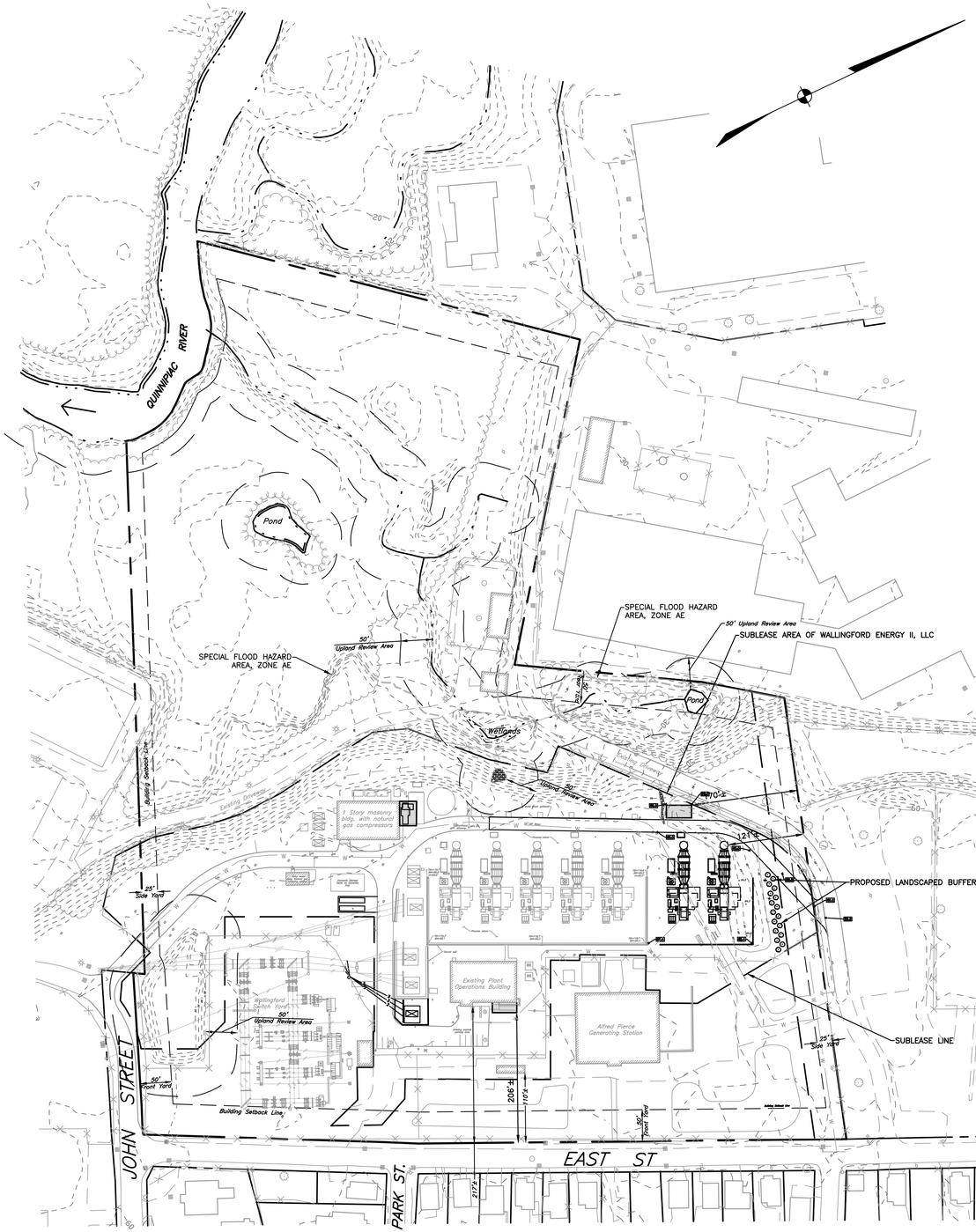
Attachment B – Site Plans

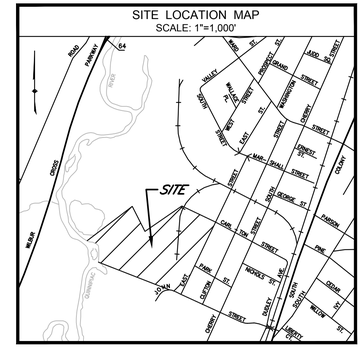
GENERAL NOTES

1. TOPOGRAPHICAL, PROPERTY LINES, EXISTING SITE FEATURES, AND UTILITY INFORMATION TAKEN FROM MAPS PROVIDED BY WALLINGFORD ENERGY II, LLC AND ON FILE AT THE WALLINGFORD TOWN HALL. INFORMATION ON EXISTING UTILITIES HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY COMPANY AND MUNICIPAL RECORD MAPS AND FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE. THE CONTRACTOR AND/OR RESPONSIBLE PARTY IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES INCLUDING SERVICES. PRIOR TO CONSTRUCTION, CONTACT "CALL BEFORE YOU DIG" AT 800-922-4455 AND VERIFY ALL UNDERGROUND AND OVERHEAD UTILITY LOCATIONS.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL ELEVATIONS, PROPERTY LINES, LOCATION OF UTILITIES AND SITE CONDITIONS IN THE FIELD. IF AN UNFORESEEN INTERFERENCE EXISTS BETWEEN AN EXISTING AND A PROPOSED STRUCTURE, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER SO THAT THE APPROPRIATE REVISIONS CAN BE MADE.
3. IT IS THE DEVELOPER'S RESPONSIBILITY TO OBTAIN ALL NECESSARY PERMITS AND/OR EASEMENTS FROM STATE AND LOCAL AUTHORITIES AND ANY CONSTRUCTION RIGHTS AND/OR SLOPE RIGHTS AS MAY BE REQUIRED FROM THE PROPERTY OWNERS.
4. THE CONTRACTOR IS TO CONTACT "CALL BEFORE YOU DIG" TO HAVE ALL UTILITY LINES CLEARLY MARKED PRIOR TO ANY EXCAVATION.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE THAT ALL PIPING IS PROPERLY BEDDED AND STABILIZED IN AREAS OF HIGH GROUND WATER AND/OR UNSTABLE SOIL CONDITIONS.
6. IT IS THE RESPONSIBILITY OF EACH BIDDER IN EVALUATING THESE PLANS TO MAKE EXAMINATIONS IN THE FIELD BY VARIOUS METHODS AND OBTAIN NECESSARY INFORMATION FROM AVAILABLE RECORDS, UTILITY CORPORATIONS, AND INDIVIDUALS AS TO THE LOCATION OF ALL SUBSURFACE STRUCTURES.
7. THE CONTRACTOR IS TO USE CAUTION WHEN WORKING NEAR OR UNDER OVERHEAD AND UNDERGROUND UTILITIES. THE CONTRACTOR IS TO NOTIFY THE UTILITY COMPANIES OF HIS INTENT PRIOR TO THE COMMENCEMENT OF ANY WORK.
8. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TOWN OF WALLINGFORD STANDARDS AND/OR CONNECTICUT DEPARTMENT OF TRANSPORTATION (CT-DOT) FORM 816, LATEST EDITION.
9. ANY DRAINAGE STRUCTURES, DITCHES, ASPHALT, CURBS OR GRASSED AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE ORIGINAL CONDITION.
10. ALL AREAS OF DISTURBED EARTH SHALL BE STABILIZED BY MULCHING OR OTHER MEANS. SEEDING OF GRASSED AREAS SHALL BE INITIATED AS SOON AS PRACTICAL AS AN EROSION AND SILTATION CONTROL MEASURE.
11. ALL STORM SEWER LINES ARE TO BE INSTALLED USING INVERT ELEVATIONS, PIPE SLOPES SHOWN ARE APPROXIMATE AND ARE FOR REFERENCE ONLY.
12. APPLICABLE STORM SEWER CONSTRUCTION SHALL CONFORM TO THE TOWN OF WALLINGFORD STORM SEWER SPECIFICATIONS.
13. STORM DRAINAGE PIPING SHALL BE AS FOLLOWS:
    CPP-ADS N-12 OR HANCOR CORRUGATED POLYETHYLENE PIPE WITH SMOOTH INTERIOR HIQ-HANCOR HI-Q CORRUGATED POLYETHYLENE PIPE WITH SMOOTH INTERIOR RCP-REINFORCED CONCRETE PIPE
14. ALL ROOF DRAINS ARE TO BE CONNECTED TO THE STORM DRAINAGE SYSTEM WHERE SHOWN.
15. THE REQUIREMENTS FOR ADDITIONAL UNDERDRAINAGE, DRAINAGE, CATCH BASINS, RETAINING AND/OR HEADWALLS NOT SHOWN ON THESE PLANS IS TO BE FIELD DETERMINED AFTER DRIVEWAYS AND PARKING AREAS HAVE BEEN CUT TO SUBGRADE.
16. WATER LINE CROSSING ALL OTHER UTILITIES SHALL MAINTAIN A 12 INCH VERTICAL SEPARATION DISTANCE. NO WATER LINE IS TO BE INSTALLED WITHIN 10 FEET OF THE SANITARY SEWER SYSTEM.
17. RETAINING WALLS OVER 3' IN HEIGHT ARE TO BE DESIGNED AND CONSTRUCTED UNDER THE SUPERVISION OF A STATE OF CONNECTICUT LICENSED PROFESSIONAL ENGINEER.
18. RETAINING WALLS THAT REQUIRE AN ENGINEERED DESIGN SHALL BE SUBMITTED TO THE TOWN OF WALLINGFORD BUILDING DEPARTMENT ALONG WITH CALCULATIONS FOR REVIEW AND APPROVAL BEFORE ANY CONSTRUCTION BEGINS.
19. PROPOSED WATER SERVICES ARE TO MEET THE REQUIREMENTS OF THE STATE PLUMBING CODES AND WALLINGFORD WATER DEPARTMENT.
20. THE ON-SITE DRAINAGE SYSTEM WILL REMAIN PRIVATE. THE PROPERTY OWNER IS TO PROVIDE REGULAR MAINTENANCE OF THE SYSTEM TO ALLOW IT TO CONTINUALLY FUNCTION AS INTENDED.
21. ANY WORK AFFECTING EXISTING TREES WITHIN A CITY ROAD RIGHT-OF-WAY OR ON CITY PROPERTY IS TO BE APPROVED BY THE TOWN OF WALLINGFORD.
22. RETAINING WALLS ARE TO HAVE PROTECTIVE FENCING WHERE WARRANTED.
23. COMPACTION OF FILL IS TO BE PROVIDED IN ACCORDANCE WITH CT-DOT FORM 816.
24. UTILITY SERVICES ARE TO BE ABANDONED IN ACCORDANCE WITH THE UTILITY OWNERS REQUIREMENTS PRIOR TO SITE WORK.
25. RELOCATION OF UTILITY COMPANY FACILITIES SUCH AS POLES, SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE FACILITY OWNERS.
26. A PORTION OF THE PARCEL IS LOCATED WITH A SPECIAL FLOOD HAZARD AREA ZONE AE, PER "FIRM FLOOD INSURANCE RATE MAP, NEW HAVEN COUNTY, CONNECTICUT (ALL JURISDICTIONS) PANEL 304 OF 635, MAP NUMBER 09009C0304H; EFFECTIVE DATE DECEMBER 17, 2010," FROM FEDERAL EMERGENCY MANAGEMENT AGENCY.

REFERENCE MAPS:

1. WALLINGFORD EXPANSION PROJECT BY LS POWER DEVELOPMENT, LLC; SITE PLAN, G1; REVISED 10-27-2014
2. UTILITIES AT ALFRED PIERCE ELECTRIC GENERATING PLANT BY TOWN OF WALLINGFORD, CONNECTICUT DEPARTMENT OF PUBLIC UTILITIES SEWER DIVISION, DATED 3-1-99
3. ALTA/ACSM LAND TITLE SURVEY; SURVEYOR CERTIFICATION BY AMERICAN NATIONAL DATED JUNE 1, 2011
4. SANITARY SEWER AND STORM DRAINAGE PLAN (DRAWING NO. C12) PREPARED BY BARTON MALOW COMPANY, OBTAINED FROM THE TOWN OF WALLINGFORD ENGINEERING DEPARTMENT.





BULK REQUIREMENTS

APPLICANT:	WALLINGFORD ENERGY II, LLC 400 CHESTERFIELD CENTER, SUITE 110, ST. LOUIS, MO 63017	
OWNER:	TOWN OF WALLINGFORD (SUBLESSE: WALLINGFORD ENERGY II, LLC)	
ZONE:	I-40 ZONE	
USE:	INDUSTRIAL	
	REQUIRED	PROVIDED
MINIMUM LOT AREA	40,000 SQ. FT.	1,172,435 SQ.FT. ± 26.9± ACRES
MINIMUM FRONTAGE	150 FT.	1,270 FT. ±
MINIMUM FRONT YARD	50 FT.	110 FT. ±
MINIMUM SIDE YARD	25 FT.	75 FT. ±
MINIMUM REAR YARD	50 FT.	424 FT. ±
MAXIMUM COVERAGE	35%	3% ±
MAXIMUM BUILDING HEIGHT	30 FT.	

0 100 200 300

IMPORTANT NOTE:

ALL ABOVE AND BELOW GROUND IMPROVEMENTS ARE NOT SHOWN OR DEPICTED HEREON. ADDITIONAL UNDERGROUND UTILITIES MAY EXIST. PRIOR TO ANY EXCAVATION OR CONSTRUCTION, CONTACT: "CALL BEFORE YOU DIG" 1-800-922-4455

GODFREY/HOFFMAN ASSOCIATES, LLC
PROFESSIONAL LAND SURVEYORS & CIVIL ENGINEERS
28 BROADWAY NORTH HAVEN, CT 06473
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STATE OF CONNECTICUT * REGISTERED * No. 17507 PROFESSIONAL ENGINEER
NOT VALID WITHOUT LIVE SIGNATURE AND SEAL

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

PROJECT:

FACILITY EXPANSION PROJECT

115 JOHN STREET
WALLINGFORD, CONNECTICUT

PREPARED FOR:

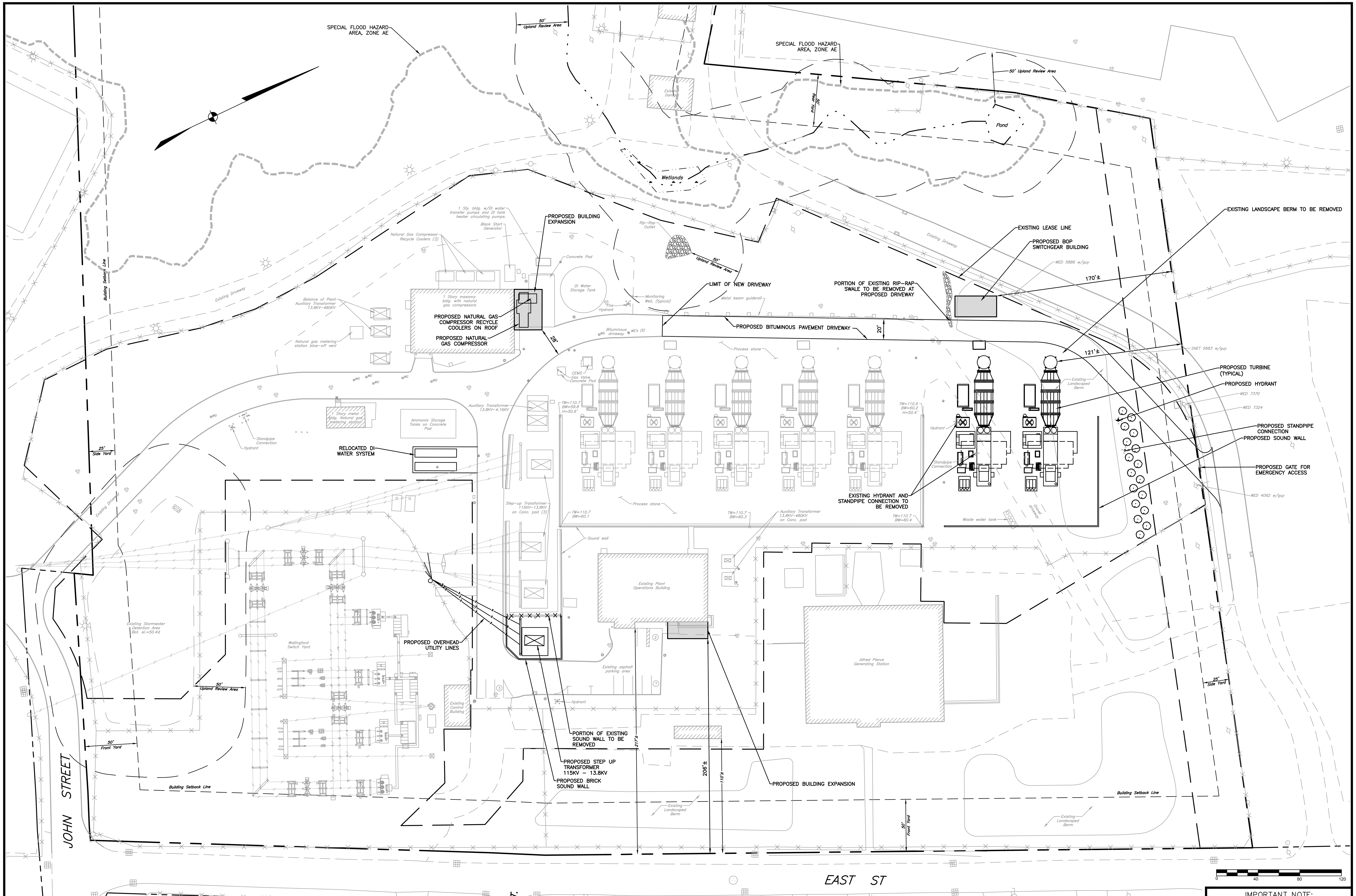
WALLINGFORD ENERGY II, LLC

400 CHESTERFIELD CENTER, SUITE 110
ST. LOUIS, MO 63017

OVERALL SITE PLAN

DRAWN BY:	JT
CHECKED BY:	JR
SCALE:	1"=100'
PROJECT:	15-011
DATE:	6/2/2015

C-1.0


SPECIAL FLOOD HAZARD AREA, ZONE AE
50' Upland Review Area
Wetlands
Pond
PROPOSED BUILDING EXPANSION
EXISTING LEASE LINE
PROPOSED BOP SWITCHGEAR BUILDING
EXISTING LANDSCAPE BERM TO BE REMOVED
LIMIT OF NEW DRIVEWAY
PORTION OF EXISTING RIP-RAP SWALE TO BE REMOVED AT PROPOSED DRIVEWAY
PROPOSED BITUMINOUS PAVEMENT DRIVEWAY
PROPOSED NATURAL GAS COMPRESSOR RECYCLE COOLERS ON ROOF
PROPOSED NATURAL GAS COMPRESSOR
DI Water Storage Tank
Ammonia Storage Tanks on Concrete Pad
RELOCATED DI WATER SYSTEM
PROPOSED TURBINE (TYPICAL)
PROPOSED HYDRANT
PROPOSED STANDPIPE CONNECTION
PROPOSED SOUND WALL
PROPOSED GATE FOR EMERGENCY ACCESS
EXISTING HYDRANT AND STANDPIPE CONNECTION TO BE REMOVED
Existing Plant Operations Building
Alfred Pierce Generating Station
Wallingford Switch Yard
Existing Stormwater Detention Area
PROPOSED OVERHEAD UTILITY LINES
PORTION OF EXISTING SOUND WALL TO BE REMOVED
PROPOSED STEP UP TRANSFORMER 115KV - 13.8KV
PROPOSED BRICK SOUND WALL
PROPOSED BUILDING EXPANSION
Building Setback Line
25' Side Yard
50' Front Yard
Existing Landscaped Berm
JOHN STREET
EAST ST
PARK ST.
170'±
121'±
20'
28'
217'±
206'±
110'±
0 40 80 120

IMPORTANT NOTE:

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26 BROADWAY NORTH HAVEN, CT 06473
TEL: 203.239.4217 FAX: 203.234.2088 WWW.GODFREYHOFFMAN.COM

STATE OF CONNECTICUT · JAMES P. ... · No. 170... · LICENSED PROFESSIONAL

NOT VALID WITHOUT LIVE SIGNATURE AND SEAL.

ALL WORK, LABOR, AND MATERIALS TO BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES AND LAWS WHICH SHALL TAKE PRECEDENCE OVER THESE DRAWINGS IN THE EVENT OF ERRORS AND/OR OMISSIONS HEREIN.

THE WORD "CERTIFY" OR "DECLARE" IS UNDERSTOOD TO BE AN EXPRESSION OF PROFESSIONAL OPINION BY THE LAND SURVEYOR AND/OR ENGINEER, WHICH IS BASED ON THEIR BEST KNOWLEDGE, INFORMATION AND BELIEF. AS SUCH IT CONSTITUTES NEITHER A GUARANTEE OR WARRANTY.

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

PROJECT:

FACILITY EXPANSION PROJECT

115 JOHN STREET
WALLINGFORD, CONNECTICUT

PREPARED FOR:

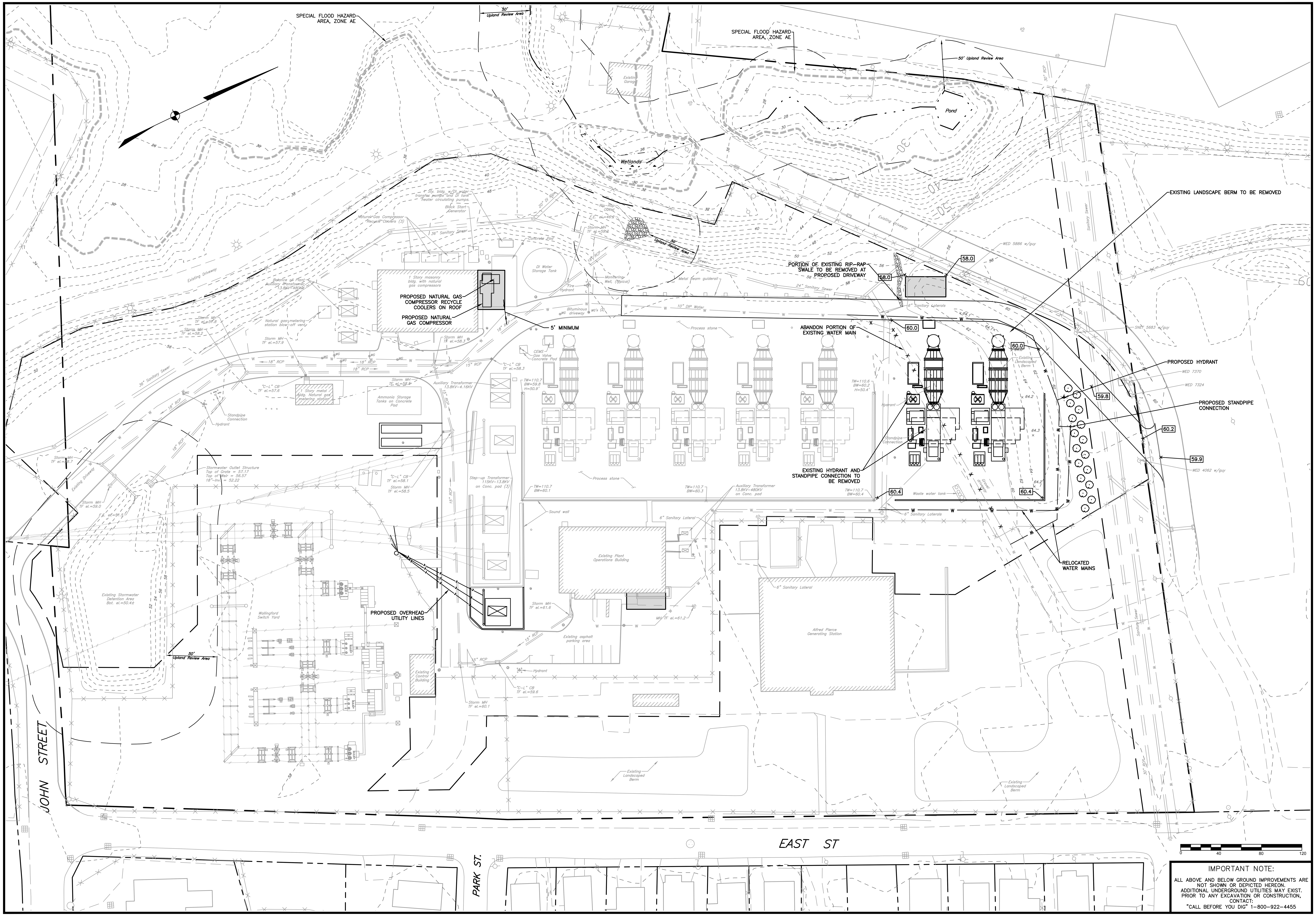
WALLINGFORD ENERGY II, LLC

400 CHESTERFIELD CENTER, SUITE 110
ST. LOUIS, MO 63017

SITE PLAN

DRAWN BY:	JT
CHECKED BY:	JR
SCALE:	1"=40'
PROJECT:	15-011
DATE:	6/2/2015

C-1.1



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TEL 203.239.4217 FAX 203.234.2088 WWW.GODFREYHOFFMAN.COM

NOT VALID WITHOUT LIVE SIGNATURE AND SEAL

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

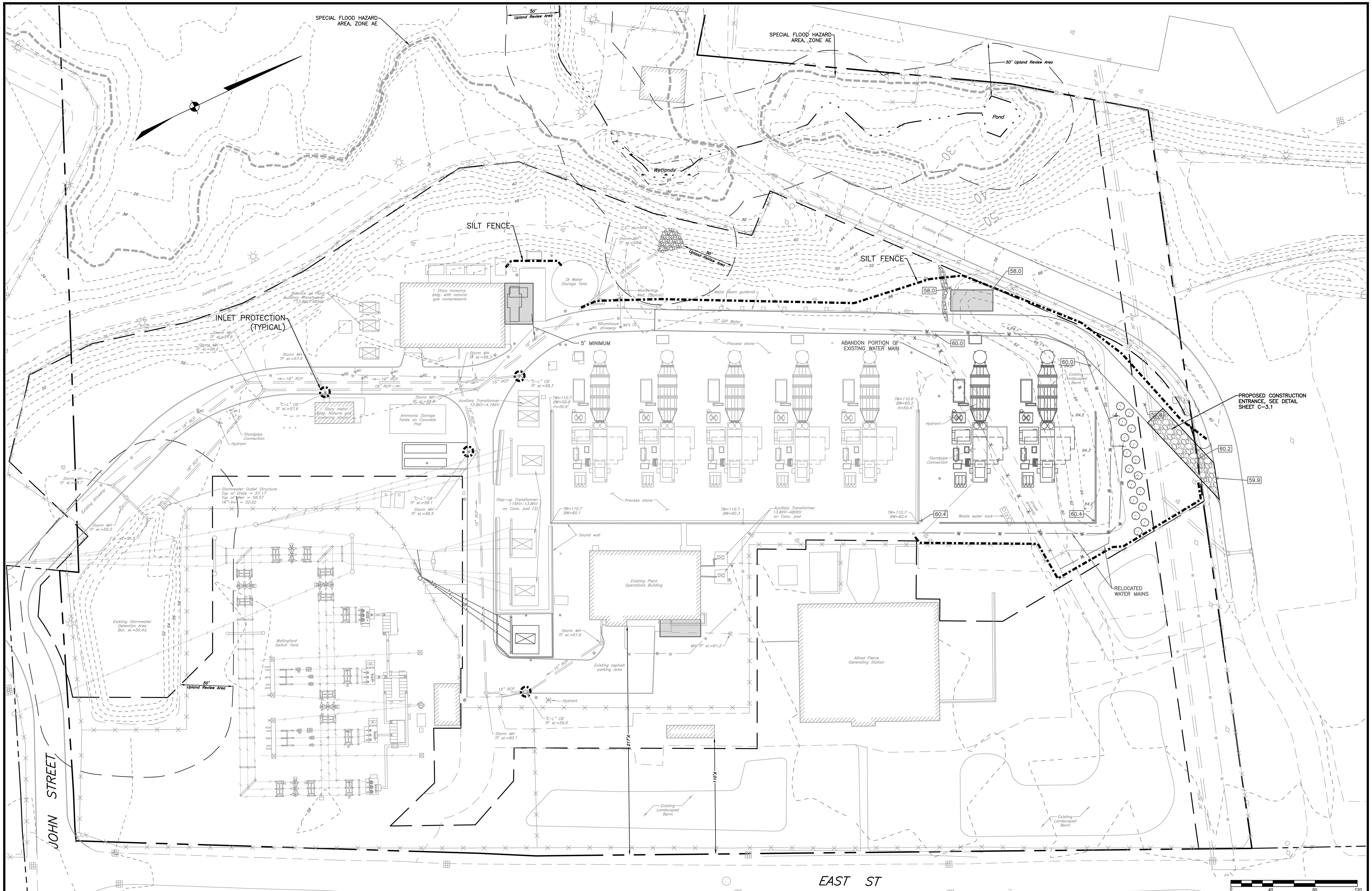
PROJECT:
FACILITY EXPANSION PROJECT
115 JOHN STREET
WALLINGFORD, CONNECTICUT

PREPARED FOR:
WALLINGFORD ENERGY II, LLC
400 CHESTERFIELD CENTER, SUITE 110
ST. LOUIS, MO 63017

GRADING & UTILITY PLAN

DRAWN BY:	JT
CHECKED BY:	JR
SCALE:	1"=40'
PROJECT:	15-011
DATE:	6/2/2015

C-2.0



IMPORTANT NOTE:

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TEL: 203.239.4217 FAX: 203.234.2088 WWW.GODFREYHOFFMAN.COM

STATE OF CONNECTICUT
JAMES P. ROTONDO
No. 17057
LICENSED PROFESSIONAL ENGINEER

NOT VALID WITHOUT LIVE SIGNATURE AND SEAL.

ALL WORK, LABOR, AND MATERIALS TO BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES AND LAWS WHICH SHALL TAKE PRECEDENCE OVER THESE DRAWINGS IN THE EVENT OF ERRORS AND/OR OMISSIONS HEREIN.

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REVISION SCHEDULE

NO.	DATE	DESCRIPTION

PROJECT:

FACILITY EXPANSION PROJECT

115 JOHN STREET
WALLINGFORD, CONNECTICUT

PREPARED FOR:

WALLINGFORD ENERGY II, LLC

400 CHESTERFIELD CENTER, SUITE 110
ST. LOUIS, MO 63017

SOIL EROSION & SEDIMENTATION CONTROL PLAN

DRAWN BY:	JT
CHECKED BY:	JR
SCALE:	1"=40'
PROJECT:	15-011
DATE:	6/2/2015

C-3.0

GENERAL NOTES:

1. HAYBALE FILTERS OR SILTATION FENCE WILL BE INSTALLED AT ALL CULVERT OUTLETS AND ALONG THE TOE OF ALL CRITICAL CUT AND FILL SLOPES.
2. CULVERT DISCHARGE AREAS WILL BE PROTECTED WITH RIPRAP CHANNELS; ENERGY DISSIPATORS WILL BE PROVIDED AS NECESSARY.
3. CATCH BASINS WILL BE PROTECTED WITH HAYBALE FILTERS OR SILTATION FENCE THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL ALL DISTURBED AREAS ARE THOROUGHLY STABILIZED.
4. ALL EROSION AND SEDIMENTATION CONTROL MEASURES WILL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CONNECTICUT EROSION & SEDIMENT CONTROL HANDBOOK.
5. EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED PRIOR TO CONSTRUCTION WHENEVER POSSIBLE.
6. ALL CONTROL MEASURES WILL BE MAINTAINED IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
7. ADDITIONAL CONTROL MEASURES WILL BE INSTALLED DURING THE CONSTRUCTION PERIOD, IF NECESSARY OR REQUIRED.
8. SEDIMENT REMOVED FROM CONTROL STRUCTURES WILL BE DISPOSED OF IN A MANNER WHICH IS CONSISTENT WITH THE INTENT OF THE PLAN.
9. CONTRACTOR IS ASSIGNED THE RESPONSIBILITY FOR IMPLEMENTING THIS EROSION AND SEDIMENT CONTROL PLAN. THIS RESPONSIBILITY INCLUDES THE INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN, NOTIFYING THE CITY LAND USE OFFICE OF ANY TRANSFER OF THIS RESPONSIBILITY, AND FOR CONVEYING A COPY OF THE EROSION AND SEDIMENT CONTROL PLAN IF THE TITLE TO THE LAND IS TRANSFERRED.
10. AFFECTED PORTIONS OF OFF-SITE ROADS MUST BE SWEPT CLEAN WHEN REQUIRED OR AT LEAST ONCE A WEEK DURING CONSTRUCTION. DUST CONTROL TO BE ACHIEVED WITH COVERING TRUCK LOADS, SWEEPING ROADS, WATERING AS REQUIRED, OR AS ORDERED BY THE SITE ENGINEER.
11. BRUSH SHALL BE CHIPPED AND REMOVED FROM SITE. GRIND STUMPS OR TRANSPORT OFF- SITE; DO NOT BURY. TOPSOIL FROM DISTURBED AREAS SHALL BE STRIPPED AND STOCKPILED FOR USE IN FINAL LANDSCAPING.
12. AFTER EACH STORM EVENT OR ONCE WEEKLY, ALL SEDIMENT AND EROSION CONTROLS WILL BE INSPECTED. ANY CORRECTIVE ACTIONS TO MITIGATE ENVIRONMENTAL CONCERNS WILL BE ORDERED BY THE SITE ENGINEER OR SITE E&S CONTROL MONITOR.
13. ALL PERMANENT AND TEMPORARY SEDIMENT CONTROL DEVICES WILL BE MAINTAINED IN EFFECTIVE CONDITION UNTIL ALL UPLAND AREAS ARE FULLY STABILIZED. UPON COMPLETION OF WORK, ALL TEMPORARY SEDIMENT CONTROL DEVICES SUCH AS SILT FENCE AND HAYBALES SHOULD BE REMOVED FROM THE SITE AND SEDIMENT REMOVED FROM ALL ON-SITE CATCH BASINS AND DISPOSED OF LEGALLY.
14. NO CONSTRUCTION OR CONSTRUCTION EQUIPMENT WILL BE ALLOWED ON THE DOWNHILL SIDE OF THE SILT FENCE AS SHOWN ON PLANS, EXCEPT DURING CONSTRUCTION OF ANY ITEMS SHOWN DOWNHILL OF SILT FENCE.

SEQUENCE OF OPERATIONS:

1. FLAG LIMITS OF CONSTRUCTION. SCHEDULE PRE-CONSTRUCTION MEETING WITH REPRESENTATIVES OF THE OWNER, CONTRACTOR, ENGINEER AND LOCAL AUTHORITY.
2. HOLD PRE-CONSTRUCTION MEETING PRIOR TO ANY SITE DISTURBANCE. REVIEW EROSION CONTROL PLAN AND DISCUSS SCHEDULING OF SITE INSPECTIONS DURING CONSTRUCTION ACTIVITIES.
3. INSTALL CONSTRUCTION ENTRANCE.
4. INSTALL PERIMETER EROSION AND SEDIMENTATION CONTROLS IN ACCORDANCE WITH THE E&S CONTROL PLAN.
5. BEGIN EXCAVATION AND CONSTRUCTION OF FILL EMBANKMENTS. ESTABLISH SUB-GRADE ELEVATIONS FOR TOPSOIL AREAS AND ROADWAYS AS REQUIRED AND PREPARE BUILDING AND TURBINE PADS.
6. BEGIN BUILDING AND TURBINE CONSTRUCTION.
7. INSTALL UNDERGROUND UTILITIES (SANITARY, WATER SERVICE, STORM DRAIN SYSTEM AND OTHER UTILITIES) TO WITHIN 5 FEET OF THE BUILDING.
8. PREPARE SUB-BASE, SLOPES, DRIVEWAY AREAS AND OTHER AREAS OF DISTURBANCE FOR FINAL GRADING.
9. INSTALL DRIVEWAY AREA BASE MATERIALS AND COMPACT.
10. PLACE TOPSOIL WHERE REQUIRED. COMPLETE PERIMETER LANDSCAPING.
11. UPON SUBSTANTIAL COMPLETION OF THE BUILDING, COMPLETE THE BALANCE OF THE SITE WORK AND STABILIZATION OF ALL OTHER DISTURBED AREAS. INSTALL FIRST COURSE OF PAVING.
12. WHEN ALL OTHER WORK HAS BEEN COMPLETED, REPAIR AND SWEEP ALL PAVED AREAS FOR THE FINAL COURSE OF PAVING. INSPECT THE DRAINAGE SYSTEM AND CLEAN AS NEEDED.
13. INSTALL FINAL COURSE OF PAVEMENT.
14. AFTER SITE IS STABILIZED REMOVE TEMPORARY EROSION AND SEDIMENT CONTROLS.

OPERATION & MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES

1. SILTATION FENCE
   - 1.1. ALL SILTATION FENCES SHALL BE INSPECTED AFTER EACH RAINFALL. ALL DETERIORATED FABRIC AND DAMAGED POSTS SHALL BE REPLACED AND PROPERLY REPOSITIONED IN ACCORDANCE WITH THIS PLAN.
   - 1.2. SEDIMENT DEPOSITS SHALL BE REMOVED FROM BEHIND THE FENCE WHEN THEY EXCEED A HEIGHT OF ONE FOOT.
2. HAYBALES
   - 2.1. ALL HAYBALE RINGS SHALL BE INSPECTED FOLLOWING EACH RAINFALL. REPAIR OR REPLACEMENT SHALL BE PROMPTLY MADE AS NEEDED.
   - 2.2. DEPOSITS SHALL BE REMOVED AND CLEANED-OUT IF ONE HALF OF THE ORIGINAL HEIGHT OF THE BALES BECOMES FILLED WITH SEDIMENT.

CONTINGENCY EROSION PLAN:

SHOULD UNFORESEEN EROSION OR SEDIMENTATION PROBLEMS ARISE, THE DESIGN ENGINEER OF RECORD AND LOCAL ENFORCEMENT AGENT SHALL BE NOTIFIED IMMEDIATELY. AN INSPECTION OF THE AFFECTED AREA(S) SHALL BE PROMPTLY PERFORMED. A REMEDIAL ACTION PLAN SHALL BE FORMULATED WITH THE LOCAL ENFORCEMENT AGENT'S APPROVAL. THE SITE CONTRACTOR SHALL THEN IMPLEMENT THE RECOMMENDED COURSE OF ACTION WHICH HAS BEEN DETERMINED BY BOTH THE ENGINEER AND LOCAL ENFORCEMENT AGENT.

DUST CONTROL:

THE CONTRACTOR SHALL PROVIDE DUST CONTROL THROUGHOUT THE PROJECT UNTIL SUCH TIME AS ALL DISTURBED AREAS HAVE BEEN STABILIZED. THE CONTRACTOR SHALL UTILIZE METHODS ACCEPTABLE TO THE TOWN ENVIRONMENTAL ENFORCEMENT OFFICER. THE FOLLOW OPERATIONS SHALL BE PERFORMED AS A MINIMUM:

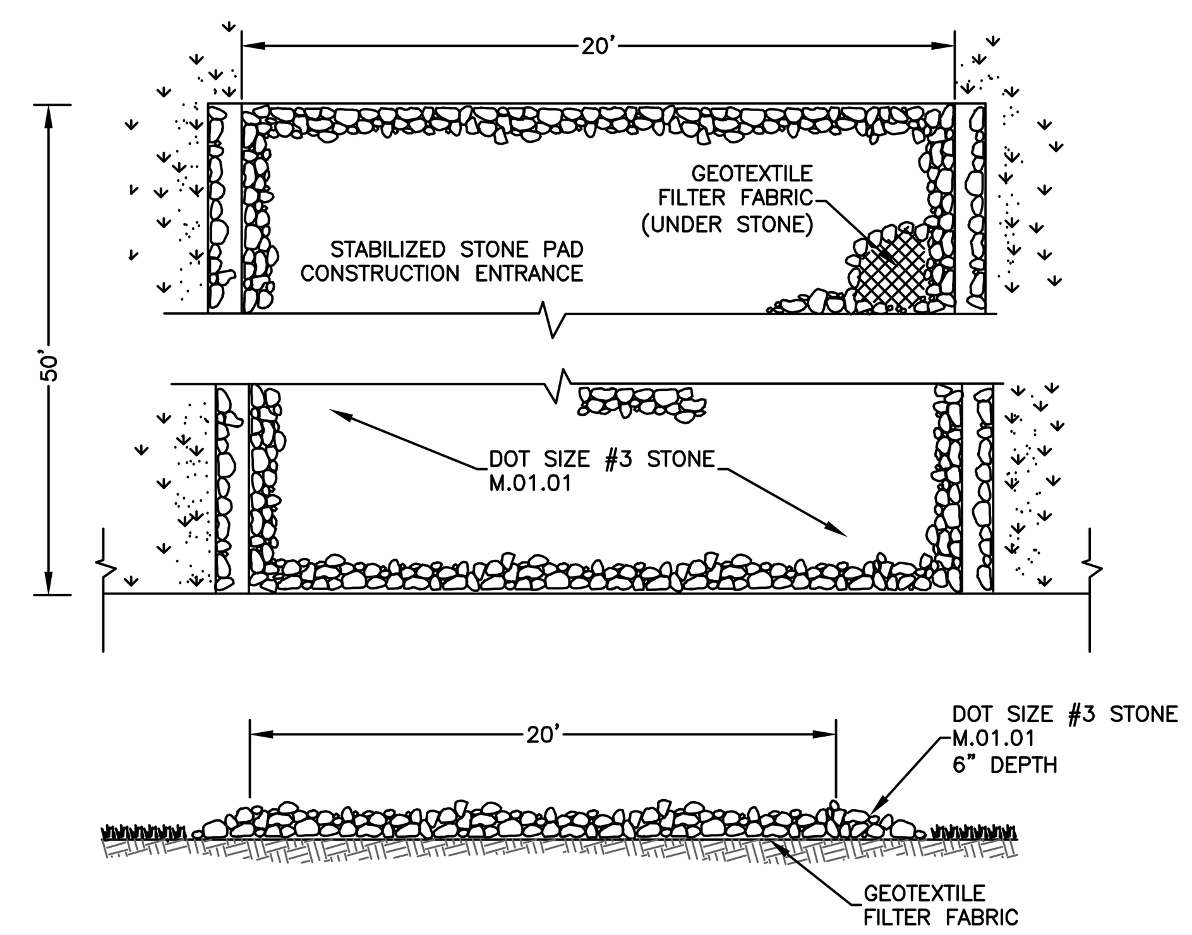
1. PERIODICALLY MOISTEN EXPOSED SOIL AREAS WITH WATER ON UNPAVED SURFACES.
2. USE OF MECHANICAL SWEEPING ON PAVED AREAS WHERE DUST AND FINE MATERIALS ACCUMULATE AS A RESULT OF TRUCK TRAFFIC, PAVEMENT SAW CUTTING SPILLAGE, AND WIND OR WATER DEPOSITION FROM ADJACENT DISTURBED AREAS. SWEEP DAILY IN HEAVILY TRAFFICKED AREAS OR AS WARRANTED.
3. REPEAT APPLICATION OF DUST CONTROL MEASURES WHEN DUST CONDITIONS BECOME EVIDENT.

TOPSOIL (TO)

MATERIALS:

TOPSOIL SHALL INCLUSIVELY MEAN A SOIL:

MEETING ONE OF THE FOLLOWING SOIL TEXTURES CLASSED ESTABLISHED BY THE USDA CLASSIFICATION SYSTEM BASED UPON THE PROPORTION OF SAND, SILT AND CLAY SIZE PARTICLES AFTER PASSING A 2 MM SIEVE AND SUBJECTED TO A PARTICLE SIZE ANALYSIS:
LOAMY SAND, INCLUDING COARSE, LOAMY FINE, AND LOAMY VERY FINE SAND, SANDY LOAM, INCLUDING COARSE, FINE AND VERY FINE SANDY LOAM, LOAM, OR SILT LOAM WITH NOT MORE THAN 60% SILT; CONTAINING NOT LESS THAN 6% AND NOT MORE THAN 20% ORGANIC MATTER AS DETERMINED BY LOSS-ON-IGNITION OF OVEN DRIED SAMPLES DRIED AT 105 DEGREES CENTIGRADE; POSSESSING A PH RANGE OF 6.0-7.5, EXCEPT IF THE VEGETATIVE PRACTICE BEING USED SPECIFICALLY REQUIRES A LOWER PH, THEN THE PH MAY BE ADJUSTED ACCORDINGLY; HAVING SOLUBLE SALTS NOT EXCEEDING 500 PPM, AND THAT IS LOOSE AND FRIABLE AND FREE FROM REFUSE, STUMPS, ROOTS, BRUSH, WEEDS, FROZEN PARTICLES, ROCKS AND STONES OVER 1 ¼" IN DIAMETER, AND ANY MATERIAL THAT WILL PREVENT THE FORMATION OF A SUITABLE SEEDBED AND PREVENT SEED GERMINATION AND PLANT GROWTH. TOPSOIL MAY OF NATURAL ORIGIN OR MANUFACTURED BY BLENDING COMPOSTED ORGANIC MATERIALS WITH ORGANIC DEFICIENT SOILS, MINERAL SOILS, SAND AND LIME SUCH THAT THE RESULTING SOIL MEETS THE MATERIAL SPECIFICATIONS ABOVE.

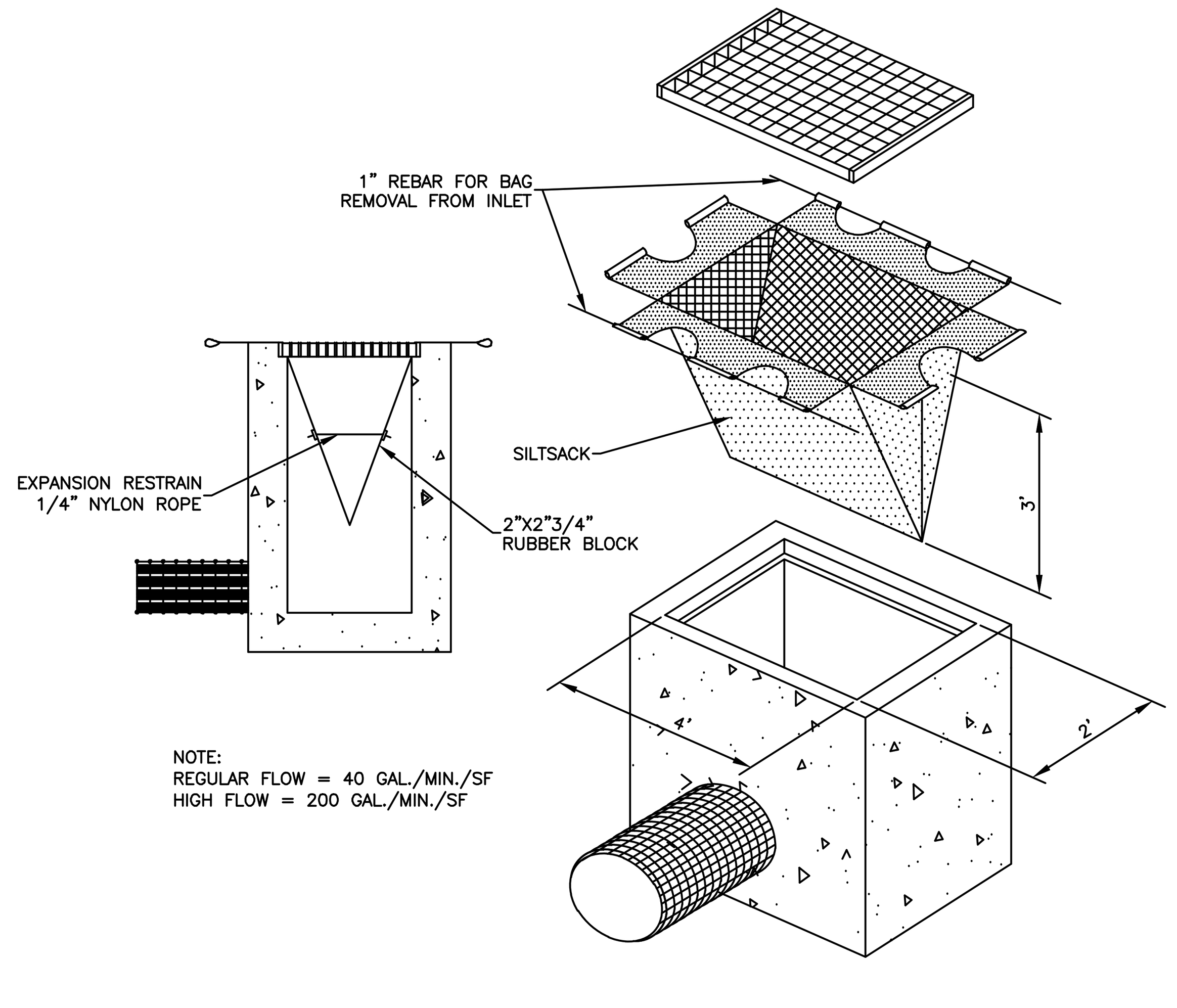


CONSTRUCTION ENTRANCE NOTES:

1. MATERIALS
   - 1.1. STONE: USE ANGULAR STONE SIZED ACCORDING TO THE STANDARDS SET BY ASTM C-33, SIZE NO. 2 OR 3, OR DOT STANDARD SPECIFICATIONS SECTION M.01.01, SIZE #3.
   - 1.2. GEOTEXTILE: FIBERS USED IN THE GEOTEXTILE SHALL CONSIST OF SYNTHETIC POLYMERS COMPOSED OF AT LEAST 85% BY WEIGHT POLYPROPYLENES, POLYESTERS, AND POLYAMIDES, POLYETHYLENE, POLYOLEFINS, OR POLYVINYLIDENE-CHLORIDES. THE FIBERS SHALL BE FORMED IN A STABLE NETWORK OF FILAMENDS OR YARNS RETAINING DIMENSIONAL STABILITY RELATIVE TO EACH OTHER. THE GEOTEXTILE USED SHALL BE SPECIFICALLY INTENDED FOR "ROAD STABILIZATION" APPLICATIONS AND SHALL BE CONSISTENT WITH THE MANUFACTURER'S RECOMMENDATIONS FOR THE INTENDED USE.
2. DIMENSIONS SHALL BE AS INDICATED ON THE DETAIL
3. CONSTRUCTION: CLEAR THE AREA OF THE ENTRANCE OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL. AT POORLY DRAINED LOCATIONS INSTALL SUBSURFACE DRAINAGE INSURING THE OUTLETS TO THE DRAINS ARE FREE-FLOWING. IF USING GEOTEXTILE IN PLACE OF A FREE DRAINING MATERIAL, UNROLL THE GEOTEXTILE IN A DIRECTION PARALLEL TO THE ROADWAY CENTERLINE IN A LOOSE MANNER PERMITTING IT TO CONFORM TO THE SURFACE IRREGULARITIES WHEN THE STONE IS PLACED. THE GEOTEXTILE MAY BE TEMPORARILY SECURED WITH PINS RECOMMENDED OR PROVIDED BY THE MANUFACTURER BUT THEY SHALL BE REMOVED PRIOR TO PLACEMENT OF THE STONE. PLACE THE STONE TO THE SPECIFIED DIMENSIONS. KEEP ADDITIONAL; STONE AVAILABLE OR STOCKPILE OF FUTURE USE.
4. MAINTENANCE: MAINTAIN THE ENTRANCE IN A CONDITION WHICH WILL PREVENT TRACKING AND WASHING OF THE SEDIMENT ONTO PAVED SURFACES. PROVIDE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND. ROADS ADJACENT TO THE CONSTRUCTION SITE SHALL BE LEFT CLEAN AT THE END OF EACH DAY. IF THE CONSTRUCTION ENTRANCE IS BEING PROPERLY MAINTAINED AND THE ACTION OF A VEHICLE TRAVELING OVER THE STONE PAD IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF THE SEDIMENT, THEN EITHER (1) INCREASE THE LENGTH OF THE CONSTRUCTION ENTRANCE, OR (2) MODIFY THE CONSTRUCTION ACCESS ROAD SURFACE, OR (3) INSTALL WASHING RACKS AND ASSOCIATED SETTLING AREA OR SIMILAR DEVICES BEFORE THE VEHICLE ENTERS PAVED SURFACES.

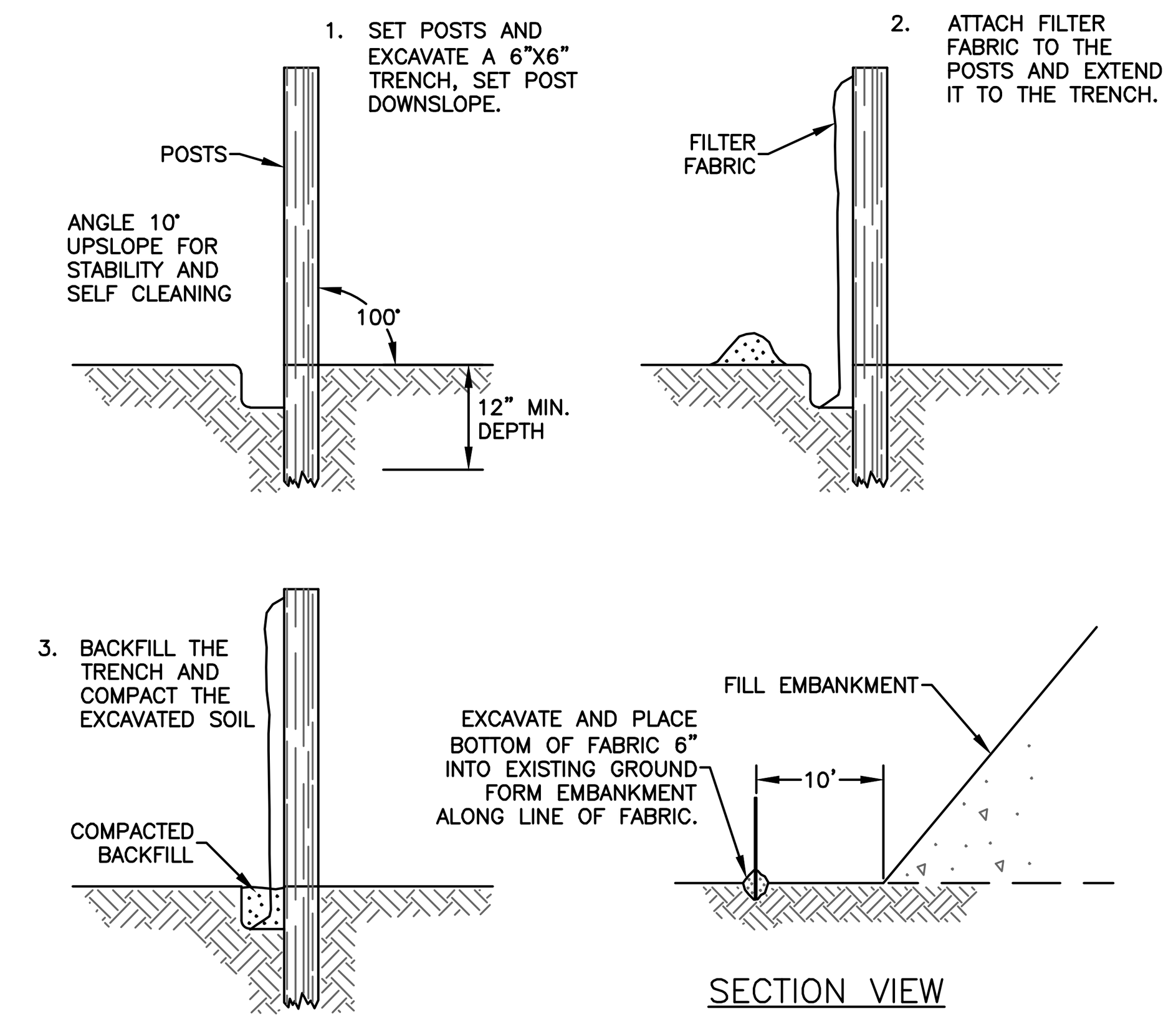
CONSTRUCTION ENTRANCE

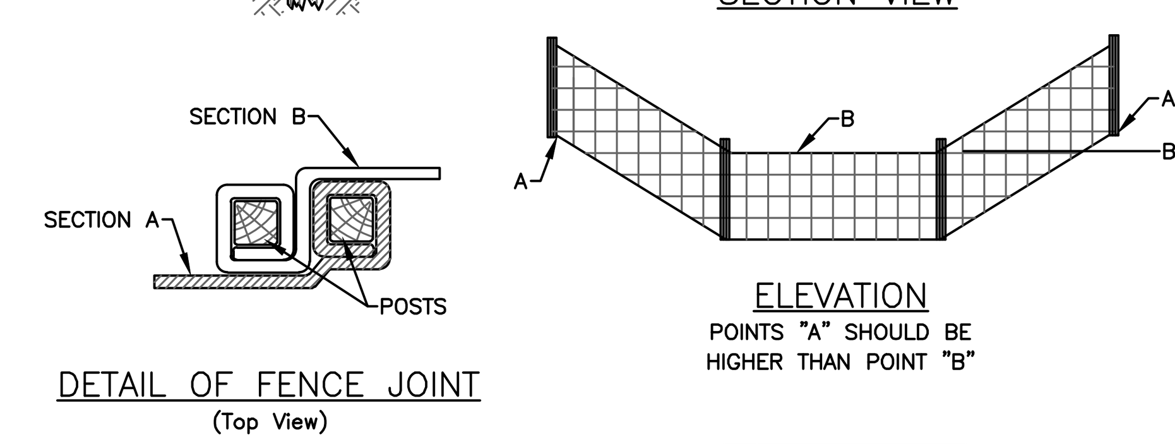
NOT TO SCALE



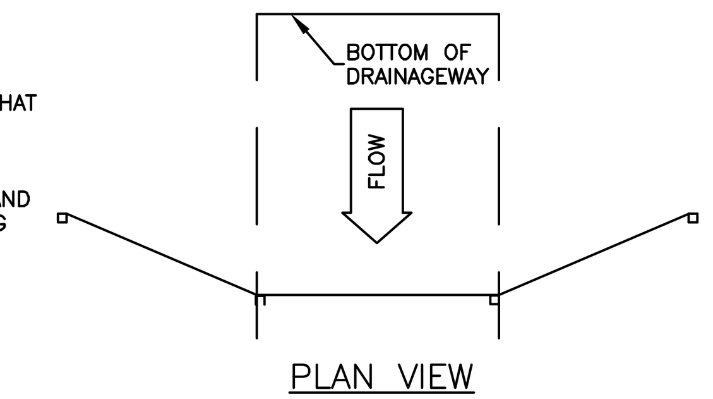
SILTSACK DETAIL

NOT TO SCALE





- POSITION POSTS TO OVERLAP AS SHOWN ABOVE, MAKING CERTAIN THAT THE FABRIC FOLDS AROUND EACH POST ONE FULL TURN.
- DRIVE POSTS TIGHTLY TOGETHER AND SECURE TOPS OF POSTS BY TYING OFF WITH CORD OR WIRE TO PREVENT FLOW-THROUGH OF BUILT-UP SEDIMENT AT JOINTS.



SILT FENCE NOTES:

MATERIALS:

GEOTEXTILE FABRIC:
GEOTEXTILE FABRIC SHALL BE A PERVIOUS SHEET OF POLYPROPYLENE, NYLON, POLYESTER, ETHYLENE OR SIMILAR FILAMENTS AND SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

PHYSICAL PROPERTY	TEST METHOD	MINIMUM REQUIREMENT
FILTERING EFFICIENCY	ASTM 5141	75% (MINIMUM)
GRAB TENSILE STRENGTH	ASTM D4632	100 LBS.
ELONGATION @ FAILURE	ASTM D4632	75%
MULLEN BURST STRENGTH	ASTM D3786	250 PSI
PUNCTURE STRENGTH	ASTM 4833	50 LBS.
APPARENT OPENING SIZE	ASTM D4751	NO LESS THAN 0.90 MM AND NO GREATER TAN 0.60 MM
FLOW RATE	ASTM D4491	0.2 GAL/FT²/MIN.
PERMATIVITY	ASTM D4491	0.05 SEC. -1 (MIN.)
ULTRAVIOLET RADIATION STABILITY %	ASTM D4355	70% AFTER 500 HOURS OF EXPOSURE (MIN.)

SUPPORTING POSTS:
POSTS SHALL BE AT LEAST 42" LONG MADE OF EITHER 1.5 INCH SQUARE HARDWOOD STAKES OR SHALL BE POSTS WITH PROJECTS FOR FASTENING THE GEOTEXTILE POSSESSING A MINIMUM STRENGTH OF 0.5 POUNDS PER LINEAR FOOT.

INSTALLATION:

TRENCH EXCAVATION:
EXCAVATE A TRENCH 6 INCHES DEEP AND 6 INCHES WIDE ON THE UPHILL SIDE OF THE FENCE LOCATION. FOR SLOPE AND SWALE INSTALLATIONS, EXTEND THE ENDS OF THE TRENCH UPHILL SO THAT THE BOTTOM END OF THE FENCE WILL BE HIGHER THAN THE TOP OF THE LOWEST PORTION OF THE FENCE.

SUPPORT POSTS:
INSTALL SUPPORT POSTS ON THE DOWNHILL SIDE OF THE TRENCH TO A MINIMUM DEPTH OF 12 INCHES TO ORIGINAL GROUND. SUPPORT POSTS SHALL BE SPACED NO GREATER THAN 10 FEET APART. SUPPORT POSTS SHOULD BE INSTALLED CLOSER THAN 10 FEET ON STEEP SLOPES OR WHEN CONCENTRATED FLOWS ARE ANTICIPATED.

GEOTEXTILE FILTER FABRIC:
STAPLE OR SECURE THE GEOTEXTILE TO THE SUPPORT POSTS PER MANUFACTURER'S INSTRUCTION SUCH THAT AT LEAST 6 INCHES OF GEOTEXTILE LIES WITHIN THE TRENCH. THE HEIGHT OF THE FENCE SHALL NOT EXCEED 30 INCHES.

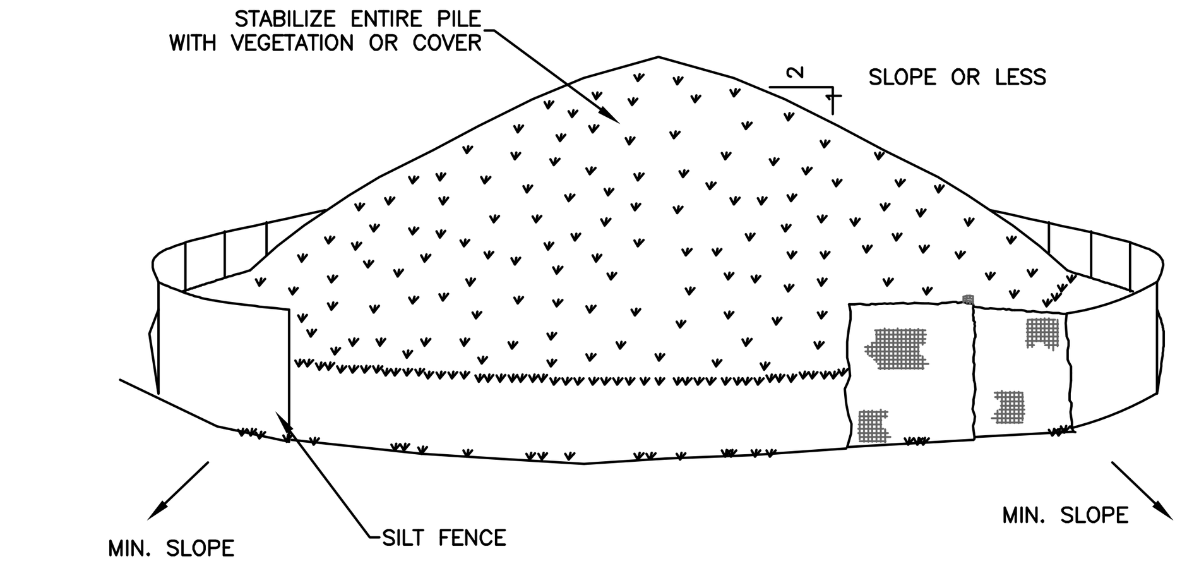
BACKFILL & COMPACTION:
BACKFILL TRENCH WITH TAMPED SOIL OR AGGREGATE OVER THE GEOTEXTILE.

MAINTENANCE:

SILT FENCE SHOULD BE INSPECTED AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCHES OR GREATER. SEDIMENT DEPOSITS ARE TO BE REMOVED. FENCE SHOULD BE REPAIRED OR REPLACES WITHIN 24 HOURS OF OBSERVED FAILURE.

GEOTEXTILE SILT FENCE (GSF):

NOT TO SCALE

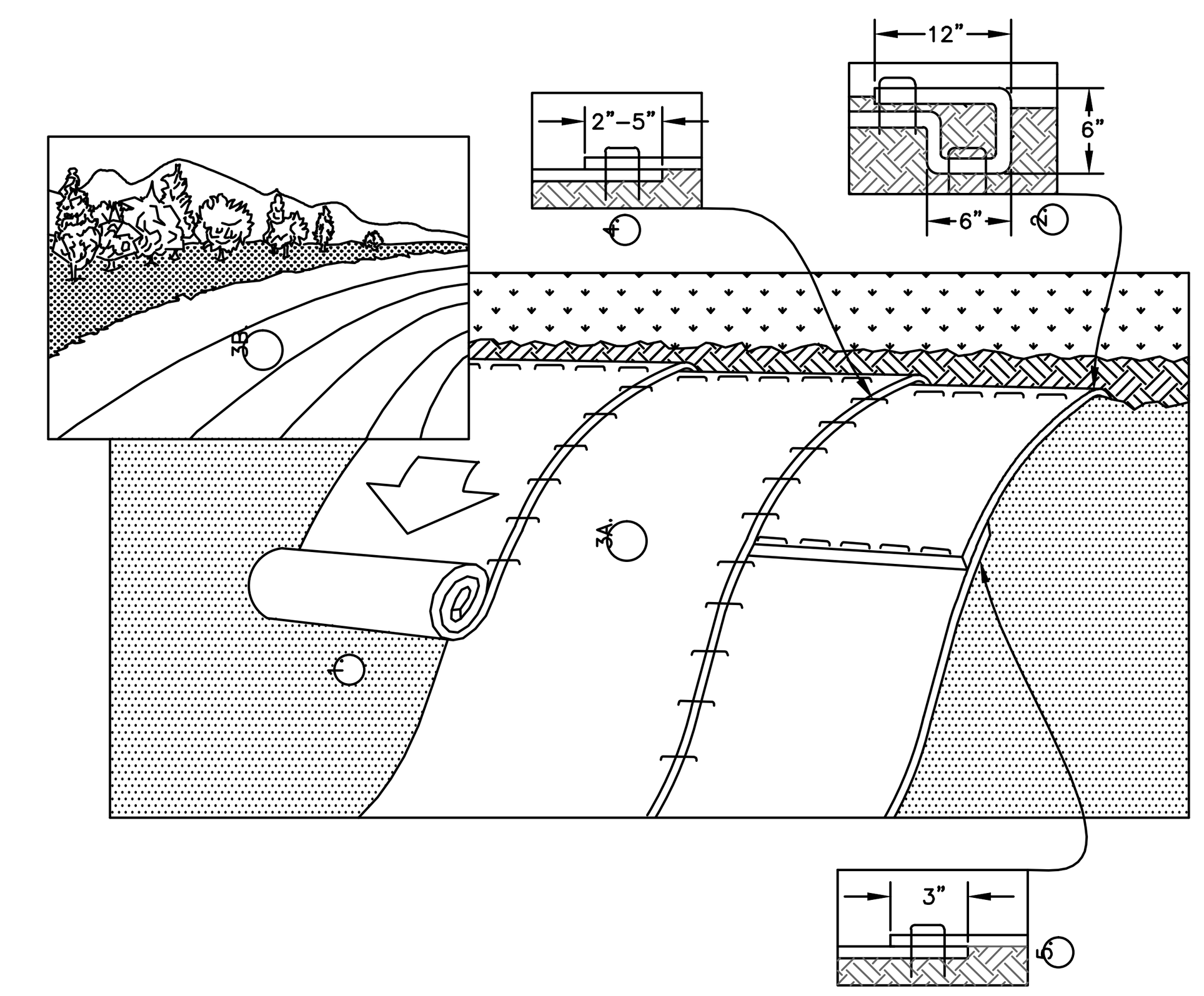


INSTALLATION NOTES:

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2 HORIZONTAL TO 1 VERTICAL.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAWBALES, THEN STABILIZED WITH VEGETATION OR COVERED.

SOIL STOCKPILING

NOT TO SCALE



INSTALLATION PROCEDURE:

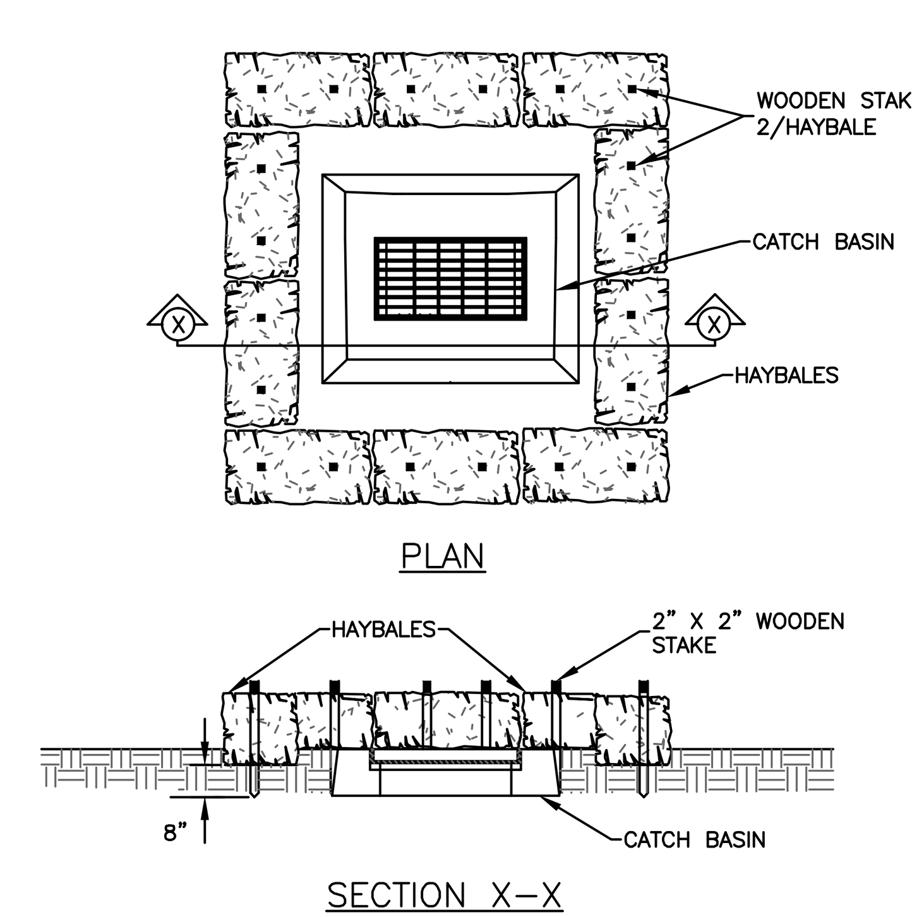
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM , STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5cm-12.5cm) OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5cm) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30cm) APART ACROSS ENTIRE BLANKET WIDTH.

EROSION CONTROL BLANKET NOTES:

1. EROSION CONTROL BLANKET TO BE INSTALLED ON ALL SLOPES 3 HORIZONTAL TO 1 VERTICAL OR STEEPER.
2. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS

EROSION CONTROL BLANKET

NOT TO SCALE



HAYBALES AT CATCH BASIN

NOT TO SCALE

GODFREY HOFFMAN ASSOCIATES, LLC
PROFESSIONAL LAND SURVEYORS & CIVIL ENGINEERS
26 BROADWAY NORTH HAVEN, CT 06473
TEL: 203.239.4217 FAX: 203.234.2088 WWW.GODFREYHOFFMAN.COM

NOT VALID WITHOUT LIVE SIGNATURE AND SEAL.

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

PROJECT:
FACILITY EXPANSION PROJECT
115 JOHN STREET
WALLINGFORD, CONNECTICUT

PREPARED FOR:
WALLINGFORD ENERGY II, LLC
400 CHESTERFIELD CENTER, SUITE 110
ST. LOUIS, MO 63017

SOIL EROSION & SEDIMENTATION CONTROL DETAILS

DRAWN BY:	JT
CHECKED BY:	JR
SCALE:	1"=40'
PROJECT:	15-011
DATE:	6/2/2015

C-3.1

Attachment C – Site Photos and Artist's Renderings

Rendering Location 1:

View from East Street at Allegheny Steel property looking southwest

Rendering Location 2:

View from near East Street and ThermoSpas Access Road looking southwest

Rendering Location 3:

View from East Street entrance to Wallingford Electric Department substation looking northwest

Photograph 1: Northwesterly view of the natural gas combustion turbines

Photograph 2: Northwesterly view of administration building

Photograph 3: View of control room located inside administration building

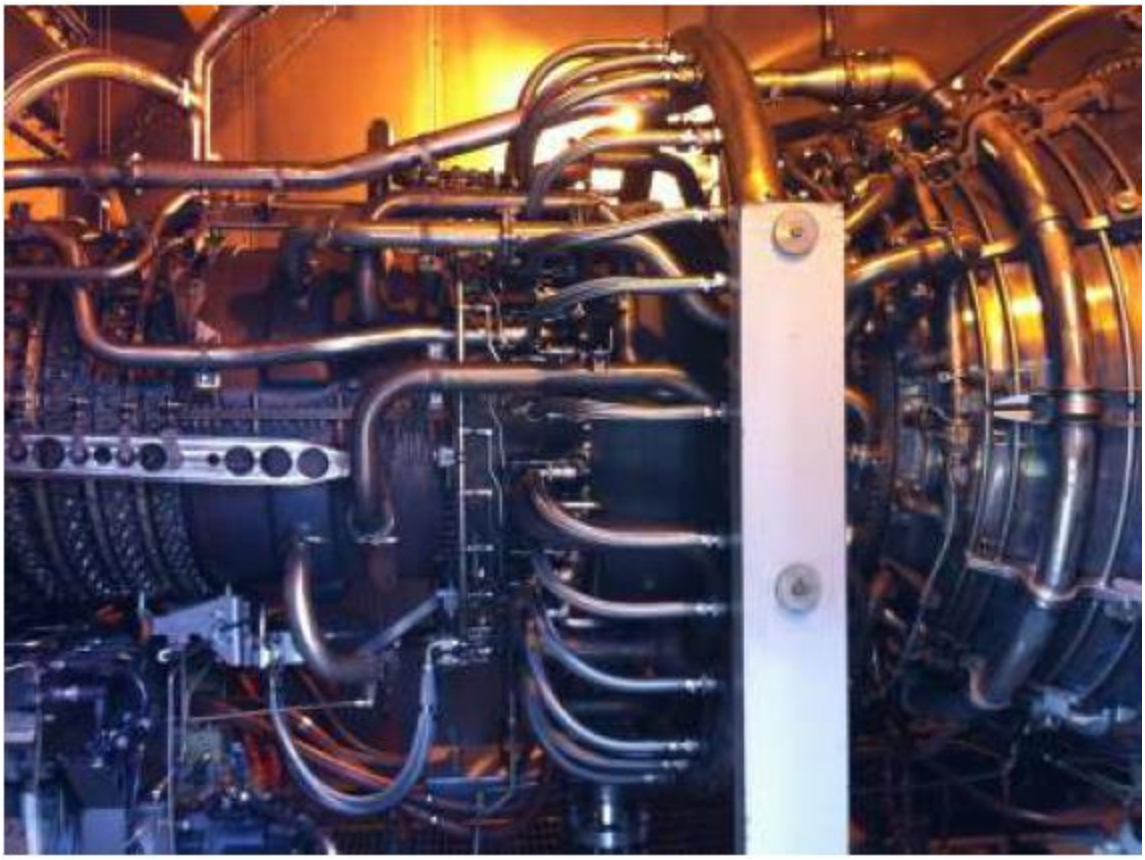
Photograph 4: View of transformers and associated secondary containment

Photograph 5: NOx water injection skid

Photograph 6: Fixed CO_2 fire protection

Photograph 7: 250,000 gallon demineralized water AST

Photograph 8: View of natural-gas fired generator



Photograph 9: View of combustion turbine

Photograph 10: Enclosure near gas combustion turbines mounted within a secondary containment structure

Photograph 11: View of exterior of continuous emissions monitoring (CEM) enclosure

Photograph 12: View of air emissions monitoring equipment within the CEM enclosure

Photograph 13: Spare engine located on site within secondary containment

Photograph 14: View of the 4,000-gal process wastewater UST

Photograph 15: Demineralized water trailers and mobile treatment system

Photograph 16: Black start generator located behind the compressor building. A 500gallon diesel tank is located within the generator compartment

Photograph 17: Water forwarding pump to demineralized water skid

Photograph 18: Coolers located on the exterior of the natural gas compressors building

Photograph 19: Anti-icing hot water generator inside the gas compressor building

Photograph 20: Natural gas detection system located inside anti-icing boiler room

Photograph 21: Plant auxiliary transformers

Photograph 22: View of Spectra gas line located near the entrance to the Wallingford Energy site

Photograph 23: View of electrical switchyard located adjacent to Wallingford Energy site

Photograph 24: Southeasterly view of stormwater detention basin

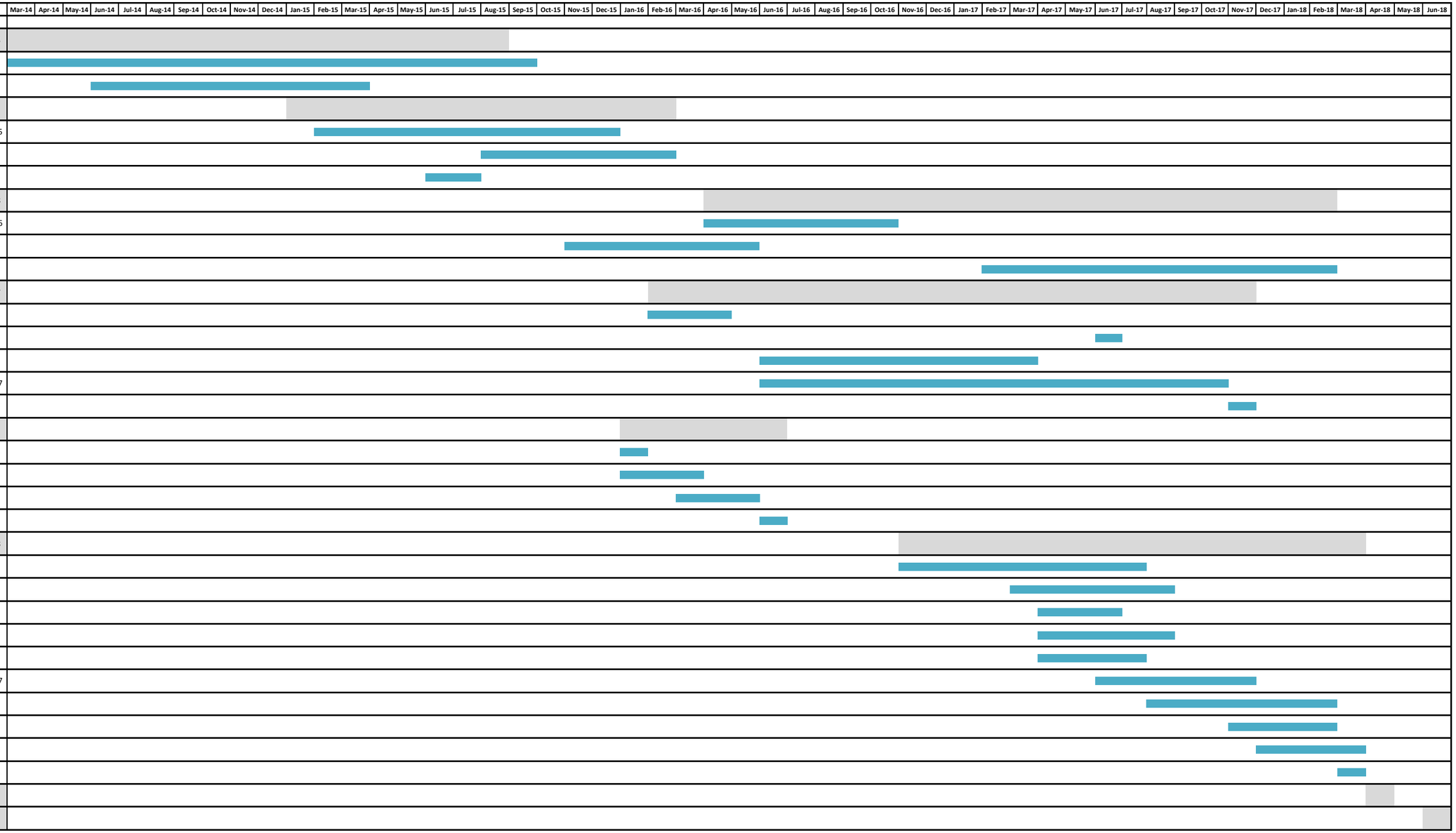
Photograph 25: Location of oil/water separator, upstream of stormwater detention basin

Photograph 26: One of three step-up transformers

Attachment D – Project Schedule

Wallingford Energy II Project Schedule

Task Name	Start Date	End Date
Development	**3/1/2014**	**9/15/2015**
Electrical Interconnection Study	3/1/2014	9/15/2015
Engineering to Support Permitting	6/1/2014	3/31/2015
Permitting	**2/4/2015**	**2/1/2016**
Air Permit	2/4/2015	12/15/2015
Siting Council	8/2015	2/1/2016
Local Site Plan & IWWC Approvals	6/1/2015	7/13/2015
Enginering & Design	**11/6/2015**	**2/16/2018**
Procurement Specific Engineering	4/8/2016	10/27/2016
Pre-Construction Engineering	11/6/2015	5/24/2016
Engineering Support during Construction	2/21/2017	2/16/2018
Major Equipment	**2/9/2016**	**11/1/2017**
Gas Turbine Procurement	2/9/2016	4/30/2016
Gas Turbines Delivered to Site	6/30/2017	6/30/2017
SCR - Bid/Award/Fabricate	6/1/2016	3/1/2017
GSU - Bid/Award/Fabricate	6/1/2016	10/31/2017
GSU Delivered to Site	11/1/2017	11/1/2017
Contractor Selection	**1/1/2016**	**6/1/2016**
Prepare & Issue RFP	1/1/2016	1/15/2016
Contractors Prepare Bids	1/16/2016	3/15/2016
Contract Negotiations	3/16/2016	5/15/2016
Issue Notice to Proceed	6/1/2016	6/1/2016
Construction	**11/1/2016**	**3/31/2018**
Contractor Procurement	11/1/2016	7/1/2017
Earthwork	3/23/2017	8/11/2017
Demolition/Relocation	4/3/2017	6/3/2017
Foundations	4/15/2017	8/11/2017
Structural	4/24/2017	7/24/2017
Mechanical	6/13/2017	11/13/2017
Piping	8/14/2017	2/9/2018
Electrical & Instrumentation	11/1/2017	2/16/2018
Startup & Comissioning	12/19/2017	3/15/2018
Performance Testing	3/16/2018	3/31/2018
Commercial Operations Date	**4/1/2018**	**4/1/2018**
Start of Capacity Commitment Period	**6/1/2018**	**6/1/2018**



Attachment E – Site Engineering and Stormwater Management Report

GODFREY HOFFMAN ASSOCIATES, LLC

PROFESSIONAL LAND SURVEYORS & CIVIL ENGINEERS

Site Engineering and Stormwater Management Report

Facility Expansion Project Located at:

115 John Street
Wallingford, Connecticut

Prepared for: Wallingford Energy II, LLC
400 Chesterfield Center, Suite 110
St. Louis, MO 63017

Prepared by: Godfrey-Hoffman Associates, LLC
26 Broadway
North Haven, CT 06473

Submitted: June 2, 2015

26 Broadway North Haven, CT 06473 Phone: 203.239.4217 Fax: 203.234.2088
www.godfreyhoffman.com

Contents

1.0 INTRODUCTION

This Engineering Design Report was developed in accordance with the Town of Wallingford Regulations. Wallingford Energy II is located on the northwesterly side of the intersection of East Street and John Street in Wallingford, Connecticut. A summary of existing and proposed stormwater management conditions is provided herein. A site location map for the facility is provided as Figure 1. A site plan showing the general building and equipment arrangement for the facility is provided on the Overall Site Plan.

This proposal includes the construction of an additional two natural gas-fired turbines.

This report presents a general description of the site and facility, a summary of the existing and post development site drainage conditions, the planned stormwater management system and erosion and sedimentation control measures, and the associated construction inspections and operations management requirements.

2.0 SITE DRAINAGE CONDITIONS

2.1 Current Drainage Patterns

The entire site consists of approximately 12.6 acres of drainage area. The existing site topography is relatively flat and pervious with most site stormwater running overland and infiltrating the ground surface. The existing Power plant consists of stormwater retention basin designed to contain the runoff volume from the impervious areas of the site during a 100-year storm event. The impervious areas on the site that contribute to this retention basin are the major roof structures and paved areas on the site. These areas total approximately 110,000 square feet.

The 15,900 square foot stormwater retention/recharge basin is designed to manage the runoff from 100 year, 24 hour rainfall event of 7.1 inches. This retention basin is located in the southwest portion of the leased area. Stormwater flows from the new roof and paved areas on the site are collected in a closed stormwater drainage system, treated by an existing low-flow oil/water separator, and discharged into the stormwater retention area. The Oil/Water Separation System is an efficient contaminant separation system that removes and retains sediments and floating contaminants (oil, debris. and other pollutants) which have been washed into the collection system, storing them off-line to prevent resuspension. Relying only on gravity, the system has no moving parts and does not require mechanical assistance. The collected contaminants are retained by the system until they are removed by routine maintenance.

The roof drains from the buildings are collected and piped to the retention basin. The surface drainage from the paved areas is collected by catch basins and conveyed to the retention basin via pipes. An oil/grit separator was installed to remove suspended solids and oils prior to reaching the retention basin. The recharge basin was sized and designed to have minimal discharge to the downstream receiving waters during 10 thru 100-year storm events. The outlet structure from the retention basin consists of a weir and pipe elbow to below the water surface which separates oils from the water to prevent oil from being discharged to the downstream receiving waters. The point of discharge for the retention basin is lined with rip-rap, which dissipates the velocity of the discharged water. The retention basin allows the suspended solids in the stormwater to settle out and drop to the bottom of the basin. The retention basin also serves as a recharge area.

No inland wetlands or watercourses are located within the leased area of the site. However, a 2,500 square foot intermittent stream and wetland area is located on the far west portion of the larger parent tract. There are also no wetlands at the locations for construction equipment staging and laydown, and construction trailers.

Outside of the area leased by Wallingford Energy, the larger parent tract contains an intermittent stream enters the site via a 48-inch culvert, which conveys flow beneath an existing access roadway that services the industrial facilities located to the northwest of the site. A 15-inch culvert also discharges stormwater runoff from this access roadway to the intermittent stream. The stream leaves the site via a 48-inch culvert, which conveys flow beneath the existing Town of Wallingford pump station access roadway to the wetland areas located to the west of the site.

2.2 Post-Development Drainage Pattern

The footprint of the proposed additions and associated grading will be located outside the limits of the inland wetlands and 50-foot upland regulated areas. Silt fence will be installed down-gradient of proposed major work areas (i.e., down-gradient of the proposed toe of slope). The silt fence establishes the maximum limit of work during construction operations as well as protects the buffer area, intermittent stream and associated wetlands from impacts associated with erosion and sedimentation as well as providing water quality protection.

The stormwater management system for the facility has been designed to reduce impacts associated with post-construction storm events. The existing stormwater retention basin will remain unchanged.

The roof drains from the new buildings and additions are proposed to be piped to the ground and allowed to sheet flow overland. The surface drainage from paved areas will also sheet flow overland to existing catch basins and the existing retention basin.

The northerly portion of the site outside of the limits of the proposed turbines construction will be planted as shown on Site Plans to buffer adjacent properties. Overland flow from this area will be directed toward the existing rip-rap swale and downstream receiving waters. These drainage alterations will have an insignificant overall effect on the hydrology of the wetland and associated stream. This is due to the fact that the surface water hydrogeology for the wetland and stream are provided primarily by stormwater runoff from within a large watershed area upstream of the project site.

The existing retention basin is proposed to remain undisturbed with only a minor change to the existing outlet structure being proposed to control the increase in stormwater runoff. The existing outlet has a broad crested wier which controls the outflow of stormwater. A portion of the existing wier is proposed to be converted to a vee type wier, See figure 2 for detail of proposed revision. The results of the TR-20 analysis for peak run-off discharge from the site during different storm frequencies are listed below. Discharge hydrographs and calculation summaries are included the report.

Stormwater outlet from retention pond to wetland

Existing Condition Stormwater Runoff vs. Proposed Condition Stormwater Runoff			
Storm Event	Runoff Flow Rate (cfs)		
	Existing Conditions	Proposed Conditions	Difference
2 Year	0.00	0.00	0.00
10 Year	0.33	0.30	-0.03
25 Year	0.83	0.75	-0.08
50 Year	1.71	1.66	-0.05
100 Year	3.58	3.29	-0.29

CONCLUSION

Since direct impacts to the wetlands have been avoided and indirect impacts to this area have been mitigated through incorporation of standard erosion and sedimentation control measures, no significant adverse effects to the wetland or its functional values are anticipated from the planned additions to this facility.

3.0 SEDIMENTATION AND EROSION CONTROLS

The disturbance caused by removing topsoil and regrading the site will be appropriately managed and designed to minimize the loss of soil from the disturbed areas and to minimize the effect of sediment being carried away from the site with runoff via the drainage systems. Best Management Practices (BMPs) for stormwater management at construction sites have been incorporated into the site design for drainage and erosion/sedimentation control and as required for obtaining approvals from the Town of Wallingford, Planning and Zoning Commission and Inland Wetlands and Watercourses Commission. The following sections describe the construction and post-construction BMPs that are incorporated into the site plans. The soil erosion and sediment control plans and details are provided in Site Plans.

Miscellaneous Erosion Controls: A variety of measures will be used to minimize the impacts of erosion and sedimentation on adjacent property, undisturbed site areas, and receiving wetlands and water bodies. Erosion control measures, such as silt fences and hay bales will be placed around the perimeter of the construction area and all areas of concern. Catch basins will be appropriately equipped with a siltsack to reduce solids. Stabilization seeding will be established after final grading is completed. After construction is completed, permanent stabilization vegetation will be planted on all exposed slopes. As needed during construction, and following site stabilization, sediment from the basin and control structures will be removed.

Soil stockpiles will have erosion and sedimentation control measures installed around them. These control measures include silt fences and straw bale dikes. When possible, the fences will be installed parallel to ground contours to avoid large concentrations of flow. During construction, straw bales will be placed at the limit of work where steep slopes exist in order to protect the down slope areas from sediment deposition. Silt fences and/or hay bales will be installed around or filtration fabric will be placed within the inlets of drainage structures such as catch basins to minimize sediment transport to the stormwater basins.

When the site's final grade has been established, permanent vegetation will be planted on the disturbed areas.

Post-Construction Measures: After construction is completed, all accumulated sediment in the stormwater management retention basin, the Oil/Water Separation System, and catch basins will be removed. Other stormwater management systems that will remain from the construction phase are earthen berms, outlet protection, and the establishment and maintenance of permanent vegetation.

4.0 CONSTRUCTION SEQUENCING

1. Flag limits of construction. Schedule pre-construction meeting with representatives of the owner, contractor, engineer and local authority.
2. Hold pre-construction meeting prior to any site disturbance. Review erosion control plan and discuss scheduling of site inspections during construction activities.
3. Install construction entrance.
4. Install perimeter erosion and sedimentation controls in accordance with the E&S control plan.
5. Begin excavation and construction of fill embankments. Establish sub-grade elevations for topsoil areas and roadways as required and prepare building and turbine pads.
6. Begin building and turbine construction.
7. Install underground utilities (sanitary, water service, storm drain system and other utilities) to within 5 feet of the building.
8. Prepare sub-base, slopes, driveway areas and other areas of disturbance for final grading.
9. Install driveway area base materials and compact.
10. Place topsoil where required. Complete perimeter landscaping.
11. Upon substantial completion of the building, complete the balance of the site work and stabilization of all other disturbed areas. Install first course of paving.
12. When all other work has been completed, repair and sweep all paved areas for the final course of paving. Inspect the drainage system and clean as needed.
13. Install final course of pavement.
14. After site is stabilized remove temporary erosion and sediment controls.

5.0 CONSTRUCTION INSPECTION AND MAINTENANCE

The construction contractor will perform inspections on all of the stormwater management systems to ensure they are functioning properly. In any instance of non-compliance, corrective measures will be implemented. Inspections will be performed at a minimum of once every seven calendar days or within 24 hours of the end of a storm event that produces 0.5 inches or more of precipitation. A blank Stormwater Erosion and Sediment Control Inspection Log is provided. The stormwater management systems inspections and maintenance to be performed by the contractor include the following:

- The storm drains and grass swales will be inspected periodically for accumulated sediment. Built up sediment shall be removed from silt fences when it has reached the lesser of one third of the height of the fence or six inches in height.

- Silt fences shall be inspected for depth of sediment, tears in the fabric, and fabric attachment to posts. Posts shall also be inspected to ensure that they are firmly set into the ground.

- Locations where vehicles enter or exit the site shall be inspected for evidence of off-site sediment tracking. Excessive sediment accumulated on nearby roads shall be swept up.

- Temporary and permanent seeding shall be inspected during its establishment to check for insufficient growth, if required, remedial action shall be undertaken to stabilize the surface.

- Dikes, berms, and outlet stone rip rap shall be inspected for washouts or movement and repaired as required. Dikes or berms susceptible to erosion shall be reinforced with stone. Any rip rap experiencing movement or washout shall be removed and replaced individually in response to the observed runoff flow patterns. Large stones shall be incorporated into the structure for anchoring and support when needed.

- Stone or sand filter traps used for storm inlet protection or filtering dikes shall be inspected and replaced when sediment impedes the effective functioning of the device.

- The stormwater retention/recharge basin shall be inspected for sediment accumulation and structural damage. Remove sediment accumulation during dry periods when it exceeds one foot in depth. Make the necessary repairs to stabilize the basin soil berm walls and insure Structural integrity.

- The Oil/Water Separation System shall be inspected for sediment accumulation. Per manufacturer's recommendations, this system will be cleaned when sediment depth has accumulated to 2 feet in the bottom of either structure or when visual inspection shows a large accumulation of debris or oil.

- In the event of winter shutdown, inspections and repairs to sediment and erosion controls shall continue. If construction continues during winter months, snow shall be cleared and piled so as not to interfere with sediment and erosion controls and drainage swales. Ruts created by vehicle traffic over softened or unstable soil shall be leveled on a daily basis and mixed with drier soil to stabilize the surface grade.

At a minimum, all of the following items shall be repaired and/or rectified as soon as practicable after they are discovered:

- Erosion channels formed on slopes, in swales, or around structures;
- Hay/straw bale dikes with broken strings or with less than two stakes per bale;
- Deteriorated silt fences;
- Inlet structures requiring cleaning;
- All conveyances or inlet structures not operating as in their design conditions; and
- All stormwater detention/retention structures, and settling basin containing sediment, vegetation, and foreign debris.

Like any system that collects pollutants, the Oil/Water Separation System must be maintained for continued effectiveness. Maintenance is a simple procedure, and is performed using a vacuum truck or similar equipment. Access to the contaminant storage is available through manhole covers in each structure, and the entire floor of each structure should be visible from the surface. This allows the entire cleaning process to be performed and inspected without entering the structures. During maintenance, the storage manhole is completely emptied and cleaned. The water from the primary manhole is used to recharge the storage manhole, and the sediments are then removed from the primary structure.

Based on the results of the inspections, the description of potential sources and pollution prevention measures identified in this plan shall be revised as appropriate as soon as practicable after such inspection. Such modifications shall provide for timely implementation of any changes to the site within 24 hours and implementation of any changes to this plan within 3 calendar days following the inspection. This plan shall be revised and the site controls updated in accordance with sound engineering practices, the guidelines, and the General Permit.

A report summarizing the scope of the inspection, name(s) and qualifications of personnel making be inspection, the date(s) of the inspection, major observations relating to the implementation of this plan, and actions taken shall be made and retained as part of this plan for at least three years after the date of inspection. The report shall be signed by the permittee, or his authorized representative.

6.0 GOOD HOUSEKEEPING MEASURES

Trash, garbage, rubbish and other refuse will be routinely collected in suitable containers, transported off-site and disposed of in an acceptable manner.

During construction leaks or spills of hydraulic oils, lubricating oils, fuel oils, gasoline or other engine fluids will be contained upon detection using oil sorbent materials and other methods, as appropriate. Repairs or appropriate maintenance shall be performed in the designated maintenance area. When repair or maintenance procedures are performed in the open, work shall be done in such a manner so as to minimize spillage of hydraulic and engine fluids onto the ground.

Materials handled during operations shall be transferred directly to/from the vehicles at appropriate offloading areas. The potential for stormwater to contact handled materials will be minimized. A supply of absorbent materials shall be readily accessible at the site 24 hours a day to help contain any spills.

STORMWATER EROSION AND SEDIMENT CONTROL INSPECTION LOG

Instructions:

"Qualified personnel (provided by the permitee) shall inspect disturbed areas of the construction activity that have not been finally stabilized, structural control measures, and locations where vehicles enter or exit the site at least once every seven calendar days and within 24-hours of the end of a storm that is 0.1 inches or greater. Where sites have been temporarily or finally stabilized, such inspection shall be conducted at least once every month for three months."

Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of off-site sediment tracking.

Date: _____ **Time:** _____

Inspector: _____ **Signature:** _____

Description of Erosion/Sedimentation Control Measures:

- The storm drains and grass swales will be inspected periodically for accumulated sediment. Built up sediment shall be removed from silt fences when it has reached the lesser of one-third of the height of the fence or six inches in height.

- Silt fences shall be inspected for depth of sediment, tears in the fabric, and fabric attachment to posts. Posts shall also be inspected to ensure that they are firmly set into the ground.

- Locations where vehicles enter or exit the site shall be inspected for evidence of off-site sediment tracking. Excessive sediment accumulated on nearby roads shall be swept up.

- Temporary and permanent seeding shall be inspected during its establishment to check for insufficient growth. If required, remedial action shall be undertaken to stabilize the surface.

- Dikes, berms, and outlet stone rip rap shall be inspected for washouts or movement and repaired as required. Dikes or berms susceptible to erosion shall be reinforced with stone. Any rip rap experiencing movement or washout shall be removed and replaced individually in response to the observed runoff flow patterns. Large stones shall be incorporated into the structure for anchoring and support when needed.

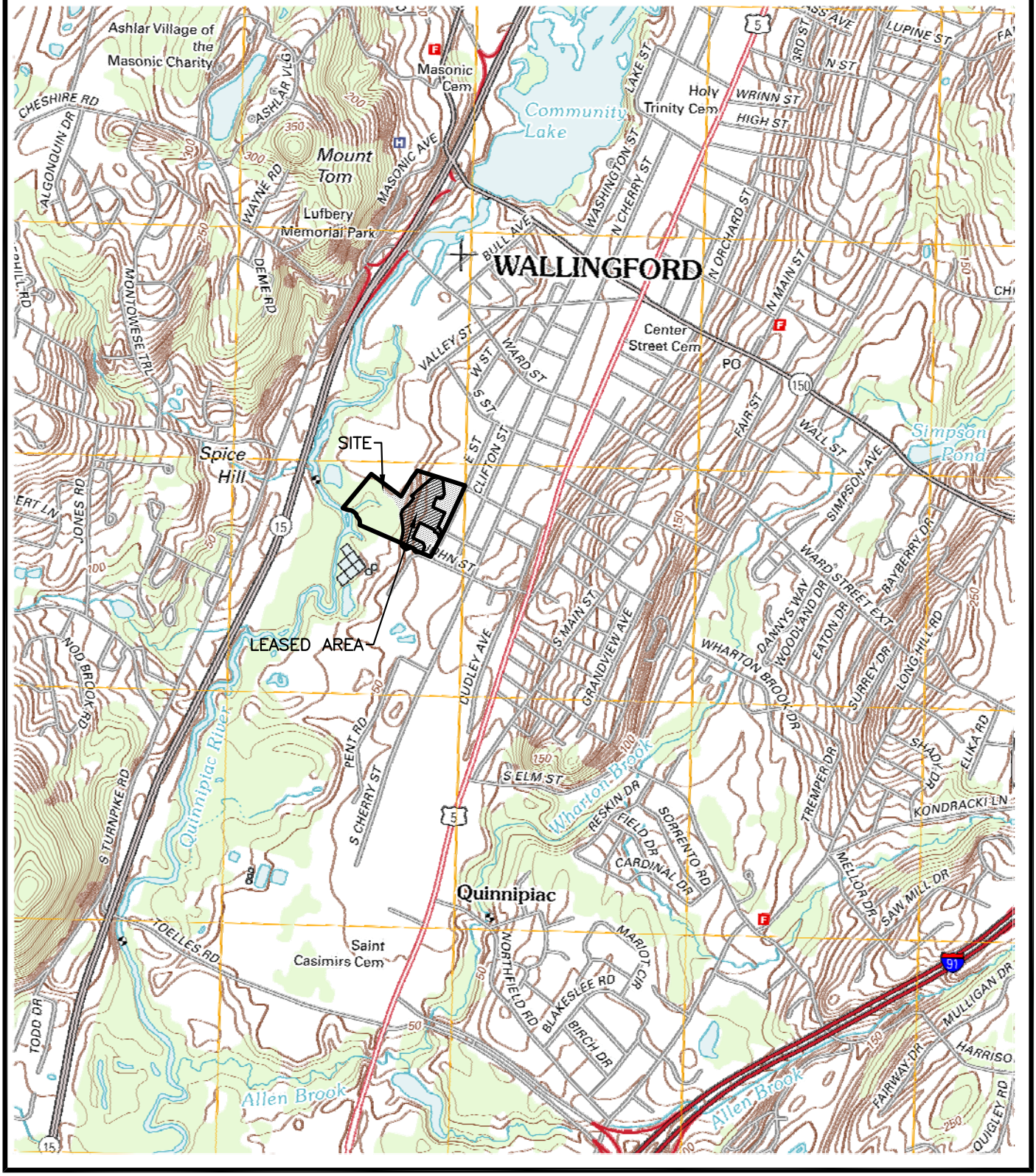
- Stone or sand filter traps used for storm inlet protection or filtering dikes shall be inspected and replaced when sediment impedes the effective functioning of the device.

- The stormwater retention/recharge basin shall be inspected for sediment accumulation and structural damage. Remove sediment accumulation during dry periods when it exceeds one foot in depth. Make the necessary repairs to stabilize the basin soil berm walls and insure structural integrity.

- The Oil/Water Separation System shall be inspected for sediment accumulation. Per manufacturer's recommendations, this system will be cleaned when sediment depth has accumulated to 2 feet of sediment in either structure.

Are the Control Measures Functioning Properly? Yes _____ No _____
Observations/Corrective Actions:

FIGURE 1



GODFREY HOFFMAN ASSOCIATES, LLC
PROFESSIONAL LAND SURVEYORS & CIVIL ENGINEERS
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TEL: 203.239.4217 FAX: 203.234.2088 WWW.GODFREYHOFFMAN.COM

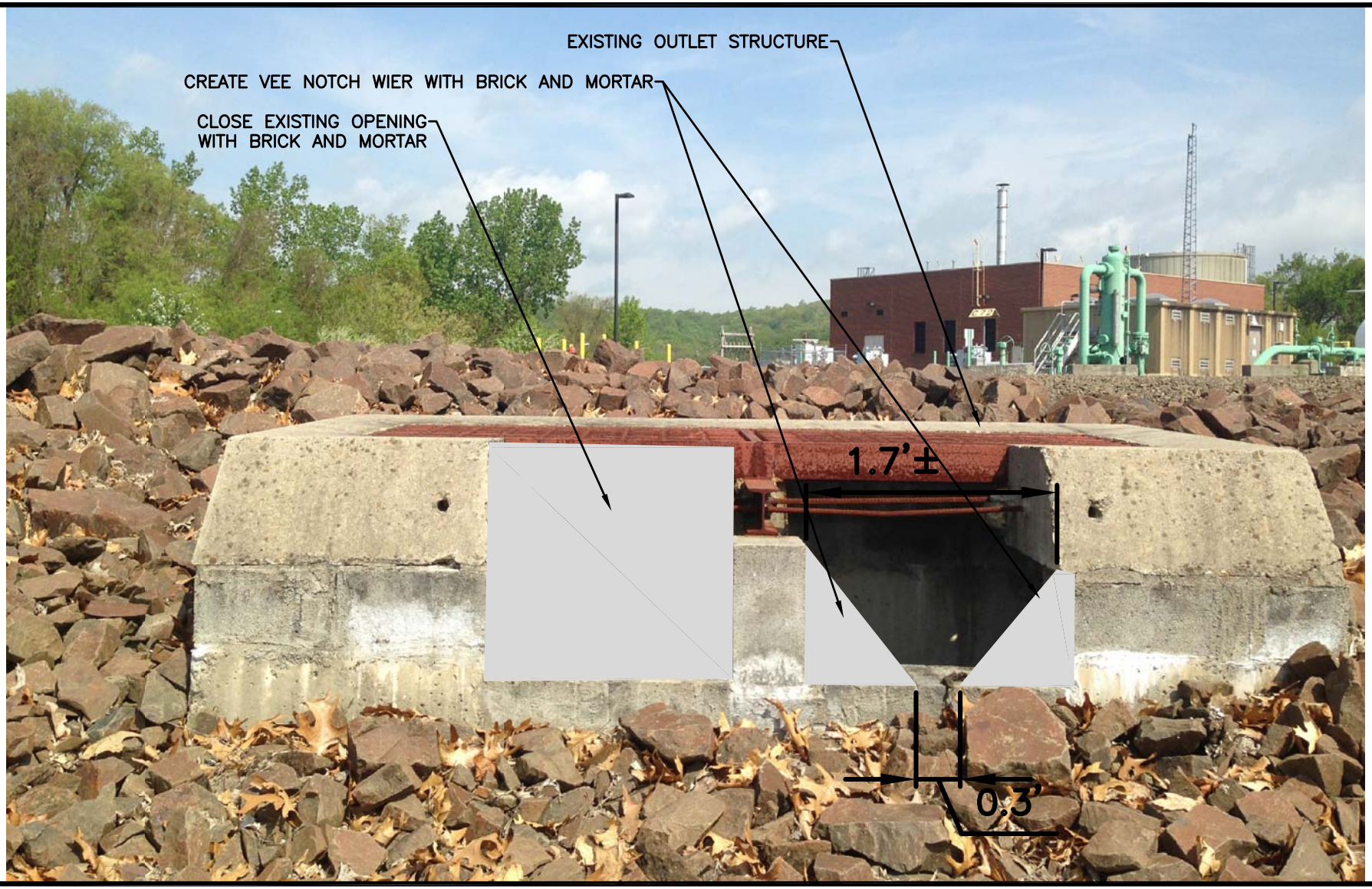
LOCATION MAP

WALLINGFORD ENERGY II, LLC

DRAWN BY:	MP
CHECKED BY:	JR
SCALE:	1"=2000'
PROJECT:	15-011
DATE:	6-2-2015

FIGURE 1

FIGURE 2



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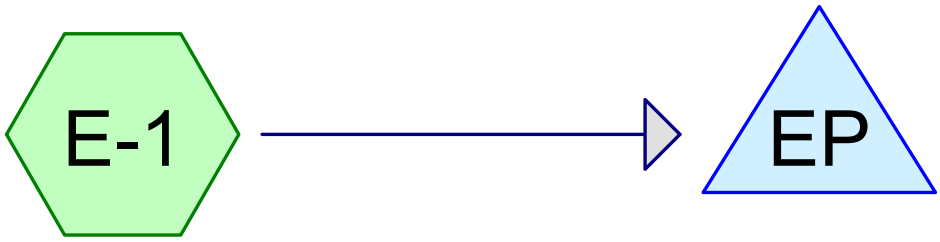
OUTLET STRUCTURE

WALLINGFORD ENERGY II, LLC

DRAWN BY:	MP
CHECKED BY:	JR
SCALE:	1"=1'
PROJECT:	15-011
DATE:	6-2-2015

FIGURE 2

STORMWATER RUNOFF HYDROGRAPHS



Existing Subcatchment

Existing Retention Basin - Pre Construction

Developed Subcatchment

Existing Retention Basin - Post Construction

Subcat Reach Pond Link

Routing Diagram for Stormwater Management Report

Prepared by Godfrey-Hoffman Associates, LLC, Printed 6/1/2015
HydroCAD® 10.00 s/n 01524 © 2013 HydroCAD Software Solutions LLC

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E-1: Existing Runoff Area=290,375 sf 14.97% Impervious Runoff Depth>1.55"
Tc=15.0 min CN=77/98 Runoff=8.67 cfs 37,416 cf

Subcatchment P-1: Developed Runoff Area=290,375 sf 14.97% Impervious Runoff Depth>1.66"
Tc=15.0 min CN=79/98 Runoff=9.38 cfs 40,056 cf

Pond EP: Existing Retention Basin - Pre Peak Elev=54.50' Storage=37,402 cf Inflow=8.67 cfs 37,416 cf
Outflow=0.00 cfs 0 cf

Pond PP: Existing Retention Basin - Post Peak Elev=54.72' Storage=40,042 cf Inflow=9.38 cfs 40,056 cf
Outflow=0.00 cfs 0 cf

Total Runoff Area = 580,750 sf Runoff Volume = 77,472 cf Average Runoff Depth = 1.60"
85.03% Pervious = 493,800 sf 14.97% Impervious = 86,950 sf

Summary for Subcatchment E-1: Existing Subcatchment

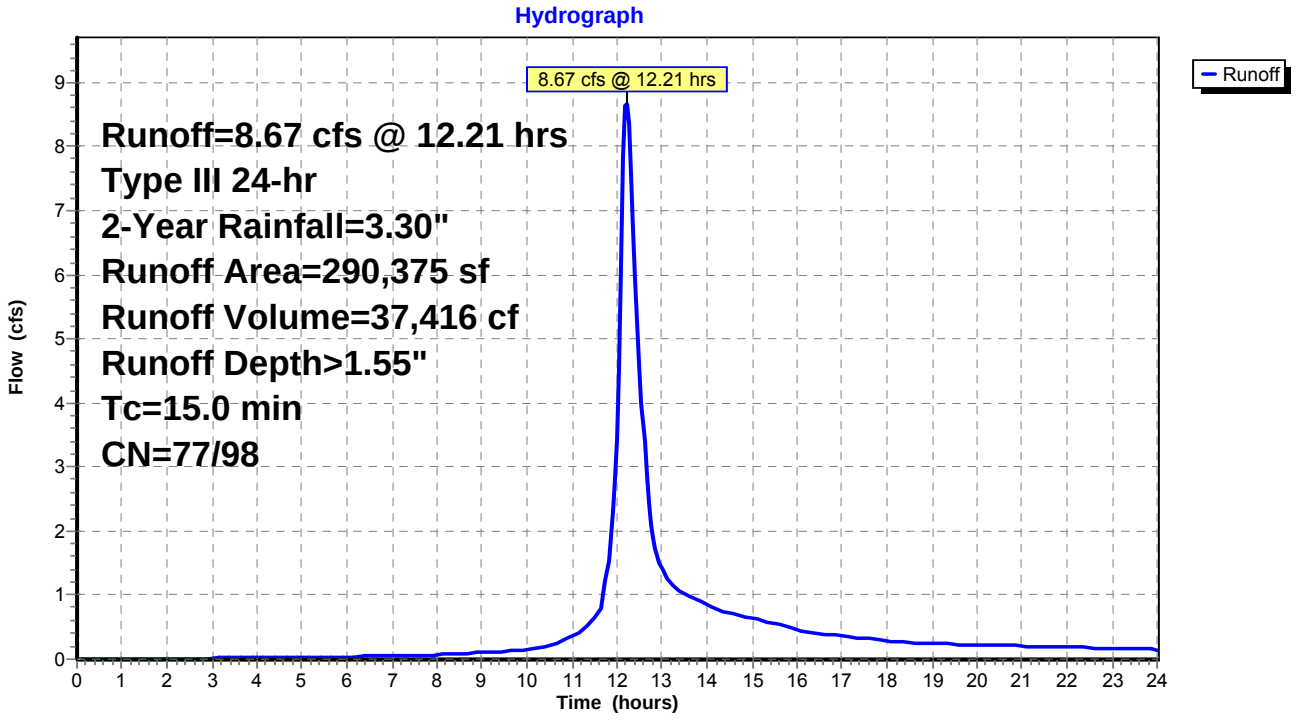
Runoff = 8.67 cfs @ 12.21 hrs, Volume= 37,416 cf, Depth> 1.55"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type III 24-hr 2-Year Rainfall=3.30"

	Area (sf)	CN	Description
*	39,100	98	Roads - Paved
*	4,375	98	Bldg - roof to drain system
*	2,125	89	Bldg - roof to overland
*	100,100	81	Yard - pervious surface
	129,175	74	>75% Grass cover, Good, HSG C
*	15,500	74	Retention Basin - Stone
	290,375	80	Weighted Average
	246,900	77	85.03% Pervious Area
	43,475	98	14.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry, Direct Entry - Assumed**

Subcatchment E-1: Existing Subcatchment



Summary for Subcatchment P-1: Developed Subcatchment

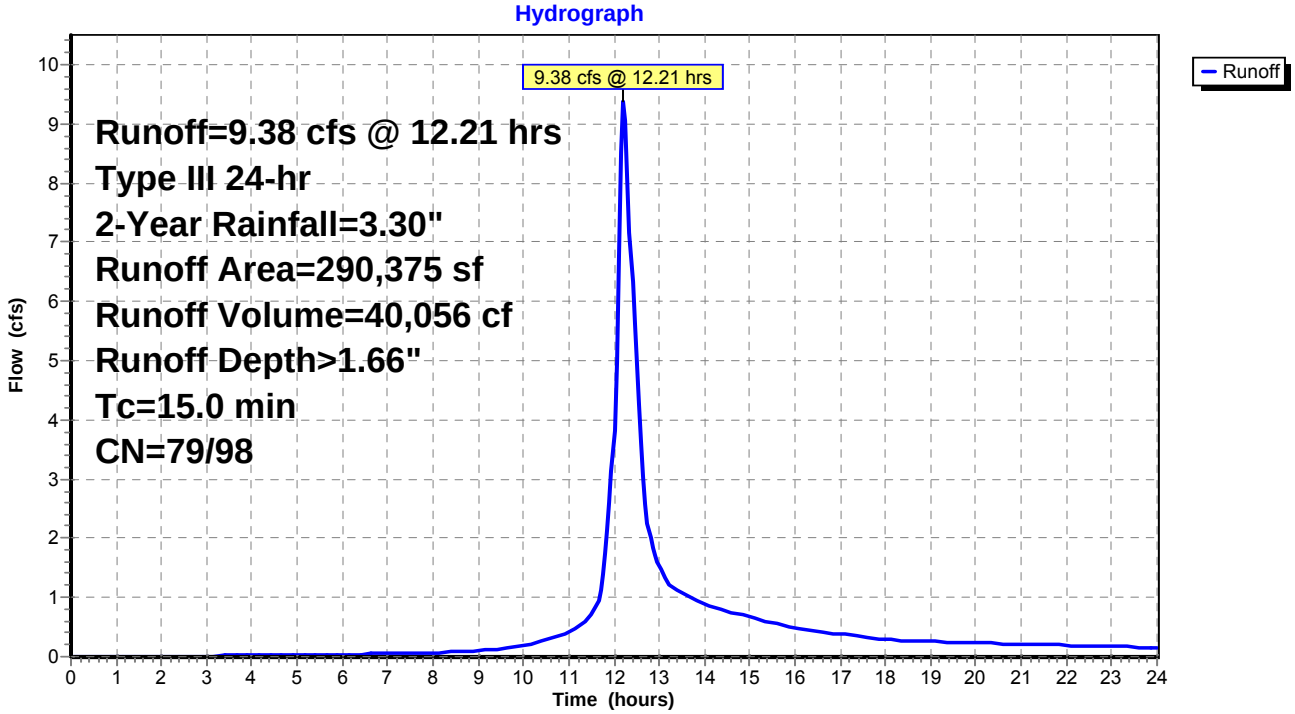
Runoff = 9.38 cfs @ 12.21 hrs, Volume= 40,056 cf, Depth> 1.66"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type III 24-hr 2-Year Rainfall=3.30"

	Area (sf)	CN	Description
*	39,100	98	Roads - Paved
*	4,375	98	Bldg - roof to drain system
*	4,724	89	Bldg - roof to overland
*	124,949	81	Yard - pervious surface
	89,727	74	>75% Grass cover, Good, HSG C
*	15,500	74	Retention Basin - Stone
	12,000	98	Unconnected pavement, HSG C
	290,375	82	Weighted Average
	246,900	79	85.03% Pervious Area
	43,475	98	14.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry, Direct Entry - Assumed**

Subcatchment P-1: Developed Subcatchment



Summary for Pond EP: Existing Retention Basin - Pre Construction

Inflow Area = 290,375 sf, 14.97% Impervious, Inflow Depth > 1.55" for 2-Year event
Inflow = 8.67 cfs @ 12.21 hrs, Volume= 37,416 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 54.50' @ 24.00 hrs Surf.Area= 11,909 sf Storage= 37,402 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

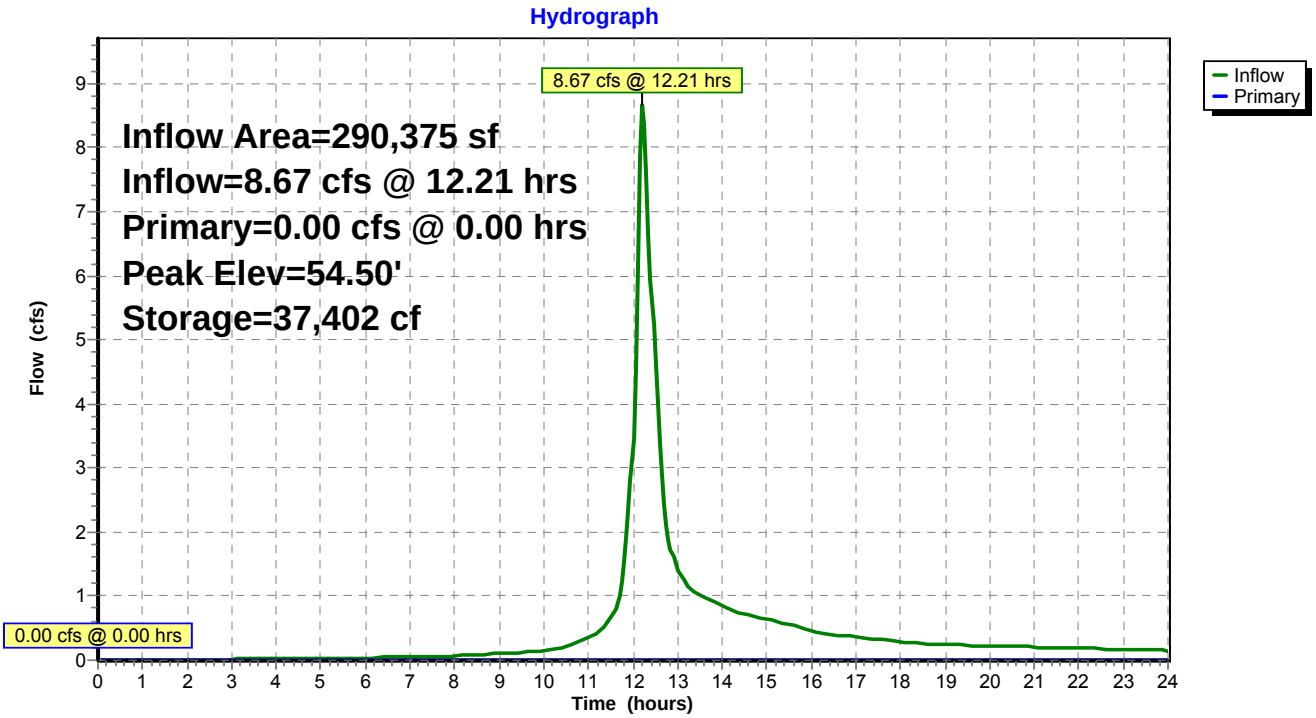
Volume	Invert	Avail.Storage	Storage Description
#1	50.40'	84,582 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.40	0	0	0
50.50	4,930	247	247
51.00	7,380	3,078	3,324
52.00	8,770	8,075	11,399
53.00	10,000	9,385	20,784
54.00	11,260	10,630	31,414
55.00	12,550	11,905	43,319
56.00	13,890	13,220	56,539
57.00	15,450	14,670	71,209
58.00	1,684	8,567	79,776
58.50	17,540	4,806	84,582

Device	Routing	Invert	Outlet Devices
#1	Primary	52.22'	**18.0" Round RCP_Round 18"** L= 563.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 52.22' / 46.24' S= 0.0106 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets, Flow Area= 1.77 sf
#2	Device 1	58.17'	**75.0" x 20.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	56.57'	**1.6' long x 0.7' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32
#4	Device 1	56.57'	**1.8' long x 0.7' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=50.40' (Free Discharge)
└─**1=RCP_Round 18"** (Controls 0.00 cfs)
└─**2=Orifice/Grate** (Controls 0.00 cfs)
└─**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond EP: Existing Retention Basin - Pre Construction



Summary for Pond PP: Existing Retention Basin - Post Construction

Inflow Area = 290,375 sf, 14.97% Impervious, Inflow Depth > 1.66" for 2-Year event
Inflow = 9.38 cfs @ 12.21 hrs, Volume= 40,056 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 54.72' @ 24.00 hrs Surf.Area= 12,195 sf Storage= 40,042 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

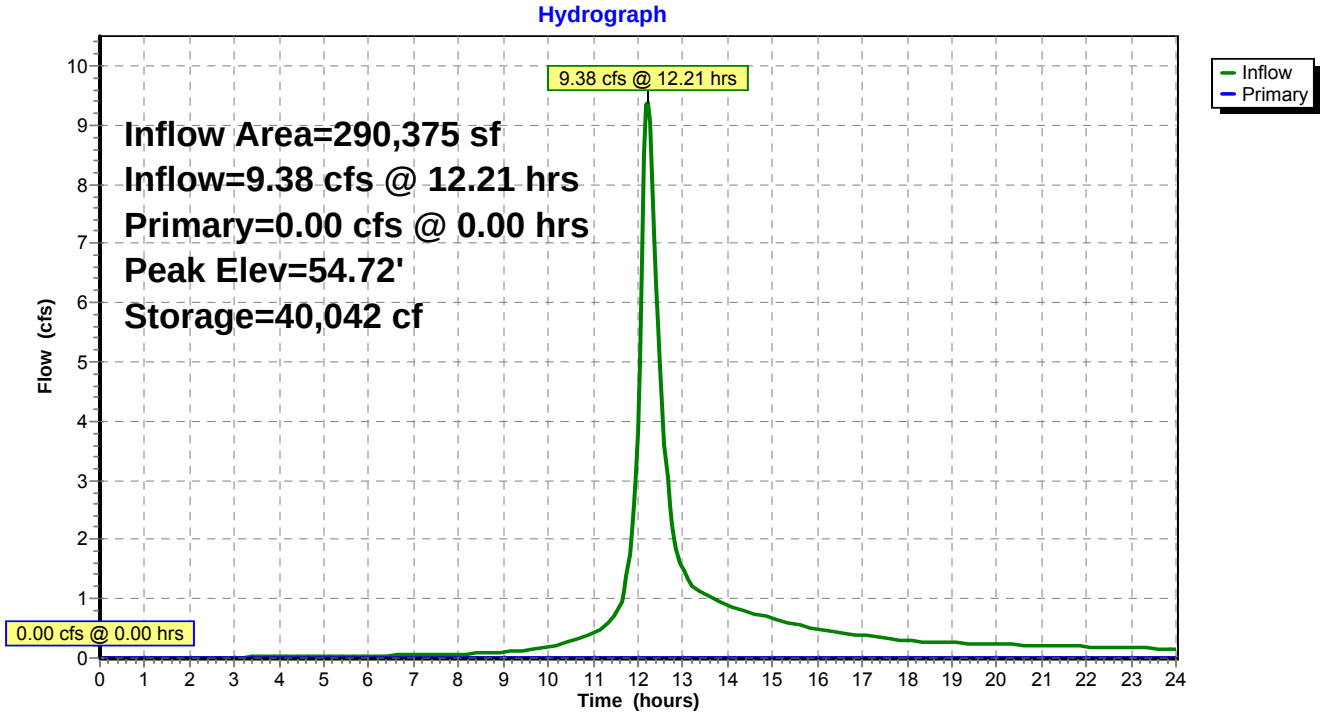
Volume	Invert	Avail.Storage	Storage Description
#1	50.40'	84,582 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.40	0	0	0
50.50	4,930	247	247
51.00	7,380	3,078	3,324
52.00	8,770	8,075	11,399
53.00	10,000	9,385	20,784
54.00	11,260	10,630	31,414
55.00	12,550	11,905	43,319
56.00	13,890	13,220	56,539
57.00	15,450	14,670	71,209
58.00	1,684	8,567	79,776
58.50	17,540	4,806	84,582

Device	Routing	Invert	Outlet Devices
#1	Primary	52.22'	**18.0" Round Culvert** L= 563.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 52.22' / 46.24' S= 0.0106 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets, Flow Area= 1.77 sf
#2	Device 1	58.17'	**75.0" x 20.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	56.57'	**80.0 deg x 0.3' long x 1.23' rise Sharp-Crested Vee/Trap Weir** Cv= 2.51 (C= 3.14)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=50.40' (Free Discharge)
└**1=Culvert** (Controls 0.00 cfs)
  └**2=Orifice/Grate** (Controls 0.00 cfs)
  └**3=Sharp-Crested Vee/Trap Weir** (Controls 0.00 cfs)

Pond PP: Existing Retention Basin - Post Construction



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E-1: Existing Runoff Area=290,375 sf 14.97% Impervious Runoff Depth>2.26"
Tc=15.0 min CN=77/98 Runoff=12.89 cfs 54,738 cf

Subcatchment P-1: Developed Runoff Area=290,375 sf 14.97% Impervious Runoff Depth>2.40"
Tc=15.0 min CN=79/98 Runoff=13.73 cfs 57,973 cf

Pond EP: Existing Retention Basin - Pre Peak Elev=55.86' Storage=54,719 cf Inflow=12.89 cfs 54,738 cf
Outflow=0.00 cfs 0 cf

Pond PP: Existing Retention Basin - Post Peak Elev=56.10' Storage=57,954 cf Inflow=13.73 cfs 57,973 cf
Outflow=0.00 cfs 0 cf

Total Runoff Area = 580,750 sf Runoff Volume = 112,710 cf Average Runoff Depth = 2.33"
85.03% Pervious = 493,800 sf 14.97% Impervious = 86,950 sf

Summary for Subcatchment E-1: Existing Subcatchment

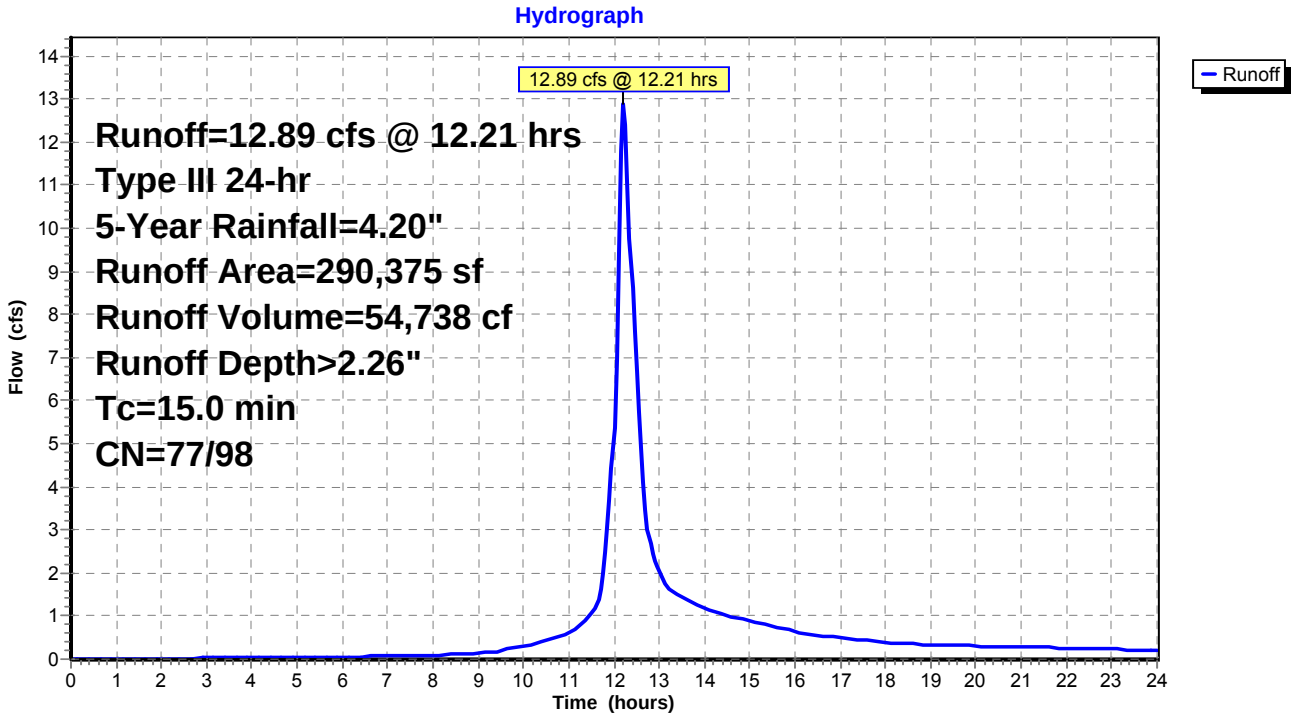
Runoff = 12.89 cfs @ 12.21 hrs, Volume= 54,738 cf, Depth> 2.26"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type III 24-hr 5-Year Rainfall=4.20"

	Area (sf)	CN	Description
*	39,100	98	Roads - Paved
*	4,375	98	Bldg - roof to drain system
*	2,125	89	Bldg - roof to overland
*	100,100	81	Yard - pervious surface
	129,175	74	>75% Grass cover, Good, HSG C
*	15,500	74	Retention Basin - Stone
	290,375	80	Weighted Average
	246,900	77	85.03% Pervious Area
	43,475	98	14.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry, Direct Entry - Assumed**

Subcatchment E-1: Existing Subcatchment



Summary for Subcatchment P-1: Developed Subcatchment

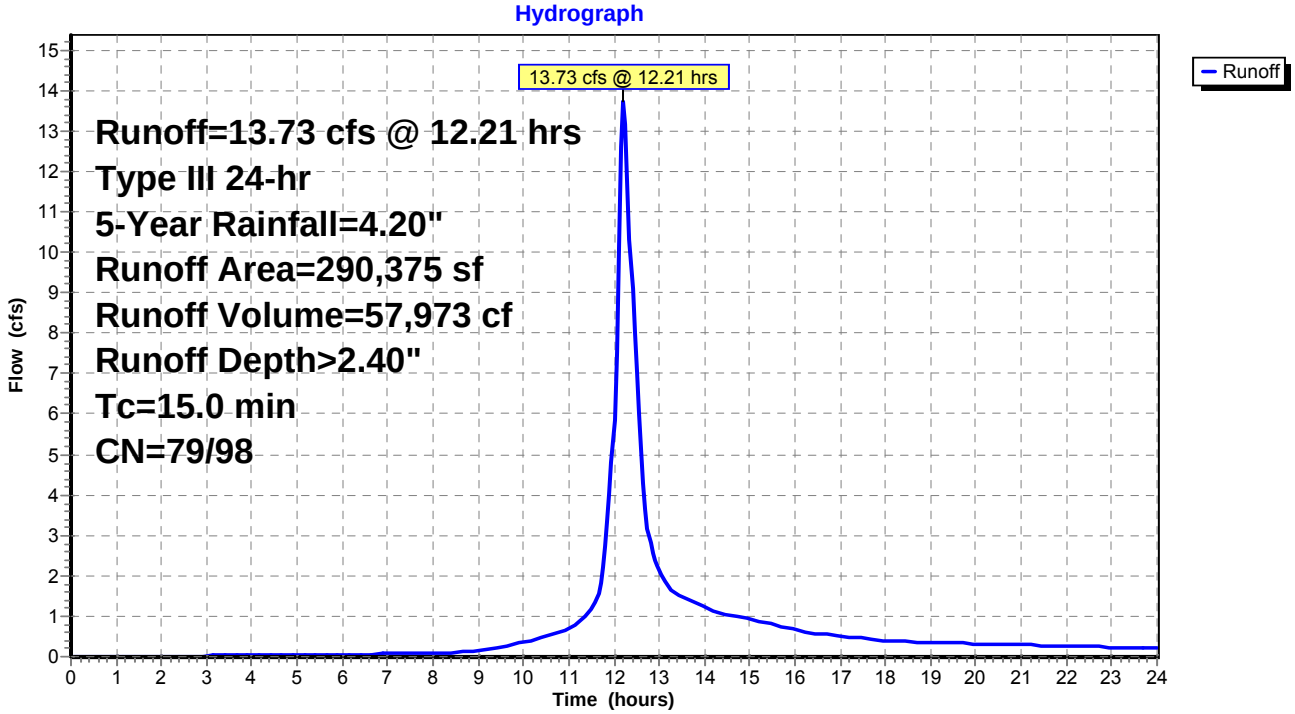
Runoff = 13.73 cfs @ 12.21 hrs, Volume= 57,973 cf, Depth> 2.40"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type III 24-hr 5-Year Rainfall=4.20"

	Area (sf)	CN	Description
*	39,100	98	Roads - Paved
*	4,375	98	Bldg - roof to drain system
*	4,724	89	Bldg - roof to overland
*	124,949	81	Yard - pervious surface
	89,727	74	>75% Grass cover, Good, HSG C
*	15,500	74	Retention Basin - Stone
	12,000	98	Unconnected pavement, HSG C
	290,375	82	Weighted Average
	246,900	79	85.03% Pervious Area
	43,475	98	14.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry, Direct Entry - Assumed**

Subcatchment P-1: Developed Subcatchment



Summary for Pond EP: Existing Retention Basin - Pre Construction

Inflow Area = 290,375 sf, 14.97% Impervious, Inflow Depth > 2.26" for 5-Year event
Inflow = 12.89 cfs @ 12.21 hrs, Volume= 54,738 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 55.86' @ 24.00 hrs Surf.Area= 13,706 sf Storage= 54,719 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

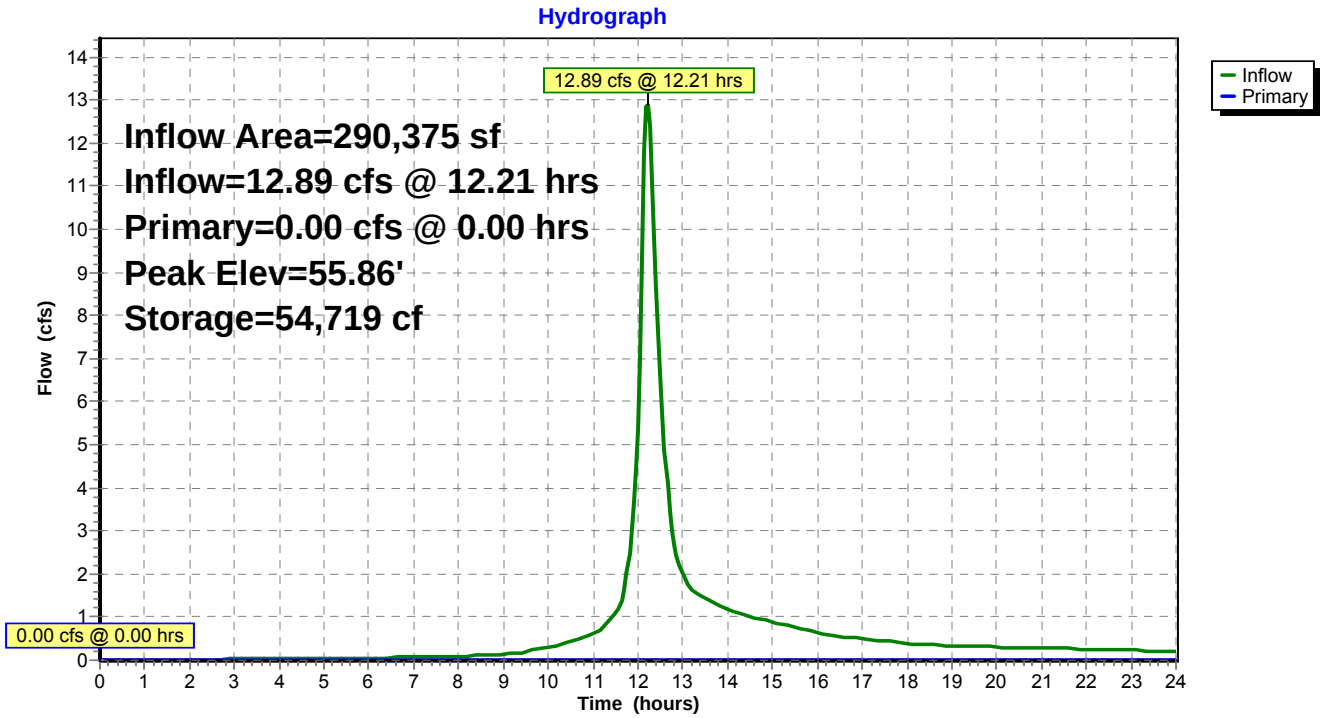
Volume	Invert	Avail.Storage	Storage Description
#1	50.40'	84,582 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.40	0	0	0
50.50	4,930	247	247
51.00	7,380	3,078	3,324
52.00	8,770	8,075	11,399
53.00	10,000	9,385	20,784
54.00	11,260	10,630	31,414
55.00	12,550	11,905	43,319
56.00	13,890	13,220	56,539
57.00	15,450	14,670	71,209
58.00	1,684	8,567	79,776
58.50	17,540	4,806	84,582

Device	Routing	Invert	Outlet Devices
#1	Primary	52.22'	**18.0" Round RCP_Round 18"** L= 563.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 52.22' / 46.24' S= 0.0106 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets, Flow Area= 1.77 sf
#2	Device 1	58.17'	**75.0" x 20.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	56.57'	**1.6' long x 0.7' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32
#4	Device 1	56.57'	**1.8' long x 0.7' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=50.40' (Free Discharge)
└─**1=RCP_Round 18"** (Controls 0.00 cfs)
└─**2=Orifice/Grate** (Controls 0.00 cfs)
└─**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond EP: Existing Retention Basin - Pre Construction



Summary for Pond PP: Existing Retention Basin - Post Construction

Inflow Area = 290,375 sf, 14.97% Impervious, Inflow Depth > 2.40" for 5-Year event
Inflow = 13.73 cfs @ 12.21 hrs, Volume= 57,973 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 56.10' @ 24.00 hrs Surf.Area= 14,040 sf Storage= 57,954 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

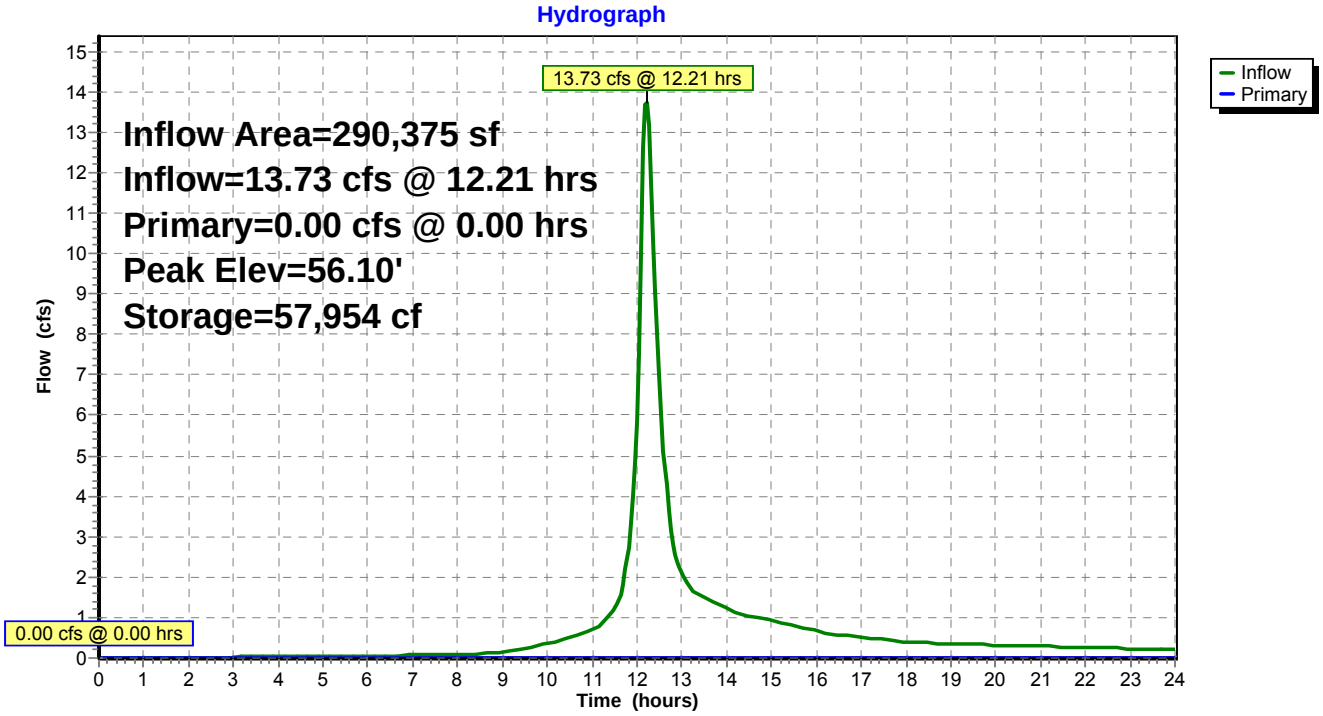
Volume	Invert	Avail.Storage	Storage Description
#1	50.40'	84,582 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.40	0	0	0
50.50	4,930	247	247
51.00	7,380	3,078	3,324
52.00	8,770	8,075	11,399
53.00	10,000	9,385	20,784
54.00	11,260	10,630	31,414
55.00	12,550	11,905	43,319
56.00	13,890	13,220	56,539
57.00	15,450	14,670	71,209
58.00	1,684	8,567	79,776
58.50	17,540	4,806	84,582

Device	Routing	Invert	Outlet Devices
#1	Primary	52.22'	**18.0" Round Culvert** L= 563.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 52.22' / 46.24' S= 0.0106 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets, Flow Area= 1.77 sf
#2	Device 1	58.17'	**75.0" x 20.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	56.57'	**80.0 deg x 0.3' long x 1.23' rise Sharp-Crested Vee/Trap Weir** Cv= 2.51 (C= 3.14)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=50.40' (Free Discharge)
└**1=Culvert** (Controls 0.00 cfs)
  └**2=Orifice/Grate** (Controls 0.00 cfs)
  └**3=Sharp-Crested Vee/Trap Weir** (Controls 0.00 cfs)

Pond PP: Existing Retention Basin - Post Construction



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E-1: Existing Runoff Area=290,375 sf 14.97% Impervious Runoff Depth>2.94"
Tc=15.0 min CN=77/98 Runoff=16.82 cfs 71,038 cf

Subcatchment P-1: Developed Runoff Area=290,375 sf 14.97% Impervious Runoff Depth>3.09"
Tc=15.0 min CN=79/98 Runoff=17.74 cfs 74,710 cf

Pond EP: Existing Retention Basin - Pre Peak Elev=56.67' Storage=66,403 cf Inflow=16.82 cfs 71,038 cf
Outflow=0.33 cfs 4,784 cf

Pond PP: Existing Retention Basin - Post Peak Elev=56.89' Storage=69,624 cf Inflow=17.74 cfs 74,710 cf
Outflow=0.30 cfs 5,158 cf

Total Runoff Area = 580,750 sf Runoff Volume = 145,748 cf Average Runoff Depth = 3.01"
85.03% Pervious = 493,800 sf 14.97% Impervious = 86,950 sf

Summary for Subcatchment E-1: Existing Subcatchment

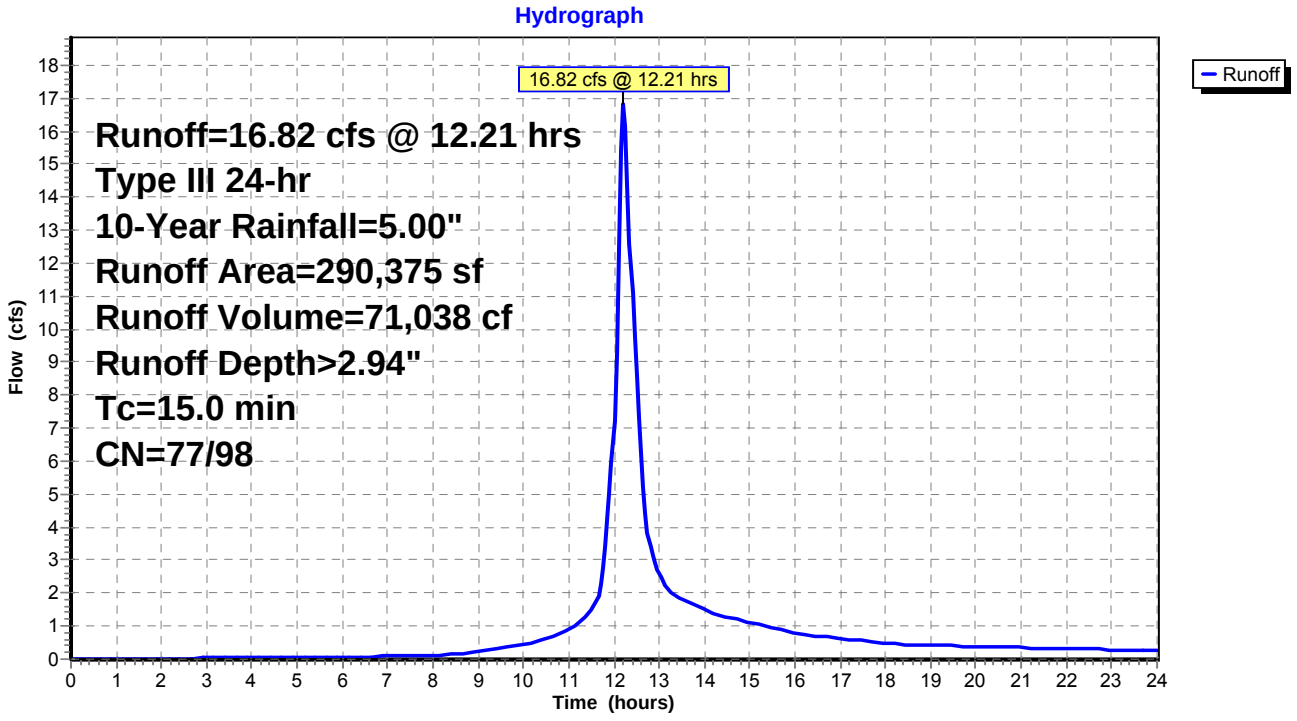
Runoff = 16.82 cfs @ 12.21 hrs, Volume= 71,038 cf, Depth> 2.94"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type III 24-hr 10-Year Rainfall=5.00"

	Area (sf)	CN	Description
*	39,100	98	Roads - Paved
*	4,375	98	Bldg - roof to drain system
*	2,125	89	Bldg - roof to overland
*	100,100	81	Yard - pervious surface
	129,175	74	>75% Grass cover, Good, HSG C
*	15,500	74	Retention Basin - Stone
	290,375	80	Weighted Average
	246,900	77	85.03% Pervious Area
	43,475	98	14.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry, Direct Entry - Assumed**

Subcatchment E-1: Existing Subcatchment



Summary for Subcatchment P-1: Developed Subcatchment

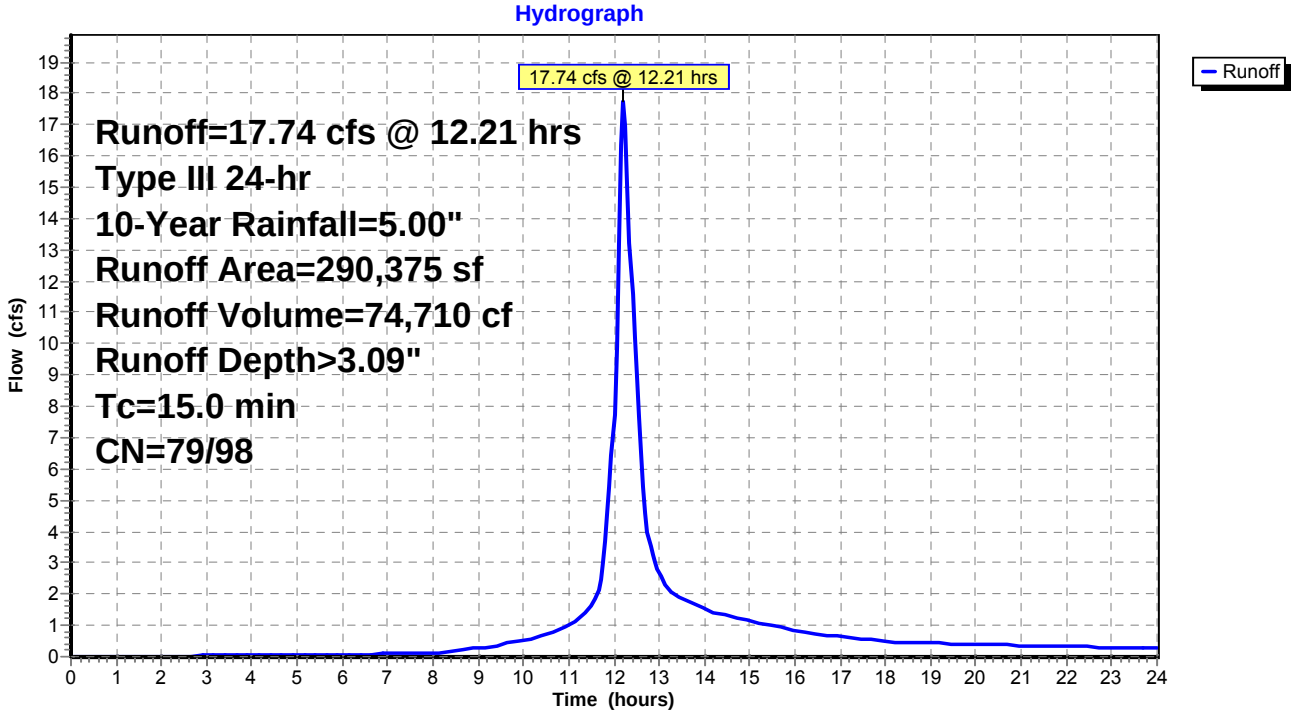
Runoff = 17.74 cfs @ 12.21 hrs, Volume= 74,710 cf, Depth> 3.09"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type III 24-hr 10-Year Rainfall=5.00"

	Area (sf)	CN	Description
*	39,100	98	Roads - Paved
*	4,375	98	Bldg - roof to drain system
*	4,724	89	Bldg - roof to overland
*	124,949	81	Yard - pervious surface
	89,727	74	>75% Grass cover, Good, HSG C
*	15,500	74	Retention Basin - Stone
	12,000	98	Unconnected pavement, HSG C
	290,375	82	Weighted Average
	246,900	79	85.03% Pervious Area
	43,475	98	14.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry, Direct Entry - Assumed**

Subcatchment P-1: Developed Subcatchment



Summary for Pond EP: Existing Retention Basin - Pre Construction

Inflow Area = 290,375 sf, 14.97% Impervious, Inflow Depth > 2.94" for 10-Year event
Inflow = 16.82 cfs @ 12.21 hrs, Volume= 71,038 cf
Outflow = 0.33 cfs @ 21.74 hrs, Volume= 4,784 cf, Atten= 98%, Lag= 571.9 min
Primary = 0.33 cfs @ 21.74 hrs, Volume= 4,784 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 56.67' @ 21.74 hrs Surf.Area= 14,939 sf Storage= 66,403 cf

Plug-Flow detention time= 785.4 min calculated for 4,784 cf (7% of inflow)
Center-of-Mass det. time= 493.1 min (1,309.7 - 816.6)

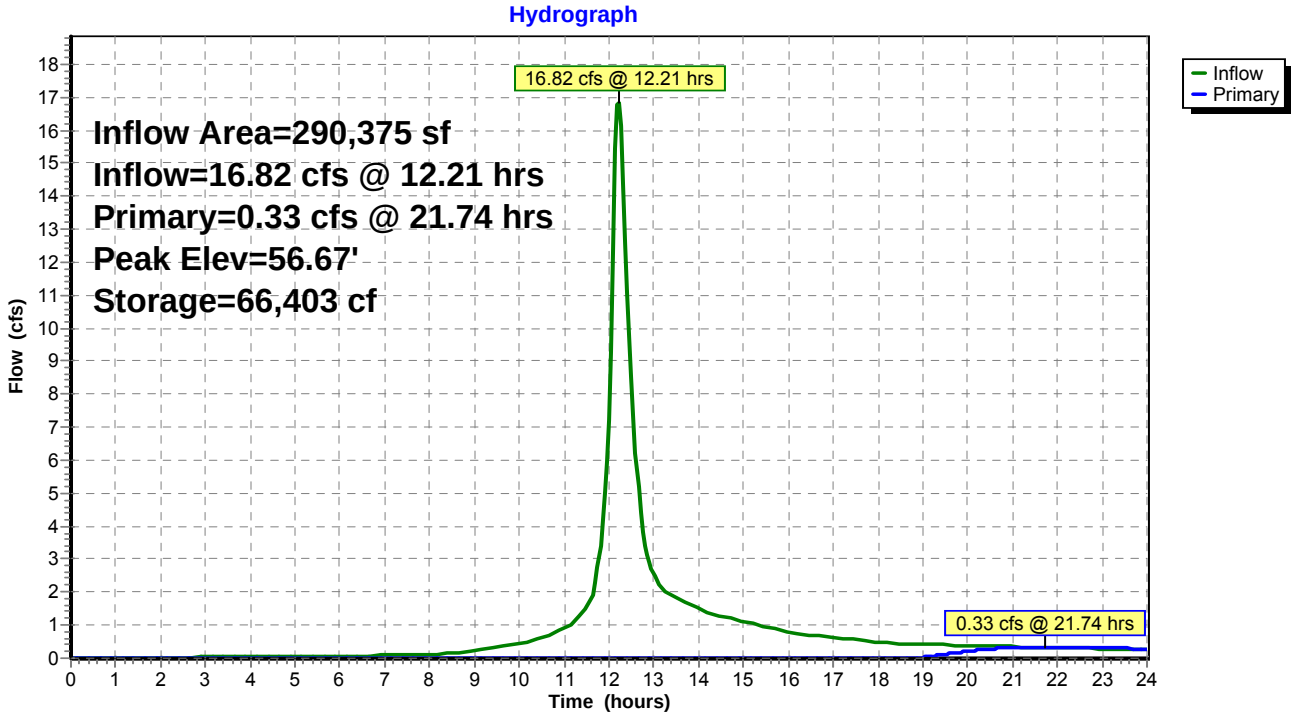
Volume	Invert	Avail.Storage	Storage Description
#1	50.40'	84,582 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.40	0	0	0
50.50	4,930	247	247
51.00	7,380	3,078	3,324
52.00	8,770	8,075	11,399
53.00	10,000	9,385	20,784
54.00	11,260	10,630	31,414
55.00	12,550	11,905	43,319
56.00	13,890	13,220	56,539
57.00	15,450	14,670	71,209
58.00	1,684	8,567	79,776
58.50	17,540	4,806	84,582

Device	Routing	Invert	Outlet Devices
#1	Primary	52.22'	**18.0" Round RCP_Round 18"** L= 563.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 52.22' / 46.24' S= 0.0106 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets, Flow Area= 1.77 sf
#2	Device 1	58.17'	**75.0" x 20.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	56.57'	**1.6' long x 0.7' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32
#4	Device 1	56.57'	**1.8' long x 0.7' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32

Primary OutFlow Max=0.31 cfs @ 21.74 hrs HW=56.67' (Free Discharge)
└─**1=RCP_Round 18"** (Passes 0.31 cfs of 12.34 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Broad-Crested Rectangular Weir** (Weir Controls 0.14 cfs @ 0.88 fps)
  └─**4=Broad-Crested Rectangular Weir** (Weir Controls 0.16 cfs @ 0.88 fps)

Pond EP: Existing Retention Basin - Pre Construction



Summary for Pond PP: Existing Retention Basin - Post Construction

Inflow Area = 290,375 sf, 14.97% Impervious, Inflow Depth > 3.09" for 10-Year event
Inflow = 17.74 cfs @ 12.21 hrs, Volume= 74,710 cf
Outflow = 0.30 cfs @ 22.82 hrs, Volume= 5,158 cf, Atten= 98%, Lag= 636.6 min
Primary = 0.30 cfs @ 22.82 hrs, Volume= 5,158 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 56.89' @ 22.82 hrs Surf.Area= 15,281 sf Storage= 69,624 cf

Plug-Flow detention time= 760.6 min calculated for 5,147 cf (7% of inflow)
Center-of-Mass det. time= 473.0 min (1,286.6 - 813.6)

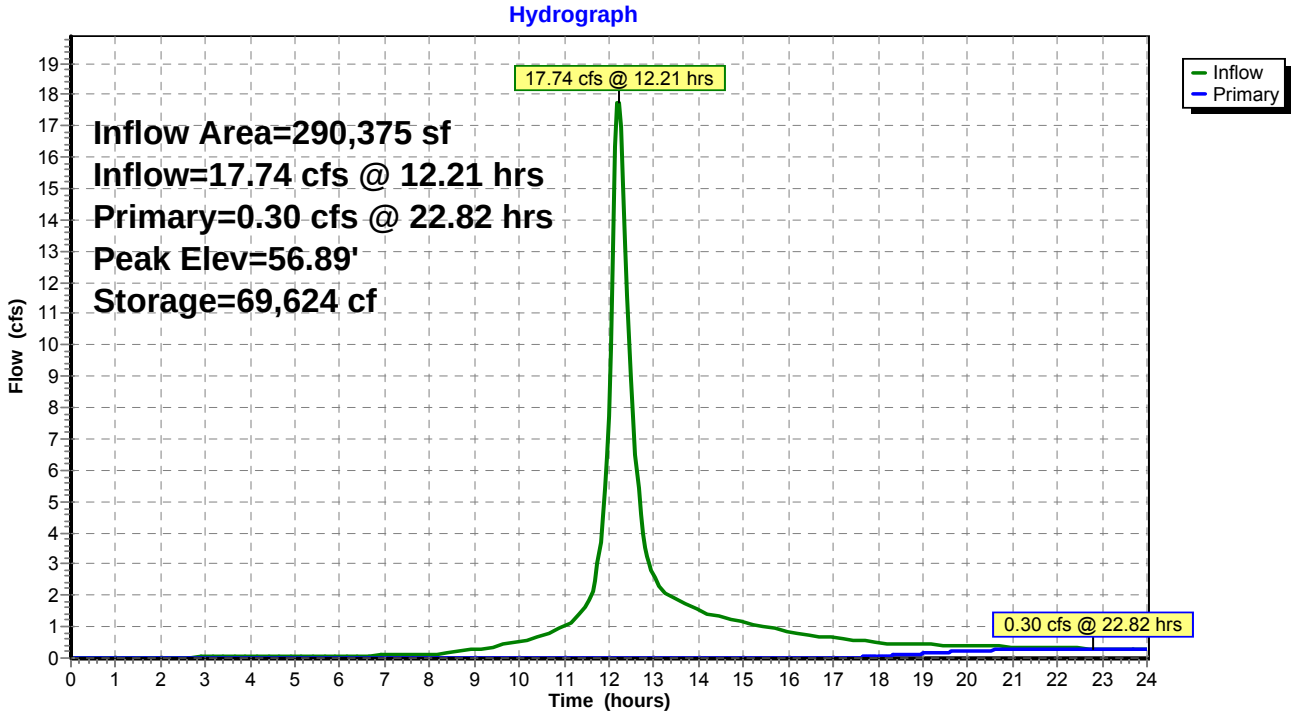
Volume	Invert	Avail.Storage	Storage Description
#1	50.40'	84,582 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.40	0	0	0
50.50	4,930	247	247
51.00	7,380	3,078	3,324
52.00	8,770	8,075	11,399
53.00	10,000	9,385	20,784
54.00	11,260	10,630	31,414
55.00	12,550	11,905	43,319
56.00	13,890	13,220	56,539
57.00	15,450	14,670	71,209
58.00	1,684	8,567	79,776
58.50	17,540	4,806	84,582

Device	Routing	Invert	Outlet Devices
#1	Primary	52.22'	**18.0" Round Culvert** L= 563.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 52.22' / 46.24' S= 0.0106 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets, Flow Area= 1.77 sf
#2	Device 1	58.17'	**75.0" x 20.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	56.57'	**80.0 deg x 0.3' long x 1.23' rise Sharp-Crested Vee/Trap Weir** Cv= 2.51 (C= 3.14)

Primary OutFlow Max=0.30 cfs @ 22.82 hrs HW=56.89' (Free Discharge)
└**1=Culvert** (Passes 0.30 cfs of 12.49 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  └**3=Sharp-Crested Vee/Trap Weir** (Weir Controls 0.30 cfs @ 1.61 fps)

Pond PP: Existing Retention Basin - Post Construction



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E-1: Existing Runoff Area=290,375 sf 14.97% Impervious Runoff Depth>3.46"
Tc=15.0 min CN=77/98 Runoff=19.85 cfs 83,661 cf

Subcatchment P-1: Developed Runoff Area=290,375 sf 14.97% Impervious Runoff Depth>3.62"
Tc=15.0 min CN=79/98 Runoff=20.80 cfs 87,614 cf

Pond EP: Existing Retention Basin - Pre Peak Elev=56.77' Storage=67,773 cf Inflow=19.85 cfs 83,661 cf
Outflow=0.83 cfs 17,267 cf

Pond PP: Existing Retention Basin - Post Peak Elev=57.08' Storage=71,929 cf Inflow=20.80 cfs 87,614 cf
Outflow=0.75 cfs 17,451 cf

Total Runoff Area = 580,750 sf Runoff Volume = 171,275 cf Average Runoff Depth = 3.54"
85.03% Pervious = 493,800 sf 14.97% Impervious = 86,950 sf

Summary for Subcatchment E-1: Existing Subcatchment

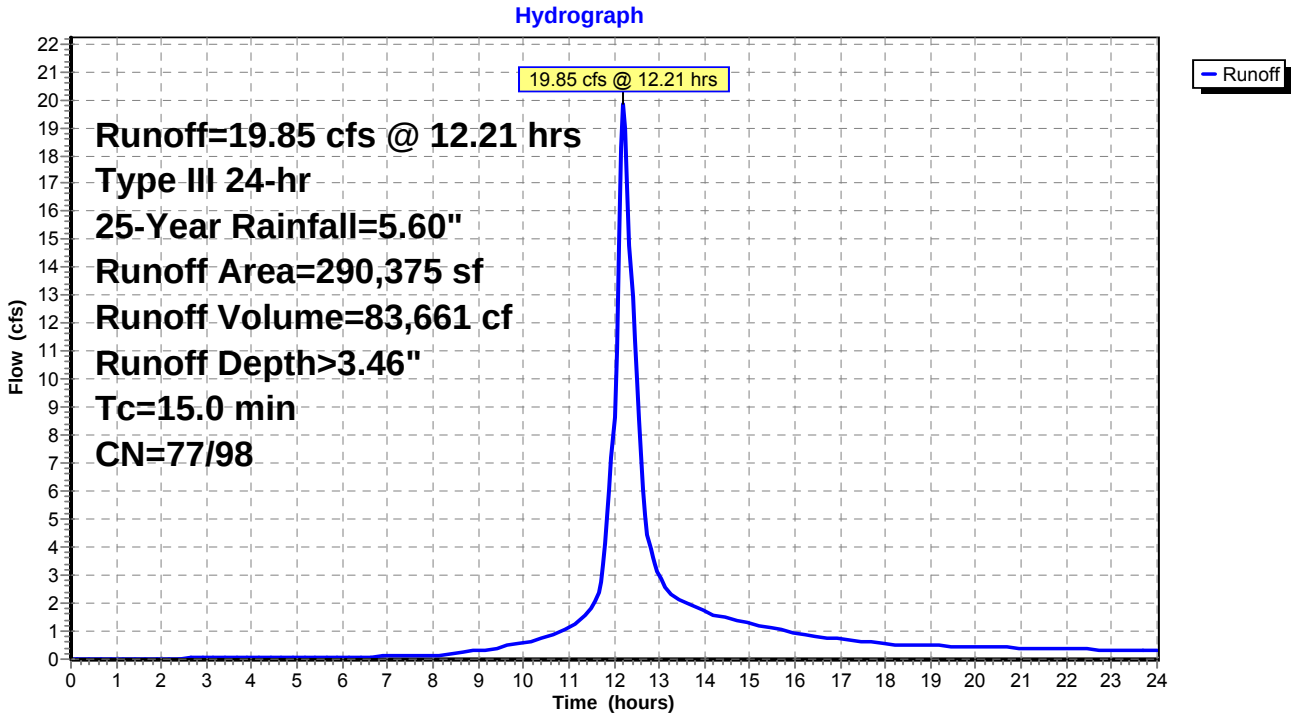
Runoff = 19.85 cfs @ 12.21 hrs, Volume= 83,661 cf, Depth> 3.46"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type III 24-hr 25-Year Rainfall=5.60"

	Area (sf)	CN	Description
*	39,100	98	Roads - Paved
*	4,375	98	Bldg - roof to drain system
*	2,125	89	Bldg - roof to overland
*	100,100	81	Yard - pervious surface
	129,175	74	>75% Grass cover, Good, HSG C
*	15,500	74	Retention Basin - Stone
	290,375	80	Weighted Average
	246,900	77	85.03% Pervious Area
	43,475	98	14.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry, Direct Entry - Assumed**

Subcatchment E-1: Existing Subcatchment



Summary for Subcatchment P-1: Developed Subcatchment

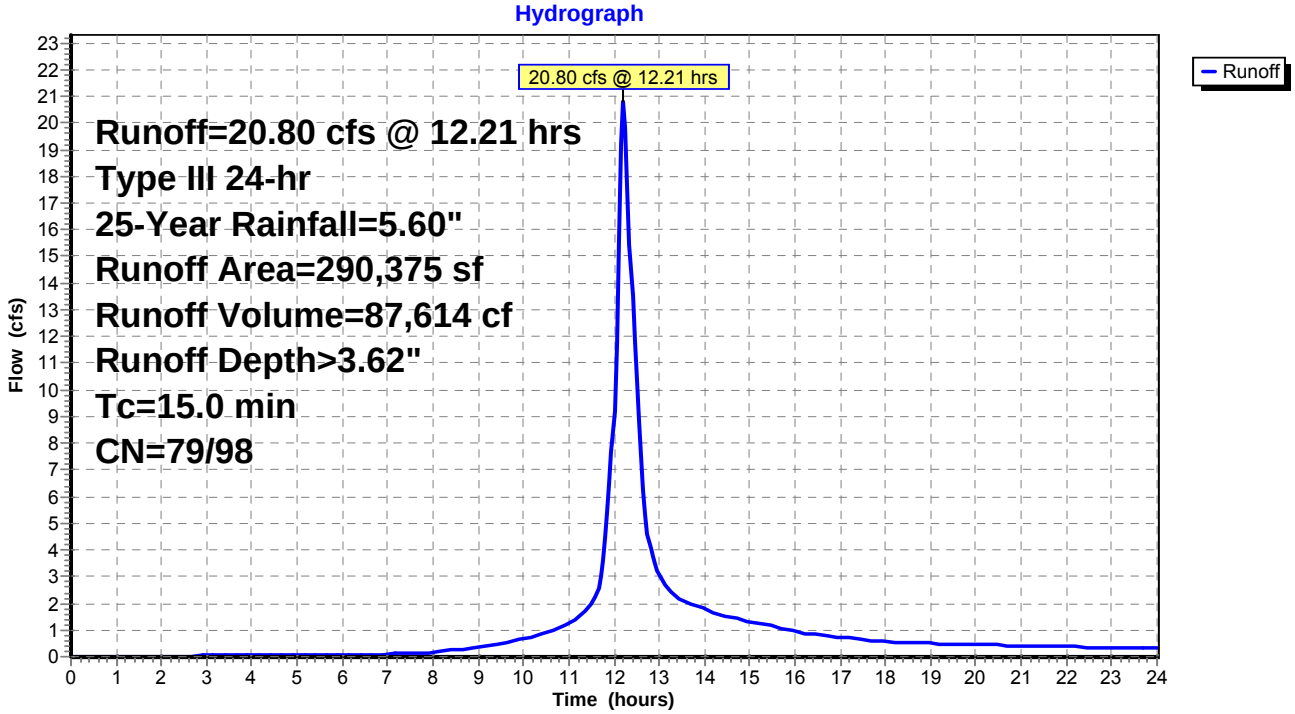
Runoff = 20.80 cfs @ 12.21 hrs, Volume= 87,614 cf, Depth> 3.62"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type III 24-hr 25-Year Rainfall=5.60"

	Area (sf)	CN	Description
*	39,100	98	Roads - Paved
*	4,375	98	Bldg - roof to drain system
*	4,724	89	Bldg - roof to overland
*	124,949	81	Yard - pervious surface
	89,727	74	>75% Grass cover, Good, HSG C
*	15,500	74	Retention Basin - Stone
	12,000	98	Unconnected pavement, HSG C
	290,375	82	Weighted Average
	246,900	79	85.03% Pervious Area
	43,475	98	14.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry, Direct Entry - Assumed**

Subcatchment P-1: Developed Subcatchment



Summary for Pond EP: Existing Retention Basin - Pre Construction

Inflow Area = 290,375 sf, 14.97% Impervious, Inflow Depth > 3.46" for 25-Year event
Inflow = 19.85 cfs @ 12.21 hrs, Volume= 83,661 cf
Outflow = 0.83 cfs @ 16.34 hrs, Volume= 17,267 cf, Atten= 96%, Lag= 247.9 min
Primary = 0.83 cfs @ 16.34 hrs, Volume= 17,267 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 56.77' @ 16.34 hrs Surf.Area= 15,085 sf Storage= 67,773 cf

Plug-Flow detention time= 494.9 min calculated for 17,231 cf (21% of inflow)
Center-of-Mass det. time= 321.4 min (1,134.6 - 813.2)

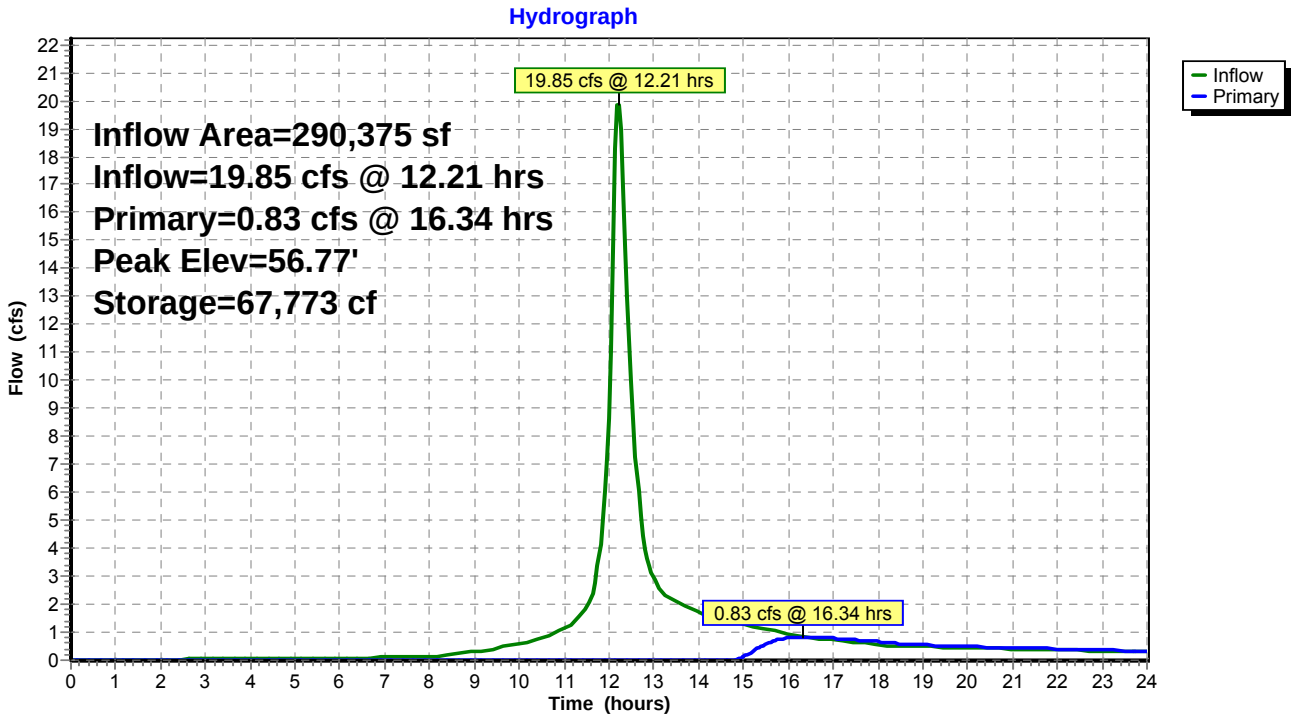
Volume	Invert	Avail.Storage	Storage Description
#1	50.40'	84,582 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.40	0	0	0
50.50	4,930	247	247
51.00	7,380	3,078	3,324
52.00	8,770	8,075	11,399
53.00	10,000	9,385	20,784
54.00	11,260	10,630	31,414
55.00	12,550	11,905	43,319
56.00	13,890	13,220	56,539
57.00	15,450	14,670	71,209
58.00	1,684	8,567	79,776
58.50	17,540	4,806	84,582

Device	Routing	Invert	Outlet Devices
#1	Primary	52.22'	**18.0" Round RCP_Round 18"** L= 563.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 52.22' / 46.24' S= 0.0106 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets, Flow Area= 1.77 sf
#2	Device 1	58.17'	**75.0" x 20.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	56.57'	**1.6' long x 0.7' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32
#4	Device 1	56.57'	**1.8' long x 0.7' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32

Primary OutFlow Max=0.81 cfs @ 16.34 hrs HW=56.77' (Free Discharge)
└─**1=RCP_Round 18"** (Passes 0.81 cfs of 12.40 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Broad-Crested Rectangular Weir** (Weir Controls 0.38 cfs @ 1.22 fps)
  └─**4=Broad-Crested Rectangular Weir** (Weir Controls 0.43 cfs @ 1.22 fps)

Pond EP: Existing Retention Basin - Pre Construction



Summary for Pond PP: Existing Retention Basin - Post Construction

Inflow Area = 290,375 sf, 14.97% Impervious, Inflow Depth > 3.62" for 25-Year event
Inflow = 20.80 cfs @ 12.21 hrs, Volume= 87,614 cf
Outflow = 0.75 cfs @ 16.91 hrs, Volume= 17,451 cf, Atten= 96%, Lag= 282.4 min
Primary = 0.75 cfs @ 16.91 hrs, Volume= 17,451 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 57.08' @ 16.91 hrs Surf.Area= 14,293 sf Storage= 71,929 cf

Plug-Flow detention time= 512.5 min calculated for 17,414 cf (20% of inflow)
Center-of-Mass det. time= 335.5 min (1,145.6 - 810.1)

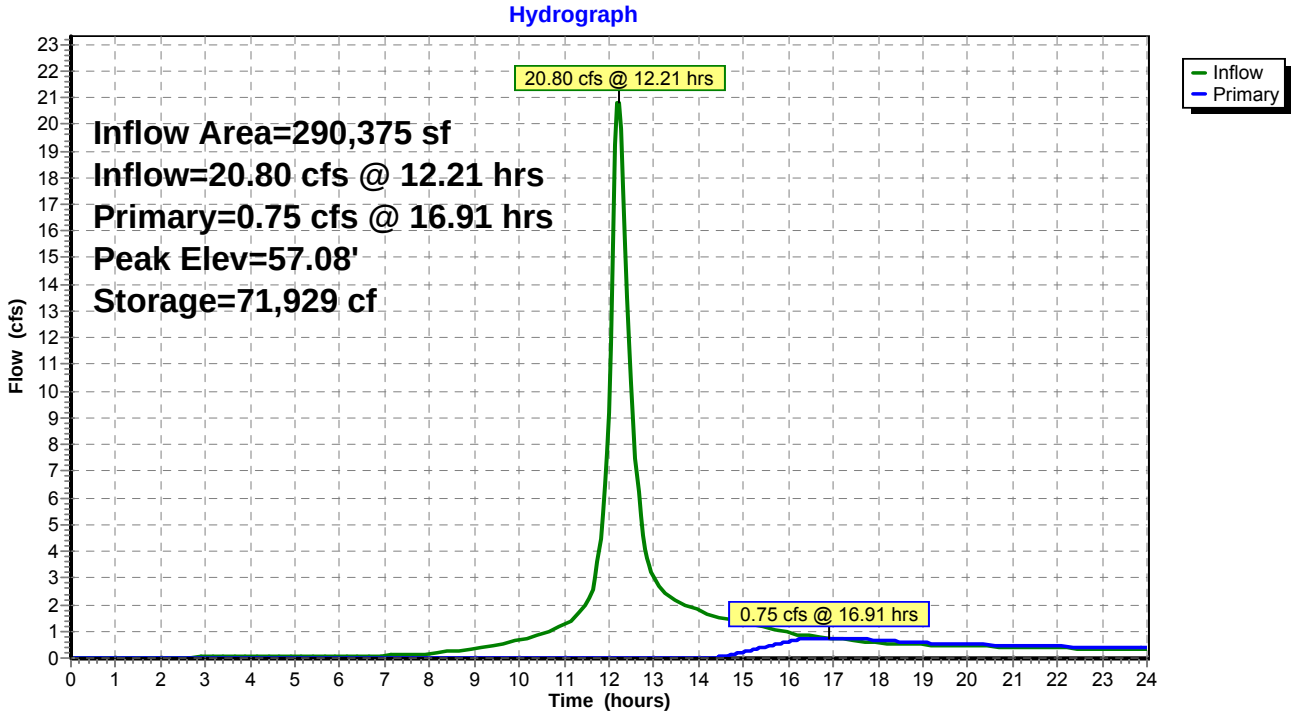
Volume	Invert	Avail.Storage	Storage Description
#1	50.40'	84,582 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.40	0	0	0
50.50	4,930	247	247
51.00	7,380	3,078	3,324
52.00	8,770	8,075	11,399
53.00	10,000	9,385	20,784
54.00	11,260	10,630	31,414
55.00	12,550	11,905	43,319
56.00	13,890	13,220	56,539
57.00	15,450	14,670	71,209
58.00	1,684	8,567	79,776
58.50	17,540	4,806	84,582

Device	Routing	Invert	Outlet Devices
#1	Primary	52.22'	**18.0" Round Culvert** L= 563.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 52.22' / 46.24' S= 0.0106 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets, Flow Area= 1.77 sf
#2	Device 1	58.17'	**75.0" x 20.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	56.57'	**80.0 deg x 0.3' long x 1.23' rise Sharp-Crested Vee/Trap Weir** Cv= 2.51 (C= 3.14)

Primary OutFlow Max=0.75 cfs @ 16.91 hrs HW=57.08' (Free Discharge)
└**1=Culvert** (Passes 0.75 cfs of 12.62 cfs potential flow)
  └**2=Orifice/Grate** (Controls 0.00 cfs)
  └**3=Sharp-Crested Vee/Trap Weir** (Weir Controls 0.75 cfs @ 1.98 fps)

Pond PP: Existing Retention Basin - Post Construction



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E-1: Existing Runoff Area=290,375 sf 14.97% Impervious Runoff Depth>4.08"
Tc=15.0 min CN=77/98 Runoff=23.42 cfs 98,714 cf

Subcatchment P-1: Developed Runoff Area=290,375 sf 14.97% Impervious Runoff Depth>4.25"
Tc=15.0 min CN=79/98 Runoff=24.42 cfs 102,955 cf

Pond EP: Existing Retention Basin - Pre Peak Elev=56.89' Storage=69,572 cf Inflow=23.42 cfs 98,714 cf
Outflow=1.71 cfs 32,168 cf

Pond PP: Existing Retention Basin - Post Peak Elev=57.32' Storage=73,987 cf Inflow=24.42 cfs 102,955 cf
Outflow=1.66 cfs 32,458 cf

Total Runoff Area = 580,750 sf Runoff Volume = 201,669 cf Average Runoff Depth = 4.17"
85.03% Pervious = 493,800 sf 14.97% Impervious = 86,950 sf

Summary for Subcatchment E-1: Existing Subcatchment

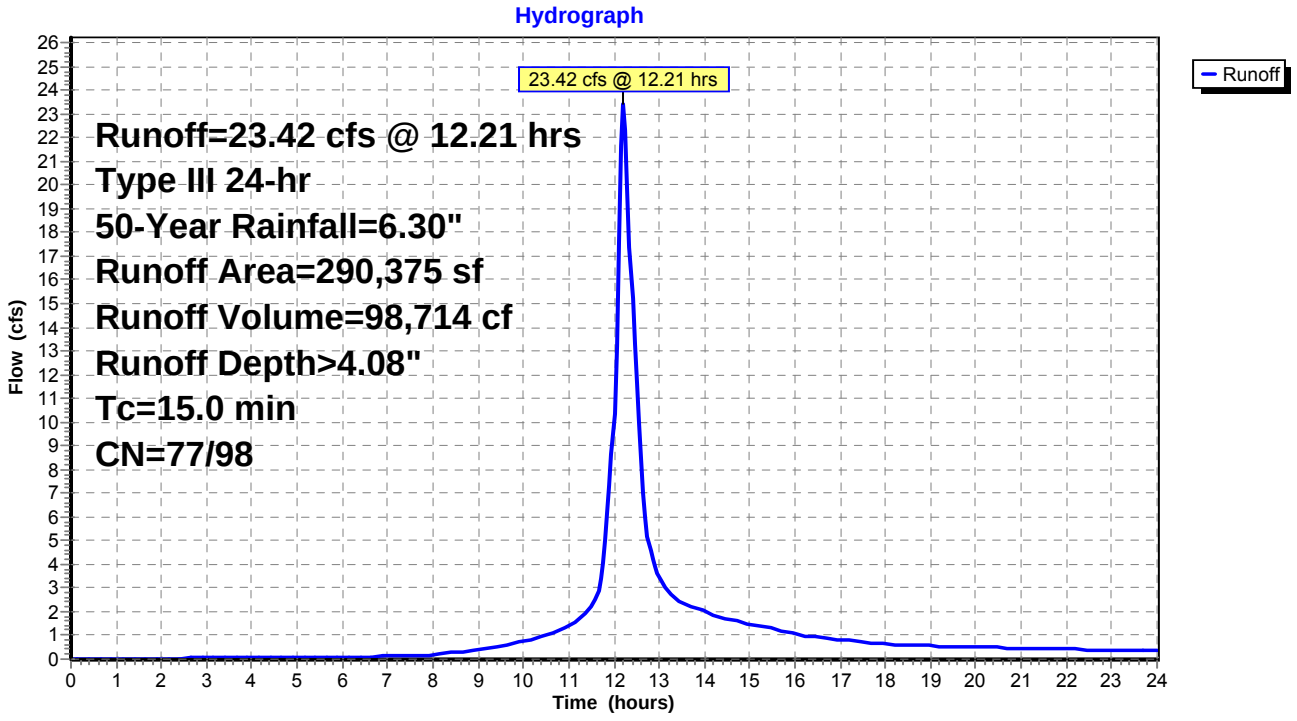
Runoff = 23.42 cfs @ 12.21 hrs, Volume= 98,714 cf, Depth> 4.08"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type III 24-hr 50-Year Rainfall=6.30"

	Area (sf)	CN	Description
*	39,100	98	Roads - Paved
*	4,375	98	Bldg - roof to drain system
*	2,125	89	Bldg - roof to overland
*	100,100	81	Yard - pervious surface
	129,175	74	>75% Grass cover, Good, HSG C
*	15,500	74	Retention Basin - Stone
	290,375	80	Weighted Average
	246,900	77	85.03% Pervious Area
	43,475	98	14.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry, Direct Entry - Assumed**

Subcatchment E-1: Existing Subcatchment



Summary for Subcatchment P-1: Developed Subcatchment

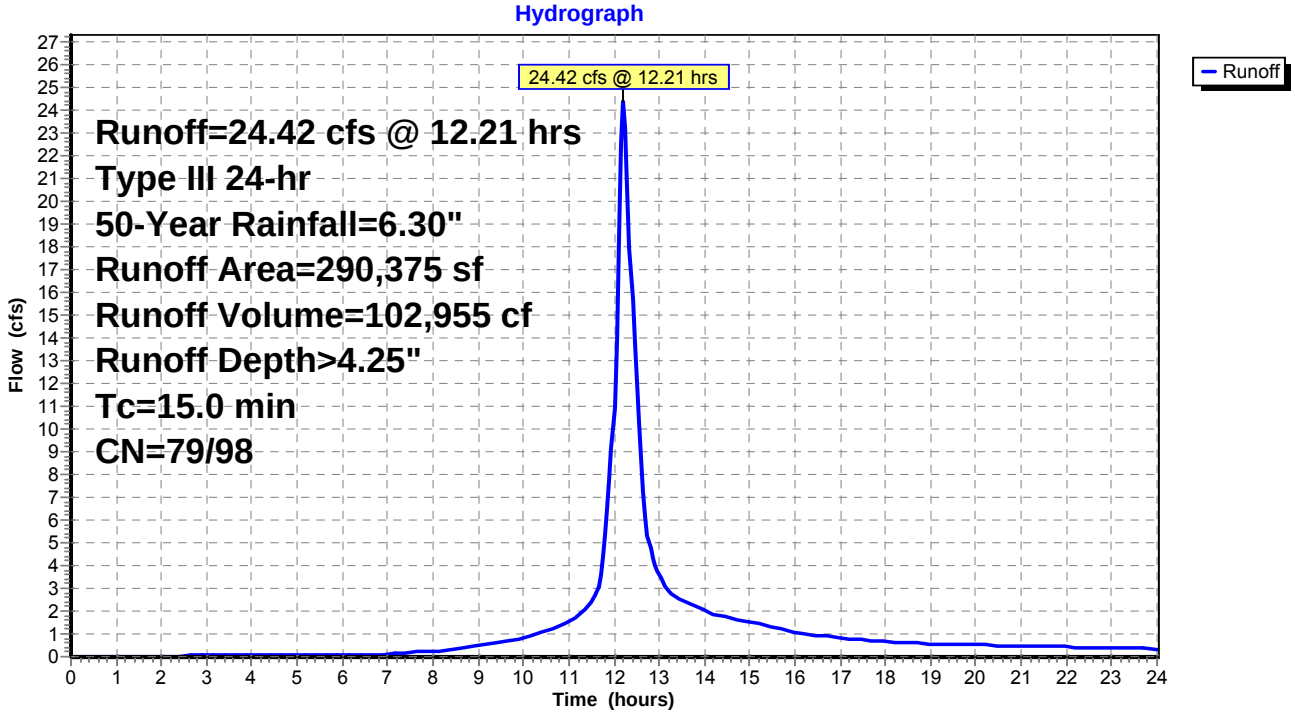
Runoff = 24.42 cfs @ 12.21 hrs, Volume= 102,955 cf, Depth> 4.25"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type III 24-hr 50-Year Rainfall=6.30"

	Area (sf)	CN	Description
*	39,100	98	Roads - Paved
*	4,375	98	Bldg - roof to drain system
*	4,724	89	Bldg - roof to overland
*	124,949	81	Yard - pervious surface
	89,727	74	>75% Grass cover, Good, HSG C
*	15,500	74	Retention Basin - Stone
	12,000	98	Unconnected pavement, HSG C
	290,375	82	Weighted Average
	246,900	79	85.03% Pervious Area
	43,475	98	14.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry, Direct Entry - Assumed**

Subcatchment P-1: Developed Subcatchment



Summary for Pond EP: Existing Retention Basin - Pre Construction

Inflow Area = 290,375 sf, 14.97% Impervious, Inflow Depth > 4.08" for 50-Year event
Inflow = 23.42 cfs @ 12.21 hrs, Volume= 98,714 cf
Outflow = 1.71 cfs @ 14.44 hrs, Volume= 32,168 cf, Atten= 93%, Lag= 134.3 min
Primary = 1.71 cfs @ 14.44 hrs, Volume= 32,168 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 56.89' @ 14.44 hrs Surf.Area= 15,276 sf Storage= 69,572 cf

Plug-Flow detention time= 368.0 min calculated for 32,101 cf (33% of inflow)
Center-of-Mass det. time= 227.2 min (1,036.8 - 809.6)

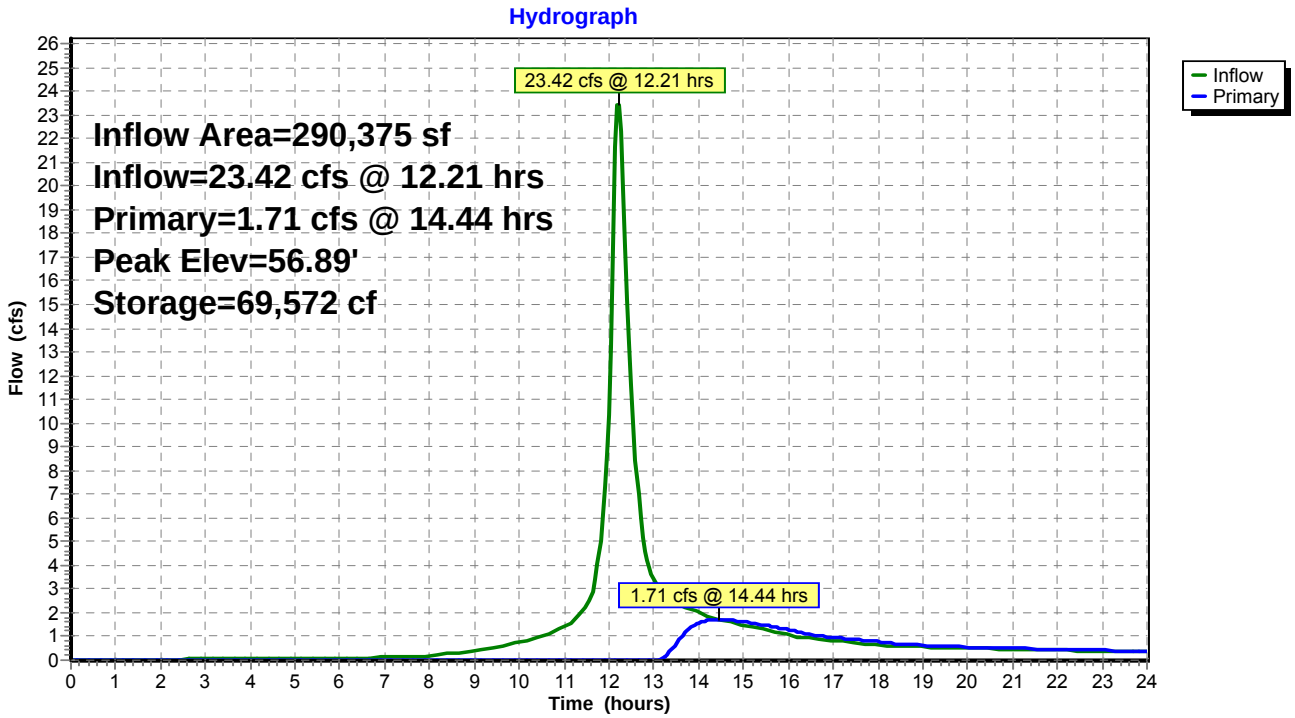
Volume	Invert	Avail.Storage	Storage Description
#1	50.40'	84,582 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.40	0	0	0
50.50	4,930	247	247
51.00	7,380	3,078	3,324
52.00	8,770	8,075	11,399
53.00	10,000	9,385	20,784
54.00	11,260	10,630	31,414
55.00	12,550	11,905	43,319
56.00	13,890	13,220	56,539
57.00	15,450	14,670	71,209
58.00	1,684	8,567	79,776
58.50	17,540	4,806	84,582

Device	Routing	Invert	Outlet Devices
#1	Primary	52.22'	**18.0" Round RCP_Round 18"** L= 563.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 52.22' / 46.24' S= 0.0106 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets, Flow Area= 1.77 sf
#2	Device 1	58.17'	**75.0" x 20.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	56.57'	**1.6' long x 0.7' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32
#4	Device 1	56.57'	**1.8' long x 0.7' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32

Primary OutFlow Max=1.71 cfs @ 14.44 hrs HW=56.89' (Free Discharge)
└─**1=RCP_Round 18"** (Passes 1.71 cfs of 12.49 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Broad-Crested Rectangular Weir** (Weir Controls 0.80 cfs @ 1.58 fps)
  └─**4=Broad-Crested Rectangular Weir** (Weir Controls 0.90 cfs @ 1.58 fps)

Pond EP: Existing Retention Basin - Pre Construction



Summary for Pond PP: Existing Retention Basin - Post Construction

Inflow Area = 290,375 sf, 14.97% Impervious, Inflow Depth > 4.25" for 50-Year event
Inflow = 24.42 cfs @ 12.21 hrs, Volume= 102,955 cf
Outflow = 1.66 cfs @ 14.65 hrs, Volume= 32,458 cf, Atten= 93%, Lag= 146.7 min
Primary = 1.66 cfs @ 14.65 hrs, Volume= 32,458 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 57.32' @ 14.65 hrs Surf.Area= 10,986 sf Storage= 73,987 cf

Plug-Flow detention time= 382.5 min calculated for 32,458 cf (32% of inflow)
Center-of-Mass det. time= 238.9 min (1,045.4 - 806.5)

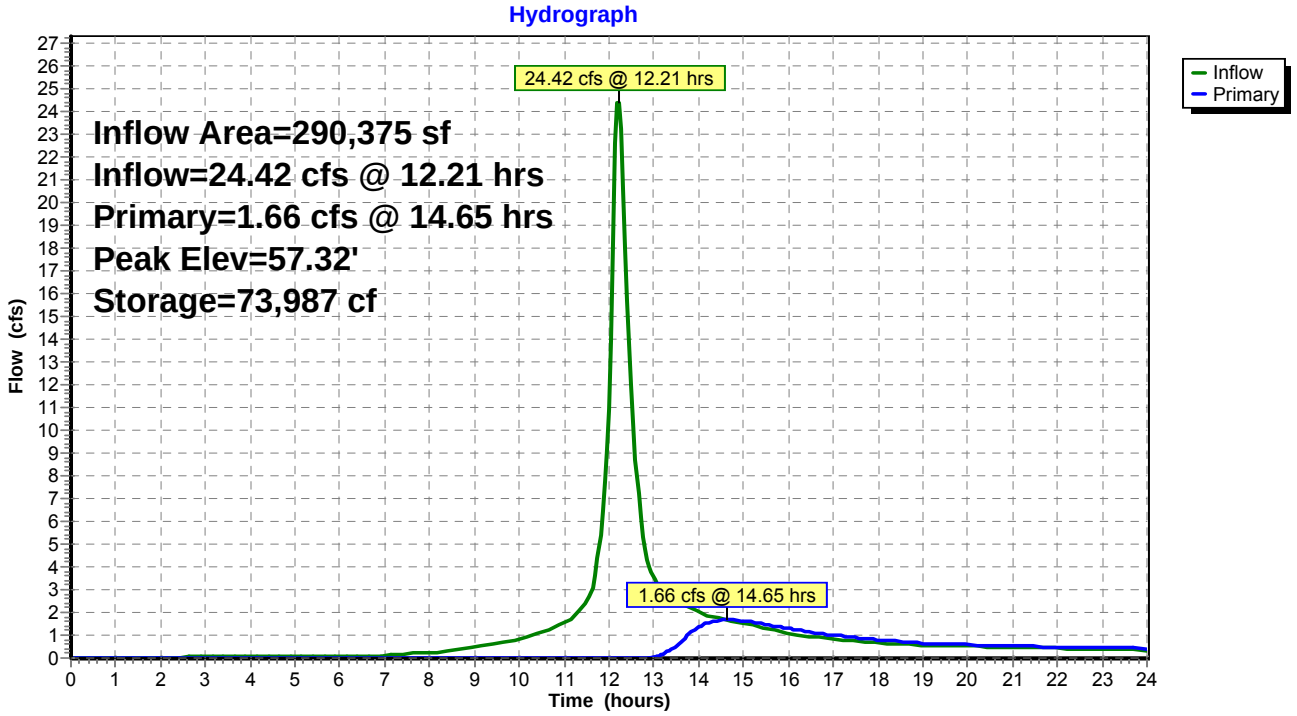
Volume	Invert	Avail.Storage	Storage Description
#1	50.40'	84,582 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.40	0	0	0
50.50	4,930	247	247
51.00	7,380	3,078	3,324
52.00	8,770	8,075	11,399
53.00	10,000	9,385	20,784
54.00	11,260	10,630	31,414
55.00	12,550	11,905	43,319
56.00	13,890	13,220	56,539
57.00	15,450	14,670	71,209
58.00	1,684	8,567	79,776
58.50	17,540	4,806	84,582

Device	Routing	Invert	Outlet Devices
#1	Primary	52.22'	**18.0" Round Culvert** L= 563.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 52.22' / 46.24' S= 0.0106 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets, Flow Area= 1.77 sf
#2	Device 1	58.17'	**75.0" x 20.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	56.57'	**80.0 deg x 0.3' long x 1.23' rise Sharp-Crested Vee/Trap Weir** Cv= 2.51 (C= 3.14)

Primary OutFlow Max=1.66 cfs @ 14.65 hrs HW=57.32' (Free Discharge)
└**1=Culvert** (Passes 1.66 cfs of 12.78 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  └**3=Sharp-Crested Vee/Trap Weir** (Weir Controls 1.66 cfs @ 2.36 fps)

Pond PP: Existing Retention Basin - Post Construction



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E-1: Existing Runoff Area=290,375 sf 14.97% Impervious Runoff Depth>4.80"
Tc=15.0 min CN=77/98 Runoff=27.55 cfs 116,253 cf

Subcatchment P-1: Developed Runoff Area=290,375 sf 14.97% Impervious Runoff Depth>4.99"
Tc=15.0 min CN=79/98 Runoff=28.57 cfs 120,779 cf

Pond EP: Existing Retention Basin - Pre Peak Elev=57.08' Storage=71,894 cf Inflow=27.55 cfs 116,253 cf
Outflow=3.58 cfs 49,533 cf

Pond PP: Existing Retention Basin - Post Peak Elev=57.61' Storage=76,392 cf Inflow=28.57 cfs 120,779 cf
Outflow=3.29 cfs 49,960 cf

Total Runoff Area = 580,750 sf Runoff Volume = 237,032 cf Average Runoff Depth = 4.90"
85.03% Pervious = 493,800 sf 14.97% Impervious = 86,950 sf

Summary for Subcatchment E-1: Existing Subcatchment

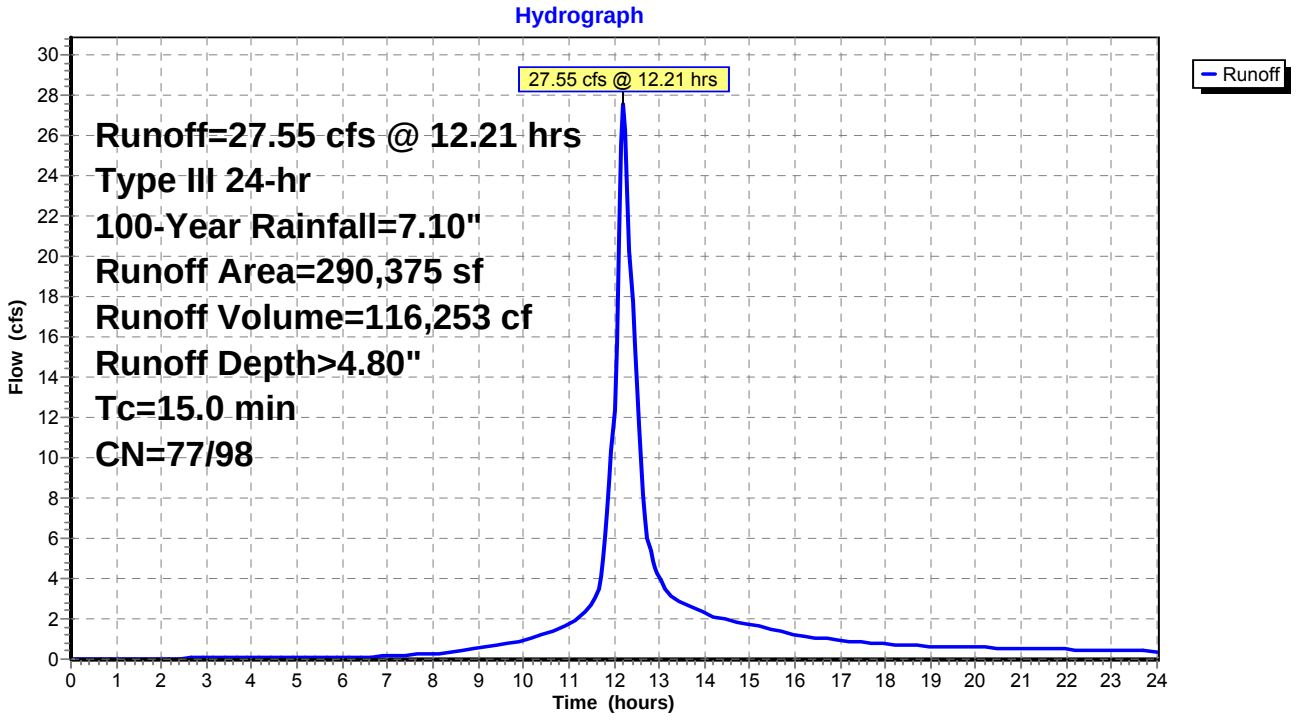
Runoff = 27.55 cfs @ 12.21 hrs, Volume= 116,253 cf, Depth> 4.80"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type III 24-hr 100-Year Rainfall=7.10"

	Area (sf)	CN	Description
*	39,100	98	Roads - Paved
*	4,375	98	Bldg - roof to drain system
*	2,125	89	Bldg - roof to overland
*	100,100	81	Yard - pervious surface
	129,175	74	>75% Grass cover, Good, HSG C
*	15,500	74	Retention Basin - Stone
	290,375	80	Weighted Average
	246,900	77	85.03% Pervious Area
	43,475	98	14.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry, Direct Entry - Assumed**

Subcatchment E-1: Existing Subcatchment



Summary for Subcatchment P-1: Developed Subcatchment

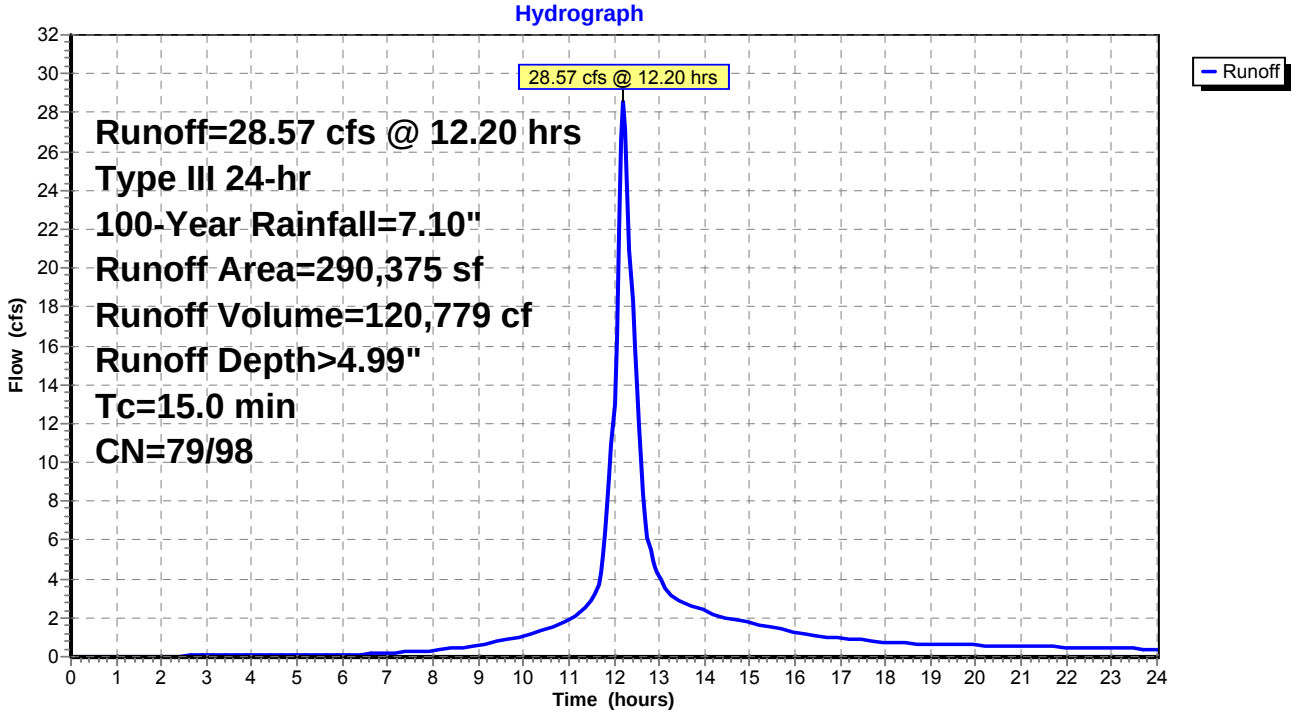
Runoff = 28.57 cfs @ 12.20 hrs, Volume= 120,779 cf, Depth> 4.99"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious, Time Span= 0.00-24.00 hrs, dt= 0.05
Type III 24-hr 100-Year Rainfall=7.10"

	Area (sf)	CN	Description
*	39,100	98	Roads - Paved
*	4,375	98	Bldg - roof to drain system
*	4,724	89	Bldg - roof to overland
*	124,949	81	Yard - pervious surface
	89,727	74	>75% Grass cover, Good, HSG C
*	15,500	74	Retention Basin - Stone
	12,000	98	Unconnected pavement, HSG C
	290,375	82	Weighted Average
	246,900	79	85.03% Pervious Area
	43,475	98	14.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					**Direct Entry, Direct Entry - Assumed**

Subcatchment P-1: Developed Subcatchment



Summary for Pond EP: Existing Retention Basin - Pre Construction

Inflow Area = 290,375 sf, 14.97% Impervious, Inflow Depth > 4.80" for 100-Year event
Inflow = 27.55 cfs @ 12.21 hrs, Volume= 116,253 cf
Outflow = 3.58 cfs @ 13.10 hrs, Volume= 49,533 cf, Atten= 87%, Lag= 53.7 min
Primary = 3.58 cfs @ 13.10 hrs, Volume= 49,533 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 57.08' @ 13.10 hrs Surf.Area= 14,349 sf Storage= 71,894 cf

Plug-Flow detention time= 295.3 min calculated for 49,533 cf (43% of inflow)
Center-of-Mass det. time= 170.0 min (976.0 - 806.0)

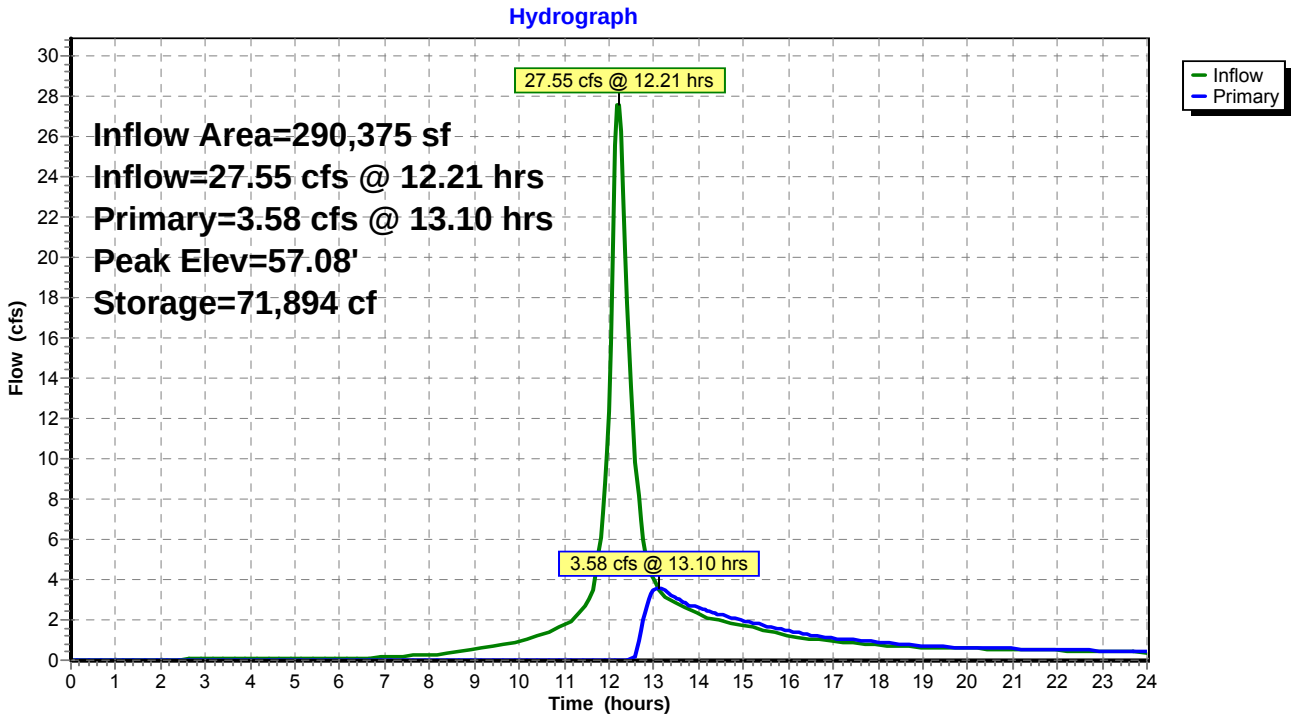
Volume	Invert	Avail.Storage	Storage Description
#1	50.40'	84,582 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.40	0	0	0
50.50	4,930	247	247
51.00	7,380	3,078	3,324
52.00	8,770	8,075	11,399
53.00	10,000	9,385	20,784
54.00	11,260	10,630	31,414
55.00	12,550	11,905	43,319
56.00	13,890	13,220	56,539
57.00	15,450	14,670	71,209
58.00	1,684	8,567	79,776
58.50	17,540	4,806	84,582

Device	Routing	Invert	Outlet Devices
#1	Primary	52.22'	**18.0" Round RCP_Round 18"** L= 563.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 52.22' / 46.24' S= 0.0106 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets, Flow Area= 1.77 sf
#2	Device 1	58.17'	**75.0" x 20.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	56.57'	**1.6' long x 0.7' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32
#4	Device 1	56.57'	**1.8' long x 0.7' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32

Primary OutFlow Max=3.57 cfs @ 13.10 hrs HW=57.08' (Free Discharge)
└─**1=RCP_Round 18"** (Passes 3.57 cfs of 12.62 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Broad-Crested Rectangular Weir** (Weir Controls 1.68 cfs @ 2.06 fps)
  └─**4=Broad-Crested Rectangular Weir** (Weir Controls 1.89 cfs @ 2.06 fps)

Pond EP: Existing Retention Basin - Pre Construction



Summary for Pond PP: Existing Retention Basin - Post Construction

Inflow Area = 290,375 sf, 14.97% Impervious, Inflow Depth > 4.99" for 100-Year event
Inflow = 28.57 cfs @ 12.20 hrs, Volume= 120,779 cf
Outflow = 3.29 cfs @ 13.21 hrs, Volume= 49,960 cf, Atten= 88%, Lag= 60.5 min
Primary = 3.29 cfs @ 13.21 hrs, Volume= 49,960 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 57.61' @ 13.21 hrs Surf.Area= 7,121 sf Storage= 76,392 cf

Plug-Flow detention time= 305.3 min calculated for 49,960 cf (41% of inflow)
Center-of-Mass det. time= 178.5 min (981.4 - 802.9)

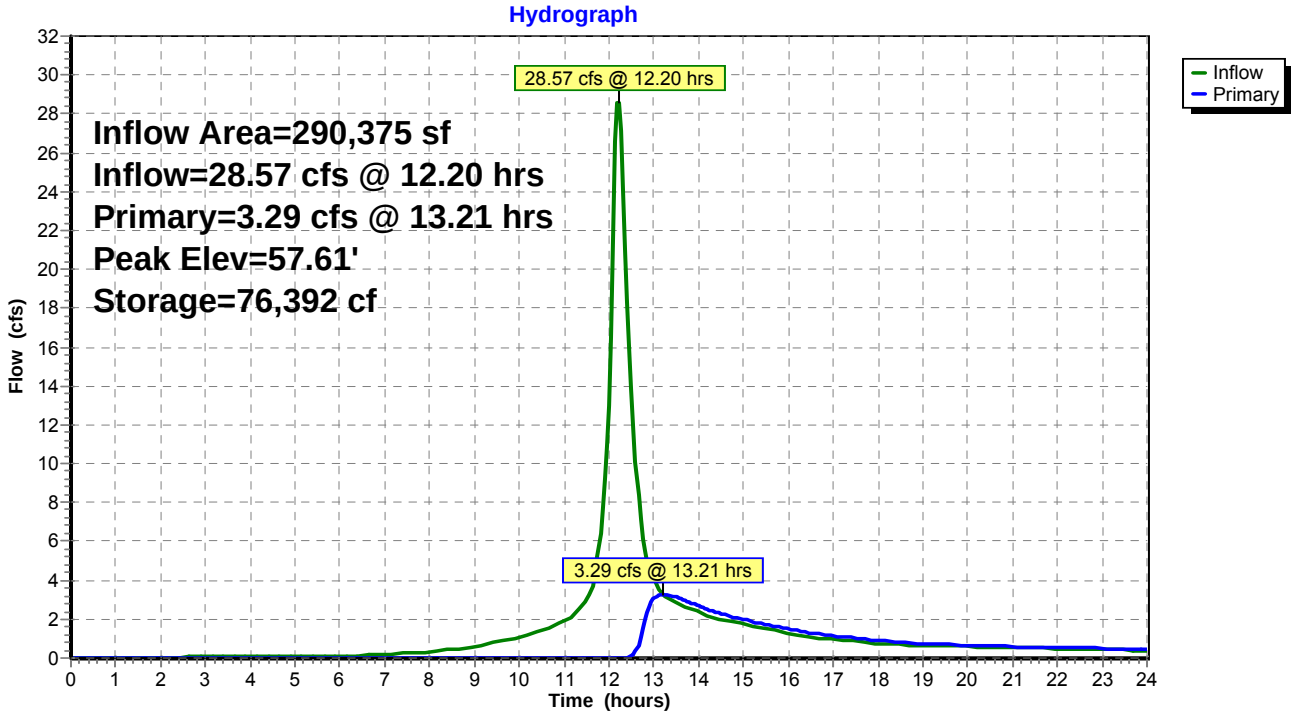
Volume	Invert	Avail.Storage	Storage Description
#1	50.40'	84,582 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.40	0	0	0
50.50	4,930	247	247
51.00	7,380	3,078	3,324
52.00	8,770	8,075	11,399
53.00	10,000	9,385	20,784
54.00	11,260	10,630	31,414
55.00	12,550	11,905	43,319
56.00	13,890	13,220	56,539
57.00	15,450	14,670	71,209
58.00	1,684	8,567	79,776
58.50	17,540	4,806	84,582

Device	Routing	Invert	Outlet Devices
#1	Primary	52.22'	**18.0" Round Culvert** L= 563.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 52.22' / 46.24' S= 0.0106 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets, Flow Area= 1.77 sf
#2	Device 1	58.17'	**75.0" x 20.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	56.57'	**80.0 deg x 0.3' long x 1.23' rise Sharp-Crested Vee/Trap Weir** Cv= 2.51 (C= 3.14)

Primary OutFlow Max=3.28 cfs @ 13.21 hrs HW=57.60' (Free Discharge)
└**1=Culvert** (Passes 3.28 cfs of 12.97 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  └**3=Sharp-Crested Vee/Trap Weir** (Weir Controls 3.28 cfs @ 2.72 fps)

Pond PP: Existing Retention Basin - Post Construction



Attachment F – Noise Study Report

Wallingford Energy Facility Expansion Noise Study Report

Prepared for
Wallingford Energy II, LLC

Prepared by
TRC Environmental Corporation
41 Spring Street
Providence, NJ 07974

June 2015

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1.0 INTRODUCTION

TRC Environmental Corporation ("TRC") conducted a technical noise assessment of the proposed expansion project (the "Project") at the Wallingford Energy, LLC power plant (the "Facility"). The proposed expansion consists of the following elements:

- Adding two GE LM6000 combustion turbines with tempering air fans and selective catalytic reduction (SCR) to the five currently existing on the site;
- Addition of tempering air fans upstream of the air emission controls on the existing five units;
- Addition of a new generator step-up transformer;
- Addition of a fourth gas compressor inside the expanded gas compressor building;
- Addition of a gas compressor cooling fan that will be mounted on the roof of the expanded gas compressor building;
- Extension of sound wall to include the two additional combustion turbines; and
- Extension of sound wall to include the additional generator step-up transformer.

The noise assessment consisted of three parts: 1) an ambient noise monitoring program in the vicinity of the Facility in order to characterize the existing noise environment; 2) a noise modeling evaluation of the existing Facility to calibrate the model to reflect current operational conditions; and 3) a noise modeling/impact evaluation of the future expansion Project. The background ambient noise monitoring program was conducted on October 30-31, 2014. Modeled Project noise levels were compared against the State of Connecticut Noise Standard and the Town of Wallingford Noise Ordinance to determine compliance.

2.0 GENERAL INFORMATION ON NOISE

Noise is defined as unwanted sound. Excessive noise can cause annoyance and adverse health effects. Annoyance can include sleep disturbance and speech interference. It can also distract attention and make activities more difficult to perform (EPA, 1978).

The range of pressures that cause the vibrations that create noise is large. Noise is therefore measured on a logarithmic scale, expressed in decibels (dB). The frequency of a sound is the "pitch". The unit for frequency is hertz (Hz), or cycles per second. Most sounds are composed of a composite of frequencies. The human ear can usually distinguish frequencies from 20 Hz (low frequency) to about 20,000 Hz (high frequency), although people are most sensitive to frequencies between 500 and 4000 Hz. The individual frequency bands can be combined into one overall dB level.

Noise is typically measured on the A-weighted scale (dBA). The A-weighting scale has been shown to provide a good correlation with the human response to sound and is the most widely used descriptor for community noise assessments (Harris, 1991). The faintest sound that can be heard by a healthy ear is about 0 dBA, while an uncomfortably loud sound is about 120 dBA. In order to provide a frame of reference, some common sound levels are listed below.

- Pile Driver at 100 feet 90 to 100 dBA
- Chainsaw at 30 feet 90 dBA
- Truck at 100 feet 85 dBA
- Noisy Urban Environment 75 dBA
- Lawn Mower at 100 feet 65 dBA
- Average Speech 60 dBA
- Average Office 50 dBA
- Rural Residential During the Day 40 dBA
- Quiet Suburban nighttime 35 dBA
- Soft Whisper at 15 feet 30 dBA

Common terms used in this noise analysis are defined below.

L_{eq} — The equivalent noise level over a specified period of time (i.e., 1-hour). It is a single value of sound that includes all of the varying sound energy in a given duration.

Statistical Sound Levels — The A-weighted sound level exceeded a certain percentage of the time. The L_{90} is the sound level exceeded 90 percent of the time and is often considered the background or residual noise level. The L_{10} is the sound level exceeded 10 percent of the time and is a measurement of intrusive sounds, such as aircraft overflight.

3.0 APPLICABLE STANDARDS/GUIDELINES

3.1 State of Connecticut

The State of Connecticut has a detailed noise standard which is applicable to the Facility and the proposed Project (Section 22a-69 of the Connecticut Department of Energy & Environmental Protection). The standard limits noise from a source, as measured at certain Noise Zones when emitted from other Noise Zones. These Zones include the following:

- Class A - Generally residential, hotels, hospitals and other sensitive areas.
- Class B - Commercial areas
- Class C - Industrial uses

It should be emphasized that the noise standards are expressed as noise attributable to a specific source at a receptor and that the total noise measured at a given location (i.e., source plus background) may be greater than that which is attributable to a specific source. The proposed facility is an industrial use in an industrially zoned area (Class C). The nearest noise sensitive areas are the residential uses on East Street (Class A). As such, the applicable portion of the noise standard is a source located in a Class C area, and the measured noise level from that source at a Class A area. Summarized below are the noise limits for this scenario.

Class C source emitting to a Class A receiver

Daytime	Nighttime
61 dBA	51 dBA

Nighttime is defined in the standard as the hours between 10 p.m. to 7 a.m. A second limit is applicable to the nearest industrial property line, which is the Allegheny Ludlum Steel facility west of the proposed site. Facility noise at this location would be limited to 70 dBA at any hour of the day.

The allowable level is reduced by 5 dBA if the proposed source emits prominent discrete tones. Prominent discrete tones are defined in 22a-69 as acoustic energy which produces a one-third octave band sound pressure level greater than that of either adjacent one-third octave band and which exceeds the arithmetic average of the two adjacent one-third octave bands by the following amounts shown in Table 1.

Table 1 Prominent Discrete Tone Determination			
One-Third Octave Band Center Frequency (Hz)	**dB**	**One-Third Octave Band Center Frequency (Hz)**	**dB**
100	16	1250	4
125	14	1600	4
160	12	2000	3
200	11	2500	3
250	9	3150	3
315	8	4000	3
400	7	5000	4
500	6	6300	4
630	6	8000	5
800	5	10000	6
1000	4		

For areas where the existing background noise levels (not including noise from the regulated source) already exceed the allowable limits, the regulated source would not be deemed to be casing excessive noise if the noise emitted by the regulated source is not greater than 5 dBA above background levels, with an absolute upper limit of 80 dBA.

3.2 Town of Wallingford

The Town of Wallingford adopted a noise ordinance (Chapter 144 of the Town Code) in 2002. The ordinance contains the same numerical sound level limits as the State of Connecticut noise standard.

3.3 Ability to Perceive Changes in Noise

The ability of the average person to perceive increases in noise has been documented. In general, an increase of 3 dBA or less is considered to be barely perceptible, while an increase of 10 dBA is perceived as a doubling of the sound.

4.0 EXISTING CONDITIONS

The land uses immediately bordering the site consist of a combination of residential, industrial, and commercial uses. The nearest residences are located on East Street, directly across from the facility. The Allegheny Ludlum facility is the nearest industrial use. Other noise receptors include additional residences farther away from the site.

4.1 2002 Compliance Testing

Noise compliance testing of the existing facility was conducted on the night of June 17-18, 2002 in order to determine if the as-built facility was in compliance with the State of Connecticut noise standard. Measurements were conducted at seven locations surrounding the site as follows:

- South Street and West Street
- Eagle Memorial Park
- East Street and Carlton Street
- Pierce Station Property Line
- East Street and Park Street
- David Drive and Cook Hill Road
- South Turnpike Road

The program consisted of two separate sets of measurements at each of the selected locations. The first set of measurements was conducted with the facility operating at 80% load or higher. The facility was then brought offline and the measurements repeated at the same locations. The latter measurements represented the baseline, or background, noise levels. Table 2 shows the measured operational and background noise levels at each location.

Table 2 2002 Noise Compliance Test Calculated Facility Noise Level Data (dBA)		
Testing Location	**Measured Level Facility Online (dBA)**	**Measured Level Facility Offline (Background) (dBA)**
South Street and West Street	50	45
Eagle Memorial Park	50	46
East Street and Carlton Street	50	47
East Street and Park Street	52	49
Pierce Station Property Line	51	48
South Turnpike Road	53	48
David Drive and Cook Hill Road	53	47

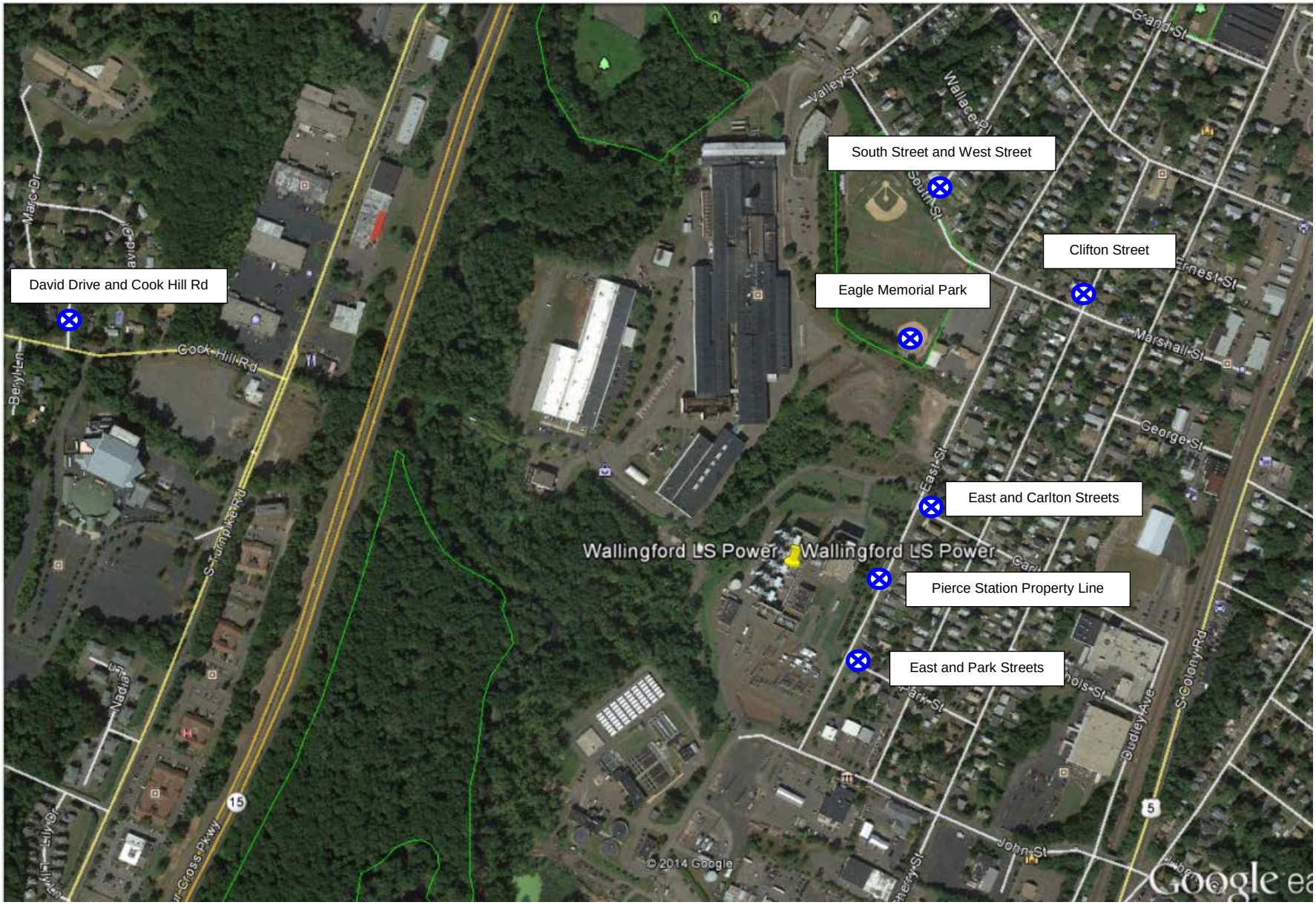
The calculated facility contribution sound levels were used to calibrate the noise modeling software in order to most accurately represent facility sound levels. This process is explained further in Section 5.1.2.

4.2 Ambient Monitoring

TRC conducted an ambient noise monitoring program for this proposed expansion Project on October 30-31, 2014 at seven selected noise sensitive areas to characterize ambient conditions. The noise monitoring program was conducted with the existing turbines and other Facility noise sources offline. The measurement locations were generally chosen to be the same locations as the compliance testing, except for the removal of the South Turnpike Road location and the addition of the Clifton Street location. The South Turnpike Road location was removed due to the high level of traffic noise present in this area during the compliance testing, and the fact that the Facility was not audible during testing. The Clifton Street location was added to include an additional receptor location in the residential neighborhood east of the Project. These locations are shown on Figure 1, and are as follows:

- South Street and West Street
- Eagle Memorial Park
- Clifton Street
- East Street and Carlton Street
- Pierce Station Property Line
- East Street and Park Street
- David Drive and Cook Hill Road

Figure 1: Noise Monitoring Locations



4.3 Ambient Short-Term Measurements

Short-term monitoring (15 minutes in duration at each location) was conducted during the day and late at night during each monitoring program. This short-term monitoring was conducted with a RION NL-52 precision integrating sound level meter and octave band analyzer. The NL-52 meets ANSI S1.4-1983 requirements for precision Type 1 sound level meters. The microphone was fitted with a windscreen to reduce any wind generated noise and mounted at a height of approximately five feet above the ground. The instrument was configured to measure and store the L_{eq}, L_{90}, L_{10}, L_{max} and L_{min} one-third octave band levels. The meter was calibrated at the beginning and at the end of the testing period with a Cirrus CR515 calibrator. Both the meter and calibrator had been certified traceable to NIST standards by a calibration laboratory within one year of the testing program.

Existing noise sources in the immediate vicinity of the proposed facility consisted of a combination of vehicular traffic noise and natural sounds (birds, insects, rustling vegetation). Late at night, vehicular traffic on distant and local roads dominated the noise environment. A tonal sound emanating from the Pierce Station was noted at the Pierce Street monitoring location during both daytime and nighttime measurements.

The State of Connecticut noise standard utilizes the L_{90} descriptor for characterizing the ambient noise levels. A summary of the overall A-weighted L_{90} data collected during the ambient program is presented in Table 3 below.

Table 3
Measured Ambient L_{90} Noise Level Data (dBA)

Location	2014 Testing	
	Day	Night
East Street and Park Street	46	51
Pierce Property Line	47	49
East Street and Carlton Street	45	42
Clifton Street	42	36
Eagle Memorial Park	47	41
South Street and West Street	43	38
David Drive and Cook Hill Road	47	34

5.0 NOISE MODELING

The State of Connecticut Noise Standard takes into account sound from all sources emanating from a property (i.e., for the proposed Project, the existing five turbines plus the two proposed turbines and other ancillary noise sources). Computer noise modeling of all the major facility sources was therefore conducted, including both existing and proposed future equipment.

5.1 Existing Facility Conditions

In order to calculate noise levels from the existing and proposed future equipment, computer noise modeling was first conducted for the existing facility sources. This model was calibrated by comparing the modeled results to the sound levels measured during the 2002 compliance testing and adjusting the sound power output of the existing turbines such that the modeled output would match the 2002 compliance test results as closely as possible. The model calibration focused on matching modeled versus measured levels for the three most proximate measurement locations, where Project generated noise was noted by the testing technician to be the most prevalent source of noise during the compliance test. This calibrated model was then used as the base for the future expansion modeling.

Table 4 provides the three locations nearest the facility, the calculated facility contribution from the 2002 compliance test, and the calibrated modeled existing (five turbines) facility contribution.

Table 4
Existing Conditions Model Calibration (dBA)

Location	2002 Compliance Test Facility Sound Levels (Five Existing Turbines)	Modeled Facility Sound Levels (Five Existing Turbines)
East Street and Carlton Street	47	46
East Street and Park Street	49	50
Pierce Station Property Line	48	49

Modeled sound levels were within 1 dBA of the 2002 compliance test facility sound levels at all locations, indicating good agreement with conditions in the field.

5.2 Methodology

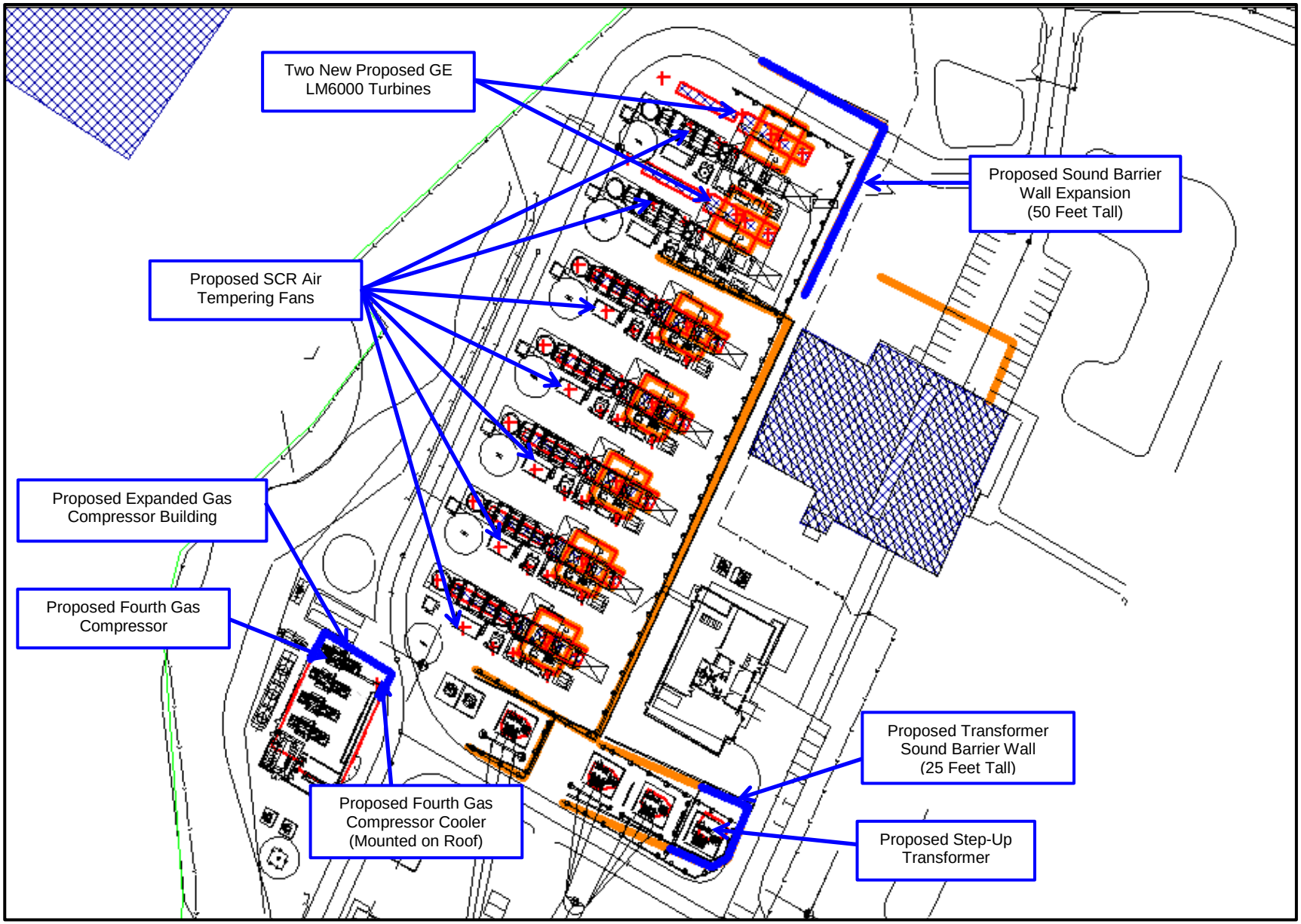
Computer noise modeling was conducted utilizing the CadnaA noise model (DataKustik, 2006). This very powerful 3-dimensional model maps the noise contours of the overall Project in accordance with a variety of standards, primarily VDI 2714 *Outdoor Sound Propagation* and ISO 9613 (ISO, 1996). All sound propagation losses, such as geometric spreading, air absorption, ground absorption, and barrier shielding, can be calculated automatically in accordance with these recognized standards.

The Project expansion consists of two new GE LM6000 combustion turbines and their ancillary equipment, as listed in Section 1.0 above. Estimated sound power level data for most major facility noise sources were obtained from GE. Other data were developed based on performance characteristics of the source (e.g., horsepower, MVA, etc.) utilizing the *Edison Electric Institute's Electric Power Plant Environmental Noise Guide* (Miller, 1984). Modeling was conducted for the Project under full load, normal operating conditions, and included all seven turbines operating simultaneously. The existing noise barrier wall will be extended to shield the two new turbines. The extended wall was included in the model. Provided in Figure 2 is a schematic detailing the locations of the existing and proposed noise sources, and the noise barrier walls.

The modeling considered hemispherical spreading and atmospheric absorption for this analysis. Standard conditions of 50° F and 70 percent relative humidity were assumed. In order to remain conservative in the analysis, no credit was taken for tree foliage, or for any existing offsite buildings, which in reality would act as physical buffers that further reduce noise levels at locations farther away. Minimal credit was taken for the existing undeveloped ground cover in the area.

Modeling receptors were chosen in the same locations as the ambient measurements, in order that direct comparison to the measured noise levels could be made.

Figure 2: Existing and Proposed Project Major Noise Sources and Barriers



5.3 Expansion Modeling Results

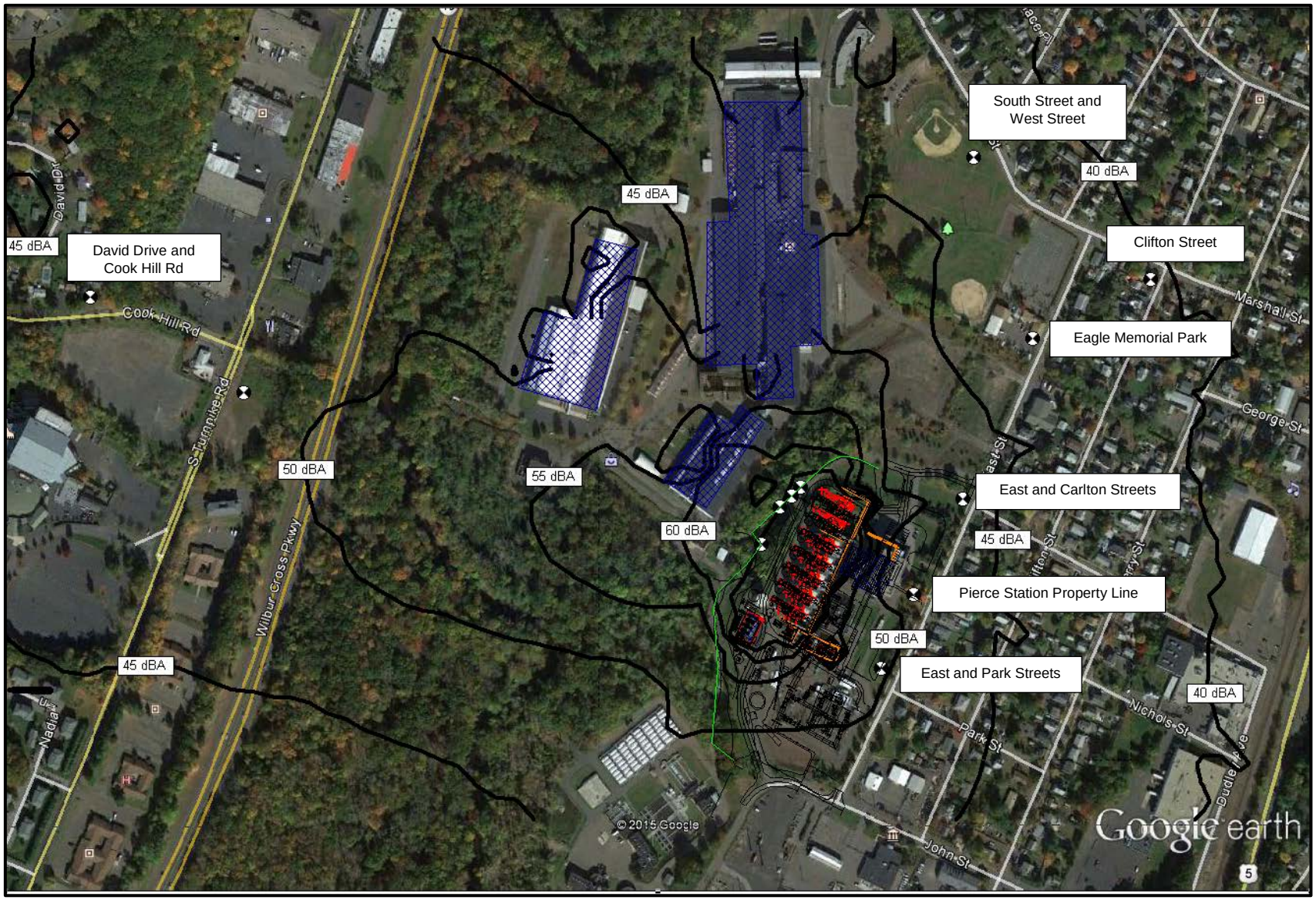
The noise modeling results for the sensitive receptor locations are presented in Table 5 below. A noise contour map, depicting the modeled noise levels in the area surrounding the Project, is provided as Figure 3.

Table 5
Noise Modeling Results (dBA)

Location	Calculated Total Facility Noise Level (Seven Turbines)
East and Park Streets	50.4
Pierce Station Property Line	46.9
East and Carlton Streets	46.5
Clifton Street	40.3
Eagle Memorial Park	42.7
South and West Streets	43.0
David Drive and Cook Hill Road	47.3

A review of the data in Table 5 reveals that the Facility contribution is less than 51 dBA at each receptor; therefore, the Facility is projected to be in compliance with state and local noise standards. As discussed in Section 5.4 of this report, increases in Project generated noise will be at barely perceptible levels.

Figure 3 – Noise Contour Map



5.4 Projected Increase Over Existing Operational Noise

Table 6 provides the modeled sound levels for the existing five turbines, the modeled sound levels for all seven turbines, and the subsequent increase in operational noise anticipated to occur with Project expansion.

Table 6
Noise Modeling Results Compared to Existing Facility Sound Levels (dBA)

Location	Modeled Existing Facility Noise Level	Modeled Total Facility Noise Level	Increase Over Existing Facility Operational Noise Level
East and Park Streets	49.6	50.4	0.8
Pierce Station Property Line	49.3	46.9	-2.4
East and Carlton Streets	45.7	46.5	0.8
Clifton Street	39.5	40.3	0.8
Eagle Memorial Park	41.7	42.7	1.0
South and West Streets	40.1	43.0	2.9
South Turnpike Road	46.9	48.8	1.9
David Drive and Cook Hill Road	44.6	47.3	2.7

Table 6 shows that the increases projected due to Project expansion over the currently existing facility noise levels are limited to less than 3 dBA at all locations. Increases in noise of less than 3 dBA are considered to be barely perceptible. A decrease in noise is projected at the Pierce Station property line location. This reduction is due to a sound barrier that was constructed at the Pierce Station after the existing Wallingford project was licensed.

5.5 Compliance with State of Connecticut Standard

Modeled noise levels for all seven turbines operating at full load simultaneously were compared to the State of Connecticut Noise Standard in Table 7 below. An additional three industrial property line receptor locations were chosen, and are also depicted on Figure 3.

Table 7
Calculated Facility Noise Levels Compared to the Connecticut Noise Standard (dBA)

Location	Calculated Facility Noise Level	Applicable Standard
East and Park Streets	50.4	51
East and Carlton Streets	46.5	51
Clifton Street	40.3	51
Eagle Memorial Park	42.7	51
South and West Streets	43.0	51
David Drive and Cook Hill Road	47.3	51
Pierce Station Property Line	46.9	70
Industrial Property Line 1	66.8	70
Industrial Property Line 2	65.2	70

A review of the data in the above table reveals that modeled facility operational noise levels are in compliance with the Connecticut Noise Standard as well as the local noise ordinance.

5.6 Discrete Tone Noises

No prominent discrete tone noises as defined in 22a-69 were measured during the 2002 compliance test of the existing turbines. The two turbines proposed with this Project expansion are the same GE LM6000 turbines as the existing units, and, as such, no prominent discrete tone sounds are expected with the proposed expansion.

It was not possible to model the potential for prominent discrete tone noise, since this would require 1/3 octave band data, which were not available (and typically are not available) from any of the equipment vendors. Therefore, the facility design will include a specification to all equipment vendors and construction contractors that, in addition to meeting the noise levels which were incorporated into this analysis, prominent discrete tone noise must be controlled, either through physical controls on the source, or, through the use of the previously listed acoustical enclosures and noise barriers.

6.0 MITIGATION MEASURES

The existing facility includes the following noise mitigation.

- Acoustical enclosures for the air compressors, water injection, ammonia injection and auxiliary skids;
- Building housing for the gas compressor coolers;
- A 50 foot barrier wall that extends on three sides of the existing facility;
- 20 foot barrier walls for the main transformers; and
- Noise control, which is a function of the SCR duct, for the turbine exhaust noise.

The noise modeling study for the expansion incorporated the following additional noise mitigation features in order to achieve the noise levels presented herein. These features apply only to the new equipment and include the following:

- GE's "Mitigated Package" design
- Additional stack exit silencing for the two new turbines, over and above GE's 42 dBA design;
- Extension of the 50 foot barrier wall for the additional two GE units;
- A 25 foot barrier wall for the new transformer.

Detailed noise model input data, including GE's mitigated package design data, are provided in Appendix A. The final noise design for the Project will draw on the above and equivalent noise abatement measures as needed in order to ensure compliance with the noise standard.

7.0 REFERENCES

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Wallingford, Town of. 2002. Town Code. Chapter 144.

Appendix A
Noise Modeling Support Data

Noise Model Data Used in Modeling - Wallingford II
GE Specific Data Represents GE's Mitigated Package

GE ENERGY
AERO
16415 Jacintoport Blvd.
Houston, TX 77015
Engineer: Quoc nguyen

CUSTOMER	
PROJECT	
PURPOSE	
DATE	3/20/2014

Assumption:

* Noise mapping is from acoustic model for LM6000 PC,60 hz, air cooled, liquid fuel skid water injection, with louver & roof skid

GE Data (per source)

Name	Total Sound Power Level PWL (dB) Per Source										
	31.5	63	125	250	500	1000	2000	4000	8000	A	lin
SYSTEM 1	115.8	110.9	111.6	110.7	104.9	102.6	99.2	95.1	88.1	108.4	119.2
SPRINT SKID	80	78	79	79	81	80	76	70	62	83.8	87.8
AIR FILTER HOUSE	114.8	107.9	97.6	102.1	92.2	86.9	84.6	85.6	74.5	96.7	115.9
GEN BASE	95.1	94.8	101.6	91.4	83	84.3	78.8	70.3	64.5	90.1	103.5
GEN EXHAUST SILENCER	104.4	98.7	107.8	105.4	97.1	98	92.9	85.5	75.6	102.6	111.6
GEN INLET FAN	94.8	91.9	89.5	103.7	86.4	83.5	78.5	72.7	57.8	95.9	104.8
GEN ENCLOSURE	96.3	100.6	101.5	93.9	87.6	87.8	81.6	75.8	65	92.7	105.3
TURBINE BASE	96.5	92.6	92.5	95.1	96.2	88.8	84.4	81.7	74.9	95.8	102.2
TURBINE EXHAUST FAN	103.6	104.1	104.4	103.6	97.5	93.7	90.9	88	80.2	100.6	110.4
TURBINE ENCLOSURE	98.4	97.6	95.1	95.2	95.4	89.9	86	85.3	81.8	96.3	103.9
TURBINE INLET SILENCER	94.2	89	88.5	96.6	87.4	87.3	82.6	85.2	70.1	93.3	100.2
WATER INJECTION SKID	84	95	96	94	98	94	92	87	83	99.5	103.2
SCR/COR system casing including the exhaust stack without acoustic barrier at the 4100 & 4200 duct	114	111	106	104	95	81	77	75	65	98.1	116.5
Required Exhaust Stack Exit Note: this required stack iexit PWL is lower than GE's Mitigated Package Design	**117**	**114**	**101**	**88**	**84**	**80**	**79**	**79**	**83**	**92**	**<<< Required Stack Exit PWL**

Non-GE Data (per source)

SCR Tempering Fans	106	104	107	102	101	99	96	93	85	104	112
Step Up Transformer	94	100	102	97	97	91	86	81	74	97	106
Gas Compressor	106	112	104	105	103	98	102	100	100	108	115
Gas Compressor Cooling Fan	98	97	98	98	93	87	87	84	80	96	104.4

Project:		Wallingford II Gas Compressors												
		All data are sound power levels (dB)												
			Octave Band (Hz)										Overall	Overall
Outdoor Sources		Source Ht. (ft)	**31**	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**	**16000**	**PWL (dB)**	**PWL (dBA)**
Gas Compressor		20 feet	106	112	104	105	103	98	102	100	100		**115**	**108**
(based on Gemini compressor measurements)														
Total Three Gas Compressors			**111**	**117**	**109**	**110**	**108**	**103**	**107**	**105**	**105**		**120**	**113**
Final Gas Compressor building in next tab														

Project:		Wallingford II												
		All data are sound power levels (dB)												
			Octave Band (Hz)										Overall	Overall
Outdoor Sources		Source Ht. (ft)	**31**	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**	**16000**	**PWL (dB)**	**PWL (dBA)**
Gas Compressor		20 feet	106	112	104	105	103	98	102	100	100		**115**	**108**
(based on Gemini compressor measurements)														
Total Four Gas Compressors			**112**	**118**	**110**	**111**	**109**	**104**	**108**	**106**	**106**		**121**	**114**
Final Gas Compressor building in next tab														

Interior Building Sound Level Calculations

Project: Wallingford II Gas Compressor Building

Enter Data into Text in Green

Vertical Walls Absorption Coefficient	Octave Band (Hz) 31	63	125	250	500	1000	2000	4000	8000	dB	dBA
Abs Coeff for Dynasonics 2" Walls	0.05	0.11	0.22	0.55	0.99	0.97	0.94	0.89	0.71		
Ceiling Absorption Coefficient											
Bare Steel	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02		
Floor Absorption Coefficient											
Bare Concrete	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02		
Sum of Interior Sources	**112**	**118**	**110**	**111**	**109**	**104**	**108**	**106**	**106**	**121**	**114**

Walls/Roof	Wall length (f	Wall height (f	Area in ft2	Area in m2	10*log(area)
North Wall	60	20	1200	111	20
East Wall	100	20	2000	186	23
South Wall	60	20	1200	111	20
West Wall	100	20	2000	186	23
Roof	60	100	6000	557	27
Floor	60	100	6000	557	27

Walls/Roof	Metric Sabins 31	63	125	250	500	1000	2000	4000	8000	dB	dBA
North Wall	6	12	25	61	110	108	105	99	79		
East Wall	9	20	41	102	184	180	175	165	132		-1
South Wall	6	12	25	61	110	108	105	99	79		
West Wall	9	20	41	102	184	180	175	165	132		
Roof	6	6	6	6	11	11	11	11	11		
Floor	6	6	6	6	11	11	11	11	11		
Total Sabins	**41**	**77**	**142**	**338**	**611**	**599**	**581**	**551**	**444**		

Reflected Sound = [SPLref = PWL-10log(A)+6.0]
Direct Sound = [SPLdirect = PWL-20log(r)-8]

	31	63	125	250	500	1000	2000	4000	8000	dB	dBA
Building Walls - Reflected Sound											
Interior Reflected SPL at Building Wall	102	105	94	92	87	82	86	85	86	107	93
Building Walls - Direct Sound											
Enter Average Distance from Acoustic Center of Room to Walls in meters>>>	**10**	Meters									
Interior Direct Sound Level	84	90	82	83	81	76	80	78	78	93	86
Interior Total Sound Level (Direct + Reflected) (PWL" in Cadna)	**102**	**105**	**95**	**92**	**88**	**83**	**87**	**85**	**86**	108	94

Wallingford II CadnaA Noise Model Input Data
March 12, 2015

Name	ID	Type	Oktave Spectrum (dB)											Source
			Weight.	31.5	63	125	250	500	1000	2000	4000	8000	A	lin	
gas compressor building	gcbldg	Lw		102	105	95	92	88	83	87	85	86	93.5	107.3	spreadsheet
LM Generator Exhaust Silencer	genexhsil	Lw		104.4	98.7	107.8	105.4	97.1	98	92.9	85.5	75.6	102.6	111.6	GE
LM Generator Exhaust Silencer New Turbine	genexhsilnew	Lw		104.4	98.7	107.8	105.4	97.1	98	92.9	85.5	75.6	102.6	111.6	GE
LM Generator Inlet Fan	geninfan	Lw		97.8	96.9	96.5	113.7	99.4	98.5	95.5	90.7	76.8	107	114.3	GE
LM Generator Inlet Fan New Turbine	geninfannew	Lw		94.8	91.9	89.5	103.7	86.4	83.5	78.5	72.7	57.8	95.8	104.7	GE
LM Skid A	skida	Lw		83	91	101	95	94	95	93	87	79	99.3	104.1	GE with Enclosure
lm6000 gen enclosure and base per square meter	lm6000gensqmtr	Lw		78.8	81.6	84.6	75.9	68.9	69.4	63.4	56.9	47.8	74.6	87.5	GE
lm6000 inlet closed back side	lm6000inletcla	Lw		96	88	85	92	87	81	72	73	58	88.1	98.6	GE
lm6000 inlet closed front side	lm6000inletclb	Lw		89	89	89	89	68	68	64	70	69	82.1	95.1	GE
lm6000 inlet air in per side	lm6000inletin	Lw		111.8	104.9	94.6	99.1	89.2	83.9	81.6	82.6	71.5	93.7	112.9	GE - split data into two sides (-3 dB)
lm6000 stack	lm6000stack	Lw		112	106	98	94	85	66	59	52	44	88.9	113.2	original Wallingford, includes silencer
lm6000 stack New Turbine	lm6000stacknew	Lw		124	120	105	93	91	89	88	88	98	100.7	125.5	GE based on 100.7 data
lm6000 turbine enclosure and base per sq meter	lm6000turbsqmtr	Lw		80.6	78.8	77	78.2	78.8	72.4	68.3	66.9	62.4	79.1	86.2	GE
lm6000 turbine inlet silencer -STANDARD	lm6000turbinsilstd	Lw		111.8	115.6	112.1	96.6	87.4	98.9	104.2	98.3	77.9	107.5	118.6	GE
lm6000 transformers	lmtx	Lw		94	100	102	97	97	91	86	81	74	97.4	106	
LM6000 SCR duct per square meter	scrsqmtr	Lw		88	89	84	80	77	72	69	66	59	78.9	92.7	Palm Springs
LM6000 SCR duct per square meter New Turbine	scrnew	Lw		86	83	78	76	67	63	49	47	37	70.8	88.5	GE data March 2014 based on 98 pwl total per casi
LM Sprint Skid	sprint	Lw		80	78	79	79	81	80	76	70	62	83.8	87.8	GE with Enclosure
LM Turbine Exhaust Fan	turbexfan	Lw		103.6	104.1	104.4	103.6	97.5	93.7	90.9	88	80.2	100.6	110.4	GE
LM Turbine Inlet Silencer	turbinsil	Lw		108.8	110.6	105.2	96.6	87.4	88.8	88.5	86.3	70.3	96.3	113.6	GE
LM Turbine Inlet Silencer New Turbine	turbinsilnew	Lw		94.2	89	88.5	96.6	87.4	87.3	82.6	85.2	70.1	93.3	100.1	GE
LM Water Injection Skid	watrinj	Lw		84	95	96	94	98	94	92	87	83	99.5	103.2	GE with Enclosure
SCR air fans	scrfans	Lw		106	104	107	102	101	99	96	93	85	104.1	112	derived based on 200hp motor and size of fan
new gas compressor cooling fan	gcool	Lw		98	97	98	98	93	87	87	84	80	95.5	104.4	estimated from library 65 dBA at 50 ft (UMTP)

Wallingford II CadnaA Noise Model Input Data
March 12, 2015

Name	Result. PWL Day (dBA)	Evening (dBA)	Night (dBA)	Lw / Li Type	Value	norm. dB(A)	Correction Day dB(A)	Evening dB(A)	Night dB(A)	Area (m²)	Attenuation	K0 (dB)	Freq. (Hz)	Direct.	Height (m)		Coordinates X (m)	Y (m)	Z (m)
lm 6000 stack	88.9	88.9	88.9	Lw	lm6000stack		0	0	0			0		(none)	30.5	r	680798.19	4590857.53	46.5
lm 6000 stack	88.9	88.9	88.9	Lw	lm6000stack		0	0	0			0		(none)	30.5	r	680806.48	4590875.66	46.5
lm 6000 stack	88.9	88.9	88.9	Lw	lm6000stack		0	0	0			0		(none)	30.5	r	680814.81	4590893.89	46.5
lm 6000 stack	88.9	88.9	88.9	Lw	lm6000stack		0	0	0			0		(none)	30.5	r	680822.72	4590912.03	46.5
lm 6000 stack	88.9	88.9	88.9	Lw	lm6000stack		0	0	0			0		(none)	30.5	r	680830.77	4590930.68	46.5
LM Gen Vent Air Exhaust	102.6	102.6	102.6	Lw	genexhsil		0	0	0			0		Opening (ÖAL28)	6.4	r	680830.57	4590840.11	22.4
LM Gen Vent Air Exhaust	102.6	102.6	102.6	Lw	genexhsil		0	0	0			0		Opening (ÖAL28)	6.4	r	680839.04	4590858.14	22.4
LM Gen Vent Air Exhaust	102.6	102.6	102.6	Lw	genexhsil		0	0	0			0		Opening (ÖAL28)	6.4	r	680847.09	4590876.29	22.4
LM Gen Vent Air Exhaust	102.6	102.6	102.6	Lw	genexhsil		0	0	0			0		Opening (ÖAL28)	6.4	r	680855.29	4590894.51	22.4
LM Gen Vent Air Exhaust	102.6	102.6	102.6	Lw	genexhsil		0	0	0			0		Opening (ÖAL28)	6.4	r	680863.33	4590913.17	22.4
LM Turbine Combustion and Vent Air Inlet Silencer	96.3	96.3	96.3	Lw	turbinsil		0	0	0			0		(none)	5.5	r	680823.18	4590844.27	21.5
LM Turbine Combustion and Vent Air Inlet Silencer	96.3	96.3	96.3	Lw	turbinsil		0	0	0			0		(none)	5.5	r	680831.66	4590862.3	21.5
LM Turbine Combustion and Vent Air Inlet Silencer	96.3	96.3	96.3	Lw	turbinsil		0	0	0			0		(none)	5.5	r	680839.7	4590880.45	21.5
LM Turbine Combustion and Vent Air Inlet Silencer	96.3	96.3	96.3	Lw	turbinsil		0	0	0			0		(none)	5.5	r	680847.9	4590898.67	21.5
LM Turbine Combustion and Vent Air Inlet Silencer	96.3	96.3	96.3	Lw	turbinsil		0	0	0			0		(none)	5.5	r	680855.95	4590917.33	21.5
LM Turbine Room Exhaust Fan	83.9	83.9	83.9	Lw	turbexfan		0	0	0		turbexsil	0		(none)	6.5	r	680816.44	4590849.17	22.5
LM Turbine Room Exhaust Fan	83.9	83.9	83.9	Lw	turbexfan		0	0	0		turbexsil	0		(none)	6.5	r	680824.91	4590867.2	22.5
LM Turbine Room Exhaust Fan	83.9	83.9	83.9	Lw	turbexfan		0	0	0		turbexsil	0		(none)	6.5	r	680832.96	4590885.35	22.5
LM Turbine Room Exhaust Fan	83.9	83.9	83.9	Lw	turbexfan		0	0	0		turbexsil	0		(none)	6.5	r	680841.16	4590903.57	22.5
LM Turbine Room Exhaust Fan	83.9	83.9	83.9	Lw	turbexfan		0	0	0		turbexsil	0		(none)	6.5	r	680849.21	4590922.22	22.5
LM6000 Liquid Fuel Boost Pump Skid	99.3	99.3	99.3	Lw	liqfuel		0	0	0			0		(none)	1.6	r	680823.7	4590835.46	17.6
LM6000 Liquid Fuel Boost Pump Skid	99.3	99.3	99.3	Lw	liqfuel		0	0	0			0		(none)	1.6	r	680831.75	4590853.4	17.6
LM6000 Liquid Fuel Boost Pump Skid	99.3	99.3	99.3	Lw	liqfuel		0	0	0			0		(none)	1.6	r	680839.81	4590871.73	17.6
LM6000 Liquid Fuel Boost Pump Skid	99.3	99.3	99.3	Lw	liqfuel		0	0	0			0		(none)	1.6	r	680848	4590889.77	17.6
LM6000 Liquid Fuel Boost Pump Skid	99.3	99.3	99.3	Lw	liqfuel		0	0	0			0		(none)	1.6	r	680856.04	4590908.42	17.6
LM6000 Sprint Skid	83.8	83.8	83.8	Lw	sprint		0	0	0			0		(none)	2	r	680804.2	4590846.32	18
LM6000 Sprint Skid	83.8	83.8	83.8	Lw	sprint		0	0	0			0		(none)	2	r	680812.38	4590865	18
LM6000 Sprint Skid	83.8	83.8	83.8	Lw	sprint		0	0	0			0		(none)	2	r	680820.72	4590883.16	18
LM6000 Sprint Skid	83.8	83.8	83.8	Lw	sprint		0	0	0			0		(none)	2	r	680828.76	4590901.5	18
LM6000 Sprint Skid	83.8	83.8	83.8	Lw	sprint		0	0	0			0		(none)	2	r	680837.33	4590919.89	18
LM6000 Water Injection Skid	99.5	99.5	99.5	Lw	watrinj		0	0	0			0		(none)	1.6	r	680815.81	4590840.32	17.6
LM6000 Water Injection Skid	99.5	99.5	99.5	Lw	watrinj		0	0	0			0		(none)	1.6	r	680823.72	4590858.46	17.6
LM6000 Water Injection Skid	99.5	99.5	99.5	Lw	watrinj		0	0	0			0		(none)	1.6	r	680831.83	4590875.67	17.6
LM6000 Water Injection Skid	99.5	99.5	99.5	Lw	watrinj		0	0	0			0		(none)	1.6	r	680839.96	4590894.83	17.6
LM6000 Water Injection Skid	99.5	99.5	99.5	Lw	watrinj		0	0	0			0		(none)	1.6	r	680848.01	4590913.48	17.6
LMGen Vent Air Inlet	107	107	107	Lw	geninfan		0	0	0			0		(none)	5.5	r	680825.12	4590843.14	21.5
LMGen Vent Air Inlet	107	107	107	Lw	geninfan		0	0	0			0		(none)	5.5	r	680833.59	4590861.17	21.5
LMGen Vent Air Inlet	107	107	107	Lw	geninfan		0	0	0			0		(none)	5.5	r	680841.64	4590879.32	21.5
LMGen Vent Air Inlet	107	107	107	Lw	geninfan		0	0	0			0		(none)	5.5	r	680849.84	4590897.54	21.5
LMGen Vent Air Inlet	107	107	107	Lw	geninfan		0	0	0			0		(none)	5.5	r	680857.88	4590916.19	21.5
lm 6000 stack New Turbines	92.1	92.1	92.1	Lw	lm6000stacknew		0	0	0		stksile	0		EEI	30.5	r	680842.46	4590955.44	46.5
lm 6000 stack New Turbines	92.1	92.1	92.1	Lw	lm6000stacknew		0	0	0		stksile	0		EEI	30.5	r	680850.5	4590974.1	46.5
LM Gen Vent Air Exhaust New Turbines	102.6	102.6	102.6	Lw	genexhsil		0	0	0			0		Opening (ÖAL28)	6.4	r	680875.02	4590937.93	22.4
LM Gen Vent Air Exhaust New Turbines	102.6	102.6	102.6	Lw	genexhsil		0	0	0			0		Opening (ÖAL28)	6.4	r	680883.06	4590956.59	22.4
LM Turbine Combustion and Vent Air Inlet Silencer New Turbines	93.3	93.3	93.3	Lw	turbinsilnew		0	0	0			0		(none)	5.5	r	680867.63	4590942.09	21.5
LM Turbine Combustion and Vent Air Inlet Silencer New Turbines	93.3	93.3	93.3	Lw	turbinsilnew		0	0	0			0		(none)	5.5	r	680875.68	4590960.75	21.5
LM Turbine Room Exhaust Fan New Turbines	100.6	100.6	100.6	Lw	turbexfan		0	0	0			0		(none)	6.5	r	680860.89	4590946.99	22.5
LM Turbine Room Exhaust Fan New Turbines	100.6	100.6	100.6	Lw	turbexfan		0	0	0			0		(none)	6.5	r	680868.93	4590965.64	22.5
LM6000 Sprint Skid New Turbines	83.8	83.8	83.8	Lw	sprint		0	0	0			0		(none)	2	r	680848.49	4590944.92	18
LM6000 Sprint Skid New Turbines	83.8	83.8	83.8	Lw	sprint		0	0	0			0		(none)	2	r	680857.06	4590963.31	18
LM6000 Water Injection Skid New Turbines	99.5	99.5	99.5	Lw	watrinj		0	0	0			0		(none)	1.6	r	680859.69	4590938.25	17.6
LM6000 Water Injection Skid New Turbines	99.5	99.5	99.5	Lw	watrinj		0	0	0			0		(none)	1.6	r	680867.74	4590956.9	17.6
LMGen Vent Air Inlet New Turbines	95.8	95.8	95.8	Lw	geninfannew		0	0	0			0		(none)	5.5	r	680869.57	4590940.96	21.5
LMGen Vent Air Inlet New Turbines	95.8	95.8	95.8	Lw	geninfannew		0	0	0			0		(none)	5.5	r	680877.61	4590959.61	21.5
tempering air fans New Turbines	104.1	104.1	104.1	Lw	scrfans		0	0	0			0		(none)	1.5	r	680855.81	4590940.62	17.5
tempering air fans New Turbines	104.1	104.1	104.1	Lw	scrfans		0	0	0			0		(none)	1.5	r	680863.72	4590958.88	17.5
tempering air fans New Turbines	104.1	104.1	104.1	Lw	scrfans		0	0	0			0		(none)	1.5	r	680843.74	4590915.36	17.5
tempering air fans New Turbines	104.1	104.1	104.1	Lw	scrfans		0	0	0			0		(none)	1.5	r	680836.1	4590896.53	17.5
tempering air fans New Turbines	104.1	104.1	104.1	Lw	scrfans		0	0	0			0		(none)	1.5	r	680827.64	4590877.71	17.5
tempering air fans New Turbines	104.1	104.1	104.1	Lw	scrfans		0	0	0			0		(none)	1.5	r	680819.19	4590860.25	17.5
tempering air fans New Turbines	104.1	104.1	104.1	Lw	scrfans		0	0	0			0		(none)	1.5	r	680811.28	4590841.7	17.5
New Gas compressor cooler	95.5	95.5	95.5	Lw	gcool		0	0	0			0		(none)	8.5	r	680784.36	4590833.38	24.5

Wallingford II CadnaA Noise Model Input Data
March 12, 2015

Name	Result. PWL Day (dBA)	Evening (dBA)	Night (dBA)	Result. PWL'' Day (dBA)	Evening (dBA)	Night (dBA)	Lw / Li Type	Value	norm. dB(A)	Correction Day dB(A)	Evening dB(A)	Night dB(A)	Area (m²)	Attenuation	K0 (dB)	Freq. (Hz)	Direct.
Air Filter House Closed82	82.1	82.1	82.1	65.9	65.9	65.9	Lw	lm6000inletclb		0	0	0			0		(none)
Air Filter House Closed82	82.1	82.1	82.1	65.9	65.9	65.9	Lw	lm6000inletclb		0	0	0			0		(none)
Air Filter House Closed82	82.1	82.1	82.1	65.9	65.9	65.9	Lw	lm6000inletclb		0	0	0			0		(none)
Air Filter House Closed82	82.1	82.1	82.1	65.9	65.9	65.9	Lw	lm6000inletclb		0	0	0			0		(none)
Air Filter House Closed82	82.1	82.1	82.1	65.9	65.9	65.9	Lw	lm6000inletclb		0	0	0			0		(none)
Air Filter House Closed88	88.1	88.1	88.1	71.8	71.8	71.8	Lw	lm6000inletcla		0	0	0			0		(none)
Air Filter House Closed88	88.1	88.1	88.1	71.8	71.8	71.8	Lw	lm6000inletcla		0	0	0			0		(none)
Air Filter House Closed88	88.1	88.1	88.1	71.8	71.8	71.8	Lw	lm6000inletcla		0	0	0			0		(none)
Air Filter House Closed88	88.1	88.1	88.1	71.8	71.8	71.8	Lw	lm6000inletcla		0	0	0			0		(none)
Air Filter House Closed88	88.1	88.1	88.1	71.8	71.8	71.8	Lw	lm6000inletcla		0	0	0			0		(none)
Air Filter House In	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)
Air Filter House In	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)
Air Filter House In	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)
Air Filter House In	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)
Air Filter House In	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)
Air Filter House In	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)
Air Filter House In	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)
Air Filter House In	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)
Air Filter House In	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)
Air Filter House In	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)
Generator Enclosure	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
Generator Enclosure	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr		0	0	0			0		(none)
SCR Duct	85.2	85.2	85.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	93.2	93.2	93.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	85.7	85.7	85.7	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	93.2	93.2	93.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	85.2	85.2	85.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	93.2	93.2	93.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	85.7	85.7	85.7	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	93.2	93.2	93.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	85.2	85.2	85.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	93.2	93.2	93.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	85.7	85.7	85.7	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	93.2	93.2	93.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	85.2	85.2	85.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	93.2	93.2	93.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	85.7	85.7	85.7	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	93.2	93.2	93.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	85.2	85.2	85.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	93.2	93.2	93.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	85.7	85.7	85.7	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
SCR Duct	93.2	93.2	93.2	69.5	69.5	69.5	Lw"	scrsqmtr		0	0	0		scrlag	0		(none)
Turbine Enclosure	91.8	91.8	91.8	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	91.7	91.7	91.7	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	91.8	91.8	91.8	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	91.7	91.7	91.7	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	91.8	91.8	91.8	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	91.7	91.7	91.7	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	91.8	91.8	91.8	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	91.7	91.7	91.7	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	91.8	91.8	91.8	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	91.7	91.7	91.7	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
Turbine Enclosure	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr		0	0	0			0		(none)
gas comp louver	93.2	93.2	93.2	81.1	81.1	81.1	Lw"	gcbldg		0	0	0		louv6	0		(none)
gas comp louver	93.4	93.4	93.4	81.1	81.1	81.1	Lw"	gcbldg		0	0	0		louv6	0		(none)
gas comp louver	93.3	93.3	93.3	81.1	81.1	81.1	Lw"	gcbldg		0	0	0		louv6	0		(none)
Air Filter House Closed82 New Turbine	82.1	82.1	82.1	65.9	65.9	65.9	Lw	lm6000inletclb		0	0	0			0		(none)
Air Filter House Closed82 New Turbine	82.1	82.1	82.1	65.9	65.9	65.9	Lw	lm6000inletclb		0	0	0			0		(none)
Air Filter House Closed88 New Turbine	88.1	88.1	88.1	71.8	71.8	71.8	Lw	lm6000inletcla		0	0	0			0		(none)
Air Filter House Closed88 New Turbine	88.1	88.1	88.1	71.8	71.8	71.8	Lw	lm6000inletcla		0	0	0			0		(none)
Air Filter House In New Turbine	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin		0	0	0			0		(none)

Air Filter House In New Turbine	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin	0	0	0		0	(none)
Air Filter House In New Turbine	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin	0	0	0		0	(none)
Air Filter House In New Turbine	93.7	93.7	93.7	78	78	78	Lw	lm6000inletin	0	0	0		0	(none)
Generator Enclosure New Turbine	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr	0	0	0		0	(none)
Generator Enclosure New Turbine	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr	0	0	0		0	(none)
Generator Enclosure New Turbine	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr	0	0	0		0	(none)
Generator Enclosure New Turbine	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr	0	0	0		0	(none)
Generator Enclosure New Turbine	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr	0	0	0		0	(none)
Generator Enclosure New Turbine	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr	0	0	0		0	(none)
Generator Enclosure New Turbine	87.3	87.3	87.3	74.6	74.6	74.6	Lw"	lm6000gensqmtr	0	0	0		0	(none)
Generator Enclosure New Turbine	90.5	90.5	90.5	74.6	74.6	74.6	Lw"	lm6000gensqmtr	0	0	0		0	(none)
SCR Duct New Turbine	86.5	86.5	86.5	70.8	70.8	70.8	Lw"	scrnew	0	0	0		0	(none)
SCR Duct New Turbine	94.5	94.5	94.5	70.8	70.8	70.8	Lw"	scrnew	0	0	0		0	(none)
SCR Duct New Turbine	87	87	87	70.8	70.8	70.8	Lw"	scrnew	0	0	0		0	(none)
SCR Duct New Turbine	94.5	94.5	94.5	70.8	70.8	70.8	Lw"	scrnew	0	0	0		0	(none)
SCR Duct New Turbine	86.5	86.5	86.5	70.8	70.8	70.8	Lw"	scrnew	0	0	0		0	(none)
SCR Duct New Turbine	94.5	94.5	94.5	70.8	70.8	70.8	Lw"	scrnew	0	0	0		0	(none)
SCR Duct New Turbine	87	87	87	70.8	70.8	70.8	Lw"	scrnew	0	0	0		0	(none)
SCR Duct New Turbine	94.5	94.5	94.5	70.8	70.8	70.8	Lw"	scrnew	0	0	0		0	(none)
Turbine Enclosure New Turbine	91.8	91.8	91.8	79.1	79.1	79.1	Lw"	lm6000turbsqmtr	0	0	0		0	(none)
Turbine Enclosure New Turbine	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr	0	0	0		0	(none)
Turbine Enclosure New Turbine	91.7	91.7	91.7	79.1	79.1	79.1	Lw"	lm6000turbsqmtr	0	0	0		0	(none)
Turbine Enclosure New Turbine	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr	0	0	0		0	(none)
Turbine Enclosure New Turbine	91.8	91.8	91.8	79.1	79.1	79.1	Lw"	lm6000turbsqmtr	0	0	0		0	(none)
Turbine Enclosure New Turbine	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr	0	0	0		0	(none)
Turbine Enclosure New Turbine	91.7	91.7	91.7	79.1	79.1	79.1	Lw"	lm6000turbsqmtr	0	0	0		0	(none)
Turbine Enclosure New Turbine	95.1	95.1	95.1	79.1	79.1	79.1	Lw"	lm6000turbsqmtr	0	0	0		0	(none)
transformer	97.4	97.4	97.4	77.7	77.7	77.7	Lw	lmtx	0	0	0		0	(none)
transformer	97.4	97.4	97.4	77.7	77.7	77.7	Lw	lmtx	0	0	0		0	(none)
transformer	97.4	97.4	97.4	77.7	77.7	77.7	Lw	lmtx	0	0	0		0	(none)
transformer	97.4	97.4	97.4	77.7	77.7	77.7	Lw	lmtx	0	0	0		0	(none)
gas comp bldg	75.7	75.7	75.7	65.3	65.3	65.3	Lw"	gcbldg	0	0	0	dyn2in	0	(none)
gas comp bldg	83.3	83.3	83.3	65.3	65.3	65.3	Lw"	gcbldg	0	0	0	dyn2in	0	(none)
gas comp bldg	88	88	88	65.3	65.3	65.3	Lw"	gcbldg	0	0	0	dyn2in	0	(none)
gas comp bldg	85.7	85.7	85.7	65.3	65.3	65.3	Lw"	gcbldg	0	0	0	dyn2in	0	(none)
gas comp bldg	87.8	87.8	87.8	65.3	65.3	65.3	Lw"	gcbldg	0	0	0	dyn2in	0	(none)
gas comp bldg	82.1	82.1	82.1	65.3	65.3	65.3	Lw"	gcbldg	0	0	0	dyn2in	0	(none)

Wallingford II CadnaA Noise Model Input Data

March 12, 2015

Name	M.	ID	Absorption left	right	Z-Ext. (m)	Cantilever horz. (m)	vert. (m)	Height Begin (m)	
filter house walls	+		0.6	0.6	3.6			10.5	r
filter house walls	+		0.6	0.6	3.6			10.5	r
filter house walls	+		0.6	0.6	3.6			10.5	r
filter house walls	+		0.6	0.6	3.6			10.5	r
acoustic skid panel	+		0.6	0.6	2.5			6.9	r
acoustic skid panel	+		0.6	0.6	2.5			6.9	r
turbcombinletwall	+		0.21	0.21	2.5			6.9	r
filter house walls	+		0.6	0.6	3.6			10.5	r
filter house walls	+		0.6	0.6	3.6			10.5	r
filter house walls	+		0.6	0.6	3.6			10.5	r
filter house walls	+		0.6	0.6	3.6			10.5	r
acoustic skid panel	+		0.6	0.6	2.5			6.9	r
acoustic skid panel	+		0.6	0.6	2.5			6.9	r
turbcombinletwall	+		0.21	0.21	2.5			6.9	r
filter house walls	+		0.6	0.6	3.6			10.5	r
filter house walls	+		0.6	0.6	3.6			10.5	r
filter house walls	+		0.6	0.6	3.6			10.5	r
filter house walls	+		0.6	0.6	3.6			10.5	r
acoustic skid panel	+		0.6	0.6	2.5			6.9	r
acoustic skid panel	+		0.6	0.6	2.5			6.9	r
turbcombinletwall	+		0.21	0.21	2.5			6.9	r
filter house walls	+		0.6	0.6	3.6			10.5	r
filter house walls	+		0.6	0.6	3.6			10.5	r
filter house walls	+		0.6	0.6	3.6			10.5	r
filter house walls	+		0.6	0.6	3.6			10.5	r
acoustic skid panel	+		0.6	0.6	2.5			6.9	r
acoustic skid panel	+		0.6	0.6	2.5			6.9	r
turbcombinletwall	+		0.21	0.21	2.5			6.9	r
filter house walls	+		0.6	0.6	3.6			10.5	r
filter house walls	+		0.6	0.6	3.6			10.5	r
filter house walls	+		0.6	0.6	3.6			10.5	r
filter house walls	+		0.6	0.6	3.6			10.5	r
acoustic skid panel	+		0.6	0.6	2.5			6.9	r
acoustic skid panel	+		0.6	0.6	2.5			6.9	r
turbcombinletwall	+		0.21	0.21	2.5			6.9	r
existing tx barrier	+		0.21	0.21				6.1	r
existing lm6000 barrier	+		0.21	0.21				15.2	r
future lm6000 barrier			0.21	0.21				15.2	r
filter house walls	+		0.6	0.6	3.6			10.5	r
filter house walls	+		0.6	0.6	3.6			10.5	r
filter house walls	+		0.6	0.6	3.6			10.5	r

filter house walls	+	0.6	0.6	3.6	10.5	r
acoustic skid panel	+	0.6	0.6	2.5	6.9	r
acoustic skid panel	+	0.6	0.6	2.5	6.9	r
turbcombinletwall	+	0.21	0.21	2.5	6.9	r
filter house walls	+	0.6	0.6	3.6	10.5	r
filter house walls	+	0.6	0.6	3.6	10.5	r
filter house walls	+	0.6	0.6	3.6	10.5	r
filter house walls	+	0.6	0.6	3.6	10.5	r
acoustic skid panel	+	0.6	0.6	2.5	6.9	r
acoustic skid panel	+	0.6	0.6	2.5	6.9	r
turbcombinletwall	+	0.21	0.21	2.5	6.9	r
existing tx barrier	+	0.21	0.21		7	r

Wallingford II CadnaA Noise Model Input Data
March 12, 2015

Name	Height Begin (m)	
Turbine Enclosure	4.4	r
Generator Enclosure	4.4	r
SCR Duct	15.24	r
Turbine Enclosure	4.4	r
Generator Enclosure	4.4	r
SCR Duct	15.24	r
Turbine Enclosure	4.4	r
Generator Enclosure	4.4	r
SCR Duct	15.24	r
Turbine Enclosure	4.4	r
Generator Enclosure	4.4	r
SCR Duct	15.24	r
Turbine Enclosure	4.4	r
Generator Enclosure	4.4	r
SCR Duct	15.24	r
gas comp bldg	6.1	r
Turbine Enclosure	4.4	r
Generator Enclosure	4.4	r
SCR Duct	15.24	r
Turbine Enclosure	4.4	r
Generator Enclosure	4.4	r
SCR Duct	15.24	r

Wallingford II CadnaA Noise Model Input Data
March 12, 2015

Name	ID	Oktave Spectrum (dB)										Source
		31.5	63	125	250	500	1000	2000	4000	8000	Rw	
dynasonics 2in	dyn2in	10	17	22	24	30	39	48	56	53	35	Dynasonics
sonoguard 8inch louver	louv6	3	4	7	7	13	20	22	17	15	18	sonoguard book SAJ-835
scr lagging reduction	scrlag	2	5	6	8	10	12	12	10	10	12	hypothetical
turbine room exhaust fan silencer	turbexsil	3	6	11	24	30	22	15	10	8	20	
Additional reductions needed for new stack exit	stksile	7	6	4	5	7	9	9	9	15	9	derived based on dBC and dBA

Attachment G – Phase I Environmental Site Assessment Report

Phase I Environmental Site Assessment Report
Wallingford Energy, LLC
115 John Street
Wallingford, Connecticut

Prepared for

LS Power Equity Advisors, LLC
d.b.a. Wallingford Energy, LLC
1700 Broadway, 35th Floor
New York, New York 10019

Prepared by

EA Engineering, Science, and Technology, Inc.
2374 Post Road, Suite 102
Warwick, Rhode Island 02886

May 2013
EA Project No. 14897.10

Phase I Environmental Site Assessment Report
Wallingford Energy, LLC
115 John Street
Wallingford, Connecticut

Prepared for

LS Power Equity Advisors, LLC
d.b.a. Wallingford Energy, LLC
1700 Broadway, 35th Floor
New York, New York 10019

Prepared by

EA Engineering, Science, and Technology, Inc.
2374 Post Road, Suite 102
Warwick, Rhode Island 02886

23 May 2013

Frank B. Postma, LSP, LEP, PG — Date
Project Manager/Environmental Professional

May 2013
EA Project No. 14897.10

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LIST OF ACRONYMS AND ABBREVIATIONS

AIRS	Permitted Air Sources Listing
ARCADIS	ARCADIS U.S., Inc.
AST	Aboveground storage tank
ASTM	American Society for Testing and Materials
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CERCLIS	CERCLA Information System
CONSENT	Superfund (CERCLA) Consent Decrees
CORRACTS	RCRA Information System-Corrective Action Sites
CPCS	Contaminated or Potentially Contaminated Sites
CTDEEP	Connecticut Department of Energy and Environmental Protection
CTDEP	Connecticut Department of Environmental Protection
EA	EA Engineering, Science, and Technology, Inc.
EDR	Environmental Data Resources, Inc.
ENF	Enforcement
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
ETPH	Extractable total petroleum hydrocarbon
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act/TSCA
FINDS	Facility Index System
ft	Feet (foot)
ft^2	Square feet(foot)
FTTS	FIFRA/TSCA Tracking System
gal	Gallon(s)
ID	Identification
LNAPL	Light non-aqueous phase liquid
LS Power	LS Power Equity Advisors, LLC
LUST	Leaking underground storage tank
LWDS	Leachate and Wastewater Discharge Sites
mg/L	Millligram(s) per liter
MLTS	Material Licensing Tracking System
MINES	Mines Master Index File
NFRAP	No Further Remedial Action Planned (Delisted CERCLA Site)
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List

PADS	Polychlorinated Biphenyl Activity Database System
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
RAATS	RCRA Administrative Action Tracking System
RCRA	Resource Conservation and Recovery Act of 1976
REC	Recognized environmental condition
RSR	Remediation Standard Regulation
SDADB	Site Discovery and Assessment Database
SHWS	State Hazardous Waste Sites
SWF/LF	Solid Waste Facilities/Landfills
SWRCY	State Recycling Directory
TSCA	Toxic Substances Control Act
TSDF	Treatment, storage, and disposal facility
USDA	United States Department of Agriculture
UST	Underground storage tank
VOC	Volatile organic compound

1. EXECUTIVE SUMMARY

EA Engineering, Science, and Technology, Inc. (EA) completed a Phase I Environmental Site Assessment (ESA) of Wallingford Energy, LLC located at 115 John Street in Wallingford, Connecticut (the "subject property"). The subject property is hereby defined as Map 147, Block 4, Lot 1 as identified on the Wallingford Tax Assessor's map. The subject property is comprised of 8.2 acres leased by Wallingford Energy, care of LS Power Equity Advisors, LLC (LS Power), from the Town of Wallingford.

The Wallingford Energy, LLC (formerly PPL Wallingford Energy, LLC) Power Plant was constructed in 2001 and is a natural gas fired, simple-cycle combustion turbine, electric generating plant. The subject property was an oil and coal-fired power plant owned by the Town of Wallingford prior to the current site improvements. The coal-fired plant was called the Alfred L. Pierce Generating Station. The subject property was undeveloped before development of the Pierce Generating Station.

EA has performed this Phase I ESA in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) E 1527-05 of the subject property. Any exceptions to, or deletions from, this practice are described in Section 11. This assessment identified four recognized environmental conditions (RECs) in connection with the subject property: the presence of constituents of concerns at levels above regulatory criteria in groundwater and soil, the presence of light non-aqueous phase liquid (LNAPL) in a groundwater well on site, the Coastal Tank Lines site located proximal to the subject property at a higher elevation, and the Wallingford Former Coal Ash Lagoons located adjacent to the subject property to the east.

2. INTRODUCTION

2.1 PURPOSE

The purpose of the Phase I ESA is to identify, to the extent feasible pursuant to the process prescribed in ASTM E-1527-05, RECs in connection with the property. A REC is defined as the presence or likely presence of hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or material threat of a release of any hazardous substance or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The ASTM E-1527-05 practice constitutes all appropriate inquiries for the purpose of Landowner Liability Protections, under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This report reflects the observations, information, and data collected by EA during the period of 13-20 May 2013. Supporting documentation is provided in the appendixes as follows:

- ***Appendix A***—Figures
- ***Appendix B***—Photograph Log
- ***Appendix C***—Historical Research Documentation (including aerial photographs and historical maps)
- ***Appendix D***—Excerpt from 2011 ARCADIS Subsurface Investigation Report
- ***Appendix E***—Regulatory Records Documentation
- ***Appendix F***—Supporting Interview Documentation
- ***Appendix G***—Environmental Data Resources, Inc. (EDR) Database Report
- ***Appendix H***—Qualifications of the Environmental Professionals (including resumes of report preparers).

2.2 DETAILED SCOPE OF SERVICES

EA prepared this Phase I ESA in accordance with EA Proposal No. 07306.97, dated 13 May 2013.

This Phase I ESA was performed in accordance with ASTM E-1527-05 (Standard Practice for ESAs: Phase I ESA Process) and consists of a review of current and historic activities and conditions at the property and surrounding properties, including a non-intrusive visual inspection of the property; review of local, state, and federal regulatory database records; review of available historic records; and a survey of adjacent land uses. The site reconnaissance does not address non-ASTM considerations such as asbestos, lead-based paint, drinking water quality, or

radon, nor does it include sampling or chemical analysis of soils, surface water, or groundwater or an intensive examination of facility hazards (compliance audit).

2.3 SIGNIFICANT ASSUMPTIONS

In expressing the opinions stated in this report, EA has exercised the degree of skill and care ordinarily exercised by a reasonable prudent Environmental Professional in the same community and in the same time frame given the same or similar facts and circumstances. EA assumes that the client, as set forth in the contractual agreement, is also the user as defined by ASTM E-1527-05. Documentation and data provided by the user, designated representatives thereof, or other interested third parties, or from the public domain, and referred to in the preparation of this assessment, were used and referenced. Consequently, EA assumes no responsibility or liability for the accuracy of such documentation or data.

The independent conclusions in this report represent EA's professional judgment based on information and data available to EA during the course of this assignment. Factual information regarding operations, conditions, and test data provided by the user or their representative are assumed to be correct and complete. The conclusions presented are based on the data provided, observations, and conditions that existed on the date of the onsite visit.

2.4 LIMITATIONS AND EXCEPTIONS

EA does not warrant that there are no toxic or hazardous materials or contamination, nor does EA accept any liability if such are found at some future time, or could have been found if sampling or additional studies were conducted. EA does not assume responsibility for other environmental issues that may be associated with this subject property.

In view of the rapidly changing status of environmental laws, regulations, and guidelines, EA cannot be responsible for changes in laws, regulations, or guidelines that occur after the study has been completed and that may affect the subject property.

This report was prepared for LS Power by EA and is based, in part, on third party information not within the control of LS Power or EA. While it is believed that the third party information contained herein will be reliable under the conditions and subject to the limitations set forth herein, neither LS Power nor EA guarantee the accuracy thereof.

2.5 SPECIAL TERMS AND CONDITIONS

There are no special terms or conditions.

2.6 USER RELIANCE

This report is exclusively for the use and benefit of LS Power (as shown on the cover page of this report), its affiliates, and parties providing re-financing relating to the Wallingford Energy Power Plant. This report is not for the use or benefit of, nor may it be relied upon by, any other person or entity without the advance written consent of EA.

3. SITE DESCRIPTION

3.1 LOCATION AND LEGAL DESCRIPTION

The subject property is hereby defined as Map 147, Block 4, Lot 1, located at 115 John Street in Wallingford, New Haven County, Connecticut, as shown on Figure 1 (Appendix A). The 8.2-acre property is occupied by Wallingford Energy and is leased from the Town of Wallingford. The boundaries of the subject property are shown on Figure 2 (Appendix A). The legal description of the property, as presented in the current deed, was obtained from the Town of Wallingford Assessor's Office and is included in Appendix F.

The subject property is an irregularly shaped parcel. The property is bounded by East Street and a Connecticut Municipal Electrical Energy Cooperative (CMEEC) power facility to the east, and residential properties to the west. The property is bounded by an unnamed access road to the north and west, an undeveloped lot beyond the access road to the north and a large Alleghany Ludlum Steel industrial facility beyond the access road to the northwest. The property is bounded by wetlands and the Wallingford Sewage Treatment Facility to the southwest and John Street to the southeast. The Town of Wallingford recycling facility is located beyond John Street. The subject property is accessed from John Street on the south.

3.2 SITE AND VICINITY GENERAL CHARACTERISTICS

The subject property is located in an industrial area of Wallingford, Connecticut. The site is currently zoned industrial by the Town of Wallingford. The site abuts a residential area directly east of the site across East Street.

3.2.1 Topography

The site is located on the U.S. Geological Survey Wallingford Connecticut topographic quadrangle map, and the subject property ranges from approximately 45 to 65 feet (ft) above the National Geodetic Vertical Datum of 1929. Local groundwater is anticipated to flow west toward the Quinnipiac River, which is located approximately 650 feet from the western edge of the site. The Quinnipiac River flows south into New Haven Harbor.

Historic topographic maps were reviewed as part of this investigation. Copies of the reviewed topographic maps are provided in Appendix C.

3.2.2 Geology

The subject property is underlain by New Haven Arkose (Connecticut Geological and Natural History Survey 2000). The New Haven Arkose is a late Triassic to early Jurassic aged unit within the Hartford and Pomperaug Mesozoic basins of the Newark Terrane. The formation is characterized as red, pink, and gray coarse-grained, poorly sorted arkose that is locally conglomeratic. The formation is interbedded with brick-red micaceous siltstone and fine-grained feldspathic clayey sandstone.

3.2.3 Soils

Review of the State of Connecticut Soil Survey, dated 2008, indicates that the subject property is located in an area of Udorthents-Urban land complex (U.S. Department of Agriculture 2008). The slopes range from 0 to 25 percent. The Udorthents-Urban land complex is a well-drained, gravelly loam and typically consists of urban fill.

3.3 CURRENT USE OF THE PROPERTY

The subject property is currently occupied by Wallingford Energy, LLC which operate a simple cycle 250-megawatt natural-gas-fired peaking facility.

3.4 DESCRIPTION OF ONSITE STRUCTURES, ROADS, AND IMPROVEMENTS

The subject property contains the following structures (Figure 2 [Appendix A]):

- ***Control/Administration Building***—The control building is constructed of brick walls on a concrete slab and covers approximately 6,300 square feet (ft^2). The building contains the control room, office space, storage space, and a maintenance shop. There is a paved parking area southeast of the building.

- ***Combustion Turbines***—The combustion turbine area is approximately 350 × 180 ft and houses the plant's five natural gas-fired turbines. Each turbine is mounted within a concrete containment skid, any process water or oil leakage drains to a 4,000-gallon (gal) double-walled underground storage tank (UST) located in the northern portion of the site. When this process water tank becomes full, the contents are hauled offsite and disposed of in accordance with Resource Conservation and Recovery Act (RCRA) hazardous waste regulations.

- ***Gas Compressor Building***—The gas compressor building is a single-story building constructed of brick walls on a concrete slab and covers approximately 6,000 ft^2. The building houses three natural gas compressors that compress the natural gas delivered by Spectra Energy pipeline for use in the turbines.

- ***Transformers***—There are three step-up transformers and seven auxiliary transformers located in the central portion of the site adjacent to the combustion turbine area.

- ***Stormwater Detention Basin***—The stormwater detention basin is located in the southeast corner of the site and collects all site stormwater. Stormwater is directed through an oil/water separator prior to discharge into the stormwater detention basin.

Wallingford Energy personnel indicated that the municipal water and municipal sewer systems operated by the Town of Wallingford Department of Public Utilities service the site. Spectra Energy is their natural gas supplier.

The site has three aboveground storage tanks (ASTs):

- 20,000-gal 19 percent aqueous ammonia
- 500-gal diesel
- 250,000-gal demineralized water.

Additionally, there is one 4,000-gal UST for the storage of drained process water.

A photograph log is provided in Appendix B.

3.5 CURRENT USE OF ADJOINING PROPERTIES

Properties adjoining the subject property are undeveloped, residential, and industrial. The industrial property to the northeast of the site is a Connecticut Municipal Electrical Energy Cooperative natural gas power plant. The southeastern property boundary abuts industrial and residential properties. The industrial property located southeast of the site is the Town of Wallingford Substation, which is tied into the Wallingford Energy facility. The southwestern property boundary abuts undeveloped and industrial properties. The industrial property located southwest of the site is the Wallingford Sewage Treatment Facility. The northwestern property boundary abuts undeveloped wetlands and a small unnamed tributary of the Quinnipiac River with industrial properties beyond the wetlands, including Allegheny Ludlum Corporation.

4. USER PROVIDED INFORMATION

Copies of the ASTM E-1527-05 User Questionnaires submitted to Wallingford Energy, LLC and LS Power for the purpose of requesting the following information are provided in Appendix F. Mr. Nathan Chubet, Facility Manager of Wallingford Energy, and Ms. Kathy French, Assistant Vice President, Environmental of LS Power, completed the User Questionnaires.

4.1 TITLE RECORDS

Copies of the current deed and legal description of the property were provided by the Town of Wallingford for review as part of this investigation. Copies of the deed and property field card are provided in Appendix F.

4.2 ENVIRONMENTAL LIENS OR ACTIVITY AND USE LIMITATIONS

Mr. Chubet and Ms. French each indicated that, to the best of their knowledge, they are not aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state, or local law.

Ms. Chubet and Ms. French each indicated that, to the best of their knowledge, they are not aware of any activity and use limitations, such as engineering controls, land use restrictions, or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state, or local law. Ms. French indicated that an environmental investigation is underway by ARCADIS U.S., Inc. (ARCADIS) that may result in future institutional controls or restrictions; however, the investigation is not part of a violation or any other negative governmental action. The investigation is part of a standard regulatory process in Connecticut.

4.3 SPECIALIZED KNOWLEDGE

Ms. French and Mr. Chubet each indicated that they do have some specialized knowledge or experience related to the property. Mr. Chubet has been Facility Manager at the property for 12 years. Ms. French is an environmental engineer in the same line of business as the site and understands the general nature, type, and quantity of chemicals and oils that are likely stored and used at the property.

4.4 COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION

Mr. Chubet was questioned regarding commonly known or reasonably ascertainable information about the property that would help the Environmental Professional to identify conditions indicative of releases or threatened releases such as past uses of the property, specific chemicals that are present or once were present at the property, spills or other chemical releases that have taken place on the property, or any environmental cleanups that have taken place at the property. Mr. Chubet provided EA with a list of chemicals that are regularly used and/or stored onsite

during a previous Phase I ESA in 2012 (Appendix F). Mr. Chubet indicated during 2012 site reconnaissance activities that there was a recent minor oil release from one of the generators. Mr. Chubet indicated that, on 15 May 2013, no changes in plant operations have occurred within the past year, and no environmental releases have taken place since prior Phase I investigations.

Ms. French indicated that she is not aware of any commonly known or reasonably ascertainable information about the property beyond previous Phase I investigations and other environmental investigations required for the Connecticut Department of Environmental Protection (CTDEP). These documents have been provided by LS Power and are included in this report as part of due diligence.

4.5 VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

Mr. Chubet indicated that he was not aware if the purchase price being paid for the property reasonably reflects fair market value of the property.

Ms. French indicated that the property is leased from the Town of Wallingford, not purchased. This Phase I investigation is for a refinance; and, at the time of purchase of the project, fair market value was paid.

4.6 OWNER, PROPERTY MANAGER, AND OCCUPANT INFORMATION

Information obtained from other parties such as representatives of the owner, property manager, and/or occupants is provided in Sections 6 and 7.

4.7 REASON FOR PERFORMING THE PHASE I ENVIRONMENTAL SITE ASSESSMENT

Ms. French, an environmental engineer with LS Power, informed EA that the Phase I is being conducted for refinancing of the property.

4.8 OTHER

Ms. French provided EA with a copy of a 15 March 2011 Transfer Act Filing submitted to CTDEP. The filing documents all releases known to have occurred on the subject property:

- ***12 March 2008***—500 gal of propylene glycol released in an unknown location due to a closed-loop system leak.
- ***13 August 2002***—15 gal of lubrication oil released to the rock and gravel driveway.
- ***6 March 2002***—3 gal of lubrication oil released on the driveway.
- ***21 May 2001***—1 gal of transformer oil released to the ground surface.

- ***2 May 2001***—50 gal of motor oil released to the ground surface.

- ***23 May 1999***–1 gal of No. 4 fuel oil released in the Pierce Generating Station.

- ***26 January 1990***—310,000 gal of No. 4 fuel oil released from the former 420,000 gal ASTs.

- ***16 August 1988***—1,665 gal of No. 4 fuel oil released in the former pump house.

- ***26 January 1987***—2,000 gal of No. 4 fuel oil released within the former earthen berms.

- ***5 May 1977***—Unreported quantity of No. 4 or No. 6 oil released outside the former pump house.

These releases, particularly the large 310,000-gal release in January 1990, are considered historical RECs for the subject property. Recent subsurface investigations conducted by ARCADIS indicate that site redevelopment activities during construction of the current plant in the early 2000s significantly addressed contamination caused by these historic releases. Additional information from the 2011 and 2013 ARCADIS Subsurface Investigation Reports are presented in Section 5.4.5.

5. RECORDS REVIEW

A radius map report was obtained from Environmental Data Resources, Inc. (EDR) for use in preparation of this report. The EDR report was obtained to fulfill the requirements pertaining to standard environmental record sources as well as supplementary information considered additional environmental records. A copy of the EDR Report is presented in Appendix G. Acronyms and abbreviations utilized in this Phase I ESA Report are provided on the List of Acronyms and Abbreviations and/or directly within the EDR report.

5.1 STANDARD ENVIRONMENTAL RECORD SOURCES AND ADDITIONAL DATABASES

5.1.1 Federal Records and Databases

The following required federal environmental databases were reviewed as part of this investigation:

- National Priorities List (NPL)
- Delisted NPL
- NPL Liens
- CERCLA Information System (CERCLIS) list
- CERCLIS-No Further Remedial Action Planned (NFRAP) list
- RCRA Corrective Action Sites (CORRACTS) list
- RCRA non-CORRACTS transfer, storage, and disposal list
- RCRA generator list
- US INST CONTROLS list
- US ENG CONTROLS list
- Emergency Response Notification System.

The following additional federal environmental databases were obtained from EDR and reviewed as part of this investigation:

- Department of Defense
- Formerly Used Defense Sites
- US BROWNFIELDS
- Superfund (CERCLA) Consent Decrees (CONSENT)
- Record of Decision
- Uranium Mill Tailings Sites
- Open Dump Inventory
- Toxic Release Inventory Database (Toxic Release Inventory System)
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)/TSCA Tracking System (FTTS)
- Section Seven Tracking System
- Polychlorinated Biphenyl (PCB) Activity Database System (PADS)
- Material Licensing Tracking System (MLTS)
- Mines Master Index File (MINES)
- National Pollutant Discharge Elimination System (NPDES)
- Facility Index System (FINDS)
- RCRA Administrative Action Tracking System (RAATS).

5.1.2 State/Tribal Records and Databases

The following required state/tribal databases were reviewed as part of this investigation:

- State Hazardous Waste Sites (SHWS)
- Site Discovery and Assessment Database (SDADB)
- Solid Waste Facilities/Landfills (SWF/LF)
- Oil and Chemical Spill Database (SPILLS)
- UST

- Leaking UST (LUST)
- Enforcement (ENF)
- Voluntary Cleanup Program
- State and Tribal Institutional Control/Engineering Control Registries
- Contaminated or Potentially Contaminated Sites (CPCS)
- Connecticut Leachate and Wastewater Discharge Sites (LWDS).

The following additional state/tribal environmental databases were reviewed as part of this investigation:

- State Recycling Directory (SWRCY)
- Historical Spills
- AST
- DRYCLEANERS
- Permitted Air Sources Listing (AIRS).

Database findings indicate that 27 facilities located within the ASTM recommended search distance of the subject property (including the subject property) are listed in the list-specific database(s). The database findings are listed below:

- *PPL Wallingford Energy, LLC, 115 John Street*, the subject property, is identified in the RCRA Small Quantity Generators, MANIFEST, NPDES, FINDS, AIRS, SPILLS, and ENF databases. The site is registered as a RCRA Small Quantity Generator (U.S. Environmental Protection Agency [EPA] Identification [ID] No. CTR000501205) and, as such, is included in the Facility Listing Database. Ignitable hazardous wastes, corrosive hazardous wastes, cadmium, lead, hexahydrobenzene (cyclohexane), and methylbenzene (toluene) are listed in the EDR report's hazardous waste summary. No violations were identified for the site as a RCRA generator. The site is registered in the MANIFEST database as possessing four containers of waste chemical solids. The Treatment, Storage, and Disposal Facility (TSDF) associated with the Wallingford property is Safety-Kleen located in Cranston, Rhode Island (TSDF ID No. RID084802842). Additionally, the site is listed as containing waste battery alkali fluids and flammable liquids not otherwise specified onsite. No violations have been reported in relation to the storage of these materials on the property.

  Wallingford Energy is included in the SPILLS database due to three separate incidents. The National Response Center received an incident call on 6 March 2002 when approximately 3 gal of lubrication oil were sprayed from the turbines and released onto the ground surface; the spill status is listed as closed. On 13 August 2002, the National Response Center received a second incident call due to a release of approximately 15 gal of lubrication oil onto the rock and gravel driveway. Soil was removed and the status is listed as closed. The third incident, reported on 12 March 2008, involved the release of approximately 500 gal of propylene glycol onto the ground surface; the spills status is listed as closed.

Wallingford Energy, LLC has a NPDES permit (Permit No. GWT000309) and a separate State Air Emissions Permit (State Permit Nos. 194, 195, 196, 197, 198, and 199) for each of the five turbines and the boiler, and is included in the Permitted Air Facility Listing database. The facility received a Notice of Violation relating to air emissions on 30 July 2010; further information on this Notice of Violation is provided in Section 5.2.1.

- *Town of Wallingford Recycling Facility, 157 John Street*, is identified in the SWF/LF and MANIFEST databases. This facility is located adjacent to the subject property to the south at a higher elevation. No violations have been reported. This facility is not anticipated to have adversely impacted the environmental integrity due to the absence of documented releases and the facility's cross-gradient location.

- *Wallingford Sewage Treatment Facility, 155 John Street*, is identified in the SPILLS, MANIFEST, UST, and LUST databases. The facility is located adjacent to the subject property to the south-southwest of subject property at a higher elevation. A spill of approximately 100 gal of diesel fuel was reported on 16 July 1998. A fill pipe was cracked by a contractor and an unknown quantity was spilled. The leaking pipe/tank and contaminated soils were removed and the EDR reports the LUST status as complete. A spill of approximately 20 gal of antifreeze was reported on 29 September 1999, and was contained and removed. This facility has two 2,000-gal gasoline USTs and two 2,000-gal diesel USTs that were installed in 1987 and are currently in use. The USTs have cathodic protection, containment sumps, and spill buckets. This facility is not anticipated to have adversely impacted the environmental integrity due to its closed regulatory status and cross-gradient location.

- *ThermoSpas Inc., 155 East Street*, is identified in the MANIFEST, ENF, RCRA Large Quantity Generator (EPA ID No. CTR000504001) and SPILLS databases. The facility is located approximately 0.006 miles northeast of the subject property at a higher elevation. Ignitable hazardous wastes and non-halogenated solvents, including acetone and xylene, are listed in the EDR report's hazardous waste summary. No violations were identified for the site as a RCRA generator. On 17 May 2008, a spill of an unknown quantity of CADOX L-50 A VR and CORVE 8117 C was reported; the spill was suppressed by the local fire department. On 7 August 2001, an unknown quantity of calcium sulfate was spilled and was contained within the building. The facility received a Notice of Violation in October 2011 from the Connecticut Department of Energy and Environmental Protection (CTDEEP) Bureau of Air Management; the violation was for non-payment of 2009 and 2010 emissions fees. This facility is not anticipated to have adversely impacted the environmental integrity due to the minor nature of releases and cross-gradient location.

- *Connecticut Municipal Electrical Energy Cooperative Alfred L. Pierce Generating Station, 195 East Avenue*, is identified in the MANIFEST and RCRA Small Quantity Generators databases. The facility is located adjacent to the subject property to the east/southeast at a higher elevation. Chromium and lead are listed in the EDR report's hazardous waste summary. No violations were identified for the site as a RCRA

generator. Due to the absence of documented releases, the current facility is not anticipated to have adversely impacted the environmental integrity of the subject property.

- *Wallingford Former Coal Ash Lagoons* is identified in the Connecticut LWDS database (Leachate and Wastewater No. 5200076). This facility is located approximately 0.020 miles southeast of the subject property at a higher elevation. The status of the discharge is listed as inactive. No additional information on the nature of contamination at this property was available in the EDR report or during the CTDEEP file review. This property may have adversely impacted the environmental integrity of the subject property and is considered a REC.

- *180 Clifton Street* is identified on the LUST, SPILLS, and CPCS databases. This residential property is located approximately 0.064 miles east of the subject property at a higher elevation. On 7 May 1999, a release of approximately 3 gal of No. 2 heating oil was reported due to a line leak in the property's basement. The SPILLS incident report states that the line was repaired, and the LUST status is listed as complete. This property is not anticipated to have adversely impacted the environmental integrity of the subject property due to the minor nature of the release and its current regulatory status.

- *Ideal Cleaning, 128 East Street,* is identified on the US Hist Cleaners database. This commercial property is located approximately 0.079 miles northeast of the subject property at a higher elevation. This property is not anticipated to have adversely impacted the environmental integrity of the subject property due to the lack of violations or spills being reported at the site.

- *Connecticut Refining Company, 99 East Street,* is identified on the UST database. This commercial property is located approximately 0.091 miles northeast of the subject property at a higher elevation. A 2,000-gal gasoline tank, 1,000-gal gasoline tank, and 1,000-gal diesel fuel tank were all removed from the ground, and the status of the USTs is listed as permanently closed. This property is not anticipated to have adversely impacted the environmental integrity of the subject property due to the lack of violations or spills being reported at the site.

- *Wallingford Electric Division, 100 John Street*, is identified in the MANIFEST, UST, SPILLS, NPDES, RCRA-Non Gen, FTTS, HIST FTTS, PADS, and CPCS databases. This facility is located approximately 0.121 miles southeast of the subject property at a higher elevation. On 24 May 2002, a release of approximately 0.5 gal of non-PCB transformer oil onto the ground surface was reported. The SPILLS summary states that spill was contained and cleaned. On 1 March 2005, a release of 5 gal of diesel onto the ground surface was reported; the spill was contained and cleaned. A LUST on the property is also reported in the CPCS database; the database reports that removal of the tank has been initiated. This property is not anticipated to have adversely impacted the environmental integrity of the subject property due to its current regulatory status and cross-gradient location.

- *Coastal Tank Lines, 419 South Cherry Street,* is listed in the CERCLIS, RCRA-NonGen, FINDS, LWDS, SHWS, SDADB, and CPCS databases. The facility is located approximately 0.168 miles south of the subject property at a higher elevation. A waste lagoon at the facility contaminated with chlorinated volatile organic compounds (VOCs), semivolatile organic compounds, and metals has been partially remediated with contaminated soils removed. This facility was historically listed on the EPA's Superfund Inventory; however, as of 30 March 2010, this facility is listed as a low priority for future assessment. Additional information on this site is included in Section 5.2. This property may have adversely impacted the environmental integrity of the subject property and is considered a REC.

- *Alleghany Ludlum Steel* is listed in the LWDS database. This facility is located approximately 0.204 miles west-northwest of the subject property at a lower elevation. Active leachate and waste flow to the ground surface is reported; however, the nature of the leachate is unreported. This facility is not anticipated to have adversely impacted the environmental integrity of the subject property due to its cross-gradient location.

- *Uniset, Inc., 9 Carlton Street,* is listed in the SDADB database. This facility is located approximately 0.213 miles east of the subject property at a higher elevation. Disposal of chlorinated VOCs into drywells or septic systems is reported in the EDR summary. Remediation is reported to be complete and approved by the CTDEP as of 1 September 1994. This facility is not anticipated to have adversely impacted the environmental integrity of the subject property due to its closed regulatory status and distance from the subject property.

- *Ulbrich Stainless Steels, 1 Dudley Avenue*, is listed in the SPILLS, NPDES, UST, RCRA-LQG, MLTS, FINDS, and MANIFEST databases. This facility is located approximately 0.235 miles east-southeast of the subject property at a higher elevation. A release of carbon monoxide was reported to Connecticut Occupational Safety and Health Administration on 17 August 2005. Ignitable hazardous wastes, spent halogenated solvents, and dichloromethane are listed in the EDR report's hazardous waste summary. Three violations were identified for the site as a RCRA generator in 1984, 1985, and 1987. The nature of the violations is not included in the EDR report; however, the facility achieved regulatory compliance in May 2002. This facility is not anticipated to have adversely impacted the environmental integrity of the subject property due to the minor and temporary nature of the release and cross-gradient location.

- *McKeon – Landow Fuel Inc., 3 George Street*, is listed in the SDADB and CPCS databases. This facility is located approximately 0.250 miles east-northeast of the subject property at a higher elevation. The nature of the contamination is not reported in the EDR report; however, the summary does indicate that remediation was completed and approved in 1986. This facility is not anticipated to have adversely impacted the environmental integrity of the subject property due to its regulatory status and distance from the subject property.

- *Total Performance, Inc., 406 South Orchard Street*, is listed in the SDADB database. This facility is located approximately 0.297 miles east-southeast of the subject property at a higher elevation. The nature of the contamination is not reported in the EDR report; however, the summary does indicate that remediation was completed and approved in 1989. This facility is not anticipated to have adversely impacted the environmental integrity of the subject property due to its regulatory status and distance from the subject property.

- *Wallingford Dodge, 400 South Orchard Street,* is listed in the SDADB database. This facility is located approximately 0.297 miles east-southeast of the subject property at a higher elevation. The nature of the contamination is not reported in the EDR report; however, the summary does indicate that remediation was completed and approved in 1988. This facility is not anticipated to have adversely impacted the environmental integrity of the subject property due to its regulatory status and distance from the subject property.

- *528 South Cherry Street* is listed in the LUST and SPILLS databases. This facility is located approximately 0.302 miles south of the subject property at a higher elevation. A release of 300 gal of ethylene glycol was reported on 21 November 2010; the facility status is listed as closed. A LUST was reported at the facility on 29 August 1989; the LUST status is listed as complete. This facility is not anticipated to have adversely impacted the environmental integrity of the subject property due to its regulatory status, distance from the subject property, and cross-gradient elevation.

- *Ogden Projects, 530 South Cherry Street*, is listed in the LUST and SPILLS databases. This facility is located approximately 0.325 miles south of the subject property at a higher elevation. A diesel LUST was reported at the facility on 27 February 1996; this LUST status indicates that cleanup has been initiated. This facility is not anticipated to have adversely impacted the environmental integrity of the subject property due to its distance from the subject property, cross-gradient location, and because remedial activities have been initiated.

- *Mobil Service Station, 250 South Colony Road,* is listed in the LUST database. This facility is located approximately 0.352 miles east-northeast of the subject property at a higher elevation. The report mentions the removal of a 4,000-6,000 gal gasoline UST and 200 cubic yards of contaminated soil; the site status is unknown. This facility is not anticipated to have adversely impacted the environmental integrity of the subject property due to its distance from the subject property and because remedial activities have been initiated.

- *Nutmeg Farms, 75 South Turnpike Road,* is listed on the LUST and CPCS databases. This facility is located approximately 0.364 miles west-northwest of the subject property at a lower elevation. A release of gasoline was reported on 25 April 2001; cleanup has been initiated. This facility is not anticipated to have adversely impacted the

environmental integrity of the subject property due to its distance from the subject property and downgradient location.

- *Connecticut Resources Recovery Authority Wallingford Town Landfill, 25 Pent Road,* is listed in the RCRA Treatment, Storage, or Disposal; CERCALIS-NFRAP; CORRACTS; RCRA-NonGen; SHWS; SDADB; and SPILLS databases. This facility is located approximately 0.386 miles south-southwest of the subject property at a higher elevation. Wastewater treatment sludges from electroplating operations are listed in the EDR report's hazardous waste summary. Several violations were identified for the facility as RCRA handler relating to groundwater monitoring. The facility is listed in the CORRACTS database (EPA ID: CTD991288960) and migration of contaminated groundwater is reported to be under control as of 30 September 2002. A release of approximately 10 gal of diesel fuel on the ground surface and into surface water was reported on 19 November 1997. The spill was sanded and pumped out of the surface water and the EDR reports the spill incident status is closed. This facility is not anticipated to have adversely impacted the environmental integrity of the subject property due to its regulatory status, distance from the subject property, and down gradient location.

- *BYK Chemic, 247 Dudley Avenue*, is listed on the CPCS, LUST, and SPILLS databases. The facility is located approximately 0.406 miles south-southeast of the subject property at a higher elevation. A release of No. 2 fuel oil was reported on 20 July 1993. The tank was removed along with contaminated soil. This facility is not anticipated to have adversely impacted the environmental integrity of the subject property due to its distance from the subject property and cross-gradient location.

- *Cir-Tek, Inc., 1 Grand Street*, is listed in the SDADB and AIRS databases. This facility is located approximately 0.435 miles northeast of the subject property at a higher elevation. Dumping of non-chlorinated VOCs is reported in the EDR summary; remediation was completed and approved in 1999. This facility is not anticipated to have adversely impacted the environmental integrity of the subject property due to its regulatory status, distance from the subject property, and cross-gradient location.

- *95 Parsons Street* is listed in the LUST, SPILLS, and CPCS databases. This facility is located approximately 0.454 miles east-southeast of the subject property at a higher elevation. A release of No. 2 fuel oil from an UST was reported on 18 December 1998, the tank and contaminated soil were removed. This facility is not anticipated to have adversely impacted the environmental integrity of the subject property due to its distance from the subject property and closed regulatory status.

- *Food Bag, 259 Quinnipiac Street*, is listed in the LUST database. This facility is located approximately 0.491 miles north-northeast of the subject property at a higher elevation. A release of motor fuel was reported on 21 March 1989; the status is currently listed as complete. This facility is not anticipated to have adversely impacted the environmental

integrity of the subject property due to its distance from the subject property and closed regulatory status.

- *Cytec Coatings and Performance Chemicals, South Cherry Street,* is listed in the RCRA-TSDF, CORRACTS (EPA ID: CTD001173467), RCRA Large Quantity Generators, SHWS, and SDADB databases. This facility is located approximately 0.834 miles south-southwest of the subject property at a higher elevation. The facility disposed of industrial solvents in an onsite lagoon. Criminal and civil enforcements were taken against the owners and the site was remediated under the Superfund program. The EDR report indicates that remediation was completed and approved by the CTDEP as of 6 July 1987. This facility is not anticipated to have adversely impacted the environmental integrity of the subject property due to its closed regulatory status, distance from the subject property, and cross-gradient location.

- *Wallingford Gas Light Co., Silk and Washington Streets*, is listed in EDR's manufactured gas plants database. This facility is located approximately 0.909 miles north-northeast of the subject property at a higher elevation. No further information was provided in the EDR report. This facility is not anticipated to have adversely impacted the environmental integrity of the subject property due to its distance from the subject property.

- *Northeast Utilities, Washington Street,* is listed in the CERCLIS (EPA ID: CTD981214422), FINDS, SHWS, SDADB, and CPCS databases. This facility is located approximately 0.912 miles north-northeast of the subject property at a higher elevation. Coal tar lagoons are reported at the property; disposal of coal tar ceased in 1945. The facility is not included on the NPL and, as of August 2001, is listed as a low priority for further assessment. This facility is not anticipated to have adversely impacted the environmental integrity of the subject property due to regulatory status and distance from the subject property.

5.2 ADDITIONAL ENVIRONMENTAL RECORD SOURCES

5.2.1 State Regulatory Environmental Records

EA conducted a file review at the CTDEEP (known as CTDEP prior to July 2011) for information regarding petroleum storage and releases of hazardous materials and/or petroleum products or other environmental issues at the subject property. Wallingford Energy, LLC, was reviewed as well as Coastal Tank Lines, a nearby facility that is listed in the CERCLIS and SHWS databases. EA also reviewed the CTDEEP SPILLS database but found it did not contain any additional information on documented releases beyond what was provided in the EDR report.

Wallingford Energy, LLC

- A 30 July 2010 CTDEP Notice of Violation indicates that excess nitrogen oxide and ammonia emissions exceed the Title V and new source review permit limits for the GE LM6000 Combustion Turbine Units 1, 3, and 5.

- A 28 August 2009 CTDEP Notice of Violation No. 16401 was issued for failure to comply with new source review permits and Title V Permit No. 189-0021-TV.

- A 4 January 2011 CTDEP Consent Order No. 2209 required Wallingford Energy to pay a $23,400 penalty for violations of its Title V Air Emissions Permit (Permit No. 189-0021-TV). Nitrogen oxide and ammonia emissions in excess of permitted limits were reported for the monitoring periods between 1 January 2008 and 30 June 2009 and between 9 July 2009 and 10 June 2010.

- A 28 January 2011 Bureau of Air Management Order Closure indicates that the Department received a $23,400 check for Wallingford Energy's violation of its Title V Air Emissions Permit (Permit No. 189-0021-TV). Air Administrative staff recommended that Consent Order No. 2209 be closed in compliance.

- A 1 February 2011 CTDEP Certificate of Compliance indicates that Wallingford Energy is in compliance with the CTDEP Consent Order No. 2209.

Coastal Tank Lines

- The facility is located approximately 0.168 miles south of the subject property at a higher elevation.

- A 17 November 1995 Site Inspection Prioritization Sampling Trip Report indicates that three 54- by 54-ft lagoons on the property received untreated wastewater from tank truck washing operations onsite. These lagoons were excavated in 1983; however, additional lagoons containing the same types of waste are reported to have been buried on the property in unknown locations prior to 1969. The report outlines soil, sediment, and groundwater samples that were taken but does not provide analytical results.

- A 19 May 2008 Letter from CTDEP to Coastal Tank Lines indicates that the site is listed on the EPA's Superfund inventory and will require further investigation of the site unless the owner commits to the Connecticut voluntary remediation program within 30 days. No response to this letter from the property owners was on file at the CTDEEP.

Coastal Tank Lines may have adversely impacted the environmental integrity of the subject property due to its upgradient and proximal location relative to the subject property.

5.2.2 Wallingford Fire Department Records

EA contacted the Wallingford Fire Department for information regarding the storage and use of hazardous materials at the subject property. The Fire Prevention Bureau indicated that the subject property utilizes a UST and provided Ms. Meghan Travers with files pertaining to the site on 15 May 2013. Ms. Travers reviewed the various inspections that have been conducted on the subject property's sprinkler system and emergency evacuation plan and found no indication of environmental issues or emergency response records.

5.2.3 Town of Wallingford Building Department Records

EA contacted the Town of Wallingford Building Department for information regarding the storage and use of hazardous materials at the subject property. The Building Department indicated that no records related to the property were on file.

5.2.4 Town of Wallingford Wetlands Commission Records

EA contacted the Town of Wallingford Building Department for information regarding the storage and use of hazardous materials at the subject property. The Wetlands Commission provided files for review on 15 May 2013. Approved permits for construction of the power plant were included in the files, as well as one violation during construction activities on 16 August 2000. A contractor mistakenly conducted site work activities within a 50-ft wetland buffer zone, and did not correctly install silt fencing. The violation was immediately addressed and is not considered a REC for the property. Pertinent files reviewed at the Wetlands Commission are included in Appendix F.

5.2.5 Town of Wallingford Zoning/Land Use Records

The subject property and majority of its vicinity are located in industrial zone I-40. There is a residential zone (R-6) abutting the site to the east across East Street (Town of Waterford Planning and Zoning Commission 2006).

5.2.6 Property Tax Files

The subject property is located on Map 147, Block 4, Lot 1. The Wallingford Tax Assessor's Office lists the property as 197 East Street, but also known as 115 John Street. The property is leased by Wallingford Energy from the Town of Wallingford. Wallingford Energy owns the site improvements.

5.2.7 Recorded Land Title Records

The legal description of the property, as presented in the current deed, was obtained from the Town of Wallingford Assessor's Office and is included in Appendix F. The 15 March 2011 Transfer Act Filing indicates that PPL Generation, LLC transferred the property to Harbor Gen Holdings, LLC, care of LS Power, on 9 March 2011.

5.2.8 Other Records

No other records for the subject property were reviewed.

5.3 PHYSICAL SETTING SOURCES

Information on physical setting sources, including topographic maps, was reviewed as part of this investigation. This information was included in Section 3.2.

5.4 HISTORICAL USE INFORMATION ON THE PROPERTY AND ADJOINING PROPERTIES

5.4.1 Historical Topographic Maps

Topographic maps from 1892, 1947, 1954, 1967, 1972, and 1984 were reviewed as part of this investigation. The following table summarizes the information from these maps. Copies of the reviewed topographic maps are presented in Appendix C.

HISTORIC TOPOGRAPHIC MAP REVIEW SUMMARY

Date	Quadrangle	Subject Property	Adjacent Properties
1892	New Haven 15-minute	The subject property has not been developed at this time.	The adjacent properties are largely undeveloped. The New York, New Haven, and Hartford railroad line is shown to the east of the subject property. Central Wallingford has dense development.
1947	Wallingford 7.5-minute	The subject property has not been developed at this time.	Wallingford has expanded significantly; the area east of the subject property across East Street is now developed. A large industrial development is visible northwest of the subject property. Wallingford Airport is also shown to the north-northwest of the subject property. The areas to the south and west of the subject property remain undeveloped.
1954	Wallingford 7.5-minute	Two large buildings are shown at the subject property, presumably the power plant. Two circular structures are also shown on the western portion of the site, likely the oil storage tanks identified on the 1965 Sanborn map (Section 5.4.3)	The filtration plant is shown at its current location southwest of the subject property.
1967	Wallingford 7.5-minute	The subject property appears similar to the 1954 map.	The densely developed areas of Wallingford have expanded considerably to the south and east. The industrial facility to the northwest of the subject property has expanded slightly. There is increased industrial development on South Cherry Street to the south. There is increased development on the western side of the Quinnipiac River.
1972	Wallingford 7.5-minute	The subject property appears similar to the 1967 map.	A substation is shown directly adjacent to the subject property to the southwest. Additional industrial buildings appear northwest of the subject property.
1984	Wallingford 7.5 minute	The subject property appears similar to the 1972 map.	There is increased development to the south of the subject property near South Cherry Street and to the west across the Quinnipiac River.

5.4.2 Aerial Photographs

Aerial photographs from 1934, 1940, 1951, 1963, 1966, 1975, 1980, 1986, 1990, 1991, 2005, 2006, 2008, 2010, and 2012 were reviewed as part of this investigation. Aerial photograph review indicates the site was developed in the 1950s.

Observations made from the reviewed aerial photographs are presented in the following table. Copies of the aerial photographs are presented in Appendix C.

AERIAL PHOTOGRAPH REVIEW SUMMARY

Year	Source	Observations
1934	EDR	The subject property is undeveloped. The surrounding area to the north, northeast, and east is developed with primarily residential neighborhoods.
1940	EDR	Conditions on this aerial photograph appear similar to those observed on the 1934 photograph.
1951	EDR	The subject property appears to be in the process of development with several buildings and cleared areas visible in the aerial.
1963	EDR	The subject property has been developed into a power plant. Two large buildings are visible on the north central portion of the site, which likely correspond to the generator room and cooling tower identified on the 1963 Sanborn map. Two circular tanks are visible on the eastern portion of the site. A large, irregularly shaped dark area is visible on the northwestern corner of the property.
1966	EDR	The subject property appears similar to the 1963 aerial.
1975	EDR	The subject property appears similar to the 1966 aerial.
1980	EDR	The subject property appears similar to the 1975 aerial.
1986	EDR	The subject property appears similar to the 1980 aerial. Note that the aerial is of poor quality.
1990	EDR	The subject property appears similar to the 1986 aerial.
1991	EDR	The subject property appears similar to the 1990 aerial.
2005	EDR	The subject property appears similar to present day.
2006	EDR	The subject property appears similar to present day.
2008	EDR	The subject property appears similar to present day.
2010	EDR	The subject property appears similar to present day.
2012	EDR	The subject property appears similar to present day.

5.4.3 Fire Insurance Maps

Sanborn fire insurance maps from 1919, 1925, 1948, and 1965 were reviewed as part of this investigation. Copies of the reviewed Sanborn Fire Insurance Maps are provided in Appendix C.

SANBORN FIRE INSURANCE MAP REVIEW

Year	Source	Observations
1919	EDR	The subject property is undeveloped. A number of two-story residential properties are shown east of the subject property across East Street.
1925	EDR	The subject property is undeveloped. The adjacent properties appear similar to the 1919 map with the addition of several new residential properties.
1948	EDR	The subject property is undeveloped. The adjacent properties appear similar to the 1925 map with the addition of two hangars labeled Wallingford Air Transport to the southeast of the subject property on East Street.
1965	EDR	The subject property is shown as the Town Electric Works with generators, a cooling tower, two oil tanks, and a coal conveyor depicted. The adjacent properties appear similar to the 1948 map except that the two aircraft hangars to the southeast of the subject property are now shown as general storage buildings.

5.4.4 Local Street Directories

Price and Lee's City directories from 1963, 1970, and 1977 were provided by EDR, as well as Johnson's City Directory for 1990. The City directory review has been summarized in the City Directory table presented below.

CITY DIRECTORY REVIEW SUMMARY

Year	Source	Address	Occupant
1963	Price & Lee's City Directory	41 John Street	Memorial Stadium
		46 John Street	Libero Pensiero Society
		99 John Street	Public Works Department Park Division Work Shop
		102 John Street	Off Sewage Treatment Plant
1970	Price & Lee's City Directory	41 John Street	Memorial Stadium
		46 John Street	Libero Pensiero Society
		99 John Street	Public Works Department Water Division
		100 John Street	Department of Public Utilities Electric Division
		102 John Street	Off Sewage Treatment Plant
1977	Price & Lee's City Directory	41 John Street	West Side Field
		46 John Street	Libero Pensiero Society
		100 John Street	Dept of Public Utilities Electric Division
		102 John Street	Off Sewage Treatment Plant
1990	Johnson's City Directory	46 John Street	Colonial Park/Colonial Park Caterers
		47 John Street	No Information
		100 John Street	Electric Division of Public Utilities
		100 John Street	Wallingford, Town of Electric Division

5.4.5 Prior Environmental Reports

2013 Addendum to Subsurface Investigation Report

ARCADIS prepared an Addendum to the Subsurface Investigation Report on PPL Wallingford Energy, LLC in February 2013. The subsurface investigation was undertaken to identify potential ammonia impacts to the soil and groundwater in the vicinity of the 20,000-gal ammonia AST. The investigation was initiated when ammonia was detected in shallow soil samples and

groundwater during the November 2011 Subsurface Investigation. Additionally, sediment samples within the stormwater retention area were collected and analyzed for extractable total petroleum hydrocarbons (ETPHs) and polycyclic aromatic hydrocarbons (PAHs). The report concluded that the constituents of concern detections encountered during the investigation in soil, groundwater, and sediment were below applicable industrial/commercial direct exposure criteria. ARCADIS further concluded that ammonia detections in the groundwater and soil appear to be associated with releases that occurred prior to Wallingford Energy's occupancy of the site and that most of the historical contamination was addressed by site redevelopment activities. Detections of ETPHs and PAHs in the sediment beneath the stormwater detention pond do not appear to be associated with a spill from the oil/water separator; instead, the presence of these constituents of concerns appears to be associated with general fill present at the site and/or asphalt deposition in the basin, not a release from Wallingford Energy operations.

2012 Phase I Environmental Site Assessment, Wallingford Energy, LLC (EA Engineering, Science, and Technology, Inc.)

EA prepared a Phase I ESA on PPL Wallingford Energy, LLC Property for LS Power in April 2012. The assessment identified two RECs at the subject property. Previous spills on the subject property that have residual constituents above regulatory criteria are considered a REC for the Wallingford Energy facility. These constituents, as identified in the 2011 ARCADIS Subsurface Investigation Report, include ETPH, metals, and PAHs. Although this contamination is likely due to releases prior to Wallingford Energy taking possession of the property, their presence at concentrations exceeding Remediation Standard Regulations (RSR) criteria could require further investigation and/or remediation before property transfer and are, therefore, considered a REC. The Wallingford Former Coal Ash Lagoons located adjacent to the subject property to the east are also considered a REC for the Wallingford Energy facility. The coal ash lagoons may be associated with the coal-fired power plant that formerly occupied the subject property. It is possible that the lagoons contributed to contamination of soil and groundwater at the subject property and are, therefore, considered a REC based on their proximity to the subject property and upgradient location.

2011 Phase I Environmental Site Assessment

Stantec Consulting prepared a Phase I ESA on PPL Wallingford Energy, LLC Property for LS Power in March 2011. The assessment identified one REC: the presence of numerous monitoring wells on the property and a lack of information as to the purpose of the wells. The assessment postulates that the monitoring wells may be related to the release of 300,000 gal of No. 4 oil in January 1990. The assessment identified no other RECs or historic RECs, but did identify three *de minimus* conditions: the absence of a warning system and containment structure for the oil/water separator, two Notices of Violation related to the plants Title V Air Emissions permit, and a LUST at the neighboring Wallingford Sewage Treatment Plant.

2011 Subsurface Investigation Report

ARCADIS prepared a Subsurface Investigation Report on PPL Wallingford Energy, LLC in February 2011. The subsurface investigation was undertaken to identify potential soil and

groundwater impacts from releases that occurred both prior to and subsequent to Wallingford Energy's occupancy of the property. An excerpt from this report is included as Appendix D. The consultant identified the following constituents of concerns for the investigation: ETPHs, VOCs, RCRA 8 metals plus copper, semivolatile organic compounds, PAHs, and PCBs. ETPH was detected in 30 of 36 soil samples. Two samples (ETPH concentrations of 539 and 597 milligrams per kilogram) exceeded the State of Connecticut RSR Residential Direct Exposure Criteria of 500 milligrams per kilogram. However, these 2 samples did not exceed the Industrial/Commercial Direct Exposure Criteria for ETPH of 2,500 milligrams per kilogram. PAHs were detected in 14 of 37 soil samples. PAHs exceeded Residential Direct Exposure Criteria in 1 sample. Metals were detected in all soil samples. Two samples exceeded the Residential Direct Exposure Criteria for arsenic. VOCs were detected in 3 samples. None of the VOC impacts were detected at concentrations above RSR criteria. PCBs were detected at 137 micrograms per kilogram in 1 soil sample, but at a level below the Residential Direct Exposure Criteria DEC of 1,000 micrograms per kilogram. No VOCs, PAHs, PCBs, or metals were detected in groundwater. ETPH was detected in 1 groundwater sample at 0.8 milligrams per liter (mg/L). In addition, 0.72 inches of LNAPL was measured in one monitoring well on the northern portion of the site. The report indicates that LNAPL was identified at the site prior to Wallingford Energy's occupancy of the site. The presence of LNAPL in a groundwater well is considered a REC for the site. The report concluded that the constituents of concern detections encountered during the investigation appear to be associated with releases that occurred prior to Wallingford Energy's occupancy of the site and that most of the historical contamination was addressed by site redevelopment activities.

2011 Summary of Groundwater Sampling Results

ARCADIS prepared an addendum to the 2011 Subsurface Investigation Report that presents analytical results of several groundwater samples collected after the Subsurface Investigation Report was submitted. Three groundwater samples were analyzed for VOCs, ETPH, PAHs, PCBs, and RCRA 8 metals. ETPH was detected in 2 samples at 4.76 and 0.975 mg/L, there were no RSR criteria for ETPH. Several petroleum-related VOCs were detected in 2 samples at concentrations below the RSR criteria. No PAHs or PCBs were detected in the groundwater samples. Barium was detected in 2 samples at 0.0865 and 0.0748 mg/L; there were no RSR criteria established for barium in groundwater. The only exceedance found during this sampling event was arsenic, which was detected at 0.0068 mg/L, in excess of the surface water protection criteria of 0.004 mg/L. As mentioned in the ARCADIS Subsurface Investigation Report, 0.72 inches of LNAPL was measured in one of the monitoring wells on the northern portion of the site.

5.4.6 Other Historical Sources

2000 Land Use and Environmental Information Report

TRC Environmental Corporation prepared a Land Use and Environmental Information Report in March 2000 prior to the construction of the current Wallingford Energy facility. The report describes the proposed Wallingford Energy Project and potential environmental impacts of the development. The report identified the following potential environmental impacts: noise, visual

impacts, air quality, and water quality. Visual and auditory impacts are to be minimized by the construction of berms and barrier walls. The report notes that the new facility will actually improve air quality because it is fueled by natural gas, which burns cleaner than the oil and coal used at the old plant. Water quality impacts are proposed to be mitigated by the construction of a stormwater detention pond.

6. SITE RECONNAISSANCE

6.1 METHODOLOGY AND LIMITING CONDITIONS

The site reconnaissance was conducted on 15 May 2013 by Ms. Meghan Travers. EA was provided access to all areas of the site by Mr. Nathan Chubet of Wallingford Energy. Mr. Chubet indicated that no changes to operations at the plant have taken place since EA's prior investigation in April of 2012. Furthermore, he is unaware of any recent environmental spills or releases within the past year, only those that were reported during prior investigations in 2012.

6.2 GENERAL SITE SETTING

The subject property is located in an industrial area to the west of central Wallingford. The area contains both industrial and residential properties. Regional groundwater flow is presumed to be towards the Quinnipiac River, which is located approximately 650 ft from the site's western border and flows south.

6.3 INTERIOR OBSERVATIONS

The following information documents the interior observations of the property's structures conducted on 15 May 2013:

- EA observed the control building to be the primary building used by Wallingford Energy. The control building had a control room where the power plant equipment was monitored and controlled. EA observed office space, restrooms, a kitchen/break room, and storage space within the building. Floor drains were observed in the restrooms, and EA was told that they connect to the municipal sewer. EA observed the southern portion of the building to be used as a warehouse and shop. There were several pieces of machinery, stored supplies such as hoses and wires, and a hazardous material locker for items such as paints and cleaners. The western portion of the building housed electrical equipment used for control of the combustion turbines and generators. A small room in the northern corner of the building housed nickel-cadmium batteries; the battery room was equipped with a bermed entrance for spill containment. All portions of the control building appeared in good condition and very well organized.

- EA observed the equipment storage shed to be utilized for the storage of various parts and equipment for grounds maintenance. The shed was observed with lawnmowers, hoses, and other loose parts/equipment. There was also a flammable materials cabinet for storage of lubricants and other materials required for equipment maintenance. No signs of staining or releases were observed.

- The gas compressor building was observed to be a single-story building constructed of brick walls on a concrete slab which covered approximately 6,000 ft^2. The building housed three natural gas compressors each of which contains approximately 87 gal of

lube oil according to site personnel. The compressors function to compress the natural gas delivered by pipeline for use in the turbines. Each compressor had concrete curbing for spill containment. EA observed that the gas compressor building had a concrete sump adjacent to the compressors that had approximately 1,000 gal capacity and did not discharge. A number of 55-gal drums were observed in the gas compressor building. Mr. Chubet indicated that the drums contain lube oil, hydraulic fluids, and used oil to be disposed of. The drums were stored on containment pallets or containers. EA observed an anti-icing boiler that was located in a separate room within the gas compressor building to provide warm air during the winter to prevent freezing of the turbine and generator equipment. Minor staining was observed on the floor; however, all storage practices appeared appropriate.

- There were several sheds and enclosures for tanks or portions of the plant within the combustion turbine/generator area. All enclosures had concrete secondary spill containment. There was a locked valve that drains the secondary containment. Site personnel indicated liquid that collects in the secondary containment is sampled prior to being released. The collected water would drain to the 4,000-gal process water tank if it is determined to have a pH outside of acceptable limits. Mr. Chubet indicated that the process water tank is emptied by a certified hazardous waste transporter for offsite disposal. No signs of leaks or releases were observed on the floor of the enclosures; any releases would be self-contained within the enclosure.

- A small compartment adjacent to the power block housed the continuous emissions monitors. The compartment houses a nitrogen oxide and oxygen analyzer that relay data to the control room.

6.4 EXTERIOR OBSERVATIONS

The exterior of the site was observed on 15 May 2013 at approximately 0830 hours. Mr. Nathan Chubet, Wallingford Energy Facility Manager, accompanied EA during the exterior reconnaissance of the facilities. Weather conditions at the time of the assessment were sunny, with temperatures in the mid-60s (degrees Fahrenheit).

EA noted several general observations of the site. The surface of the site was primarily covered with crushed stone. There was a paved access road that led from the John Street entrance through a gated entrance to the parking area outside the control building. Another unpaved access road circled the turbine area on the western side and led to the ThermoSpas access road, which forms the northeastern border of the property. There were concrete containment areas under most of the power block and exterior equipment. The following information documents the exterior observations:

- There was a paved parking area southeast of the control building and bay doors used for receiving.

- The combustion turbine/generator area was approximately 350 × 180 ft and houses the plants five natural gas fired turbines. My. Chubet indicated that each combustion turbine contains approximately 150 gal of lube oil and each generator contains approximately 500 gal of lube oil. Each turbine and associated equipment was mounted within concrete containment curbing sufficient to hold the entire volume of lube oil for each unit. Mr. Chubet indicated that these containment structures drain to a 4,000-gal double walled UST on the northeastern portion of the property that is periodically emptied by Veolia Environmental Services. The turbine area was enclosed on three sides by a concrete sound barrier wall which extends 18 ft below grade in order to minimize the visual and auditory impact of the plant. No signs of significant releases were observed in the containment area or in any other portions of the combustion turbine/generator area. Good housekeeping measures were apparent.

- The 4,000-gal process water UST located on the northeastern portion of the site was located beneath a concrete pad.

- Mr. Chubet indicated that a generator located on the western side of the gas compressor building provides "black start" capability for the plant. A 500-gal diesel AST was contained within the generator unit. The AST was equipped with an automatic leak detector and has containment catch basin.

- A 20,000-gal 19 percent aqueous ammonia AST was located southwest of the power block. The AST was mounted in a 22,000-gal concrete containment structure. The unloading station to receive tanker truck deliveries was contained within the concrete containment structure. The ammonia AST was equipped with a level indicator and alarmed level control that Mr. Chubet indicated is monitored in the control room.

- EA observed that a small equipment shed is located on the northern corner of the site. The shed was locked at the time of the EA site visit; however, a Wallingford Energy employee indicated that the shed is empty.

- There were 10 transformers on the site: three step-up transformers each containing 12,000 gal of mineral oil and seven auxiliary transformers each containing between 250 and 854 gal of mineral oil. The step-up transformers were located within 14,000-gal concrete dike containments that are backfilled with stone and equipped with a collection sump for draining. The auxiliary transformer containment structures were similarly constructed but can hold only 1,000 gal each. The three step-up transformers were located in the central portion of the site adjacent to the power block. Mr. Chubet indicated that the transformers contain mineral oil as dielectric fluid and do not use oils containing PCBs. All transformers were equipped with level gauges and alarms that are monitored from the control room and were observed to be in good condition.

- A 250,000-gal demineralized water AST was located on the west-central portion of the site near the gas compressor building. A demineralization trailer was parked adjacent to the water storage tank. Mr. Chubet indicated that city water is pumped through the

filtration devices in the demineralization trailer prior to use in the combustion turbine generation system.

- There was a stormwater retention basin in the southeast corner of the site where all site stormwater is routed. Mr. Chubet indicated that the stormwater flows through an oil/water separator prior to discharge into the retention basin.

- The oil/water separator is located west of the stormwater retention pond, as indicated on the site plan (Appendix A, Figure 2). All stormwater, and water otherwise not specifically piped to the process water tank as discussed above, drains to the oil/water separator. Once treated, water then discharges to the stormwater retention basin. Oils that collect in the unit are disposed of in accordance with hazardous waste management regulations.

- The Town of Wallingford maintains a substation adjacent to the stormwater detention basin. Mr. Chubet indicated that the electricity generated by Wallingford Energy is added to the power grid at the switch yard. The substation contained several transformers.

- Several monitoring wells were observed on site. Mr. Chubet indicated that he believes the monitoring wells are related to ongoing environmental services provided by ARCADIS.

- No stained pavement or soils were observed onsite. No stressed vegetation was observed onsite.

7. INTERVIEWS

The following summary of site history is based on a compilation of information collected from interviews. The subject property is currently occupied by Wallingford Energy, LLC. The facility was constructed in 2001. The property was previously occupied by the Wallingford Electric Division and has been used as a power plant since the 1950s. The property was undeveloped prior to construction of the Pierce Generating Station.

7.1 PRESENT AND PAST OWNER INTERVIEWS

EA was able to interview a representative of Wallingford Energy at the time of the site reconnaissance activities:

- Mr. Nathan Chubet – Wallingford Energy Facility Manager.

Information obtained by the interview with Wallingford Energy representative is presented in Section 6, and has been incorporated and referenced throughout this report. EA could not interview any previous site owners.

7.2 PRESENT AND PAST SITE MANAGER INTERVIEW(S)

Mr. Nathan Chubet, Wallingford Energy Facility Manager, was present for portions of the site reconnaissance. Information obtained by the interviews with the Wallingford Energy representatives is presented in Section 6, and has been incorporated and referenced throughout this report. EA could not interview any previous site managers.

7.3 PRESENT AND PAST OCCUPANT INTERVIEW(S)

Information obtained by the interviews with the Wallingford Energy representatives is presented in Section 6, and has been incorporated and referenced throughout this report. EA could not interview any past occupants.

7.4 LOCAL GOVERNMENT OFFICIAL INTERVIEW(S)

Information obtained from interviews with local government officials is presented in Section 5.2.

7.5 INTERVIEWS WITH OTHERS

No additional interviews were conducted.

8. FINDINGS

8.1 *DE MINIMUS* FINDINGS

The additional findings noted below are not considered RECs, but would rather be considered a *de minimus* condition where no additional investigation or action is currently warranted; however, preventive measures may be prudent as discussed below and are provided only for the purpose of awareness.

- Wallingford Energy received two Notices of Alleged Violation: on 28 August 2009 and on 30 July 2010, due to nitrogen oxide and ammonia emissions in exceedance of the Title V permitted avoidance limits. The emission exceedances occurred while continuous emissions monitor systems were being switched from one turbine to another. This release is considered a *de minimus* condition because no remediation is necessary, the release occurred during a controlled activity, and the plant is currently in compliance.

8.2 HISTORICAL RECOGNIZED ENVIRONMENTAL CONDITIONS

The following Historical RECs were identified:

- ***12 March 2008***—500 gal of propylene glycol released in an unknown location due to a closed-loop system leak.

- ***13 August 2002***—15 gal of lubrication oil released to the rock and gravel driveway.

- ***6 March 2002***—3 gal of lubrication oil released on the driveway.

- ***21 May 2001***—1 gal of transformer oil released to the ground surface.

- ***2 May 2001***—50 gal of motor oil released to the ground surface.

- ***23 May 1999***—1 gal of No. 4 fuel oil released in the Pierce Generating Station.

- ***26 January 1990***—310,000 gal of No. 4 fuel oil released from of the former 420,000 gal ASTs.

- ***16 August 1988***—1,665 gal of No. 4 fuel oil released in the former pump house.

- ***26 January 1987***—2,000 gal of No. 4 fuel oil released within the former earthen berms.

- ***5 May 1977***—Unreported quantity of No. 4 or No. 6 oil released outside the former pump house.

Soil removal and site redevelopment activities in the early 2000s during construction of the current facility appear to have significantly addressed the contamination resulting from these releases.

8.3 RECOGNIZED ENVIRONMENTAL CONDITIONS

Previous spills on the subject property that have residual constituents above regulatory criteria are considered a REC for the Wallingford Energy facility. These constituents, as identified in the 2011 ARCADIS Subsurface Investigation Report, include ETPH, metals, and PAHs. Although this contamination is likely due to releases prior to Wallingford Energy's construction on the property, their presence at concentrations exceeding RSR criteria could require further investigation and/or remediation before property transfer and were, therefore, considered a REC. Additionally, the ARCADIS report's indication that 0.72 inches of LNAPL was present in a groundwater well on site is considered a REC.

The Coastal Tank Lines site located approximately 0.168 miles south of the subject property at a higher elevation is considered a REC for the Wallingford Energy facility. A waste lagoon at the facility contaminated with chlorinated VOCs, SVOCs, and metals had been partially remediated with contaminated soils removed according to the EDR report. This site may have contributed to contamination of soil and groundwater at the subject property due to its up-gradient and proximal location relative to the subject property.

The Wallingford Former Coal Ash Lagoons located adjacent to the subject property to the east are also considered a REC for the Wallingford Energy facility. The coal ash lagoons may be associated with the coal-fired power plant that formerly occupied the subject property. Their proximity to the subject property and upgradient location indicated that the lagoons may have contributed to contamination of soil and groundwater at the subject property and were, therefore, considered a REC.

8.4 DATA GAPS

A data gap is defined by ASTM E-1527-05 as a lack of or inability to obtain information required by this practice despite good faith efforts by the Environmental Professional to gather such information. Data gaps may result from the incompleteness in any of the activities required by this practice including, but not limited to, the site reconnaissance, interviews, and historical research. Failure to achieve the historical research objectives identified in the standard is termed a *data failure* and is a type of *data gap*.

Data Gap	Reason for Occurrence	Significance and Rationale
Lack of data related to the Wallingford Former Coal Ash Lagoons.	No additional information on the nature of contamination at this property was available in the EDR report or during the CTDEEP file review.	Based on information from the EDR report, it can be concluded that the presence of the coal ash lagoons is a REC to the property. Additional information from CTDEEP could provide more insight to the nature of contamination; however, sampling onsite has already indicated that this site is a plausible source of contamination at the Wallingford site.
Lack of data related to the Coastal Tank Lines site.	An insufficient amount of information on the nature of contamination at this property was available in the EDR report and during the CTDEEP file review.	Based on information from the EDR report, in can be concluded that the presence of the Coastal Tank Lines site is a REC to the property. Historic contamination at the site may have adversely impacted the environmental integrity of the subject property due to its upgradient and proximal location relative to the subject property.
Unable to conduct an interview with past occupants and site managers.	EA was not provided information on past owners and occupants of the subject property, or a means to contact previous site managers and site occupants.	Based on interviews conducted with current site occupants and managers, as well as environmental reports that have been conducted at the property by ARCADIS, EA does not believe that this is a significant data gap. Additional site history that could be collected from past occupants has likely already been discovered through environmental investigations that have taken place at the property.

Additional inaccessible areas encountered as part of this investigation are discussed in Section 6 (Interior and Exterior Observations).

9. OPINION

There were a number of documented releases that have occurred at the property; these were all considered Historic RECs because site redevelopment activities appear to have substantially addressed contamination caused by these releases according to the ARCADIS 2011 Subsurface Investigation Report. The threat of future similar releases has been minimized by improved engineering and management practices. The ARCADIS findings of ETPH, PAHs, and metals in soil and groundwater at concentrations above regulatory criteria were considered a REC, and the report's indication that 0.72 inches of LNAPL was present in a groundwater well on site was considered a REC. Although it appears that this contamination was due to releases that occurred before Wallingford Energy's occupancy of the property, future property transfers may require further investigation of these impacts.

The Coastal Tank Lines site was considered a REC to the subject property. Untreated wastewater from tank truck washing operations is present onsite, as well as buried lagoons containing the same types of waste. The Wallingford Former Coal Ash Lagoons, located adjacent to the subject property to the east, were also considered a REC.

10. CONCLUSIONS

EA has performed this Phase I ESA in conformance with the scope and limitations of ASTM E-1527-05 of 115 John Street, the subject property. Any exceptions to, or deletions from, this practice are described in Section 11. This ESA has revealed the following RECs in connection with the property:

- Previous spills on the subject property that had residual constituents above regulatory criteria were considered a REC for the Wallingford Energy facility. These constituents, as identified in the 2011 ARCADIS Subsurface Investigation Report, include ETPH, metals, and PAHs. This contamination is likely due to releases prior to Wallingford Energy's construction on the property; however, their presence at concentrations exceeding RSR criteria could require further investigation and/or remediation before property transfer and were, therefore, considered a REC[1].

- Previous spills on the subject property that resulted in the presence of LNAPL in groundwater monitoring wells were considered a REC for the Wallingford Energy facility. This contamination is likely due to releases prior to Wallingford Energy's construction on the property; however, its presence could require further investigation and/or remediation before property transfer and was, therefore, considered a REC.

- The Coastal Tank Lines site located approximately 0.168 miles south of the subject property at a higher elevation is considered a REC for the Wallingford Energy facility. A waste lagoon at the facility contaminated with chlorinated VOCs, semivolatile organic compounds, and metals had been partially remediated with contaminated soils removed according to the EDR report. An insufficient amount of information on the nature of contamination at this property was available in the EDR report and during the CTDEEP file review. This site may have contributed to contamination of soil and groundwater at the subject property due to its upgradient and proximal location relative to the subject property.

- The Wallingford Former Coal Ash Lagoons located adjacent to the subject property to the east were also considered a REC for the Wallingford Energy facility. The coal ash lagoons may be associated with the coal-fired power plant that formerly occupied the subject property. The proximity to the subject property and upgradient location indicate it is possible that the lagoons contributed to contamination of soil and groundwater at the subject property and were, therefore, considered a REC.

[1] Prior environmental releases are considered a historic REC to the property, as indicated in Section 8 of this report. The current presence of constituents of concern including ETPH, metals, PAHs, and LNAPL is a current REC to the property; however, it should be noted that under the new ASTM standard to be promulgated in the near future, this REC would be identified as a CREC (controlled recognized environmental condition). This new standard will allow for further distinction between historic RECs and RECs.

11. RECOMMENDATIONS

The following recommendations, though not required under the ASTM E-1527-05 standard, are provided as a courtesy to LS Power:

- EA recommends further investigation to determine the vertical and aerial delineation of detections of ETPH, PAHs, metals, and LNAPL.

12. DEVIATIONS

No deviations from the scope of the ASTM E-1527-05 standard were made in this assessment.

13. ADDITIONAL SERVICES

No additional services outside the scope of the ASTM E-1527-05 standard were provided as part of this assessment.

14. REFERENCES

The following sources of information were consulted as a part of this ESA. Documentation supporting these sources and additional site research is provided in Appendix F.

ARCADIS U.S., Inc. 2013. Addendum to Subsurface Investigation Report Wallingford Energy LLC. February.

———. 2011a. PPL Wallingford Energy LLC Subsurface Investigation Report. February.

———. 2011b. Summary of Groundwater Sampling Results PPL Wallingford Energy LLC. 18 February.

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Chubet, N. 2013. Property Owner/User Pre-Survey Questionnaire: Phase I Environmental Site Assessment. 16 May.

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Corporate Environmental Services, Inc. 2006. Spill Prevention Control and Countermeasures Plan. 21 February.

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———. 2008. Correspondence from CTDEP to Coastal Tank Lines. 19 May.

———. 2010. Notice of Violation. 30 July.

———. 2011a. Certificate of Compliance with Department of Environmental Projection Consent Order. 1 February.

———. 2011b. Order Closure re: Consent Order No. 2209. 28 January.

———. 2011c. Correspondence from Connecticut Department of Environmental Protection to PPL Wallingford Energy, LLC regarding Consent Order No. 2209. 5 January.

———. 2011d. Consent Order No. 2209 regarding PPL Wallingford Energy, LLC. 4 January.

EA Engineering, Science, and Technology, Inc. (EA). 2012. Phase I Environmental Site Assessment, Wallingford Energy, LLC, Wallingford, New Haven County, Connecticut. April.

———. 2013. Site reconnaissance by Meghan Travers of EA. 15 May.

Environmental Data Resources, Inc. (EDR). 2013. EDR Radius Map, Certified Sanborn Map Report, Aerial Photo Decade Package, and Historical Topographic Map Report. 14 May.

French, K. 2013. Property Owner/User Pre-Survey Questionnaire: Phase I Environmental Site Assessment. 20 May.

Stantec Consulting. 2011. Phase I Environmental Site Assessment PPL Wallingford Energy, LLC Property. March.

Town of Wallingford Planning and Zoning Commission. 2006. Official Zoning Map. 22 April.

TRC Environmental Corporation. 2000. Land Use and Environmental Information Report. March.

U.S. Department of Agriculture. 2008. Soil Survey of the State of Connecticut.

U.S. Geological Society. 1984. 7.5-Minute Wallingford, Connecticut Quadrangle Map.

15. SIGNATURE(S) OF THE ENVIRONMENTAL PROFESSIONAL(S)

"[I] declare that, to the best of [my] professional knowledge and belief, [I] meet the definition of an Environmental Professional as defined in Section 312.10 of 40 Code of Federal Regulation 312." "[I] have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. [I], have developed and performed the All Appropriate Inquiries in conformance with the standards and practices set forth in 40 Code of Federal Regulation Part 312."

23 May 2013

Frank Postma — Date
Project Manager/Environmental Professional

23 May 2013

James M. Hulbert — Date
Senior Technical Reviewer/Environmental Professional

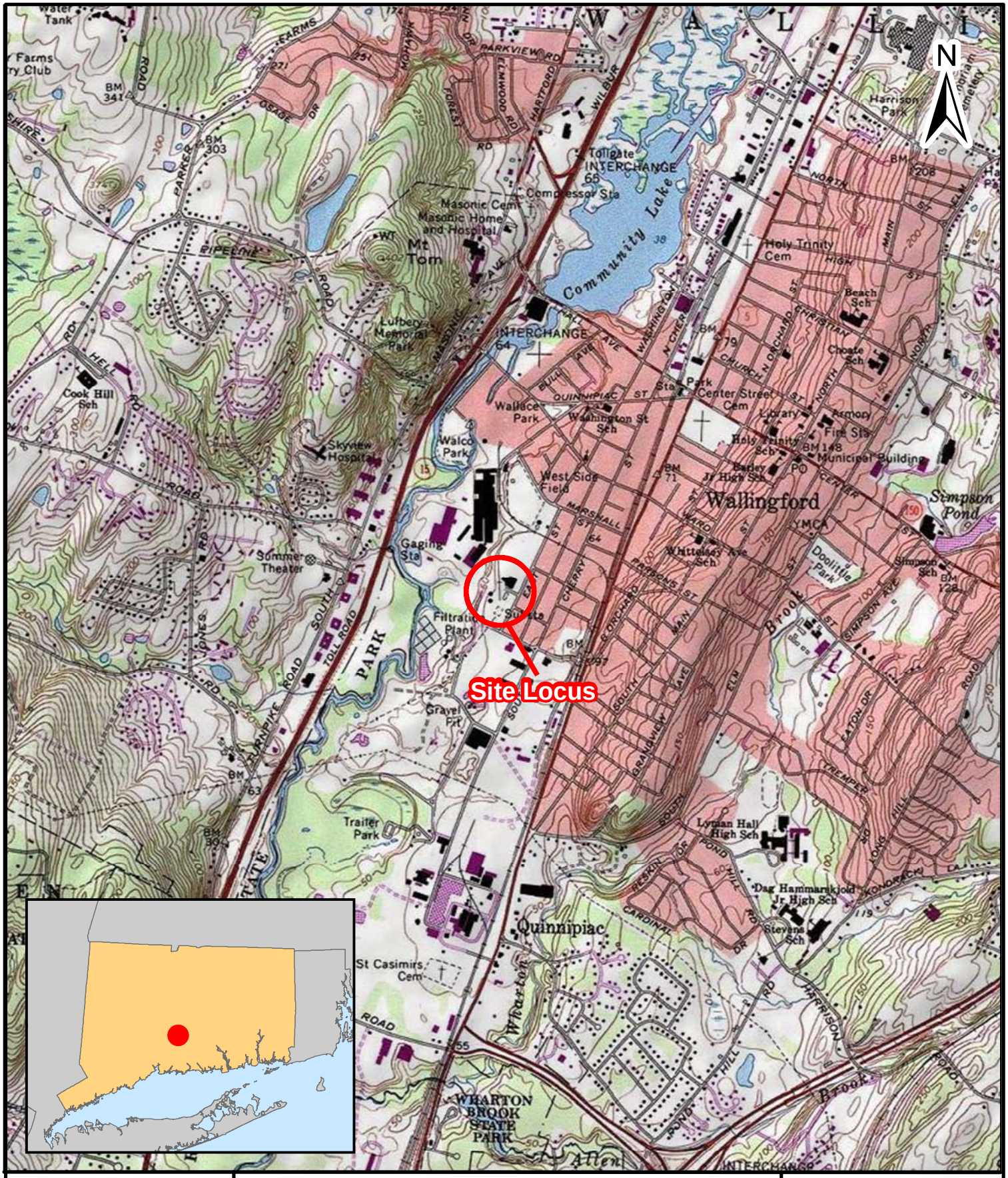
16. QUALIFICATIONS OF THE ENVIRONMENTAL PROFESSIONAL(S)

Resumes for the following personnel assigned to this project are provided in Appendix H:

- Mr. Frank Postma, Project Manager
- Mr. James Hulbert, Senior Technical Reviewer
- Ms. Meghan Travers.

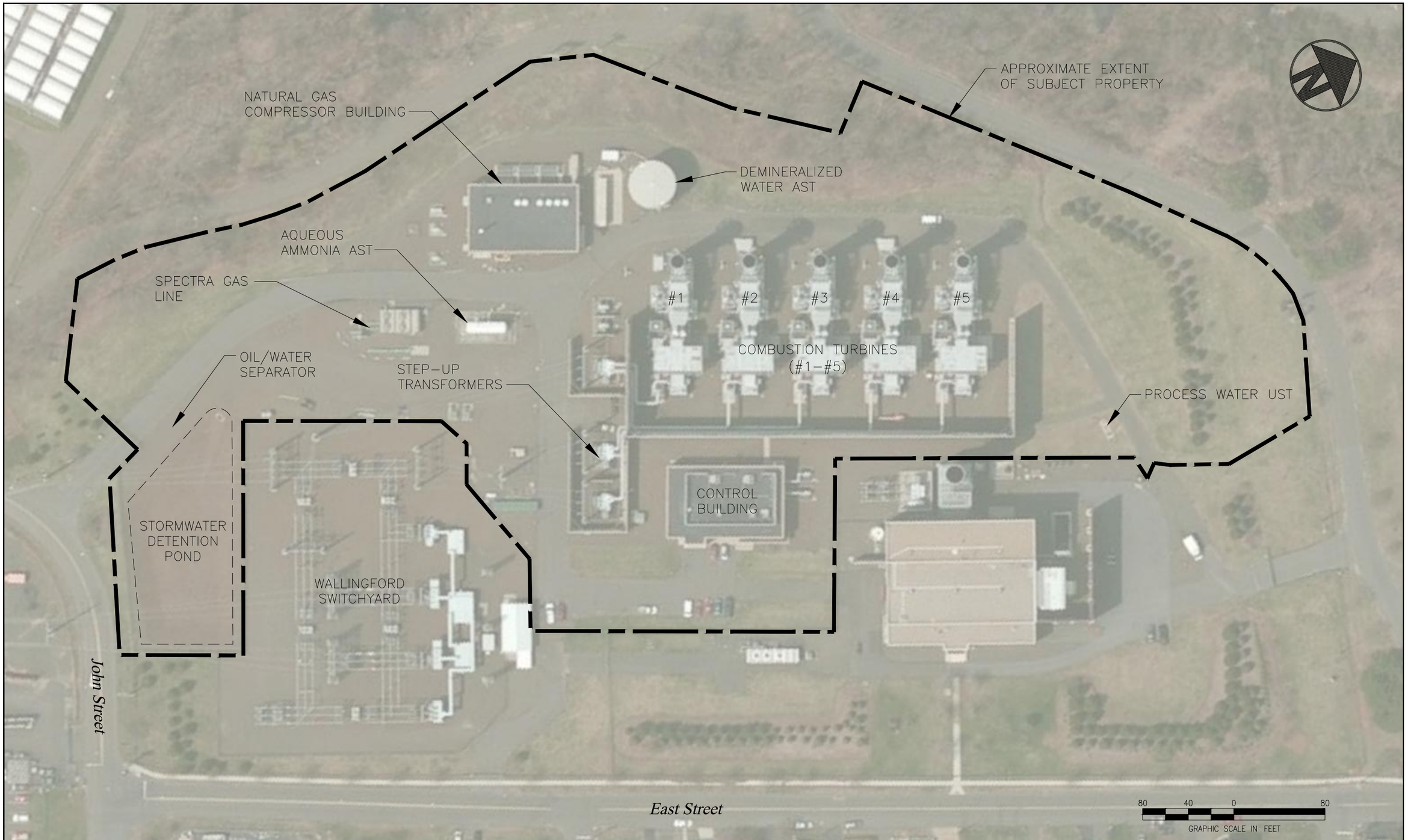
Appendix A

Figures



EA	WALLINGFORD POWER PLANT 115 JOHN STREET WALLINGFORD, CONNECTICUT				SITE LOCUS
PROJECT MGR: FBP	CREATED BY: PT	0 0.25 0.5 1 Miles	DATE: MAY 2013	PROJECT NO. 14897.10	FIGURE 1

\\Warwick\warwickfp\Projects\14897.10 Wallingford CT Phase I Update\GIS



EA ENGINEERING, SCIENCE, AND TECHNOLOGY

DESIGNED BY	DRAWN BY	DATE	PROJECT NO.	FILE NAME
MET	DPA	MAY 2013	14897.10	SITE PLAN
CHECKED BY	PROJECT MGR.	SCALE	DRAWING NO.	FIGURE
FBP	FBP	1" = 80'	1 OF 1	2

WALLINGFORD ENERGY, LLC.
115 JOHN STREET
WALLINGFORD, CONNECTICUT

SITE PLAN
FIGURE 2

Appendix B

Photograph Log

Photograph No. 1
Northwesterly view of the natural gas combustion turbines.

Photograph No. 2
Northwesterly view of administration building.

Photograph No. 3
View of control room located inside administration building.

Photograph No. 4
Material Safety Data Sheets stored in the administration building.

Photograph No. 5
View of transformers and associated secondary containment.

Photograph No. 6
NOx water injection skid.

Photograph No. 7
Fixed CO_2 fire protection.

Photograph No. 8
Clean-out for drains

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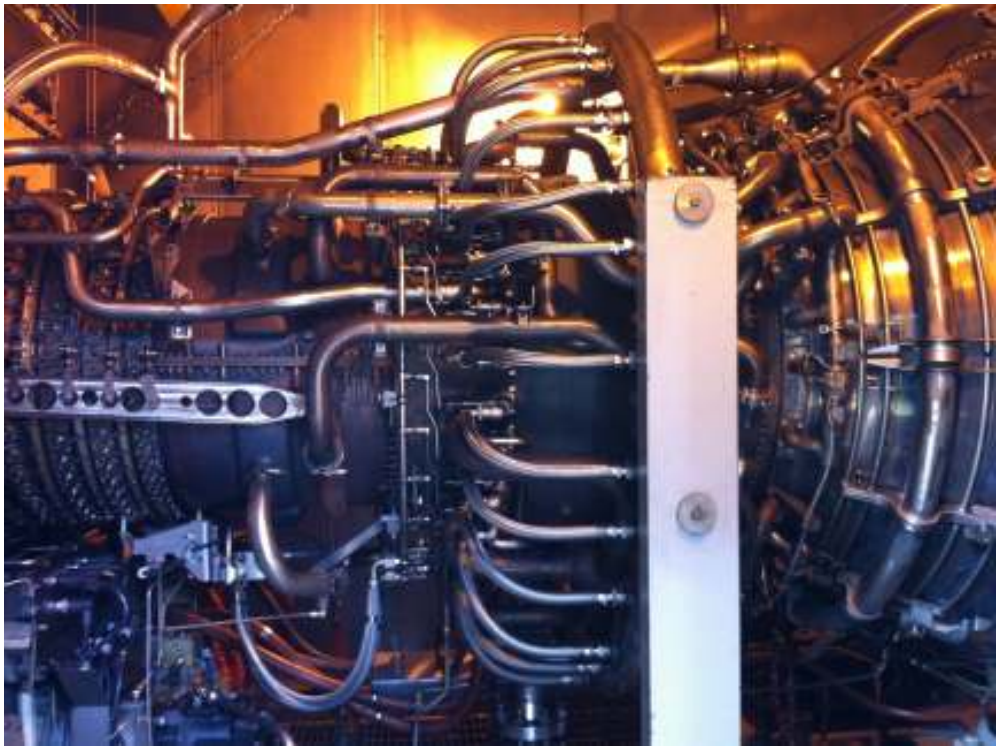
Photograph No. 9
View of natural-gas fired generator.



. **Photograph No. 10**
View of combustion turbine.

Photograph No. 11
Enclosure near gas combustion turbines mounted within a secondary containment structure.

Photograph No. 12
View of change out concrete skid used when an engine or generator needs replacement.

Photograph No. 13
View of lube oil tank. Chemicals and leaks in this structure drain to process water tank and are hauled off site.

Photograph No. 14
Hydraulic starter tank which contains hydro oil.

Photograph No. 15
View of propylene glycol lines which preheats the air at the intake to prevent freezing.

Photograph No. 16
View of lube oil cooler.

Photograph No. 17
View of ammonia vaporizer skid.

Photograph No. 18
View of natural gas filter.

Photograph No. 19
View of exterior of continuous emissions monitoring (CEM) enclosure.

Photograph No. 20
View of air emissions monitoring equipment within the CEM enclosure.

Photograph No. 21
Spare engine located on site within secondary containment.

Photograph No. 22
View of the 4,000-gal process wastewater UST.

Photograph No. 23
Monitoring well located on the northern portion of the site.

Photograph No. 24

250,000 gallon demineralized water AST.

Photograph No. 25
Demineralized water trailers and mobile treatment system.

Photograph No. 26
Black start generator located behind the compressor building. A 500 gallon diesel tank is located within the generator compartment.

Photograph No. 27
Water forwarding pump to demineralized water skid.

Photograph No. 28
Coolers located on the exterior of the natural gas compressors building.

Photograph No. 29
View of one of the natural gas compressors within the compressor building.

Photograph No. 30
Chemical storage inside the gas compressor building. Staining of the concrete floor is visible.

Photograph No. 31
Chemical storage inside the gas compressor building.

Photograph No. 32
Grate-covered concrete sump inside the gas compressor building.

Photograph No. 33
Propylene glycol tank inside the gas compressor building.

Photograph No. 34
Chemical storage inside the gas compressor building.

Photograph No. 35
Location of city water source for plant operations.

Photograph No. 36
Fire protection located inside gas compressor building.

Photograph No. 37
Anti-icing hot water generator inside the gas compressor building.

Photograph No. 38
Natural gas detection system located inside anti-icing boiler room.

Photograph No. 39
Plant auxiliary transformers.

Photograph No. 40
View of Spectra gas line located near the entrance to the Wallingford Energy site.

Photograph No. 41
View of electrical switchyard located adjacent to Wallingford Energy site.

Photograph No. 42
Southeasterly view of stormwater detention basin.

Photograph No. 43
Location of oil/water separator, upstream of stormwater detention basin.

Photograph No. 44
One of three step-up transformers.

Photograph No. 45
View of gas tank storage in vicinity of step-up transformers.

Photograph No. 46
Storage within the maintenance building.

Photograph No. 47
Containment vault within the maintenance building.

Photograph No. 48
View of stationary compressor in the maintenance warehouse.

Photograph No. 49
Hazardous material locker within the maintenance building.

Photograph No. 50
Battery chargers located in electrical room.

Photograph No. 51
View of battery cell blocks inside the battery room.

Photograph No. 52
Northerly view of 20,000-gal 19% aqueous ammonia AST and containment area.

Photograph No. 53
Drain for the aqueous ammonia AST containment skid.

Photograph No. 54
View inside the electrical room.

Appendix C

Historical Research Documentation

C.1 Aerial Photographs
C.2 Historical Maps

Appendix C.1

Aerial Photographs

Wallingford Energy, LLC
115 John St.
Wallingford, CT 06492

Inquiry Number: 3604635.5
May 13, 2013

The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Date EDR Searched Historical Sources:

Aerial Photography May 13, 2013

Target Property:

115 John St.

Wallingford, CT 06492

Year	***Scale***	***Details***	***Source***
1934	Aerial Photograph. Scale: 1"=500'	Panel #: 41072-D7, Wallingford, CT;/Flight Date: April 26, 1934	EDR
1940	Aerial Photograph. Scale: 1"=500'	Panel #: 41072-D7, Wallingford, CT;/Flight Date: May 10, 1940	EDR
1951	Aerial Photograph. Scale: 1"=500'	Panel #: 41072-D7, Wallingford, CT;/Flight Date: August 02, 1951	EDR
1963	Aerial Photograph. Scale: 1"=500'	Panel #: 41072-D7, Wallingford, CT;/Flight Date: July 06, 1963	EDR
1966	Aerial Photograph. Scale: 1"=500'	Panel #: 41072-D7, Wallingford, CT;/Flight Date: March 08, 1966	EDR
1970	Aerial Photograph. Scale: 1"=500'	Panel #: 41072-D7, Wallingford, CT;/Flight Date: March 01, 1970	EDR
1975	Aerial Photograph. Scale: 1"=1000'	Panel #: 41072-D7, Wallingford, CT;/Flight Date: July 30, 1975	EDR
1980	Aerial Photograph. Scale: 1"=1000'	Panel #: 41072-D7, Wallingford, CT;/Flight Date: September 19, 1980	EDR
1986	Aerial Photograph. Scale: 1"=500'	Panel #: 41072-D7, Wallingford, CT;/Flight Date: March 25, 1986	EDR
1990	Aerial Photograph. Scale: 1"=500'	Panel #: 41072-D7, Wallingford, CT;/Flight Date: March 13, 1990	EDR
1991	Aerial Photograph. Scale: 1"=500'	Panel #: 41072-D7, Wallingford, CT;/DOQQ - acquisition dates: March 31, 1991	EDR
2005	Aerial Photograph. Scale: 1"=500'	Panel #: 41072-D7, Wallingford, CT;/Flight Year: 2005	EDR
2006	Aerial Photograph. Scale: 1"=500'	Panel #: 41072-D7, Wallingford, CT;/Flight Year: 2006	EDR
2008	Aerial Photograph. Scale: 1"=500'	Panel #: 41072-D7, Wallingford, CT;/Flight Year: 2008	EDR
2010	Aerial Photograph. Scale: 1"=500'	Panel #: 41072-D7, Wallingford, CT;/Flight Year: 2010	EDR
2012	Aerial Photograph. Scale: 1"=500'	Panel #: 41072-D7, Wallingford, CT;/Flight Year: 2012	EDR

INQUIRY #: 3604635.5

YEAR: 1934

= 500'

N


INQUIRY #: 3604635.5
YEAR: 1940
= 500'
N


INQUIRY #: 3604635.5
YEAR: 1951
= 500'
N


INQUIRY #: 3604635.5
YEAR: 1963
= 500'
N

INQUIRY #: 3604635.5

YEAR: 1966

= 500'

N


INQUIRY #: 3604635.5
YEAR: 1970
= 500'
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INQUIRY #: 3604635.5
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= 1000'
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YEAR: 1980
= 1000'
N


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YEAR: 1986
= 500'
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3-13-90
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YEAR: 1990
= 500'
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YEAR: 1991
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YEAR: 2005
= 500'
N


INQUIRY #: 3604635.5
YEAR: 2006
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= 500'
N


INQUIRY #: 3604635.5
YEAR: 2010
= 500'
N


INQUIRY #: 3604635.5
YEAR: 2012
= 500'
N

Appendix C.2

Historical Maps

Wallingford Energy, LLC
115 John St.
Wallingford, CT 06492

Inquiry Number: 3604635.4
May 13, 2013

EDR Historical Topographic Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

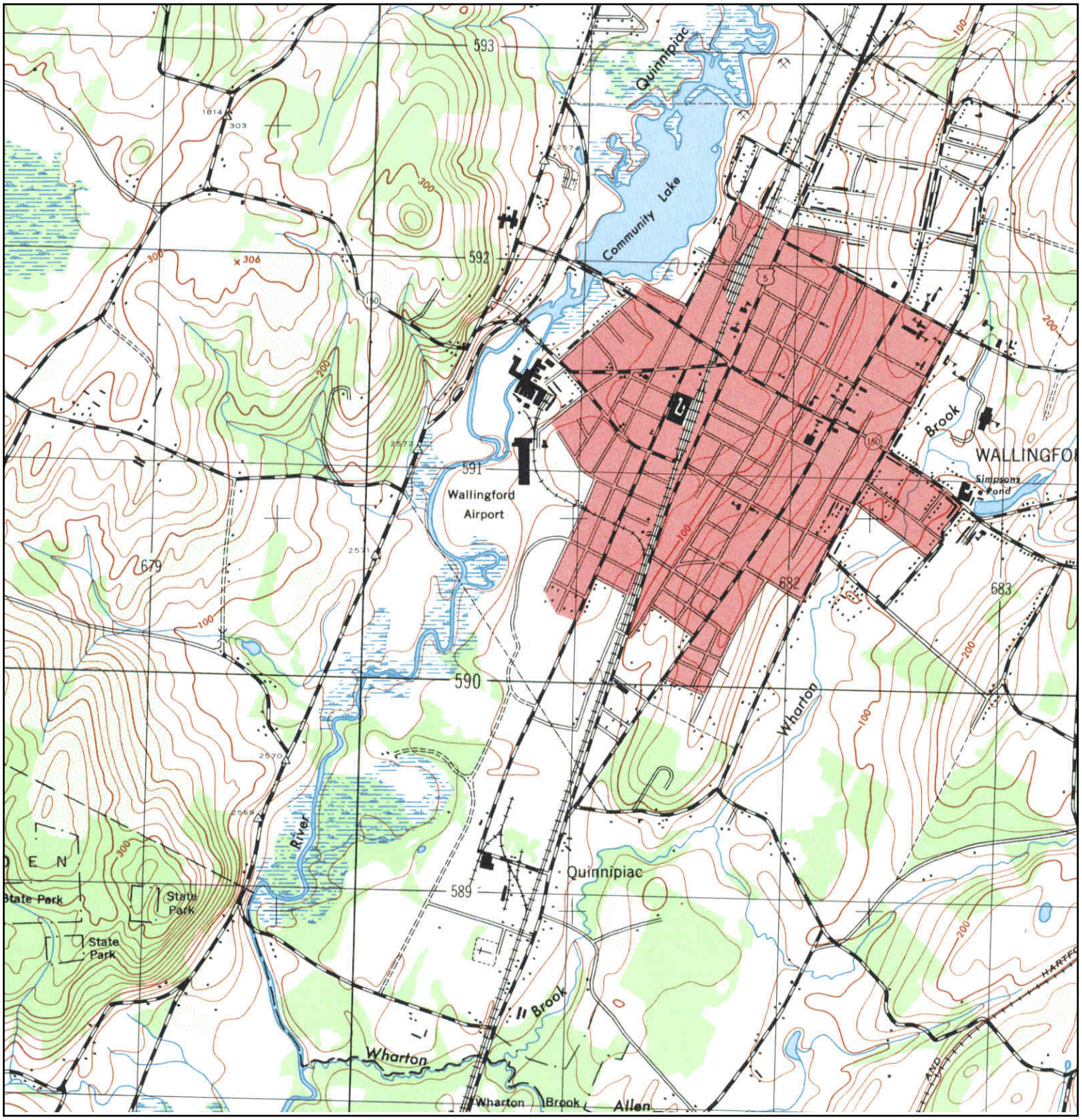
Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Historical Topographic Map

N	TARGET QUAD NAME: NEW HAVEN MAP YEAR: 1892 SERIES: 15 SCALE: 1:62500	SITE NAME: Wallingford Energy, LLC ADDRESS: 115 John St. Wallingford, CT 06492 LAT/LONG: 41.4483 / -72.8351	CLIENT: EA Engineering Science & Tech. CONTACT: Meghan Travers INQUIRY#: 3604635.4 RESEARCH DATE: 05/13/2013

Historical Topographic Map



N	TARGET QUAD			
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	MAP YEAR:	1947	ADDRESS: 115 John St.	CONTACT: Meghan Travers
			Wallingford, CT 06492	INQUIRY#: 3604635.4
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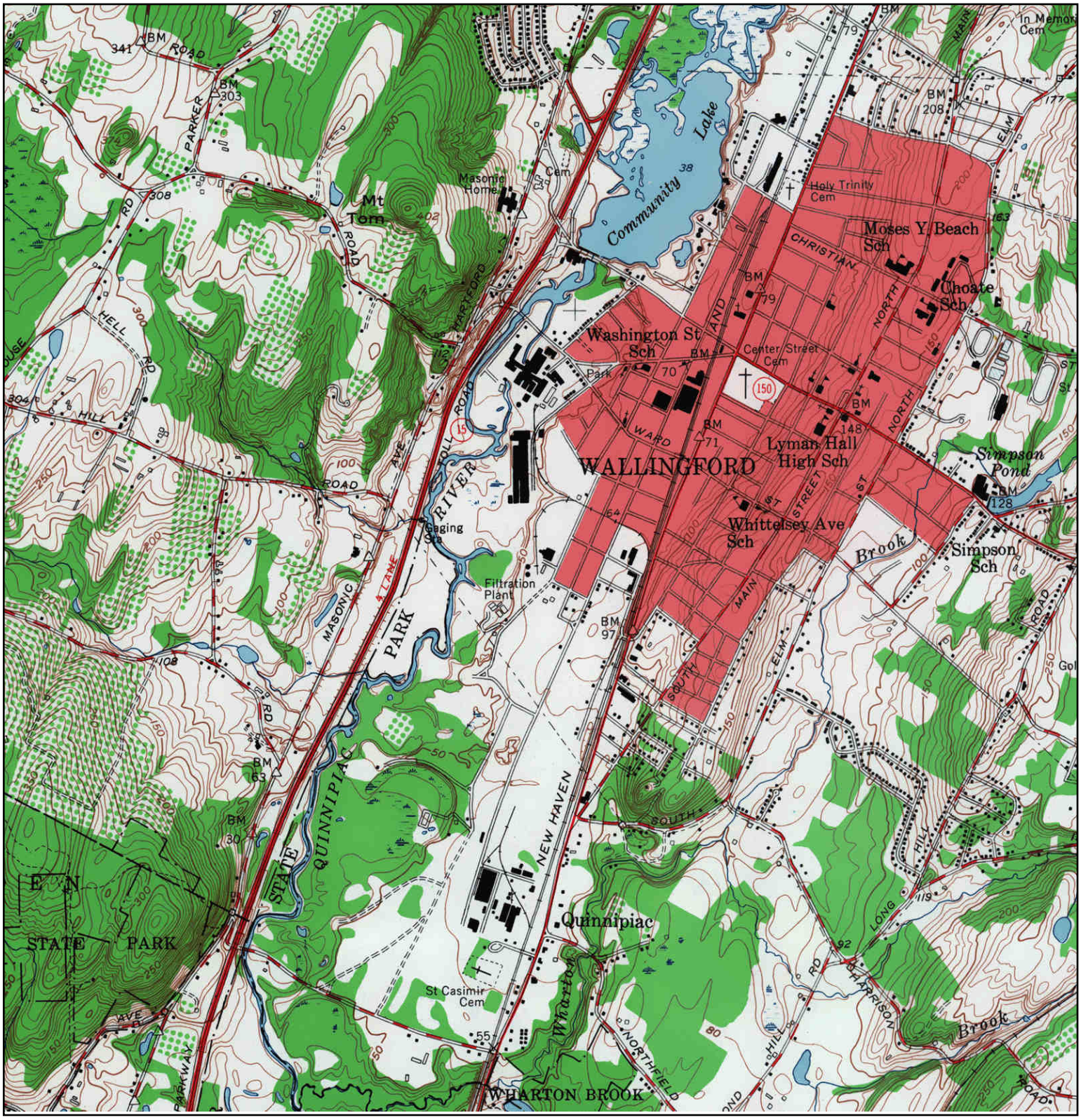
Historical Topographic Map



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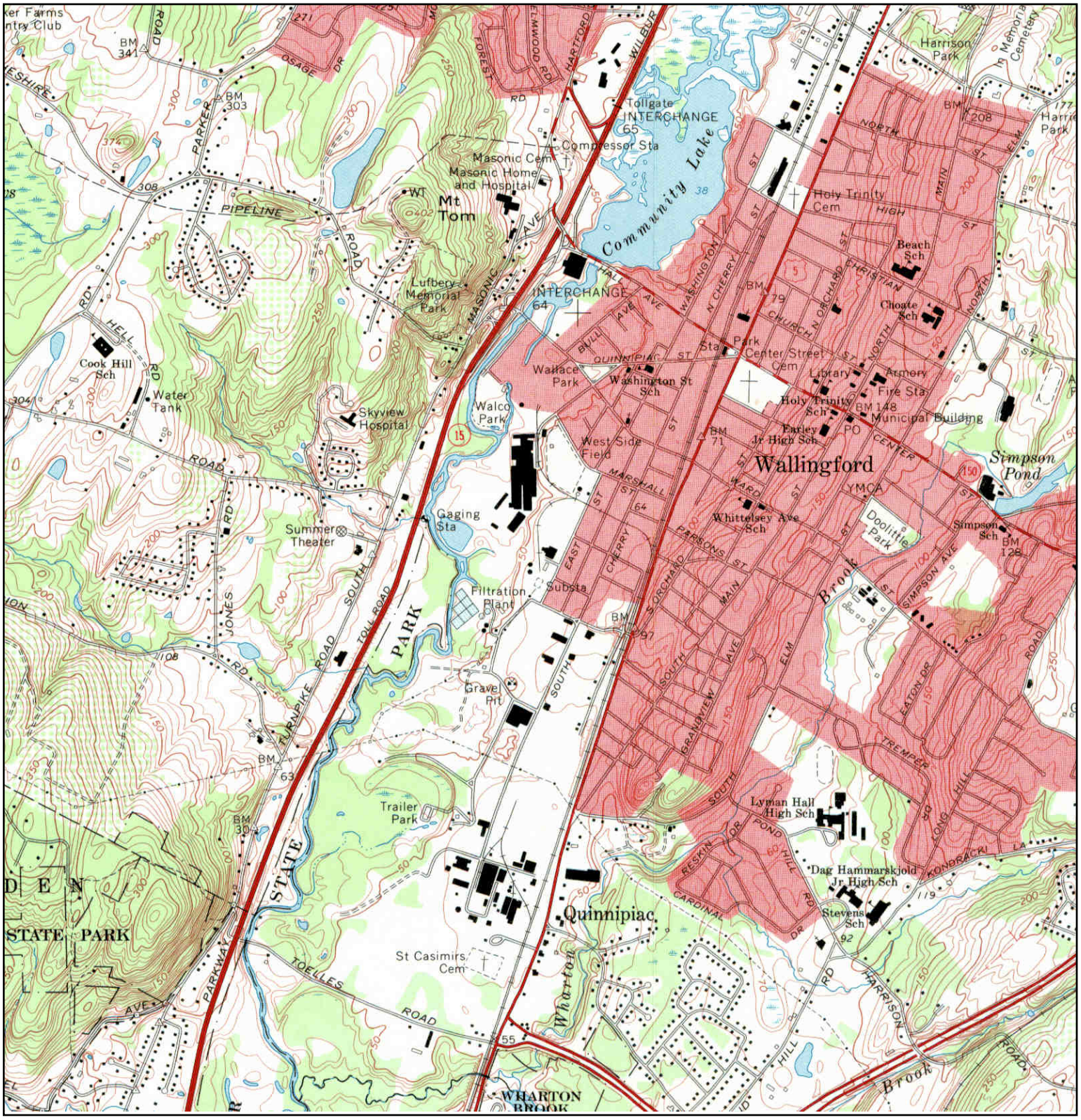
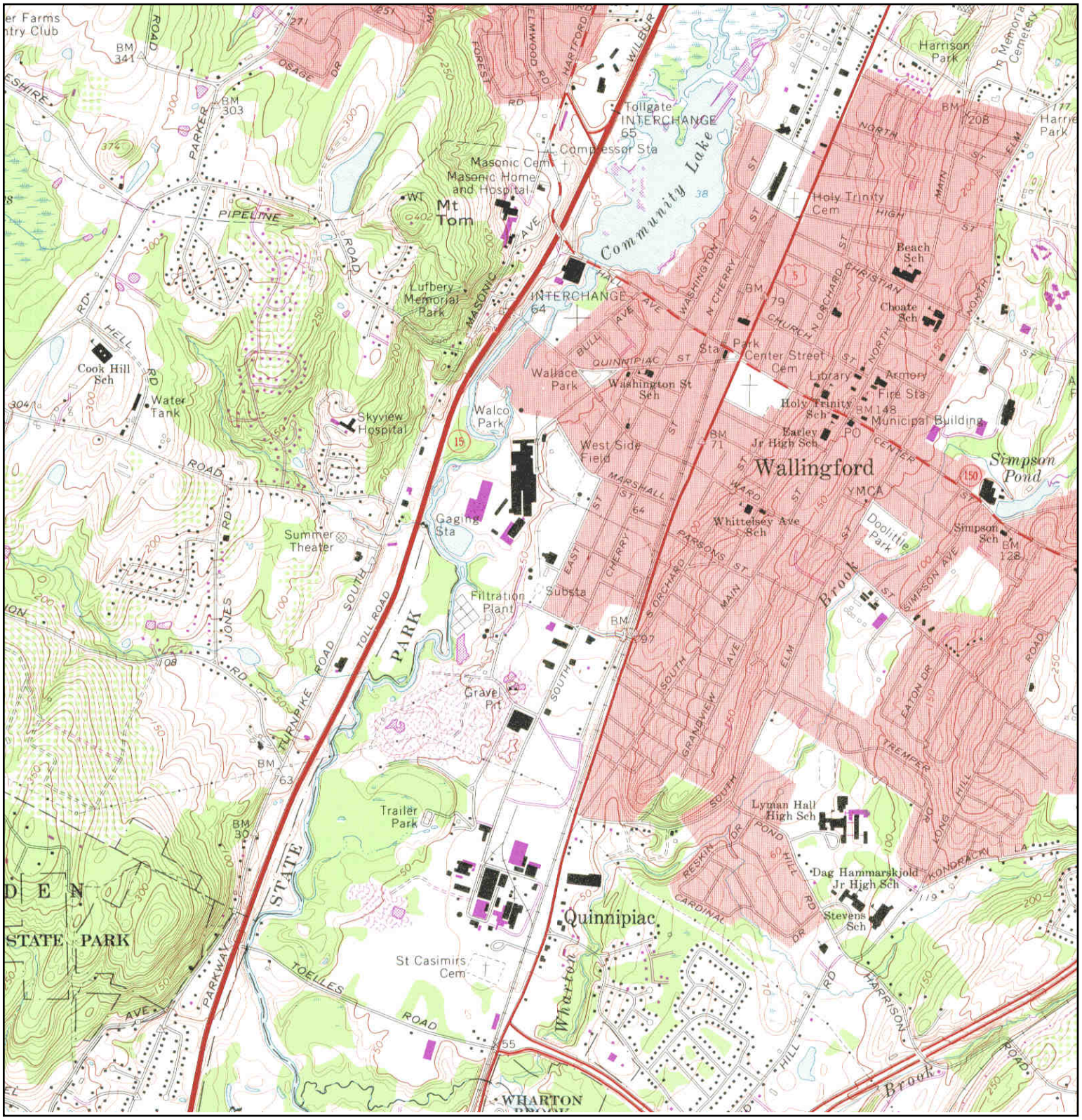
Historical Topographic Map



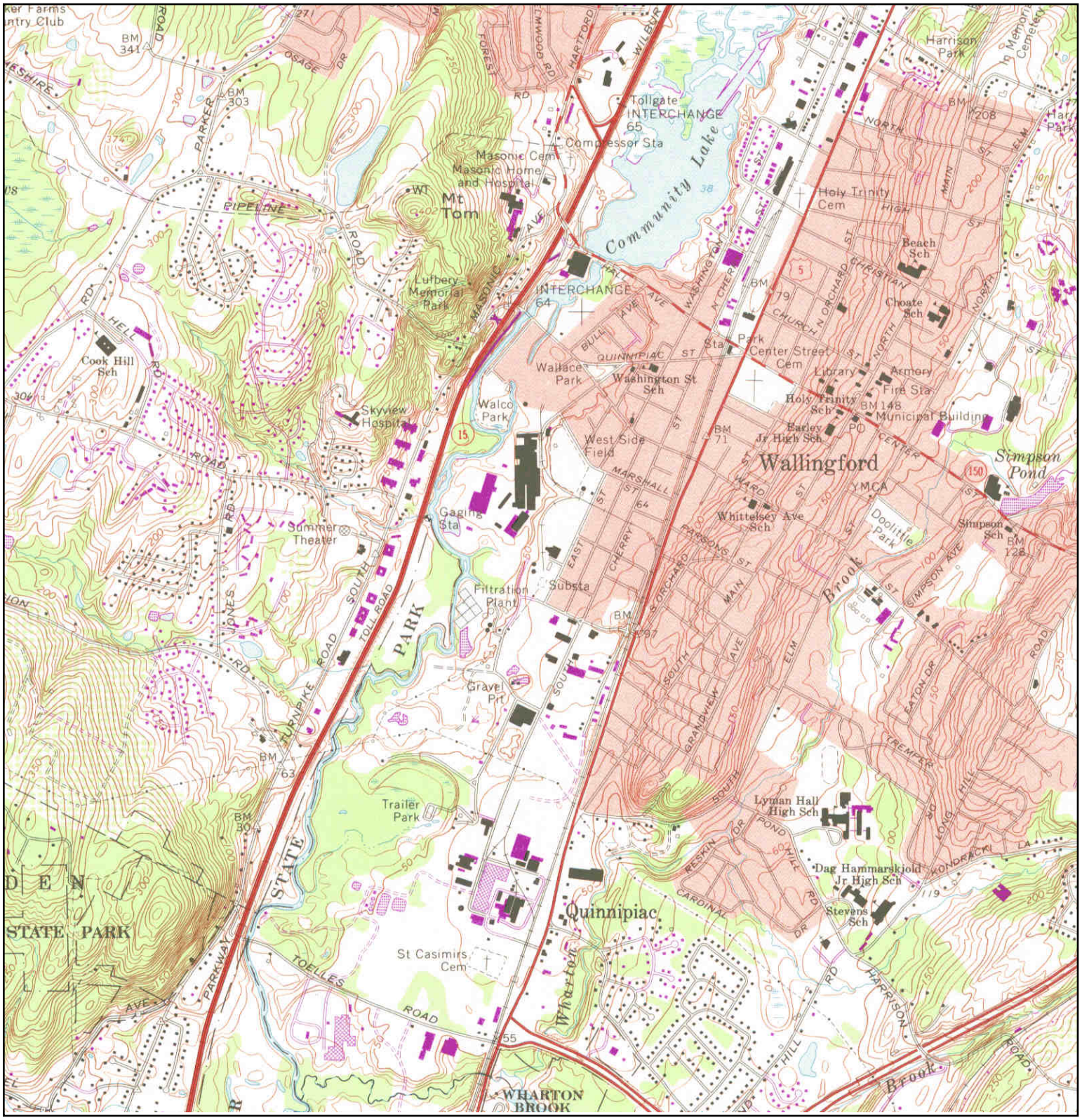
N	TARGET QUAD NAME: WALLINGFORD MAP YEAR: 1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Wallingford Energy, LLC ADDRESS: 115 John St. Wallingford, CT 06492 LAT/LONG: 41.4483 / -72.8351	CLIENT: EA Engineering Science & Tech. CONTACT: Meghan Travers INQUIRY#: 3604635.4 RESEARCH DATE: 05/13/2013

Historical Topographic Map



N	TARGET QUAD		SITE NAME:	Wallingford Energy, LLC	CLIENT:	EA Engineering Science & Tech.
	NAME:	WALLINGFORD	ADDRESS:	115 John St.	CONTACT:	Meghan Travers
	MAP YEAR:	1972		Wallingford, CT 06492	INQUIRY#:	3604635.4
	PHOTOREVISED FROM :	1967	LAT/LONG:	41.4483 / -72.8351	RESEARCH DATE:	05/13/2013
	SERIES:	7.5				
	SCALE:	1:24000				

Historical Topographic Map



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Wallingford Energy, LLC
115 John St.
Wallingford, CT 06492

Inquiry Number: 3604635.3
May 13, 2013

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

5/13/13

Site Name:
Wallingford Energy, LLC
115 John St.
Wallingford, CT 06492

Client Name:
EA Engineering Science &
2374 Post Road Suite 102
Warwick, RI 02886-0000

EDR Inquiry # 3604635.3

Contact: Meghan Travers

EDR® Environmental Data Resources Inc

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Certified Sanborn Results:

Site Name: Wallingford Energy, LLC
Address: 115 John St.
City, State, Zip: Wallingford, CT 06492
Cross Street:
P.O. # NA
Project: Wallingford Energy, LLC
Certification # 8486-4E7F-BFC5

Maps Provided:

1965
1948
1925
1919

Sanborn® Library search results
Certification # 8486-4E7F-BFC5

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Sanborn Sheet Thumbnails

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

1965 Source Sheets

Volume 1, Sheet 13

1948 Source Sheets

1925 Source Sheets

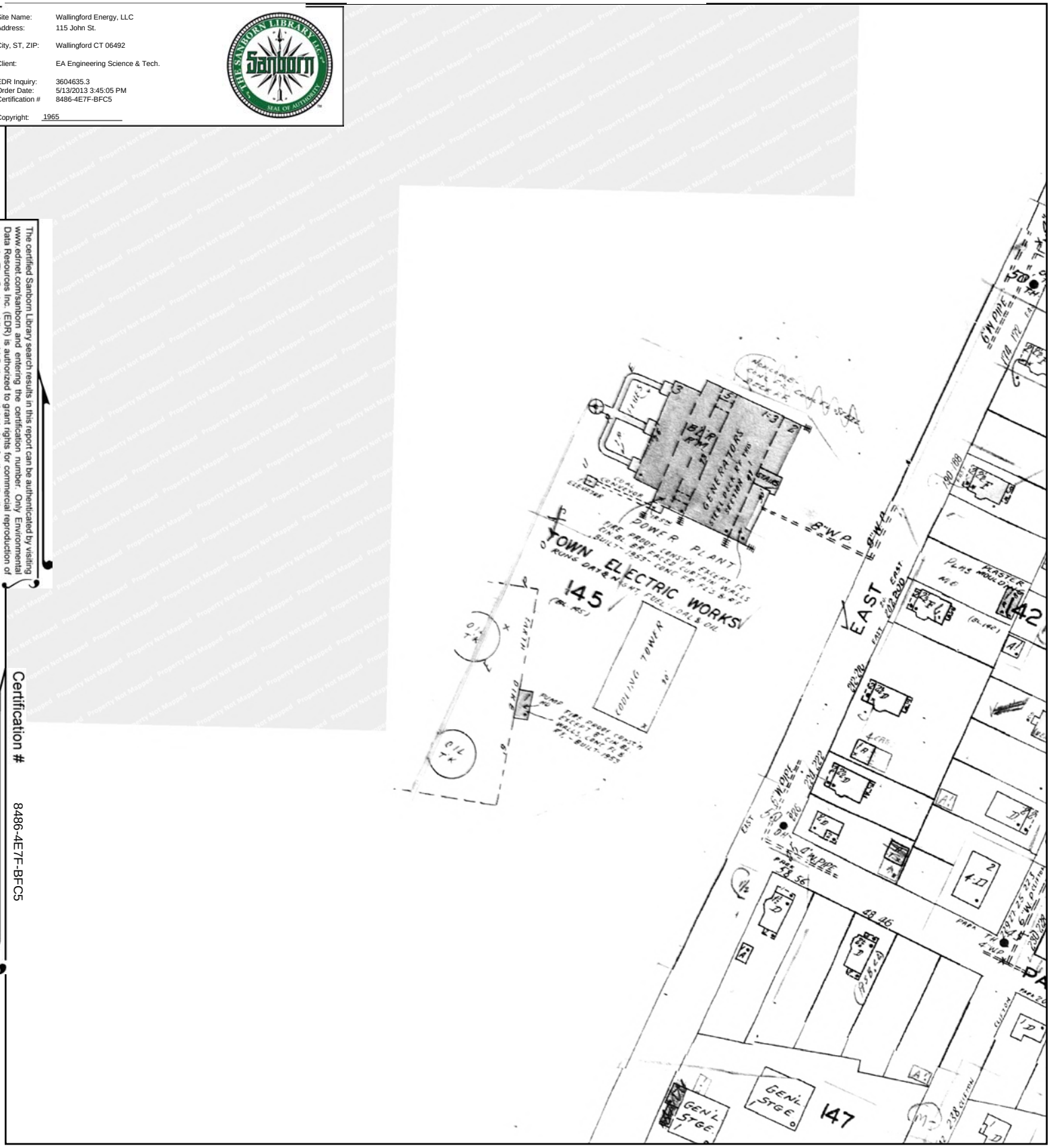
Volume 1, Sheet 13

1919 Source Sheets

1965 Certified Sanborn Map

Site Name: Wallingford Energy, LLC
Address: 115 John St.
City, ST, ZIP: Wallingford CT 06492
Client: EA Engineering Science & Tech.
EDR Inquiry: 3604635.3
Order Date: 5/13/2013 3:45:05 PM
Certification #: 8486-4E7F-BFC5
Copyright: 1965

Certification # 8486-4E7F-BFC5



This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

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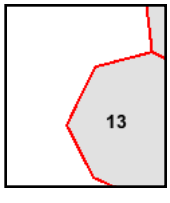


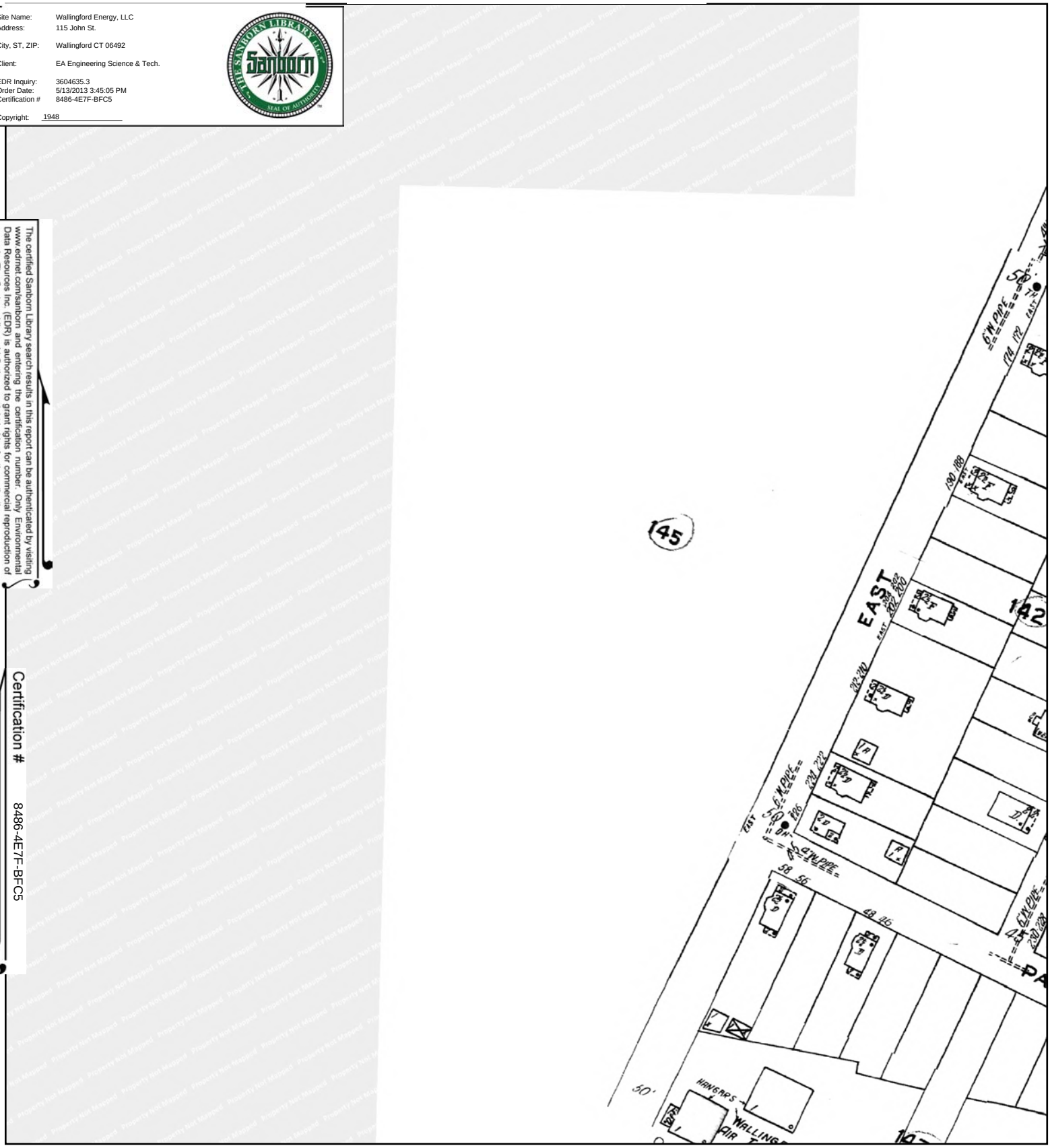
Volume 1, Sheet 13

N

1948 Certified Sanborn Map

Site Name: Wallingford Energy, LLC
Address: 115 John St.
City, ST, ZIP: Wallingford CT 06492
Client: EA Engineering Science & Tech.
EDR Inquiry: 3604635.3
Order Date: 5/13/2013 3:45:05 PM
Certification #: 8486-4E7F-BFC5
Copyright: 1948

Certification # 8486-4E7F-BFC5



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Outlined areas indicate map sheets within the collection.

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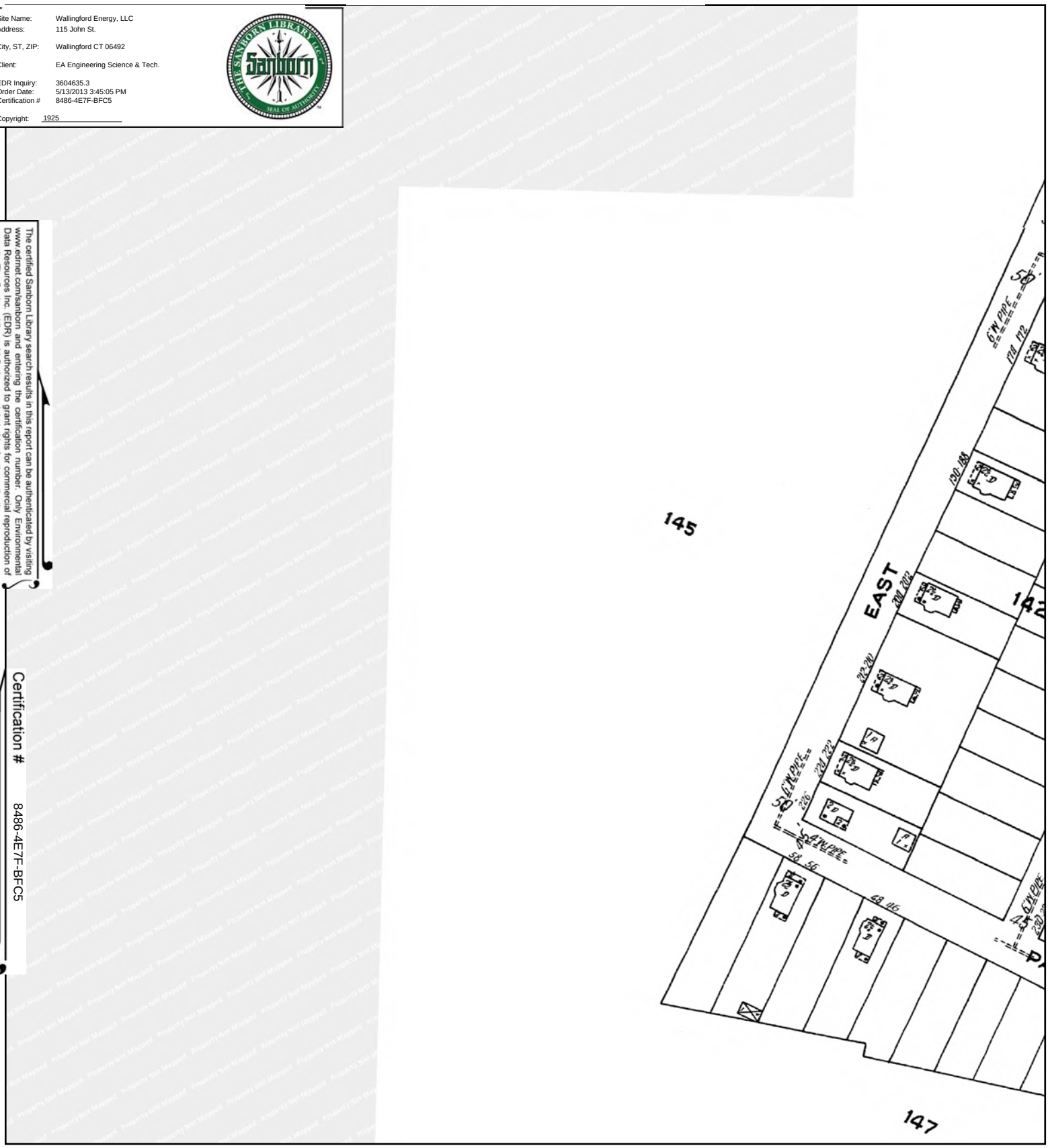
1925 Certified Sanborn Map

Site Name: Wallingford Energy, LLC
Address: 115 John St.
City, ST, ZIP: Wallingford CT 06492
Client: EA Engineering Science & Tech.
EDR Inquiry: 3604635.3
Order Date: 5/13/2013 3:45:05 PM
Certification #: 8486-4E7F-BFC5
Copyright: 1925

Certification # 8486-4E7F-BFC5



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Outlined areas indicate map sheets within the collection.

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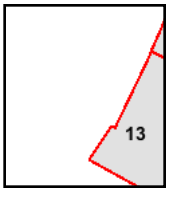
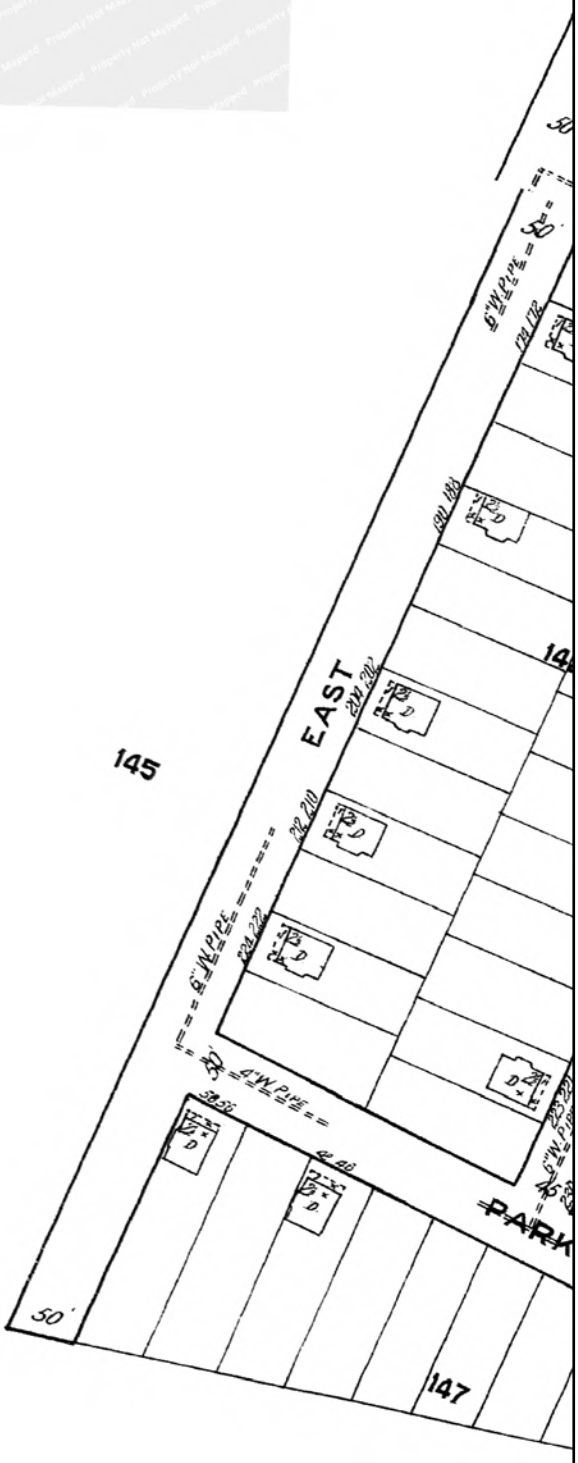


Volume 1, Sheet 13

N

1919 Certified Sanborn Map

Site Name: Wallingford Energy, LLC
Address: 115 John St.
City, ST, ZIP: Wallingford CT 06492
Client: EA Engineering Science & Tech.
EDR Inquiry: 3604635.3
Order Date: 5/13/2013 3:45:05 PM
Certification # 8486-4E7F-BFC5
Copyright: 1919



Certification # 8486-4E7F-BFC5

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

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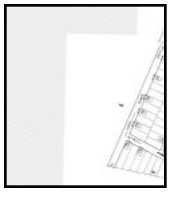

N

Wallingford Energy, LLC
115 John St.
Wallingford, CT 06492

Inquiry Number: 3604635.6
May 14, 2013

The EDR-City Directory Image Report

Environmental Data Resources Inc
440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	*Target Street*	*Cross Street*	*Source*
1990	☑	☐	Johnson's City Directory
1977	☑	☐	Price & Lee's City Directory
1970	☑	☐	Price & Lee's City Directory
1963	☑	☐	Price & Lee's City Directory

RECORD SOURCES

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FINDINGS

TARGET PROPERTY STREET

115 John St.
Wallingford, CT 06492

Year	*CD Image*	*Source*
115 John St.		
1990	pg A1	Johnson's City Directory
1977	pg A2	Price & Lee's City Directory
1970	pg A3	Price & Lee's City Directory
1963	pg A4	Price & Lee's City Directory

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	Johnson's City Directory

115 John St. 1990

67 SPONAUER Kenneth C® 265-5396
68 No Information
71 SMUTKO Nancy A® 265-9490

JOHN

FROM 425 S COLONY SW & W THEN S BEYOND EAST TO DEAD END ZIP CODE 06492

CONRAIL CROSSES

DUDLEY AV CROSSES

46 COLONIAL PARK 269-7234
46 COLONIAL PARK CATERERS 265-2403
47 No Information

S CHERRY ST CROSSES

CLIFTON ST ENDS

100 ELECTRIC DIVISION OF PUBLIC UTILITIES 265-0308
100 WALLINGFORD TOWN OF 265-5055
100 WALLINGFORD TOWN OF-ELECTRIC DIVISION DEPARTMENT OF PUBLIC UTILITIES 265-0308

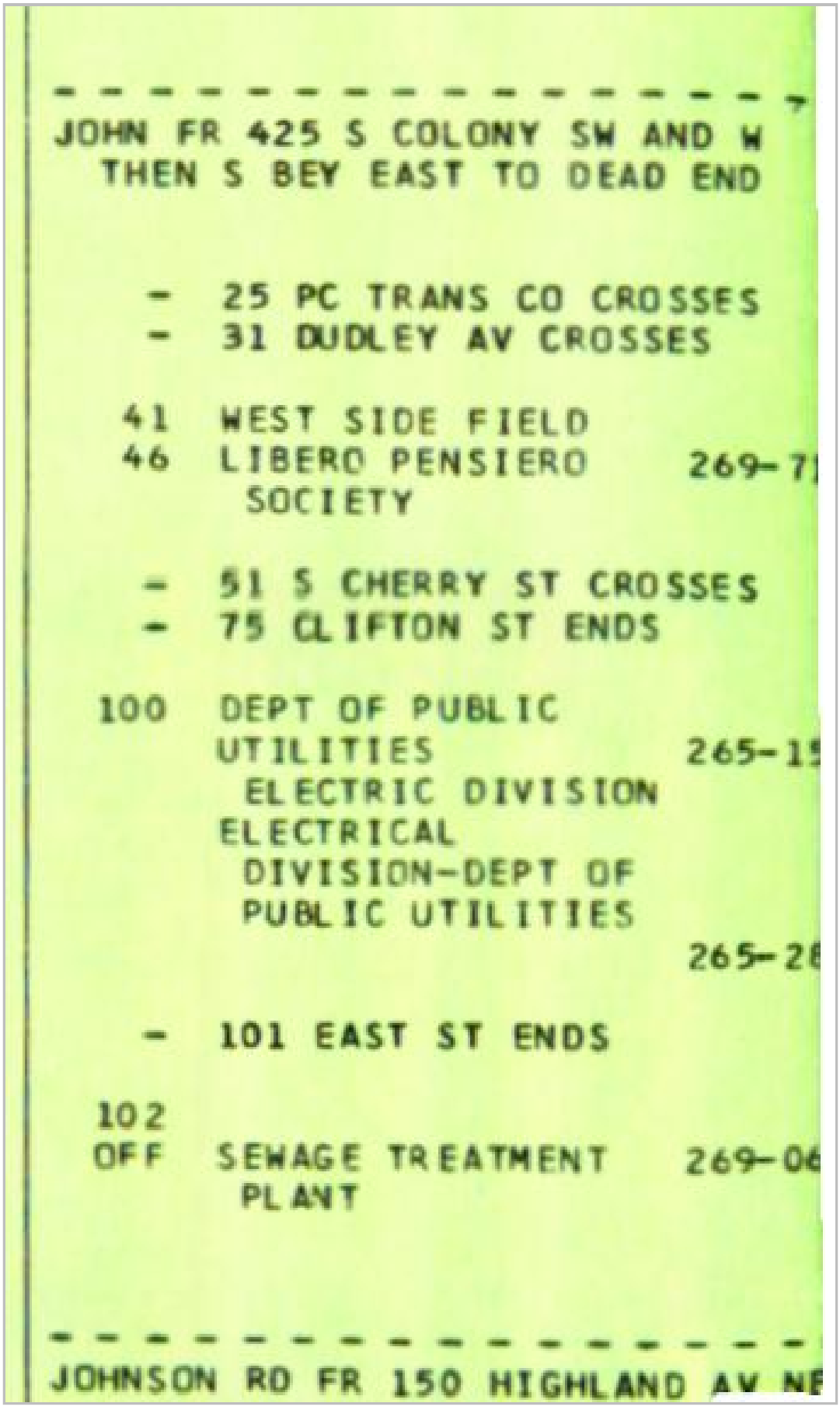
EAST ST ENDS

JOHNSON RD

FROM 150 HIGHLAND AV NE & SE TO

Target Street	Cross Street	Source
✓	-	Price & Lee's City Directory

115 John St. 1977



JOHN FR 425 S COLONY SW AND W
THEN S BEY EAST TO DEAD END

- 25 PC TRANS CO CROSSES
- 31 DUDLEY AV CROSSES

41 WEST SIDE FIELD
46 LIBERO PENSIERO SOCIETY 269-7

- 51 S CHERRY ST CROSSES
- 75 CLIFTON ST ENDS

100 DEPT OF PUBLIC UTILITIES 265-1
ELECTRIC DIVISION
ELECTRICAL DIVISION-DEPT OF PUBLIC UTILITIES
265-2

- 101 EAST ST ENDS

102
OFF SEWAGE TREATMENT PLANT 269-0

JOHNSON RD FR 150 HIGHLAND AV NE

Target Street	Cross Street	Source
✓	-	Price & Lee's City Directory

115 John St. 1970

63 VALENTI JOSEPH J SR
64 PEASE DANIEL ◻ 265-5069
65 VACANT
67 SPONAUER KENNETH C
◻ 265-5396
68 ORIFICE DONALD A 265-2264

- - - - - - - - - - - - - - - - - -

JOHN FR 425 S COLONY SW AND W
THEN S BEY EAST TO DEAD END

25 PC CROSSES
31 DUDLEY AV CROSSES

41 MEMORIAL STADIUM
46 LIBERO PENSIERO
SOCIETY 269-7132

51 S CHERRY ST CROSSES
75 CLIFTON ST ENDS

99 PUBLIC WORKS DEPT
WATER DIVISION
100 DEPT OF PUBLIC
UTILITIES ELECTRIC
DIVISION
ELECTRIC DIVISION DEPT
OF PUBLIC UTILITIES
ENG OFFICE 269-7741

101 EAST ST ENDS

102
OFF SEWAGE TREATMENT PLANT
265-1591

Target Street	Cross Street	Source
✓	-	Price & Lee's City Directory

115 John St. 1963

61 Vacant
69 ◎ Trzciensky Joseph P
70 ◎ Kissel John A ⚠ CO 9-2980
74 ◎ Pender Robert W ⚠ CO 9-8168
78 ◎ Tierney Steven J ⚠ CO 9-2708
79 Vacant
82 Vacant
85 ◎ Sabith Joseph E ⚠ CO 9-2987
86 ◎ Fearnley Emerson L
⚠ CO 9-2978
96 Doukas Edward T ⚠ CO 5-0219
98 Ivan Edward P ⚠ CO 5-0009

JOHN fr 425 S Colony SW & W & S bey East st to dead end (Right odd)

25 RR crosses
31 Dudley av crosses
41 Memorial Stadium
46 Libero Pensiero Society
⚠ CO 9-7152
51 S Cherry st crosses
75 Clifton st ends
99 Public Works Dept Park Div
101 East st ends
102 Sewage Treatment Plant
⚠ CO 9-0644

Appendix D

Excerpt from ARCADIS Subsurface Investigation Report

ARCADIS U.S., Inc.
160 Chapel Road
Suite 201
Manchester
Connecticut 06042-1625
Tel 860.645.1084
Fax 860.645.1090
www.arcadis-us.com

ENVIRONMENTAL

Wallingford Energy LLC
c/o Attorney Mark R. Sussman
Murtha Cullina, LLP
City Place I
185 Asylum Street
Hartford, CT 06103

Subject:
Addendum to Subsurface Investigation Report
Wallingford Energy LLC
115 John Street, Wallingford, Connecticut

Date:
February 14, 2013

Contact:
Mark Barmasse

Phone:
860.704.6940

Email:
Mark.Barmasse@arcadis-us.com

Our ref:
HT100388.0000

Dear Atty. Sussman:

ARCADIS U.S., Inc. (ARCADIS) is submitting this addendum to the Wallingford Energy Subsurface Investigation Report submitted in July, 2012. The additional activities performed at the Site include supplemental sampling to address findings of the Phase II Site assessment as follows: (1) Investigation of ammonia in groundwater and soils in the vicinity of the 20,000-gallon ammonia aboveground storage tank (AST) – AOC #20; and (2) Sediment sampling within the storm water retention area – AOC #28.

This letter report summarizes the field activities, sample analytical results and includes conclusions and recommendations. The work described in this letter report was conducted in accordance with proposal P15-0511-033, dated July 29, 2012 (revised September 21, 2012) and is subject to the Limitations and Service Constraints provided in Appendix A of this letter report.

Background and Investigation Approach

Ammonia was detected in shallow soils and groundwater in the vicinity of the 20,000-gallon ammonia tank during the November 2011 Subsurface Investigation. Although there were no reported releases of ammonia from the tank, the detection of ammonia in shallow soils and groundwater lead to the decision conduct this supplemental investigation to further delineate the nature and extent of ammonia in soil and groundwater in the vicinity of the ammonia tank.

Storm water from the site is directed to the storm water retention area after passing through an oil water separator (OWS). Possible releases from vehicles or site material handling activities into storm drains could have potentially impacted this area. To further evaluate the retention area, sediment sampling was proposed for the earlier Phase II work, but could not be collected with the available field equipment due to the presence of rip rap in the basin. During these supplemental sampling activities, appropriate hand tools were used to move rip rap pieces allowing access to underlying sediment.

AOC #20 Soil Sample Activities and Results

ARCADIS mobilized the site on October 9th, 2012 to advance ten soil borings (B-1 through B-10) at the Site in the vicinity of the ammonia AST using a hand auger. The locations of the soil borings are depicted on Figure 1. Samples were generally collected in the soil layer below any surficial materials. One sample (SB2012-5) was collected to provide vertical delineation at the one of the 2011 boring locations (SB2012-10) since boring location SB2011-9 was not accessible due to utility concerns at depth. .All soil samples were visually classified and logged for soil characterization purposes. In general, soil samples collected consisted of well graded dark brown sand with trace pebbles. Additionally, each soil sample was field screened for total photoionizable volatile organic compounds (VOCs) with a Photovac 3000 Photoionization Detector (PID). Soil lithology and VOC detections noted during field screening activities are presented in soil boring logs provided in Appendix B.

Soil samples collected from these soil borings were analyzed for Ammonia as N via EPA method 350.2. A summary of the findings is presented in Table 1.

Ammonia as N was detected in 7 of the 10 soil samples including SB2012-1 through SB2012-4, SB2012-6, SB2012-7, and SB2012-10 at concentrations ranging from 7 milligrams per kilogram (mg/kg) to 33 mg/kg. These concentrations are generally consistent with concentrations detected during the November 2011 investigation, which ranged from 6 mg/kg to 79 mg/kg.

AOC #20 Groundwater Sample Activities and Results

Groundwater sampling activities were performed on October 1st and October 2nd, 2012. Three monitoring wells (MW-9, TW-1, and TW-3) were selected to represent groundwater conditions upgradient, downgradient, and crossgradient from the ammonia AST. Ammonia-nitrogen was previously detected in TW-3, the well in closest proximity to the ammonia AST at a concentration of 0.2 mg/l. Records were kept of field monitoring parameters including flow rate, depth to water, temperature, pH, dissolved oxygen, specific conductance, and turbidity until stabilization of those parameters could be demonstrated and groundwater samples could be collected for laboratory analysis.

Groundwater samples collected from all three wells were submitted for analyses of Ammonia via EPA method 350.1. The analytical data is summarized on Table 2, and copies of the Water Quality Measurement Forms are included in Appendix B.

Ammonia as N was detected in groundwater collected from TW-1, TW-3, and MW-9 at 0.47 milligrams per liter (mg/l), 0.13 mg/l, and 0.15 mg/l, respectively. The concentration in TW-3 is comparable to previous detection in groundwater (0.2 mg/l) at the site.

AOC #28 Stormwater Rentention Basin Sediment Sample Activities and Results

Stormwater rentention basin sediment sampling activities were performed on October 1st, 2012. A total of two samples were collected, one each in the vicinity of the inlet (RB-Inlet) and outlet (RB-Discharge) of the discharge pipes. The locations of the sediment samples are depicted on Figure 2. In general, sediment samples collected consisted of, poorly graded, sub-round to sub-angular small to medium pebbles with trace asphalt fragments.

Sediment samples collected were submitted for laboratory analyses of Extractable Total Petroleum Hydrocarbons (ETPH) and Polynuclear Aromatic Hydrocarbons (PAHs). The analytical data is summarized on Table 3. PAHs were not detected in either of the samples collected. ETPH was detected in one sediment sample, RB-Inlet, at a concentration of 400 mg/kg (milligrams per kilogram). The detected concentration does not exceed the residential direct exposure or GB groundwater pollutant mobility criteria. ETPH was not detected in the other sediment sample collected in the vicinity of the discharge pipes. .

Findings and Revised Conceptual Site Model

AOC #20 – 20,000-Gallon Ammonia Aboveground Storage Tank

During the November 2011 investigation, three soil borings (SB2011-9 through SB2011-11) were advanced in the vicinity of the ammonia AST located on the southwestern portion of the Site. Ammonia as N was detected at concentrations of 79 mg/kg, 6 mg/kg and 6 mg/kg in SB2011-9, SB2011-10 and SB2011-11, respectively. Additionally, ammonia as N was detected at a concentration of 0.2 mg/l in the groundwater sample collected from monitoring well TW-3, which is slightly upgradient of the ammonia AST.

Soil - During the October 2012 investigation ten soil borings (SB2012-1 through SB2012-10) were advanced to further delineate the extent and nature of ammonia concentrations in soil and groundwater. Ammonia was detected in 7 of the 10 additional samples at concentrations ranged from 7 mg/kg to 33 mg/kg. These concentrations are slightly elevated compared to typical background concentrations of ammonia in soil of 1 to 5 mg/kg (ATSDR 2004). To vertically assess soil conditions one soil sample (SB2012-5) was collected at 6-7 fbg in the vicinity of SB2011-10. Ammonia was not detected in this sample indicating that ammonia concentrations are restricted to shallow soils. In addition, three shallow samples (SB2012-3, SB2012-4, and SB2012-10) were collected from soils across access roads from the tank and represent areas unlikely to be impacted from a tank release. The three samples each had detections above background conditions. For the above mentioned reasons, the concentrations of ammonia appear to be associated with fill material and/or atmospheric contributions from current site activities and do not indicate a spill from the tank.

Groundwater - Groundwater samples collected from TW-1, TW-3, and MW-3 show similar ammonia concentrations as detected in TW-3 during the November 2011 investigation. Groundwater flows in the vicinity of the ammonia tank is north-northwest. A groundwater contour map is presented as Figure 3. The cross gradient well (TW-1), is the greatest distance from the ammonia tank of the three wells sampled and exhibited the highest concentration of ammonia. The downgradient well (MW-9) and upgradient well (TW-1) had similar concentrations. Based on these data, the concentrations of ammonia in groundwater at the site do not appear to be a result of a spill from the tank but instead appear to be associated with site background or up gradient conditions.

RSR Compliance Assessment/Site Specific Ammonia Criteria - Direct exposure criteria (DEC), groundwater protection criteria (GWPC), and pollutant mobility criteria (PMC) are not specified for ammonia in sections 22a-133k-1 through 22a-133k-3 of the Remediation Standard Regulations (RSRs). When RSR criteria for a substance has not been established, an Additional Polluting Substance (APS) criteria must be approved by the CTDEEP.

The Connecticut Department of Energy and Environmental Protection (CT DEEP) published proposed criteria in 2008 for a much wider range of additional polluting substances using updated toxicity criteria. While these criteria were never adopted, CTDEEP will sometimes use these 2008 proposed criteria for APS on a case by case basis. In addition, on July 27, 2012, CT DEEP approved an APS for ammonia in soil and groundwater for the Lake Road Generating Company ("LRGC") facility in Killingly. Although that approval relates only to the specific LRGC site, the APS established for LRGC provides a conservative benchmark for the Wallingford Energy site. Both Wallingford Energy and LRGC facilities use a 19% ammonium hydroxide solution to control air emissions from the electric generating facilities. Moreover, the LRGC facility is in a Class GA groundwater area, while the groundwater at the Wallingford Energy facility is classified as GB. Accordingly, the ammonia data for the site have been compared to the following 2008 proposed ammonia criteria and the LRGC APS:

Applicable 2008 Draft DEEP Criteria	**LRGC APS**
· RDEC – 1354.8 mg/kg	RDEC – 1350 mg/kg
· IDEC – 40,880 mg/kg	
· GBPMC – 100 mg/l	GAPMC – 200 mg/l
· SWPC – 10 mg/l	GWPC – 20 mg/l

A shown in Tables 1 through 3, ammonia concentrations detected in both soil and groundwater are well below both theproposed 2008 criteria and the recently approved APS for LRGC. If remediation or verification of the Site is necessary before the CTDEEP develops a final, updated list of polluting substances and criteria, then ARCADIS will need to request approval of remediation criteria for ammonia from the CTDEEP. With the concurrence of Wallingford Energy LLC, ARCADIS will prepare and submit a request for approval to use the proposed ammonia criteria at the site when appropriate.

AOC #28 – Storm Water Retention Area and Oil/Water Separator

One soil sample was collected during the November 2011 investigation to evaluate the OWS. This sample was collected from a depth of 6-8 fbg and submitted for analyses of ETPH and PAHs. No ETPH or PAHs were detected in the soil sample.

Two sediment samples were collected during the October 2012 investigation, one each in the vicinity of the inlet and outlet of the discharge pipes from the retention basin. Sediment sample locations are depicted on Figure 2. PAHs were not detected in any of the samples collected. ETPH was detected in only one soil sample, RB-Inlet, at a concentration of 400 mg/kg (milligrams per kilogram). The detected concentration does not exceed applicable criteria. ETPH was not detected in the other sediment sample submitted for analysis from the outlet.

As noted in ARCADIS's July 2012 Subsurface Investigation Report, ETPH detections were found at almost all sampling locations and PAH detections in just under half of the sampling locations. These detections potentially originate from releases, spills, or placement of petroleum, coal, and/or coal ash, the vast majority of which was released prior to Wallingford Energy's occupancy. Asphalt fragments were also identified in the sediment near the inlet pipe. Consequently the presence of ETPH in the stormwater basin appears to be associated with general fill present at the site and/or asphalt deposition in the basin, and not a release from Wallingford Energy operations. Accordingly, the ETPH detect does not appear to associated with a spill from the OWS and additional investigations for AOC #28 does not appear to be required.

Thank you for this opportunity to provide environmental site investigation services. If you have any questions, please contact either of the undersigned at 860.704.6940.

Sincerely,

ARCADIS U.S., Inc.

David Birdsey
Staff Environmental Scientist

Mark Barmasse, P.E., LEP, BCEE
Principal Environmental Engineer

Attachments:
Figure 1 – AOC #20 (20,000-Gallon Ammonia AST) Investigation Soil Boring Location Map
Figure 2 – AOC #28 (Stormwater Retention Area and Oil Water Separator) Investigation Sample Location Map
Figure 3 – Groundwater Contour Map – February 22, 2012
Table 1 – AOC #20 Soil Analytical Results
Table 2 – AOC #20 Groundwater Analytical Results
Table 3 – AOC #28 Soil and Sediment Analytical Results
Appendix A – Limitations and Service Constraints
Appendix B – Soil Boring Logs
Appendix C – Water Quality Measurement Forms
Appendix D – Analytical Reports

References

Agency for Toxic Substances and Disease Registry. 2004. Toxicological Profile for Ammonia; Retrieved from http://www.atsdr.cdc.gov/toxprofiles/tp126-c2.pdf.

ARCADIS U. S., Inc. July 2012. *Completion of Phase II Environmental Site Assessment Report, Wallingford Energy LLC, 115 John Street, Wallingford, Connecticut*.

Connecticut Department of Environmental Protection. August 2008. *Draft Proposed Revisions to the Remediation Standard Regulations – Draft for Review Only.*

ARCADIS

Tables

Table 1
AOC #20 20,000-Gallon Ammonia AST
Soil Analytical Results
Wallingford Energy LLC
115 John Street, Wallingford, Connecticut

Sample ID	SB2011-9	SB2011-10	SB2011-11	SB2012-B1	SB2012-B2	SB2012-B3	SB2012-B4	RES DEC		I/C DEC
Sample Depth (fbg)	2-4	2-4	1-2	0.5-1.5	2-4	2-4	0.5-1.5			
Date	11/29/2011	11/29/2011	11/29/2011	10/9/2012	10/9/2012	10/9/2012	10/9/2012			
Ammonia as N (mg/kg)	79	6	6	19	12	7	12	1,354.8 [1]	1,350 [2]	40,880 [1]

Sample ID	SB2012-B5	SB2012-B6	SB2012-B7	SB2012-B8	SB2012-B9	SB2012-B10	RES DEC		I/C DEC
Sample Depth (fbg)	6-7	2-3.5	2-4	2-4	2-4	2-4			
Date	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/9/2012			
Ammonia as N (mg/kg)	ND<5.0	33	8	ND<5.0	ND<5.0	13	1,354.8 [1]	1,350 [2]	40,880 [1]

[1] - This is the proposed criteria from the 2008 Proposed RSR Revisions.
[2] - Lake Road Generating Company approved Additional Polluting Substance
mg/kg - milligrams per kilogram
mg/L - milligrams per liter
fbg - feet below grade
GB PMC - GB Pollutant Mobility Criteria
I/C DEC - Industrial/Commercial Direct Exposure Criteria
RES DEC - Residential Direct Exposure Criteria

Table 2
AOC #20 20,000-Gallon Ammonia AST
Groundwater Analytical Results
Wallingford Energy LLC
115 John Street, Wallingford, Connecticut

Sample ID	MW-9	TW-1	TW-3		**SWPC**	**GWPC**
Date	10/1/2012	10/2/2012	11/19/2012	10/2/2012		
Ammonia as N (mg/L)	0.15	0.47	0.2	0.13	10 [1]	20 [2]

[1] - This is the proposed criteria from the 2008 Proposed RSR Revisions.

[2] - Lake Road Generating Company approved Additional Polluting Substance

mg/L - milligrams per liter

SWPC - Surface Water Protection Criteria

Table 3
AOC #28 Stormwater Retention Area and OWS
Soil and Sedmient Analytical Results
Wallingford Energy LLC
115 John Street, Wallingford, Connecticut

Matrix	Soil	Sediment		**RES DEC**	**I/C DEC**	**GB PMC**
Sample ID	SB2011-37	RB-Discharge	RB-Inlet			
Date	12/1/2011	10/1/2012	10/1/2012			
ETPH (mg/kg)	ND<21.2	ND<25	404	500	2,500	2,500
PAHs (µg/kg)						
Benzo(a)pyrene	ND<185	ND<212	ND<198	1,000	1,000	1,000
Chrysene	ND<185	ND<212	ND<198	84,000	780,000	NE
Fluoranthene	ND<369	ND<423	ND<395	1,000,000	2,500,000	56,000
Pyrene	ND<369	NE<423	ND<395	1,000,000	2,500,000	40,000

µg/kg - micrograms per kilogram
mg/kg - milligrams per kilogram
fbg - feet below grade
GB PMC - GB Pollutant Mobility Criteria
I/C DEC - Industrial/Commercial Direct Exposure Criteria
RES DEC - Residential Direct Exposure Criteria

ARCADIS

Figures

SB2012-B4	
DEPTH	0.5-1.5
AMMONNIA AS N	12

SB2012-B3	
DEPTH	2-4
AMMONNIA AS N	7

SB2012-B2	
DEPTH	2-4
AMMONNIA AS N	12

SB2012-B1	
DEPTH	0.5-1.5
AMMONNIA AS N	19

SB2011-9	
DEPTH	2-4
AMMONNIA AS N	79

SB2011-11	
DEPTH	1-2
AMMONNIA AS N	6

SB2012-B9	
DEPTH	2-4
AMMONNIA AS N	ND<5.0

SB2012-B8	
DEPTH	2-4
AMMONNIA AS N	ND<5.0

SB2012-B10	
DEPTH	2-4
AMMONNIA AS N	13

SB2012-B5	
DEPTH	6-7
AMMONNIA AS N	ND<5.0

SB2011-10	
DEPTH	2-4
AMMONNIA AS N	6

SB2012-B7	
DEPTH	2-4
AMMONNIA AS N	8

SB2012-B6	
DEPTH	2-3.5
AMMONNIA AS N	33

SB2012-B4
SB2012-B3
SB2012-B2
SB2012-B1
SB2011-9
SB2012-B9
EW-2
SB2012-B8
SB2011-11
SB2012-B10
SB2012-B-5
SB2011-10
SB2012-B7
TW-3
SB2012-B6

LEGEND

- MONITORING WELL
- DESTROYED MONITORING WELL
- SAMPLE LOCATION - NOVEMBER 29, 2011
- SAMPLE LOCATION - OCTOBER 9, 2012

NOTES:

1. DEPTH IN FEET.
2. AMMONNIA AS N IN MILLIGRAMS PER KILOGRAM (mg/kg).

0 20' 40'

GRAPHIC SCALE

PPL WALLINGFORD ENERGY
115 JOHN STREET
WALLINGFORD, CONNECTICUT

AOC #20 (20,000-GALLON AMMONIA AST) INVESTIGATION SOIL BORING LOCATION MAP

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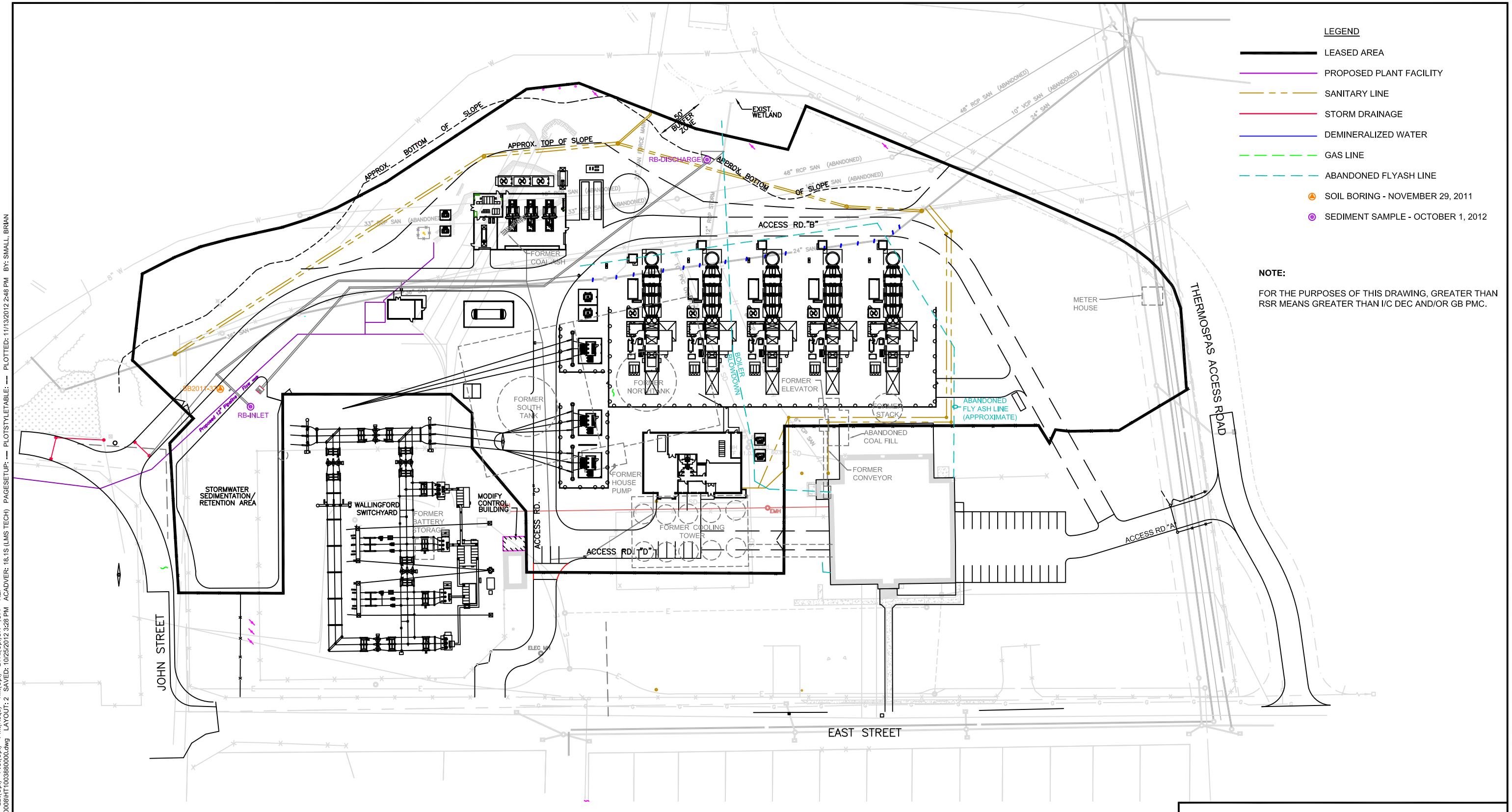
FIGURE 1



PPL WALLINGFORD ENERGY
115 JOHN STREET
WALLINGFORD, CONNECTICUT

AOC #28 (STORMWATER RETENTION AREA AND OIL WATER SEPARATOR) INVESTIGATION SAMPLE LOCATION MAP

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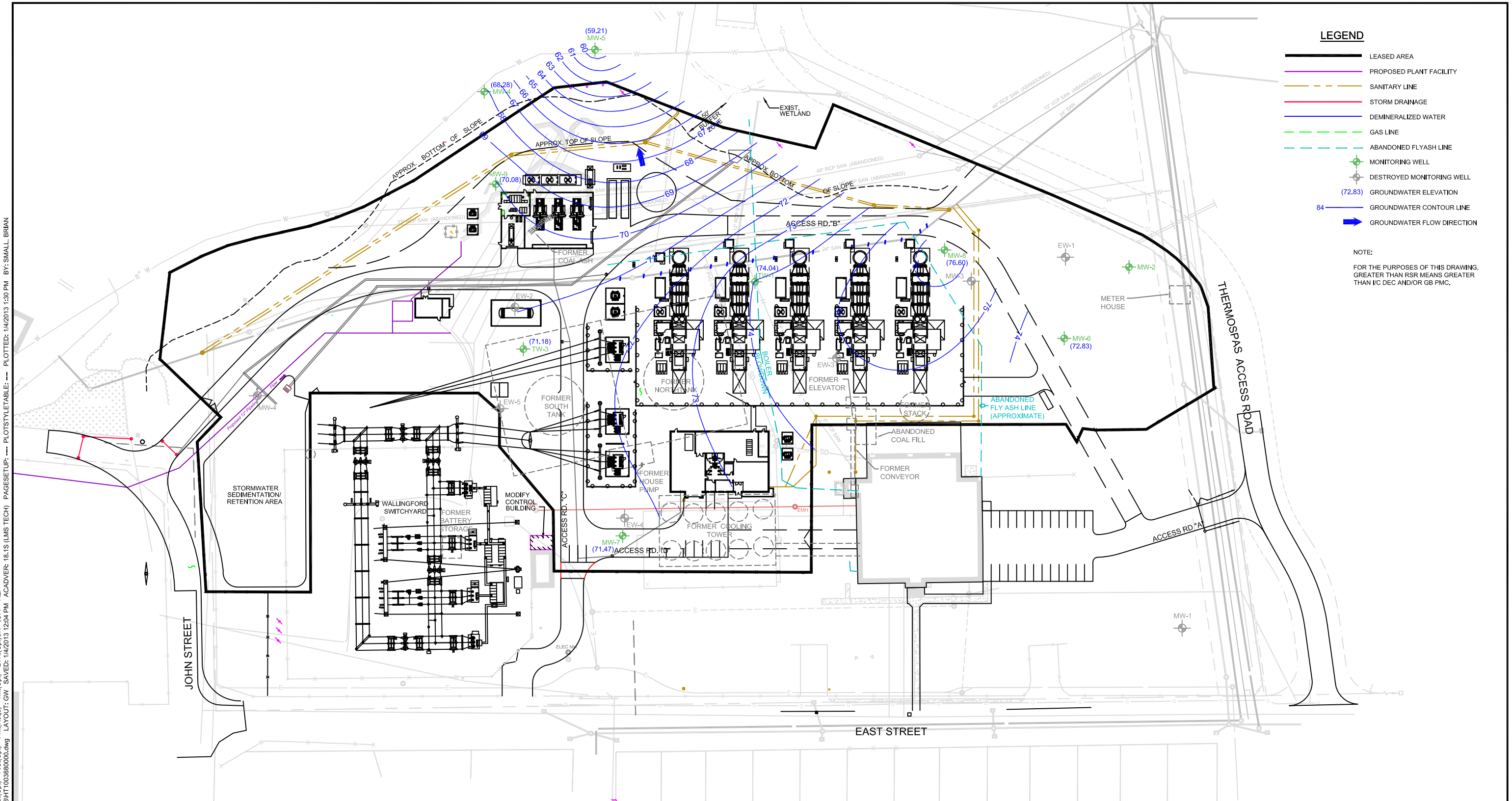
FIGURE 2



LEGEND

- LEASED AREA
- PROPOSED PLANT FACILITY
- SANITARY LINE
- STORM DRAINAGE
- DEMINERALIZED WATER
- GAS LINE
- ABANDONED FLYASH LINE
- MONITORING WELL
- DESTROYED MONITORING WELL
- (72.83) GROUNDWATER ELEVATION
- 84 GROUNDWATER CONTOUR LINE
- GROUNDWATER FLOW DIRECTION

NOTE:

FOR THE PURPOSES OF THIS DRAWING, GREATER THAN RSR MEANS GREATER THAN I/C DEC AND/OR GB PMC.

0 100' 200'

GRAPHIC SCALE

PPL WALLINGFORD ENERGY
115 JOHN STREET
WALLINGFORD, CONNECTICUT

GROUNDWATER CONTOUR MAP FEBRUARY 22, 2012

ARCADIS

FIGURE 3

CITY:(Read) DIV/GROUP:(Read) DB:(Read) LD:(Opt) PIC:(Opt) PM:(Read) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENV\CAD\Manchester\ACTIHT1003880\0000000BHT1003880000.dwg LAYOUT: GW SAVED: 1/4/2013 12:04 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 1/4/2013 1:30 PM BY: SMALL, BRIAN

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Imagine the result

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ENVIRONMENTAL

PPL Wallingford Energy LLC

Subsurface Investigation Report

115 John Street
Wallingford, Connecticut

February 2011

Date:
February 11, 2011

Contact:
Rachel M. Rosen

Phone:
860.533.9903

Email:
rachel.rosen@arcadis-us.com

Our ref:
MA001066.0001

ARCADIS

The environmental investigation described herein was conducted by the undersigned of ARCADIS-US, Inc. (ARCADIS). ARCADIS' investigation consisted solely of activities described in the Introduction of this report, in accordance with the Proposal for Environmental Consulting Services 66PPL0000.EN00, dated September 17, 2010 and is subject to the Limitations and Service Constraints provided in Appendix A and the Terms and Conditions of the Professional Services Agreement with PPL Services Corp., EMD signed prior to initiation of this assessment.

Megan Desrosiers
Geologist 2

Rachel M. Rosen, LEP
Principal

Subsurface Investigation Report

PPL Wallingford Energy LLC
115 John Street
Wallingford, Connecticut

Prepared for:
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Our Ref.:
MA001066.0001

February 11, 2011

Tables

Figures

Appendices

Executive Summary

ARCADIS U.S., Inc. (ARCADIS) recently performed a subsurface investigation at 115 John Street in Wallingford, Connecticut (the Site). The business operating at the Site, PPL Wallingford Energy, LLC (Wallingford Energy), reportedly is an establishment, as defined under the Connecticut Transfer Act (the CTA) and if transferred, potential releases from this business will have to be investigated and remediated in accordance with the Regulations of Connecticut State Agency (RCSA) Sections 22a-133k-1 through 3 (a.k.a. the Remediation Standard Regulations [RSRs]).

The focus of the subsurface investigation effort was to identify potential impacts to soil and groundwater caused by releases that have occurred at the Site. For the purposes of this site evaluation, the releases were divided into two categories:

- Those that occurred after Wallingford Energy's occupancy of the Site in 2000, and,
- Those that occurred prior to Wallingford Energy's occupancy of the Site.

At a minimum, delineation of the releases under the footprint of the property leased by Wallingford Energy, and if warranted, remediation of those caused by Wallingford Energy, will be needed to eventually close or "verify" the site in accordance with the RSRs.

ARCADIS advanced over 35 soil borings in areas of concern at the Site. Selected soil and groundwater samples from the borings were submitted to a laboratory for analysis. The soil borings were advanced at locations that were determined to likely represent the most significant environmental impacts at the Site. Areas of concern (AOCs) considered to have a low risk of a release were not investigated during the current investigation effort and generally included those AOCs associated with current site operations by Wallingford Energy.

Findings and Conclusions of the Subsurface Investigation

Constituents of concern (COCs) were detected in almost all of the 42 soil samples analyzed. Only four soil samples contained constituents of concern at concentrations that exceeded regulatory criteria. These detections appear to be associated with releases that occurred prior to Wallingford Energy's occupancy of the Site.

No impact warranting remediation was detected in the three groundwater samples collected. Light non-aqueous phase liquid (LNAPL) was measured in well EW-1 at a thickness of 0.72 inches on November 12, 2010. This LNAPL was identified as an environmental issue at the Site prior to Wallingford Energy's occupancy of the Site and it is not related to Wallingford Energy's operations.

Significant conclusions from the site investigation efforts are as follows:

- The majority of the locations known to have larger historical releases (all of which occurred prior to occupancy of the Site by Wallingford Energy) appear to have been significantly addressed during site redevelopment activities in the early 2000s. These locations, including the former coal storage area (AOC #4), the former rail line (AOC #3), the aboveground fuel oil tanks and associated piping and pump house (AOC #5, #6, #7 and #8), were all located in parts of the site that are currently occupied by significant electrical power generating equipment, electrical transformers, supporting concrete foundations, and/or sound barrier walls that reportedly extend to a depth of 18 feet below grade. In addition, site drawings provided by Wallingford Energy indicate that coal ash deposited prior to Wallingford Energy's occupancy (AOC #18) was removed from a significant portion of the slope on the western side of the Site.

  Prior to the initiation of the recent site investigation activities ARCADIS anticipated that a significant amount of material close to the surface potentially was removed during site redevelopment to accommodate the construction of the footings and foundations for the new electrical equipment, buildings, and sound walls, etc. The results of the site investigation recently performed support and appear to confirm this conceptual site model.

- ETPH, which potentially originates from releases, spills, or placement of petroleum, coal, and/or coal ash, the vast majority of which was released prior to Wallingford Energy's occupancy, was detected at almost all sampling locations at the Site. PAHs were detected in just under half of the sampling locations. With only a few exceptions, the concentrations of ETPH and PAHs were below regulatory criteria and if they are representative of the residuals that are present at the Site, would not require active remediation.

- Residual material that appears to be coal ash deposited prior to Wallingford Energy's occupancy was observed at two locations, on the western slope and in the vicinity of the former transformer on the eastern side of the site. The soil samples from former transformer present at the Site prior to Wallingford Energy's occupancy also contained volatile organic compounds. Elevated arsenic was observed in one soil sample in the former coal storage area, and in one and possibly two soil borings along the western slope.

1. Introduction

ARCADIS US, Inc. (ARCADIS) performed a subsurface investigation of the property currently leased by PPL Wallingford Energy, LLC (Wallingford Energy) located at 115 John Street, Wallingford, Connecticut (the "Site;" Figure 1). The Site has been occupied by a power plant since circa 1952. It appears that prior to that date the Site was vacant.

The Alfred E. Pierce Station, the power plant that originally began operations at the Site, went into service as a base load unit in 1953.[1] Fuels originally used to power the plant were coal and oil. The plant converted from a base load unit to a peaking plant during the 1970s and to solely using No. 4 fuel oil in 1978. Wallingford Energy began leasing the Site for use as a peaking power plant from the Town of Wallingford in March 2000. Redevelopment of the Site for use by Wallingford Energy began on-site in 2000, and the facility went commercial in 2001. Wallingford Energy uses compressed natural gas to fuel the power plant.

2. Project Objectives

A number of releases of petroleum and hazardous materials associated with power plant operations have been documented at the Site. The vast majority of these releases occurred prior to Wallingford Energy's occupancy of the Site ca. 2000 with a few smaller releases documented during Wallingford Energy's occupancy of the Site. There is limited documentation of remedial efforts prior to 2000, although it appears that remediation of some releases of petroleum and coal ash materials has taken place. It is also likely that impacted soils located in the footprints of some of the current

[1] The Pierce Plant is not located on-site.

structures were excavated to facilitate footings and foundations of the current structures, but limited documentation of these efforts was identified by ARCADIS.

Based on a review of publically available documents regarding site history and setting, and on a review of previous site investigation reports provided by Wallingford Energy and The Town of Wallingford Electric Division, ARCADIS prepared a scope of work for investigation of site soil and groundwater. The objectives of the site investigation were as follows:

- To evaluate the current status (presence/absence) of known releases. It was concluded that some documented releases might already have been remediated either as targeted remediation projects, or as a by-product of site redevelopment; and,
- To evaluate the potential presence of releases at other areas of concern not yet evaluated. Not all potential releases were documented in the historical reports and resources reviewed by ARCADIS, and one of the goals of the investigation was to determine if a release occurred at these areas of concern.

3. Summary of Areas of Concern and Scope of Investigation

Twenty-eight Areas of Concern (AOCs) were identified during ARCADIS' development of the Conceptual Site Model (CSM) for the Site. The majority of the AOCs are associated with activities which occurred before Wallingford Energy began its lease of the property. The AOCs associated with previous site occupants are summarized on Table 1A. The AOCs and potential AOCs associated with the Wallingford Energy operation are summarized on Table 1B. A site plan with the areas of concern is presented in Figure 2.

Soil and/or groundwater samples were collected at most of AOCs associated with activities performed by previous site occupants. Some of the areas of concern overlapped aerially therefore some soil samples were used to evaluate more than one AOC. Not all AOCs were accessible due to underground and above-ground utilities. Some AOCs, primarily those associated with Wallingford Energy's operations, were considered to have a low risk of a release or were difficult to access and were not included in this sampling effort. These AOCs are briefly described below and are summarized in greater detail on Tables 1A and 1B.

3.1 Areas of Concern Associated with Previous Site Occupants

AOC #1 – Petroleum Impact in the Northwestern Corner of the Site (Downgradient of Former Off-Site Lagoons

This AOC reflects potential releases that occurred prior to Wallingford Energy's occupancy of the Site. Previous site investigation reports have indicated that free-phase petroleum [light non-aqueous phase liquids (LNAPL)] has been observed on the water table in wells installed on the northwestern side of the site. No obvious on-site source of the impact was identified. It was concluded by other investigators that the observed impact migrated from an upgradient, off-site source. The suspected source was a series of lagoons operated by Alleghany Ludlum, located to the north/northwest of the Site.

Previous site investigations of the LNAPL appeared to focus on deeper soil and groundwater, but did not confirm/refute the possibility that there may have been a shallow on-site source. The current investigation in this area focused on shallow soils in the vicinity of the observed LNAPL.

AOC #2 – Northern Part of the Site Used for Trucks and Equipment Parking and for Storage of Electrical Components

Potential releases from this AOC would have occurred prior to Wallingford Energy's occupancy of the Site. This portion of the Site reportedly was used for storage of vehicles and equipment that likely contained petroleum and other fluids. The current investigation in this area focused on evaluation of potential releases to shallow soils. This area also overlaps with AOC #1, described above.

AOC #3 – Former Rail Spur

Potential releases from this AOC would have occurred prior to Wallingford Energy's occupancy of the Site. A rail spur used to transport coal, and possibly oil, to the Site formerly entered the north/northwest corner of the Site and continued through the site to the former pump house. One portion of this spur overlaps with AOCs #1 and #2, above. Other portions of the rail spur overlap with the AOCs below that were serviced by the rail spur. Sampling of this AOC focused on releases to shallow soils from potential spills from during transport, loading and unloading, and on potential impact from treated rail ties.

AOC #4 – Coal Storage and Transport Locations

This AOC reflects potential releases that would have occurred prior to Wallingford Energy's occupancy of the Site. This AOC occupied the central portion of the Site, with the eastern border marked by the former rail spur, the northern and western borders generally extending to the road that is currently present at the Site, and the southern side of the AOC bordered by the former above ground storage tank berm. The coal was stored directly on the ground surface, and it is possible that residual coal and coal dust are present at the Site. The current investigation in this area focused on evaluation of potential releases to shallow soils.

AOC #5 – Two Former 420,000-Gallon Aboveground Fuel Storage Tanks

This AOC reflects releases that occurred prior to Wallingford Energy's occupancy of the Site. Two 420,000-gallon above-ground storage tanks formerly were located to the west of the southern end of the rail spur, and to the south of the coal storage area. The tanks were surrounded by an earthen berm, and there were records of numerous releases from the tank systems. Remedial actions in the form of the excavation of soil removal were documented but the extent of residual petroleum still present in site soil was not known. Based on groundwater samples collected by EnviroMed, Payne, and TRC (see references) it does not appear that releases of petroleum from this AOC had a significant impact on groundwater at the Site. The current investigation in this area focused on evaluation of potential residual impact to soils in the footprint of the former tanks and berms.

AOC #6 – Former Fuel Pump House

This AOC reflects releases that occurred prior to Wallingford Energy's occupancy of the Site. The pump house was located adjacent to the eastern wall of the above ground storage tank berm. Releases in this area were documented, and it was not clear if residuals were still present in site soils. Due to the presence of underground power transmission equipment and above-grade transformers, sampling was not possible during the current investigation.

AOC #7 – Former Buried Oil Pipeline between the Former Pump House and the Pierce Generating Building

This AOC reflects releases that occurred prior to Wallingford Energy's occupancy of the Site. This piping in this AOC was used to transport fuel from the former pump house to the Pierce Generating Plant. There was documentation of releases and remediation activities along the length of the pipeline, although the extent of residuals present was not clearly defined. A significant portion of the footprint of this former pipeline is under new electrical equipment, the control building, and other new underground utilities. A limited amount of soil sampling was performed during the current investigation to evaluate this AOC. Sampling was targeted to both shallow soils, and to 7 to 8 feet below grade, which was the approximate depth of the bottom of the former piping excavation.

AOC #8 – Two Former 20,000-Gallon Aboveground Storage Tanks

Potential releases from this AOC would have occurred prior to Wallingford Energy's occupancy of the Site. These former above ground storage tanks were located in the footprint of the former aboveground storage tank berm and appeared to have been in use from circa 1998 through circa 2002. It is thought that they were removed to accommodate the new power plant. It is not known if there was a release from these tanks. Investigation of this AOC was evaluated along with the former 420,000-gallon tanks (AOC #5).

AOC #9 – Former Switching Station (On-Site Portion)

Potential releases from this AOC would have occurred prior to Wallingford Energy's occupancy of the Site. The vast majority of the former switching station was located to the south of the current Site; however, a small portion of the footprint of the former switching station overlapped with the current site dimensions. The current investigation in this area focused on evaluation of potential releases to shallow soils.

AOC #10 – Former Transformers

Potential releases from this AOC would have occurred prior to Wallingford Energy's occupancy of the Site. It appears that most of the transformers associated with the original Pierce Generating Plant operated by the Town of Wallingford were located off the current lease area. Based on analysis of aerial photographs, it appears that one transformer associated with the original power plant may have been located off the

northeast corner of the current site operations building. The current investigation in this area focused on evaluation of potential releases to shallow soils.

AOC #12 – Potential Former Drum Storage Area (Western Side of Far Cooling Tower Building)

Potential releases from this AOC would have occurred prior to Wallingford Energy's occupancy of the Site. Drum storage on the western side of the former cooling tower building was identified in a previous report. The footprint of this AOC appears to be below the current control building. Due to the difficulty of collecting soil samples at this location a targeted evaluation of potential releases from this AOC was not addressed in the current site investigation. Investigation of the former drum storage area may be re-addressed in future site investigation efforts.

AOC #13 – Detections of TPH at 820 ppm and Trace Concentrations of Solvents at Boring Location EW-4 (0-2 fbg)

This AOC reflects a release that occurred prior to Wallingford Energy's occupancy of the Site. Detections of TPH and low concentrations of chlorinated solvents were reported in sampling performed by EnviroMed in 1995. The current investigation in this area focused on evaluation of potential releases to shallow soils to see if there was a significant source area in soil near this AOC.

AOC #14 – Soil Stockpiled During Expansions of Substation and Switchyard

Potential releases from this AOC would have occurred prior to Wallingford Energy's occupancy of the Site. There was documentation that during renovation of the switch yard, soil from the area was excavated and staged to the west of the switch yard. It appears that the staging area may have been within the current lease area. The current investigation in this area focused on evaluation of potential releases to shallow soils to evaluate potential cross-contamination from the staged soils.

AOC #15 – Abandoned Sanitary Line

This AOC reflects a potential release that would have occurred prior to Wallingford Energy's occupancy of the Site. An abandoned sanitary discharge line is depicted in historical site plans running north-south on the western side of the Site. This AOC was investigated in conjunction with soil samples collected for AOC #4, the coal storage area.

AOC #16 – Boiler Blowdown and Discharge Line

This AOC reflects potential releases that would have occurred prior to Wallingford Energy's occupancy of the Site. A boiler blowdown discharge line is depicted in historical site plans as exiting the Pierce Generating Plant and running in a westerly direction to a discharge point at the tributary to the Quinnipiac River on the western side of the Site. The specific location of the discharge line is not clear from the maps reviewed. One shallow soil sample was collected during the current investigation near the likely discharge location on the western side of the Site.

AOC #17 – Abandoned Fly Ash Line

This AOC reflects potential releases that would have occurred prior to Wallingford Energy's occupancy of the Site. An abandoned fly ash discharge line is depicted in historical site plans as exiting the Pierce Generating Plant and running in a westerly direction toward the former top of the slope where it turns and runs in a southerly direction. The specific location of the discharge line is not clear from the maps reviewed. This area was evaluated in conjunction with samples collected from the coal storage area (AOC #4) and with one additional soil sample located to the south of the current power generating units.

AOC #18 – Former Coal Ash Disposal Location

This AOC reflects releases that occurred prior to Wallingford Energy's occupancy of the Site. Coal ash was formerly disposed of along the steep embankment that borders the western side of the Site. At least some of this material was removed circa 2001/2002 to accommodate the Wallingford Energy site improvements. This area was evaluated during the current investigation with a series of soil samples that extended to a depth of four feet below grade.[2]

---

[2] The current storm water retention area is designed to allow overflow to discharge to the tributary to the Quinnipiac River on the western side of the Site. Site personnel report that no accumulation of water has been observed in the retention area, so the potential for discharge from this area is considered to be low.

AOC #19 – Discharge to Quinnipiac River

This AOC reflects potential releases that would have occurred prior to Wallingford Energy's occupancy of the Site. Boiler blowdown and storm water are known to have been discharged to a tributary to the Quinnipiac River that is located at the bottom of the slope on the western side of the Site. This area was evaluated with one shallow soil sample also used to characterize AOC #16 (former boiler blowdown and discharge line).

AOC #22 – Former Coal Elevator and Coal Fill and AOC #23 – Former Stack

This AOC reflects potential releases that would have occurred prior to Wallingford Energy's occupancy of the Site. These areas appear to have been excavated during site redevelopment activities to accommodate underground electrical equipment. The location of these former AOCs is covered with banks of subsurface electrical equipment. Due to the difficulty with access to the area, potential releases from these AOCs were not evaluated during the current investigation. Investigation of these AOCs may be re-addressed in future site investigation efforts.

3.2 Potential AOCs Related to Wallingford Energy Operations

There are a number of potential AOCs that are associated with the current Wallingford Energy operations. A summary is presented below.

AOC #11 – Current Transformers

There are eight electrical transformers associated with the current PPL Wallingford Energy operation. No documentation of releases from these new transformers was identified by ARCADIS. These transformers are less than ten years old, and the risk of a non-documented release was determined to be low. Because of this, and because of the technical difficulty of collecting soil samples at this AOC, a targeted evaluation of potential releases from this AOC was not addressed in the current site investigation. Investigation of the current transformers may be re-addressed in future site investigation efforts.

AOC #20 – 20,000-Gallon Ammonia Aboveground Storage Tank

A 20,000-gallon ammonia AST (19% aqueous ammonia) is located to the north of the natural gas transfer building. There were no documented releases from this AST. Potential releases from this AOC were not evaluated during the current investigation.

AOC #21 – 4,000-Gallon Propylene Glycol Aboveground Storage Tank

This AST is stored inside, adjacent to the gas compressor room. In 2008, Wallingford Energy had to add 500-gallons of propylene glycol to its closed loop cooling system and reported a release of 500 gallons to the CT DEP. No physical evidence of a release, such as a leaking pipe, stained or impacted soil, pavement, etc., was ever identified. A possible location for the release was identified and soil in the vicinity was investigated at the time by Wallingford Energy; however, there was no evidence of a release at that location. The spill report is considered closed by the CT DEP. This AOC was addressed with one soil boring at the location of the suspected release.

AOC #24 – Other Process Materials Stored in the Control Building and AOC #25 – Other Process Materials Stored in the Gas Compression Building

Hazardous materials used in the process of energy generating are stored at interior locations. There is a low risk of a release from these AOCs and potential releases from these AOCs were not evaluated during the current investigation. Investigation of these AOCs may be re-addressed in future site investigation efforts.

AOC #26 – 500-Gallon Diesel Storage in Emergency Generator

Diesel fuel for the emergency generator is stored under the generator, at an exterior location. The risk of a release at this AOC was considered to be low, and there were no documented releases identified. Potential releases from this AOC were not evaluated during the current investigation. Investigation of this area may be re-addressed in future site investigation efforts.

AOC #27 – Dumpsters

There are solid waste dumpsters at the Site. The risk of a release at this AOC was considered to be low, and there were no documented releases identified. Potential releases from this AOC were not evaluated during the current investigation. Investigation of this area may be re-addressed in future site investigation efforts.

AOC #28 – Storm Water Retention Area and Oil/Water Separator

Storm water from the Site is discharged to this area. The risk of a release at this AOC was considered to be low, and there were no documented releases identified. Potential releases from this AOC were not evaluated during the current investigation. Investigation of this area may be re-addressed in future site investigation efforts.

3.3 Other Potential Areas of Concern

There were several additional documented spills for the Site and the site vicinity that were not evaluated during the current site investigation activities. The current investigation focused on evaluation of larger known releases and the more significant potential release areas. It was not anticipated that the impact from the spills described below would be significant, and they were not evaluated during the current investigation. Investigation of these reported spills may be re-addressed in future site investigation efforts.

Files at the CT DEP contained documentation of three spills that were reported at 195 East Street circa 1999 through 2001. It is not clear if these spills occurred on-site at the Wallingford Energy leased property, or if they occurred at the Pierce Plant. The first release occurred prior to Wallingford Energy's occupation of the Site and the second two releases occurred during Wallingford Energy's occupation of the Site. The three releases are summarized below.

- In May 1999, approximately one gallon of No. 4 fuel oil was released due to hose failure at the Pierce Generating Plant. According to the Emergency Incident Report, the spill was contained and contaminated soil was removed.
- In May 2001, approximately 50 gallons of motor oil were released to the ground surface due to hose failure at "East St [PPL Wallingford Power Project]." The release was terminated, but no emergency measures were reported.
- Later in May 2001 approximately one gallon of transformer oil was released to the ground surface due to transformer failure at 195 East Street. The release was terminated and the spill was sanded. No additional information was provided on the Emergency Incident Report. Additional research would be required to determine if these releases occurred at the Wallingford Energy leased property.

Documentation of two additional spills that occurred after Wallingford Energy began leasing the Site was located in CT DEP files. Although these spills may have impacted site soils, they appear to have been significantly smaller than some of the releases described during the operation of the Site by the Town of Wallingford and were not included in the current site investigation efforts. These spills are summarized below.

- In March 2002, three gallons of lubrication oil were released to the ground surface when oil was sprayed from the turbines onto the driveway. There was evidence of staining, but since all storm water goes to the oil/water separator, the case was deemed closed.
- On August 13, 2002, 15 gallons of lubrication oil were released to the rock and gravel as well as the driveway. One hundred-fifty square yards of rock and gravel were removed as an emergency measure.

4. Regulatory Setting

The Site is not currently in a regulatory program, but as was noted above, Wallingford Energy reportedly is an establishment, as defined under the Connecticut Transfer Act, and if transferred, would have to be investigated and remediated in accordance with RSRs. The RSR criteria that would apply to this Site are as follows:

Direct Exposure Criteria (DEC)

The purpose of the DEC standard is to protect human health from risks associated with direct contact/ingestion with/of soil contaminants. The DEC is applicable to soil within 15 feet of ground surface. They do not apply to "inaccessible soils," which are defined as soils more than four feet below ground surface, two feet below qualifying pavement, or below an existing building, provided an Environmental Land Use Restriction (ELUR) is in effect for the whole parcel or the area of the release. The use of less stringent industrial/commercial standards requires placing an ELUR on property land records, but the use of residential standards would not.

Constituents of concern identified through development of the Conceptual Site Model and Work Plan for the Site would be presented relative to both the Residential DEC (RES DEC) and the Industrial/Commercial DEC (I/C DEC).

GB Pollutant Mobility Criteria (GB PMC)

Concentrations of contaminants in soil are also evaluated relative to the Pollutant Mobility Criteria (PMC). The purpose of the PMC is to evaluate the potential for contaminants to migrate from the soil and degrade the underlying water. For most constituents, this evaluation can be performed by either using samples analyzed for total mass concentrations and comparing the results directly to PMC values presented in the RSRs; or subjecting soil samples to the Synthetic Precipitation Leaching Procedure (SPLP) and comparing the results directly to the GWPC. For inorganic compounds, the PMC are not applicable to mass analyses and SPLP testing is necessary. The maximum potential SPLP concentrations for inorganic substances can be estimated by dividing total mass concentrations by twenty as actual leachable concentrations are generally well below this calculated maximum.

There are two separate lists of criteria for the PMC for either a GA classified groundwater area or a GB classified groundwater area. Since the Site groundwater is classified as GB, the GB PMC would apply to constituents of concern. The GB PMC does not apply to soils located below the seasonal high groundwater table.

Volatilization Criteria (VC)

The purposes of the VC are to protect human health from risks associated with inhalation of volatile vapors that may migrate through building slabs into occupied spaces. As with the DEC, separate criteria are established for residential and industrial/commercial areas and the use of the less stringent industrial/commercial standards requires placing an ELUR on property land records. Criteria are available for groundwater, soil vapor and indoor air concentrations.

Constituents of concern identified at the Site will be presented relative to both the Residential VC (ResVC) and the Industrial/Commercial VC (I/C VC).

Surface Water Protection Criteria (SWPC)

The purpose of the SWPC is to evaluate if contaminated groundwater that discharges to a surface water body interferes with the attainment of surface water quality standards for that water body. Detected constituents of concern can be compared directly with the numeric SWPC; however, compliance with the SWPC is demonstrated on a site-wide basis by comparing the average plume concentrations or the plume concentration directly upgradient of the point of discharge to the receiving surface

water body to the SWPC. In addition, a self-implementing alternative SWPC can be calculated based on the low flow conditions of the receiving surface water body.

5. Soil Sampling Activities

Subsurface investigations were completed to evaluate if a release had occurred to the underlying soils and groundwater at select AOCs; to evaluate if residual impact was present in AOCs where releases had previously been confirmed, and to provide limited delineation of selected impacts detected during the investigation. As was noted above, the sampling during the current site investigation was targeted toward those releases and potential releases that were anticipated to be larger in magnitude. As such, many of the potential AOCs and AOCs associated with current Wallingford Energy site operations were not directly sampled during the current investigation.

Soil sampling locations were selected in areas that were deemed most likely to exhibit impact in the event of a release at a given AOC. These sampling locations were strategically chosen to cover both areas of potential releases as well as avoid underground structures at the Site.

The conceptual site model for the Site is that potential or actual releases from most of the AOCs would have impacted surficial soils, with the potential for downward migration of materials that may have been released. ARCADIS reviewed plans depicting site contours prior to redevelopment and compared them with plans depicting site contours after redevelopment. With the exception of the slope on the western side of the Site, site elevations generally were similar prior to and after redevelopment. Therefore, the sampling of shallow soils, and extending the soil borings several feet deeper to evaluate soil quality a few feet below current grade is appropriate for most locations at the Site. There were a few locations, such as the former 420,000-gallon aboveground tanks, where soil borings were advanced and soil samples were screened to a deeper depth. Soil remediation historically was performed at this location, so it was reasonable to anticipate that residuals might be present at greater depth. This type of reasoning was employed during investigation of each of the AOCs.

Many of the AOCs overlapped in their aerial extent (e.g., AOC#1, AOC#2 and AOC#3). For this reason some samples were analyzed for multiple constituents so as to provide environmental impact information that would cover each AOC at that particular location. Tables 1A and 1B group those AOCs that overlap in aerial extent.

Constituents of concern were evaluated by reviewing historical and existing processes and environmental investigations. The constituents varied depending on the AOC under investigation, but overall included volatile organic compounds by EPA Method 8260 (VOCs), RCRA 8 metals plus copper, extractable total petroleum hydrocarbons by the Connecticut methodology (ETPH), semi-volatile organic compounds by EPA Method 8270 (SVOCs), polynuclear aromatic hydrocarbons by EPA Method 8270 (PAHs) and/or polychlorinated biphenyls by EPA Method 8082(PCBs). Additionally, the possible 2008 release of propylene glycol was investigated by ARCADIS during this investigation.

5.1 Utility Clearance Activities

Prior to the initiation of any subsurface activities a significant amount of underground and aboveground utility clearance due diligence was performed. Both historical and current utilities were of concern. ARCADIS contacted the public utility markout service and retained the services of a private utility locating contractor to assist with identifying locations where soil borings could safely be advanced. In addition, the Town of Wallingford's electric and sewer and water departments, Algonquin Gas and others sent technicians to the Site to assist with the efforts during the subsurface investigation activities.

ARCADIS used site plans showing "as-built" locations of current utilities, and approximate locations of abandoned in place, out of use utilities. Wallingford Energy's on-site manager also provided information and documents regarding the configuration of underground utilities and the selection of drilling locations.

A private utility contractor, Underground Surveying, LLC of New Fairfield, Connecticut, screened the site prior to drilling activities. Locations were screened with cable and pipe locators and GPR. Active mode cable and pipe locating were performed by directly applying a radio signal (where possible) to underground utilities including electric, telephone, cable, water, gas, drains and sewer. A deductable duct rod of transmitting sonde was threaded within select non-metallic drain and sanitary sewer lines that appeared to run through the survey areas. Passive mode cable and pipe locating were performed around each location to search for inaccessible high voltage electric and telecommunication lines. GPR was performed around each proposed drilling location to more accurately determine the location and depth of each line identified, and to search for metallic, non-metallic, unknown and abandoned lines.

In addition to the pre-drilling utility clearance activities, hand augers were used to collect shallow soil samples and an air knife was used to clear soil boring / temporary monitoring well locations prior to sampling / installation using direct push drilling.

5.2 Test Borings

Between October 18 and 22, 2010, Haz-Probe, Inc. of Hampden, Massachusetts advanced 35 soil borings at the Site using an air knife. Soil boring locations are depicted in Figure 3. Soil samples were collected every two feet using a hand auger. All soil samples were visually classified and logged for soil characterization purposes. In general, soils consisted of dark brown and yellowish-brown fine to medium sands.

Additionally, each soil sample was field screened for total photoionizable volatile organic compounds (VOCs) with a Photovac 2020 Photoionization Detector (PID). Soil lithology and VOC detections noted during field screening activities are presented in soil boring logs provided in Appendix B.

Three of the test borings (SB-8 through SB-10) were completed as temporary well points using a track-mounted direct push GeoProbe®. The locations were initially air-knifed to eight feet below grade (fbg) with hand auger samples collected every two feet, and then the GeoProbe® was used to advance the boring to depth. Soil samples were collected using four-foot acetate liners. A two-inch diameter, ten-foot long PVC screen was used to set the temporary well points in each of the three test borings at seven feet below the groundwater table. Locations of the temporary well points are depicted in Figure 3.

5.3 Soil Sampling/Analysis

Soil samples collected during test boring installation activities were labeled based on the soil boring depth and the depth from where the sample was collected. For example, SB-1 (1-2) indicates that the sample was collected from test boring SB-1 at a depth of one to two fbg.

One soil sample, typically from depths of 0 to 2 fbg or 1 to 2 fbg, was collected from each boring and analyzed for the constituents of concern associated with each AOC. Other depth intervals were selected depending on the conceptual site model and likely release mechanism at each AOC. Deeper sample intervals were collected and placed on hold at the laboratory pending the receipt and review of the analytical data from the first samples.

Sample collection methodology for VOCs consisted of the collection of a soil sample directly from the hand auger immediately after removal of the auger from the borehole. Efforts were made to minimize disturbance of the soil samples.

All containers were pre-labeled, and, after adding the sample time to the label, the sample was immediately placed in an iced cooler. The collected soil samples were transported under chain of custody to Accutest Laboratories of Marlborough, Massachusetts for analysis.

5.4 Groundwater Sampling/Analysis

Groundwater samples were collected to confirm previous groundwater sampling data and to provide an indication of current conditions. Three of the soil borings advanced by Haz-Probe (SB-8, SB-9 and SB-10) were completed as temporary well points and samples of groundwater were collected from these locations. The groundwater sample collected from the former coal storage and transport locations (TW-1 [SB-8]) was analyzed for ETPH, VOCs, PAHs and RCRA 8 metals plus copper. The groundwater sample collected from the on-site portion of the former switching station (TW-2 [SB-9]) was analyzed for ETPH, PAHs and PCBs. The groundwater sample collected from the vicinity of the two former 420,000-gallon fuel ASTs (TW-3 [SB-10]) was analyzed for ETPH, PAHs and VOCs.

Records were kept of field monitoring parameters including flow rate, depth to water, temperature pH, dissolved oxygen, specific conductance, and turbidity until stabilization of those parameters could be demonstrated and groundwater samples could be collected for laboratory analysis. Copies of the water quality measurement forms are included in Appendix C.

ARCADIS is scheduled to collect groundwater samples from three additional groundwater monitoring wells at the Site on November 12, 2010. The wells, which are owned by the Town of Wallingford Electric Division, include well MW-1 (aka EW-1), on the upgradient side of the Site, and wells MW-4 and MW-5, located downgradient of the western slope of the Site. Well MW-1 is the well which historically has contained measureable free product. The results of this sampling event will be documented in an addendum letter to this report.

Temporary well points and monitoring well locations are illustrated in Figure 3.

5.5 Soil and Groundwater Sampling Results

ARCADIS advanced over 35 soil borings in areas of concern at the Site. Selected soil and groundwater samples from the borings were submitted to a laboratory for analysis. Constituents of concern were detected in almost all of the 42 soil samples analyzed. Only 4 soil samples contained constituents of concern at concentrations that exceeded regulatory criteria and potentially require remediation. These detections appear to be related to activities that took place at the Site prior to Wallingford Energy's occupancy of the Site.

Visual indications of impact and/or residual coal, coal ash or petroleum were observed in a limited number of soil borings. Material similar to residual coal ash was observed in soil boring SB-27 (0 to 6 fbg) and SB-31 (0 to 4 fbg). Elevated PID readings and an odor were also observed in SB-27. Black fragments, possibly related to residual coal or coal ash, were observed in SB-13 (2-4), SB-16 (2-4), and SB-18 (2-4).

Additionally, very dark soils potentially indicative of impact residuals were observed in eight soil borings including SB-2 (0-2), SB-3 (0-2), SB-4 (2-4), SB-17 (0-2 and 2-4), SB-26 (0-2), SB-27 (0-2), SB-28 (0-2 and 2-4), and SB-29 (2-4).

No visual indications of potential impact or elevated PID readings were observed in any of the other soil samples or borings.

The soil sample analytical results are summarized on Table 2. A brief summary of the laboratory analytical results for soil are also presented below:

- ETPH were detected across the Site in 30 of 36 soil sample analyzed for ETPH. All but two of the detections were below RSR criteria. Soil samples SB-27 (1-2) and SB-27 (2-4), located in AOC #10, the former transformer area, contained ETPH at 597 milligrams per kilogram (mg/kg) and 539 mg/kg, respectively. These concentrations exceed the RES DEC of 500 mg/kg for ETPH, but are below the I/C DEC and the GB PMC of 2,500 mg/kg for ETPH.

- PAHs were detected across the Site in 14 of 37 shallow soil samples analyzed for PAHs. With the exception of soil sample SB-2 (0-2), located in AOCs #1 through #3, on the northern side of the Site, none of the detections were at concentrations above the numeric RSR criteria. The concentrations of one or more PAHs in soil sample SB-2 (0-2) exceed the numeric RES DEC, the I/C DEC, and/or the GB PMC.

- Metals were detected in all of the soil samples analyzed for metals but were only detected at concentrations indicative of a possible release in three samples. Arsenic was detected at a concentration of 31.7 mg/kg in soil sample SB-11 (1-2), and at concentrations of 9.8 mg/kg and 15.1 mg/kg in soil samples SB-31 (1-2) and SB-32 (1-2), respectively. Arsenic is often associated with coal and coal ash, and may indicate the presence of residuals at these locations.

  The concentrations of arsenic in SB-11 and SB-32 exceed the residential and industrial commercial DEC, both established at 10 mg/kg. SB-11 was located in the former coal storage area, and SB-31 and SB-32 were located in the former coal ash area on the western slope of the Site.

- VOCs were detected in three soil samples. Two of the detections were in shallow soil samples collected the former equipment storage area on the northern side of the site (AOC #2). These samples also overlap with AOCs #1 (upgradient petroleum) and AOC #3 (former rail spur). Benzene was detected at 1 microgram per kilogram (ug/kg) in soil sample SB-2 (0-2) and numerous VOCs were detected in soil sample SB-3 (1-2). None of the VOCs detected in these two samples were detected above RSR criteria.

  The concentrations of benzene of 2,130 ug/kg and 303 ug/kg detected in soil samples SB-27 (1-2) and SB-27 (2-4), exceeded the GB PMC of 200 ug/kg for benzene. Numerous other VOCs were detected in these samples, none at concentrations above RSR criteria. This soil boring was located near the former transformer on the eastern side of the Site.

- PCBs were detected in one of the 13 soil samples analyzed for PCBs. Soil sample SB-6 (0-2), located in the former coal storage area, contained Aroclor 1248 at a concentration of 137 ug/kg. This concentration is below the RES DEC (1,000 ug/kg) for PCBs.

The groundwater sample analytical results are summarized on Table 3. A brief summary of the laboratory analytical results for soil are also presented below:

- No VOCs, PAHs, PCBs, or metals were detected in the groundwater sample analyzed for those constituents.

- ETPH was detected in a groundwater sample collected from TW-1 (SB-8) at a concentration of 0.796 milligrams per liter. ETPH was not detected in the groundwater samples collected from temporary well points TW-2 (SB- 9), or TW-3 (SB-10). The criterion for ETPH in GB groundwater areas such as the Site is the absence of recoverable free product. No free product was observed in any of the three temporary wells.

- ARCADIS collected groundwater samples from the wells on the western (downgradient) side of the Site on November 12, 2010. The upgradient well (EW-1) was not sampled due to the presence of 0.72 inches of LNAPL. The results will be provided in an addendum to this report.

Laboratory analytical reports for both the soil and groundwater samples are provided in Appendix D.

6. Quality Assurance/Quality Control Procedures

ARCADIS requested that the laboratory follow the Reasonable Confidence Protocols (RCPs) during its analysis of the soil and groundwater samples. In addition, matrix spike/matrix spike duplicate samples, duplicate samples and trip blanks were all analyzed by the laboratory.

There were several non-conformances with the samples that would provide a low or high bias to the data. The matrix spike recovery for PAHs was low which may present a low bias for the PAH results for soil samples SB-1 through SB-7. Soil sample SB-24 (1-2) may not be usable due to matrix interference.[3] These non-conformances will be re-evaluated prior to the performance of additional site investigations to confirm that the samples may be relied upon for site closure and verification.

[3] The reporting limits for PAHs for soil sample SB-24 (1-2) were greater than regulatory criteria for some compounds. The laboratory reported that the higher reporting limit was due to the need to dilute the sample because of matrix interference. No anomalies were observed in the field screening of the sample. This sample is likely not usable as a verification point.

However, based on ARCADIS' review of the data, the soil and groundwater samples [other than SB-24 (1-2)] are usable for the intended purpose of identifying releases and residual impacts at the Site.

7. Findings and Conclusions

ARCADIS U.S., Inc. (ARCADIS) recently performed a subsurface investigation at 115 John Street in Wallingford, Connecticut (the Site). The business operating at the Site, PPL Wallingford Energy, LLC, reportedly is an establishment, as defined under the Connecticut Transfer Act (the CTA) and if transferred, potential releases from this business will have to be investigated and remediated in accordance with the Regulations of Connecticut State Agency (RCSA) Sections 22a-133k-1 through 3 (a.k.a. the Remediation Standard Regulations [RSRs]).

The focus of the subsurface investigation effort was to identify potential impacts to soil and groundwater caused by releases that have occurred at the Site. For the purposes of this site evaluation, the releases were divided into two categories:

- Those that occurred after Wallingford Energy's occupancy of the Site in 2000, and,
- Those that occurred prior to Wallingford Energy's occupancy of the Site.

At a minimum, delineation of the releases under the footprint of the property leased by Wallingford Energy, and if warranted, remediation of those caused by Wallingford Energy, will be needed to eventually close or "verify" the site in accordance with the RSRs.

ARCADIS advanced over 35 soil borings in areas of concern at the Site. Selected soil and groundwater samples from the borings were submitted to a laboratory for analysis. The soil borings were advanced at locations that were determined to likely represent the most significant environmental impacts at the Site. Areas of concern (AOCs) considered to have a low risk of a release were not investigated during the current investigation effort and generally included those AOCs associated with current site operations by Wallingford Energy.

Constituents of concern (COCs) were detected in almost all of the 42 soil samples analyzed. Only four soil samples contained constituents of concern at concentrations that exceeded regulatory criteria. These detections appear to be associated with releases that occurred prior to Wallingford Energy's occupancy of the Site.

No impact warranting remediation was detected in the three groundwater samples collected. Light non-aqueous phase liquid (LNAPL) was measured in well EW-1 at a thickness of 0.72 inches on November 12, 2010.

Significant conclusions from the site investigation efforts are as follows:

- The majority of the locations known to have larger historical releases (all of which occurred prior to occupancy of the Site by Wallingford Energy) appear to have been significantly addressed during site redevelopment activities in the early 2000s. These locations, including the former coal storage area, the former rail line, the aboveground fuel oil tanks and associated piping, were all located in parts of the site that are currently occupied by significant electrical power generating equipment, electrical transformers, supporting concrete foundations, and/or sound barrier walls that reportedly extend to a depth of 18 feet below grade. In addition, site drawings provided by Wallingford Energy indicate that coal ash deposited prior to Wallingford Energy occupancy was removed from a significant portion of the slope on the western side of the Site.

  Prior to the initiation of the recent site investigation activities ARCADIS anticipated that a significant amount of material close to the surface potentially was removed during site redevelopment to accommodate the construction of the footings and foundations for the new electrical equipment, buildings, and sound walls, etc. The results of the site investigation recently performed support and appear to confirm this conceptual site model.

- ETPH, which potentially originates from releases, spills, or placement of petroleum, coal, and/or coal ash, the vast majority of which was released prior to Wallingford Energy's occupancy, was detected at almost all sampling locations at the Site. PAHs were detected in just under half of the sampling locations. With only a few exceptions, the concentrations of ETPH and PAHs were below regulatory criteria and if they are representative of the residuals that are present at the Site, would not require active remediation.

- Residual material that appears to be coal ash deposited prior to Wallingford Energy's occupancy was observed at two locations, on the western slope and in the vicinity of the former transformer on the eastern side of the site. The soil samples from former transformer present at the Site prior to Wallingford Energy's occupancy also contained volatile organic compounds. Elevated arsenic was observed in one soil sample in the

former coal storage area, and in one and possibly two soil borings along the western slope.

8. References

1. Persons/Offices Contacted Regarding the Site:

- Mr. William Lewis, PPL Wallingford Energy LLC
- Mr. Nathan Chubet, PPL Wallingford Energy LLC
- Mr. Richard Hendershot, General Manager, Town of Wallingford Electric Division
- Mr. Eric Kruger, Town of Wallingford Water Division

Town of Wallingford

- Tax Assessor
- Building Department
- Fire Prevention Bureau
- Health Department
- Planning and Zoning Department
- Town Clerk
- Public Utilities
- Engineering Department

State of Connecticut

- Department of Environmental Protection, Bureau of Waste Investigation
- Department of Environmental Protection, Bureau of Water Investigation
- Connecticut State Library
- Department of Consumer Protection

2. Reports, Plans and Other Documents Reviewed:

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Environmental Data Resources, Inc. (EDR):

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Environmental Data Resources, Inc. The EDR Historical Topographic Map Report, PPL, 195 East Street, Wallingford, CT 06492, Inquiry Number 2878140.4, dated September 24, 2010.

Environmental Data Resources, Inc. The EDR Radius Map™ Report with Geocheck®, PPL, 195 East Street, Wallingford, CT 06492, Inquiry Number 2878140.2s, dated September 24, 2010

ARCADIS

Tables

Table 1A
Summary of AOCs Attributed to Historical Site Operations (Prior to Wallingford Energy Occupancy)
October 2010 Investigation
PPL Wallingford Energy LLC
115 John Street, Wallingford, Connecticut

Area of Concern	Nature of Release Area or Potential Release Area	Constituents of Concern	Known or Potential Release Mechanisms	Environmental Setting of Release or Potential Release	ARCADIS Test Borings
1	Petroleum Impact in NW Corner of Site (DG of former off-site lagoons)	ETPH PAHs VOCs PCBs	Former off-site lagoons' contents leaching into the groundwater, which flows in the direction of the Site.	Petroleum and chlorinated solvents are potentially migrating through groundwater in the form of NAPL onto the northwestern corner of the Site.	SB-1, SB-2, SB-3, SB-4, SB-5, SB-7, SB-13 (AOC #3 and #4 only)
2	Northern Part of Site used for Truck and Equipment Parking and for Storage of Electrical Components	ETPH PAHs PCBs	Potential releases of PCB and non-PCB containing fluids onto the ground.	The equipment was stored on bare ground, and not on a concrete or bituminous pavement pad. This AOC is in the same location as and is assessed with AOC #1 & #3.	
3	Former Rail Spur	ETPH PAHs PCBs	Potential releases of coal, lubricating oils and wood preservatives from the rail cars.	This AOC is in the same area as and is assessed with AOC#1 #2 & #4.	
4	Coal Storage and Transport Locations	ETPH PAHs RCRA 8	Potential releases through rainwater causing leaching into the ground of coal-related constituents.	The coal was stored on bare ground.	SB-6, SB-8/TW-1, SB-11, SB-12, SB-13, SB-14, SB-15, SB-16
5	Two Former 420,000-Gallon Aboveground Fuel Storage Tanks	ETPH PAHs VOCs	Spills, releases and overfills.	Earthen berms were used to contain spills, releases and overfills.	SB-10/TW-3, SB-18, SB-19, SB-21, SB-22
6	Former Fuel Pump House	ETPH PAHs VOCs	Spills, releases and overfills.	This AOC is in the same area as and is assessed with AOC#5 & #8.	
8	Two Former 20,000-Gallon Aboveground Storage Tanks	ETPH PAHs VOCs	Spills, releases and overfills.	This AOC is in the same area as and is assessed with AOC#5 & #6.	
7	Former Buried Oil Pipeline between the Former Pump House and the Pierce Generating Building	ETPH PAHs VOCs	Releases at connection points to surrounding soil.	The pipeline was buried in the soil leading from the fuel pump house (AOC#6) to the Pierce Generating Building.	SB-27
9	Former Switching Station (on-site portion)	ETPH PAHs PCBs	Documented releases.	The former switching yard was on bare ground.	SB-9/TW-2, SB-25

Table 1A
Summary of AOCs Attributed to Historical Site Operations (Prior to Wallingford Energy Occupancy)
October 2010 Investigation
PPL Wallingford Energy LLC
115 John Street, Wallingford, Connecticut

Area of Concern	Nature of Release Area or Potential Release Area	Constituents of Concern	Known or Potential Release Mechanisms	Environmental Setting of Release or Potential Release	ARCADIS Test Borings
10	Former Transformers	ETPH PAHs PCBs	Potential spills and releases from piping, fittings and appurtenances.	It is unknown if the former transformers were located on concrete pads.	SB-26
12	Potential Former Drum Storage Area (Western Side of Far Cooling Tower Building)	ETPH PAHs VOCs RCRA 8 + copper	Potential spills and releases from poor drum handling practices.	Unknown if the drums were stored on bare ground.	Not sampled during current investigation
13	Detections of TPH at 820 ppm and Trace Concentrations of Solvents at Boring Location EW-4 (0-2 fbg)	ETPH PAHs VOCs	Unknown release.	Detections of TPH and low concentrations of chlorinated solvents were reported in sampling performed by EnviroMed in 1995.	SB-28, SB-29
14	Soil Stockpiled During Expansions of Substation and Switchyard	ETPH PAHs PCBs	Direct contact with soil and leachate from storm water.	Unknown if stockpile was stored on and under polyethylene sheeting.	SB-23, SB-24
15	Abandoned Sanitary Line	ETPH PAHs PCBs	Potential releases from joints in the piping. Materials may have been inadvertently been discharged down the sinks, including petroleum products and shop solvents.	The line was likely buried in soil.	SB-16, SB-20
17	Abandoned Fly Ash Line	ETPH PAHs RCRA 8	Potential releases from joints in the piping and at the point of discharge.	This area is in the same area as and is assessed with AOC#15.	
18	Former Coal Ash Disposal Location	ETPH PAHs RCRA 8 + copper	Direct contact with soil and leachate from storm water.	The coal ash was stored directly on soil along the steep embankment that borders the western side of the Site.	SB-30, SB-31, SB-32, SB-33, SB-34, SB-35

Table 1A
Summary of AOCs Attributed to Historical Site Operations (Prior to Wallingford Energy Occupancy)
October 2010 Investigation
PPL Wallingford Energy LLC
115 John Street, Wallingford, Connecticut

Area of Concern	Nature of Release Area or Potential Release Area	Constituents of Concern	Known or Potential Release Mechanisms	Environmental Setting of Release or Potential Release	ARCADIS Test Borings
16	Boiler Blowdown Discharge Line	ETPH PAHs VOCs RCRA 8 + copper	Potential releases from joints in the piping and at the point of discharge.	The boiler blowdown and storm water discharged directly to a tributary of the Quinnipiac River at the bottom of a slope on the western side of the Site.	SB-8/TW-1, SB-15, SB-35
19	Discharge to Quinnipiac Tributary	ETPH PAHs VOCs RCRA 8 + copper	Direct contact with surface water and/or sediment and leaching from storm water.		
22	Former Coal Elevator and Coal Fill	ETPH PAHs RCRA 8	Direct contact with soil and leachate from storm water.	Coal could have fallen out of the elevator onto the ground.	Not sampled during current investigation
23	Former Stack	ETPH PAHs RCRA 8	Direct contact with soil and leachate from storm water.	Residuals from the coal burning process would have accumulated in this location.	Not sampled during current investigation

Table 1B
Summary of AOCs Attributed to Current Site Operations (Wallingford Energy Occupancy)
October 2010 Investigation
PPL Wallingford Energy LLC
115 John Street, Wallingford, Connecticut

Area of Concern	Nature of Release Area or Potential Release Area	Constituents of Concern	Known or Potential Release Mechanisms	Environmental Setting of Release or Potential Release	ARCADIS Test Borings
11	Current Transformers	ETPH PAHs PCBs	Potential spills and releases from piping, fittings and appurtenances.	The current transformers are located on concrete pads.	Not sampled during current investigation
20	20,000-Gallon Ammonia Aboveground Storage Tank	Ammonia (19%)	Potential releases to the atmosphere from fittings, piping and appurtenances.	AST is located outside on a concrete pad.	Not sampled during current investigation
21	4,000-Gallon Propylene Glycol Aboveground Storage Tank	Propylene Glycol	Potential releases through leaks in the piping and fittings.	AST is on a concrete pad without a berm within the gas compressor building.	SB-17
24	Other Process Materials Stored in the Control Building	ETPH PAHs VOCs RCRA 8 + copper	Spills and releases due to poor container handling practices.	Process materials stored directly on concrete and on shelving.	Not sampled during current investigation
25	Other Process Materials Stored in the Gas Compression Building	ETPH PAHs VOCs RCRA 8 + copper	Spills and releases due to poor container handling practices.	Process materials stored directly on concrete.	Not sampled during current investigation
26	500-Gallon Diesel Storage in Emergency Generator	ETPH PAHs VOCs	Spills, releases from pipes, fittings and appurtenances, and overfills.	Diesel storage tank contained within emergency generator, which is located on a concrete pad.	Not sampled during current investigation
27	Dumpsters	ETPH PAHs VOCs	Materials could have inadvertently disposed of in the dumpsters, including petroleum products and solvents.	Located directly on gravel.	Not sampled during current investigation
28	Storm Water Retention Area and Oil/Water Separator	ETPH PAHs VOCs	Petroleum products and solvents could enter the storm water collection system through storm drains.	Storm water from the Site is released to this area. The retention area drains through infiltration into the ground.	Not sampled during current investigation

Table 2: Soil Analytical Results
Subsurface Investigation October 2010
PPL Wallingford Energy LLC
115 John Street, Wallingford, Connecticut

Potential Area of Concern	AOC #1 (Petroleum Impact in NW Corner of Site), AOC #2 (Northern Part of Site used for Truck and Equipment Parking and for Storage of Electrical Components) and AOC #3 (Former Rail Spur)							AOC #4 (Coal Storage and Transport Locations)										
Sample ID	**SB-1**	**SB-2**	**SB-3**	**SB-4**	**SB-5**	**SB-7**	**SB-13**	**SB-6**	**SB-8**	**SB-11**	**SB-12**	**SB-13**	**SB-14**	**SB-15**	**SB-16**	**RES DEC**	**I/C DEC**	**GB PMC**
Sample Depth (fbg)	0-2	0-2	1-2	0-2	0-2	2-4	1-2	0-2	1-2	1-2	1-2	1-2	1-2	1-2	2-4			
Date	10/18/2010	10/18/2010	10/18/2010	10/18/2010	10/18/2010	10/18/2010	10/20/2010	10/18/2010	10/19/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010			
Propylene Glycol (µg/kg)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	NE	NE
ETPH (mg/kg)	33.6	135	452	78.5	26.2	ND<17	64.8	ND<17	57.3	ND<18	64.7	64.8	84.3	66.4	NA	500	2,500	2,500
VOCs (µg/kg)																		
Acetone	36.7	85.5	524	18.9	24.8	33.8	NA	26.3	NA	NA	NA	NA	NA	NA	NA	500,000	1,000,000	140,000
Benzene	ND<0.53	1	115	ND<0.50	ND<0.49	ND<0.46	NA	ND<0.52	NA	NA	NA	NA	NA	NA	NA	21,000	200,000	200
Ethylbenzene	ND<2.1	ND<3.5	95.7	ND<2.0	ND<2.0	ND<1.8	NA	ND<2.1	NA	NA	NA	NA	NA	NA	NA	500,000	1,000,000	10,100
Isopropylbenzene	ND<5.3	ND<8.7	ND<160	ND<5.0	ND<4.9	ND<4.6	NA	ND<5.2	NA	NA	NA	NA	NA	NA	NA	500,000	1,000,000	132,000
Naphthalene	ND<5.3	ND<8.7	555	ND<5.0	ND<4.9	ND<4.6	NA	ND<5.2	NA	NA	NA	NA	NA	NA	NA	1,000,000	2,500,000	56,000
n-Propylbenzene	ND<5.3	ND<8.7	ND<160	ND<5.0	ND<4.9	ND<4.6	NA	ND<5.2	NA	NA	NA	NA	NA	NA	NA	500,000	1,000,000	14,000
Tetrachloroethene	ND<2.1	ND<3.5	172	ND<2.0	ND<2.0	ND<1.8	NA	ND<2.1	NA	NA	NA	NA	NA	NA	NA	12,000	110,000	1,000
Toluene	ND<5.3	ND<8.7	478	ND<5.0	ND<4.9	ND<4.6	NA	ND<5.2	NA	NA	NA	NA	NA	NA	NA	500,000	1,000,000	67,000
1,2,4-Trimethylbenzene	ND<5.3	ND<8.7	276	ND<5.0	ND<4.9	ND<4.6	NA	ND<5.2	NA	NA	NA	NA	NA	NA	NA	500,000	1,000,000	70,000
1,3,5-Trimethylbenzene	ND<5.3	ND<8.7	ND<160	ND<5.0	ND<4.9	ND<4.6	NA	ND<5.2	NA	NA	NA	NA	NA	NA	NA	500,000	1,000,000	70,000
m,p-Xylene	ND<2.1	ND<3.5	554	ND<2.0	ND<2.0	ND<1.8	NA	ND<2.1	NA	NA	NA	NA	NA	NA	NA	500,000	1,000,000	19,500
o-Xylene	ND<2.1	ND<3.5	459	ND<2.0	ND<2.0	ND<1.8	NA	ND<2.1	NA	NA	NA	NA	NA	NA	NA	500,000	1,000,000	19,500
SVOCs (µg/kg)																		
Acenaphthylene	ND<260	478	ND<270	ND<270	ND<270	ND<260	ND<260	ND<270	ND<260	ND<270	ND<260	ND<260	ND<260	ND<270	ND<260	1,000,000	2,500,000	84,000
Anthracene	ND<260	801	ND<270	ND<270	ND<270	ND<260	ND<260	ND<270	ND<260	ND<270	ND<260	ND<260	ND<260	ND<270	ND<260	1,000,000	2,500,000	400,000
Benzo(a)anthracene	ND<260	***4,780***	ND<270	ND<270	ND<270	ND<260	ND<260	ND<270	ND<260	ND<270	ND<260	ND<260	ND<260	ND<270	ND<260	1,000	7,800	1,000
Benzo(a)pyrene	ND<260	***2,410***	298	ND<270	ND<270	ND<260	ND<260	ND<270	ND<260	ND<270	ND<260	ND<260	ND<260	ND<270	ND<260	1,000	1,000	1,000
Benzo(b)fluoranthene	ND<260	***6,280***	ND<270	ND<270	ND<270	ND<260	ND<260	ND<270	ND<260	ND<270	ND<260	ND<260	ND<260	ND<270	ND<260	1,000	7,800	1,000
Benzo(g,h,i)fluoranthene	ND<260	ND<280	ND<270	ND<270	ND<270	ND<260	310	ND<270	ND<260	ND<270	ND<260	310	ND<260	ND<270	ND<260	1,000,000	2,500,000	42,000
Benzo(k)fluoranthene	ND<260	682	507	ND<270	ND<270	ND<260	ND<260	ND<270	ND<260	ND<270	ND<260	ND<260	ND<260	ND<270	ND<260	8,400	78,000	1,000
Chrysene	ND<260	5,790	610	ND<270	ND<270	ND<260	ND<260	ND<270	ND<260	ND<270	ND<260	ND<260	ND<260	ND<270	ND<260	84,000	780,000	NE
Dibenzo(a,h)anthracene	ND<260	431	ND<270	ND<270	ND<270	ND<260	ND<260	ND<270	ND<260	ND<270	ND<260	ND<260	ND<260	ND<270	ND<260	NE	NE	NE
Dibenzofuran	NA	NA	541	NA	NA	NA	ND<260	NA	NA	NA	NA	ND<260	NA	NA	NA	270,000	2,500,000	5,600
Fluoranthene	ND<260	8,240	ND<270	ND<270	ND<270	ND<260	ND<260	ND<270	ND<260	ND<270	ND<260	ND<260	ND<260	ND<270	ND<260	1,000,000	2,500,000	56,000
Indeno(1,2,3-cd)pyrene	ND<260	389	ND<270	ND<270	ND<270	ND<260	274	ND<270	ND<260	ND<270	ND<260	274	ND<260	ND<270	ND<260	1,000	7,800	NE
2-Methylnaphthalene	NA	NA	ND<270	NA	NA	NA	ND<260	NA	NA	NA	NA	ND<260	NA	NA	NA	474,000	2,500,000	9,800
Naphthalene	ND<260	ND<280	1120	ND<270	ND<270	ND<260	ND<260	ND<270	ND<260	ND<270	ND<260	ND<260	ND<260	ND<270	ND<260	1,000,000	2,500,000	56,000
Phenanthrene	ND<260	2,370	1630	ND<270	ND<270	ND<260	ND<260	ND<270	ND<260	ND<270	ND<260	ND<260	ND<260	ND<270	ND<260	1,000,000	2,500,000	40,000
Pyrene	ND<260	9,370	530	ND<270	ND<270	ND<260	264	ND<270	ND<260	ND<270	ND<260	264	ND<260	ND<270	ND<260	1,000,000	2,500,000	40,000
PCBs (µg/kg)																		
Aroclor 1248	ND<110	ND<120	ND<110	ND<110	ND<110	ND<100	ND<100	137	NA	NA	NA	ND<100	NA	NA	NA	1,000	10,000	--
Metals (mg/kg)																		
Arsenic	NA	NA	NA	NA	NA	NA	3.3		5.3	***31.7***	NA	3.3	6.3	4.1	NA	10	10	--
Barium	NA	NA	NA	NA	NA	NA	NA	NA	18	19.7	NA	NA	21.6	26.3	NA	4,700	140,000	--
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	9.1	6.7	NA	NA	12.9	16.0	NA	NE	NE	--
Copper	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,500	76,000	--
Lead	NA	NA	NA	NA	NA	NA	NA	NA	4	6.0	NA	NA	7.4	7.7	NA	400	1,000	--
Mercury	NA	NA	NA	NA	NA	NA	NA	NA	ND<0.032	ND<0.033	NA	NA	ND<0.033	ND<0.035	NA	20	610	--
Selenium	NA	NA	NA	NA	NA	NA	NA	NA	ND<0.85	ND<0.84	NA	NA	ND<0.81	ND<0.83	NA	340	10,000	--
Silver	NA	NA	NA	NA	NA	NA	NA	NA	ND<0.42	ND<0.42	NA	NA	0.47	ND<0.42	NA	340	10,000	--

* Only those constituents with detections are listed on the tables
µg/kg - micrograms per kilogram
Bold and Italicized - Exceedance of criteria
ETPH - Extractable Total Petroleum Hydrocarbons

fbg - feet below grade
GB PMC - GB Pollutant Mobility Criteria
I/C DEC - Industrial/Commercial Direct Exposure Criteria
mg/kg - milligrams per kilogram

NA - Not Analyzed
ND - Not Detected
NE - Not Established
PCBs - Polychlorinated Biphenyls

RES DEC - Residential Direct Exposure Criteria
SVOCs - Semi-Volatile Organic Compounds
VOCs - Volatile Organic Compounds

Table 2: Soil Analytical Results
Subsurface Investigation October 2010
PPL Wallingford Energy LLC
115 John Street, Wallingford, Connecticut

Potential Area of Concern	AOC #5 (Two Former 420,000-Gallon Fuel ASTs), AOC #6 (Former Fuel Pump House), AOC #8 (Two Former 20,000-Gallon ASTs)						AOC #7 (Former Buried Oil Pipeline)			AOC #9 (Former Switching Station - on-site portion)		AOC #10 (Former Transformers)	AOC #13 (Detections at Boring Location EW-4)		AOC #14 (Soil Stockpiled During Expansions of Substation and Switchyard				
Sample ID	**SB-18**	**SB-18**	**SB-19**	**SB-21**	**SB-21**	**SB-22**	**SB-27**	**SB-27**	**SB-27**	**SB-9**	**SB-25**	**SB-26**	**SB-28**	**SB-29**	**SB-23**	**SB-24**	**RES DEC**	**I/C DEC**	**GB PMC**
Sample Depth (fbg)	1-2	2-4	1-2	1-2	2-4	1-2	1-2	2-4	6-8	1-2	1-2	1-2	1-2	1-2	1-2	1-2			
Date	10/20/2010	10/20/2010	10/20/2010	10/21/2010	10/21/2010	10/21/2010	10/21/2010	10/21/2010	10/21/2010	10/19/2010	10/21/2010	10/21/2010	10/22/2010	10/22/2010	10/21/2010	10/21/2010			
Propylene Glycol (µg/kg)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	NE	NE
ETPH (mg/kg)	71.2	150	84.0	67.2	73.5	31.2	***597***	***539***	73.7	50.7	53.3	494	97.0	123	56.7	98.0	500	2,500	2,500
VOCs (µg/kg)																			
Acetone	ND<5.5	NA	ND<5.1	ND<5.6	NA	ND<4.9	ND<180	ND<160	ND<5.1	NA	NA	NA	ND<5.1	ND<4.7	NA	NA	500,000	1,000,000	140,000
Benzene	ND<0.55	NA	ND<0.51	ND<0.56	NA	ND<0.49	***2,130***	***303***	ND<0.51	NA	NA	NA	ND<0.51	ND<0.47	NA	NA	21,000	200,000	200
Ethylbenzene	ND<2.2	NA	ND<2.0	ND<2.3	NA	ND<2.0	955	173	ND<2.1	NA	NA	NA	ND<2.1	ND<1.9	NA	NA	500,000	1,000,000	10,100
Isopropylbenzene	ND<5.5	NA	ND<5.1	ND<5.6	NA	ND<4.9	406	160	ND<5.1	NA	NA	NA	ND<5.1	ND<4.7	NA	NA	500,000	1,000,000	132,000
Naphthalene	ND<5.5	NA	ND<5.1	ND<5.6	NA	ND<4.9	1,710	948	ND<5.1	NA	NA	NA	ND<5.1	ND<4.7	NA	NA	1,000,000	2,500,000	56,000
n-Propylbenzene	ND<5.5	NA	ND<5.1	ND<5.6	NA	ND<4.9	519	ND<160	ND<5.1	NA	NA	NA	ND<5.1	ND<4.7	NA	NA	500,000	1,000,000	14,000
Tetrachloroethene	ND<2.2	NA	ND<2.0	ND<2.3	NA	ND<2.0	164	101	ND<2.1	NA	NA	NA	ND<2.1	ND<1.9	NA	NA	12,000	110,000	1,000
Toluene	ND<5.5	NA	ND<5.1	ND<5.6	NA	ND<4.9	5,660	976	ND<5.1	NA	NA	NA	ND<5.1	ND<4.7	NA	NA	500,000	1,000,000	67,000
1,2,4-Trimethylbenzene	ND<5.5	NA	ND<5.1	ND<5.6	NA	ND<4.9	1,140	322	ND<5.1	NA	NA	NA	ND<5.1	ND<4.7	NA	NA	500,000	1,000,000	70,000
1,3,5-Trimethylbenzene	ND<5.5	NA	ND<5.1	ND<5.6	NA	ND<4.9	264	ND<160	ND<5.1	NA	NA	NA	ND<5.1	ND<4.7	NA	NA	500,000	1,000,000	70,000
m,p-Xylene	ND<2.2	NA	ND<2.0	ND<2.3	NA	ND<2.0	3,970	847	ND<2.1	NA	NA	NA	ND<2.1	ND<1.9	NA	NA	500,000	1,000,000	19,500
o-Xylene	ND<2.2	NA	ND<2.0	ND<2.3	NA	ND<2.0	2,360	632	ND<2.1	NA	NA	NA	ND<2.1	ND<1.9	NA	NA	500,000	1,000,000	19,500
SVOCs (µg/kg)																			
Acenaphthylene	ND<270	ND<260	ND<260	ND<260	ND<260	ND<260	ND<260	ND<270	ND<260	ND<270	ND<280	ND<260	ND<270	ND<270	ND<270	ND<1,300	1,000,000	2,500,000	84,000
Anthracene	ND<270	ND<260	ND<260	ND<260	ND<260	ND<260	ND<260	ND<270	ND<260	ND<270	ND<280	ND<260	ND<270	ND<270	ND<270	ND<1,300	1,000,000	2,500,000	400,000
Benzo(a)anthracene	ND<270	ND<260	ND<260	394	ND<260	ND<260	411	423	ND<260	ND<270	ND<280	298	ND<270	ND<270	ND<270	ND<1,300	1,000	7,800	1,000
Benzo(a)pyrene	ND<270	ND<260	ND<260	501	ND<260	ND<260	ND<260	271	ND<260	ND<270	ND<280	ND<260	ND<270	ND<270	ND<270	ND<1,300	1,000	1,000	1,000
Benzo(b)fluoranthene	ND<270	ND<260	ND<260	357	ND<260	ND<260	ND<260	ND<270	ND<260	ND<270	ND<280	ND<260	ND<270	ND<270	ND<270	ND<1,300	1,000	7,800	1,000
Benzo(g,h,i)fluoranthene	ND<270	ND<260	ND<260	467	ND<260	ND<260	ND<260	ND<270	ND<260	ND<270	ND<280	ND<260	ND<270	ND<270	ND<270	ND<1,300	1,000,000	2,500,000	42,000
Benzo(k)fluoranthene	ND<270	ND<260	ND<260	331	ND<260	ND<260	ND<260	ND<270	ND<260	ND<270	ND<280	ND<260	ND<270	ND<270	ND<270	ND<1,300	8,400	78,000	1,000
Chrysene	ND<270	ND<260	ND<260	432	ND<260	ND<260	669	721	ND<260	ND<270	ND<280	466	ND<270	302	ND<270	ND<1,300	84,000	780,000	NE
Dibenzo(a,h)anthracene	ND<270	ND<260	ND<260	ND<260	ND<260	ND<260	ND<260	ND<270	ND<260	ND<270	ND<280	ND<260	ND<270	ND<270	ND<270	ND<1,300	NE	NE	NE
Dibenzofuran	NA	NA	NA	NA	NA	NA	1,700	1,700	ND<260	NA	NA	NA	NA	NA	NA	NA	270,000	2,500,000	5,600
Fluoranthene	ND<270	ND<260	315	519	ND<260	ND<260	408	331	ND<260	ND<270	ND<280	389	354	458	ND<270	ND<1,300	1,000,000	2,500,000	56,000
Indeno(1,2,3-cd)pyrene	ND<270	ND<260	ND<260	382	ND<260	ND<260	ND<260	ND<270	ND<260	ND<270	ND<280	ND<260	ND<270	ND<270	ND<270	ND<1,300	1,000	7,800	NE
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	6,820	6,610	351	NA	NA	NA	NA	NA	NA	NA	474,000	2,500,000	9,800
Naphthalene	ND<270	575	ND<260	ND<260	ND<260	ND<260	5,040	4,410	ND<260	ND<270	ND<280	2,590	ND<270	ND<270	ND<270	ND<1,300	1,000,000	2,500,000	56,000
Phenanthrene	ND<270	317	ND<260	ND<260	ND<260	ND<260	2,920	3,290	ND<260	ND<270	ND<280	1,650	ND<270	ND<270	ND<270	ND<1,300	1,000,000	2,500,000	40,000
Pyrene	ND<270	ND<260	340	753	ND<260	ND<260	493	431	ND<260	ND<270	ND<280	443	372	448	ND<270	ND<1,300	1,000,000	2,500,000	40,000
PCBs (µg/kg)																			
Aroclor 1248	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND<110	ND<110	ND<100	NA	NA	ND<100	ND<100	1,000	10,000	--
Metals (mg/kg)																			
Arsenic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	10	--
Barium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,700	140,000	--
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	NE	--
Copper	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,500	76,000	--
Lead	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	400	1,000	--
Mercury	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	610	--
Selenium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	340	10,000	--
Silver	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	340	10,000	--

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µg/kg - micrograms per kilogram
Bold and Italicized - Exceedance of criteria
ETPH - Extractable Total Petroleum Hydrocarbons

fbg - feet below grade
GB PMC - GB Pollutant Mobility Criteria
I/C DEC - Industrial/Commercial Direct Exposure Criteria
mg/kg - milligrams per kilogram

NA - Not Analyzed
ND - Not Detected
NE - Not Established
PCBs - Polychlorinated Biphenyls

RES DEC - Residential Direct Exposure Criteria
SVOCs - Semi-Volatile Organic Compounds
VOCs - Volatile Organic Compounds

Table 2: Soil Analytical Results
Subsurface Investigation October 2010
PPL Wallingford Energy LLC
115 John Street, Wallingford, Connecticut

Potential Area of Concern	AOC #15 (Abandoned Sanitary Line) and AOC #17 (Abandoned Fly Ash Line)			AOC #16 (Boiler Blowdown Discharge Line) and AOC #19 (Discharge to Quinnipiac River)			AOC #18 (Former Coal Ash Disposal Location)						AOC #21 (4,000 Gallon Propylene Glycol AST)			
Sample ID	**SB-16**	**SB-16**	**SB-20**	**SB-8**	**SB-15**	**SB-35**	**SB-30**	**SB-31**	**SB-32**	**SB-33**	**SB-34**	**SB-35**	**SB-17**	**RES DEC**	**I/C DEC**	**GB PMC**
Sample Depth (fbg)	1-2	2-4	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	4-6			
Date	10/20/2010	10/20/2010	10/21/2010	10/19/2010	10/20/2010	10/22/2010	10/22/2010	10/22/2010	10/22/2010	10/22/2010	10/22/2010	10/22/2010	10/20/2010			
Propylene Glycol (µg/kg)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND<11,000	NE	NE	NE
ETPH (mg/kg)	72.2	NA	34.9	57.3	66.4	ND<17	ND<16	51.5	61.4	ND<17	89.0	ND<17	NA	500	2,500	2,500
VOCs (µg/kg)																
Acetone	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500,000	1,000,000	140,000
Benzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21,000	200,000	200
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500,000	1,000,000	10,100
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500,000	1,000,000	132,000
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000,000	2,500,000	56,000
n-Propylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500,000	1,000,000	14,000
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12,000	110,000	1,000
Toluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500,000	1,000,000	67,000
1,2,4-Trimethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500,000	1,000,000	70,000
1,3,5-Trimethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500,000	1,000,000	70,000
m,p-Xylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500,000	1,000,000	19,500
o-Xylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500,000	1,000,000	19,500
SVOCs (µg/kg)																
Acenaphthylene	ND<260	ND<260	ND<260	ND<260	ND<270	ND<260	ND<260	295	ND<250	ND<260	ND<260	ND<260	NA	1,000,000	2,500,000	84,000
Anthracene	ND<260	ND<260	ND<260	ND<260	ND<270	ND<260	ND<260	ND<280	ND<250	ND<260	ND<260	ND<260	NA	1,000,000	2,500,000	400,000
Benzo(a)anthracene	ND<260	ND<260	ND<260	ND<260	ND<270	ND<260	ND<260	ND<280	ND<250	ND<260	ND<260	ND<260	NA	1,000	7,800	1,000
Benzo(a)pyrene	ND<260	ND<260	ND<260	ND<260	ND<270	ND<260	ND<260	ND<280	ND<250	ND<260	ND<260	ND<260	NA	1,000	1,000	1,000
Benzo(b)fluoranthene	ND<260	ND<260	ND<260	ND<260	ND<270	ND<260	ND<260	ND<280	ND<250	ND<260	ND<260	ND<260	NA	1,000	7,800	1,000
Benzo(g,h,i)fluoranthene	ND<260	ND<260	ND<260	ND<260	ND<270	ND<260	ND<260	ND<280	ND<250	ND<260	ND<260	ND<260	NA	1,000,000	2,500,000	42,000
Benzo(k)fluoranthene	ND<260	ND<260	ND<260	ND<260	ND<270	ND<260	ND<260	ND<280	ND<250	ND<260	ND<260	ND<260	NA	8,400	78,000	1,000
Chrysene	ND<260	ND<260	ND<260	ND<260	ND<270	ND<260	ND<260	ND<280	ND<250	ND<260	ND<260	ND<260	NA	84,000	780,000	NE
Dibenzo(a,h)anthracene	ND<260	ND<260	ND<260	ND<260	ND<270	ND<260	ND<260	ND<280	ND<250	ND<260	ND<260	ND<260	NA	NE	NE	NE
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270,000	2,500,000	5,600
Fluoranthene	ND<260	ND<260	ND<260	ND<260	ND<270	ND<260	ND<260	ND<280	ND<250	ND<260	343	ND<260	NA	1,000,000	2,500,000	56,000
Indeno(1,2,3-cd)pyrene	ND<260	ND<260	ND<260	ND<260	ND<270	ND<260	ND<260	ND<280	ND<250	ND<260	ND<260	ND<260	NA	1,000	7,800	NE
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	474,000	2,500,000	9,800
Naphthalene	ND<260	ND<260	ND<260	ND<260	ND<270	ND<260	ND<260	1,130	ND<250	ND<260	ND<260	ND<260	NA	1,000,000	2,500,000	56,000
Phenanthrene	ND<260	ND<260	ND<260	ND<260	ND<270	ND<260	ND<260	367	ND<250	ND<260	ND<260	ND<260	NA	1,000,000	2,500,000	40,000
Pyrene	ND<260	ND<260	ND<260	ND<260	ND<270	ND<260	ND<260	ND<280	ND<250	ND<260	349	ND<260	NA	1,000,000	2,500,000	40,000
PCBs (µg/kg)																
Aroclor 1248	NA	NA	ND<100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000	10,000	--
Metals (mg/kg)																
Arsenic	3.8	NA	NA	5.3	4.1	1.1	ND<0.85	9.8	***15.1***	1.9	5.8	1.1	NA	10	10	--
Barium	19.2	NA	NA	18	26.3	23.3	15.0	105	23.2	22.1	41.3	23.3	NA	4,700	140,000	--
Chromium	6.1	NA	NA	9.1	16.0	6.2	4.7	9.7	7.6	8.2	15.4	6.2	NA	NE	NE	--
Copper	NA	NA	NA	NA	NA	10.2	NA	NA	NA	NA	NA	10.2	NA	2,500	76,000	--
Lead	6.2	NA	NA	4	7.7	4.3	1.8	19.7	8.9	8.1	11.7	4.3	NA	400	1,000	--
Mercury	ND<0.034	NA	NA	ND<0.032	ND<0.035	ND<0.030	ND<0.033	0.049	ND<0.035	ND<0.033	0.072	ND<0.030	NA	20	610	--
Selenium	ND<0.81	NA	NA	ND<0.85	ND<0.83	ND<0.81	ND<0.85	ND<0.90	0.86	ND<0.87	ND<0.86	ND<0.81	NA	340	10,000	--
Silver	ND<0.40	NA	NA	ND<0.42	ND<0.42	ND<0.40	ND<0.43	0.80	ND<0.43	ND<0.43	ND<0.43	ND<0.40	NA	340	10,000	--

* Only those constituents with detections are listed on the tables
µg/kg - micrograms per kilogram
Bold and Italicized - Exceedance of criteria
ETPH - Extractable Total Petroleum Hydrocarbons

fbg - feet below grade
GB PMC - GB Pollutant Mobility Criteria
I/C DEC - Industrial/Commercial Direct Exposure Criteria
mg/kg - milligrams per kilogram

NA - Not Analyzed
ND - Not Detected
NE - Not Established
PCBs - Polychlorinated Biphenyls

RES DEC - Residential Direct Exposure Criteria
SVOCs - Semi-Volatile Organic Compounds
VOCs - Volatile Organic Compounds

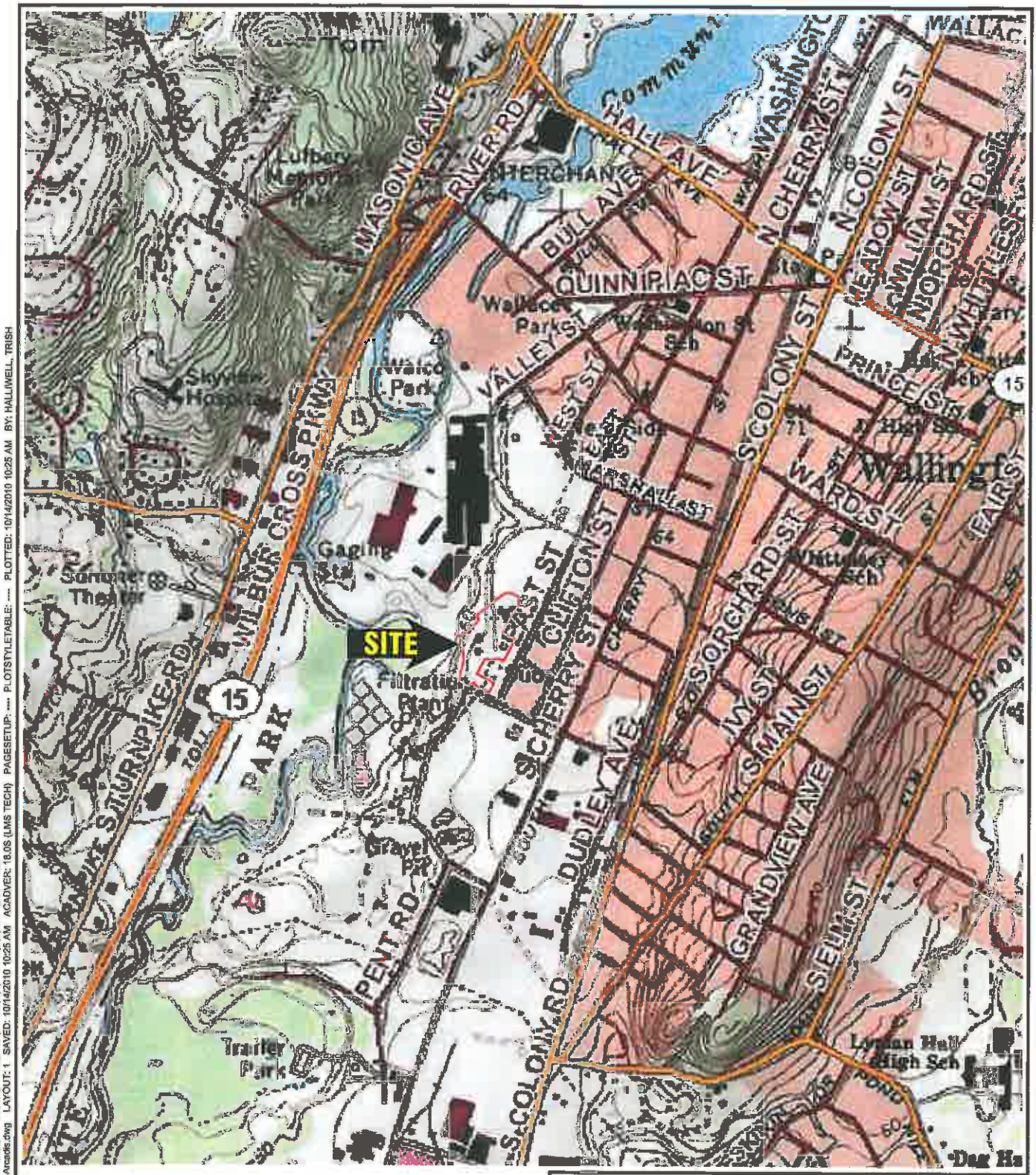
Table 3
Groundwater Analytical Results
PPL Wallingford Energy LLC
115 John Street, Wallingford, Connecticut

Sample ID	TW-1	TW-2	TW-3	SWPC	R-V/C	I/C-V/C
Date	10/22/2010	10/21/2010	10/21/2010			
ETPH (mg/l)	0.796	ND<0.082	ND<0.088	NE	NE	NE
VOCs (µg/l)	BDL	NA	BDL	--	--	--
PAHs (µg/l)	BDL	BDL	BDL	--	--	--
PCBs (µg/l)	NA	BDL	NA	--	--	--
Metals (mg/l)	BDL	NA	NA	--	--	--

µg/l - micrograms per liter
BDL - Below Detection Limits
ETPH - Extractable Total Petroleum Hydrocarbons
I/C-VC - Industrial/Commercial Volatilization Criteria
mg/l - milligrams per liter
NA - Not Analyzed
ND - Not Detected
NE - Not Established
PAHs - Polyaromatic Hydrocarbons
PCBs - Polychlorinated Biphenyls
R-V/C - Residential Volatilization Criteria
SWPC - Surface Water Protection Criteria

ARCADIS

Figures



0 1500' 3000'

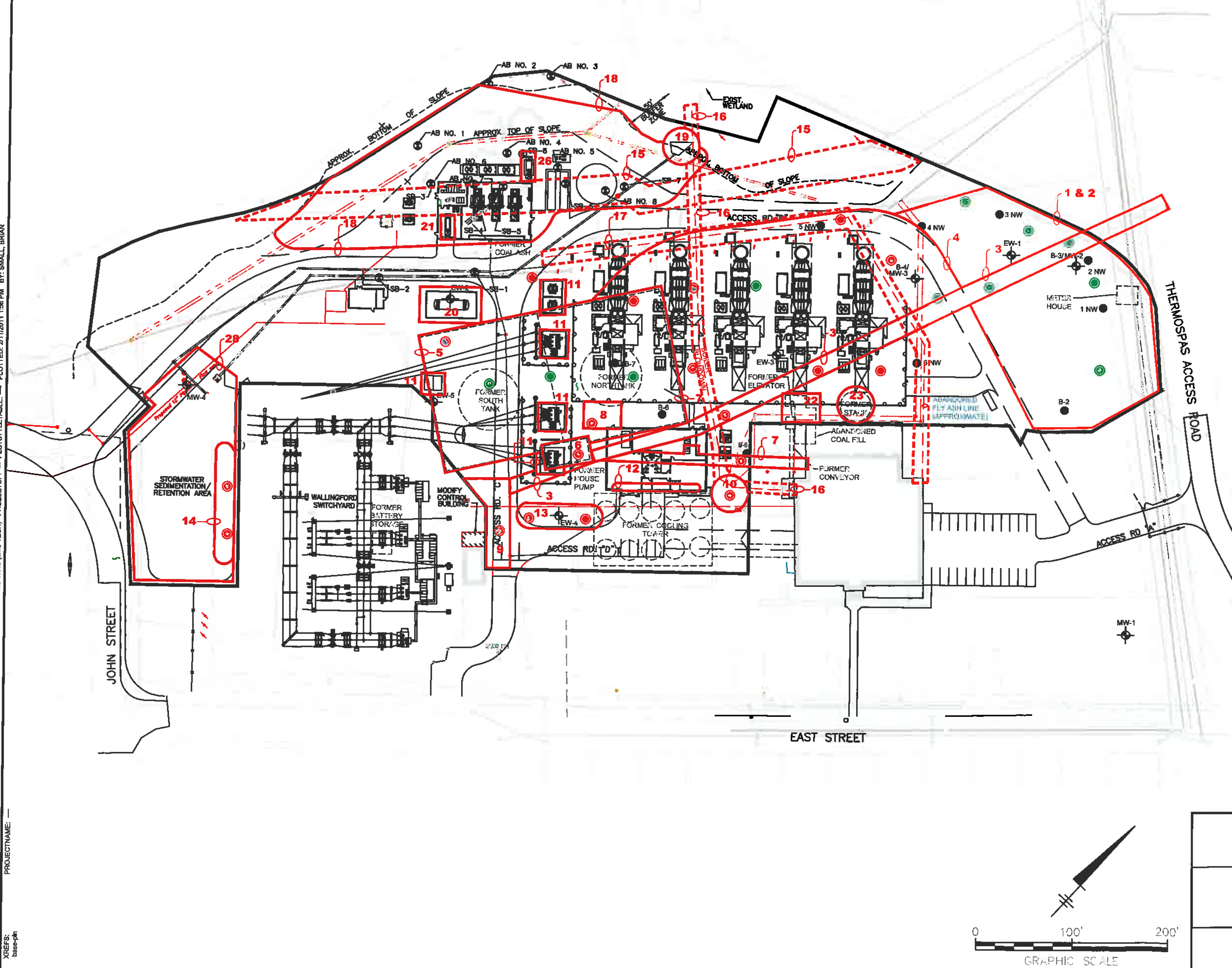
GRAPHIC SCALE

PPL WALLINGFORD ENERGY
115 JOHN STREET
WALLINGFORD, CONNECTICUT

SITE LOCATION MAP

ARCADIS

FIGURE
1



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XREFS: base-pln PROJECTNAME: —

LEASED AREA
PROPOSED SOIL BORING
PROPOSED SOIL BORING/ GROUNDWATER SAMPLE
POTENTIAL AREA OF CONCERN
POTENTIAL AREA OF CONCERN

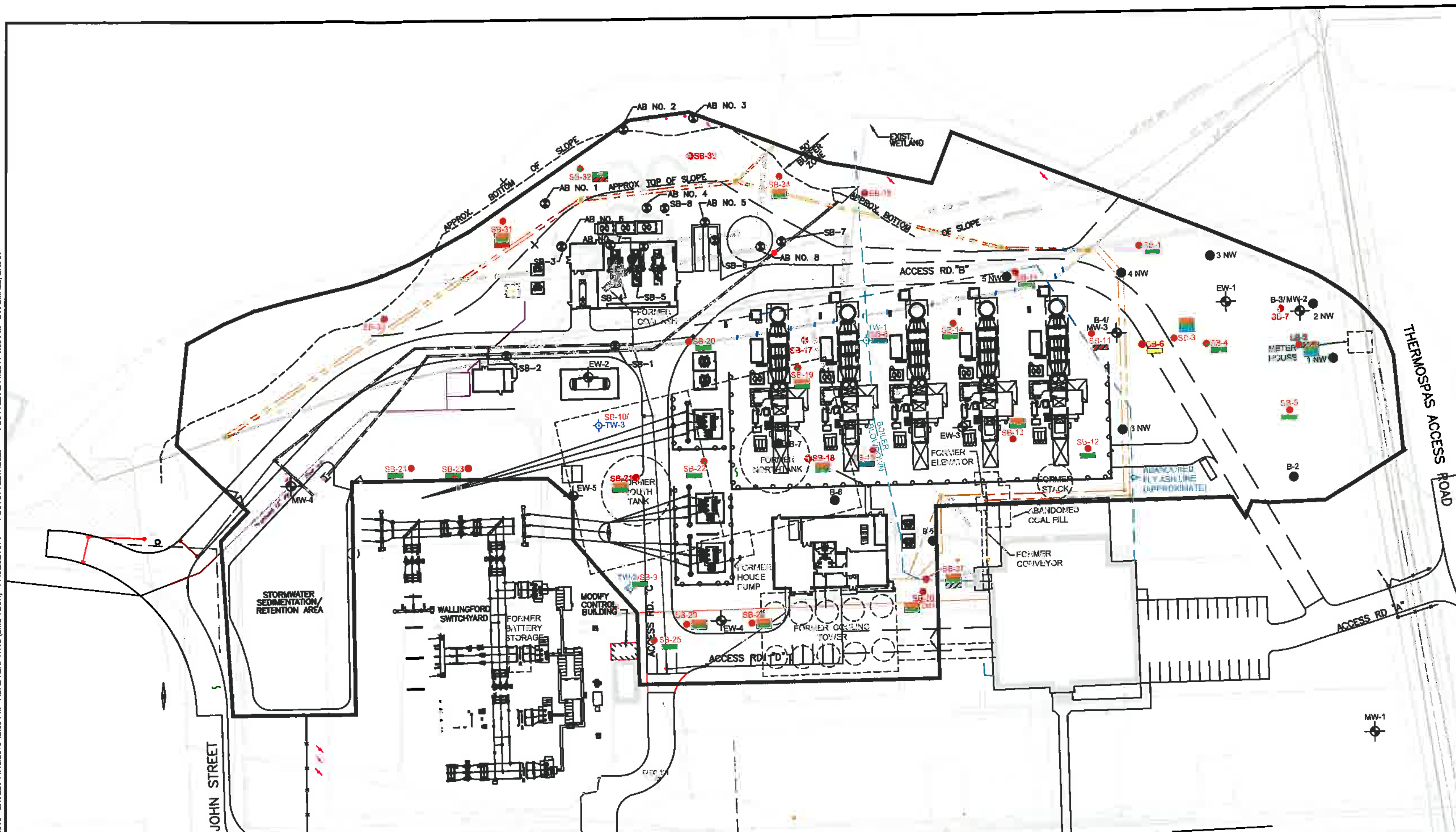
Potential Area of Concern	Description of Release Area or Potential Release Area
1	Petroleum Impact in NW Corner of Site (DG of former offsite lagoons)
2	Northern part of site used for truck and equipment parking and for storage of electrical components
3	Former Rail Spur
4	Coal Storage Location
5	Two Former 420,000-gallon Above-Ground Fuel Storage Tanks
6	Former Fuel Pump House
7	Former buried oil pipeline between the former pump house and the Power Generating Bldg
8	Former 20,000-gallon ASTs
9	Former Switch Yard (on-site portion)
10	Former Transformers [illegible]
11	Current Transformers
12	Potential Former Drum Storage Area (western side of former cooling tower bldg)
13	Detections of TPH at [illegible] ppm and trace concentrations of solvents at boring location EW-4 (0-2')
14	Soil Stockpiled During Expansion of Substation and Switchyard
15	Abandoned Sanitary Line
16	Boiler Blowdown Discharge Line
17	Abandoned Fly Ash Line
18	Former Coal Ash Disposal Location
19	Discharge to Quinnipiac Tributary
20	20,000-Gallon Ammonia AST
21	4,000-Gallon Propylene Glycol AST
22	Former Coal Elevator and Coal Fill
23	Former Stack
24	Other Petroleum Materials Stored in the Control Building (Not Depicted)
25	Other Petroleum Materials Stored in the Gas Compression Building (Not Depicted)
26	500-Gallon Diesel Storage in Emergency Generator
27	Dumpsters (Not Depicted)
28	Stormwater Retention Area and Oil/Water Separator

PPL WALLINGFORD ENERGY
115 JOHN STREET
WALLINGFORD, CONNECTICUT

SITE PLAN WITH AREAS OF CONCERN

ARCADIS

FIGURE
2



LEGEND

- LEASED AREA
- PROPOSED PLANT FACILITY
- SANITARY LINE
- STORM DRAINAGE
- DEMINERALIZED WATER
- GAS LINE
- ABANDONED FLYASH LINE
- SOIL BORING
- SOIL BORING/TEMPORARY WELL
- PAHs DETECTED
- PAHs DETECTED GREATER THAN RSR
- ETPH DETECTED
- PCBs DETECTED
- VOCs DETECTED
- VOCs DETECTED GREATER THAN RSR
- METALS – POTENTIAL RELEASE
- METALS DETECTED GREATER THAN RSR

PAH POLYNUCLEAR AROMATIC HYDROCARBONS
ETPH CT EXTRACTABLE TOTAL PETROLEUM HYDROCARBONS
PCBs POLYCHLORINATED BIPHENYLS
VOC VOLATILE ORGANIC COMPOUNDS
I/C DEC INDUSTRIAL/COMMERCIAL DIRECT EXPOSURE CRITERIA
GB PMC GB POLLUTANT MOBILITY CRITERIA
RSR REMEDIATION STANDARD REGULATIONS

NOTE:
FOR THE PURPOSES OF THIS DRAWING, GREATER THAN RSR MEANS GREATER THAN I/C DEC AND/OR GB PMC.

Potential Area of Concern	1	2	3	4	5	6	8	7	9	10
Description of Release Area or Potential Release Area	[illegible]	Northern part of site used for [illegible] and equipment [illegible] and for storage of electrical components	Former Rail [illegible]	Coal Storage Location	Two Former 420,000-gallon Above-Ground Fuel Storage Tanks	Former Fuel Pump House	Former 20,000-gallon ASTs	Former buried oil piping between the former pump house and the [illegible] Generating Bldg	Former Switch Yard [illegible]	Former Transformer
Soil Borings*	[illegible] SB-2, SB-3, SB-4 [illegible] SB-13			SB-6, SB-8 (TW-1), SB-11, SB-12, SB-13, SB-14, SB-15, SB-16	SB-10 (TW-3), SB-1[illegible], SB-19, SB-21, SB-22			SB-27	SB-9 (TW-2), [illegible]	[illegible]
Potential Area of Concern	11	12	13	14	15	16	17	18	19	
Description of Release Area or Potential Release Area	[illegible]	Potential Former [illegible] Storage Area [illegible] for cooling tower [illegible]	Detections of TPH at [illegible] ppm and trace concentrations of solvents at boring location EW-4 ([illegible])	Soil Stockpiled During Expansion of Substation and Switchyard	Abandoned Sanitary Line	Abandoned Fly Ash Line	[illegible] Blowdown Discharge Line	Discharge to [illegible] Tributary	Former Coal Ash [illegible] Location	
Soil Borings*	NT	NT	SB-[illegible], SB-29	SB-22, SB-24	SB-16, SB-20		SB-8, SB-15, SB-30		SB-[illegible], SB-31, SB-[illegible], SB-34, SB-[illegible]	
Potential Area of Concern	20	21	22	23	24	25	26	27	28	
Description of Release Area or Potential Release Area	[illegible] AST	4,000-Gallon Propylene [illegible] AST	Former Coal Elevator and Coal Fill	Former Stack	Other Process Materials Stored in the Control Building	Other Process Materials Stored in the Gas Compression Building	500-Gallon Diesel Storage in Emergency Generator	Dumpsters	Stormwater Potential Area and Oil/Water Separator	
Soil Borings*	NT	SB-17	NT	NT	NT	NT	NT	NT	NT	

* [illegible]

PPL WALLINGFORD ENERGY
115 JOHN STREET
WALLINGFORD, CONNECTICUT

SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS OCTOBER 2010

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FIGURE 3

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\Manchester\ACT\MA001086\base-pln-Arcadis.dwg LAYOUT: DATA OCT 2010 SAVED: 11/16/2010 12:09 PM ACADVER: 17.1S (LMS TECH) PAGESETUP: — PLOTSTYLETABLE: — PLOTTED: 2/11/2011 1:58 PM BY: SMALL, BRIAN

Appendix E

Regulatory Records Documentation

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

STATE OF CONNECTICUT	)	Order No. 2209
	)	
VS.	)	
	)	
PPL WALLINGFORD ENERGY, LLC	)	
	)	

CONSENT ORDER

A. With the agreement of PPL Wallingford Energy, LLC ("Respondent"), the Commissioner of Environmental Protection ("Commissioner") finds the following:

1. Respondent operates an electricity generating facility at 115 John Street, Wallingford, Connecticut ("facility"), which is a subdivision of land located at 155 John Street, owned by the Town of Wallingford.

2. At the facility, Respondent owns and operates a nominal rated 250 megawatt simple cycle combustion turbine power plant. The facility consists of five 50 MW General Electric LM 6000 Combustion Turbines, one 33.475 MMBtu/hr Cleaver Brooks boiler and one 60kW Black Start Diesel generator.

3. The operation is subject to Section 22a-174-33 of the Regulations of Connecticut State Agencies ("RCSA") because the Respondent has the potential to emit carbon monoxide and particulate matter in excess of 100 tons per year and therefore, is a Title V source.

4. On February 11, 2008, Title V Permit #189-0021-TV was issued to the Respondent, which included the requirements of New Source Review ("NSR") Permits #189-0194 through #189-0198 for the five Combustion Turbines. On December 8, 2009, Title V Permit #189-0021-TV was modified.

5. Pursuant to Section III.A Table IIIA.3 of Title V Permit #189-0021-TV, 'The nitrogen oxides ("NOx") NOx emissions for each unit shall not exceed 2.5 ppmvd @ 15% oxygen ("O2") and the NOx emissions shall not exceed 4.3 lb/hr. and the NOx emissions for each unit shall not exceed 8.6 tons per year.'

6. Pursuant to Section III.A Table IIIA.4 of Title V Permit #189-0021-TV, 'Start-up and shutdown period shall not exceed 180 minutes for each event, the NOx emissions for

each unit shall not exceed 40 lb/hr during the start-up period, the NOx emissions for each unit shall not exceed 20 lb/hr during the shutdown period.'

7. Pursuant to Section III.A Table IIIA.7 of Title V Permit #189-0021-TV, 'The ammonia ("NH3") emissions for each unit shall not exceed 6.0 ppmvd @ 15% O2 and the ammonia emissions for each unit shall not exceed 3.73 lb/hr.'

8. The Title V Semiannual Monitoring Reports and Continuous Emissions Quarterly Summary Reports submitted for the monitoring periods between January 1, 2008 and June 30, 2009 reported NOx and NH3 emissions in excess of permitted limits. One or more of the five GE LM 6000 Combustion turbines have exceeded the limits specified in Table III.A sections 3, 4, 7, of Title V Permit #189-0021-TV.

9. On August 28, 2009, Notice of Violation #16401 was issued for failing to comply with the NSR permits and Title V Permit #189-0021-TV.

10. On June 9 and June 10, 2010, an Air Pollution Control Engineer of the Department's Air Bureau conducted a Full Premises Evaluation Inspection at the facility based on the Pre-Inspection Questionnaire (PIQ) dated February 25, 2010.

11. The Engineer determined that the Respondent was still exceeding the emission limitations for NOx and NH3 of the NSR permits and section III.A of Title V Permit #189-0021-TV during the period from July 9, 2009 through June 10, 2010.

12. On July 30, 2010, Notice of Violation #16575 was issued to the Respondent for failing to comply with the terms of Title V Permit #189-0021-TV.

13. By virtue of above, the Respondent violated Title V Permit #189-0021-TV, NSR Permits #189-0194 through #189-0198 and Sections 22a-174-33 and 22a-174-3a(h) of the RCSA.

14. By agreeing to the issuance of this Consent Order, the Respondent makes no admission of fact or law with respect to the matters addressed herein other than Paragraphs A.1 and A.2

B. With the agreement of the Respondent, the Commissioner, pursuant to Sections 22a-6, 22a-171, 22a-174, 22a-177, and 22a-178 of the Connecticut General Statues, orders as follows:

1. Civil Penalty. On or before thirty (30) days after the issuance of this Consent Order, the Respondent shall pay a penalty of $23,400 as the total civil penalty to be sought by the Commissioner for those, and only those, violations described in paragraphs A.8 through A.13 of this Consent Order for exceedances of the permit limits, including those exceedances indentified by the Respondent to the Department through November 2010.

2. Payment of penalties. Payment of penalties under this Consent Order shall be mailed or personally delivered to Bureau of Financial & Support Services--Accounts Receivable Office ["F&SS"], Department of Environmental Protection, 79 Elm Street, Hartford, CT 06106, and shall be by certified or bank check payable to the Connecticut Department of Environmental Protection. The check shall state on its face. "Air Management Civil Penalty, Engineering and Enforcement Division, Consent Order No. 2209".

3. Full compliance. Respondent shall not be considered in full compliance with this Consent Order until all actions required by this Consent Order have been completed as approved and to the Commissioner's satisfaction.

4. Approvals. Respondent shall use best efforts to submit to the Commissioner all documents required by this Consent Order in a complete and approvable form. If the Commissioner notifies Respondent that any document or other action is deficient, and does not approve it with conditions or modifications, it is deemed disapproved, and Respondent shall correct the deficiencies and resubmit it within the time specified by the Commissioner or, if no time is specified by the Commissioner, within 30 days of the Commissioner's notice of deficiencies. In approving any document or other action under this Consent Order, the Commissioner may approve the document or other action as submitted or performed or with such conditions or modifications as the Commissioner deems necessary to carry out the purposes of this Consent Order. Nothing in this paragraph shall excuse noncompliance or delay.

5. Definitions. As used in this Consent Order, "Commissioner" means the Commissioner or a representative of the Commissioner.

6. Dates. The date of "issuance" of this Consent Order is the date the Consent Order is deposited in the U.S. Mail or personally delivered, whichever is earlier. The date of submission to the Commissioner of any document required by this Consent Order shall be the date such document is received by the Commissioner. The date of any notice by the Commissioner under this Consent Order, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is deposited in the U.S. mail or is personally delivered, whichever is earlier. Except as otherwise specified in this Consent Order, the word "day" as used in this Consent Order means calendar day. Any document or action which is required by this Consent Order to be submitted or performed by a date which falls on a Saturday, Sunday or a Connecticut or federal holiday shall be submitted or performed by the next day which is not a Saturday, Sunday or Connecticut or federal holiday.

7. Certification of documents. Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under this Consent Order shall be signed by Respondent or, if Respondent is not an individual, by Respondent's chief executive officer or a duly authorized representative of such officer, as those terms are defined in §22a-430-3(b)(2) of the Regulations of Connecticut State Agencies, and by the individual(s) responsible for actually preparing such document, and Respondent or

Respondent's chief executive officer and each such individual shall certify in writing as follows:

> "I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, that the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information is punishable as a criminal offense under Section §53a-157b of the Connecticut General Statutes and any other applicable law."

8. Noncompliance. This consent order is a final order of the Commissioner with respect to the matters addressed herein, and is nonappealable and immediately enforceable. Failure to comply with this Consent Order may subject Respondent to an injunction and penalties.

9. False statements. Any false statement in any information submitted pursuant to this Consent Order is punishable as a criminal offense under §53a-157b of the Connecticut General Statutes and any other applicable law.

10. Notice of transfer; liability of Respondent. Until Respondent has fully complied with this Consent Order, Respondent shall notify the Commissioner in writing no later than 15 days after transferring all or any portion of the facility, the operations, the site or the business which is the subject of this Consent Order or after obtaining a new mailing or location address. Respondent's obligations under this Consent Order shall not be affected by the passage of title to any property to any other person or municipality.

11. Commissioner's powers. Nothing in this Consent Order shall affect the Commissioner's authority to institute any proceeding or take any other action to prevent or abate violations of law, prevent or abate pollution, recover costs and natural resource damages, and to impose penalties for past, present, or future violations of law. If at any time the Commissioner determines that the actions taken by Respondents pursuant to this Consent Order have not successfully corrected all violations, fully characterized the extent or degree of any pollution, or successfully abated or prevented pollution, the Commissioner may institute any proceeding to require Respondents to undertake further investigation or further action to prevent or abate violations or pollution.

12. Respondent's obligations under law. Nothing in this Consent Order shall relieve Respondent of other obligations under applicable federal, state and local law.

13. No assurance by Commissioner. No provision of this Consent Order and no action or inaction by the Commissioner shall be construed to constitute an assurance by the Commissioner that the actions taken by Respondent pursuant to this Consent Order will result in compliance.

14. Access to site. Any representative of the Department of Environmental Protection may enter the facility without prior notice for the purposes of monitoring and enforcing the actions required or allowed by this Consent Order.

15. No effect on rights of other persons. This Consent Order neither creates nor affects any rights of persons or municipalities that are not parties to this Consent Order.

16. Notice to Commissioner of changes. Within 15 days of the date Respondent becomes aware of a change in any information submitted to the Commissioner under this Consent Order, or that any such information was inaccurate or misleading or that any relevant information was omitted, Respondent shall submit the correct or omitted information to the Commissioner.

17. Notification of noncompliance. In the event that Respondent becomes aware that it did not or may not comply, or did not or may not comply on time, with any requirement of this Consent Order or of any document required hereunder, Respondent shall immediately notify by telephone the Bureau of Air Management Unit in the next paragraph and shall take all reasonable steps to ensure that any noncompliance or delay is avoided or, if unavoidable, is minimized to the greatest extent possible. Within five (5) days of the initial notice, Respondent shall submit in writing the date, time, and duration of the noncompliance and the reasons for the noncompliance or delay and propose for the review and written approval of the Commissioner, dates by which compliance will be achieved, and Respondent shall comply with any dates which may be approved in writing by the Commissioner. Notification by Respondent shall not excuse noncompliance or delay, and the Commissioner's approval of any compliance dates proposed shall not excuse noncompliance or delay.

18. Submission of documents. Any document required to be submitted to the Commissioner under this Consent Order, unless otherwise specified in this Consent Order or in writing by the Commissioner, shall be directed to:

Aileen Matta
Engineering and Enforcement Division
Bureau of Air Management
Department of Environmental Protection
79 Elm Street, 5th Floor
Hartford, Connecticut 06106-5127

Respondent consents to the issuance of this Consent Order without further notice. The undersigned certifies that he/she is fully authorized to enter into this Consent Order and to legally bind Respondent to the terms and conditions of the Consent Order.

PPL Wallingford Energy, LLC

Signature: Dennis J. Murphy

Type Name: Dennis J. Murphy

Type Title: Vice President & Chief Operating Officer

Date: 01/03/2011

OFFICE OF GENERAL COUNSEL
BY:
DATE: 12/28/10

Issued as an order of the Commissioner of Environmental Protection.

Amey Marrella
Commissioner

January 4, 2011
Date

TOWN OF WALLINGFORD
LAND RECORDS

AM/am

BUREAU OF AIR MANAGEMENT
ORDER CLOSURE
Procedure and Routing Slip

Date:	1/28/11
Order Number:	2209
Case Manager:	Aileen Matta
Company Name:	PPL Wallingford Energy, LLC
Premise Address:	115 John Street, Wallingford
Regulation(s):	22a-174-33, 22a-174-3a
Equipment:	GE LM 6000 Combustion Turbines

Comments:

PPL Wallingford Energy, LLC (PPL) operated a nominally rated 250 megawatt (MW) simple cycle combustion turbine power plant in Wallingford, Connecticut. The facility consisted of five 50 MW General Electric LM6000 Combustion Turbines, one 33.475 MMBtu/hr Cleaver Brooks boiler and one 560kW Black Start diesel generator. These sources were covered with New Source Review Permits. The turbines and boiler operated only on natural gas. PPL had the potential to emit CO and PM-10 emissions above the Title V thresholds, and was therefore a Title V source. PPL operated at 115 John Street, which is a subdivision of land located at 155 John Street, owned by the Town of Wallingford.

On June 9 and June 11, 2010, Lou Santos, an Air Pollution Control Engineer of the Department's Air Bureau conducted inspections and determined that PPL exceeded the emission limitations for NOx and ammonia of New Source Review (NSR) Permits #189-0194 through #189-0198 and section III.A Table III.A of Title V Permit #189-0021-TV for the monitoring periods between July 9, 2009 and June 10, 2010. There were over twenty exceedances with the magnitude of the exceedance ranging from 1% to over 1000%. Therefore, on July 30, 2010, Notice of Violation #16575 was issued for failing to comply with the terms of Title V Permit #189-0021-TV.

The Title V Semiannual Monitoring Reports and Continuous Emissions Quarterly Summary Reports submitted for the monitoring periods between January 1, 2008 and June 30, 2009 reported NOx and ammonia emissions in excess of permitted limits. One or more of the five GE LM 6000 Combustion turbines have exceeded the limits specified in Table III.A sections 3.3a, 3.3b, 4.4C, 7.7a and 7.7b of Title V Permit #189-0021-TV. There were over twenty exceedances with the magnitude of the exceedances ranging from 1% to over 2000%. On August 28, 2009, Notice of Violation #16401 was issued for failing to comply with the NSR permits and Title V Permit #189-0021-TV.

In the response to the Notices of Violation, PPL submitted causes for each deviation and the corrective measures that were taken. While each incident was corrected in a timely manner, the Department determined that PPL's response was not satisfactory. Given that NOx and ammonia exceedances kept occurring from 2008 to the present, the Air Bureau felt that PPL could have taken more pro-active measures to prevent occurrences. At the same time, the Department was notified during the

development of this case that PPL Wallingford Energy was in the process of selling its assets to another company. Therefore, on January 5, 2011, Consent Order #2209 was issued for penalty only ($23,400) for the past non-compliance.

On January 26, 2011, the Department received a check of $23,400 for the penalty. Since the Consent Order only contained the requirement for the civil penalty, Air Administrative staff recommends that Consent Order #2209 be closed in compliance.

Re-inspection Policy: The Department's *Formal Enforcement Re-Inspection Policy* requires that within three (3) years following the closure of a formal enforcement action, the program or programs within the Department responsible for bringing such action will re-inspect the facility to assure continued compliance with environmental requirements. (check box 1 **or** 2 below)

1) ☒ In accordance with the Formal Enforcement Re-Inspection Policy, this facility is due to be re-inspected by within 3 years of the date of approval of this closure recommendation.

2) ☐ In accordance with the Formal Enforcement Re-Inspection Policy, this facility does not need to be re-inspected for the following reason(s). (check appropriate box below)

☐ The facility is closed.

☐ The order is not an enforcement action.

	Initials	Date		Initials	Date
AE Staff	AM	1/27/11	Return to Staff		
AE Supervisor		1/27/11	Enter Database		
Assistant Director		1/31/11	Program File		
Director		01-31-11			
Bureau Chief	AG	2/1/11			

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 Elm Street, Hartford, CT 06106-5127

CERTIFICATE OF COMPLIANCE WITH
DEPARTMENT OF ENVIRONMENTAL PROTECTION CONSENT ORDER

Dennis Murphy, Manager
PPL Wallingford Energy , LLC
c/o PPL Services Corporation
Two North Ninth Street (Attn: Jennifer Beck)
Allentown, PA 18101

Re: Consent Order Number 2209

Dear Mr. Murphy:

Pursuant to Section(s) 22a-6 and 22a-178(g) of the Connecticut General Statutes, the Commissioner of Environmental Protection hereby certifies that:

PPL Wallingford Energy, LLC, located at mailing address 115 John Street, (which is a subdivision of land located at 155 John Street and owned by Town Of Wallingford), is in compliance with the Department of Environmental Protection Consent Order No. 2209 issued on 1/4/11 for violations of Sections 22a-174-33 and 22a-174-3a(h) of the Regulations of Connecticut State Agencies.

Nothing in this certificate shall affect the Department's authority to institute any proceeding, or take any action, to prevent or abate pollution, to recover costs and natural resource damages, and to impose penalties for violations of law. If at any time the Department determines that the actions taken pursuant to this Consent Order have not fully characterized the extent and degree of pollution or have not successfully abated or prevented pollution, the Department may institute any proceeding to require further investigation or further action to prevent or abate pollution.

In addition, nothing in this certificate shall relieve any person of his or her obligations under applicable federal, state or local law.

If you have any questions pertaining to this matter, please contact Aileen Matta of my staff at (860) 424-3702.

Yours truly,

Feb 1, 2011
Date

Anne Gobin
Chief
Bureau of Air Management

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

January 5, 2011

Dennis Murphy, Manager
PPL Wallingford Energy , LLC
c/o PPL Services Corporation
Two North Ninth Street (Attn: Jennifer Beck)
Allentown, PA 18101

Re: Consent Order No. 2209

Dear Mr. Murphy:

The enclosed Consent Order #2209 has been signed by the Commissioner and is now legally binding. This Consent Order addresses violations of New Source Review (NSR) Permits #189-0194 through #189-0198 and Title V Permit #189-0021-TV of the five 50 MW General Electric LM 6000 Combustion Turbines operated by PPL Wallingford Energy, LLC and located at 115 John Street in Wallingford.

This Consent Order requires that PPL Wallingford Energy, LLC pay a civil penalty of $23,400 within (30) thirty days of the issuance of this order for the multiple violations of permit emission limits as reported by the facility to the Department.

Payment of penalties under this Consent Order shall be mailed or personally delivered to Bureau of Financial and Support Services--Accounts Receivable Office ["F&SS"]. Department of Environmental Protection, 79 Elm Street, Hartford, CT 06106-5127, and shall be by certified or bank check payable to the Treasurer, State of Connecticut. The check shall state on its face, "Bureau of Air Management Civil Penalty, Air Engineering & Enforcement Division, Consent Order #2209".

If you have any questions regarding this letter, please do not hesitate to contact me, Aileen Matta of my staff at (860) 424-3702.

Sincerely,

Aileen S. Matta

Aileen S Matta, APCE
Bureau of Air Management

1-5-11
Date

cc Lee D. Hoffman
Pullman & Comley LLC
90 Stste House Square
Hartford, CT 06103-3702

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Wallingford

NOTICE OF VIOLATION

Code 8 = Refer to Further Enforcement

CO# 2209
closed 8/1/2011

Notice of Violation

16575

Ms. Kathleen Potter
PPL Generation, LLC
Two North Ninth Street
Allentown, PA 18101

The purpose of this Notice is to inform you that personnel of the Department of Environmental Protection (DEP) have made observations or otherwise obtained information indicating that a violation of law has occurred at the property located at 115 John Street, Wallingford, CT. On 6/11/2010, an inspection was conducted by Lou Santos of the DEP Bureau of Air Management. Based upon that inspection, it appears that you have failed to meet the requirements of NSR Permits 189-0194, 189-0196, 189-0199 and Title V Permit 189-0021-TV. The Commissioner has the authority to institute legal proceedings to the enforcement of any permit, order, or statute administered by her pursuant to Section 22a-(a)(3) of the Connecticut General Statutes.

The excess NOx and ammonia emissions reported by PPL Wallingford in their Prompt Deviation Reports (dated between April 2009 and June 2010) exceeded the Title V and NSR permit limits for the GE LM6000 Combustion Turbine units 1, 3 and 5.

When you have corrected the violation(s) alleged in this notice, you should submit in writing the details of the corrective action(s). The submittal should be made within thirty (30) days on the enclosed Compliance Statement, and sent to the contact person identified below in paragraph D. Until the DEP has received such a statement, the DEP will presume you remain in violation. If the violation(s) cannot be corrected within 30 days, provide a schedule of compliance, that includes a timetable, on the enclosed Compliance Statement within 30 days describing the actions you will take to correct the violation(s). Your actions in response to this notice, including submission of the attached Compliance Statement, may affect the DEP's decision whether or not to take formal enforcement action.

A. Other violations may exist; legal obligations. This Notice does not necessarily specify all violations of Connecticut environmental law or violations of any other legal requirements which may exist at the afore-mentioned property. This Notice does not preclude the DEP or other state, local or federal agencies from commencing any enforcement action regarding any such violations. Your facility may be inspected again pursuant to law and without additional prior notice to determine compliance with state and any applicable federal law. It is your responsibility to comply with all legal requirements, whether or not the DEP notifies you of any violations or takes any enforcement action against you. Nothing in this Notice relieves you of other obligations under applicable federal, state and local law.

B. Enforcement action. Civil penalties of up to $25,000 may be assessed for each day of each violation under section 22a-175 of the Connecticut General Statutes. Notwithstanding the issuance of this Notice, the DEP may seek such penalties and may issue an order, seek an injunction, or take other legal action under Chapters 439 and 446c of the Connecticut General Statutes.

C. No assurance by Commissioner. No provision of this Notice and no action or inaction by the Commissioner shall be construed to constitute an assurance by the Commissioner that actions you may take to address the violation(s) alleged herein will result in compliance.

D. Staff contact. If you question any of the information contained in this Notice, you may contact Mark Potash of the Bureau of Air Management at (860) 424-3547, or by mail at 79 Elm Street, Fifth Floor, Hartford, CT 06106-5127.

Robert W. Girard, Assistant Director
Air Engineering and Enforcement Division

7/30/10
Date

BUREAU OF AIR MANAGEMENT
NOTICE OF VIOLATION CLOSURE
Procedure and Routing

Notice of Violation 15010

Date: 6/16/03

Case Manager: Jaimeson Sinclair

Company:
PPL Wallingford Energy LLC
115 John Street
Wallingford, CT 06492

Premises:
PPL Wallingford Energy LLC
195 East Street
Wallingford, CT 06492

Regulation: 22a-174-19a(d)

Equipment: Peaking Turbines

Code: 9

Action: NV Closed, No further action required

Comments:

Pursuant to Subsection 22a-174-19a(d) of the Regulations of Connecticut State Agencies: "the owner or operator of an affected unit [subject to Section 22a-174-19a] that is also a Title IV Source shall retire one SO2 allowance, rounded up to the next whole ton for each ton of SO2 emitted in the state of Connecticut." These allowances are in addition to any allowances retired to comply with the Federal Acid Rain Program and must be retired to the Connecticut State SO2 Retirement Account by March 1 for emissions occurring during the previous calendar year, starting with calendar year 2002. According to the Federal Emissions Tracking System PPL Wallingford Energy LLC emitted 0.1 tons of SO2 in 2002. Consequently, PPL Wallingford Energy LLC was required to retire 1 SO2 allowance by March 1, 2003. PPL Wallingford Energy LLC failed to retire a SO2 allowance to comply with Section 22a-174-19a of the RCSA by March 1, 2003. On May 28, 2003, PPL Wallingford Energy LLC transferred 1 SO2 allowance to the CT State SO2 Retirement Account.

After retiring the requisite amount of SO2 allowances, the PPL Wallingford Energy LLC is now in compliance with the requirements cited in Notice of Violation #15010. I recommend closing this notice of violation, since the Respondent is in compliance and no further action is required.

	Initials	Date	File to: (Highlight)	
Case Lead		6/16/03	Program File	6/17/03
Supervisor		6/16/03	Assistant Director, Admin. Enf.	
Assistant Director		16 JUL 03	Stage II Files	

Revised 8/22/00

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NOTICE OF VIOLATION CLOSURE LETTER

Mr. Nathan Chubet
Site Supervisor
PPL Wallingford Energy, LLC
115 John Street
Wallingford, CT 06492

RE: Notice of Violation No. 15010

Dear Mr. Chubet:

This letter acknowledges receipt by the Department of Environmental Protection's Air Management Bureau of the certified compliance statement with supporting documentation submitted by PPL Wallingford Energy, LLC on 6/13/2003 in response to the above-referenced Notice of Violation.

Staff of the Air Bureau has completed its review of the compliance statement and supporting documentation. Based upon the representations made in your submittal, it has been decided that no further action by the Department will be taken at this time regarding the violation(s) cited in the Notice. However, if the Department learns that the violation(s) alleged in said Notice have not been fully resolved as represented, or if other violations exist not addressed in said Notice, the Department may take formal enforcement action.

Please do not hesitate to contact Jaimeson Sinclair at (860) 424-3702 should you have any questions or comments with regard to this correspondence.

Sincerely,

Patrick F. Bowe
Assistant Director
Bureau of Air Management
Compliance and Field Operations

16 JUN 03
Date

01-0767

REPORT OF INVESTIGATION

SOURCE: PENNSYLVANIA POWER & LIGHT – GLOBAL LLC

ADDRESS: WALLINGFORD, CT

DATE OBSERVED: 6/04/01

FROM: JACK D.

SUBJECT: POWER PLANT CONSTRUCTION

FILE: jd01155RIBpiq

On 6/4/01, while enroute to PIQ Ogden of Wallingford (now Coventa Bristol, Inc.), a large construction operation was observed on the site of the old Pearce Power plant in Wallingford. Following the Ogden PIQ, a return visit was made to determine if DEP Permits to Consruct had been obtained.

Upon arriving on site, I was directed by Security to make contact through the Constructution Supervision. Trailer located at the north end of the former Pearce site. Here I met Alan Durance, the Project Manager for Barton Malow, and their Safety Manager, Dave Monaco (Barton Malow is the constructor). I also met Don Cecich, Assistant VP, and John Ballam, PE Project Eng. For PB (Parsons) Power, Inc. (Parsons is the owner's engineers). Jim Richards and several others also joined with us. I believe they were also from the above firms. I was also advised that Mike Anderson of CRC (Windsor) was the environmental consultant (not present).

This will be a peaking (only) power plant consisting of 5 gas turbines (jets, about the size used on 747) rated to generate 50, 000 KW, each) . As a peaking plant the engines will function as straight cycle jets (without heat recovery boilers). The engines will burn only natural gas. For control the engines will have water injection. Further control (of NOx) will be provided by ammonia injection and the use of reducing catalysts.

The builder is PPL (Pennsylvania Power & Light) – Global LLC. The completed plant will be operated by another subsidiary of PPL – Global LLC.

A large number of agencies have been contacted regarding permits. Among the ones I noted were:

The Connecticut Siting Council – permits to construct and operate,
The (Wallingford) Inland Wetlands Commission, and
The DEP, Air and Water.

The following Air NSR permits to construct were presented:

P189-0194 covering turbine #1,
P189-0195 covering turbine #2,

P189-0196 covering turbine #3,
P189-0197 covering turbine #4,
P189-0198 covering turbine #5, and
P189-0199 covering an "aux. boiler" which in this case assists in cold weather starts and is referred as the (inlet air) anti icing boiler.

For "black start" capabilities they will also have a stand-by diesel (to get the first turbine going). This diesel is variously mentioned in their permits as part of 189-0197, or 189-0187, 189-0187 is also referenced as a GPEE. There was also reference in the above permits to a (NSR?) 189-0200, which is not otherwise detailed. They will check with their environmental consultant and advise further. They are also aware that there have been discussions of some form of Title-V permitting, but are not aware of any other details.

The old Pearce Power Plant is no longer capable of operation. Parts of the building have been demolished, only parts of two boilers can still be seen (mud and steam drums have been breached), the turbines are gone (to scrap), and most of the asbestos removal is done. (These activities have been Wallingford's responsibility.) This activity commenced in the summer of 2000. The new plant is expected to be operational in the summer of 2001, but testing is not planned until close to the end of 2001.

6/11/01

Site Visit: Brief Chronology

On June 19, 1995, CDM Federal conducted an onsite reconnaissance to meet with appropriate site personnel, document conditions on the property, and to locate potential sampling locations. CDM Federal's field team, consisting of of Lisa Campbell (site manager) and Kathy McLaughlin (site safety officer), met with Edward Smith, president of W.E.S. Realty Trust and Hawk Transportation, Mr. Smith's attorney, Tom Cadden, and Wayne Cheeseman of American Auto Auction.

Activities conducted during the reconnaissance included a brief meeting with site personnel and a walkover of the property. The field team took photographs to document current site conditions. The property is occupied by two facilities: American Auto Auction in the eastern (front) part of the property, which includes the building, and a self-storage facility in the western (back) part of the property. The field team noted that the former lagoon area was covered with gravel and self-storage units. The area was fenced with a locked gate. Part of the Wallingford Landfill was observed adjacent to the southern property border, and part of the Wallingford Wastewater Treatment Plant was observed adjacent to the western property boundary. The property is bordered to the north by an abandoned warehouse and to the east by South Cherry Street.

On October 31, 1995, CDM Federal conducted surface soil, subsurface soil, and sediment sampling at the site (see Figure 1: Site Sketch With CDM Federal Surface and Subsurface Soil Sampling Locations and Figure 2: Area Sketch With CDM Federal Sediment Sampling Locations). CDM Federal's field team present for sampling activities were Lisa Campbell (site manager), Todd Stribley (site health and safety officer), Brendan MacDonald, and Cord Thomas. Edward Smith, the property owner, and his environmental consultant, Susan Paroush, of Delta Environmental Services, Inc., were present during part of the sampling event.

A total of 20 samples were collected, including six surface soil samples (SS-01 through SS-06), six subsurface soil samples (SB-01 through SB-06), four sediment samples (SD-01 through SD-04), three equipment blanks (EB-SS, EB-SB, EB-SD), and one trip blank (TB-01). In addition, six performance evaluation (PE) samples were sent for analysis along with the environmental samples. PE samples are used to evaluate the accuracy of laboratory analyses. Known concentrations of target analyses are prepared as a sample by a third party. The laboratory's result is then evaluated by EPA and incorporated in the data validation process.

Samples were collected in accordance with the Task Work Plan, dated September 1995, with the following exceptions: groundwater samples GW-01 through GW-06 were not collected because groundwater was not encountered within a depth of 38 feet below ground surface; the groundwater equipment blank (EB-GW) was not collected because groundwater samples were not collected; and the background sediment sample (SD-04) was collected downstream from the outfall of the Wallingford Wastewater Treatment Plant, per EPA's request.

The site safety officer was responsible for monitoring the concentration of volatile organic compounds (VOCs) in the ambient air while the field team conducted the site reconnaissance. The instrument used to monitor concentrations of VOCs was a MiniRAE Photoionization Detector (PID) with an 11.7 ev lamp, calibrated at the Wallingford Town Hall at 0930 on the morning of the onsite reconnaissance. No readings above background were recorded. The PID was not used during the sampling event because it could not be calibrated.

Site Characteristics

See attached site sketch for site characteristics

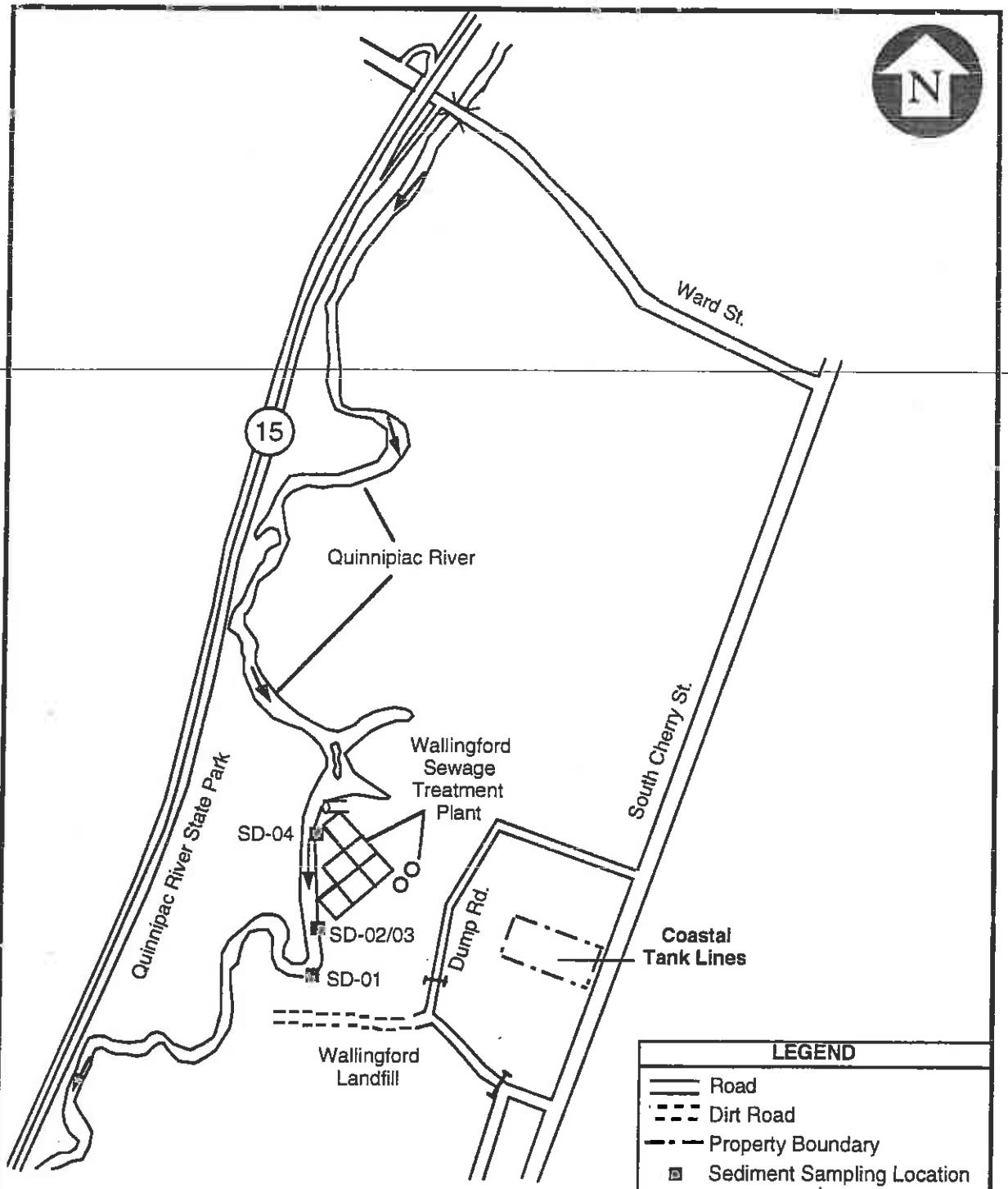
Quantities/Extent/Details

( ) Cylinders:
( ) Drums:
(X) Lagoons: Three 54 by 54-foot lagoons that received untreated wastewater from onsite tank truck washing operations were located in the west end of the property. These lagoons were excavated in 1983. Additionally, other lagoons of unknown sizes and locations that received the same types of wastes are alleged to have been buried on the property prior to 1969.

( ) Tanks: ( ) Above ground:
( ) Below ground:
( ) Asbestos:
(X) Piles: Unknown amounts of sludge from onlite tank truck washing operations were disposed of to the ground on various parts of the property prior to 1983.

( ) Stained Soil:
( ) Sheens:
( ) Stressed Vegetation:
( ) Landfill: ( ) Leachate seeps
(X) Population in Vicinity: There are approximately 312 people within 1/4 mile of the property.

(X) Distance to nearest residence: approximately 1,000 feet
( ) Land use: (X) Industrial ( ) Commercial (X) Residential
( ) Rural ( ) Agricultural
( ) Wells: ( ) Drinking:
( ) Monitoring:
( ) Other:



AREA SKETCH WITH CDM FEDERAL SEDIMENT SAMPLING LOCATIONS
COASTAL TANK LINES
WALLINGFORD, CONNECTICUT

CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.

Figure 2

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

May 19, 2008

(1)

BUREAU WATER MANAGEMENT
SITE NAME Coastal Tank Lines
ADDRESS 419 South Cherry St
TOWN Wallingford
FILE TYPE Remediation/Acres SF

Edward J. Smith
Hawk Transportation
PO Box 4967
Manchester, NH 03108

SUBJECT: Coastal Tank Lines
419 South Cherry Street
Wallingford, CT
CTD060010923

Dear Mr. Smith:

The subject site is listed in the U.S. Environmental Protection Agency's (EPA's) Superfund inventory of known or suspected hazardous waste disposal sites (the Comprehensive Environmental Response, Compensation and Liability Information System, or CERCLIS). Sites on this inventory have been or will be investigated by EPA or the State to determine the need for cleanup under the federal Superfund program. If EPA determines that the site warrants federal cleanup action under Superfund, responsible parties, including current and past site owners or operators, may be held liable for assessment and cleanup costs.

To date, limited environmental assessment has been conducted at the Coastal Tank Lines site in Wallingford, CT. However, the work conducted thus far indicates that this site may warrant cleanup under the federal Superfund program. EPA is currently prioritizing this and other sites in the active CERCLIS inventory for further investigation under Superfund.

At the request of the CT Department of Environmental Protection (DEP), EPA will cease evaluation of a site for Superfund cleanup if the property owner has committed to assess and remediate the property through the State voluntary remediation program, CT General Statute Section 22a-133x (Policy Statement and Fact Sheet attached). As specified in the statute, the site owner submits an environmental condition assessment form (ECAF) and an initial fee of $3,000 to the Commissioner of the DEP. The ECAF will be used by the DEP to determine whether DEP review and approval of remediation at the site will be necessary or if a Licensed Environmental Professional (LEP) may verify that the remediation has been performed in accordance with the Remediation Standard Regulations (Regulations of Connecticut State Agencies, Sections 22a-133k-1 through 22a-133k-3). Once the property owner has completed the investigation and remediation of the site in compliance with the State requirements, DEP will request that EPA remove

or archive the site from its active CERCLIS inventory thus resolving this longstanding environmental issue at the property.

Please respond in writing, within 30 days of receipt of this letter, if you, as the property owner, wish to voluntarily assess and conduct cleanup at the Coastal Tank Lines site (419 South Cherry Street, Wallingford, CT) through the State remediation program. If we do not hear from you, we will recommend that EPA proceed with further evaluation of this site under the federal Superfund program. If you have any questions regarding the voluntary remediation program or the Superfund process, please contact me at (860) 424-3501.

Sincerely,

Pat DeRosa

Pat DeRosa RP
Supervising Environmental Analyst
Remediation Division
Bureau of Water Protection and Land Reuse

Attachments (2)

cc: Gerardo Millan-Ramos, US EPA New England
Dave Ringquist, DEP
Edward J. Smith, 1420 South Ocean Blvd., Apt. 9F, Lauderdale-by-the-Sea, FL 33062
Edward J. Smith, 419 South Cherry Street, Wallingford, CT 06492

Sent Certified Mail
Return Receipt Requested

Appendix F

Supporting Interview Documentation

2374 Post Road, Suite 102
Warwick, RI 02886
Telephone: 401-736-3440
Fax: 401-736-3423
www.eaest.com

PROPERTY OWNER/USER PRE-SURVEY QUESTIONNAIRE: PHASE I ENVIRONMENTAL SITE ASSESSMENT

EA has been retained to conduct a Phase I Environmental Site Assessment (ESA) of the following property. The Phase I ESA will involve site observations, interviews, and a review of available documentation. To ensure the success of the assessment, and in accordance with the Scope of Work for this assessment, we request that you complete this questionnaire. We can pick up completed questionnaire during the site visit.

Date: 5/16/13

Name of person completing questionnaire: Nathan Chubet **Company:** Wood Group

Length of association with property: 12 Facility Manager **Phone Number:** 203-269-1813

Property Name/Address: Wallingford Energy 115 John Street Wallingford CT

Please check appropriate box(es): **Property Owner:** ☐ **User:** ☒

Directions: Please answer all questions to the best of your knowledge and in good faith. Mark the column corresponding to the appropriate response ("Y" = Yes; "N"= No; "U/NR" = Unknown). Additional details necessary to explain any yes or unknown responses should be provided in the "Comments" column.

	QUESTION	RESPONSE			COMMENTS
		Y	N	U/NR	
1	Are you aware of any pending, threatened, or past litigation relevant to hazardous substances of petroleum products in, on or from the property?		X		
2	Are you aware of any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on or from the property?		X		
3	Are you aware of any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?		X		
4	Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law?		X		
5	Are you aware of any Activity and Use Limitations (AULs), such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?		X		
6	Do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business.	X			
7	Does the purchase price being paid for this property reasonably reflect fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?			X	

2374 Post Road, Suite 102
Warwick, RI 02886
Telephone: 401-736-3440
Fax: 401-736-3423
www.eaest.com

PROPERTY OWNER/USER PRE-SURVEY QUESTIONNAIRE: PHASE I ENVIRONMENTAL SITE ASSESSMENT (__SITE NAME\\ADDRESS__)

	QUESTION		RESPONSE			COMMENTS
			Y	N	U/NR	
8	Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional identify conditions indicative of releases or threatened releases? For example,		X			
	8A	Do you know the past uses of the property?	X			Power Plant
	8B	Do you know of specific chemicals that are present or once were present at the property?			X	for Past 12 years only
	8C	Do you know of spills or other chemical releases that have taken place at the property?	X			
	8D	Do you know of any environmental cleanups that have taken place at the property?	X			
9	Based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence or likely presence of contamination at the property?			X		

In addition to the above, are you aware of any of the following documents? If so, please provide copies to our Environmental Professional on the date of the on-site assessment:

1 - Environmental site assessment reports (i.e., Phase I, Phase II, tank testing results, radon, lead paint, or asbestos testing, etc.):

2 - Environmental compliance audit reports:

3 - Environmental permits (for example, solid waste disposal permits, hazardous waste disposal permits, wastewater permits, NPDES permits, underground injection permits):

4 - Registrations for underground storage tanks (USTs) and aboveground storage tanks (ASTs):

5 - Material safety data sheets:

6 - Community right-to-know plan:

7 - Safety plans; preparedness and prevention plans; spill prevention, countermeasure, and control plans; etc:

8 - Reports regarding hydrogeological conditions on the property and surrounding area:

9 - Notices or other correspondence from any governmental agency relating to past or current violations of environmental laws with respect to the property or relating to environmental liens encumbering the property:

10 - Hazardous waste generator notices or reports:

11 - Geotechnical studies:

12 - Risk assessments:

13 - Recorded Activity and Use Limitations (AULs):

Substance/Product	Manufacturer	Last Reviewed/ Updated	By
20K Mx	Zok International Corp.	12/9/11	CG
A	A		
Aerokroil	Kano Labs	12/9/11	CG
Air-Activated Heating Packs	Heatmax	12/9/11	CG
Ammonia 10ppm	RKI Industries	12/9/11	CG
Ammonia 19% Aqueous Solution		12/9/11	CG
Ammonia Scrubbing Media	Perma Pare LLC	12/9/11	CG
Ammoniated Glass Cleaner	Chase Products	12/9/11	CG
Ammonium Hydroxide	Airgas	12/9/11	CG
Antifreeze 50/50	Chevron Texaco	12/9/11	CG
Anti-Seize – SAF-T-EZE	STL Compound Corp.	12/9/11	CG
Argon Cylinder		12/9/11	CG
Auto RF + SSPR 6 Pk Auto Primer	Rust-oleum Corp.	12/9/11	CG
B	B		
BBQ Charcoal Lighter Fluid	RW Packaging LTD	12/9/11	CG
BD115 Quick EAS Cutting Oil	Barnes Distributor	12/9/11	CG
Betco One-Step Restorer	Betco Corp.	12/9/11	CG
Bleach – A-1 Austins Bleach	James Austin Co.	12/9/11	CG
Blue Magic Industrial Grade Pipe Thread Compound	JC Whitlam Mfg. Co.	12/9/11	CG
Body Armor SPF 30 Sunscreen	LPS Laboratories	12/9/11	CG
Brakleen Brake parts Cleaner	CRC Industries Inc.	12/9/11	CG
Branson Rust Stripper	Branson Ultrasonic Corp.	12/9/11	CG
C	C		
C5-A Copper Based Anti-Seize Lubricant	Loctite	12/9/11	CG
Carb & Choke Cleaner	CRC Ind.	12/9/11	CG
Chico A Sealing Compound	Cooper-Crouse-Hinds	12/9/11	CG
Clean Up Solvent	Henkel Loctite Corp.	12/9/11	CG
Climate Smooth Soldering Paste	Hercules Chemical Co. Inc.	12/9/11	CG
CLR Calcium, Lime, Rust Remover	Jelmar	12/9/11	CG
Conntect 6000; Gas Turbine Compressor Cleaner	Conntect	12/9/11	CG
Contact Cleaner 296	A.W. Chesterton Co.	12/9/11	CG
Crack Shot Spackling Paste	DAP Inc.	12/9/11	CG
CRC Wasp and Hornet Killer Plus	CRC Industries	12/9/11	CG
CWF-UV5 Oil Clear	AKBO Kobel Paints	12/9/11	CG

Substance/Product	Manufacturer	Last Reviewed/ Updated	By
D	D		
Dial Body & Hair Shampoo	Dial Corp.	12/9/11	CG
Dot 3 Super Heavy Duty Brake Fluid	Radiator Specialty Co.	12/9/11	CG
Dowfrost HD Heat Transfer Fluid, Dyed	The Dan Chemical Co.,	12/9/11	CG
Drano	S.C. Johnson	12/9/11	CG
Drierite	W.A. Hammon Drierite Co.	12/9/11	CG
E	E		
Easy Task	Betco Corp.	12/9/11	CG
Elastomoric Emulsion Crack Filler	Henry Co.	12/9/11	CG
F	F		
Fast Orange Pumice Lotion, 1 Gal.	Permatec, Inc.	12/9/11	CG
G	G		
General Pump Packing Lubricant	General Pump	12/9/11	CG
GoJo Natural Orange Smooth Hand Cleaner	GoJo Industries	12/9/11	CG
Goo Gone	Magic American Products	12/9/11	CG
Granular Absorbent	Oil-Dri Corp. Of America	12/9/11	CG
H	H		
Hand Sanitizer – Kimcare	Kimberly Clarke	12/9/11	CG
HF Contact Cleaner	CRC Industries	12/9/11	CG
Hybrid Floor Finish	Betco	12/9/11	CG
Hydraulic Fluid – OK-15-10	Micromeritics Inst. Corp.	12/9/11	CG
Hylomar Universal Blue	Hylomar	12/9/11	CG
I	I		
Interior Spackling Paste	Custom Bldg Products	12/9/11	CG
J	J		
K	K		
Krylon Industrial Quick Mark Solvent Based	The Sherwin Williams Co.	12/9/11	CG
Krylon Industrial Tough-Coat Acrylic Enamel	The Sherwin Williams Co.	12/9/11	CG

Substance/Product	Manufacturer	Last Reviewed/ Updated	By
L	L		
Liquid Chicel Max (Degreaser)	Betco	12/9/11	CG
Liquid Hand Dishwashing Detergent	P&G	12/9/11	CG
Liquid Lead Detector	Swagelok. Co.	12/9/11	CG
Loctite 242	Loctite Corp.	12/9/11	CG
Loctite 580 Thread Sealant	Henkel Corp.	12/9/11	CG
Loctite 7649 Primer N	Henkel Corp.	12/9/11	CG
Loctite Dupont Krylox Lubricant	Loctite	12/9/11	CG
Loctite ODC-Free Cleaner Degreaser	Henkel Crop.	12/9/11	CG
Loctite Quickfix 246	Henkel Corp.	12/9/11	CG
Loctite Silicone Lubricant Dielectric Grease	Henkel Corp.	12/9/11	CG
Loctite Threadlocker Red 271	Henkel Corp.	12/9/11	CG
Lubricant FG-1 Food Machinery	Lubriplate	12/9/11	CG
Lubricone Dry Silicone	Kano Labs	12/9/11	CG
Lubriplate 1552	Lubriplate Lubricants Co.	12/9/11	CG
Lysol Disinfectant Spray	Beckitt Benckiser	12/9/11	CG
M	M		
M-1 House Wash	Jomaps	12/9/11	CG
MAPP Gas	Bernzonmatic	12/9/11	CG
MinWax Polyshades Gloss Finish	MinWax	12/9/11	CG
Mobil – Delvac 1 5W40	Exxon	12/9/11	CG
Mobil – DTE 25	Exxon	12/9/11	CG
Mobil – DTE 26	Exxon	12/9/11	CG
Mobil – DTE 732	Exxon	12/9/11	CG
Mobil – DTE Oil BB	Exxon	12/9/11	CG
Mobil – Jet Oil 11	Exxon	12/9/11	CG
Mobil – Pegasus 505	Exxon	12/9/11	CG
Mobil – SCH 630	Exxon	12/9/11	CG
Mobil DTE BM	Mobil	12/9/11	CG
Mobil Grease XTC	Exxon	12/9/11	CG
Mobilith SHC 100	Exxon	12/9/11	CG
Molykrote Longterm 00 Grease	Dow Corning Corp.	12/9/11	CG
Moorglo Paint	Benjamin Moore & Co.	12/9/11	CG
N	N		
Natrapel Plus (Insect Repellant)	Tender Corp.	12/9/11	CG
Natural Degrease	CRC Industries, Inc.	12/9/11	CG
Never Seez	Bostick Findley Inc.	12/9/11	CG
Nitrogen Cylinder		12/9/11	CG
Noalox Anti-Oxidant	Ideal Industries, Inc.	12/9/11	CG
Nordstrom 950 Stick Sealant	Flow Server	12/9/11	CG

Substance/Product	Manufacturer	Last Reviewed/ Updated	By
O	O		
P	P		
Pipe Thread Sealant	Federal Process Corp.	12/9/11	CG
Power Foam	Powers Fasterners Inc.	12/9/11	CG
Power Grip Belt Dressing	Barnes Distribution	12/9/11	CG
Prestone WW De-Icer	Prestone	12/9/11	CG
Propane	Bernzonmatic	12/9/11	CG
P-Touch 2x + SSPR 6 Pk Satin	Rust-Oleum Corp.	12/9/11	CG
Q	Q		
Quick-Set Cement	Carlon/Lensor/Sessons	12/9/11	CG
R	R		
Raid Ant Killer	S.C. Johnson	12/9/11	CG
Rector Seal No. 5 (Sealant)	Rotro Seal Corp.	12/9/11	CG
Roto-Xtend Duty Fluid PN1310	Atlas Copco Comp. Inc.	12/9/11	CG
Rust-Stop Primer	Ace Hardware Corp.	12/9/11	CG
S	S		
SD 20 All Purpose Degreaser	Spartan Chemical, Inc.	12/9/11	CG
Sealant SCS1000 Construction/Rubber	GE Silicones	12/9/11	CG
Simple Green	Sunshine Makers	12/9/11	CG
Smart-San All purpose Wipes	Best Sanitizers	12/9/11	CG
Snow Thrower Engine Oil	MTD Products	12/9/11	CG
Softsoap Antibacterial Handsoap	Colgate-Palmolive	12/9/11	CG
Speed Demon Acrylic Caulk	Red Devil, Inc.	12/9/11	CG
Super Degreaser	CRC Industries	12/9/11	CG
T	T		
Tilex Mold Remover	Clorox Co.	12/9/11	CG
U	U		
UVEX Clear Lens Cleaning Solutions	UVEX Safety Inc.	12/9/11	CG
V	V		
Value Lubricant & Sealant 111	Dow Corning Corp.	12/9/11	CG

Substance/Product	Manufacturer	Last Reviewed/ Updated	By
W	W		
WD40	WD40 Company	12/9/11	CG
Weather Strip Adhesive Black 3M	3M Automotive Div.	12/9/11	CG
Weld-on P-70 (Primer For PVC)	IPS Corp.	12/9/11	CG
Windex Glass Cleaner	Brackett Professional	12/9/11	CG
Wire pulling Lubricant – Aqua-Gell	Ideal Industries	12/9/11	CG
X	X		
XO-Rust Anti-Rust Enamel	CPM	12/9/11	CG
Y	Y		
Z	Z		

Doc ID: 001731920005 Type: LAN
BK 1410 PG 12-16

NOTICE OF LEASE
(Pursuant to CT General Stat. Sec. 47-19)

Wallingford, Connecticut

Notice is hereby given of that certain lease between TOWN OF WALLINGFORD, a municipal corporation, and PPL WALLINGFORD ENERGY LLC, a Connecticut limited liability company dated as of March 8th, 2000 as amended by that certain First Amendment dated as of October 25, 2000 and as further amended by that certain Second Amendment dated as of September 13, 2000 (the "Lease") and further described herein.

The Lease shall be on file at the offices of Landlord and Tenant as set forth below.

1) **PARTIES TO LEASE AND ADDRESSES**

LANDLORD: Town of Wallingford, a municipal corporation existing under and by virtue of the laws of the State of Connecticut

ADDRESS: Director of Public Utilities
100 John Street
Wallingford, Connecticut 06492

TENANT: PPL Wallingford Energy, LLC, a Connecticut limited liability company

ADDRESS: c/o LS Power Two Tower Center, 11th Floor,
East Brunswick, NJ 08816

2) **LEASE TERMS:** The Lease term commenced on March 8th, 2000 and terminates on December 31, 2024.

3) **DESCRIPTION OF PROPERTY CONTAINED IN THE LEASE**

See Attached Exhibit "A"

TA # N10-3446
RECORD AND RETURN TO:
TITLE ASSOCIATES INC.
825 THIRD AVENUE
NEW YORK, NY 10022
L. WILLIAMS

This Notice of Lease may be executed in counterpart or duplicate counterparts, each having the same force and effect as an original.

Executed this 8th day of March, 2011

Witnesses as to all:

Joan M. Stave
Joan M. Stave

Janis M. Small
Janis M. Small

TOWN OF WALLINGFORD CONNECTICUT

By: William Dickinson
Name William Dickinson
Title mayor

PPL WALLINGFORD ENERGY, LLC

By: _____
Name _____
Title _____

STATE OF Connecticut)
) ss.: Wallingford
COUNTY OF New Haven)

The foregoing instrument was acknowledged before me this 8th day of March, 2011 by William Dickinson, Mayor of the Town of Wallingford, on behalf of the municipal corporation.

Janis M. Small
Comm. of Sup. Ct.

STATE OF _____)
) ss.:
COUNTY OF _____)

The foregoing instrument was acknowledged before me this ____ day of March, 2011 by _____, _____ of the PPL Wallingford Energy, LLC, on behalf of the company.

_____

This Notice of Lease may be executed in counterpart or duplicate counterparts, each having the same force and effect as an original.

Executed this ___ day of March, 2011

Witnesses as to all:

TOWN OF WALLINGFORD CONNECTICUT

_____

_____

By: _____
Name _____
Title _____

PPL WALLINGFORD ENERGY, LLC

By: _____
Dennis J. Murphy
Vice President and Chief Operating Officer

STATE OF _____)
) ss.:
COUNTY OF _____)

The foregoing instrument was acknowledged before me this ____ day of March, 2011 by _____, _____ of the Town of Wallingford, on behalf of the municipal corporation.

_____

STATE OF Pennsylvania)
) ss.:
COUNTY OF Lehigh)

The foregoing instrument was acknowledged before me this 8th day of March, 2011 by Dennis J. Murphy, Vice President and Chief Operating Officer of PPL Wallingford Energy LLC, on behalf of the company.

_____

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Deborah A. [illegible], Notary Public
City of [illegible], Lehigh County
My Commission Expires July 16, 2012

NY\1779477.1

EXHIBIT A

98-160 Metes & Bounds Description PRELIMINARY REVISED TO 9/13/00
Area To Be Leased By Wallingford Energy LLC
#179 East Street, Wallingford, Connecticut

Beginning at a point on the northerly streetline of East Street, said point marks the common front property corner of Allegheny Ludlum Steel Corporation and the Town of Wallingford (Pierce Generating Plant). Said point is further marked by a concrete monument.

Thence at an azimuth of 308 ° 13 ' 25 ", 332.00 feet to the TRUE POINT OF BEGINNING:

Thence at an azimuth of 195 ° 35 ' 10 ", 222.65 feet to a point;

Thence at an azimuth of 226 ° 53 ' 35 ", 59.83 feet to a point;

Thence at an azimuth of 316 ° 53 ' 35 ", 20.60 feet to a point;

Thence at an azimuth of 226 ° 53 ' 35 ", 22.50 feet to a point;

Thence at an azimuth of 316 ° 53 ' 35 ", 55.00 feet to a point;

Thence at an azimuth of 226 ° 53 ' 35 ", 105.00 feet to a point;

Thence at an azimuth of 136 ° 53 ' 35 ", 9.00 feet to a point;

Thence at an azimuth of 226 ° 53 ' 35 ", 46.20 feet to a point;

Thence at an azimuth of 136 ° 25 ' 15 ", 189.40 feet to a point:

Thence at an azimuth of 226 ° 34 ' 25 ", 230.60 feet to a point;

Thence at an azimuth of 137 ° 26 ' 45 ", 31.40 feet to a point;

Thence at an azimuth of 177 ° 24 ' 45 ", 55.20 feet to a point;

Thence at an azimuth of 225 ° 36 ' 55 ", 80.75 feet to a point:

Thence at an azimuth of 02 ° 12 ' 00 ", 58.71 feet to a point:

Thence at an azimuth of 315 ° 27 ' 50 ", 51.85 feet to a point:

Thence at an azimuth of 46 ° 22 ' 45 ", 25.80 feet to a point;

Thence at an azimuth of 316 ° 22 ' 45 ", 56.80 feet to a point;

Thence at an azimuth of 46 ° 22 ' 45 ", 1.50 feet to a point;

Thence at an azimuth of 316 ° 22 ' 20 ", 182.29 feet to a point;

Thence at an azimuth of 226 ° 23 ' 45 ", 237.15 feet to a point;

Thence at an azimuth of 136 ° 21 ' 50 ", 167.50 feet to a point;

Thence at an azimuth of 181 ° 35 ' 25 ", 60.30 feet to a point;

Thence at an azimuth of 226 ° 36 ' 50 ", 89.95 feet to a point;

Thence along a counterclockwise curve, radius 188.60 feet, interior angle 25 ° 32 ' 15 ", arc length 84.06 feet to a point;

Thence at an azimuth of 320 ° 52 ' 35 ", 29.65 feet to a point;

Thence at an azimuth of 00 ° 24 ' 20 ", 64.75 feet to a point;

Thence at an azimuth of 269 ° 53 ' 55 ", 103.15 feet to a point;

Thence at an azimuth of 329 ° 47 ' 30 ", 84.55 feet to a point;

Thence at an azimuth of 19 ° 58 ' 55 ", 66.30 feet to a point;

Thence at an azimuth of 33 ° 43 ' 00 ", 92.00 feet to a point;

Thence at an azimuth 27 ° 17 ' 15 ", 56.38 feet to a point;

Thence at an azimuth of 18 ° 35 ' 15 ", 66.23 feet to a point;

Thence at an azimuth of 12 ° 53 ' 55 ", 176.00 feet to a point;

Thence at an azimuth of 40 ° 17 ' 25 ", 56.70 feet to a point;

Thence at an azimuth of 67 ° 25 ' 00 ", 136.50 feet to a point;

Thence at an azimuth of 59 ° 03 ' 15 ", 96.00 feet to a point;

Thence at an azimuth of 338 ° 44 ' 40 ", 45.70 feet to a point;

Thence at an azimuth of 69 ° 53 ' 03 ", 344.34 feet to a point;

Thence along a clockwise curve, radius 155.00 feet, interior angle 52 ° 22 ' 35 ", arc length 141.69 feet to a point;

Thence at an azimuth of 128 ° 13 ' 25 ", 55.43 feet to the TRUE POINT OF BEGINNING.

Said leased area contains 369,535+/- square feet (8.48+/- acres) and is more particularly depicted on a map entitled "Property Survey, Area To Be Leased By Wallingford Energy LLC, #179 East Street, Wallingford, Connecticut, Date: September 13, 2000, Scale: 1"= 60', Project no. 98-160, Sheet 1 of 1," Said map prepared by Juliano Associates and certified to Class A-2 accuracy by David W. Juliano L.S. #8033

FOR INFORMATION ONLY:

Commonly known as: ***115 John Street*** **Wallingford, Connecticut**

Received for Record at Wallingford, CT
On 03/21/2011 At 10:49:35 am

Doc ID: 001760620006 Type: LAN
BK 1414 PG 1156-1161

CERTIFICATE OF MERGER/NAME CHANGE

TO WHOM IT MAY CONCERN:

BE IT KNOWN THAT, **PPL Wallingford Energy, LLC** a limited liability company organized and existing under the laws of the United States holding a leasehold interest in and to certain real property situated within the Town of Wallingford, Connecticut, in the name of **PPL Wallingford Energy, LLC**, DOES HEREBY CERTIFY that **PPL Leasing Company, LLC** merged into **PPL Wallingford Energy, LLC** and said company changed its name from same by virtue of a name change into **Wallingford Energy LLC** a limited liability company organized and existing under the laws of the United States, copies of which are annexed hereto as Exhibit "A". This certificate is duly acknowledged and given for record in compliance with the Connecticut General Statutes.

IN WITNESS WHEREOF, the undersigned has hereunto set his/her hand and seal this 10th day of June, 2011.

Signed, sealed and delivered
in the presence of:

Wallingford Energy LLC

Witness #1

Name: Jobey Eddleman
Title: Assistant Treasurer

Witness #2

Personally appeared Jobey Eddleman, of **Wallingford Energy LLC**, signer and sealer of the foregoing certificate and acknowledged the same before me on behalf of said company and made oath to the truth of the statements contained herein on this 10th day of June, 2011.

DAVID JAN MARSHALL
Notary Public, State of New York
No. 02MA6212766
Qualified in Kings County
Commission Expires October 19, 2013

Notary Public
Commissioner of the Superior Court

ARTICLES OF ORGANIZATION

Limited Liability Company
Office of the Secretary of the State
30 Trinity Street / P.O. Box 150470 / Hartford, CT 06115-0470 / REV 1-9-98

Space

FILING #0002068183 PG 01 OF 01 VOL B-00315
FILED 01/28/2000 03:14 PM PAGE 01008
SECRETARY OF THE STATE
CONNECTICUT SECRETARY OF THE STATE

1. NAME OF THE LIMITED LIABILITY COMPANY:

PPL Wallingford Energy LLC

2. NATURE OF BUSINESS TO BE TRANSACTED OR THE PURPOSES TO BE PROMOTED OR CARRIED OUT:

The purpose of the limited liability company is to engage in any lawful act or activity for which limited liability companies may be formed under sections 34-100 to 34-242 of the Connecticut Limited Liability Company Act.

3. PRINCIPAL OFFICE ADDRESS:

c/o PP&L Global, Inc.
11350 Random Hills Road, Suite 400
Fairfax, VA 22030

4. APPOINTMENT OF STATUTORY AGENT FOR SERVICE OF PROCESS:

Name of agent:	Business address:
C T Corporation System	One Commercial Plaza, Hartford, Connecticut 06103
	Residence address:

Acceptance of appointment
C T Corporation System

By: Korri A Rehler KORRI A REHLER Special Assistant Secretary
Signature of agent

5. MANAGEMENT:

(Place a check mark next to the following statement *only* if it applies)

X The management of the limited liability company shall be vested in one or more managers.

6. EXECUTION

Krista A. Sweigart	Krista A. Sweigart
Print or type name of organizer	Signature

FILING #0004331873 PG 01 OF 01 VOL B-0149
FILED 03/07/2011 04:00 PM PAGE 01810
SECRETARY OF THE STATE
CONNECTICUT SECRETARY OF THE STATE

ARTICLES OF MERGER
OF
PPL LEASING COMPANY, LLC
WITH AND INTO
PPL WALLINGFORD ENERGY LLC

1. The name and jurisdiction of organization of each of the limited liability companies which are to merge are:

Name	Jurisdiction
PPL Leasing Company, LLC	Connecticut
PPL Wallingford Energy LLC	Connecticut

2. The name of the surviving limited liability company is PPL Wallingford Energy LLC.

3. The Plan of Merger was duly authorized and approved by PPL Leasing Company, LLC and PPL Wallingford Energy LLC in accordance with the provisions of Section 34-194 of the Connecticut Limited Liability Company Act.

4. The Plan of Merger is on file at the offices of PPL Wallingford Energy LLC, located at Two North Ninth Street, Allentown, Pennsylvania 18101.

5. A copy of the Plan of Merger will be furnished by PPL Wallingford Energy LLC on request and without cost to any person holding an interest in any limited liability company that is a party to the merger.

The undersigned have executed the Articles of Merger this 7th day of March, 2011.

PPL WALLINGFORD ENERGY LLC

By: Dennis J. Murphy
Dennis J. Murphy
Vice President and Chief Operating Officer

PPL LEASING COMPANY, LLC

By: Dennis J. Murphy
Dennis J. Murphy
Vice President

g:\stenotsubs\ppl wallingford\leasing art of merger.doc

SECRETARY OF THE STATE OF CONNECTICUT

MAILING ADDRESS: COMMERCIAL RECORDING DIVISION, CONNECTICUT SECRETARY OF THE STATE, P.O. BOX 150470, HARTFORD, CT 06115-0470
DELIVERY ADDRESS: COMMERCIAL RECORDING DIVISION, CONNECTICUT SECRETARY OF THE STATE, 30 TRINITY STREET, HARTFORD, CT 06106
PHONE: 860-509-6003 WEBSITE: WWW.CONCORD-SOTS.CT.GOV

ARTICLES OF AMENDMENT
Limited Liability Company-DOMESTIC

C.G.S. §§34-109; 34-122

USE INK. COMPLETE ALL SECTIONS. PRINT OR TYPE. ATTACH 81/2 X 11 SHEETS

FILING #0004335181 PG 01 OF 01 VOL B-0150
FILED 03/10/2011 04:00 PM PAGE 01185
SECRETARY OF THE STATE
CONNECTICUT SECRETARY OF THE STATE

FILING PARTY *(CONFIRMATION WILL BE SENT TO THIS ADDRESS):*

NAME:
ADDRESS:
CITY:
STATE: ZIP:

MAKE CHECKS PAYABLE TO SECRETARY OF THE STATE"

1. NAME OF LIMITED LIABILITY COMPANY - REQUIRED: *(MUST MATCH OUR CURRENT RECORDS EXACTLY WITH DESIGNATION SUCH AS L.L.C.,LLC, ETC.)*

PPL Wallingford Energy LLC

2. THE LIMITED LIABILITY COMPANY'S ARTICLE OF ORGANIZATION ARE (CHECK A, B, C OR D) - REQUIRED:

☑ **A. AMENDED, NAME ONLY:** Wallingford Energy LLC

(SPECIFY NEW NAME. MUST INCLUDE BUSINESS DESIGNATION SUCH AS: L.L.C., LLC, ETC.)

☐ **B. AMENDED:** ANY AMENDMENTS TO THE ARTICLES OF ORGANIZATION.

☐ **C. AMENDED AND RESTATED:** PROVIDE THE TEXT OF EACH AMENDMENT FOLLOWED BY A COMPLETE RESTATEMENT OF THE LIMITED LIABILITY COMPANY'S ARTICLES OF ORGANIZATION.

☐ **D. RESTATED:** INTEGRATION OF ALL PREVIOUS AMENDMENTS TO THE ARTICLES OF ORGANIZATION INTO ONE DOCUMENT.

3. FULL TEXT OF EACH AMENDMENT / RESTATEMENT - REQUIRED: *(NOTE: IF YOU ARE AMENDING THE BUSINESS NAME ONLY,COMPLETE SECTION 2A AND YOU MAY LEAVE THIS SECTION BLANK.)*

4. EXECUTION - REQUIRED: *(SUBJECT TO PENALTY OF FALSE STATEMENT)*

DATED THIS 9 DAY OF March , 20 11

NAME OF SIGNATORY (print/type)	CAPACITY/TITLE OF SIGNATORY	SIGNATURE
David Nannis	EVP	

FORM LCA-1-1.0
Rev. 7/2010

CT051 - 03/23/2010 CT System Online

SECRETARY OF THE STATE OF CONNECTICUT

MAILING ADDRESS: COMMERCIAL RECORDING DIVISION, CONNECTICUT SECRETARY OF THE STATE, P.O. BOX 150470, HARTFORD, CT 06115-0470
DELIVERY ADDRESS: COMMERCIAL RECORDING DIVISION, CONNECTICUT SECRETARY OF THE STATE, 30 TRINITY STREET, HARTFORD, CT 06106
PHONE: 860-509-6003 WEBSITE: www.concord-sots.ct.gov

CHANGE OF BUSINESS ADDRESS

DOMESTIC OR FOREIGN - ALL ENTITIES

USE INK. COMPLETE ALL SECTIONS. PRINT OR TYPE. ATTACH 8 1/2 X 11 SHEETS IF NECESSARY.

FILING PARTY *(CONFIRMATION WILL BE SENT TO)*

FILING #0004338280 PG 01 OF 01 VOL B-01502
FILED 03/16/2011 04:00 PM PAGE 00118
SECRETARY OF THE STATE
CONNECTICUT SECRETARY OF THE STATE

NAME:

ADDRESS:

CITY:

STATE: ZIP:

1. NAME OF BUSINESS ENTITY - REQUIRED: *(INCLUDE BUSINESS DESIGNATION I.E., L.L.C., LLC, INC, ETC. MUST MATCH OUR RECORD EXACTLY)*

WALLINGFORD ENERGY LLC

2. PRINCIPAL OFFICE ADDRESS OF BUSINESS: *(P.O.BOX UNACCEPTABLE)*

ADDRESS: c/o LS Power Development, LLC Two Tower Center, 11th Floor

CITY: East Brunswick

STATE: NJ ZIP: 08816

3. MAILING ADDRESS OF BUSINESS:

ADDRESS: c/o LS Power Development, LLC, Two Tower Center, 11th Floor

CITY: East Brunswick

STATE: NJ ZIP: 08816

4. EXECUTION - REQUIRED: *(SUBJECT TO PENALTY OF FALSE STATEMENT)*

DATED THIS 15th DAY OF March , 2011

NAME OF SIGNATORY	CAPACITY/TITLE OF SIGNATORY	SIGNATURE
David Nanus	Executive Vice President	

FORM ACM-1-1.0
Rev. 7/2010

CT015 - 0803/2010 C T System Online

STATE OF CONNECTICUT
OFFICE OF THE SECRETARY OF THE STATE } SS. HARTFORD

I hereby certify that this is a true copy of record in this Office

In Testimony whereof, I have hereunto set my hand, and affixed the Seal of said State, at Hartford, this 1st day of June A.D. 2011

SECRETARY OF THE STATE

Received for Record at Wallingford, CT
On 06/15/2011 At 11:33:51 am

Property Location: 197 EAST ST | MAP ID: 147/ / 4/ 1/ | Bldg Name: | State Use: 422C

Vision ID: 15898 | Account # N20000499 | Bldg #: 1 of 2 | Sec #: 1 of 1 | Card 1 of 2 | Print Date: 05/15/2013 10:10

CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION
WALLINGFORD ENERGY LLC	1 Level	2 Public Water	1 Paved	4 Bus. District
C/O LS POWER DEVELOPMENT LLC				
TWO TOWER CENTER 11TH FLOOR				
ATTN: TAX DEPARTMENT				
EAST BRUNSWICK, NJ 08816				
Additional Owners:				

SUPPLEMENTAL DATA

Other ID:	065003005A001	P/Z MAP #	
Census:	1754	ENG MAP #	
Old MBLU		Easement	
TC MAP #		Call Back	
TC MAP #		IND PARKS	
Record Lot			
GIS ID: 147/4/1		ASSOC PID#	

CURRENT ASSESSMENT

Description	Code	Appraised Value	Assessed Value
UTL BLDG	4-2	2,263,300	1,584,300
UTL OUTBL	4-3	1,962,300	1,373,600
Total		4,225,600	2,957,900

6148
WALLINGFORD, CT

VISION

RECORD OF OWNERSHIP

RECORD OF OWNERSHIP	BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.
WALLINGFORD ENERGY LLC	1414/1156	06/15/2011	U	V	0	40
WALLINGFORD ENERGY LLC	/		U	V		

PREVIOUS ASSESSMENTS (HISTORY)

Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
2012	4-2	1,584,300	2011	4-2	1,584,300	2010	4-2	1,584,300
2012	4-3	1,373,600	2011	4-3	1,373,600	2010	4-3	1,373,600
	Total:	2,957,900		Total:	2,957,900		Total:	2,957,900

EXEMPTIONS

Year	Type	Description	Amount
		Total:	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm. Int.

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

NBHD/ SUB	NBHD NAME	STREET INDEX NAME	TRACING	BATCH
I3/A				

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	1,145,700
Appraised XF (B) Value (Bldg)	14,800
Appraised OB (L) Value (Bldg)	1,917,400
Appraised Land Value (Bldg)	0
Special Land Value	0
Total Appraised Parcel Value	4,225,600
Valuation Method:	C
Adjustment:	0
Net Total Appraised Parcel Value	4,225,600

NOTES

PLANT OPERATIONS BLDG
WRHS=2316 SF
CONTROL ROOM=2250 SF
ELEC EQUIP=2379
ALL PRICED AT OFFICE STYLE
200 MEGAWATT OUTPUT

5 STACKS=EXHAUST FOR TURBINES
SW1 - SOUND BARRIER WALLS
CORRECTED PROPERTY LOCATION PER BUILDING
DEPARTMENT-2/9/07-(WAS 179 EAST ST)
PEAK POWER FACILITY

BUILDING PERMIT RECORD

Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments

VISIT/ CHANGE HISTORY

Date	Type	IS	ID	Cd.	Purpose/Result
5/5/2010	03		DT	29	Field Review
9/25/2009	03		TH	00	Measur+Listed
3/26/2002			ST	51	BAA No Change

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Frontage	Depth	Units		Unit Price	I. Factor	S.A.	Acre Disc	C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing	Adj. Unit Price	Land Value
1	422C	ELEC PLANT M94	I-40				0	SF	2.76	1.00	I	1.0000	1.00	I3	0.75			2.07	0

Total Card Land Units: 0.00 AC | Parcel Total Land Area: 0 AC | Total Land Value: 0

Property Location: 197 EAST ST | **MAP ID:** 147/ / 4/ 1/ | **Bldg Name:** | **State Use:** 422C

Vision ID: 15898 | **Account #** N20000499 | **Bldg #:** 1 of 2 | **Sec #:** 1 of 1 | **Card** 1 of 2 | **Print Date:** 05/15/2013 10:10

CONSTRUCTION DETAIL

Element	Cd.	Ch.	Description
Style	18		Office Bldg
Model	94		Commercial
Grade	A++		
Stories	1		
Occupancy	1		
Exterior Wall 1	19		Brick Veneer
Exterior Wall 2			
Roof Structure	01		Flat
Roof Cover	04		Tar & Gravel
Interior Wall 1	05		Drywall
Interior Wall 2			
Interior Floor 1	05		Vinyl/Asphalt
Interior Floor 2	03		Concr-Finished
Heating Fuel	03		Gas
Heating Type	04		Forced Air-Duc
AC Type	03		Central
Bldg Use	422C		ELEC PLANT M94
Total Rooms			
Total Bedrms	00		
Total Baths	0		
Heat/AC	01		Heat/AC Pkgs
Frame Type	03		Masonry
Baths/Plumbing	02		Average
Ceiling/Wall	06		Ceil & Walls
Rooms/Prtns	02		Average
Wall Height	20		
% Comn Wall	0		

CONSTRUCTION DETAIL (CONTINUED)

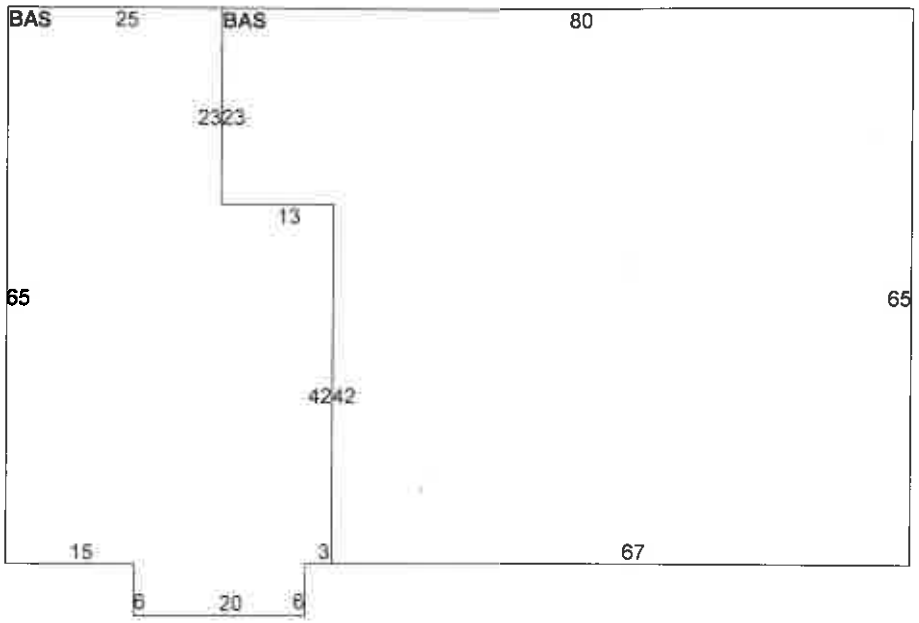
Element	Cd.	Ch.	Description

MIXED USE

Code	Description	Percentage
422C	ELEC PLANT M94	100

COST/MARKET VALUATION

Adj. Base Rate:	181.28
Section. RCN:	1,258,990
Net Other Adj:	0.00
Replace Cost	1,258,990
AYB	2001
Dep Code	A
Remodel Rating	
Year Remodeled	
Dep %	9
Functional Obslnc	
External Obslnc	
Cost Trend Factor	
Status	
% Complete	
Overall % Cond	91
Apprais Val	1,145,700
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	



OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
FN3	Fence-6' Chain			L	2,950	11.00	2001	C		G	70	22,700
TNK3	> 10,000 GAL			L	410,0	2.50	2001	C		G	70	717,500
SW1	Walls - 12"			L	26,00	50.00	2001	C		G	70	910,000
SW1	Walls - 12"			L	5,920	50.00	2001	C		G	70	207,200
LT1	Lights-In w/PL			L	15	860.00	2001	C		G	70	9,000
TNK3	> 10,000 GAL			L	20,00	2.50	2009	C		G	70	35,000
PAV1	Paving-Asphalt			L	12,00	1.90	2009	C		G	70	16,000
A/C	Air Condition			B	4,654	3.50	2001		1		100	14,800

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
BAS	First Floor	6,945	6,945	6,945	181.28	1,258,990
	Ttl. Gross Liv/Lease Area:	6,945	6,945	6,945		1,258,990

Property Location: 197 EAST ST | MAP ID: 147/ / 4/ 1/ | Bldg Name: | State Use: 422C

Vision ID: 15898 | Account # N20000499 | Bldg #: 2 of 2 | Sec #: 1 of 1 | Card 2 of 2 | Print Date: 05/15/2013 10:10

CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION
WALLINGFORD ENERGY LLC	1 Level	2 Public Water	1 Paved	4 Bus. District
C/O LS POWER DEVELOPMENT LLC				
TWO TOWER CENTER 11TH FLOOR				
ATTN: TAX DEPARTMENT				
EAST BRUNSWICK, NJ 08816				
Additional Owners:				

SUPPLEMENTAL DATA

Other ID:	065003005A001	P/Z MAP #	
Census:	1754	ENG MAP #	
Old MBLU		Easement	
TC MAP #		Call Back	
TC MAP #		IND PARKS	
Record Lot			
GIS ID: 147/4/1		ASSOC PID#	

CURRENT ASSESSMENT

Description	Code	Appraised Value	Assessed Value
UTL BLDG	4-2	2,263,300	1,584,300
UTL OUTBL	4-3	1,962,300	1,373,600
	Total	4,225,600	2,957,900

6148
WALLINGFORD, CT

VISION

RECORD OF OWNERSHIP

	BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.
WALLINGFORD ENERGY LLC	1414/1156	06/15/2011	U	V	0	40
WALLINGFORD ENERGY LLC	/		U	V		

PREVIOUS ASSESSMENTS (HISTORY)

Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
2012	4-2	1,584,300	2011	4-2	1,584,300	2010	4-2	1,584,300
2012	4-3	1,373,600	2011	4-3	1,373,600	2010	4-3	1,373,600
	Total:	2,957,900		Total:	2,957,900		Total:	2,957,900

EXEMPTIONS

Year	Type	Description	Amount
		Total:	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm. Int.

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

NBHD/ SUB	NBHD NAME	STREET INDEX NAME	TRACING	BATCH
I3/A				

NOTES

GAS COMPRESSOR BLDG
AKA 115 JOHN ST
243 MW (WINTER RATING)
NATURAL GAS - 5 SIMPLE CYCLE TURBINES

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	1,096,900
Appraised XF (B) Value (Bldg)	5,900
Appraised OB (L) Value (Bldg)	44,900
Appraised Land Value (Bldg)	0
Special Land Value	0
Total Appraised Parcel Value	4,225,600
Valuation Method:	C
Adjustment:	0
Net Total Appraised Parcel Value	4,225,600

BUILDING PERMIT RECORD

Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments

VISIT/ CHANGE HISTORY

Date	Type	IS	ID	Cd.	Purpose/Result
5/5/2010	03		DT	29	Field Review
9/25/2009	03		TH	00	Measur+Listed
3/26/2002			ST	51	BAA No Change

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Frontage	Depth	Units		Unit Price	I. Factor	S.A.	Acre Disc	C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing	Adj. Unit Price	Land Value
2	4220	ELEC PLANT M96	R6				0	SF	0.00	1.00	0	1.0000	1.00		0.00			0.00	0

Total Card Land Units: 0.00 AC | Parcel Total Land Area: 0 AC | Total Land Value: 0

Property Location: 197 EAST ST | **MAP ID:** 147/ / 4/ 1/ | **Bldg Name:** | **State Use:** 422C

Vision ID: 15898 | **Account #** N20000499 | **Bldg #:** 2 of 2 | **Sec #:** 1 of 1 | **Card** 2 of 2 | **Print Date:** 05/15/2013 10:10

CONSTRUCTION DETAIL

Element	Cd.	Ch.	Description
Style	63		Power Plant
Model	96		Ind/Comm
Grade	C		
Stories	1		
Occupancy	1		
Exterior Wall 1	19		Brick Veneer
Exterior Wall 2			
Roof Structure	01		Flat
Roof Cover	04		Tar & Gravel
Interior Wall 1	01		Minim/Masonry
Interior Wall 2			
Interior Floor 1	03		Concr-Finished
Interior Floor 2			
Heating Fuel	01		Coal or Wood
Heating Type	01		None
AC Type	01		None
Bldg Use	4220		ELEC PLANT M96
Total Rooms			
Total Bedrms	00		
Total Baths	0		
Heat/AC	00		Heat/Min
Frame Type	05		Steel
Baths/Plumbing	02		Average
Ceiling/Wall	00		None
Rooms/Prtns	02		Average
Wall Height	25		
% Comn Wall	0		

CONSTRUCTION DETAIL (CONTINUED)

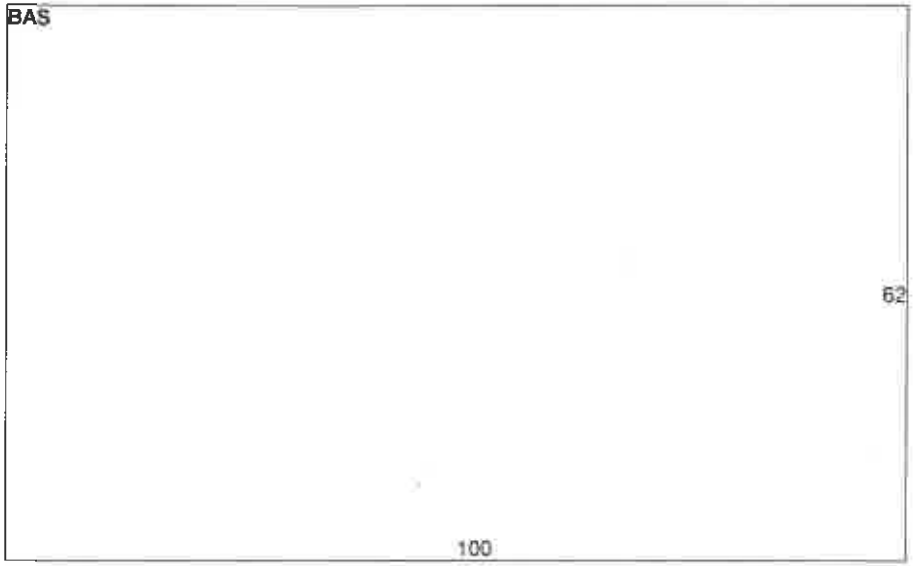
Element	Cd.	Ch.	Description

MIXED USE

Code	Description	Percentage
4220	ELEC PLANT M96	100

COST/MARKET VALUATION

Adj. Base Rate:	194.42
Section. RCN:	1,205,404
Net Other Adj:	0.00
Replace Cost	1,205,404
AYB	2001
Dep Code	A
Remodel Rating	
Year Remodeled	
Dep %	9
Functional Obslnc	
External Obslnc	
Cost Trend Factor	
Status	
% Complete	
Overall % Cond	91
Apprais Val	1,096,900
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	



No Photo On Record

OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
FN3	Fence-6' Chain			L	5,832	11.00	1999	C		G	70	44,900
SPR3	Sprinklers Dry			B	6,500	1.00	2001		1		100	5,900

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
BAS	First Floor	6,200	6,200	6,200	194.42	1,205,404
	Ttl. Gross Liv/Lease Area:	6,200	6,200	6,200		1,205,404

Property Location: 197 EAST ST | MAP ID: 147/ / 4/ 3/ | Bldg Name: | State Use: 422V

Vision ID: 134385 | Account #N20000498 | Bldg #: 1 of 1 | Sec #: 1 of 1 | Card 1 of 1 | Print Date: 05/15/2013 10:11

CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION
TOWN OF WALLINGFORD	1 Level	2 Public Water	1 Paved	5 Industrial
C/O LS POWER DEVELOPMENT LLC				
TWO TOWER CENTER 11TH FLOOR				
ATTN: TAX DEPARTMENT				
EAST BRUNSWICK, NJ 08816				
Additional Owners:				

SUPPLEMENTAL DATA

Other ID: 065003005A	P/Z MAP #
Census:	ENG MAP #
Old MBLU	Easement
TC MAP #	Call Back
TC MAP #	IND PARKS
Record Lot	
GIS ID: 147/4/3	ASSOC PID#

CURRENT ASSESSMENT

Description	Code	Appraised Value	Assessed Value
UTL LAND	4-1	634,600	444,200
		Total	634,600	444,200

6148
WALLINGFORD, CT

VISION

RECORD OF OWNERSHIP	BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.
TOWN OF WALLINGFORD	213/ 368	12/19/1950	U	I	0	

PREVIOUS ASSESSMENTS (HISTORY)

Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
2012	4-1	444,200	2011	4-1	444,200	2010	4-1	444,200
	Total:	444,200		Total:	444,200		Total:	444,200

EXEMPTIONS

Year	Type	Description	Amount
		Total:	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm. Int.

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

NBHD/ SUB	NBHD NAME	STREET INDEX NAME	TRACING	BATCH
I3/A				

NOTES

LEASED LAND FOR
POWER PLANT
PARCEL DOES NOT SHOW ON MAP
CND=LEASE VALUE OF LAND
COURT STIPULATED SETTLEMENT

CORRECTED PROPERTY LOCATION PER BUILDING DEPARTMENT-2/9/07 (WAS 179 EAST ST)

SURVEY 4696-05/04/01

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	0
Appraised XF (B) Value (Bldg)	0
Appraised OB (L) Value (Bldg)	0
Appraised Land Value (Bldg)	634,600
Special Land Value	0
Total Appraised Parcel Value	634,600
Valuation Method:	C
Adjustment:	0
Net Total Appraised Parcel Value	634,600

BUILDING PERMIT RECORD

Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments

VISIT/ CHANGE HISTORY

Date	Type	IS	ID	Cd.	Purpose/Result
5/5/2010	03		DT	29	Field Review
8/25/2009	03		TH	99	Vacant Lot Insp
12/20/2005			SJ	71	Court Decision
1/25/2002			SJ	41	Change

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Frontage	Depth	Units		Unit Price	I. Factor	S.A.	Acre Disc	C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing	Adj. Unit Price	Land Value
1	422V	ELEC PLANT M00	I40				43,560	SF	2.76	1.00	I	1.0000	1.00	I3	0.75			2.07	90,200
1	422V	ELEC PLANT M00	I40				6.71	AC	120,200.00	1.00	0	0.9000	1.00	I3	0.75			81,135.00	544,400

Total Card Land Units: 7.71 AC | Parcel Total Land Area: 7.71 AC | Total Land Value: 634,600

Property Location: 197 EAST ST **MAP ID:** 147/ / 4/ 3/ **Bldg Name:** **State Use:** 422V

Vision ID: 134385 **Account #** N20000498 **Bldg #:** 1 of 1 **Sec #:** 1 of 1 **Card** 1 of 1 **Print Date:** 05/15/2013 10:11

CONSTRUCTION DETAIL

Element	Cd.	Ch.	Description
Model	00		Vacant

CONSTRUCTION DETAIL (CONTINUED)

Element	Cd.	Ch.	Description

MIXED USE

Code	Description	Percentage
422V	ELEC PLANT M00	100

COST/MARKET VALUATION

Adj. Base Rate:	0.00
Section. RCN:	0
Net Other Adj:	0.00
Replace Cost	0
AYB	
Dep Code	
Remodel Rating	
Year Remodeled	
Dep %	
Functional Obslnc	
External Obslnc	
Cost Trend Factor	
Status	
% Complete	
Overall % Cond	
Apprais Val	
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	

OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
	Ttl. Gross Liv/Lease Area:	0	0	0		

No Photo On Record

Appendix G

Environmental Data Resources, Inc.
Summary Database Report

Wallingford Energy, LLC
115 John St.
Wallingford, CT 06492

Inquiry Number: 3604635.2s
May 13, 2013

EDR Summary Radius Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

115 JOHN ST.
WALLINGFORD, CT 06492

COORDINATES

Latitude (North):	41.4483000 - 41° 26' 53.88''
Longitude (West):	72.8351000 - 72° 50' 6.36''
Universal Tranverse Mercator:	Zone 18
UTM X (Meters):	680842.5
UTM Y (Meters):	4590574.0
Elevation:	63 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	TP
Source:	USGS 7.5 min quad index

AERIAL PHOTOGRAPHY IN THIS REPORT

Photo Year:	2012
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
115 JOHN ST.
WALLINGFORD, CT 06492

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft.) DIRECTION
A1	P P L WALLINGFORD EN	115 JOHN ST	RCRA-SQG, FINDS, MANIFEST, AIRS		TP
A2		115 JOHN STREET	SPILLS		TP
A3	P B B M WALLINGFORD	115 JOHN STREET	MANIFEST		TP
A4	WALLINGFORD ENERGY L	115 JOHN ST	AIRS		TP
A5	PPL WALLINGFORD ENER	115 JOHN STREET	MANIFEST, ENF, NPDES, CT PROPERTY		TP
B6		155 JOHNS STREET	SPILLS, CPCS	Higher	1 ft.
B7		157 JOHN STREET	SWF/LF, SWRCY	Higher	10, South
B8	WALLINGFORD SEWAGE T	155 JOHN ST	UST	Higher	11, South
B9	WALLINGFORD,TOWN OF	155 JOHN ST.	MANIFEST	Higher	11, South
B10	WALLINGFORD WATER PO	155 JOHN STREET	FINDS, LUST, SPILLS, NPDES	Higher	11, South
B11	WALLINGFORD TOWN OF	155 JOHN STREET	MANIFEST	Higher	11, South
B12	WALLINGFORD CITY OF	155 JOHN ST	MANIFEST	Higher	11, South
C13	THERMOSPAS INC	155 EAST STREET	RCRA-LQG	Higher	31, ENE
C14	THERMO SPAS INC	155 EAST STREET	MANIFEST	Higher	31, ENE
C15	THERMO SPAS	155 EAST ST	MANIFEST	Higher	31, ENE
C16	THERMO	155 EAST STREET	MANIFEST, SPILLS	Higher	31, ENE
C17	THERMOSPAS INC	155 EAST ST	MANIFEST, ENF	Higher	31, ENE
C18	THERMO SPAS	155 EAST ST.	MANIFEST, SPILLS	Higher	31, ENE
D19	C M E E C ALFRED L P	195 EAST AVE	RCRA-SQG	Higher	31, SE
D20	C M E E C ALFRED L P	195 EAST AVE	MANIFEST	Higher	31, SE
D21	WALLINGFORD FORMER C		LWDS	Higher	106, SE
22	JIM GALLAGHER	180 CLIFTON ST	LUST, SPILLS, CPCS	Higher	340, East
E23		128 EAST ST	EDR US Hist Cleaners	Higher	417, NE
E24	CONNECTICUT REFINING	99 EAST ST	UST	Higher	480, NE
25	WALLINGFORD TOWN STP		LWDS	Lower	481, WSW
F26	WALLINGFORD ELECTRIC	100 JOHN ST	MANIFEST	Higher	641, SE
F27		100 JOHN ST	MANIFEST, SPILLS	Higher	641, SE
F28	WALLINGFORD ELECTRIC	100 JOHN ST	MANIFEST	Higher	641, SE
F29	CT MUNICIPAL ELEC EN	100 JOHN ST	UST	Higher	641, SE
F30		100 JOHN ST	EDR US Hist Auto Stat	Higher	641, SE
F31	WALLINGFORD ELECTRIC	100 JOHN ST.	CPCS	Higher	641, SE
F32	WALLINGFORD ELECTRIC	100 JOHN ST	RCRA NonGen / NLR, FTTS, HIST FTTS, MANIFEST	Higher	641, SE
F33	TOWN OF WALLINGFORD	100 JOHN ST	MANIFEST	Higher	641, SE
F34	WALLINGFORD ELECTRIC	100 JOHN STREET	MANIFEST	Higher	641, SE
F35	WALLINGFORD TOWN OF	100 JOHN STREET	MANIFEST	Higher	641, SE
36	DAVIS ELECTRIC	334 NO. CHERRY ST.	MANIFEST	Higher	642, ESE
F37	NORTHEAST TOOL & MFG	378 NORTH CHERRY STR	MANIFEST	Higher	667, SSE
38	COASTAL INDUSTRIES	SOUTH CHERRY STREET	LWDS	Higher	863, SSE
G39	NAMEPLATE INDUSTRIES	193 S CHERRY ST	RCRA NonGen / NLR, FINDS	Higher	866, ENE

MAPPED SITES SUMMARY

Target Property Address:
115 JOHN ST.
WALLINGFORD, CT 06492

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft.) DIRECTION
40	COASTAL TANK LINES	SOUTH CHERRY STREET	SHWS, SDADB, CPCS	Higher	871, South
G41		200 S CHERRY ST	EDR US Hist Auto Stat	Higher	903, ENE
42	WALLINGFORD STP		LWDS	Lower	985, SSW
43	COLONIAL PARK BANQUE	46 JOHN ST	UST	Higher	986, SE
44	ALLEGHANY LUDLUM STE		LWDS	Lower	1078, WNW
H45	UNISET INC.	9 CARLTON STREET	MANIFEST	Higher	1122, East
H46	UNISET, INC.	9 CARLTON STREET	SDADB, CT PROPERTY	Higher	1127, East
I47	MULTI-PLASTICS CORP.	415 S CHERRY ST	UST	Higher	1141, South
J48	ULBRICH STAINLESS ST	1 DUDLEY AVE	MANIFEST	Higher	1240, ESE
J49	ULBRICH STAINLESS ST	1 DUDLEY AVE	UST	Higher	1240, ESE
J50	ULBRICH STAINLESS ST	1 DUDLEY AVENUE	MANIFEST	Higher	1240, ESE
J51	ULBRICH STAINLESS ST	1 DUDLEY AVE	MANIFEST, SPILLS, NPDES	Higher	1240, ESE
J52	ULBRICH SPECIALTY ST	1 DUDLEY AVE	RCRA-LQG, MLTS, FINDS, MANIFEST, US AIRS	Higher	1240, ESE
53	MATTHEWS PRINTING	10 MARSHALL ST	RCRA-CESQG, FINDS	Higher	1278, ENE
K54		384 S COLONY RD	EDR US Hist Auto Stat	Higher	1308, East
K55	CHEAP AUTO RENTAL LL	384 S COLONY RD	UST	Higher	1308, East
L56	ABELY'S WASTE OIL SE	55 DUDLEY AVE	MANIFEST	Higher	1320, SE
L57	ABELYS WASTE OIL SER	55 DUDLEY AVE	RCRA NonGen / NLR, FINDS, MANIFEST	Higher	1320, SE
58	MCKEON - LANDOW FUEL	3 GEORGE STREET	SDADB, CT PROPERTY, CPCS	Higher	1321, ENE
I59	COASTAL TANK LINES	419 SOUTH CHERRY STR	CPCS	Higher	1353, South
I60	COASTAL TANK LINES I	S CHERRY ST	CERCLIS, RCRA NonGen / NLR, FINDS	Higher	1353, South
M61	TOTAL PERFORMANCE IN	406 SOUTH ORCHARD ST	SDADB	Higher	1555, SE
M62	WALLINGFORD DODGE	400 SOUTH ORCHARD ST	SDADB	Higher	1556, SE
N63	AMERICAN CYANAMID	SOUTH CHERRY ST	RCRA-TSDF, CERC-NFRAP, CORRACTS, RCRA-LQG, TRIS,...	Higher	1580, South
N64	EVONIK-CYRO INDUSTRI	528 SOUTH CHERRY STR	LUST, SPILLS	Higher	1580, South
N65	COVANTA PROJECTS OF	530 SOUTH CHERRY STR	LUST, SPILLS, CT PROPERTY	Higher	1700, South
O66	MOBIL SERVICE STATIO	250 SOUTH COLONY RD.	CPCS	Higher	1855, ENE
67	GAS & GROCIERIES LLC	75 SOUTH TURNPIKE RO	LUST, CPCS	Lower	1986, WNW
O68		250 SOUTH COLONY RD	LUST, SPILLS	Higher	1998, ENE
P69	WALLINGFORD TOWN LAN	25 PENT ROAD	LWDS, CPCS	Higher	2028, SSW
P70	CT RESOURCE RECOVER	25 PENT RD	RCRA-TSDF, CERC-NFRAP, CORRACTS, RCRA NonGen /...	Higher	2028, SSW
P71	WALLINGFORD TOWN LAN	25 PENT ROAD	SHWS, SDADB	Higher	2028, SSW
Q72	BYK CHEMIE	247 DUDLEY AVE.	LUST, SPILLS	Higher	2127, SSE
Q73	BYK CHEMIE	247 DUDLEY AVE.	CPCS	Higher	2127, SSE
R74	CT ACQUISITIONS LLC	1 GRAND ST	SDADB, AIRS	Higher	2297, NE
R75	CIR-TEK, INC.	77 SOUTH CHERRY STRE	CT PROPERTY, CPCS	Higher	2366, NE
76	UNKNOWN	95 PARSONS ST.	LUST, SPILLS, CPCS	Higher	2393, East
77	GENERAL EQUITIES	259 QUINNIPIAC ST	LUST, MANIFEST	Lower	2585, NNE
S78	WALLINGFORD GAS LIGH	SWC SILK AND WASHING	EDR MGP	Higher	4801, NNE

MAPPED SITES SUMMARY

Target Property Address:
115 JOHN ST.
WALLINGFORD, CT 06492

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft.) DIRECTION
S79	NORTHEAST UTILITIES	WASHINGTON STREET	CERCLIS, FINDS, SHWS, SDADB, CT PROPERTY, CPCS	Higher	4818, NNE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 7 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
P P L WALLINGFORD EN 115 JOHN ST WALLINGFORD, CT 06492	RCRA-SQG FINDS MANIFEST AIRS	CTR000501205
115 JOHN STREET 115 JOHN STREET WALLINGFORD, CT	SPILLS	N/A
P B B M WALLINGFORD 115 JOHN STREET WALLINGFORD, CT 06492	MANIFEST	N/A
WALLINGFORD ENERGY L 115 JOHN ST WALLINGFORD, CT 18101	AIRS	N/A
PPL WALLINGFORD ENER 115 JOHN STREET WALLINGFORD, CT 06492	MANIFEST ENF NPDES CT PROPERTY	N/A

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal CERCLIS list

CERCLIS: A review of the CERCLIS list, as provided by EDR, and dated 02/04/2013 has revealed that

there is 1 CERCLIS site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
COASTAL TANK LINES I	*S CHERRY ST*	*S 1/4 - 1/2 (0.256 mi.)*	*I60*	*19*

Federal CERCLIS NFRAP site List

CERC-NFRAP: A review of the CERC-NFRAP list, as provided by EDR, and dated 02/05/2013 has revealed that there are 2 CERC-NFRAP sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
AMERICAN CYANAMID	*SOUTH CHERRY ST*	*S 1/4 - 1/2 (0.299 mi.)*	*N63*	*20*
CT RESOURCE RECOVER	*25 PENT RD*	*SSW 1/4 - 1/2 (0.384 mi.)*	*P70*	*22*

Federal RCRA CORRACTS facilities list

CORRACTS: A review of the CORRACTS list, as provided by EDR, and dated 02/12/2013 has revealed that there are 2 CORRACTS sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
AMERICAN CYANAMID	*SOUTH CHERRY ST*	*S 1/4 - 1/2 (0.299 mi.)*	*N63*	*20*
CT RESOURCE RECOVER	*25 PENT RD*	*SSW 1/4 - 1/2 (0.384 mi.)*	*P70*	*22*

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: A review of the RCRA-TSDF list, as provided by EDR, and dated 02/12/2013 has revealed that there are 2 RCRA-TSDF sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
AMERICAN CYANAMID	*SOUTH CHERRY ST*	*S 1/4 - 1/2 (0.299 mi.)*	*N63*	*20*
CT RESOURCE RECOVER	*25 PENT RD*	*SSW 1/4 - 1/2 (0.384 mi.)*	*P70*	*22*

Federal RCRA generators list

RCRA-LQG: A review of the RCRA-LQG list, as provided by EDR, and dated 02/12/2013 has revealed that there are 2 RCRA-LQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
THERMOSPAS INC	155 EAST STREET	ENE 0 - 1/8 (0.006 mi.)	C13	9
ULBRICH SPECIALTY ST	*1 DUDLEY AVE*	*ESE 1/8 - 1/4 (0.235 mi.)*	*J52*	*17*

EXECUTIVE SUMMARY

RCRA-SQG: A review of the RCRA-SQG list, as provided by EDR, and dated 02/12/2013 has revealed that there is 1 RCRA-SQG site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
C M E E C ALFRED L P	195 EAST AVE	SE 0 - 1/8 (0.006 mi.)	D19	11

RCRA-CESQG: A review of the RCRA-CESQG list, as provided by EDR, and dated 02/12/2013 has revealed that there is 1 RCRA-CESQG site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MATTHEWS PRINTING	***10 MARSHALL ST***	***ENE 1/8 - 1/4 (0.242 mi.)***	***53***	***17***

State- and tribal - equivalent CERCLIS

SHWS: A review of the SHWS list, as provided by EDR, and dated 04/23/2010 has revealed that there are 4 SHWS sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
COASTAL TANK LINES	***SOUTH CHERRY STREET***	***S 1/8 - 1/4 (0.165 mi.)***	***40***	***15***
AMERICAN CYANAMID	***SOUTH CHERRY ST***	***S 1/4 - 1/2 (0.299 mi.)***	***N63***	***20***
WALLINGFORD TOWN LAN	***25 PENT ROAD***	***SSW 1/4 - 1/2 (0.384 mi.)***	***P71***	***23***
NORTHEAST UTILITIES	***WASHINGTON STREET***	***NNE 1/2 - 1 (0.913 mi.)***	***S79***	***24***

SDADB: A review of the SDADB list, as provided by EDR, and dated 04/23/2010 has revealed that there are 8 SDADB sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
COASTAL TANK LINES	***SOUTH CHERRY STREET***	***S 1/8 - 1/4 (0.165 mi.)***	***40***	***15***
UNISET, INC.	***9 CARLTON STREET***	***E 1/8 - 1/4 (0.213 mi.)***	***H46***	***16***
MCKEON - LANDOW FUEL	***3 GEORGE STREET***	***ENE 1/4 - 1/2 (0.250 mi.)***	***58***	***18***
TOTAL PERFORMANCE IN	406 SOUTH ORCHARD ST	SE 1/4 - 1/2 (0.295 mi.)	M61	19
WALLINGFORD DODGE	400 SOUTH ORCHARD ST	SE 1/4 - 1/2 (0.295 mi.)	M62	19
AMERICAN CYANAMID	***SOUTH CHERRY ST***	***S 1/4 - 1/2 (0.299 mi.)***	***N63***	***20***
WALLINGFORD TOWN LAN	***25 PENT ROAD***	***SSW 1/4 - 1/2 (0.384 mi.)***	***P71***	***23***
CT ACQUISITIONS LLC	***1 GRAND ST***	***NE 1/4 - 1/2 (0.435 mi.)***	***R74***	***23***

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: A review of the SWF/LF list, as provided by EDR, and dated 03/24/2011 has revealed that there is 1 SWF/LF site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported	***157 JOHN STREET***	***S 0 - 1/8 (0.002 mi.)***	***B7***	***8***

EXECUTIVE SUMMARY

State and tribal leaking storage tank lists

LUST: A review of the LUST list, as provided by EDR, and dated 01/31/2013 has revealed that there are 9 LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WALLINGFORD WATER PO	*155 JOHN STREET*	*S 0 - 1/8 (0.002 mi.)*	*B10*	*9*
JIM GALLAGHER	*180 CLIFTON ST*	*E 0 - 1/8 (0.064 mi.)*	*22*	*11*
EVONIK-CYRO INDUSTRI	*528 SOUTH CHERRY STR*	*S 1/4 - 1/2 (0.299 mi.)*	*N64*	*20*
COVANTA PROJECTS OF	*530 SOUTH CHERRY STR*	*S 1/4 - 1/2 (0.322 mi.)*	*N65*	*21*
Not reported	*250 SOUTH COLONY RD*	*ENE 1/4 - 1/2 (0.378 mi.)*	*O68*	*22*
BYK CHEMIE	*247 DUDLEY AVE.*	*SSE 1/4 - 1/2 (0.403 mi.)*	*Q72*	*23*
UNKNOWN	*95 PARSONS ST.*	*E 1/4 - 1/2 (0.453 mi.)*	*76*	*24*

Lower Elevation	Address	Direction / Distance	Map ID	Page
GAS & GROCIERIES LLC	*75 SOUTH TURNPIKE RO*	*WNW 1/4 - 1/2 (0.376 mi.)*	*67*	*21*
GENERAL EQUITIES	*259 QUINNIPIAC ST*	*NNE 1/4 - 1/2 (0.490 mi.)*	*77*	*24*

State and tribal registered storage tank lists

UST: A review of the UST list, as provided by EDR, and dated 03/04/2013 has revealed that there are 7 UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WALLINGFORD SEWAGE T	155 JOHN ST	S 0 - 1/8 (0.002 mi.)	B8	8
CONNECTICUT REFINING	99 EAST ST	NE 0 - 1/8 (0.091 mi.)	E24	12
CT MUNICIPAL ELEC EN	100 JOHN ST	SE 0 - 1/8 (0.121 mi.)	F29	13
COLONIAL PARK BANQUE	46 JOHN ST	SE 1/8 - 1/4 (0.187 mi.)	43	15
MULTI-PLASTICS CORP.	415 S CHERRY ST	S 1/8 - 1/4 (0.216 mi.)	I47	16
ULBRICH STAINLESS ST	1 DUDLEY AVE	ESE 1/8 - 1/4 (0.235 mi.)	J49	17
CHEAP AUTO RENTAL LL	384 S COLONY RD	E 1/8 - 1/4 (0.248 mi.)	K55	18

State and tribal institutional control / engineering control registries

AUL: A review of the AUL list, as provided by EDR, and dated 02/19/2013 has revealed that there is 1 AUL site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
AMERICAN CYANAMID	*SOUTH CHERRY ST*	*S 1/4 - 1/2 (0.299 mi.)*	*N63*	*20*

EXECUTIVE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: A review of the SWRCY list, as provided by EDR, and dated 12/31/2010 has revealed that there is 1 SWRCY site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported	***157 JOHN STREET***	***S 0 - 1/8 (0.002 mi.)***	***B7***	***8***

Other Ascertainable Records

RCRA NonGen / NLR: A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 02/12/2013 has revealed that there are 3 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WALLINGFORD ELECTRIC	***100 JOHN ST***	***SE 0 - 1/8 (0.121 mi.)***	***F32***	***13***
NAMEPLATE INDUSTRIES	***193 S CHERRY ST***	***ENE 1/8 - 1/4 (0.164 mi.)***	***G39***	***15***
ABELYS WASTE OIL SER	***55 DUDLEY AVE***	***SE 1/8 - 1/4 (0.250 mi.)***	***L57***	***18***

LWDS: A review of the LWDS list, as provided by EDR, and dated 07/17/2009 has revealed that there are 5 LWDS sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WALLINGFORD FORMER C		SE 0 - 1/8 (0.020 mi.)	D21	11
COASTAL INDUSTRIES	SOUTH CHERRY STREET	SSE 1/8 - 1/4 (0.163 mi.)	38	14
Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
WALLINGFORD TOWN STP		WSW 0 - 1/8 (0.091 mi.)	25	12
WALLINGFORD STP		SSW 1/8 - 1/4 (0.187 mi.)	42	15
ALLEGHANY LUDLUM STE		WNW 1/8 - 1/4 (0.204 mi.)	44	16

MANIFEST: A review of the MANIFEST list, as provided by EDR, and dated 02/18/2013 has revealed that there are 22 MANIFEST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WALLINGFORD,TOWN OF	155 JOHN ST.	S 0 - 1/8 (0.002 mi.)	B9	8
WALLINGFORD TOWN OF	155 JOHN STREET	S 0 - 1/8 (0.002 mi.)	B11	9
WALLINGFORD CITY OF	155 JOHN ST	S 0 - 1/8 (0.002 mi.)	B12	9
THERMO SPAS INC	155 EAST STREET	ENE 0 - 1/8 (0.006 mi.)	C14	10
THERMO SPAS	155 EAST ST	ENE 0 - 1/8 (0.006 mi.)	C15	10
THERMO	***155 EAST STREET***	***ENE 0 - 1/8 (0.006 mi.)***	***C16***	***10***
THERMOSPAS INC	***155 EAST ST***	***ENE 0 - 1/8 (0.006 mi.)***	***C17***	***10***

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
THERMO SPAS	***155 EAST ST.***	***ENE 0 - 1/8 (0.006 mi.)***	***C18***	***10***
C M E E C ALFRED L P	195 EAST AVE	SE 0 - 1/8 (0.006 mi.)	D20	11
WALLINGFORD ELECTRIC	100 JOHN ST	SE 0 - 1/8 (0.121 mi.)	F26	12
Not reported	***100 JOHN ST***	***SE 0 - 1/8 (0.121 mi.)***	***F27***	***12***
WALLINGFORD ELECTRIC	100 JOHN ST	SE 0 - 1/8 (0.121 mi.)	F28	13
TOWN OF WALLINGFORD	100 JOHN ST	SE 0 - 1/8 (0.121 mi.)	F33	14
WALLINGFORD ELECTRIC	100 JOHN STREET	SE 0 - 1/8 (0.121 mi.)	F34	14
WALLINGFORD TOWN OF	100 JOHN STREET	SE 0 - 1/8 (0.121 mi.)	F35	14
DAVIS ELECTRIC	334 NO. CHERRY ST.	ESE 0 - 1/8 (0.122 mi.)	36	14
NORTHEAST TOOL & MFG	378 NORTH CHERRY STR	SSE 1/8 - 1/4 (0.126 mi.)	F37	14
UNISET INC.	9 CARLTON STREET	E 1/8 - 1/4 (0.213 mi.)	H45	16
ULBRICH STAINLESS ST	1 DUDLEY AVE	ESE 1/8 - 1/4 (0.235 mi.)	J48	16
ULBRICH STAINLESS ST	1 DUDLEY AVENUE	ESE 1/8 - 1/4 (0.235 mi.)	J50	17
ULBRICH STAINLESS ST	***1 DUDLEY AVE***	***ESE 1/8 - 1/4 (0.235 mi.)***	***J51***	***17***
ABELY'S WASTE OIL SE	55 DUDLEY AVE	SE 1/8 - 1/4 (0.250 mi.)	L56	18

CPCS: A review of the CPCS list, as provided by EDR, and dated 06/04/2012 has revealed that there are 13 CPCS sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported	***155 JOHNS STREET***	***0 - 1/8 (0.000 mi.)***	***B6***	***8***
JIM GALLAGHER	***180 CLIFTON ST***	***E 0 - 1/8 (0.064 mi.)***	***22***	***11***
WALLINGFORD ELECTRIC	100 JOHN ST.	SE 0 - 1/8 (0.121 mi.)	F31	13
COASTAL TANK LINES	***SOUTH CHERRY STREET***	***S 1/8 - 1/4 (0.165 mi.)***	***40***	***15***
MCKEON - LANDOW FUEL	***3 GEORGE STREET***	***ENE 1/4 - 1/2 (0.250 mi.)***	***58***	***18***
COASTAL TANK LINES	419 SOUTH CHERRY STR	S 1/4 - 1/2 (0.256 mi.)	I59	19
AMERICAN CYANAMID	***SOUTH CHERRY ST***	***S 1/4 - 1/2 (0.299 mi.)***	***N63***	***20***
MOBIL SERVICE STATIO	250 SOUTH COLONY RD.	ENE 1/4 - 1/2 (0.351 mi.)	O66	21
WALLINGFORD TOWN LAN	***25 PENT ROAD***	***SSW 1/4 - 1/2 (0.384 mi.)***	***P69***	***22***
BYK CHEMIE	247 DUDLEY AVE.	SSE 1/4 - 1/2 (0.403 mi.)	Q73	23
CIR-TEK, INC.	***77 SOUTH CHERRY STRE***	***NE 1/4 - 1/2 (0.448 mi.)***	***R75***	***23***
UNKNOWN	***95 PARSONS ST.***	***E 1/4 - 1/2 (0.453 mi.)***	***76***	***24***

Lower Elevation	Address	Direction / Distance	Map ID	Page
GAS & GROCIERIES LLC	***75 SOUTH TURNPIKE RO***	***WNW 1/4 - 1/2 (0.376 mi.)***	***67***	***21***

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: A review of the EDR MGP list, as provided by EDR, has revealed that there is 1 EDR MGP site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WALLINGFORD GAS LIGH	SWC SILK AND WASHING	NNE 1/2 - 1 (0.909 mi.)	S78	24

EXECUTIVE SUMMARY

EDR US Hist Auto Stat: A review of the EDR US Hist Auto Stat list, as provided by EDR, has revealed that there are 3 EDR US Hist Auto Stat sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported	100 JOHN ST	SE 0 - 1/8 (0.121 mi.)	F30	13
Not reported	200 S CHERRY ST	ENE 1/8 - 1/4 (0.171 mi.)	G41	15
Not reported	384 S COLONY RD	E 1/8 - 1/4 (0.248 mi.)	K54	18

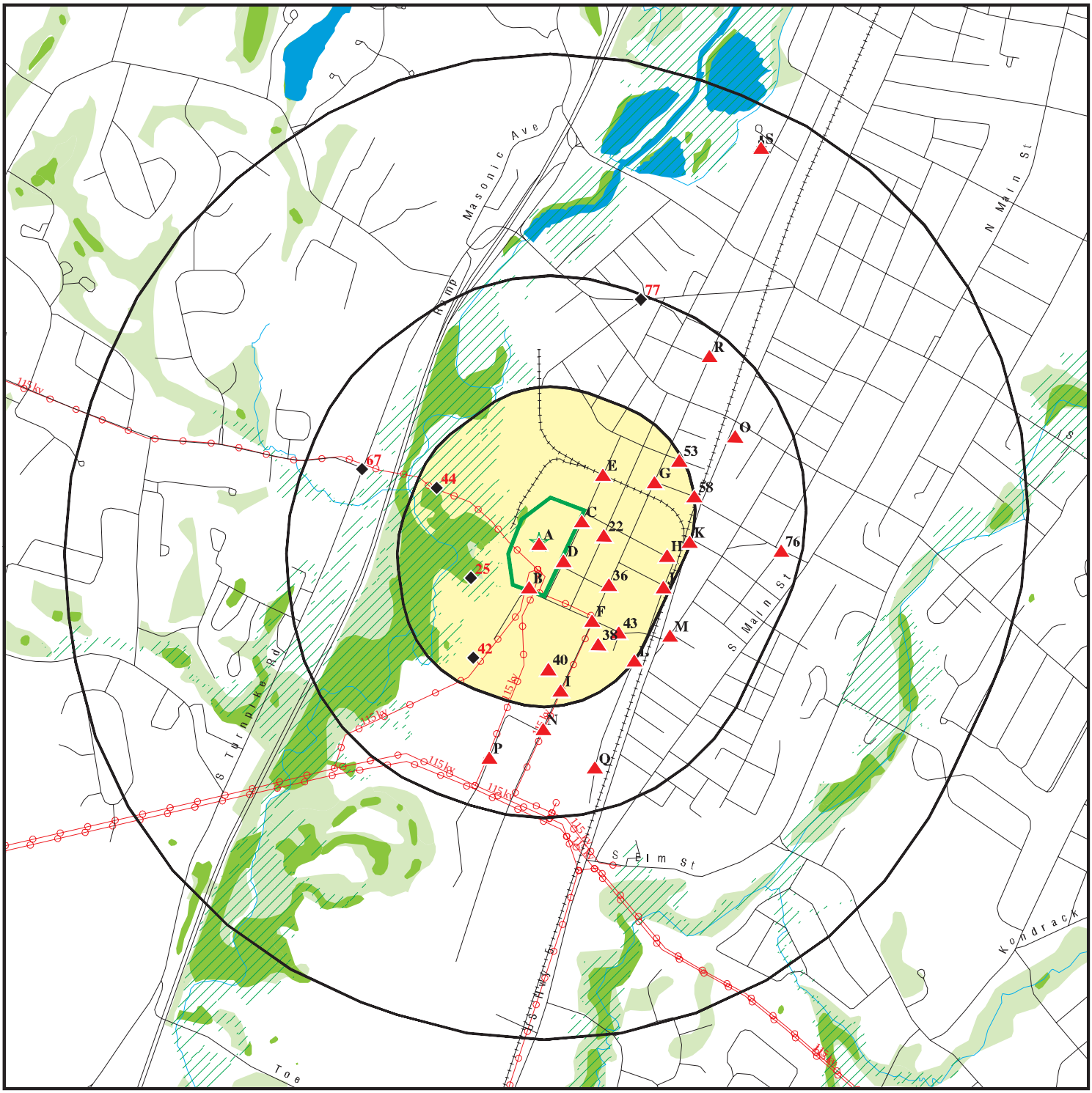
EDR US Hist Cleaners: A review of the EDR US Hist Cleaners list, as provided by EDR, has revealed that there is 1 EDR US Hist Cleaners site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported	128 EAST ST	NE 0 - 1/8 (0.079 mi.)	E23	12

Count: 20 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
WALLINGFORD	1000267310	BULK TRANSPORT SERVICE INC	S CHERRY ST	06492	FINDS,RCRA-NLR
WALLINGFORD	1000349574	CT PRE HUNG DOORS INC	N PLAINS HWY	06492	FINDS,RCRA-NLR
WALLINGFORD	1000361635	CARRIER CORP	121R N PLAINS IND PK RD	06492	FINDS,RCRA-NLR
WALLINGFORD	1000377960	CRESCENT INDUSTRIES INC	N PLAINS HWY	06492	FINDS,RCRA-NLR
WALLINGFORD	1001967758	A C MOLDING COMPOUNDS	5 CHERRY ST	06492	FINDS,RCRA-NLR
WALLINGFORD	1004453913	WALLINGFORD ELECTRIC DIV. (CALDOR	ROUTE 5	06492	FTTS,FINDS,HIST FTTS
WALLINGFORD	1004454234	WALLINGFORD ELECTRIC	TWIN OAKS ROAD	06492	FTTS,FINDS,HIST FTTS
WALLINGFORD	1007298982	WALLINGFORD ELECTRIC DIV.(CENTER S	100 JHON ST.	6492	FTTS,HIST FTTS
WALLINGFORD	1007443917	WALLINGFORD MUNICIPAL LANDFILL	OFF SOUTH CHERRY STREET		ODI
WALLINGFORD	1007467103	WALLINGFORD R.R. ASSOC, L.P.	CHERRY ST.	06492	FINDS
WALLINGFORD	1008019513	WALLINGFORD WATER DEPARTMENT	ADDRESS NOT IN SDWIS	06492	FINDS
WALLINGFORD	1011821586	CYRO INDUSTRIES INC., WALLINGFORD	SOUTH CHERRY STREET	06492	RMP
WALLINGFORD	1011821594	CYTEC INDUSTRIES INC., WALLINGFORD	SOUTH CHERRY STREET	06492	RMP
WALLINGFORD	S108706604		PENT HIGHWAY		LF
WALLINGFORD	S109728248	J K WINSLOW INC	NORTH PLAINS HWY	06492	MANIFEST
WALLINGFORD	S109728250	WINSLOW MFG INC	NORTH PLAINS HIGHWAY	06492	MANIFEST
WALLINGFORD	S109733427	EXECUTIVE HONDA	RTE 5	06492	MANIFEST
WALLINGFORD	S109736254	COMM GARAGE - EXXON STATION	RTE 5	06492	MANIFEST
WALLINGFORD	S109744296	STATE OF CONN. DEPT. OF TRANSP.	ROUTE 15		MANIFEST
WILLINGTON	S109751566	WEST MOTOR FREIGHT OF PA	ROUTE 84 WEST	06492	MANIFEST

OVERVIEW MAP - 3604635.2s



Target Property
Sites at elevations higher than or equal to the target property
Sites at elevations lower than the target property
Manufactured Gas Plants
National Priority List Sites
Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA
Power transmission lines
Oil & Gas pipelines from USGS
100-year flood zone
500-year flood zone
National Wetland Inventory
State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Wallingford Energy, LLC	CLIENT:	EA Engineering Science & Tech.
ADDRESS:	115 John St. Wallingford CT 06492	CONTACT:	Meghan Travers
LAT/LONG:	41.4483 / 72.8351	INQUIRY #:	3604635.2s
		DATE:	May 13, 2013 12:50 pm

DETAIL MAP - 3604635.2s

Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

Power transmission lines

Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

0 1/16 1/8 1/4 Miles

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Wallingford Energy, LLC	CLIENT:	EA Engineering Science & Tech.
ADDRESS:	115 John St. Wallingford CT 06492	CONTACT:	Meghan Travers
		INQUIRY #:	3604635.2s
LAT/LONG:	41.4483 / 72.8351	DATE:	May 13, 2013 12:57 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		0	0	1	NR	NR	1
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500		0	0	2	NR	NR	2
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	2	0	NR	2
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	2	NR	NR	2
Federal RCRA generators list								
RCRA-LQG	0.250		1	1	NR	NR	NR	2
RCRA-SQG	0.250	1	1	0	NR	NR	NR	2
RCRA-CESQG	0.250		0	1	NR	NR	NR	1
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent CERCLIS								
SHWS	1.000		0	1	2	1	NR	4
SDADB	0.500		0	2	6	NR	NR	8
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		1	0	0	NR	NR	1
State and tribal leaking storage tank lists								
LUST	0.500		2	0	7	NR	NR	9
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST	0.250		3	4	NR	NR	NR	7

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS	0.500		0	0	0	NR	NR	0
AUL	0.500		0	0	1	NR	NR	1
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
SWRCY	0.500		1	0	0	NR	NR	1
INDIAN ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	TP		NR	NR	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
LIENS	TP		NR	NR	NR	NR	NR	0
CT PROPERTY	TP	1	NR	NR	NR	NR	NR	1
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP	1	NR	NR	NR	NR	NR	1
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		1	2	NR	NR	NR	3
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000		0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
ROD	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP	1	NR	NR	NR	NR	NR	1
RAATS	TP		NR	NR	NR	NR	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
LWDS	0.250		2	3	NR	NR	NR	5
MANIFEST	0.250	3	17	8	NR	NR	NR	28
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
ENF	TP	1	NR	NR	NR	NR	NR	1
NPDES	TP	1	NR	NR	NR	NR	NR	1
AIRS	TP	2	NR	NR	NR	NR	NR	2
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
CPCS	0.500		3	1	9	NR	NR	13
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	1	NR	1
EDR US Hist Auto Stat	0.250		1	2	NR	NR	NR	3
EDR US Hist Cleaners	0.250		1	0	NR	NR	NR	1

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1
Target Property
P P L WALLINGFORD ENERGY LLC
115 JOHN ST
WALLINGFORD, CT 06492

RCRA-SQG
FINDS
MANIFEST
AIRS

1004681709
CTR000501205

Actual: 63 ft.

Click here for full text details

RCRA-SQG
EPA Id: CTR000501205

A2
Target Property
115 JOHN STREET
WALLINGFORD, CT

SPILLS

S108306469
N/A

Actual: 63 ft.

Click here for full text details

SPILLS
Case Number: 200201386
Case Number: 200201387
Case Number: 200205563
Case Number: 200801493
Facility Status: CLOSED
Facility Status: closed
Facility Status: Closed

A3
Target Property
P B B M WALLINGFORD
115 JOHN STREET
WALLINGFORD, CT 06492

MANIFEST

S109752251
N/A

Actual: 63 ft.

Click here for full text details

A4
Target Property
WALLINGFORD ENERGY LLC
115 JOHN ST
WALLINGFORD, CT 18101

AIRS

S111762956
N/A

Actual: 63 ft.

Click here for full text details

A5
Target Property
PPL WALLINGFORD ENERGY, LLC
115 JOHN STREET
WALLINGFORD, CT 06492

MANIFEST
ENF
NPDES
CT PROPERTY

S109756108
N/A

Actual: 63 ft.

Click here for full text details

ENF
Enforcement Action Id: NVAR1657510113
Enforcement Action Id: COAR2209--10001
Status: Active

NPDES

PPL WALLINGFORD ENERGY, LLC (Continued) **S109756108**

Status: Active

B6 **SPILLS** **S104239106**
155 JOHNS STREET **CPCS** **N/A**
< 1/8 **WALLINGFORD, CT**
1 ft.

Relative: Higher

Click here for full text details

SPILLS
Case Number: 9804587
Facility Status: Closed

CPCS
Lust Status: Cleanup Initiated

B7 **SWF/LF** **S102786234**
South **157 JOHN STREET** **SWRCY** **N/A**
< 1/8 **WALLINGFORD, CT**
0.002 mi.
10 ft.

Relative: Higher

Click here for full text details

B8 **WALLINGFORD SEWAGE TREATMENT PLANT** **UST** **1000494473**
South **155 JOHN ST** **N/A**
< 1/8 **WALLINGFORD, CT 06492**
0.002 mi.
11 ft.

Relative: Higher

Click here for full text details

UST
Facility Id: 11426
Tank Status: Currently In Use

B9 **WALLINGFORD,TOWN OF DPW-SEWER DIV.** **MANIFEST** **S109749542**
South **155 JOHN ST.** **N/A**
< 1/8 **WALLINGFORD, CT 06492**
0.002 mi.
11 ft.

Relative: Higher

Click here for full text details

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
B10	**WALLINGFORD WATER POLLUTION CONTROL FACILITY**	**FINDS**	**1004455466**
South	**155 JOHN STREET**	**LUST**	**N/A**
< 1/8	**WALLINGFORD, CT 06492**	**SPILLS**	
0.002 mi.		**NPDES**	
11 ft.			
Relative: Higher	**Click here for full text details**		
	LUST		
	Lust Status: Lust Completed		
	LUST Id: 31311		
	SPILLS		
	Case Number: 9906643		
	Facility Status: Closed		
	NPDES		
	Status: Active		
	Status: Continued		
B11	**WALLINGFORD TOWN OF**	**MANIFEST**	**S109749541**
South	**155 JOHN STREET**		**N/A**
< 1/8	**WALLINGFORD, CT 06492**		
0.002 mi.			
11 ft.			
Relative: Higher	**Click here for full text details**		
B12	**WALLINGFORD CITY OF**	**MANIFEST**	**S109748523**
South	**155 JOHN ST**		**N/A**
< 1/8	**WALLINGFORD, CT**		
0.002 mi.			
11 ft.			
Relative: Higher	**Click here for full text details**		
C13	**THERMOSPAS INC**	**RCRA-LQG**	**1008194871**
ENE	**155 EAST STREET**		**CTR000504001**
< 1/8	**WALLINGFORD, CT 06492**		
0.006 mi.			
31 ft.			
Relative: Higher	**Click here for full text details**		
	RCRA-LQG		
	EPA Id: CTR000504001		

C14
ENE
< 1/8
0.006 mi.
31 ft.

Relative:
Higher

THERMO SPAS INC
155 EAST STREET
WALLINGFORD, CT 06492

MANIFEST

S109756266
N/A

Click here for full text details

C15
ENE
< 1/8
0.006 mi.
31 ft.

Relative:
Higher

THERMO SPAS
155 EAST ST
WALLINGFORD, CT

MANIFEST

S109753620
N/A

Click here for full text details

C16
ENE
< 1/8
0.006 mi.
31 ft.

Relative:
Higher

THERMO
155 EAST STREET
WALLINGFORD, CT 06492

MANIFEST
SPILLS

S109722332
N/A

Click here for full text details

SPILLS
Case Number: 200105894
Facility Status: Closed

C17
ENE
< 1/8
0.006 mi.
31 ft.

Relative:
Higher

THERMOSPAS INC
155 EAST ST
WALLINGFORD, CT 06492

MANIFEST
ENF

S109756267
N/A

Click here for full text details

ENF
Enforcement Action Id: NOVWRSW12009
Enforcement Action Id: NOVWRSW12004
Enforcement Action Id: NOVWSWDS12015
Enforcement Action Id: NVAR16787--11132
Status: Active

C18
ENE
< 1/8
0.006 mi.
31 ft.

Relative:
Higher

THERMO SPAS
155 EAST ST.
WALLINGFORD, CT 06497

MANIFEST
SPILLS

S109722333
N/A

Click here for full text details

SPILLS
Case Number: 200803016
Facility Status: CLOSED

D19
SE
< 1/8
0.006 mi.
31 ft.

Relative:
Higher

C M E E C ALFRED L PIERCE STATION
195 EAST AVE
WALLINGFORD, CT 06492

RCRA-SQG | **1011488314**
CTR000507517

Click here for full text details

RCRA-SQG
EPA Id: CTR000507517

D20
SE
< 1/8
0.006 mi.
31 ft.

Relative:
Higher

C M E E C ALFRED L PIERCE STATION
195 EAST AVE
WALLINGFORD, CT 06492

MANIFEST | **S111316370**
N/A

Click here for full text details

D21
SE
< 1/8
0.020 mi.
106 ft.

Relative:
Higher

WALLINGFORD FORMER COAL ASH LAGOONS
WALLINGFORD, CT

LWDS | **S109937595**
N/A

Click here for full text details

22
East
< 1/8
0.064 mi.
340 ft.

Relative:
Higher

JIM GALLAGHER
180 CLIFTON ST
WALLINGFORD, CT 06492

LUST
SPILLS
CPCS | **S104238033**
N/A

Click here for full text details

LUST
Lust Status: Lust Completed
LUST Id: 36153

SPILLS
Case Number: 9902926
Facility Status: Closed

CPCS
Lust Status: LUST Completed (DEP's significant hazard definition)

E23
NE
< 1/8
0.079 mi.
417 ft.

Relative:
Higher

128 EAST ST
WALLINGFORD, CT 06492

Click here for full text details

Database(s): EDR US Hist Cleaners
EDR ID Number: 1014985945
EPA ID Number: N/A

E24
NE
< 1/8
0.091 mi.
480 ft.

Relative:
Higher

CONNECTICUT REFINING COMPANY
99 EAST ST
WALLINGFORD, CT 06492

Click here for full text details

UST
Facility Id: 2691
Tank Status: Permanently Closed

Database(s): UST
EDR ID Number: U002172919
EPA ID Number: N/A

25
WSW
< 1/8
0.091 mi.
481 ft.

Relative:
Lower

WALLINGFORD TOWN STP
WALLINGFORD, CT

Click here for full text details

Database(s): LWDS
EDR ID Number: S109937544
EPA ID Number: N/A

F26
SE
< 1/8
0.121 mi.
641 ft.

Relative:
Higher

WALLINGFORD ELECTRIC DIV
100 JOHN ST
WALLINGFORD, CT 06492

Click here for full text details

Database(s): MANIFEST
EDR ID Number: S109731271
EPA ID Number: N/A

F27
SE
< 1/8
0.121 mi.
641 ft.

Relative:
Higher

100 JOHN ST
WALLINGFORD, CT

Click here for full text details

SPILLS
Case Number: 200203426
Case Number: 200501213
Facility Status: Closed

Database(s): MANIFEST, SPILLS
EDR ID Number: S109730225
EPA ID Number: N/A

F28
SE
< 1/8
0.121 mi.
641 ft.

Relative:
Higher

WALLINGFORD ELECTRIC DIVISION
100 JOHN ST
WALLINGFORD, CT 06492

MANIFEST **S109730226**
N/A

Click here for full text details

F29
SE
< 1/8
0.121 mi.
641 ft.

Relative:
Higher

CT MUNICIPAL ELEC ENERGY CO-OP
100 JOHN ST
WALLINGFORD, CT 06492

UST **U002176429**
N/A

Click here for full text details

UST
Facility Id: 9279
Tank Status: Permanently Closed

F30
SE
< 1/8
0.121 mi.
641 ft.

Relative:
Higher

100 JOHN ST
WALLINGFORD, CT 06492

EDR US Hist Auto Stat **1015118114**
N/A

Click here for full text details

F31
SE
< 1/8
0.121 mi.
641 ft.

Relative:
Higher

WALLINGFORD ELECTRIC DIVISION
100 JOHN ST.
WALLINGFORD, CT 06492

CPCS **S110776101**
N/A

Click here for full text details

CPCS
Lust Status: Cleanup Initiated

F32
SE
< 1/8
0.121 mi.
641 ft.

Relative:
Higher

WALLINGFORD ELECTRIC DIV
100 JOHN ST
WALLINGFORD, CT 06492

RCRA NonGen / NLR **1000285462**
FTTS **CTD981062771**
HIST FTTS
MANIFEST

Click here for full text details

RCRA NonGen / NLR
EPA Id: CTD981062771

F33
SE
< 1/8
0.121 mi.
641 ft.

Relative:
Higher

TOWN OF WALLINGFORD ELECTRIC DIV
100 JOHN ST
WALLINGFORD, CT

Click here for full text details

MANIFEST

S109737002
N/A

F34
SE
< 1/8
0.121 mi.
641 ft.

Relative:
Higher

WALLINGFORD ELECTRIC DEPARTMENT
100 JOHN STREET
WALLINGFORD, CT 00000

Click here for full text details

MANIFEST

S109737434
N/A

F35
SE
< 1/8
0.121 mi.
641 ft.

Relative:
Higher

WALLINGFORD TOWN OF ELECTRICAL
100 JOHN STREET
WALLINGFORD, CT 06492

Click here for full text details

MANIFEST

S109752482
N/A

36
ESE
< 1/8
0.122 mi.
642 ft.

Relative:
Higher

DAVIS ELECTRIC
334 NO. CHERRY ST.
WALLINGFORD, CT 06492

Click here for full text details

MANIFEST

S109744997
N/A

F37
SSE
1/8-1/4
0.126 mi.
667 ft.

Relative:
Higher

NORTHEAST TOOL & MFG.
378 NORTH CHERRY STREET
WALLINGFORD, CT 06492

Click here for full text details

MANIFEST

S109739233
N/A

38
SSE
1/8-1/4
0.163 mi.
863 ft.

Relative:
Higher

COASTAL INDUSTRIES
SOUTH CHERRY STREET
WALLINGFORD, CT

Click here for full text details

LWDS

S109937545
N/A

G39
ENE
1/8-1/4
0.164 mi.
866 ft.

Relative:
Higher

NAMEPLATE INDUSTRIES INC
193 S CHERRY ST
WALLINGFORD, CT 06492

RCRA NonGen / NLR **1000209618**
FINDS **CTD001450550**

Click here for full text details

RCRA NonGen / NLR
EPA Id: CTD001450550

40
South
1/8-1/4
0.165 mi.
871 ft.

Relative:
Higher

COASTAL TANK LINES
SOUTH CHERRY STREET
WALLINGFORD, CT

SHWS **S104255287**
SDADB **N/A**
CPCS

Click here for full text details

SDADB
Facility Id: 478

G41
ENE
1/8-1/4
0.171 mi.
903 ft.

Relative:
Higher

200 S CHERRY ST
WALLINGFORD, CT 06492

EDR US Hist Auto Stat **1015302126**
N/A

Click here for full text details

42
SSW
1/8-1/4
0.187 mi.
985 ft.

Relative:
Lower

WALLINGFORD STP
WALLINGFORD, CT

LWDS **S109937596**
N/A

Click here for full text details

43
SE
1/8-1/4
0.187 mi.
986 ft.

Relative:
Higher

COLONIAL PARK BANQUETS
46 JOHN ST
WALLINGFORD, CT 06492

UST **U002172102**
N/A

Click here for full text details

UST
Facility Id: 11866
Tank Status: Permanently Closed

44
WNW
1/8-1/4
0.204 mi.
1078 ft.

Relative:
Lower

ALLEGHANY LUDLUM STEEL
WALLINGFORD, CT

Click here for full text details

LWDS

S109937543
N/A

H45
East
1/8-1/4
0.213 mi.
1122 ft.

Relative:
Higher

UNISET INC.
9 CARLTON STREET
WALLINFORD, CT 06492

Click here for full text details

MANIFEST

S109738794
N/A

H46
East
1/8-1/4
0.213 mi.
1127 ft.

Relative:
Higher

UNISET, INC.
9 CARLTON STREET
WALLINGFORD, CT

Click here for full text details

SDADB
Facility Id: 1887

SDADB
CT PROPERTY

1001624044
N/A

I47
South
1/8-1/4
0.216 mi.
1141 ft.

Relative:
Higher

MULTI-PLASTICS CORP.
415 S CHERRY ST
WALLINGFORD, CT 06492

Click here for full text details

UST
Facility Id: 11542
Tank Status: Permanently Closed

UST

U004106773
N/A

J48
ESE
1/8-1/4
0.235 mi.
1240 ft.

Relative:
Higher

ULBRICH STAINLESS STEEL & SPL MTLS
1 DUDLEY AVE
WALLINGFORD, CT 06492

Click here for full text details

MANIFEST

S109723712
N/A

J49
ESE
1/8-1/4
0.235 mi.
1240 ft.

Relative:
Higher

ULBRICH STAINLESS STEELS
1 DUDLEY AVE
WALLINGFORD, CT 06492

UST **U002172927**
N/A

Click here for full text details

UST
Facility Id: 2706
Tank Status: Permanently Closed
Tank Status: Currently In Use

J50
ESE
1/8-1/4
0.235 mi.
1240 ft.

Relative:
Higher

ULBRICH STAINLESS STEELS & SPL MTLS INC
1 DUDLEY AVENUE
WEALLINGFORD, CT 06492

MANIFEST **S109723714**
N/A

Click here for full text details

J51
ESE
1/8-1/4
0.235 mi.
1240 ft.

Relative:
Higher

ULBRICH STAINLESS STEELS
1 DUDLEY AVE
WALLINGFORD, CT 06492

MANIFEST **S109723713**
SPILLS **N/A**
NPDES

Click here for full text details

SPILLS
Case Number: 200505458
Facility Status: Closed

NPDES
Status: Active

J52
ESE
1/8-1/4
0.235 mi.
1240 ft.

Relative:
Higher

ULBRICH SPECIALTY STRIP MILL
1 DUDLEY AVE
WALLINGFORD, CT 06492

RCRA-LQG **1000360990**
MLTS **CTD001162171**
FINDS
MANIFEST
US AIRS

Click here for full text details

RCRA-LQG
EPA Id: CTD001162171

53
ENE
1/8-1/4
0.242 mi.
1278 ft.

Relative:
Higher

MATTHEWS PRINTING
10 MARSHALL ST
WALLINGFORD, CT 06492

RCRA-CESQG **1001111855**
FINDS **CTR000003152**

Click here for full text details

RCRA-CESQG
EPA Id: CTR000003152

K54
East
1/8-1/4
0.248 mi.
1308 ft.

Relative:
Higher

384 S COLONY RD
WALLINGFORD, CT 06492

EDR US Hist Auto Stat **1015460627**
N/A

Click here for full text details

K55
East
1/8-1/4
0.248 mi.
1308 ft.

Relative:
Higher

CHEAP AUTO RENTAL LLC
384 S COLONY RD
WALLINGFORD, CT 06492

UST **U002172938**
N/A

Click here for full text details

UST
Facility Id: 2726
Tank Status: Permanently Closed

L56
SE
1/8-1/4
0.250 mi.
1320 ft.

Relative:
Higher

ABELY'S WASTE OIL SERVICE, INC.
55 DUDLEY AVE
WALLINGFORD, CT 06492

MANIFEST **S109731431**
N/A

Click here for full text details

L57
SE
1/8-1/4
0.250 mi.
1320 ft.

Relative:
Higher

ABELYS WASTE OIL SERVICE INC
55 DUDLEY AVE
WALLINGFORD, CT 06492

RCRA NonGen / NLR **1000293698**
FINDS **CTD982195133**
MANIFEST

Click here for full text details

RCRA NonGen / NLR
EPA Id: CTD982195133

58
ENE
1/4-1/2
0.250 mi.
1321 ft.

Relative:
Higher

MCKEON - LANDOW FUEL INC.
3 GEORGE STREET
WALLINGFORD, CT

SDADB **S108543344**
CT PROPERTY **N/A**
CPCS

Click here for full text details

SDADB
Facility Id: 5210

I59
South
1/4-1/2
0.256 mi.
1353 ft.

Relative:
Higher

COASTAL TANK LINES — **CPCS** — **S110775174**
419 SOUTH CHERRY STREET — **N/A**
WALLINGFORD, CT 06492

Click here for full text details

I60
South
1/4-1/2
0.256 mi.
1353 ft.

Relative:
Higher

COASTAL TANK LINES INC — **CERCLIS** — **1000387580**
S CHERRY ST — **RCRA NonGen / NLR** — **CTD060010923**
WALLINGFORD, CT 06492 — **FINDS**

Click here for full text details

CERCLIS
EPA Id: CTD060010923

RCRA NonGen / NLR
EPA Id: CTD060010923

M61
SE
1/4-1/2
0.295 mi.
1555 ft.

Relative:
Higher

TOTAL PERFORMANCE INC. — **SDADB** — **S106593793**
406 SOUTH ORCHARD STREET AND 14 MCK — **N/A**
WALLINGFORD, CT

Click here for full text details

SDADB
Facility Id: 5217

M62
SE
1/4-1/2
0.295 mi.
1556 ft.

Relative:
Higher

WALLINGFORD DODGE — **SDADB** — **S104563560**
400 SOUTH ORCHARD STREET — **N/A**
WALLINGFORD, CT

Click here for full text details

SDADB
Facility Id: 5221

N63
South
1/4-1/2
0.299 mi.
1580 ft.

Relative:
Higher

AMERICAN CYANAMID
SOUTH CHERRY ST
WALLINGFORD, CT 6492

Click here for full text details

Database(s)	EDR ID Number / EPA ID Number
RCRA-TSDF	1000358515
CERC-NFRAP	06492MRCNCSO
CORRACTS	
RCRA-LQG	
TRIS	
PADS	
SHWS	
SDADB	
MANIFEST	
MANIFEST	
MANIFEST	
AUL	
2020 COR ACTION	
US FIN ASSUR	
Financial Assurance	
CPCS	

RCRA-TSDF
EPA Id: CTD001173467

CERC-NFRAP
EPA Id: CTD001173467

RCRA-LQG
EPA Id: CTD001173467

SDADB
Facility Id: 477

AUL
Facility Id: 3080
Status: Certificate of Title Received

N64
South
1/4-1/2
0.299 mi.
1580 ft.

Relative:
Higher

EVONIK-CYRO INDUSTRIRES (FORMER AMERICAN CYANIMID CO.)
528 SOUTH CHERRY STREET
WALLINGFORD, CT 06492

Click here for full text details

Database(s)	EDR ID Number / EPA ID Number
LUST	S110699196
SPILLS	N/A

LUST
Lust Status: Lust Completed
LUST Id: 28905

SPILLS
Case Number: 201006978
Facility Status: CLOSED

N65
South
1/4-1/2
0.322 mi.
1700 ft.

Relative:
Higher

COVANTA PROJECTS OF WALLINGFORD, LP (FORMER OGDEN PROJECTS)
530 SOUTH CHERRY STREET
WALLINGFORD, CT 06492

LUST
SPILLS
CT PROPERTY

S109032498
N/A

Click here for full text details

LUST
Lust Status: Lust Completed
LUST Id: 59072

SPILLS
Case Number: 200801479
Case Number: 201106856
Case Number: 201201699
Case Number: 201203477
Case Number: 201203633
Case Number: 201203775
Case Number: 201205715
Case Number: 201205753
Case Number: 201205832
Case Number: 201206582
Case Number: 201206596
Case Number: 201206649
Facility Status: CLOSED
Facility Status: OPEN

O66
ENE
1/4-1/2
0.351 mi.
1855 ft.

Relative:
Higher

MOBIL SERVICE STATION
250 SOUTH COLONY RD.
WALLINGFORD, CT 06492

CPCS

S110775679
N/A

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CPCS
Lust Status: Cleanup Initiated

67
WNW
1/4-1/2
0.376 mi.
1986 ft.

Relative:
Lower

GAS & GROCIERIES LLC (FORMER NUTMEG FARMS AND D & L REALTY)
75 SOUTH TURNPIKE ROAD
WALLINGFORD, CT 06492

LUST
CPCS

S105840562
N/A

Click here for full text details

LUST
Lust Status: Cleanup Initiated
LUST Id: 44980

CPCS
Lust Status: Pending

O68
ENE
1/4-1/2
0.378 mi.
1998 ft.

Relative:
Higher

250 SOUTH COLONY RD
WALLINGFORD, CT

LUST
SPILLS

S104080549
N/A

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LUST
Lust Status: Lust Completed
LUST Id: 31783

SPILLS
Case Number: 1750
Case Number: 200200882
Facility Status: Closed

P69
SSW
1/4-1/2
0.384 mi.
2028 ft.

Relative:
Higher

WALLINGFORD TOWN LANDFILL
25 PENT ROAD
WALLINGFORD, CT

LWDS
CPCS

S108303004
N/A

Click here for full text details

P70
SSW
1/4-1/2
0.384 mi.
2028 ft.

Relative:
Higher

CT RESOURCE RECOVERY AUTHORITY WALLINGFORD
25 PENT RD
WALLINGFORD, CT 06492

RCRA-TSDF
CERC-NFRAP
CORRACTS
RCRA NonGen / NLR
SPILLS
NPDES
US FIN ASSUR
2020 COR ACTION
Financial Assurance

1000285454
CTD991288960

Click here for full text details

RCRA-TSDF
EPA Id: CTD991288960

CERC-NFRAP
EPA Id: CTD991288960

RCRA NonGen / NLR
EPA Id: CTD991288960

SPILLS
Case Number: 9706727
Facility Status: Closed

NPDES
Status: Active

P71
SSW
1/4-1/2
0.384 mi.
2028 ft.

Relative:
Higher

WALLINGFORD TOWN LANDFILL
25 PENT ROAD
WALLINGFORD, CT

SHWS **S104255305**
SDADB **N/A**

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SDADB
Facility Id: 483

Q72
SSE
1/4-1/2
0.403 mi.
2127 ft.

Relative:
Higher

BYK CHEMIE
247 DUDLEY AVE.
WALLINGFORD, CT 06492

LUST **S104087999**
SPILLS **N/A**

Click here for full text details

LUST
Lust Status: Investigation
LUST Id: 28911

SPILLS
Case Number: 3766

Q73
SSE
1/4-1/2
0.403 mi.
2127 ft.

Relative:
Higher

BYK CHEMIE
247 DUDLEY AVE.
WALLINGFORD, CT 06492

CPCS **S105456355**
N/A

Click here for full text details

CPCS
Lust Status: Investigation

R74
NE
1/4-1/2
0.435 mi.
2297 ft.

Relative:
Higher

CT ACQUISITIONS LLC DBA DANVER
1 GRAND ST
WALLINGFORD, CT

SDADB **1001477644**
AIRS **N/A**

Click here for full text details

SDADB
Facility Id: 3316

R75
NE
1/4-1/2
0.448 mi.
2366 ft.

Relative:
Higher

CIR-TEK, INC.
77 SOUTH CHERRY STREET
WALLINGFORD, CT

CT PROPERTY **S104584988**
CPCS **N/A**

Click here for full text details

76
East
1/4-1/2
0.453 mi.
2393 ft.

Relative:
Higher

UNKNOWN
95 PARSONS ST.
WALLINGFORD, CT 06492

LUST **S105442693**
SPILLS **N/A**
CPCS

Click here for full text details

LUST
Lust Status: Lust Completed
LUST Id: 35211

SPILLS
Case Number: 9808643
Facility Status: Closed

CPCS
Lust Status: Investigation

77
NNE
1/4-1/2
0.490 mi.
2585 ft.

Relative:
Lower

GENERAL EQUITIES
259 QUINNIPIAC ST
WALLINGFORD, CT 06492

LUST **S109754687**
MANIFEST **N/A**

Click here for full text details

LUST
Lust Status: Lust Completed
LUST Id: 28903

S78
NNE
1/2-1
0.909 mi.
4801 ft.

Relative:
Higher

WALLINGFORD GAS LIGHT CO
SWC SILK AND WASHINGTON
WALLINGFORD, CT 06492

EDR MGP **1008408859**
N/A

Click here for full text details

S79
NNE
1/2-1
0.913 mi.
4818 ft.

Relative:
Higher

NORTHEAST UTILITIES
WASHINGTON STREET
WALLINGFORD, CT 06492

CERCLIS **1000407429**
FINDS **CTD981214422**
SHWS
SDADB
CT PROPERTY
CPCS

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CERCLIS
EPA Id: CTD981214422

SDADB
Facility Id: 482

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
CT	AIRS	Permitted Air Sources Listing	Department of Energy & Environmental Protecti	05/15/2012	05/15/2012	05/31/2012
CT	AST	Marine Terminals and Tank Information	Department of Energy & Environmental Protecti	07/01/2012	08/02/2012	09/18/2012
CT	AUL	ELUR Sites	Department of Energy & Environmental Protecti	02/19/2013	02/19/2013	03/14/2013
CT	BROWNFIELDS	Brownfields Inventory	Connecticut Brownfields Redevelopment Authori	01/17/2013	01/22/2013	03/14/2013
CT	BROWNFIELDS 2	Brownfields Inventory	Department of Energy & Environmental Protecti	11/30/2004	06/26/2009	07/09/2009
CT	CDL	Clandestine Drug Lab Listing	Department of Energy & Environmental Protecti	01/28/2013	02/01/2013	03/14/2013
CT	CPCS	Contaminated or Potentially Contaminated Sites	Department of Energy & Environmental Protecti	06/04/2012	06/05/2012	07/11/2012
CT	CT MANIFEST	Hazardous Waste Manifest Data	Department of Energy & Environmental Protecti	02/18/2013	02/18/2013	03/21/2013
CT	CT PROPERTY	Property Transfer Filings	Department of Energy & Environmental Protecti	02/19/2013	02/19/2013	03/14/2013
CT	DRYCLEANERS	Drycleaner Facilities	Department of Energy & Environmental Protecti	07/18/2008	08/08/2008	08/27/2008
CT	ENFORCEMENT	Enforcement Case Listing	Department of Energy & Environmental Protecti	01/24/2013	01/25/2013	03/14/2013
CT	ENG CONTROLS	Engineering Controls Listing	Department of Energy & Environmental Protecti	01/14/2013	02/05/2013	03/14/2013
CT	Financial Assurance 1	Financial Assurance Information Listing	Department of Energy & Environmental Protecti	06/21/2012	06/25/2012	07/11/2012
CT	Financial Assurance 2	Financial Assurance Information Listing	Department of Energy & Environmental Protecti	06/21/2012	06/25/2012	07/11/2012
CT	LIENS	Environmental Liens Listing	Department of Energy & Environmental Protecti	12/21/2012	12/26/2012	01/15/2013
CT	LUST	Leaking Underground Storage Tank List	Department of Energy & Environmental Protecti	01/31/2013	02/07/2013	03/14/2013
CT	LWDS	Connecticut Leachate and Wastewater Discharge Sites	Department of Energy & Environmental Protecti	07/17/2009	10/21/2009	10/30/2009
CT	NPDES	Wastewater Permit Listing	Department of Energy & Environmental Protecti	04/05/2013	04/05/2013	04/24/2013
CT	SDADB	Site Discovery and Assessment Database	Department of Energy & Environmental Protecti	04/23/2010	04/23/2010	05/25/2010
CT	SHWS	Inventory of Hazardous Disposal Sites	Department of Energy & Environmental Protecti	04/23/2010	04/23/2010	05/25/2010
CT	SPILLS	Oil & Chemical Spill Database	Department of Energy & Environmental Protecti	01/28/2013	02/01/2013	03/14/2013
CT	SPILLS 90	SPILLS90 data from FirstSearch	FirstSearch	10/15/2012	01/03/2013	02/11/2013
CT	SWF/LF	List of Landfills/Transfer Stations	Department of Energy & Environmental Protecti	03/24/2011	05/03/2011	06/02/2011
CT	SWRCY	Recycling Facilities	Department of Energy & Environmental Protecti	12/31/2010	06/02/2011	06/27/2011
CT	UST	Underground Storage Tank Data	Department of Energy & Environmental Protecti	03/04/2013	03/05/2013	04/22/2013
CT	VCP	Voluntary Remediation Sites	Department of Energy & Environmental Protecti	02/19/2013	02/19/2013	03/14/2013
US	2020 COR ACTION	2020 Corrective Action Program List	Environmental Protection Agency	11/11/2011	05/18/2012	05/25/2012
US	BRS	Biennial Reporting System	EPA/NTIS	12/31/2011	02/26/2013	04/19/2013
US	CERCLIS	Comprehensive Environmental Response, Compensation, and Liab	EPA	02/04/2013	03/01/2013	03/13/2013
US	CERCLIS-NFRAP	CERCLIS No Further Remedial Action Planned	EPA	02/05/2013	03/01/2013	03/13/2013
US	COAL ASH DOE	Sleam-Electric Plan Operation Data	Department of Energy	12/31/2005	08/07/2009	10/22/2009
US	COAL ASH EPA	Coal Combustion Residues Surface Impoundments List	Environmental Protection Agency	08/17/2010	01/03/2011	03/21/2011
US	CONSENT	Superfund (CERCLA) Consent Decrees	Department of Justice, Consent Decree Library	12/31/2011	01/15/2013	03/13/2013
US	CORRACTS	Corrective Action Report	EPA	02/12/2013	02/21/2013	02/27/2013
US	DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations	EPA, Region 9	01/12/2009	05/07/2009	09/21/2009
US	DELISTED NPL	National Priority List Deletions	EPA	02/01/2013	03/01/2013	03/13/2013
US	DOD	Department of Defense Sites	USGS	12/31/2005	11/10/2006	01/11/2007
US	DOT OPS	Incident and Accident Data	Department of Transporation, Office of Pipeli	07/31/2012	08/07/2012	09/18/2012
US	EDR MGP	EDR Proprietary Manufactured Gas Plants	EDR, Inc.			
US	EDR US Hist Auto Stat	EDR Exclusive Historic Gas Stations	EDR, Inc.			
US	EDR US Hist Auto Stat	EDR Proprietary Historic Gas Stations - Cole				
US	EDR US Hist Cleaners	EDR Proprietary Historic Dry Cleaners - Cole				
US	EDR US Hist Cleaners	EDR Exclusive Historic Dry Cleaners	EDR, Inc.			
US	EPA WATCH LIST	EPA WATCH LIST	Environmental Protection Agency	12/31/2012	02/18/2013	05/10/2013
US	ERNS	Emergency Response Notification System	National Response Center, United States Coast	12/31/2012	01/17/2013	02/15/2013
US	FEDERAL FACILITY	Federal Facility Site Information listing	Environmental Protection Agency	07/31/2012	10/09/2012	12/20/2012
US	FEDLAND	Federal and Indian Lands	U.S. Geological Survey	12/31/2005	02/06/2006	01/11/2007

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	FEMA UST	Underground Storage Tank Listing	FEMA	01/01/2010	02/16/2010	04/12/2010
US	FINDS	Facility Index System/Facility Registry System	EPA	10/23/2011	12/13/2011	03/01/2012
US	FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA/Office of Prevention, Pesticides and Toxi	04/09/2009	04/16/2009	05/11/2009
US	FTTS INSP	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA	04/09/2009	04/16/2009	05/11/2009
US	FUDS	Formerly Used Defense Sites	U.S. Army Corps of Engineers	12/31/2011	02/26/2013	03/13/2013
US	HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HIST FTTS INSP	FIFRA/TSCA Tracking System Inspection & Enforcement Case Lis	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HMIRS	Hazardous Materials Information Reporting System	U.S. Department of Transportation	12/31/2012	01/03/2013	02/27/2013
US	ICIS	Integrated Compliance Information System	Environmental Protection Agency	07/20/2011	11/10/2011	01/10/2012
US	INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land	EPA Region 1	09/28/2012	11/01/2012	04/12/2013
US	INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land	EPA Region 10	02/05/2013	02/06/2013	04/12/2013
US	INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land	EPA Region 4	02/06/2013	02/08/2013	04/12/2013
US	INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land	EPA Region 6	09/12/2011	09/13/2011	11/11/2011
US	INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land	EPA Region 7	12/31/2012	02/28/2013	04/12/2013
US	INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land	EPA Region 8	08/27/2012	08/28/2012	10/16/2012
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	Environmental Protection Agency	03/01/2013	03/01/2013	04/12/2013
US	INDIAN ODI	Report on the Status of Open Dumps on Indian Lands	Environmental Protection Agency	12/31/1998	12/03/2007	01/24/2008
US	INDIAN RESERV	Indian Reservations	USGS	12/31/2005	12/08/2006	01/11/2007
US	INDIAN UST R1	Underground Storage Tanks on Indian Land	EPA, Region 1	09/28/2012	11/07/2012	04/12/2013
US	INDIAN UST R10	Underground Storage Tanks on Indian Land	EPA Region 10	02/05/2013	02/06/2013	04/12/2013
US	INDIAN UST R4	Underground Storage Tanks on Indian Land	EPA Region 4	02/06/2013	02/08/2013	04/12/2013
US	INDIAN UST R5	Underground Storage Tanks on Indian Land	EPA Region 5	08/02/2012	08/03/2012	11/05/2012
US	INDIAN UST R6	Underground Storage Tanks on Indian Land	EPA Region 6	05/10/2011	05/11/2011	06/14/2011
US	INDIAN UST R7	Underground Storage Tanks on Indian Land	EPA Region 7	12/31/2012	02/28/2013	04/12/2013
US	INDIAN UST R8	Underground Storage Tanks on Indian Land	EPA Region 8	08/27/2012	08/28/2012	10/16/2012
US	INDIAN UST R9	Underground Storage Tanks on Indian Land	EPA Region 9	02/21/2013	02/26/2013	04/12/2013
US	INDIAN VCP R1	Voluntary Cleanup Priority Listing	EPA, Region 1	09/28/2012	10/02/2012	10/16/2012
US	INDIAN VCP R7	Voluntary Cleanup Priority Lisitng	EPA, Region 7	03/20/2008	04/22/2008	05/19/2008
US	LEAD SMELTER 1	Lead Smelter Sites	Environmental Protection Agency	01/29/2013	02/14/2013	02/27/2013
US	LEAD SMELTER 2	Lead Smelter Sites	American Journal of Public Health	04/05/2001	10/27/2010	12/02/2010
US	LIENS 2	CERCLA Lien Information	Environmental Protection Agency	02/06/2013	04/25/2013	05/10/2013
US	LUCIS	Land Use Control Information System	Department of the Navy	12/09/2005	12/11/2006	01/11/2007
US	MLTS	Material Licensing Tracking System	Nuclear Regulatory Commission	06/21/2011	07/15/2011	09/13/2011
US	NPL	National Priority List	EPA	02/01/2013	03/01/2013	03/13/2013
US	NPL LIENS	Federal Superfund Liens	EPA	10/15/1991	02/02/1994	03/30/1994
US	ODI	Open Dump Inventory	Environmental Protection Agency	06/30/1985	08/09/2004	09/17/2004
US	PADS	PCB Activity Database System	EPA	11/01/2012	01/16/2013	05/10/2013
US	PCB TRANSFORMER	PCB Transformer Registration Database	Environmental Protection Agency	02/01/2011	10/19/2011	01/10/2012
US	PRP	Potentially Responsible Parties	EPA	12/02/2012	01/03/2013	03/13/2013
US	Proposed NPL	Proposed National Priority List Sites	EPA	02/01/2013	03/01/2013	03/13/2013
US	RAATS	RCRA Administrative Action Tracking System	EPA	04/17/1995	07/03/1995	08/07/1995
US	RADINFO	Radiation Information Database	Environmental Protection Agency	04/09/2013	04/11/2013	05/10/2013
US	RCRA NonGen / NLR	RCRA - Non Generators	Environmental Protection Agency	02/12/2013	02/15/2013	02/27/2013
US	RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generators	Environmental Protection Agency	02/12/2013	02/15/2013	02/27/2013
US	RCRA-LQG	RCRA - Large Quantity Generators	Environmental Protection Agency	02/12/2013	02/15/2013	02/27/2013
US	RCRA-SQG	RCRA - Small Quantity Generators	Environmental Protection Agency	02/12/2013	02/15/2013	02/27/2013
US	RCRA-TSDF	RCRA - Treatment, Storage and Disposal	Environmental Protection Agency	02/12/2013	02/15/2013	02/27/2013

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	RMP	Risk Management Plans	Environmental Protection Agency	05/08/2012	05/25/2012	07/10/2012
US	ROD	Records Of Decision	EPA	12/18/2012	03/13/2013	04/12/2013
US	SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing	Environmental Protection Agency	03/07/2011	03/09/2011	05/02/2011
US	SSTS	Section 7 Tracking Systems	EPA	12/31/2009	12/10/2010	02/25/2011
US	TRIS	Toxic Chemical Release Inventory System	EPA	12/31/2009	09/01/2011	01/10/2012
US	TSCA	Toxic Substances Control Act	EPA	12/31/2006	09/29/2010	12/02/2010
US	UMTRA	Uranium Mill Tailings Sites	Department of Energy	09/14/2010	10/07/2011	03/01/2012
US	US AIRS (AFS)	Aerometric Information Retrieval System Facility Subsystem (	EPA	01/23/2013	01/30/2013	05/10/2013
US	US AIRS MINOR	Air Facility System Data	EPA	01/23/2013	01/30/2013	05/10/2013
US	US BROWNFIELDS	A Listing of Brownfields Sites	Environmental Protection Agency	12/10/2012	12/11/2012	12/20/2012
US	US CDL	Clandestine Drug Labs	Drug Enforcement Administration	03/04/2013	03/12/2013	05/10/2013
US	US ENG CONTROLS	Engineering Controls Sites List	Environmental Protection Agency	03/14/2013	03/29/2013	05/10/2013
US	US FIN ASSUR	Financial Assurance Information	Environmental Protection Agency	03/04/2013	03/15/2013	05/10/2013
US	US HIST CDL	National Clandestine Laboratory Register	Drug Enforcement Administration	09/01/2007	11/19/2008	03/30/2009
US	US INST CONTROL	Sites with Institutional Controls	Environmental Protection Agency	03/14/2013	03/29/2013	05/10/2013
US	US MINES	Mines Master Index File	Department of Labor, Mine Safety and Health A	02/05/2013	04/18/2013	05/10/2013
NJ	NJ MANIFEST	Manifest Information	Department of Environmental Protection	12/31/2011	07/19/2012	08/28/2012
NY	NY MANIFEST	Facility and Manifest Data	Department of Environmental Conservation	02/01/2013	02/07/2013	03/15/2013
PA	PA MANIFEST	Manifest Information	Department of Environmental Protection	12/31/2011	07/23/2012	09/18/2012
RI	RI MANIFEST	Manifest information	Department of Environmental Management	12/31/2011	06/22/2012	07/31/2012
VT	VT MANIFEST	Hazardous Waste Manifest Data	Department of Environmental Conservation	02/15/2013	02/21/2013	03/15/2013
WI	WI MANIFEST	Manifest Information	Department of Natural Resources	12/31/2011	07/19/2012	09/27/2012
US	Oil/Gas Pipelines	GeoData Digital Line Graphs from 1:100,000-Scale Maps	USGS			
US	Electric Power Lines	Electric Power Transmission Line Data	Rextag Strategies Corp.			
US	AHA Hospitals	Sensitive Receptor: AHA Hospitals	American Hospital Association, Inc.			
US	Medical Centers	Sensitive Receptor: Medical Centers	Centers for Medicare & Medicaid Services			
US	Nursing Homes	Sensitive Receptor: Nursing Homes	National Institutes of Health			
US	Public Schools	Sensitive Receptor: Public Schools	National Center for Education Statistics			
US	Private Schools	Sensitive Receptor: Private Schools	National Center for Education Statistics			
CT	Daycare Centers	Sensitive Receptor: Licensed Child Care Facilities	Department of Public Health			
US	Flood Zones	100-year and 500-year flood zones	Emergency Management Agency (FEMA)			
US	NWI	National Wetlands Inventory	U.S. Fish and Wildlife Service			
CT	State Wetlands	Wetland Soils	Department of Environmental Protection			
US	USGS 7.5' Topographic Map	Scanned Digital USGS 7.5' Topographic Map (DRG)	USGS			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

WALLINGFORD ENERGY, LLC
115 JOHN ST.
WALLINGFORD, CT 06492

TARGET PROPERTY COORDINATES

Latitude (North):	41.4483 - 41° 26' 53.88''
Longitude (West):	72.8351 - 72° 50' 6.36''
Universal Tranverse Mercator:	Zone 18
UTM X (Meters):	680842.5
UTM Y (Meters):	4590574.0
Elevation:	63 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	41072-D7 WALLINGFORD, CT
Most Recent Revision:	1984

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

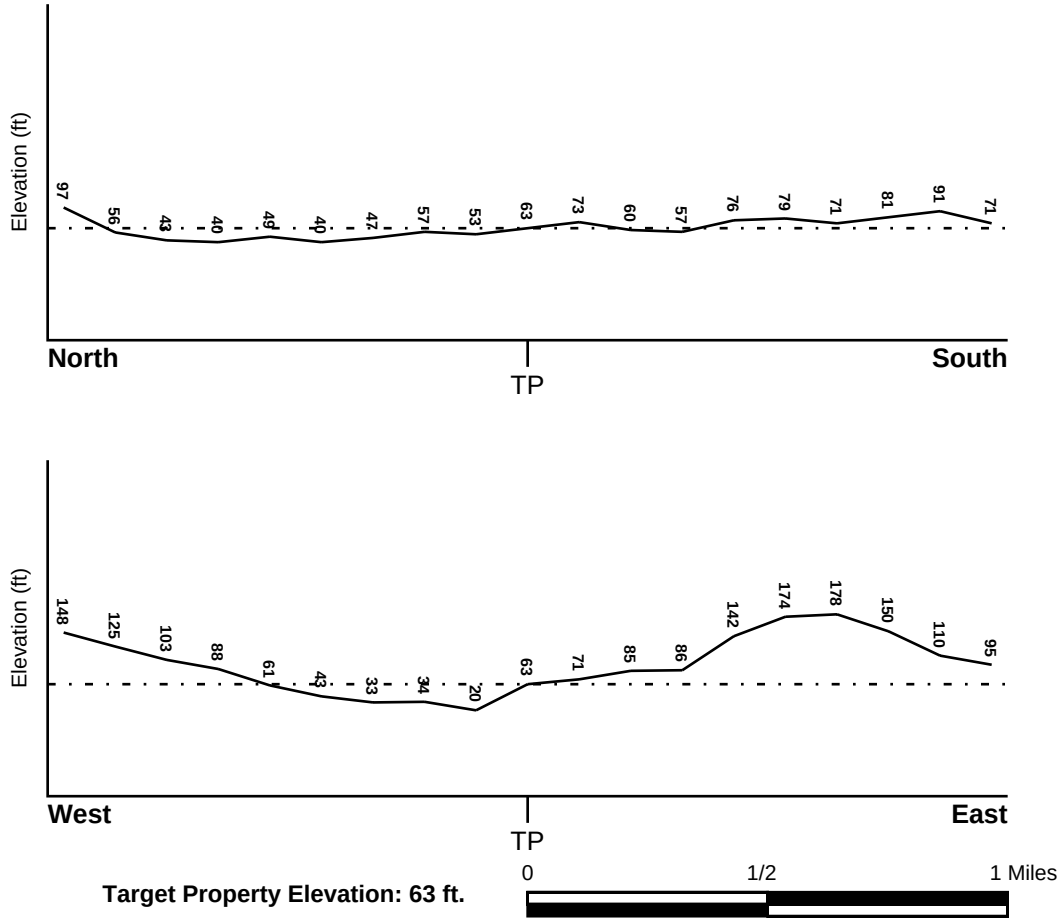
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General WNW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 63 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
NEW HAVEN, CT	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 09009C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
WALLINGFORD	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Location Relative to TP:	1/8 - 1/4 Mile SSE
Site Name:	COASTAL TANK LINES
Site EPA ID Number:	CTD060010923
Surficial Aquifer Flow Dir.:	West
Inferred Depth to Water:	6 to 25 feet.
Hydraulic Connection:	Detailed hydraulic connection information is not available.
Sole Source Aquifer:	No information about a sole source aquifer is available
Data Quality:	Information is inferred in the CERCLIS investigation report(s)

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

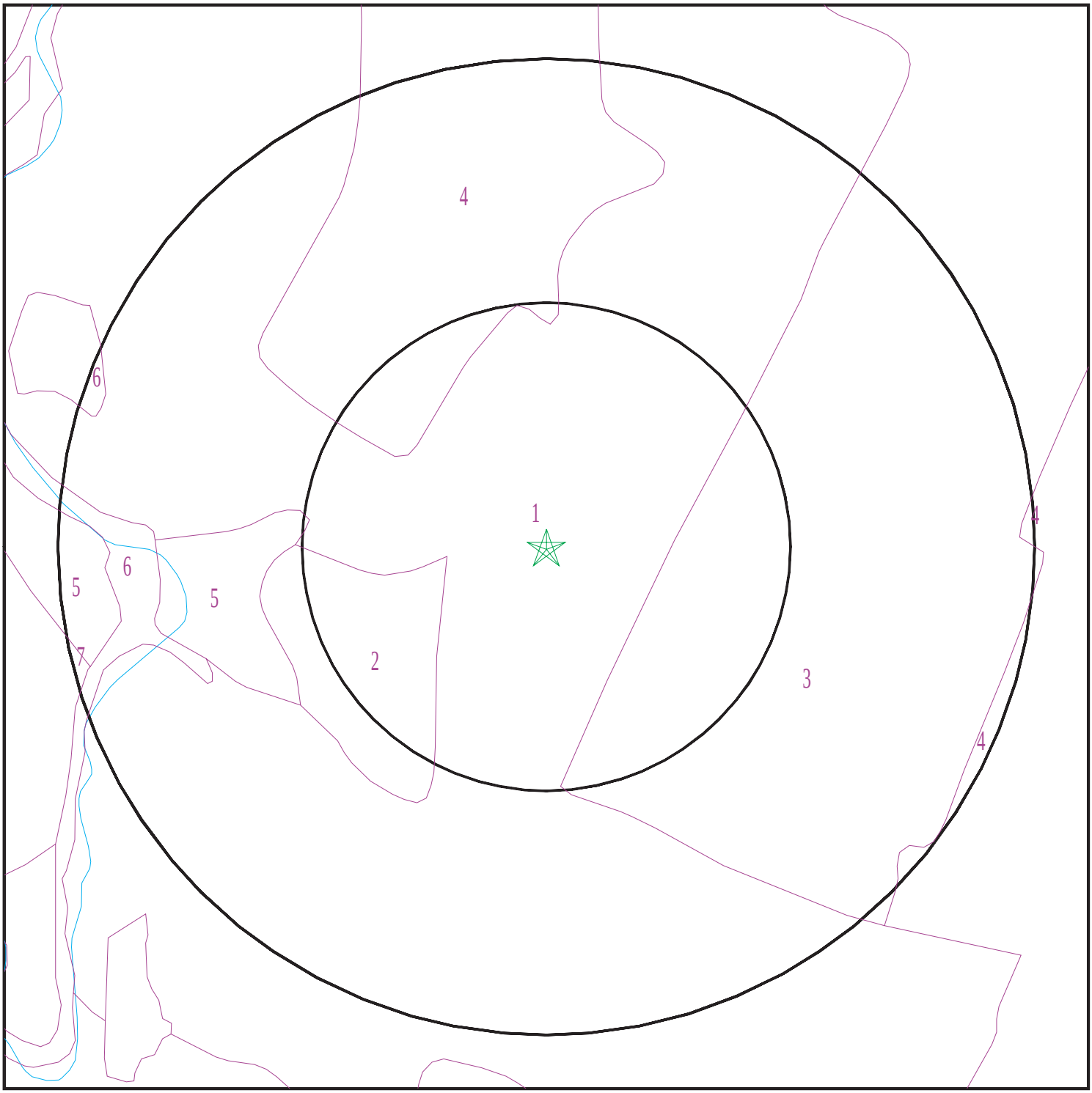
Era:	Mesozoic
System:	Triassic
Series:	Triassic
Code:	Tr *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 3604635.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Wallingford Energy, LLC	CLIENT:	EA Engineering Science & Tech.
ADDRESS:	115 John St. Wallingford CT 06492	CONTACT:	Meghan Travers
LAT/LONG:	41.4483 / 72.8351	INQUIRY #:	3604635.2s
		DATE:	May 13, 2013 12:57 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Udorthents

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 0.01	Max: 7.8 Min: 4.5
2	5 inches	21 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 0.01	Max: 7.8 Min: 4.5
3	21 inches	79 inches	very gravelly sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 0.01	Max: 7.8 Min: 4.5

Soil Map ID: 2

Soil Component Name: Dumps

Soil Surface Texture: variable

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class:
Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	64 inches	variable	Not reported	Not reported	Max: 14 Min: 1.4	Max: Min:

Soil Map ID: 3

Soil Component Name: Penwood

Soil Surface Texture: loamy sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Excessively drained

Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 42	Max: 6 Min: 4.5
2	7 inches	18 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 42	Max: 6 Min: 4.5
3	18 inches	29 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 42	Max: 6 Min: 4.5
4	29 inches	59 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 42	Max: 6 Min: 4.5

Soil Map ID: 4

Soil Component Name: Urban land

Soil Surface Texture: material

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class:

Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	material	Not reported	Not reported	Max: 141 Min: 0.07	Max: Min:

Soil Map ID: 5

Soil Component Name: Rippowam

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 23 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 42	Max: 7.3 Min: 5.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	5 inches	11 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 42	Max: 7.3 Min: 5.6
3	11 inches	18 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 42	Max: 7.3 Min: 5.6
4	18 inches	24 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 42	Max: 7.3 Min: 5.6
5	24 inches	27 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 42	Max: 7.3 Min: 5.6
6	27 inches	31 inches	loamy sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 42	Max: 7.3 Min: 5.6
7	31 inches	64 inches	stratified very gravelly coarse sand to loamy fine sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 42	Max: 7.3 Min: 5.6

Soil Map ID: 6

Soil Component Name: Water

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class:
Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 7

Soil Component Name: Pootatuck

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 61 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	3 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 42	Max: 6.5 Min: 4.5

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	3 inches	16 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 42	Max: 6.5 Min: 4.5
3	16 inches	20 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 42	Max: 6.5 Min: 4.5
4	20 inches	29 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 42	Max: 6.5 Min: 4.5
5	29 inches	35 inches	stratified very gravelly coarse sand to loamy fine sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 42	Max: 6.5 Min: 4.5
6	35 inches	40 inches	stratified very gravelly coarse sand to loamy fine sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 42	Max: 6.5 Min: 4.5
7	40 inches	64 inches	stratified very gravelly coarse sand to loamy fine sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 42	Max: 6.5 Min: 4.5

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	USGS40000225902	0 - 1/8 Mile South
A2	USGS40000225903	0 - 1/8 Mile SSW
A3	USGS40000225904	0 - 1/8 Mile SSW
B4	USGS40000225909	1/8 - 1/4 Mile West
B5	USGS40000225910	1/8 - 1/4 Mile West
B6	USGS40000225911	1/8 - 1/4 Mile West
7	USGS40000225922	1/4 - 1/2 Mile WNW
8	USGS40000225977	1/2 - 1 Mile NNE
9	USGS40000225969	1/2 - 1 Mile NE
10	USGS40000225998	1/2 - 1 Mile NNE
C13	USGS40000225845	1/2 - 1 Mile SSW
C14	USGS40000225838	1/2 - 1 Mile SSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

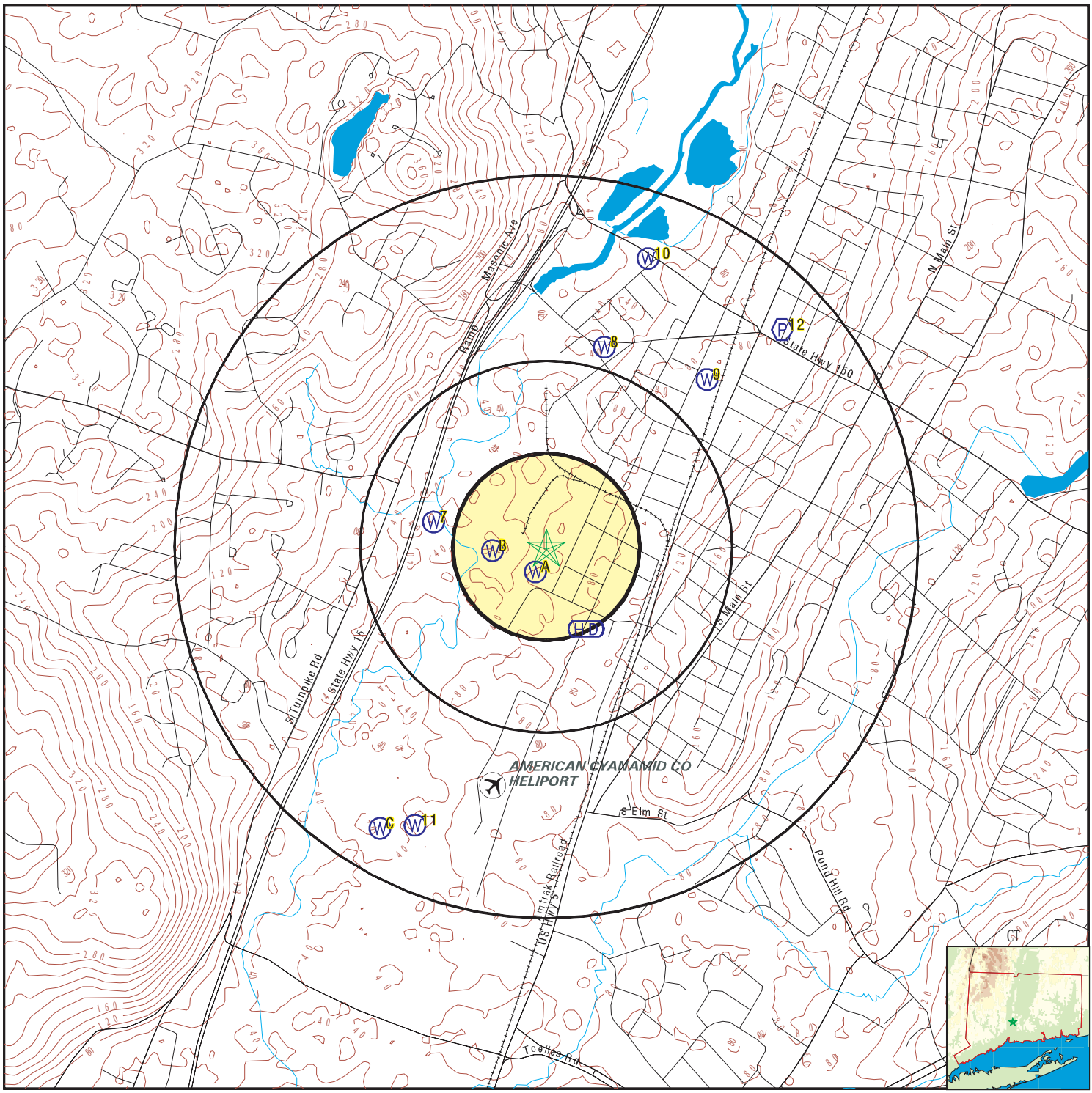
MAP ID	WELL ID	LOCATION FROM TP
12	CT1480052	1/2 - 1 Mile NE

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
11	CTC000000000661	1/2 - 1 Mile SSW

PHYSICAL SETTING SOURCE MAP - 3604635.2s



- County Boundary
- Major Roads
- Contour Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- EPA Designated Sole Src. Aq.

SITE NAME:	Wallingford Energy, LLC	CLIENT:	EA Engineering Science & Tech.
ADDRESS:	115 John St. Wallingford CT 06492	CONTACT:	Meghan Travers
LAT/LONG:	41.4483 / 72.8351	INQUIRY #:	3604635.2s
		DATE:	May 13, 2013 12:57 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
A1 **South** **0 - 1/8 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40000225902**
A2 **SSW** **0 - 1/8 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40000225903**
A3 **SSW** **0 - 1/8 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40000225904**
B4 **West** **1/8 - 1/4 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40000225909**
B5 **West** **1/8 - 1/4 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40000225910**
B6 **West** **1/8 - 1/4 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40000225911**
7 **WNW** **1/4 - 1/2 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40000225922**
8 **NNE** **1/2 - 1 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40000225977**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
9 **NE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FED USGS**	**USGS40000225969**
10 **NNE** **1/2 - 1 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40000225998**
11 **SSW** **1/2 - 1 Mile** **Lower**	Click here for full text details	**CT WELLS**	**CTC000000000661**
12 **NE** **1/2 - 1 Mile** **Higher**	Click here for full text details	**FRDS PWS**	**CT1480052**
C13 **SSW** **1/2 - 1 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40000225845**
C14 **SSW** **1/2 - 1 Mile** **Lower**	Click here for full text details	**FED USGS**	**USGS40000225838**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CT Radon

Radon Test Results

City	# Sites	< 4 Pci/L	4 < 10 Pci/L	10 < 20 Pci/L	20 < 50 Pci/L	50 < 100 Pci/L	> 100 Pci/L
Wallingford	100	90 (90)	10 (10)	0 (0)	0 (0)	0 (0)	0 (0)
Waterbury	20	19 (95)	1 (5)	0 (0)	0 (0)	0 (0)	0 (0)
West Haven	14	14 (93.3)	1 (6.7)	0 (0)	0 (0)	0 (0)	0 (0)
Wolcott	7	3 (42.9)	4 (57.1)	0 (0)	0 (0)	0 (0)	0 (0)
Woodbridge	126	79 (62.7)	32 (25.4)	9 (7.1)	4 (3.2)	1 (.8)	0 (0)
Yalesville	3	3 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Ansonia	110	62 (56.4)	29 (26.4)	8 (7.3)	10 (1)	1 (9)	0 (0)
Beacon Falls	4	3 (75)	1 (25)	0 (0)	0 (0)	0 (0)	0 (0)
Bethany	3	2 (66.7)	1 (33.3)	0 (0)	0 (0)	0 (0)	0 (0)
Branford	196	126 (64.3)	40 (20.4)	13 (6.6)	14 (7.1)	13 (1.5)	0 (0)
Cheshire	16	10 (62.5)	4 (25)	2 (12.5)	0 (0)	0 (0)	0 (0)
Derby	11	4 (36.4)	6 (54.6)	1 (9)	0 (0)	0 (0)	0 (0)
East Haven	27	22 (81.5)	4 (14.8)	1 (3.7)	0 (0)	0 (0)	0 (0)
Guilford	138	95 (68.8)	22 (15.9)	13 (9.4)	7 (5.1)	0 (0)	1 (.7)
Hamden	39	29 (74.4)	10 (25.6)	0 (0)	0 (0)	0 (0)	0 (0)
Madison	133	84 (63.2)	32 (24)	9 (6.8)	6 (4.5)	2 (1.5)	0 (0)
Meriden	97	76 (78.4)	19 (19.6)	1 (1)	0 (0)	0 (0)	1 (1)
Middlebury	5	5 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Milford	20	15 (.75)	4 (20)	1 (5)	0 (0)	0 (0)	0 (0)
Naugatuck	9	8 (88.9)	1 (11.1)	0 (0)	0 (0)	0 (0)	0 (0)
New Haven	21	16 (76.2)	5 (23.8)	0 (0)	0 (0)	0 (0)	0 (0)
North Branford	13	11 (84.6)	2 (15.4)	0 (0)	0 (0)	0 (0)	0 (0)
North Haven	5	3 (0)	2 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Northford	7	5 (71.4)	0 (0)	1 (14.2)	0 (0)	0 (0)	1 (14.2)
Orange	16	14 (87.5)	2 (12.5)	0 (0)	0 (0)	0 (0)	0 (0)
Oxford	3	2 (0)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Prospect	3	3 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Seymour	9	5 (55.6)	3 (33.3)	1 (11.1)	0 (0)	0 (0)	0 (0)
Southbury	21	10 (47.6)	8 (38.1)	3 (14.3)	0 (0)	0 (0)	0 (0)

Federal EPA Radon Zone for NEW HAVEN County: 1

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 06492

Number of sites tested: 6

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	Not Reported	Not Reported	Not Reported	Not Reported
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	1.033 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Soils
Source: Department of Environmental Protection
Telephone: 860-871-4047

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Connecticut Leachate and Wastewater Discharge Sites
Source: Department of Environmental Protection
The Leachate and Waste Water Discharge Inventory Data Layer (LWDS) includes point locations digitized from Leachate and Wastewater Discharge Source maps compiled by the Connecticut DEP. These maps locate surface and groundwater discharges that (1) have received a waste water discharge permit from the state or (2) are historic and now defunct waste sites or (3) are locations of accidental spills, leaks, or discharges of a variety of liquid or solid wastes.

EPA-Approved Sole Source Aquifers in Connecticut
Source: EPA
Sole source aquifers are defined as an aquifer designated as the sole or principal source of drinking water for a given aquifer service area; that is, an aquifer which is needed to supply 50% or more of the drinking water for the area and for which there are no reasonable alternative sources should the aquifer become contaminated.

Community and Non-Community Water System Wells
Source: Department of Public Health, Water Supplies Section
Telephone: 860-509-7333
Active, emergency and inactive wells used for potable purposes that are owned and operated by active community and non-community water systems in Connecticut.

OTHER STATE DATABASE INFORMATION

RADON

State Database: CT Radon
Source: Department of Public Health
Telephone: 860-509-7367
Radon Statistical Summary

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

STREET AND ADDRESS INFORMATION

Appendix H

Resumes of the Environmental Professional(s)

Frank B. Postma, LSP, LEP, P.G.
Geologist/Senior Project Manager

Qualifications

Education
M.S.; University of Rhode Island; Water Resource Management; 1989
B.S.; University of Rhode Island; Geology; 1986

Registrations/Certifications
Licensed Site Professional—MA (No. 2563)
Licensed Environmental Professional—CT (No. 348)
Professional Geologist—PA (No. PG-00311113-G)
Massachusetts Conservation Commissioner
Professional Soil Scientist

Experience
Years with EA: 2 Total Years: 24

Mr. Postma is currently responsible for the management and technical direction of projects that involve the assessment and remediation of contaminated soil and groundwater. His project experience includes performance and review of tank removals; soil excavation and disposal; real estate transfer assessments; comprehensive hydrogeological site assessments involving petroleum, heavy metals, polychlorinated biphenyls, and chlorinated hydrocarbons; design and implementation of soil and groundwater remediation systems; preparation and certification of Massachusetts Contingency Plan submittals; preparation of Spill Prevention and Countermeasure Control Plans, Environmental Notification Forms, and Environmental Impact Reports; oversight of insurance claims; and design, installation, and operation of onsite remediation systems. Remedial designs have included pump and treat, high vacuum extraction, soil vapor extraction, enhanced bioremediation, bioventing, chemical oxidation, and air sparging technologies to restore impacted soil and groundwater. Mr. Postma is also responsible for the design and implementation of aquifer pumping tests and data interpretation and the preparation of environmental monitoring and sampling plans, Quality Assurance/Quality Control Plans, and Health and Safety Plans. He has also provided expert testimony and litigation support on contaminant fate and transport.

Mr. Postma's other areas of expertise include the delineation of impacted media, contaminant migration through multi-layered geologic systems, contaminant fate and transport, technical report editing, groundwater pumping systems, hydrocarbon recovery systems, and wetland delineation and permitting. Mr. Postma has also provided litigation support and expert witness testimony.

Professional Experience

Due Diligence—Served as Senior Project Manager for comprehensive environmental site assessments to identify recognized environmental conditions in accordance with the All Appropriate Inquiry standards promulgated by U.S. Environmental Protection Agency in November 2005 and in accordance with the American Society for Testing and Materials standards. Provided regulatory guidance to both buyers and sellers as to the implications of recognized environmental conditions and design of the appropriate additional investigative programs validate/refute releases to the environment.

Site Investigation—Served as Senior Project Manager for numerous site investigations, landfill, environmental monitoring, and indoor air projects assessments; and regulatory compliance. Managed and involved with all phases of the site investigation, remedial actions, and coordination with regulatory agencies and the public for releases of hazardous materials and petroleum.

Site Remediation—Served as Senior Project Manager for the design and implementation of remedial systems for the clean-up of petroleum and hazardous materials. The installed remedial systems include bio-sparging, duel-phase high vacuum extraction, enhanced fluid recover, in-situ chemical oxidation, enhanced monitoring natural attenuation, soil vapor extraction, and groundwater pump and treat.

Third Party Insurance Review—Provided third party regulatory and technical review of environmental insurance claims. Reviewed site investigations remedial action plans and closure documentation. Provided cost estimates on the assessment and closure activities. Negotiated pricing and settlements with responding consultants. Provided litigation support for subrogation claims.

EA Project Experience

Saint Luke's Country Day School; New Canaan, Connecticut; Saint Luke's; Project Manager—Managed and oversaw the environmental assessment of the Saint Luke's School for certification of a Leadership in Energy and Environmental Design complaint expansion. Identified several Recognized Environmental Conditions that required further soil and groundwater characterization. Identified groundwater conditions that required regulatory notification and documentation. Conducted a complete characterization of the impacts, modeled the contaminant fate and transport and determined the potential impacts to sensitive receptors. Prepared and submitted closure documentation to the Connecticut Department of Energy and Environmental Protection.
Project Date: 2011 – Present
Project Value – $38,000; Contract Type – Time and Materials; EA Project No. – 1481901; EA Project Manager – Frank Postma

Benevento Sand and Gravel Quarry; Wilmington, Massachusetts; Benevento Companies; Project Manager— Revised and updated Stormwater Pollution Prevention Plan to reflect site modifications and comply with the U.S. Environmental Protection Agency National Pollutant Discharge Elimination System Permit. Lead design manager for a stormwater detention basin to provide additional treatment to meet the applicable benchmark standards. Lead design manager for conceptual design and bench study for wash pond treatment system incorporating flocculation of stone dust. Managed all wetland permitting under the Massachusetts Wetland Protection Act.
Project Date: 2011 – Present
Project Value – $122,000; Contract Type – Time and Materials; EA Project No. 1488201; EA Project Manager – Frank Postma

Camp Fogarty Former Shooting Berm; East Greenwich, Rhode Island; Rhode Island Army National Guard; Project Manager—Developed the Environmental Media Sampling Plan and Quality Assurance Performance Plan for investigation of a former firing range. Managed the soil sampling activities including Management Information System and discrete soil sampling via an established grid. Coordinated with laboratory and tabulated results including sampling location and depth details. Designed the background study to assess arsenic and beryllium exceedences Summarized background study in a letter report that included Geographic Information System figures and statistical analysis.
Project Date: 2010–2011
Project Value – $112,000; Contract Type – Firm Fixed Fee; EA Project No. – 6245001/14906.01; EA Project Manager – Frank Postma

Exeter Landfill Closure; Exeter, Rhode Island; Town of Exeter; Project Manager—Project Manager responsible for the management and oversight of the landfill closure. The project required the preparation of a Remedial Action Work Plan, alternative analyses, material specifications, material verification, and installation oversight with the goal of preparing the Remedial Action Closure Report and Environmental Land Use Restriction. EA is also responsible for construction oversight of the cap installation and specification verification.
Project Date: 2007 – Present
Project Value – $58,000; Contract Type – Time & Materials; EA Project No. 1452501; EA Project Manager – Frank Postma

Cotton Shed; West Warwick, Rhode Island; Thundermist Health Center; Project Manager—Project Manager for coordination and completion of installation of an engineered barrier at this regulated site. Project Manager for design of investigation strategies to determine scope of work, prepared closure reports, subsequent investigation following unpermitted implementation of a community garden at the regulated site.
Project Date: 2012 – Present
Project Value – $25,000; Contract Type – Time and Materials; EA Project No. – 14820.01; EA Project Manager – Frank Postma

Igus, Inc.; East Providence, Rhode Island; Task Manager—Project Manager for coordination and completion of installation of an engineered barrier at this regulated site. Completed cost estimates for remediation, performed oversight during remediation, coordinated disposal of contaminated soils, and completed summary report.
Project Date: 2012 – Present

Project Value – $26,000; Contract Type – Time and Materials; EA Project No. 6250601; EA Project Manager – Frank Postma

Petco Plaza Remediation; Peabody, Massachusetts; Scangas Brothers—A fuel oil release migrated beneath the slab of the existing building at this site. Produced a Phase I Site Investigation Report and Tier Classification for the Site, classifying as Tier II. Contributed design of remedial approach and produced cost benefit analysis to determine most economically viable remedial approach. Produced Release Abatement Measure Plan to acquire Order of Conditions from City of Peabody Conservation Commission. Task Manager for field events, production of reports, and implementation of *in situ* chemical oxidation injections, which successfully destroyed the non-aqueous phase liquid and associated petroleum contamination. Completed a Release Abatement Outcome Statement indicating that the remediation efforts were successful at meeting all remediation standards.
Project Date: September 2009 – Present
Project Value – $267,795; Contract Type – CPM; EA Project No. – 1470302; EA Project Manager – Frank Postma

Massachusetts Contingency Plan Compliance; Manchester-by-the-Sea, Massachusetts; Seabreeze Variety—
Senior Project Manager responsible for the indentifying the appropriate regulatory pathway, implementing the post-remedial monitoring program, analyses of the collected data and providing the detailed technical review of the regulatory documentation. The site is a current petroleum dispensing facility that had opted to replace two underground storage tanks. A release of gasoline product was identified during the removal of the underground storage tanks that impacted soils and groundwater. The impacted soils were excavated following the installation of sheet piles. Soil groundwater and indoor air quality were assessed. The project will require an Massachusetts Contingency Plan Phase I Environmental Assessment, Method 1 Risk Assessment and Response Action Outcome to close the site.
Project Date: 2009
Project Value – $34,700; Contract Type – CPM; EA Project No. – 1470001; EA Project Manager –Frank Postma

Water Infiltration; Westerly, Rhode Island; Scott Gardiner—Project Manager for the investigation of water infiltration into a residential basement following the construction of an adjacent subdivision. Conducted area surveys, reviewed proposed subdivision plan and compared them against the survey data to determine the source of groundwater infiltration. Provided findings for litigation support
Project Date: 2009
Project Value – $10,000; Contract Type – CPM; EA Project No. – 1470101; EA Project Manager – Frank Postma

Monitoring Well Abandonment; Ipswich, Massachusetts; Scangas Realty—Project Manager for the closure of monitoring wells following the completion of remedial activities associated with a release of gasoline constituents from a former service station. The monitoring well abandonment was conducted in accordance with the Massachusetts Department of Environmental Protection's Standard Reference for Monitoring Well. The abandonment involved the pressure grouting of well casings, removal of the surface components and completing the abandonment with a concrete pad brought to grade.
Project Date: 2009
Project Value – $8,430; Contract Type – CPM; EA Project No. – 1470301; EA Project Manager – Frank Postma

Soil Sampling; New Bedford, Rhode Island; ESS Laboratory—Project Manager responsible for the field location of a sample collection grid to confirm the extent of an excavation aimed to remove polychlorinated biphenyl-laden soils a the Shawmut Landfill. Composite soil samples were collected at each sample node and submitted to a Massachusetts certified laboratory for polychlorinated biphenyl analyses via U.S. Environmental Protection Agency Method 8082. The data was analyzed and additional remedial efforts were connected to excavate all impacted soil to the regulatory threshold. The results of the remedial efforts were documented in a regulatory report.
Project Date: 2009
Project Value – $4,650; Contract Type – LS; EA Project No. – 6235901; EA Project Manager – Frank Postma

Landfill Monitoring; Worcester, Massachusetts; Bristol Traffic and Transportation Corporation—Project Manager for the preparation and implementation of the 30 Year Post-Closure Monitoring Plan. The plan required the assessment program for groundwater, surface water, and landfill gas. A monitoring network of groundwater

monitoring wells, surface water sampling points and soil gas sampling points were installed to assess the on-site and potential for offsite migration of leachate from a closed municipal solid waste landfill. The data was compiled and assessed against regulatory thresholds to determine if a corrective action plan required implementation. The results of the investigations are documented in a bi-annual report.
Project Date: 2009
Project Value – $124,000; Contract Type – CPM; EA Project No. – 147001; EA Project Manager – Frank Postma

Massachusetts Contingency Plan Compliance; Lexington, Massachusetts; J.P. Carroll—Senior Project Manager responsible for the indentifying the appropriate regulatory pathway and negotiating the fines/language of an Administrative Consent Order with Penalty for an automotive recycling facility. The project required the registration and closure of 5 Underground Injection Control points, installation of two public water lines to abate an Imminent Hazard Condition and the assessment of soil and groundwater impacts. The source area was initially treated with *in situ* chemical oxidation. The project will require an Massachusetts Contingency Plan Phase IV Remedy Implementation Plan, Method 3 Risk Assessment, Activity and Use Limitation and Response Action Outcome to close the site.
Project Date: 2009
Project Value – $184,700; Contract Type – CPM; EA Project No. – 147002; EA Project Manager –Frank Postma

Technical Oversight; Various Insurance Claim Sites; Massachusetts and Connecticut—Provided third-party regulatory, technical, and cost evaluations for environmental insurance claims. Provided expert testimony on contaminant fate and transport for subrogation and countersuit claims. Negotiated settlement costs and developed pricing indices to standardize invoice reviews.
Project Date: 2009

Site Investigation and Closure; Newport, Rhode Island; Forty 1 North—Senior Project Manager responsible for indentifying the appropriate regulatory pathway and negotiating the closure strategy for a property being converted from industrial to residential. The project required the preparation of Site Investigation Report, Public Notification, status report and Remedial Action Closure Report.
Project Value – $40,560; Contract Type – CPM; EA Project No. – 1444801; EA Project Manager –Frank Postma

Site Investigation and Closure; Providence, Rhode Island; Steel Yard—Senior Project Manager responsible for implementation of a multi-dimensional capping system. The project required the preparation of Site Investigation Report, Public Notification, status report and Remedial Action Closure Report as well as grant reporting on two Brownfield properties. Provided support to resolve claims made against the property by an aggrieved neighbor. Project won the John H. Chaffee Environmental Excellence Award.
Project Value – $27,200 Contract Type – CPM; EA Project No. – 1457401; EA Project Manager –Frank Postma

Due Diligence; ARGO Brownfield Property; Dorchester, Massachusetts—Teamed with an 8(a) firm to compile site data from historical society and facility records for a Brownfield property, fire insurance mapping, municipal offices, state agencies, and federal databases to develop a comprehensive site model of sensitive receptors, recognized environmental conditions, and contaminants of concern. Reconnoitered site to locate additional areas of concern, conduct interviews with facility personnel, and identify locations. Analyzed the accumulated data, developed recommendations, and documented the findings in accordance with American Society for Testing and Materials standards.
Project Value – $43,225; Contract Type – CPM; EA Project No. – 1461404; EA Project Manager –Frank Postma

Construction Oversight and Remedial System Reinstallation; Warwick Intermodal Station; Warwick, Rhode Island—Provided technical oversight and field supervision for the relocation of the duel phase extraction system. Coordinated subcontractors to and construction prime to allow for the continuous operation of the system during the construction of the train station and parking garage. Managed the contaminated soil and oversaw the reinstallation of system components.
Project Value – $143,345; Contract Type – Fixed; EA Project No. – 1461404; EA Project Manager –Frank Postma

Sub-Slab Depressurization System Operation and Reporting; Providence Public Schools; Providence, Rhode Island—Manage the operation of a multi-point sub-slab depressurization system installed to prevent the migration of chlorinated volatile organic compounds into a public high school. Represented the Providence School Department during Environmental Justice hearings. Documented the performance of the system and implemented system upgrades. Documented the effectiveness of the system and investigated fugitive contaminant detections.
Project Date: 2009
Project Value – $137,000; Contract Type – CPM; EA Project No. – 1487701

Administrative Consent Order with Penalty Compliance and Immediate Response Action; Gasoline Release; Lexington, Massachusetts—Negotiated final language of Administrative Consent Order with Penalty for waste handling, recycling, underground injection control, and release violations at an operating auto recycling facility. Registered five and closed four underground injection control points. Designed and implemented a non-aqueous phase liquid removal program and a chemical oxidation system to address source area impacts. Identified an Imminent Hazard and facilitated the connection of several private wells to the municipal water supply. Completed the Immediate Response Action Plans and status reports. Prepared the Phase I Environmental Site Assessment and Tier Classification.
Project Date: 2009
Project Value – $54,410; Contract Type – CPM; EA Project No. – 1470901

Civil Action Defense; Second Street Iron and Metals; Everett, Massachusetts—Developed and implemented a Stormwater Pollution Prevention Plan in accordance with the Multi-Sector General Permit. Developed and implemented three Best Management Practices that reduced the contaminant load in their stormwater discharge to the regulatory thresholds. Assisted in the negotiations with a citizen's rights group to settle all claims arising from violations of the Clean Water Act.
Project Date: 2010
Project Value – $24,230; Contract Type – CPM; EA Project No. – 1478001

Brownfield's Remedial Cap Design, Installation and Closure Documentation; City of Providence; Providence. Rhode Island—Provided final design and cost estimates for the installation of an engineered cap for a former mill complex. Negotiated with the regulators to expedite the regulatory permitting and meet project specific deadlines. Provided contract and construction oversight with prime contractor. Negotiated change orders on the City's behalf. Prepared all permit applications, public notifications and the Remedial Action Closure Report to complete the site remediation.
Project Date: 2009
Project Value – $114,400 Contract Type – Fixed; EA Project No. – 6189105

Military Firing Range Investigation and Background Evaluation; Rhode Island National Guard Camp Fogarty; East Greenwich, Rhode Island—Developed a Quality Assurance Performance Plan for a multi-media sampling program designed to delineate that extent and degree of impacts from an historic firing ranges. Cleared the site of unexploded ordinance and maintained strict safety protocols during the investigation. Oversaw the collection of soil and groundwater samples using discrete, composite and multi-incremental sampling protocols. Prepared Site Investigation Report documenting the findings. Designed and implemented a background study to determine the origin of arsenic impacts.
Project Date: 2010
Project Value – $121,000; Contract Type – Fixed; EA Project No. – 6245001

ISCO Remedial System Design and Implementation; Retail Commercial Mall; Peabody, Massachusetts—
Conducted an extensive investigation to delineate a non-aqueous phase liquid plume that had migrated under an occupied retail establishment. Designed an *In Situ* Chemical Oxidation remedial additive and delivery system to allow for destruction of the non-aqueous phase liquid while controlling vapor migration and maintaining hydraulic control over the injection area. Installed and monitored effectiveness of remedial injections.
Project Date: 2009
Project Value – $311,545; Contract Type – CPM; EA Project No. – 170302

Other Project Experience

Emergency Response Actions; Oil Carrier Insurance; Various Sites; 2009—Emergency response actions were undertaken and completed at 26 private residences, roadways, and industrial facilities for a fuel oil insurance carrier. Conducted assessment activities to delineate remaining impacts and identify sensitive receptors following initial containment. All sites achieved regulatory closure.

Bioremediation; Gasoline Service Station; Ipswich, Massachusetts; 2007—Negotiated the final language of the ACO and timelines to bring the site back into compliance. Designed the monitoring network to determine the extent and degree of impacts related to a failure of an underground storage tank system. Developed the comprehensive conceptual site model used to select the remedial alternative. Designed and implemented the remedial additive injection plan that reduced groundwater impacts to regulatory thresholds within 12 months. Prepared the Method 3 Risk Assessment.

Immediate Response Action; Fuel Oil Release; Charlton, Massachusetts; 2007—Conducted emergency response at a release from a 275-gal fuel oil tank release next to a brook and associated bordering vegetative wetland as a result of a fire. Coordinated response efforts with local and state investigative authorities. Designed and implemented the assessment plan of the soil, groundwater, surface water, and sediment. Designed and implemented a groundwater recovery and treatment system that functioned continuously for nine months. Prepared all regulatory planning and closure documentation.

Immediate Response Action; MODF Release; South Hadley, Massachusetts; 2007—Conducted the emergency response to assess and remediate a release from a pad-mounted transformer. Investigated the extent of the release in soil, groundwater, and indoor air. Directed the installation of a product recovery well and implemented an enhanced fluid recovery event to remove non-aqueous phase liquid from the groundwater. Prepared the Response Action Outcome supported with a Method 3 Risk Assessment to close the site.

Bioremediation; Gasoline Service Station; Leominster, Massachusetts; 2005—Designed the monitoring network to determine the extent and degree of impacts related to a failure of an underground storage tank system. Developed the comprehensive conceptual site model used to select the remedial alternative. Designed and implemented the remedial additive injection plan that reduced groundwater impacts to regulatory thresholds within 14 months. Designed, permitted, and implemented a cofferdam system to remove impacted sediment from the Nashua River. The project was completed in 2005.

Immediate Response Action; Gasoline Tank Release; Melrose, Massachusetts; 2004—Conducted emergency response at a release from a 10,000-gal gasoline tank release next to a brook. Coordinated response efforts with local, state, and federal authorities. Designed and implemented the assessment plan of the soil, groundwater, surface water, and sediment. Developed the comprehensive conceptual site model used to select the remedial alternative. Directed the excavation of the tank and impacted soils. Prepared all regulatory planning and closure documentation.

Immediate Response Action, Number 2 Fuel Oil Release; North Brookfield, Massachusetts; 2004—Conducted the emergency response to contain and containerize a ruptured fuel oil tank. Investigated the extent of the release in soil and groundwater. Directed the excavation of grossly impacted soils inside the residence. Designed and implemented non-aqueous phase liquid recovery, bio-vent, bio-injection, and chemical oxidation systems. Prepared the Response Action Outcome supported with a Method 3 Risk Assessment to close the site.

Soil and Aquifer Remediation; Former Gasoline Filling Station; Danvers, Massachusetts, 2004—Delineated the extent of petroleum-related impacts and developed a comprehensive conceptual site model. Conducted pilot tests of vapor and water phase extraction to determine the appropriate remedial alternative. Designed and implemented a high vacuum extraction system that maintained a 90 percent operation time over 12 months. Reduced soil and groundwater concentrations to site-specific standards.

Environmental Impact Report; Recycling Facility; Fitchburg, Massachusetts; 2003—Acquired the population, traffic, sensitive receptor, environmental, and need data. Developed conceptual facility design that included traffic flow patterns; process flow lines; material management protocols; load inspection and testing plans; and vector, odor, and dust control plans. Designed wastewater and stormwater collection systems. Prepared environmental justice analyses. Compiled and prepared individual plans into a comprehensive draft Environmental Impact Report. Testified on behalf of the proponent and answered all public comments in the Final Environmental Impact Report. Acquired the site assignment to permit the site for the proposed activities.

Soil Remediation; Oil Distribution Facility; North Brookfield, Massachusetts; 2003—Developed the investigation program to identify and delineate the area of historic impacts from an oil distribution facility located in a residential neighborhood. Developed the comprehensive conceptual site model used to select the remedial alternative. Prepared detailed cost estimation for U.S. Environmental Protection Agency Brownfields program for client financing. Directed the excavation of 1,450 cubic yards of contaminated soil and restoration of neighboring properties. Designed and implemented a soil vapor extraction system to remediate impacted soils abutting a residential foundation. Prepared regulatory planning and closure documentation.

Due Diligence; Multi-Use Converted Mill Facility; Pepperell, Massachusetts; 2002—Compiled site data from historical society and facility records, fire insurance mapping, municipal offices, state agencies, and federal databases to develop a comprehensive site model of sensitive receptors, recognized environmental conditions, and contaminants of concern. Reconnoitered site to locate additional areas of concern, conduct interviews with facility personnel, and identify locations. Analyzed the accumulated data, developed recommendations, and documented the findings in accordance with American Society for Testing and Materials standards.

Emergency Response, Fuel Oil Tanker Rollover; Dorchester, Massachusetts; 2001—Responded to and directed the initial emergency response activities that included multi-agency coordination of the Boston Fire Department, Boston Police Department, Massachusetts District Commission, Massachusetts Department of Environmental Protection, and U.S. Coast Guard to contain the release. Developed and implemented the assessment program to delineate the extent and degree of impacts. Determined and oversaw the remedial program. Documented the results of the remedial program, and prepared the closure documentation for the site.

Spill Prevention and Countermeasure Control Plans; Transportation Company; 2001—Conducted field audits and inventoried 23 transportation and leasing facilities for compliance with U.S. Environmental Protection Agency regulation 40 CFR 112. Developed fueling, spill response, and containment protocols to address the storage and transfer of petroleum products at the facilities. Documented the procedures and follow-up audits in a Spill Prevention and Countermeasure Control Plan.

Wetland Delineation and Permitting; Wilbraham, Massachusetts;—Delineated the wetland and riverfront boundaries using vegetation, hydrology, and soils. Prepared the Notice of Intent for the construction of a bus depot for submittal to the Massachusetts Department of Environmental Protection and the Wilbraham Conservation Commission.

Immediate Response Action; Gasoline Release; Manchester, Massachusetts—Delineated the extent of petroleum-related impacts and developed a comprehensive conceptual site model. Designed and implemented the assessment plan of the soil, groundwater, surface water, and sediment. Designed and implemented a groundwater recovery and treatment system that functioned continuously for 9 months. Prepared all regulatory planning and closure documentation.

Litigation Support; Subdivision Drainage Suit; Westerly, Rhode Island—Provided litigation support relative to stormwater drainage issues resulting from the development of an adjacent subdivision. Identified potential causes of groundwater infiltration into existing structure. Reviewed potential solutions to the root cause and provided recommendations to the settlement language.

Employment History

Employer—EA Engineering, Science, and Technology, Inc.
Dates of Employment—2009 – Present
Title—Client Manager

Employer—LFR Inc.
Dates of Employment—2005-2009
Title—Senior Project Manager

Employer—Corporate Environmental Advisors, Inc
Dates of Employment—1998-2005
Title—Project Manager

Employer—Loureiro Engineering Associates
Dates of Employment—1989-1999
Title—Field Operations Manager

List of Technical Skills and Specializations

- Petroleum and hazardous material regulations – Connecticut, Massachusetts, New Hampshire, and Pennsylvania
- Remedial design and implementation
- Septic system design and installation
- Site investigations and due diligence
- Third party insurance reviewer
- Wetland regulations and delineation

Jim Hulbert, CHMM
Project Manager

Mr. Hulbert has more than 22 years of experience in a wide range of environmental projects. His areas of expertise includes Brownfield redevelopment and pre-construction remedial actions. His experience includes performing and managing Phase I and Phase II environmental assessments, remedial design and implementation, performing and managing lead-based paint and asbestos surveys, managing teams of environmental professionals, and due diligence real estate consulting.

Qualifications

Education
B.S.; Salisbury University; Environmental Science; 1988

Registration/Certification
Certified Hazardous Material Manager (CHMM)

Specialized Training
40-Hour Health and Safety Training for Hazardous Waste Site Work; 1989
Asbestos Building Inspector Certification
Lead-Based Paint Inspector Certification
Mold Remediation Supervisor Training; 2002
American Society for Testing and Materials 1500 Sub-Committee Member

Experience
Years with EA: 12 Total Years: 22

Professional Experience

Due Diligence—Director of Operations for an environmental due diligence firm that performed over 30,000 Phase I environmental site assessments in a span of 8 years, along with other environmental assessments including Phase II environmental site assessments and indoor air quality studies. Environmental assessments were performed on various industrial, commercial, and residential property types, as well as farmland and undeveloped properties. Project Manager for the completion of more than 900 environmental site assessments associated with the liquidation of Confederated Life Insurance Company assets. Duties included contract negotiation, scope development, subcontractor selection and management, review team management, client service, and technical support. The project also included the completion of more than 50 Phase II subsurface investigations and the presentation of results to potential investors.

Industrial Hygiene Project Management—Project experience involves managing and conducting large-scale asbestos building materials inspections for a wide variety of clients including financial institutions; schools; the Department of Defense; hospitals; educational institutions; property owners; industrial and manufacturing; and federal, state, and local government agencies. Also has experience in client representation during management of asbestos hazard abatement, preparation of complete specification packages (bid documents, technical abatement requirements, regulatory interpretation, bond forms, and cost estimating) for asbestos-related projects, preparation of management plans and operations and maintenance programs for management of asbestos materials left in place, and exposure monitoring. Managed indoor air quality evaluations consisting of common gas sampling; heating, ventilation, and air conditioning system evaluation; bacteriological sampling; measurement of physical comfort factors; and sampling of targeted indoor air pollutants. Managed projects involving drinking water sampling in accordance with U.S. Environmental Protection Agency's Lead in School's Drinking Water Program, volatile organic compound sampling of non-transient non-community public water systems in the State of Maryland, and long-term sampling of radon. Prepared Safety, Health, and Emergency Response Plans for field project activities involving asbestos, lead-based paint, and confined space entry.

Brownfields Redevelopment—Project experience includes managing Brownfield redevelopment projects from initial investigation through site cleanup and reuse. Work has included developing planning documents, coordinating with state and federal Brownfield Programs, managing site assessments and Human Health Risk Assessments, evaluating remedial alternatives, designing remedial actions and working with the development team to integrate remedial actions into the final site designs. All projects have been partially or completely funded through U.S. Environmental Protection Agency Grant programs. Experience includes writing Site Specific Cleanup Grant applications and managing those grants as well as managing Community Block Assessment Grants.

Site Assessment—Prepared and supervised Phase I and Phase II site investigations which included soil boring programs, monitoring well installation, underground storage tank closure, soil gas survey and tracking, and soil remediation. These assessments include the preparation of Work Plans, Field Sampling Plans, Safety and Health

Plans, and technical Site Investigation Reports. In addition, these projects involve interfacing with regulatory authorities, addressing technical comments, and preparing final reports for the client and/or agency.

Technical Report Preparation and Review—Prepared planning documents for hazardous site activities, including Work Plans; Field Sampling Plans; Quality Assurance Project Plans; and Safety, Health, and Emergency Response Plans. Prepared and conducted review of reporting documents, including data summary reports, field investigation reports, underground storage tank closure investigation/remedial action reports, Draft and Final Corrective Measures Alternatives Analysis, and Phase I and II environmental assessment reports.

Underground Storage Tank Investigation and Removal/Abandonment—Designed and completed numerous remedial actions consisting of underground/aboveground storage tank removals, site characterization, contaminated soil and groundwater remediation, post-remediation sampling/investigation, and site restoration at industrial and commercial facilities, retail outlets, residences, and service stations throughout the eastern United States. Prepared closure plans, remedial action work plans and reports, and final reports in support of each of these projects as required by regulatory agencies.

Professional Affiliations/Memberships

Certified Hazardous Materials Manager – Institute of Hazardous Material Management; 2007.

American Society for Testing and Materials 1527 – Phase I Environmental Site Assessment Process Sub-committee.

Selected Publications and Presentations

Real Estate Management. September 1999. Due Diligence and Dry Cleaners.

EA Project Experience

Washington D.C. Public Schools; U.S. Army Corps of Engineers; ***Asbestos Management Team, Assistant Project Manager***—Managed the completion of asbestos inspections and Asbestos Management Plans while coordinating activities between the U.S. Army Corps of Engineers; Washington, D.C. Public Schools Safety Department; and Washington, D.C. Department of Health.
Project Date: 2000-2004
Project Value – $4.6 M; Contract Type –Lump Sum; EA Project No. – 6140159; EA Project Manager – Jim Hulbert

Clipper Industrial Park; Building Surveys and Sample Collection; Struever Bros. Eccles and Rouse—Served as Project Manager for a pre-renovation hazardous materials survey at the Clipper Industrial Park complex. The surveys including performing an asbestos and lead-based paint inspection to identify areas of suspect materials that may become disturbed during renovation activities. Lead-based paint was evaluated by using an x-ray fluorescence to test individual surfaces. The findings of the survey were documented in a report used to determine abatement cost estimates.
Project Date: August 2000 – September 2002
Project Value – $20,000; Contract Type – T&M; EA Project No. – 6182301; EA Project Manager – Jim Hulbert

Pre-Renovation Hazardous Materials Assessment; Lance Bailey and Associates—Served as Project Manager for a pre-demolition hazardous materials evaluation of an 84,000 ft^2 elementary school. The survey was designed to identify locations of asbestos-containing building materials, lead-based paint, polychlorinated biphenyl-containing components and other miscellaneous hazardous materials. Intrusive and destructive measures were employed to inspect hidden areas behind walls, under floors and above ceilings. Upon completion, the openings were sealed with similar materials to protect occupants. The information from the inspection was utilized to develop specifications and cost estimates for required abatement activities.
Project Date: 2002

Project Value – $84,000; Contract Type – T&M; EA Project No. – 6157503; EA Project Manager – Jim Hulbert

Delaware Department of Natural Resources and Environmental Control—Completed Phase I Preliminary Assessments and Phase II Site Assessments for various Delaware Department of Natural Resources and Environmental Control Brownfields Grant sites, including Millville Dump site, Millville and Naga Food site, Habitat for Humanity site, and Community Garden Site, Wilmington, Delaware. EDIS Construction: Voluntary Cleanup Program application, Preliminary Assessment and Phase II Site Assessment at the Ship's Tavern Parking Garage Site, Wilmington, Delaware.
Project Date: 2005-2006
Project Value – $50,000; Contract Type – T&M; EA Project No. – 1433803; EA Project Manager – Jim Hulbert

Streuver Brothers Real Estate Group, Maryland—Redevelopment projects: Phase I/II environmental site assessments, assessment of property liability/risk and remedial cleanup costs, underground storage tank/drum removals, geophysical surveys, soil gas surveys, Geoprobe and monitoring well installations for soil and groundwater analysis.
Project Date: 2005
Project Value – $200,000; Contract Type – Lump sum; EA Project No. – Various; EA Project Manager –Frank Barranco, Jim Hulbert, Dave Straume

Center for Aquatic Life and Conservation, Maryland—This is a 7-acre waterfront project that is slated to be redeveloped as an Environmental Demonstration Area associated with the CALC operations. Acted as the Project Manager for a number of evaluation task including Phase I/II environmental site assessments, geophysical surveys, tracer dye study, Geoprobe and monitoring well sampling for soil and groundwater analysis. Developed Response Action Plan and specifications for remedial actions. Contracted to perform construction Health and Safety monitoring and Remedial Action Plan oversight during construction.
Project Date: 2005 – Present
Project Value – $154,000; Contract Type – T&M; EA Project No. – 6187404; EA Project Manager – Jim Hulbert

Masonville Uplands Redevelopment; Site Characterization and Human Health Risk Assessment—The site is a 54-acre waterfront property used for dumping of various materials including railroad ties, telephone poles, and construction debris. Redevelopment plans include the creation of a public park with nature trails and habitat areas. Site evaluation work included completion of the Phase II environmental site assessment investigations, Human Health Evaluation and coordination with the Maryland Department of the Environment. A Corrective Measures Alternatives Analysis was also performed to establish the basis for the remedial action strategy. EA also assisted with coordinating the park design elements with the proposed remedial actions and completed the Remedial Action Plan. EA also developed a Waste Removal Action Plan in which EA characterized the material that had been dumped on the site including telephone poles, railroad ties, slag, concrete, and construction debris. Based on the characterization, EA developed a strategy for removal and performed research to determine the most cost effective means of disposal.
Project Date: 2005 – Present
Project Value – $424,000; Contract Type – T&M; EA Project No. – 1453405; EA Project Manager – Jim Hulbert

Westport Waterfront Voluntary Cleanup Program Site Characterization—This 54 waterfront redevelopment site was formerly occupied by a glass manufacturer, electrical generation facility, concrete manufacturer and steam boiler manufacturer. Work included completion of the initial Phase I environmental site assessments, completion and submittal of the Voluntary Cleanup Program application, Phase II subsurface investigations, identification and characterization of clean fill material site and analysis of shoreline stabilization strategies. A tidal, fringe wetlands was designed and permitted to satisfy remedial actions at the shoreline. The wetlands and shoreline stabilization are being constructed with Grants from American Recovery and Reinvestment Act and the Chesapeake Bay Trust. Natural resource evaluation and permitting was performed for impacts to tidal and non-tidal wetlands, established buffers and open water. The impacts to natural resources were coordinated with site design and the remedial action.
Project Date: 2005 – Present
Project Value – $492,000; Contract Type – T&M; EA Project No. – 1454301; EA Project Manager –Jim Hulbert

On-Call Environmental Support Contract, Baltimore County Department of Environmental Protection and Resource Management—Currently serves as Project Manager for the on-call support contract which includes scope of work for Phase I, Phase II, and Industrial Hygiene services. The following projects have been completed under the contract:

- **Phase I**—Yorkway Apartments, Future Perry Hall Library Site, Brady Property, Iman's Marina, American Laundromat, Skateland, Porter Property, Sparrows Point Property, Schmidt Property, Somogyi Property, Honey-go Blvd Extension, Pleasant Hills, Girl's Life Plantation, Haase Property and Schnaper Property

- **Phase II**—American Laundromat, St. Helena Park, Parkville Police Barracks

- **Human Health Risk Assessments—**St. Helena Park

- **Industrial Hygiene Services—**Skateland, Police Precinct 3

Project Date: 2005 – Present
Project Value – $1,000,000; Contract Type – T&M; EA Project No. – Various; EA Project Manager – Jim Hulbert

Rossville Structural Coal Ash Fill Site, Constellation Energy – Power Source Group—The Rossville site is a 32-acre coal ash landfill located in a commercial area of Baltimore County, Maryland. The site is the first and only coal ash site entered into the Maryland Department of the Environment Voluntary Cleanup Program for assessment and remedial design. Project Manager and led the effort to assess the site and gain acceptance into the Voluntary Cleanup Program.
Project Date: 2009 – Present
Project Value – $427,000; Contract Type – T&M; EA Project No. – 1436904; EA Project Manager – Jim Hulbert

Brooklyn Park Shopping Center, The Provident Bank—Project Manager for completion of Phase I environmental site assessment and Property Condition Survey of an existing Shopping Center.
Project Date: 2010
Project Value – $5,750; Contract Type – LS EA Project No. – 6225202; EA Project Manager – Jim Hulbert

Water Quality Revolving Loan Fund Applications, St. John Properties—Project Manager for completion of three grant applications associated with projects that incorporate innovative water quality improvement design and/or structures.
Project Date: 2010
Project Value – $8,000; Contract Type – T&M; EA Project No. – 6240001; EA Project Manager – Jim Hulbert

On-Call Environmental Services Contract, Baltimore Development Corporation—Project Manager for providing Brownfield Grant support services to the Baltimore Development Corporation. Scopes of work covered by the contract include Phase I and Phase II environmental site assessments, Response Action Plan development, and development related work. Project completed under this contract include:

- ***Brownfield Inventory***—In 2008, EA assisted Baltimore Development Corporation with developing a Geographic Information System based program for capturing property data associated with possible brownfields sites. EA was able to resurrect a former Baltimore Development Corporation brownfields database and used the list of sites to update property information by researching available property records and collecting recent photographs of the properties. The information was compiled into a database with a Geographic Information System interface with full search and reporting capabilities.
  Project Date: 2009
  Project Value – $20,000; Contract Type – T&M; EA Project No. – 1427202; EA Project Manager – Jim Hulbert

- ***Potee and Garret Street Sites***—At the Potee and Garrett Street Site, EA supported Baltimore Development Corporation with Maryland Department of the Environment and U.S. Environmental Protection Agency Region 3 requirements for this Brownfields initiative. In 2001, EA developed for Baltimore Development Corporation, the Baltimore City Quality Assurance Project Plan for the Baltimore Brownfields Pilot Project. This Quality Assurance Project Plan was used to develop the site specific Sampling and Analysis Plan for this site. EA worked closely with both the Baltimore Development Corporation project manager and the U.S. Environmental Protection Agency project manager in completing both the Quality Assurance Project Plan and the Sampling and Analysis Plan. EA then conducted an extensive field sampling effort to evaluate the site conditions. EA supported Baltimore Development Corporation in negotiations with the U.S. Environmental Protection Agency project manager to limit further sampling to the extent feasible and to finalize additional sampling requirements.

The two sites received U.S. Environmental Protection Agency cleanup Grants to assist in the cleanup and redevelopment of the sites however a viable developer for the sites never materialized. EA developed a strategy to use the grant funds to secure and stabilize the site in accordance with the Maryland Department of the Environment Voluntary Cleanup Program. The Site Stabilization Plan was presented to the community for comment and approved. MDE also reviewed and approved the plan so the grant funds could be used to implement the plan. To date over 3,000 linear ft of security fence have been installed, six monitoring wells were abandoned, two drums were removed, 5 tons of tires and over 127 tons of contaminated trash and debris were removed from the site.
Project Date: 2011
Project Value – $480,000; Contract Type – T&M; EA Project No. – 1427206; EA Project Manager – Jim Hulbert

- ***Shippers Choice***—At the Shippers Choice site, EA supported Baltimore Development Corporation and the client, Liquid Cargo, with evaluating an office building located in an industrial area of Wagner's Point. The site contained an underground storage tank which required removal. The redevelopment of the site was regulated by the Voluntary Cleanup Program while the underground storage tank removal was managed through the Oil Control Program. EA ensured efficient coordination of the two programs by requesting the Voluntary Cleanup Program Project Manager be present with the Oil Control Program Project Manager during the underground storage tank removal so that both entities were satisfied with the removal. This also ensured that the next steps of the process were agreed upon by both the Voluntary Cleanup Program and Oil Control Program before leaving the site. Based on the underground storage tank removal and analytical results, the site received a "No Further Actions Required" determination and the Certificate of Completion was issued prior to end of year funding commitments.
  Project Date: 2008
  Project Value – $34,000; Contract Type – T&M; EA Project No. – 1427204; EA Project Manager – Jim Hulbert

- **Gateway South Redevelopment Floodplain Evaluation**—Federal Emergency Management Agency prepared a revised flood study that included the Gateway South development area as a designated floodway. EA was contracted by Baltimore Development Corporation to develop a flood study to appeal the floodway designations. The appeal was successful at revising the Federal Emergency Management Agency 100-year Floodplain Map and removing the area form the floodway.

Project Date: 2007
Project Value – $60,000; Contract Type – T&M EA Project No. – 1427206; EA Project Manager – Jim Hulbert

Baltimore Gas and Electric Spring Garden Waterline and Fire Suppression System Replacement – Hazardous Material Management—The site is a historic manufactured gas plant currently operating as a natural gas storage and transfer facility. The site is pervasively contaminated with coal tar waste by-products. Acted as the Project Manager for installation of over 6 miles of new drinking water and fire suppression lines through impacted soil and groundwater. Developed the Health and Safety Plan and coordinated safety briefings for site workers. Successfully managed the removal, transport and disposal of over 140,000 gal of contaminated water and 1,500 tons of impacted soil.
Project Date: 2011
Project Value – $160,000; Contract Type –T&M; EA Project No. – 1446301; EA Project Manager – Jim Hulbert

DSK Mariam Church Phase II Environmental Site Assessment—Project Manager for environmental investigation for expansion of church building. Site historically housed several gas stations and auto repair facilities. The church expansion project calls for excavating existing impacted soil to allow construction of underground parking facility. Wok included soil boring installation and sampling as well as monitoring well installation, development and sampling.
Project Date: 2011
Project Value – $34,000; Contract Type –T&M; EA Project No. – 1460302; EA Project Manager – Jim Hulbert

Coppin State University – Southern Campus Expansion—Senior Technical Reviewer and Project Manager for completion of over 240 Phase I environmental site assessments in support of Coppin State University's purchase and redevelopment of properties located adjacent to the university campus.
Project Date: 2008 – Present
Project Value – $327,000; Contract Type –T&M; EA Project No. – 1469001; EA Project Manager – Vicki Pittman/Jim Hulbert

Guam Environmental Protection Agency Brownfields Grant Program—Senior Technical Reviewer for completion of Phase I and Phase II environmental site assessments in support of Guam Environmental Protection Agency's Brownfield redevelopment Program. Reviewed reports and provided guidance for the Tiyan Gymnasium redevelopment, the Tsunami Debris Transition Site, and the former Go-kart track site.
Project Date: 2011
Project Value – $200,000; Contract Type –T&M; EA Project No. – 1481801-05; EA Project Manager – Tressie Word

Bith Energy – Nixon Farm Solar Development—Project Manager for the design and permitting of a 10-megawatt photovoltaic energy generation campus. Site design elements include the grading, storm water management and sediment erosion control design for 80 acres of underutilized land being developed with over 10,000 solar panels and associated inverters. Solar design included evaluation of energy production, shading, and panel placement. The electrical design included wiring schematic, inverter placement and connection to the existing utilities.
Project Date: 2011-2012
Project Value – $27,000; Contract Type –T&M; EA Project No. – 1482501; EA Project Manager – Jim Hulbert

Howard County Department of Public Works – Belmont Estates – Southern Campus Expansion—Senior Technical Reviewer for completion of Phase I and II environmental site assessments of the Belmont Conference Center in support of Howard County Department of Public Works' purchase of the property.
Project Date: 2008 – Present
Project Value – $327,000; Contract Type –T&M; EA Project No. – 1469001; EA Project Manager – Barb Roeper

LS Power; Sunoco Eagle Point—Senior Technical Reviewer for completion of environmental review of documents related to the transfer of a 400+ acre refinery and power plant..
Project Date: 2011
Project Value – $7,000; Contract Type –T&M; EA Project No. – 14731001; EA Project Manager – Frank Postma

1134 Hull Street–Under Armour—Project Manager for completion of the Phase I and II environmental site assessment of a former Chesapeake and Potomac Telephone maintenance yard for conversion to recreational sport court. Applied for and received grant funding through the Business Development Corporation – U.S. Environmental Protection Agency Brownfield grant program to investigate site. Developed Work Plan for Interim Removal Measure to excavate impacted soil to meet site attainment standards. Excavated 16 cubic yards of impacted material, arranged for disposal and backfilled with clean fill. Documented procedures in Completion Report and achieved the "No Further Action Designation" through the Maryland Department of the Environment Voluntary Cleanup Program.
Project Date: 2011
Project Value – $50,000; Contract Type –T&M; EA Project No. – 1491801 EA Project Manager – Jim Hulbert

Chestnut Ridge Golf Course –CignalCorp— Project Manager for completion of Phase II environmental site assessment to confirm arsenic impacts at a 250+ acre golf course as a condition of potential transfer.
Project Date: 2011
Project Value – $10,000; Contract Type –T&M; EA Project No. – 1493201; EA Project Manager – Jim Hulbert

Nick's Fish House–Gordon, Feinblatt and Rothman LLC—Project Manager for the evaluation of in-water structures associated with a waterfront restaurant. The restaurant owners built several docks and placed them in waters owned by the state of Maryland. A complaint was filed and EA negotiated with site owners and Maryland Department of the Environment to determine impacts and seek resolution for the additional structures.
Project Date: 2011
Project Value – $5,000; Contract Type –LS &M; EA Project No. – 6255301; EA Project Manager – Jim Hulbert

United Hangar Construction-Dulles Airport, NewFields water Resources—Task Manager for completion of Phase II environmental site assessment to confirm or deny environmental impacts associated with the proposed location of a new airplane hangar structure.
Project Date: 2011
Project Value – $10,000; Contract Type –T&M; EA Project No. – 6255601; EA Project Manager – Christine Papageorgis

Rosecroft Property, Prince Georges Racing Ventures, LLC—Project Manager for completion of a Phase I environmental site assessment for farm adjacent to Rosecroft Raceway in Prince Georges County, Maryland.
Project Date: 2011
Project Value – $5,000; Contract Type –LS; EA Project No. – 6255801; EA Project Manager – Jim Hulbert

1921 Ligth Street, A&R Development—Project Manager for completion of Phase I and II environmental site assessment of former tin enameling facility for conversion to mixed used apartment.
Project Date: 2012
Project Value – $13,500; Contract Type –T&M; EA Project No. – 6259201; EA Project Manager – Jim Hulbert

Pepper Road Phase I Environmental Site Assessment—Project Manager for completion of Phase I environmental site assessment for a historic manufacturing facility.
Project Date: 2011
Project Value – $3,000; Contract Type –T&M; EA Project No. – 1327349; EA Project Manager – Jim Hulbert

Guam Environmental Protection Agency; Tiyan Gym Phase I Environmental Site Assessment—Senior Technical Reviewer of a Phase I environmental site assessment Report for former gym and surrounding areas on U.S. Naval Base.
Project Date: 2010
Project Value – $10,830; Contract Type – T&M; EA Project No. – 14818036240001; EA Project Manager – Tessie Word

Bith Energy – 601 Patapsco Avenue Phase I Environmental Site Assessment—Project Manager for completion of a Phase I environmental site assessment for a potential solar energy development.
Project Date: 2011
Project Value – $7,500; Contract Type –T&M; EA Project No. – 1482501; EA Project Manager – Jim Hulbert

Cirque du Soleil—Project Manager for completion of the permit modification to allow placement of fill in the floodplain for the Cirque du Soleil – Totem event.
Project Date: 2010
Project Value – $15,000; Contract Type – T&M; EA Project No. – 6167404; EA Project Manager – Jim Hulbert

Curtis Bay Energy Phase I Environmental Site Assessment—Project Manager for completion of a Phase I environmental site assessment for a Medical Waste to Energy Incinerator facility.
Project Date: 2011
Project Value – $3,500; Contract Type –LS; EA Project No. – 6245801; EA Project Manager – Jim Hulbert

Marine Applied Physics Phase I Environmental Site Assessment—Project Manager for completion of a Phase I environmental site assessment for a marine technology facility.
Project Date: 2011
Project Value – $3,200; Contract Type –LS EA Project No. –6246801; EA Project Manager – Jim Hulbert

Employment History

Employer—EA Engineering, Science, and Technology, Inc.
Dates of Employment—August 2000 – Present
Title—Project Manager

Employer—EMG, Inc.
Dates of Employment—1992–2000
Title—Director of Operations–Real Estate Due Diligence Services

Employer—TARGET Environmental, Inc.
Dates of Employment—1989–1992
Title—Project Manager

List of Technical Skills and Specializations

- Asbestos inspections
- Brownfields redevelopment
- Industrial hygiene
- Integrating remedial design with site features and natural resource constraints at Brownfield sites.
- Large-scale project management
- Lead-based paint inspections
- Real estate due diligence assessments
- Subsurface characterizations

Meghan E. Travers, E.I.T.
Engineer

Ms. Travers has 4 years of experience with the technical aspects of environmental consulting. She is currently participating in various engineering designs including fish passage restoration projects, embankment and spillway repair alternatives, and dam failure analyses. Ms. Travers served as Task Manager for three stream crossing projects in New Hampshire. She performed hydrologic and hydraulic analyses for the site investigations and preliminary design and prepared technical reports to assess foundation conditions, stream geometries, and bridge/culvert specifications. Additionally, she completed structural calculations for final design and prepared technical reports to assess the final stream geometries and bridge specifications.

Qualifications

Education
B.S.; Cornell University; Biological Engineering; 2009

Registrations/Certifications
Engineer in Training—NY; 2009 (No. 085783)

Specialized Training
AutoCAD 3-Day Level 1 Training; 2007
USFWS Fish Passage Training Course; 2010
OSHA 40-Hour HAZWOPER; 2010
AutoCAD Civil 3D Training; 2011
NRCS EFH-2 and TR-55 Small Watershed Hydrology Training; 2012

Experience
Years with EA: 3 Total Years: 4

Professional Experience

Phase I/Phase II Environmental Site Assessments/Reports—Assess available data from U.S. Geological Surveys, Natural Resources Conservation Service soil surveys, and Federal Emergency Management Agency flood maps to adequately describe sites. Review environmental record sources, historical use information sources, and physical setting sources for indicators of recognizable environmental conditions. Conduct site surveys/investigations and interviews with past and present owners/occupants. Prepared Phase I/Phase II technical reports to assess environmental conditions.

Hydrologic and Hydraulic Analyses/Reports—Assess available data from U.S. Geological Surveys and stream gages to define flow duration curves and average operating flows for various watersheds. Delineate smaller watersheds and obtain available soils and land cover data to calculate peak flows for several storm events using Natural Resources Conservation Service software (Technical Release 55 and Technical Release 20). Translate flow data into water elevation data using hydraulic analyses such as Manning's equation and/or software such as Hydraflow Express.

Federal Energy Regulatory Commission Economic Analyses—Apply a Federal Energy Regulatory Commission approved utility life cycle economic analysis to analyze the viability of project alternatives. Categorize mitigation measures by resource area and calculate total annualized costs per measure. Ensure that the 30-year level annual costs calculated with the Federal Energy Regulatory Commission utility life cycle analysis correspond to the annualized costs of current operations plus the annualized costs of new environmental measures.

EA Project Experience

Town of Glocester – Hawkins Pond Dam; Glocester, Rhode Island—This project consists of design services needed to eliminate excessive leakage through the Hawkins Pond embankment under the abandoned penstocks, install a low level outlet, inspect the downstream side of the dam, and develop a plan to repair the spillway abutments. Completed the following design calculations: spillway discharge capacity, annual flow duration curves, downstream channel discharge capacities, outlet pipe hydraulic capacities, and a reservoir routing analysis. Design Reports completed to date include a Hawkins Pond Dam Inspection Letter Report, a Hawkins Pond Low-Level Outlet Report, a Hawkins Pond Dam Maintenance Report, and a Hawkins Pond Dam Inspection Report.
Project Date: September 2011 – Present
Project Value – $35,506; Contract Type – LS; EA Project No. – 6257001; EA Project Manager – Tom Cook

ARGO Pearl Meats; Dorchester, Massachusetts— Oversaw the installation of groundwater monitoring wells and advancement of soil borings. Collected soil and groundwater samples and submitted for analysis. Prepared Phase II technical report. Oversaw the underground storage tank removal, and obeyed regulatory procedures when a photoionization detector screening result exceeding 100 parts per million relative to a benzene standard was measured in an underground storage tank sample. Completed an Immediate Response Action Plan and completed a Disposal Package including a Bill of Lading necessary for legal disposal of the contaminated soils.
Project Date: June 2011 – March 2012
Project Value – $19, 894; Contract Type – CPM; EA Project No. – 1462314; EA Project Manager – Frank Postma

ARGO Quincy Heights; Dorchester, Massachusetts—Oversaw the installation of groundwater monitoring wells and advancement of soil borings. Collected soil and groundwater samples and submitted for analysis. Prepared Phase II technical report.
Project Date: June 2011 – March 2012
Project Value – $6, 767; Contract Type – CPM; EA Project No. – 1462313; EA Project Manager – Frank Postma

LS Power – NextEra Energy; Various—Assess available data from U.S. Geological Surveys, Natural Resources Conservation Service soil surveys, and Federal Emergency Management Agency flood maps to adequately describe the LS Power sites at various locations in the United States (specifically, Gaffney, South Carolina; Eastaboga, Alabama; and Ashland, Virginia). Review environmental record sources, historical use information sources, and physical setting sources for indicators of recognizable environmental conditions in accordance with American Society for Testing and Materials (ASTM) E-1527-05. Conduct site surveys/investigations and interviews with past and present owners/occupants of the power plants. Prepared Phase I technical reports.
Project Date: June 2011 – April 2012
Project Value – 250,038; Contract Type – CPM; EA Project No. – 1489701; EA Project Manager – Frank Postma

Year 2 Ambient Monitoring; Massachusetts Port Authority, Boston, Massachusetts—This project consists of ambient air monitoring of 11 sites in the vicinity of Logan International Airport in Boston, Massachusetts. Performed field work collecting air samples for particulate matter, volatile organic compounds, semivolatile organic compounds/polycyclic aromatic hydrocarbons, and carbonyls. Assumed data management role, performing periodic analysis of data trends for all parameters sampled. Further managed data by uploading data from field instruments to public website, translating data from field sheets into sample volumes, and tracking laboratory receipt of samples. Assisted in review of data for anomalies and compiled all verified data into charts and/or tables for inclusion in the Year End Monitoring Report.
Project Date: July 2010 – September 2011
Project Value – $513,610; Contract Type – CPM; EA Project No. – 1477404; EA Project Manager – Bob Newman

Yuba-Bear and Drum-Spaulding Environmental Impact Statement; Sacramento, California—This project analyzes the use of water resources in the Yuba River basin to generate power, estimates the economic benefits of the Yuba-Bear and Drum-Spaulding facilities, and estimates the cost of various environmental measures and the effects of these measures on project operation. Working closely with Federal Energy Regulatory Commission personnel to analyze the economic viability of the project. Preparing the Developmental Analysis section of the report, including the power and economic benefits of the Project and a comparison of alternatives.
Project Date: ***September 2010 – Present***
Project Value – $1,089,153; Contract Type – LS; EA Project No. – 6202860; EA Project Manager – Jeff Elseroad

Sodco Dam Embankment Repair; Slocum, Rhode Island—This project consists of three project phases for dam embankment repair, outlet structure design, and emergency spillway design in Slocum, Rhode Island. Performed hydrologic and hydraulic analyses for the Phase 1 Site Investigations and Preliminary Design. Prepared Phase 1 technical report to assess foundation conditions, potential impact areas, proposed dam design, and risks of dam failure. Modeled hydrologic conditions at the dam location and surrounding tributaries to assess the possible impact of dam construction on nearby properties using Hydrologic Engineering Centers River Analysis System (HEC-RAS). Completed a Dam Failure Analysis of the proposed weir construction to verify no downstream impacts would

be realized from a weir failure. Developed Natural Resources Conservation Service approved construction specifications for construction of the weir and newly proposed wetlands.
Project Date: ***March 2010 – Present***
Project Value – $41,847; Contract Type – LS; EA Project No. – 6241801; EA Project Manager – Tom Cook

Atlantic Wood Industries; Portsmouth, Virginia—Completed structural design calculations for four junction boxes which are connected to stormwater quality management facilities and pipes. Calculations for structural rebar adhered to American Concrete Institute Design Handbook publications. Buoyancy calculations were also performed for each junction box to ensure its stability related to the force of groundwater.
Project Date: February 2008 – June 2012
Project Value – $6,398,682; Contract Type – CPFF; EA Project No. – 1453011; EA Project Manager – Geoff Tizard

Watermark Environmental – Five Year Review; S. Weymouth, Massachusetts—Conducted the first Five-Year Review of the remedial action implemented at the U.S. Coast Guard South Weymouth Buoy Depot in South Weymouth, Massachusetts. The purpose of this first Five-Year Review was to determine whether the selected remedy is protective of human health and the environment. Completed a document review, data review, applicable or relevant and appropriate requirements review, site inspection, and interviews. Documents reviewed for this five-year review included, but were not limited to, the following: Record of Decision, Land Use Control Implementation Plan, Long-Term Monitoring Plan, Quality Assurance Project Plan, long-term monitoring reports, quarterly and annual operation and maintenance reports, and Annual Land Use Control Inspection Reports. Completed a Five-Year Review Report which summarized the review of all available materials and focused on the data obtained during routine monitoring events and operation and maintenance activities conducted during the 2006–2011 timeframe.
Project Date: April–August 2011
Project Value – $33,364; Contract Type – LS; EA Project No. – 6253401; EA Project Manager – Dick Waterman

Igus, Inc. Phase I; East Providence, Rhode Island—Assess available data from U.S. Geological Surveys, Natural Resources Conservation Service soil surveys, and Federal Emergency Management Agency flood maps to adequately describe the Igus site. Review environmental record sources, historical use information sources, and physical setting sources for indicators of recognizable environmental conditions in accordance with ASTM E-1527-05. Conduct site surveys/investigations and interviews with past and present owners/occupants. Prepared Phase I technical report which identified recognized environmental conditions to be addressed in the Phase II Environmental Site Investigation. Prepared Phase II technical report.
Project Date: February–December 2011
Project Value – $17,710; Contract Type – LS; EA Project No. – 6250601; EA Project Manager – Frank Postma

Rhode Island Army National Guard Burrillville; Burrillville, Rhode Island—Assess available data from U.S. Geological Surveys, Natural Resources Conservation Service soil surveys, and Federal Emergency Management Agency flood maps to adequately describe the Rhode Island Army National Guard Burrillville site. Review environmental record sources, historical use information sources, and physical setting sources for indicators of recognizable environmental conditions in accordance with ASTM E-1527-05. Conduct site surveys/investigations and interviews with past and present owners/occupants. Prepared Phase I technical report.
Project Date: September 2010 – September 2011
Project Value – $42,300; Contract Type – LS; EA Project No. – 6202856; EA Project Manager – Frank Postma

St. Luke's School; New Canaan, Connecticut—Assess available data from U.S. Geological Surveys, Natural Resources Conservation Service soil surveys, and Federal Emergency Management Agency flood maps to adequately describe the St. Luke's site. Review environmental record sources, historical use information sources, and physical setting sources for indicators of recognizable environmental conditions in accordance with ASTM E-1527-05. Conduct site surveys/investigations and interviews with past and present owners/occupants. Prepared Phase I technical report which identified recognized environmental conditions to be addressed in the Phase II Environmental Site Investigation. Oversaw the installation of groundwater monitoring wells and advancement of soil borings. Oversaw the underground storage tank removal. Collected soil and groundwater samples and submitted for analysis. Prepared Phase II technical report.
Project Date: October 2010 – December 2011
Project Value – $26,482; Contract Type – LS; EA Project No. – 1481901; EA Project Manager – Frank Postma

95-99 Broadway; Somerville, Massachusetts—Assess available data from U.S. Geological Surveys, Natural Resources Conservation Service soil surveys, and Federal Emergency Management Agency flood maps to adequately describe the 95-99 Broadway site. Review environmental record sources, historical use information sources, and physical setting sources for indicators of recognizable environmental conditions in accordance with ASTM E-1528-06. Conduct site surveys/investigations and interviews with past and present owners/occupants. Prepared Transaction Screen technical report.
Project Date: January–February 2011
Project Value – $1,800; Contract Type – LS; EA Project No. – 1471803; EA Project Manager – Frank Postma

Cranston Paint Works; Webster, Massachusetts—Assess available data from U.S. Geological Surveys, Natural Resources Conservation Service soil surveys, and Federal Emergency Management Agency flood maps to adequately describe the Cranston Paint Works site. Review environmental record sources, historical use information sources, and physical setting sources for indicators of recognizable environmental conditions in accordance with ASTM E-1527-05. Conduct site surveys/investigations and interviews with past and present owners/occupants. Prepared Phase I technical report.
Project Date: September–November 2010
Project Value – $6,185; Contract Type – LS; EA Project No. – 1471802; EA Project Manager – Frank Postma

Granite Street Landfill; Worchester, Massachusetts—Collect groundwater samples via low flow sampling methods using a YSI 600XL with Flowcell, LaMotte2020, Solinst WL, GeoPump Peristaltic Pump, and Thermo OVM (10.7). Submitted samples for analysis of volatile organic compounds and metals. Monitor soil vapor wells for levels of methane, hydrogen sulfide, carbon dioxide, oxygen, volatile organic compounds, and carbon monoxide.
Project Date: October 2009 – May 2010
Project Value – $78,155; Contract Type – LS; EA Project No. – 1471101; EA Project Manager – Frank Postma

Scangas Brothers Petco Plaza; Peabody, Massachusetts—Collect groundwater samples via low flow sampling methods using a YSI 600XL w/ Flowcell, LaMotte2020, Solinst WL, GeoPump Peristaltic Pump, and Thermo OVM (10.7). Submitted samples for analysis of EPHs, sulfates, nitrates, and metals.
Project Date: September 2009 – December 2011
Project Value – $311,545; Contract Type – LS; EA Project No. – 1470302; EA Project Manager – Frank Postma

Second Street Metals Stormwater Pollution Prevention Plan; Everett, Massachusetts—Wrote a Stormwater Pollution Prevention Plan for the Second Street Iron and Metals facility in Everett, Massachusetts. The Stormwater Pollution Prevention Plan includes a brief description of facility operations, a discussion of surface water drainage patterns at the site, an assessment of potential stormwater pollution sources, selected management practices for prevention of stormwater pollution, and a schedule for implementation of the management practices and for employee training in the implementation of the Stormwater Pollution Prevention Plan. The objectives of this Stormwater Pollution Prevention Plan were to protect the environmental surroundings of the Site and to identify, minimize, and control the potential for release of pollutants into the nearby Mystic River, a Stage 5 Impaired Water which requires a Total Maximum Daily Load.
Project Date: August 2010 – December 2011
Project Value – $24,230; Contract Type – LS; EA Project No. – 1478001; EA Project Manager – Frank Postma

General Dynamics Electric Boat Air Toxics Monitoring; North Kingstown, Rhode Island—Collected 8-hour air samples from 11 locations in the General Dynamics Electric Boat Hi-Bay facility. Recorded sample locations and measured vent fan dimensions and air velocities for input in the electronic model. Researched example Title V permits for sites with comparable conditions to the Electric Boat site. Created a benchmark data matrix for reference.
Project Date: February–July 2011
Project Value – $198,635; Contract Type – LS; EA Project No. – 1485001; EA Project Manager – Bob Newman

Health and Safety Statistical Analyses and Geographic Information System; Groton, Connecticut—Performed detailed statistical analyses of groundwater monitoring data for three sites at a Naval Submarine Base in Groton, Connecticut. The statistical analysis compared downgradient well concentrations to upgradient well concentrations for several contaminants of concern. Tests performed included the following: Two-Sample Test of Proportions, Parametric or Non-Parametric Analysis of Variance, Shapiro-Wilk Test of Normality, Levene's Test of Homogeneity of Variance, and the Mann-Kendall Trend Analysis. Statistical results were summarized in a report which included data tables and temporal plots for each contaminant of concern.
Project Date: November 2010 – March 2011
Project Value – $13,645; Contract Type – LS; EA Project No. – 6249301; EA Project Manager – Frank Postma

Industrial Support Detachment South Weymouth Buoy Depot; South Weymouth, Massachusetts—Completed a Five-Year Review of the U.S. Coast Guard Buoy Depot site which included the following tasks: document review, data review, Applicable or Relevant and Appropriate Requirements review, site inspection, and interviews. Documents reviewed for this five-year review included, but were not limited to, the following: Record of Decision, Land Use Control Implementation Plan, Long-Term Monitoring Plan, Quality Assurance Project Plan, long-term monitoring reports, quarterly and annual operation and maintenance reports, and Annual Land Use Control Inspection Reports.
Project Date: April–August 2011
Project Value – $33,364; Contract Type – LS; EA Project No. – 6171026; EA Project Manager – Dick Waterman

U.S. Coast Guard Phase Is and Phase IIs Lighthouses; Multiple Sites throughout the State of Rhode Island—Completed an Engineering Evaluation and Cost Analysis and Action Memorandum for the U.S. Coast Guard Watch Hill Light Station in Westerly, Rhode Island.
Project Date: June 2007 – September 2011
Project Value – $529,458; Contract Type – LS; EA Project No. – 6171026; EA Project Manager – Dick Waterman

Ponkapoag Golf Course Restoration; Canton, Massachusetts—This project consists of storm damage repairs and irrigation pond design for the Ponkapoag Golf Course in Canton, Massachusetts. Assisted in design of pre-cast concrete bridge crossing, irrigation pond, and replacement weir. Developed engineering cost estimate, performed structural calculations for the bridge and weir footings, and assisted in development of engineering drawings and specifications.
Project Date: January 2008 – Present
Project Value – $733,854; Contract Type – LS; EA Project No. – 1455701; EA Project Manager – Sam Whitin

Hernwood Sanitary Landfill; Baltimore County, Maryland—This project consists of the construction of a seep remediation system in Baltimore County, Maryland for the Department of Public Works Bureau of Solid Waste Management. Assisted in pipe, pipe support, and pump design and developed an engineering cost estimate for project construction. Assisted in design of manholes to contain pumping equipment and designed a foundation pad to counteract buoyant forces on the manhole.
Project Date: September 2007 – Present
Project Value – $1,865,284; Contract Type – LS; EA Project No. – 1454601; EA Project Manager – Tom Reilly

Westerly Wind Stage 1 Preliminary Evaluation Wind Turbine Feasibility Study; Westerly, Rhode Island—Task Manager for this project which consists of six tasks that determined the feasibility of erecting a wind turbine in Westerly, Rhode Island. Performed Fatal Flaw Analysis of Town property and narrowed the 151 possible sites down to 12. Analyzed flyway/wildlife, soils, and topography maps; evaluated energy usage and performed an economic analysis of the Project. Completed a Stage 1 evaluation that investigated and ranked seven sites as options for installation of a turbine, and recommended up to three sites for a future Stage 2 Detailed Analysis of Site Alternatives. Sites were evaluated based on power production potential, economic/financial models, and environmental considerations.
Project Date: October 2009 – August 2010
Project Value – $25,000; Contract Type – LS; EA Project No. – 6216602; EA Project Manager – Tom Cook, PE

New Hampshire Stream Crossing Project; Multiple Sites throughout the State of New Hampshire; Natural Resources Conservation Service—Task Manager for this project which consists of three project phases for stream crossing designs in Farmington, Strafford, and Chichester, New Hampshire. Performed hydrologic and hydraulic analyses for the Phase 1 Site Investigations and Preliminary Design. Prepared Phase 1 technical reports to assess foundation conditions, stream geometries, and bridge/culvert specifications. Performed structural calculations for the Phase 2 Final Design. Prepared Phase 2 technical reports to assess the final stream geometries and bridge specifications. Future task is the Phase 3 Engineering Services during Construction which will include the initial site layout, quantity surveys, and final "as-built" conditions.
Project Date: October 2009 – December 2010
Project Value – $72,394; Contract Type – LS; EA Project No. – 622349; EA Project Manager – Tom Cook, PE

McCloud-Pit Project Environmental Impact Statement; Shasta County, California—This project analyzes the use of water resources in the McCloud River and Pit River basins to generate power, estimates the economic benefits of the McCloud-Pit facilities, and estimates the cost of various environmental measures and the effects of these measures on project operation. Worked closely with Federal Energy Regulatory Commission personnel to analyze the economic viability of the project. Prepared the Developmental Analysis section of the report, including the power and economic benefits of the Project and a comparison of alternatives.
Project Date: September 2009 – March 2011
Project Value – $465,651; Contract Type – CPM; EA Project No. – 1468603; EA Project Manager – Jeff Elseroad

EA/Helber Hastert & Fee Hydroelectric Power Alternatives; Honolulu, Hawaii—This project analyzes 165 potential hydropower sites on the islands of Hawaii using available data from sources such as U.S. Geological Survey and the Idaho National Laboratory. Used formulas derived by Idaho National Laboratory to estimate project construction, mitigation, and operation and maintenance costs for all projects without available cost data. Calculated capacity and incremental annual energy for all sites not previously defined by available data sources. Evaluated all 165 sites for their hydropower potential by calculating a total cost for energy.
Project Date: ***October 2009 – July 2010***
Project Value – $186,297; Contract Type – LS; EA Project No. – 6226902; EA Project Manager – Scott Moncrief

Preliminary Response Action – Lincoln, Lace, and Braid Site; Providence, Rhode Island—This project consists of the construction of an engineered cap to prevent direct exposure to fill material containing contaminant levels above the Rhode Island Department of Environmental Management Residential Direct Exposure Criteria. Performed calculations to ensure that the volume of fill cut from the floodplain exceeded the volume of fill placed in the floodplain (as part of the cap design). Designed a grading plan for the volume of fill cut from the floodplain to be placed onsite. Designed a series of check dams along the sluiceway to increase aeration of the water and address the iron oxide aesthetic issues related to the project.
Project Date: ***January 2007 – August 2010***
Project Value – $103,900; Contract Type – LS; EA Project No. – 6189105; EA Project Manager – Frank Postma

Oxbows Restoration Project; Cranston, Rhode Island; U.S. Department of Agriculture–Natural Resources Conservation Service—This project aims to restore the oxbows along the Pawtuxet River to their historical condition. Performed a Shields analysis on four sediment samples taken from the proposed oxbow connection channels, calculating shears and velocities for both existing and proposed conditions at various depths of water. Created profiles and cross-sections of the proposed connection channels on the design drawings.
Project Date: May 2009 – July 2010
Project Value – $107,897; Contract Type – LS; EA Project No. – 6213023; EA Project Manager – Sam Whitin

Pawtuxet River Restoration and Partial Dam Removal; Warwick, Rhode Island—This project aims to restore fish passage up the Pawtuxet River through the partial removal of the Pawtuxet dam. Updated the HEC-RAS analysis and performed weir calculations for the remaining portion of the dam. Created profiles and cross-sections of the Pawtuxet River on the design drawings.
Project Date: October 2008 – Present
Project Value – $157,573; Contract Type – CPM; EA Project No. – 6227701; EA Project Manager – Sam Whitin

Steel Yard Environmental Consulting; Providence, Rhode Island—This project consists of the construction of an engineered multi-cap system to prevent direct exposure to fill material containing contaminant levels above the Rhode Island Department of Environmental Management Industrial/Commercial Direct Exposure Criteria. Prepared the Remedial Action Closure Report.
Project Date: March 2008 – Present
Project Value – $23,200; Contract Type – CPM; EA Project No. – 1457401; EA Project Manager – Frank Postma

Massachusetts Department of Conservation and Recreation Dam Maintenance Program; Massachusetts—This project involves the preparation and submittal of the Chapter 253 Dam Safety Permit for the George H. Nichols Multipurpose Dam Rehabilitation Project. Prepared permit application through evaluation of existing design reports and design drawings.
Project Date: May 2010 – Present
Project Value – $150,000; Contract Type – CPM; EA Project No. – 1475601; EA Project Manager – Sam Whitin

Other Project Experience

Low Impact Development System Performance Analysis—Evaluated the performance of various components in a typical low impact development system, including a bioswale, rain garden, and green roof. Co-wrote a technical monitoring report on the company's water quality swale using both hydrologic and SCS Curve Number methods.

Sediment Transport Studies—Conducted field experiments at Snakeden Branch Stream in Virginia to study general sediment transport patterns in natural flow systems. Restructured approach to the research methods, making it more practical to obtain relevant data quickly, and decreased costs of the project by simplifying measurement techniques and eliminating the need for a survey technician.

Employment History

Employer—EA Engineering, Science, and Technology, Inc.
Dates of Employment—August 2009 – Present
Title—Engineer I

Employer—Wetland Studies and Solutions, Inc.
Dates of Employment—August–December 2007; May–August 2008
Title—Engineering CO-OP

List of Technical Skills and Specializations

- Adobe Photoshop
- AutoCAD Civil 3D
- BOSS DAMBRK
- HEC-RAS
- HY8
- Hydraflow Express
- Matlab
- Microsoft Office (Excel, PowerPoint, Outlook, Word)
- Minitab
- Technical Release 20
- Technical Release 55

Attachment H – DEEP Natural Diversity Database Letter & Agency Response

WALLINGFORD
ENERGY II

400 Chesterfield Center, Suite 110
St. Louis, MO 63017

March 26, 2015

Central Permit Processing Unit
Department of Energy & Environmental Protection
79 Elm Street
Hartford, CT. 06106-5127

Subject: Wallingford Energy II, LLC
Wallingford Peaking Station Expansion
Natural Diversity Data Base Review Request

Dear Environmental Reviewer,

Please find enclosed a completed Natural Diversity Data Base Review Request Form in support of Wallingford Energy II, LLC's (WEII) Wallingford Peaking Station Expansion Project. Mapping provided in support of the form includes Attachment A, which provides a site location map created from the USGS Wallingford, CT Quadrangle map; Attachment B, a site aerial illustrating existing conditions at the project site located at 115 John Street; and Figure 1, a preliminary site plan.

WEII has reviewed the December 2014 version of the Department of Environmental Protection's "State and Federal Listed Species and Significant Natural Communities" (NDDB) map and has determined that the project site is not located within a "shaded area" that depicts known locations of endangered or threatened species and significant natural communities. However, the project site is abutted by a shaded area, so in the interest of enhanced environmental diligence, Wallingford Energy II is submitting this request for review.

A brief description of the proposed project, which is further detailed in the data base review request form, is provided below.

WEII is proposing to install and operate two 50-megawatt (nominal) simple cycle electric generating units (Project) at an existing generating facility owned and operated by an affiliate, Wallingford Energy, LLC in Wallingford. The existing facility and Project are located off John Street in the Town of Wallingford, Connecticut, as shown on the Overview Map included as Attachment A. Wallingford Energy, LLC currently leases approximately 8.5 acres for the existing facility which will be sufficient for the Project. The physical footprint of the existing facility covers approximately 4.3 acres of the site; the Project will utilize approximately 0.9 additional acres of land area on the overall property for the Project's two new generating units. Additionally, portions of the project site will be used for minor relocations of existing equipment and the addition of new Project equipment, such as a natural gas compressor and generator step-up transformer. The detailed site map, included as Attachment B, as well as the preliminary site plan, provided as Figure 1, provide additional details about the Project.

If there are any questions, or if more information is required to support the review of this request, please do not hesitate to contact Brandon Pollpeter at (636) 534-3216 or bpollpeter@lspower.com.

Sincerely,

Brandon Pollpeter
Environmental Engineer

Connecticut Department of
Energy & Environmental Protection
Bureau of Natural Resources
Wildlife Division

CPPU USE ONLY
App #:_____
Doc #:_____
Check #: No fee required
Program: Natural Diversity Database Endangered Species
Hardcopy _____ Electronic _____

Request for Natural Diversity Data Base (NDDB) State Listed Species Review

Please complete this form in accordance with the instructions (DEEP-INST-007) to ensure proper handling of your request.
There are no fees associated with NDDB Reviews.

Part I: Preliminary Screening & Request Type

Before submitting this request, you must review the most current Natural Diversity Data Base "State and Federal Listed Species and Significant Natural Communities Maps" found on the DEEP website. These maps are updated twice a year, usually in June and December.

Does your site, including all affected areas, fall in an NDDB Area according to the map instructions:

☐ Yes ☒ No **Enter the date** of the map reviewed for pre-screening: **December 2014**

This form is being submitted for a :

☒ *New* NDDB request ☐ *Renewal/Extension* of a NDDB Request, ***without*** *modifications and within* ***one year*** *of issued NDDB determination* (no attachments required) [*CPPU Use Only - NDDB-Listed Species Determination* # 1736]	☐ *New* **Safe Harbor Determination** (optional) must be associated with an application for a GP for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities ☐ *Renewal/Extension* of an existing Safe Harbor Determination ☐ With modifications ☐ Without modifications (no attachments required) [*CPPU Use Only - NDDB-Safe Harbor Determination* # 1736]
Enter NDDB Determination Number for Renewal/Extension:	Enter Safe Harbor Determination Number for Renewal/Extension:

Part II: Requester Information

***If the requester is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, the name shall be stated **exactly** as it is registered with the Secretary of State. Please note, for those entities registered with the Secretary of State, the registered name will be the name used by DEEP. This information can be accessed at the Secretary of the State's database CONCORD.*
(www.concord-sots.ct.gov/CONCORD/index.jsp)

If the requester is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).

If there are any changes or corrections to your company/facility or individual mailing or billing address or contact information, please complete and submit the Request to Change company/Individual Information to the address indicated on the form.

1. Requester*

Company Name: **Wallingford Energy II, LLC**

Contact Name: **Brandon Pollpeter**

Address: **400 Chesterfield Center, Suite 110**

City/Town: **Chesterfield** State: **MO** Zip Code: **63017**

Business Phone: **(636) 532-2200** ext.

E-mail: **bpollpeter@LSPower.com

**By providing this email address you are agreeing to receive official correspondence from the department, at this electronic address, concerning this request. Please remember to check your security settings to be sure you can receive emails from "ct.gov" addresses. Also, please notify the department if your e-mail address changes

a) Requester can best be described as:

☐ Individual ☐ Federal Agency ☐ State agency ☐ Municipality ☐ Tribal

☒ *business entity (* if a business entity complete i through iii):

i) Check type ☐ corporation ☒ limited liability company ☐ limited partnership
☐ limited liability partnership ☐ statutory trust ☐ Other:

ii) Provide Secretary of the State Business ID #: 1170798 This information can be accessed at the Secretary of the State's database (CONCORD). (www.concord-sots.ct.gov/CONCORD/index.jsp)

iii) ☐ Check here if your business is **NOT** registered with the Secretary of State's office.

b) Acting as (Affiliation), pick one:

☐ Property owner ☐ Consultant ☐ Engineer ☐ Facility owner ☒ Applicant

☐ Biologist ☐ Pesticide Applicator ☐ Other representative:

2. List Primary Contact to receive Natural Diversity Data Base correspondence and inquiries, if different from requester.

Company Name:

Contact Person: Title:

Mailing Address:

City/Town: State: Zip Code:

Business Phone: ext.

**E-mail:

Part III: Site Information

This request can only be completed for one site. A separate request must be filed for each additional site.

1. SITE NAME AND LOCATION

Site Name or Project Name: **Wallingford Energy II, LLC**

Town(s): **Wallingford**

Street Address or Location Description:
115 John Street, Wallingford, CT 06492

Size in acres, or site dimensions: **Wallingford Energy, LLC leases approximately 8.5 acres that is currently used for the facility and is proposed to be utilized by this project as well. The physical footprint of the existing facility covers approximately 4.3 acres of the 8.5-acre site; the proposed project will utilize approximately 0.9 additional acres of previously disturbed and cleared land area on the overall property for the addition of two new generating units.**

Latitude and longitude of the center of the site in decimal degrees (e.g., 41.23456 -71.68574):

Latitude: **41.44855** Longitude: **-72.8351**

Method of coordinate determination (check one):

☐ GPS ☒ Photo interpolation using CTECO map viewer ☐ Other (specify):

2a. Describe the current land use and land cover of the site.

The proposed project will be located within the existing area of land leased by Wallingford Energy, LLC which was once the site of an oil-fired, approximetely 22.5 MW, electrical generating facility named the Alfred L. Pierce Station. This station was decommissioned in June of 2000. The two additional generating units called for in the proposed prpoject will be sited adjacent to existing combustion turbines on the northeastern edge of the Wallingford Energy site on previously disturbed industrial property. As designated by the Town of Wallingford the project site is zoned as an Industrial District I-40. Land to the north, south and west of the project site lies within the industrial district and is mostly developed for industrial uses such as manufacturing. The Town of Wallingford's wastewater treatment plant is also within this industrial district and is located directly to the southwest of the project area. Properties to the east of the Project Site, across East Street, are zoned residential. The forested area to the west of the project area will not be disturbed in order to avoid intruision into "shaded" areas, as are depicted on maps provided by the Department of Energy and Envirnmental Protection, which may contain state or fedreally listed species.

b. Check all that apply and enter the size in acres or % of area in the space after each checked category.

☒ Industrial/Commercial 100%	☐ Residential _____	☐ Forest _____
☐ Wetland _____	☐ Field/grassland _____	☐ Agricultural _____
☐ Water _____	☐ Utility Right-of-way _____	
☐ Transportation Right-of-way _____	☐ Other (specify): _____	

Part IV: Project Information

1. PROJECT TYPE:

Choose Project Type: Commercial/Industrial development , If other describe: _____

2. Is the subject activity limited to the maintenance, repair, or improvement of an existing structure within the existing footprint? ☐ Yes ☒ No If yes, explain.

Part IV: Project Information (continued)

3. Give a detailed description of the activity which is the subject of this request and describe the methods and equipment that will be used. Include a description of steps that will be taken to minimize impacts to any known listed species.

Wallingford Energy II, LLC (WEII) is proposing to install and operate two 50-megawatt (nominal) simple cycle electric generating units (Project) at an existing generating facility (Facility) owned and operated by an affiliate, Wallingford Energy, LLC in Wallingford. The existing facility and Project are located off John Street in the Town of Wallingford, Connecticut, as shown on the Overview Map included as Attachment A. Wallingford Energy, LLC currently leases approximately 8.5 acres for the existing Facility which will be sufficient for the Project. The physical footprint of the existing Facility covers approximately 4.3 acres of the site; the Project will utilize approximately 0.9 additional acres of land area on the overall property for the Project's two new generating units. Additionally, portions of the project site will be used for minor relocations of existing equipment and the addition of new Project equipment, such as a natural gas compressor and generator step-up transformer. The detailed site map, provided as Attachment B as well as the preliminary site plan, provided as Figure 1, provide additional details about the Project.

The Project Site is zoned industrial, designated by the Town of Wallingford as an Industrial District I-40. Land to the north, south and west of the Project site lies within the industrial district and is mostly developed for industrial uses such as manufacturing. The Town of Wallingford's wastewater treatment plant is also located within this industrial district and lies directly adjacent to the Facility. Properties to the east of the Project Site, across East Street, are zoned residential. Landscaped berms line eastern and northern portions of the Project Site to help screen views from non-industrial properties.

The existing Facility consists of five General Electric LM6000 natural gas-fired combustion turbine units and associated equipment, with a total output of approximately 225 MW during summer conditions. A preliminary site plan is included as Figure 1, illustrating the general layout of the existing Facility and proposed Project.

The Facility is electrically connected via two existing 115kV gen-tie lines to the adjacent Wallingford 13M substation owned by the Wallingford Electric Division. The existing interconnection will be modified slightly to accommodate the Project. Fuel for the Facility's combustion turbines is supplied by an existing 12-inch diameter natural gas pipeline lateral connected to 10-inch and 16-inch pipelines within the Algonquin Gas Transmission Company system. The natural gas delivery system is expected to be sufficient for the Project with minor modifications on the project site. The Project will share the Facility's electrical and gas interconnections, as well as much of the Facility's equipment.

Wallingford Energy, LLC has been operating the Facility since March 2011 when it was purchased from PPL Corporation. The Facility originally entered service in 2001 on the former site of the Alfred L. Pierce Station, an approximately 22.5 MW coal-fired steam electric generation facility dating from 1953 that was later converted to oil-firing.

The proposed Project's two additional combustion turbines will be aeroderivative combustion turbines, each with a nominal rating of approximately 50 MW. These units will be efficient, simple-cycle peaking units with fast-start capability. These characteristics provide several benefits. Such units can be offline while providing 10 and 30 minute reserves in the ISO-NE market, rather than continuously operating at low load to be able to respond timely to increased demand or system contingencies.

The units proposed to be added, Units 6 and 7, will be installed northeast of the existing Facility's Units 1-5, in an area which is previously disturbed and currently mostly unused by the Facility. The two turbines to be employed in the Project proposed by WEII will fire only natural gas, pursuant to agreements made with the Town of Wallingford and PPL Wallingford.

Emission controls implemented by WEII will include catalytic oxidation and selective catalytic

reduction (SCR) systems. An air permit application has been submitted to the Connecticut Department of Energy and Environmental Protection demonstrating that the Project complies with all applicable ambient air quality standards.

The proposed Project will only include disturbance to previously disturbed and cleared industrial-zoned land; there will be no disturbance to any area identified on DEEP maps as a "shaded area" indicating potential to hold protected species. To prevent sedimentation or erosion impacts to offsite areas during construction, WEll will comply with all applicable provisions of the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (DEEP-WPED-GP-015), including implementation of a Stormwater Pollution Control Plan. During operations, the changes associated with the Project will be incorporated into the existing Stormwater Pollution Prevention Plan as required under the General Permit for the Discharge of Stormwater Associated with Industrial Activity (DEEP-WPED-GP-014).

4. If this is a renewal or extension of an existing Safe Harbor request *with* modifications, explain what about the project has changed.

5. Provide a contact for questions about the project details if different from Part II primary contact.

   Name:

   Phone:

   E-mail:

Part V: Request Requirements and Associated Application Types

Check *one* box from either Group 1, Group 2 *or* Group 3, indicating the appropriate category for this request.

Group 1. If you check one of these boxes, complete Parts I – VII of this form and submit the required attachments A and B.

- ☒ Preliminary screening was negative but an NDDB review is still requested
- ☐ Request regards a municipally regulated or unregulated activity (no state permit/certificate needed)
- ☐ Request regards a preliminary site assessment or project feasibility study
- ☐ Request relates to land acquisition or protection
- ☐ Request is associated with a *renewal* of an existing permit, with no modifications

Group 2. If you check one of these boxes, complete Parts I – VII of this form and submit required attachments A, B, *and* C.

- ☐ Request is associated with a *new* state or federal permit application
- ☐ Request is associated with modification of an existing permit
- ☐ Request is associated with a permit enforcement action
- ☐ Request regards site management or planning, requiring detailed species recommendations
- ☐ Request regards a state funded project, state agency activity, or CEPA request

☐ **Group 3.** If you are requesting a **Safe Harbor Determination**, complete Parts I-VII and submit required attachments A, B, and D. Safe Harbor determinations can only be requested if you are applying for a GP for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

If you are filing this request as part of a state or federal permit application(s) enter the application information below.

Permitting Agency and Application Name(s):
CT DEEP General Permit Registration Form for Minor Non-contact Cooling and Heat Pump Water

State DEEP Application Number(s), if known: **GCW050008 - App. # 200103792**

State DEEP Enforcement Action Number, if known: _____

State DEEP Permit Analyst(s)/Engineer(s), if known: _____

Is this request related to a previously submitted NDDB request? ☒ Yes ☐ No

If yes, provide the previous NDDB Determination Number(s), if known: _____

Part VI: Supporting Documents

Check each attachment submitted as verification that *all* applicable attachments have been supplied with this request form. Label each attachment as indicated in this part (e.g., Attachment A, etc.) and be sure to include the requester's name, site name and the date. **Please note that Attachments A and B are required for all new requests and Safe Harbor renewals/extensions with modifications.** Renewals/Extensions with no modifications do not need to submit any attachments. Attachments C and D are supplied at the end of this form.

☒ Attachment A:	**Overview Map:** an 8 1/2" X 11" print/copy of the relevant portion of a USGS Topographic Quadrangle Map clearly indicating the exact location of the site.
☒ Attachment B:	**Detailed Site Map:** fine scaled map showing site boundary and area of work details on aerial imagery with relevant landmarks labeled. (Site and work boundaries in GIS [ESRI ArcView shapefile, in NAD83, State Plane, feet] format can be substituted for detailed maps, see instruction document)
☐ Attachment C:	**Supplemental Information, Group 2 requirement (attached, DEEP-APP-007C)** ☐ Section i: Supplemental Site Information and supporting documents ☐ Section ii: Supplemental Project Information and supporting documents
☐ Attachment D:	**Safe Harbor Report Requirements, Group 3 (attached, DEEP-APP-007D)**

Part VII: Requester Certification

The requester *and* the individual(s) responsible for actually preparing the request must sign this part. A request will be considered incomplete unless all required signatures are provided.

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief."

Signature of Requester (a typed name will substitute for a handwritten signature)	**3-26-2015** Date
Brandon Pollpeter Name of Requester (print or type)	**Environmental Engineer** Title (if applicable)
Signature of Preparer (if different than above)	Date
Name of Preparer (print or type)	Title (if applicable)

Note: Please submit the completed Request Form and all Supporting Documents to:

CENTRAL PERMIT PROCESSING UNIT
DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

Or email request to: **deep.nddbrequest@ct.gov**

Attachment C: Supplemental Information, Group 2 requirement

Section i: Supplemental Site Information

1. Existing Conditions

Describe all natural and man-made features including wetlands, watercourses, fish and wildlife habitat, floodplains and any existing structures potentially affected by the subject activity. Such features should be depicted and labeled on the site plan that must be submitted. Photographs of current site conditions may be helpful to reviewers.

☐ **Site Photographs (optional) attached**

☐ **Site Plan/sketch of existing conditions attached**

2. Biological Surveys

Has a biologist visited the site and conducted a biological survey to determine the presence of any endangered, threatened or special concern species ☐ Yes ☒ No

If yes, complete the following questions and submit any reports of biological surveys, documentation of the biologist's qualifications, and any NDDB survey forms.

Biologist(s) name: _____

Habitat and/or species targeted by survey: _____

Dates when surveys were conducted: _____

☐ **Reports of biological surveys attached**

☐ **Documentation of biologist's qualifications attached**

☐ **NDDB Survey forms for any listed species observations attached**

Section ii: Supplemental Project Information

1. Provide a schedule for all phases of the project including the year, the month and/or season that the proposed activity will be initiated and the duration of the activity.

2. Describe and quantify the proposed changes to existing conditions and describe any on-site or off-site impacts. In addition, provide an annotated site plan detailing the areas of impact and proposed changes to existing conditions.

☐ **Annotated Site Plan attached**

Attachment D: Safe Harbor Report Requirements

Submit a report, as Attachment D, that synthesizes and analyzes the information listed below. Those providing synthesis and analysis need appropriate qualifications and experience. A request for a safe harbor determination shall include:

1. **Habitat Description and Map(s), including GIS mapping overlays, of a scale appropriate for the site, identifying:**

    - wetlands, including wetland cover types;
    - plant community types;
    - topography;
    - soils;
    - bedrock geology;
    - floodplains, if any;
    - land use history; and
    - water quality classifications/criteria.

2. **Photographs** - The report should include photographs of the site taken from the ground and also all reasonably available aerial or satellite photographs and an analysis of such photographs.

3. **Inspection** - A visual inspection(s) of the site should be conducted, preferably when the ground is visible, and described in the report. This inspection can be helpful in confirming or further evaluating the items noted above.

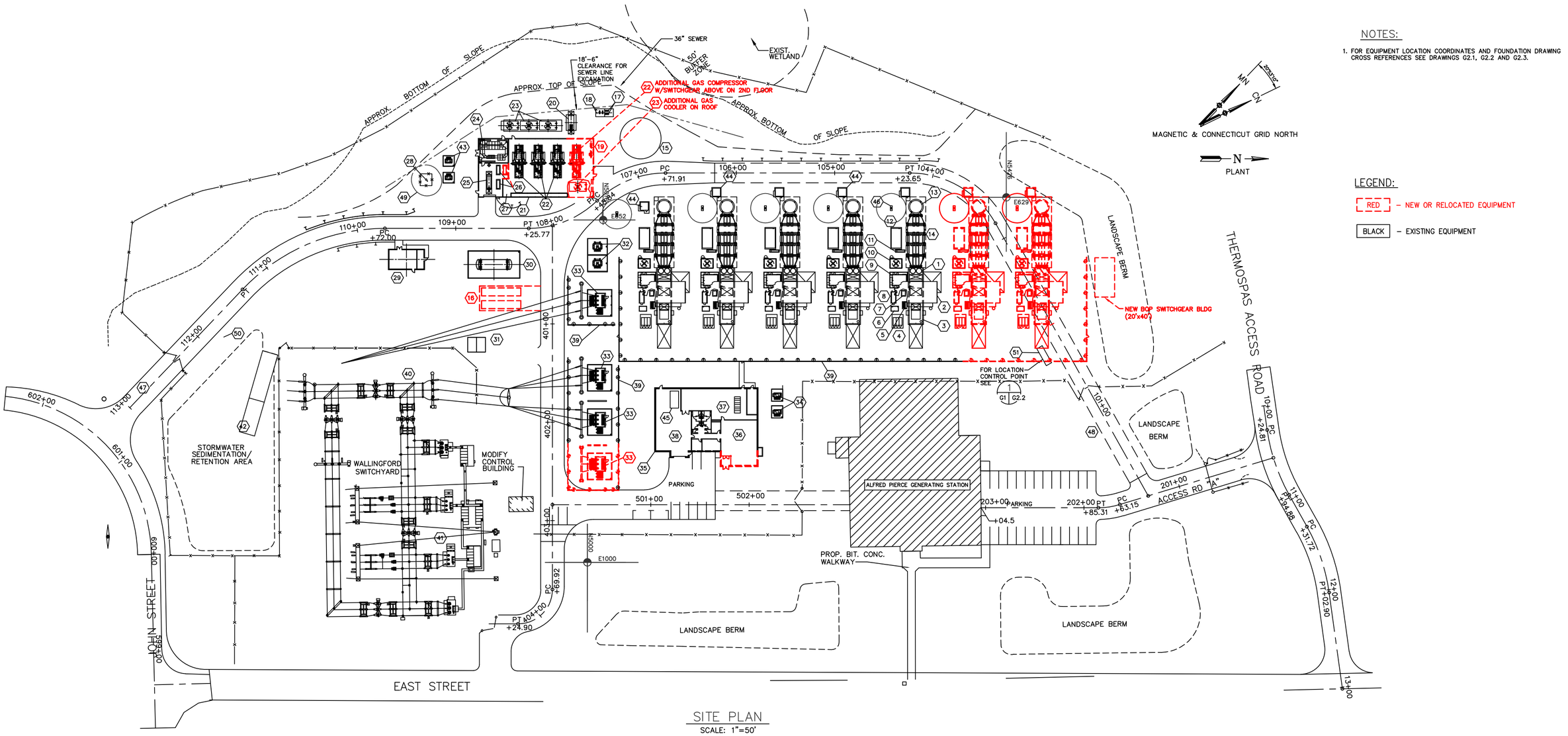
4. **Biological Surveys** - The report should include all biological surveys of the site where construction activity will take place that are reasonably available to a registrant. A registrant shall notify the Department's Wildlife Division of biological studies of the site where construction activity will take place that a registrant is aware of but are not reasonably available to the registrant.

5. **Based on items #1 through 4 above, the report shall include a Natural Resources Inventory of the site of the construction activity.** This inventory should also include a review of reasonably available scientific literature and any recommendations for minimizing adverse impacts from the proposed construction activity on listed species or their associated habitat.

6. **In addition, to the extent the following is available at the time a safe harbor determination is requested, a request for a safe harbor determination shall include and assess:**

    - Information on Site Disturbance Estimates/Site Alteration information
    - Vehicular Use
    - Construction Activity Phasing Schedules, if any; and
    - Alteration of Drainage Patterns

Figure 1: Preliminary Site Plan



SITE PLAN
SCALE: 1"=50'

LEGEND:

TYPICAL FOR FIVE UNITS

1. LM6000 COMBUSTION TURBINE
2. TURBINE AIR INTAKE ASSEMBLY
3. GENERATOR
4. GENERATOR BREAKER
5. FIRE PROTECTION SKID
6. FOGGING SKID
7. SPRINT SYSTEM SKID
8. NOx WATER INJECTION SKID
9. AUXILIARY SKID
10. LUBE OIL COOLER
11. AMMONIA INJECTION GRID
12. AMMONIA SKID
13. STACK
14. SCR/CO CATALYST SYSTEM
15. DI WATER STORAGE TANK
16. LEASED DI WATER SYSTEM
17. DI WATER TRANSFER PUMPS
18. DI TANK HEATER CIRCULATING PUMPS
19. NATURAL GAS HEATER
20. BLACK START GENERATOR
21. GAS COMPRESSOR BUILDING
22. NATURAL GAS COMPRESSOR
23. NATURAL GAS COMPRESSOR RECYCLE COOLERS
24. BALANCE OF PLANT ELECTRICAL EQUIPMENT ROOM
25. ANTI-ICING HOT WATER GENERATOR
26. ANTI-ICING HOT WATER CIRCULATION PUMPS
27. ANTI-ICING SYSTEM EXPANSION TANK
28. NATURAL GAS METER STATION BLOW-OFF VENTS
29. NATURAL GAS METERING STATION
30. AMMONIA STORAGE TANKS
31. ELECTRICAL VAULT
32. AUXILIARY TRANSFORMER 13.8KV–4.16KV
33. STEP-UP TRANSFORMER 230KV–13.1KV
34. AUXILIARY TRANSFORMER 13.8KV–480V (ONE SPARE)
35. PLANT OPERATIONS BUILDING
36. CONTROL ROOM
37. ELECTRICAL EQUIPMENT ROOM
38. MAINTENANCE SHOP/WAREHOUSE
39. SOUND WALL
40. WALLINGFORD ENERGY PROJECT SWITCHYARD
41. WALLINGFORD SWITCHYARD
42. STORMWATER SEDIMENTATION/RETENTION AREA
43. BALANCE OF PLANT AUXILIARY TRANSFORMER 13.8KV–480V
44. CEMS
45. PLANT AIR COMPRESSOR ASSEMBLY SKID
46. TURBINE FUEL GAS FILTER (TYP. FOR 5 UNITS)
47. PLANT MAIN ENTRANCE
48. PLANT EMERGENCY ACCESS ENTRANCE
49. CLASS 1, DIVISION 2 HAZARDOUS AREA (TYP.)
50. OIL/WATER SEPARATOR
51. WASTE WATER TANK

GRAPHIC SCALE
1" = 50'–0"
0' 25' 50' 100' 150'

REV	DATE	DESCRIPTION	DR	DS	CH	LE	PE
0	10-27-14	ISSUED FOR BUDGET ESTIMATE	BJW				

PARSONS BRINCKERHOFF

LS POWER DEVELOPMENT, LLC

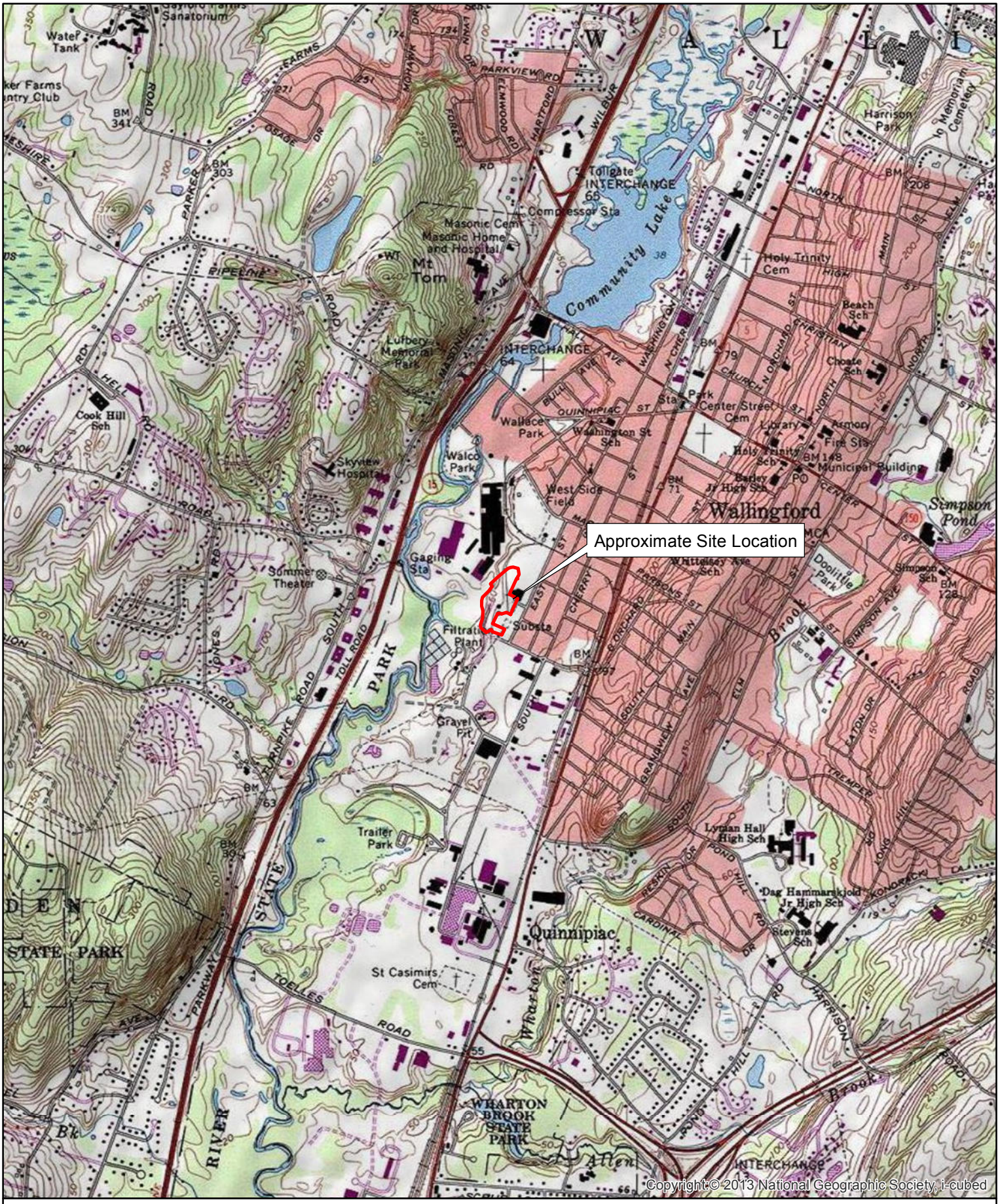
WALLINGFORD EXPANSION PROJECT

PROFESSIONAL ENGINEER STAMP

SITE PLAN

SCALE: AS NOTED	DRAWING NO. G1	REV 0
PROJ No:	SHT. No:	

$FILEL$ $TIME$ $DATE$ INSTR ELECT MECH STRUCT CIVIL REVIEWER



Legend

Approximate Site Location

0 1,000 2,000

Feet

Scale = 1:24,000

N

ATTACHMENT A

Overview Map

Legend

- Approximate Site Boundary
- Potential Lay Down Area
- Natural Diversity Area

0 100 200

Feet

Scale = 1:2,400

N

ATTACHMENT B

Detailed Site Map

Connecticut Department of

ENERGY &
ENVIRONMENTAL
PROTECTION

April 7, 2015

Brandon Pollpeter
Wallingford Energy, LLC
400 Chesterfield Road, Suite 110
Oakdale, CT 06370
bpollpeter@lspower.com

Project: Addition of Two New Generation Units at Wallingford Energy II, LLC Located at 115 John Street in Wallingford
NDDB Determination No.: 201502345

Dear Brandon Pollpeter,

I have reviewed Natural Diversity Data Base (NDDB) maps and files regarding the area delineated on the map provided for the proposed Addition of Two New Generation Units at Wallingford Energy II, LLC Located at 115 John Street in Wallingford, Connecticut. I do not anticipate negative impacts to State-listed species (RCSA Sec. 26-306) resulting from your proposed activity at the site based upon the information contained within the NDDB. The result of this review does not preclude the possibility that listed species may be encountered on site and that additional action may be necessary to remain in compliance with certain state permits. This determination is good for one year. Please re-submit an NDDB Request for Review if the scope of work changes or if work has not begun on this project by April 7, 2016.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

Please contact me if you have further questions at (860) 424-3592, or dawn.mckay@ct.gov . Thank you for consulting the Natural Diversity Data Base.

Sincerely,

Dawn M. McKay

Dawn M. McKay
Environmental Analyst 3

Attachment I – Authorization and Consent to Submit Applications for Permits and Approvals

AUTHORIZATION AND CONSENT TO SUBMIT APPLICATIONS FOR PERMITS AND APPROVALS

RECITALS

WHEREAS, the Town of Wallingford is a duly organized municipality in the State of Connecticut.

WHEREAS, Wallingford Energy, LLC and Wallingford Energy II, LLC are each Delaware limited liability companies, having an address of 400 Chesterfield Center, Suite 110, Chesterfield, Missouri 63017.

WHEREAS, the Town of Wallingford and Wallingford Energy, LLC are parties to certain agreements, including the Lease, dated March 8, 2000 (as amended from time to time, the "Lease"), whereby Wallingford Energy, LLC has a leasehold interest in certain real property in Wallingford, Connecticut, more specifically defined as the Demised Land in the Lease, which Demised Land is owned by the Town of Wallingford (the "Premises").

WHEREAS, the Town of Wallingford and Wallingford Energy, LLC are also parties to a Host Community Agreement, dated March 8, 2000 (as amended from time to time, the "Host Community Agreement"), which includes, among others, a provision in Section 3 (Development Assistance), Subsection (a) stating that "the Town agrees that upon the reasonable request of Owner [Wallingford Energy, LLC], the Town shall make Reasonable Efforts to assist the Owner in the development of the Project. Such efforts shall include, but not be limited to....assisting the Owner in connection with obtaining necessary Government Approvals required for the development and construction of the Project".

WHEREAS, Wallingford Energy II, LLC, as the intended Permitted Sublesee under the Lease, intends to make use of the Premises to expand Wallingford Energy, LLC's existing electric generating facility by the installation and operation of additional natural gas-fired electric generators and appurtenances (such expansion, the "Expansion Project").

WHEREAS, the construction and operation of the Expansion Project may require Wallingford Energy, LLC and/or Wallingford Energy II, LLC to apply for and obtain those certain permits and approvals from regulatory agencies which are provided in Exhibit A (the "Expansion Approvals"), incorporated by reference and attached hereto, which Expansion Approvals may require the authorization and consent from the fee owner of the Premises (i.e., the Town of Wallingford).

WHEREAS, the Town of Wallingford wishes to expressly grant Wallingford Energy, LLC and Wallingford Energy II, LLC the authority and consent to submit applications for and pursue issuance of the Expansion Approvals provided in Exhibit A.

WITNESSETH

NOW, THEREFORE, the Town of Wallingford hereby authorizes Wallingford Energy, LLC and Wallingford Energy II, LLC to (i) submit applications for and pursue issuance of those Expansion Approvals provided in Exhibit A, and (ii) submit copies of this document to any governing authority, regulatory department

or agency as evidence of the Town of Wallingford's consent for the same; provided, however, this express authorization shall not be interpreted as agreement by the Town of Wallingford with the contents of any such applications; and further provided, Wallingford Energy and Wallingford Energy II shall provide the Town of Wallingford with copies of any such applications concurrently with their submission to the Regulatory Department or Agency identified in Exhibit A. r .

TOWN OF WALLINGFORD

By: William Dickinson

Name: William Dickinson

Title: Mayor

Date: 7/20/15

EXHIBIT A

Permit or Approval Name	Regulatory Department or Agency
Petition to Construct Approval	Connecticut Siting Council
Air Permit/Permit to Construction and Operate	Connecticut Department of Energy and Environmental Protection
Site Plan Approval/ Special Permit	Town of Wallingford Planning and Zoning Commission
Regulated Activity Permit	Town of Wallingford Inland Wetlands and Watercourses Commission

Attachment J – IWWC Approval

Town of Wallingford, Connecticut
INLAND WETLANDS & WATERCOURSES COMMISSION

JAMES E. VITALI
CHAIRMAN

ERIN O'HARE, AICP
ENVIRONMENTAL AND NATURAL RESOURCES PLANNER

WALLINGFORD TOWN HALL
45 SOUTH MAIN STREET
WALLINGFORD, CT 06492
TELEPHONE (203) 294-2093
FAX (203) 294-2095

CERTIFIED LETTER # 7014 2120 0003 5951 4929

July 9, 2015

Wallingford Energy II, LLC
400 Chesterfield Center – Suite 110
St. Louis, MO 63017

Re: IWWC #A15-6.2 / 115 Johns Street – Wallingford Energy II, LLC – (electric generating facility expansion)

NOTICE OF DECISION

To Whom It May Concern:

Pursuant to Section 22a-42a (d) (1) of the Connecticut General Statutes and Section 11.4 of the Inland Wetlands and Watercourses Regulations of the Town of Wallingford, the Wallingford Inland Wetlands and Watercourses Commission, at its Regular Meeting, July 1, 2015, voted to:

- **Declare IWWC #A15-6.2 / 115 Johns Street – Wallingford Energy II, LLC – (electric generating facility expansion) - not a significant activity;**

and voted to:

- **Approve, with one condition, IWWC #A15-6.2 / 115 Johns Street – Wallingford Energy II, LLC – (electric generating facility expansion),** relative to the construction of two additional gas-fired combustion turbines, extension of an existing bituminous driveway with emergency entrance to an existing driveway off East Street, construction of two small buildings, and the modification of the existing outlet control structure on the existing stormwater basin to accommodate the slight increase in flows to result from the proposed improvements, as per the following documents submitted:
  - Application form dated 6/2/15, submitted 6/2/15
  - Summary Report (with drainage calculations) – "Inland Wetlands and Watercourses Permit Application - Wallingford Energy II, LLC, Wallingford, Connecticut", dated 6/2/15; submitted 6/2/15; with "Errata Sheet" regarding the Application, (4 pp.); submitted 6/25/15
  - Site plans: "Facility Expansion Project – 115 Johns Street, Wallingford, Connecticut" (5 sheets); prepared by Godfrey Hoffman Associates, LLC; dated 6/2/15; submitted 6/2/15

- Revised "Soil Erosion & Sedimentation Plan - Facility Expansion Project – 115 Johns Street, Wallingford, Connecticut"; prepared by Godfrey Hoffman Associates, LLC; dated 6/2/15, rev. 6/22/15; submitted 6/30/15
- "Stormwater Management Maintenance Plan", prepared by Wallingford Energy, LLC & Wallingford Energy II, LLC; dated 6/2/15; submitted 6/2/15; with addition 2 pages regarding riprapped swale, submitted 6/26/15.

Condition of Approval is as follows:

1. Erosion control measures are in place and meet the approval of the Environmental Planner prior to any further work being conducted onsite.

Commencement Date and Duration of Permit

You are hereby advised that the permit shall be valid until the approval granted by the Planning and Zoning Commission expires or for ten years, whichever is earlier, unless the permit is renewed by the Commission.

Giving Notice

The Permittee shall notify the Environmental Planning office (203-294-2093) prior to the commencement of work and also upon completion of work to allow for a timely final inspection. In addition, the Permittee shall immediately inform the IWWC of any problems involving wetlands or watercourses which have developed in the course of, or which are caused by, the authorized work.

Erosion Control Measures

Erosion and sedimentation control measures, as stipulated in the plan approved, must be in place and meet with the approval of the Environmental Planner prior any site disturbance and prior to commencement of any work on the property including grading and any disturbance of the soil. Timely implementation and maintenance of sediment and erosion control measures are a condition of this permit. All sediment and erosion control measures must be maintained until all disturbed areas are stabilized. Activity beyond the limits of the silt fencing installed is not permitted. Removal or relocation of the silt fencing installation will be treated as a violation of the permit.

Best Management Practices

The Permittee shall employ Best Management Practices, consistent with the terms and conditions of this permit, to control storm water discharges and to prevent erosion and sedimentation and to otherwise prevent pollution of wetlands or watercourses. For information and technical assistance, contact the Environmental Planner (203-294-2093) or the IWWC.

Storage of Equipment or Material

No equipment or material including without limitation, fill, construction materials, or debris, shall be deposited, placed, or stored in any wetland or watercourse on or off-site unless specifically authorized by this permit.

Terms and Conditions Agreement

All work and all regulated activities conducted pursuant to this authorization shall be consistent with the terms and conditions of this permit. Any structures, excavation, fill obstructions, encroachments or regulated activities not specifically identified and authorized herein shall constitute a violation of this permit and may result in its modification, suspension or revocation. Upon initiation of the activities authorized herein, the Permittee thereby accepts and agrees to comply with the terms and conditions of this permit. In evaluation of this application, the IWWC has relied on information provided by the Applicant and, if such information subsequently proves to be false, deceptive, incomplete and/or inaccurate, this permit shall be modified, suspended, or revoked.

Property Rights

This permit is subject to and does not derogate any present or future property rights or other rights or powers of the Town of Wallingford, and conveys no property rights in real estate of material or any exclusive privileges, and is further subject to any and all regulations pertinent to the property or activity affected hereby.

Transfer of Property

Should the property be transferred prior to commencement of approved activity, or during work activities, the permit must be transferred and, as per Section 11.9., written consent of the Commission is required for transfer of the permit.

For further information regarding this matter you may contact the Environmental Planner at (203) 294-2093.

Very truly yours,

James E. Vitali, Chairman,
Inland Wetlands and Watercourses Commission

CC: Casey Carroll, Project Manager, Wallingford Energy II, LLC *(by regular mail)*
James Rotondo, P.E., Godfrey Hoffman *(by regular mail)*

Attachment K – Special Permit and Site Plan Approval

Town of Wallingford, Connecticut

JAMES SEICHTER
CHAIRMAN-PLANNING & ZONING COMMISSION

KACIE A. COSTELLO, A.I.C.P.
TOWN PLANNER

WALLINGFORD TOWN HALL
45 SOUTH MAIN STREET
WALLINGFORD, CT 06492
TELEPHONE (203) 294-2090
FAX (203) 294-2095

CERTIFIED LETTER **#0003-5950-7907**

July 22, 2015

RECEIVED
JUL 31 2015
By

Wallingford Energy II, LLC
400 Chesterfield Center, Suite 110
St. Louis, MO 63017

RE: Special Permit #410-15
115 John Street, Wallingford, CT

Gentlemen:

Enclosed is a Legal Notice of Action taken by the Wallingford Planning and Zoning Commission at their meeting of Monday, July 13, 2015, on the above-referenced application.

Your application to:

Construct two (2) additional combustion turbines and appurtenant support equipment

was approved with the conditions listed on the enclosed Special Permit. Please forward to this office six (6) copies of your final, approved plan.

Should you have questions relating to this matter, please feel free to contact me in the Wallingford Planning Office at 203-294-2090.

Regards,

Kacie A. Costello
Town Planner

/ss
Enclosures
CC: James Rotondo, P.E. – Godfrey, Hoffman

Town of Wallingford, Connecticut

SPECIAL PERMIT #410-15

ISSUED TO: Wallingford Energy II, LLC

NAME: Wallingford Energy II, LLC

ADDRESS: 400 Chesterfield Center, Suite 110
St. Louis, MO 63017

ISSUED FOR: Construction of two (2) additional turbines and appurtenant support equipment

OWNER OF PROPERTY: Town of Wallingford

LEGAL DESCRIPTION
OF PROPERTY: 115 John Street

CONDITIONS OF PERMIT:

1. Comments of the Town Environmental Planner dated July 6, 2015 (copy enclosed).
2. Comments of Wallingford Water & Sewer dated July 10, 2015 (copy enclosed).*
3. Comments of the Town Planner in a letter issued July 7, 2015 (copy enclosed).
4. Final plans shall include detailed landscaping as approved by the CT Siting Council.

DATE APPROVED BY PZC: July 13, 2015

WALLINGFORD PLANNING AND ZONING COMMISSION

David A Costello

KACIE A. COSTELLO, TOWN PLANNER

***BUILDING PERMIT WILL NOT BE ISSUED UNTIL CONDITIONS ARE MET.**

Town of Wallingford, Connecticut

JAMES SEICHTER
CHAIRMAN-PLANNING & ZONING COMMISSION

KACIE A. COSTELLO, A.I.C.P.
TOWN PLANNER

WALLINGFORD TOWN HALL
45 SOUTH MAIN STREET
WALLINGFORD, CT 06492
TELEPHONE (203) 294-2090
FAX (203) 294-2095

AMENDED
LEGAL NOTICE

The Wallingford Planning and Zoning Commission, at their meeting of Monday, July 13, 2015, voted to take the following action:

They voted to approve:

1. **#409-15** – Special Permit for Marino to change from one non-conforming use to another, to convert the first floor of the building at 10-12 Judd Square from restaurant/bar use into a residential apartment.

2. **#410-15** – Special Permit (power generation) for Wallingford Energy, LLC to construct two (2) additional combustion turbines and associated equipment at 115 John Street.

3. **#503-15** – Zoning Text Amendment to Section 6.9.E.6 for Shipman & Goodwin, LLP, to increase the maximum permitted wall sign height in the I-5 (Interchange District) zone from 45 ft. to the height of the approved building structure.

4. **#408-15** – Special Permit Modification (theater) for Live Nation Worldwide Inc., to: 1) permit events in the "Dome"; 2) permit certain forms of designated parking (i.e. V.I.P and "paid" parking; and 3) modify Condition #1, Response #5 regarding Noise Level Control, by removing the condition and replacing it with conditions regarding concert curfews; for a previously approved theater at 95 South Turnpike Road (Oakdale Theater).

5. **#215-15** – Site Plan for Franceschetti for a 724.75 sq. ft. Accessory Apartment at 36 Cheshire Road.

They voted to deny:

1. **#216-15** – Site Plan for DeMartino Colony Realty, LLC to add retail use, a greenhouse addition, a processing/distribution bakery and a restaurant, and make minor modifications to the parking lot at 920 South Colony Road.

WALLINGFORD PLANNING AND ZONING COMMISSION

Armand Menard

ARMAND MENARD, SECRETARY

DATED AT WALLINGFORD
July 14, 2015

PUBLICATION DATES
July 17, 2015

Town of Wallingford, Connecticut

INLAND WETLANDS & WATERCOURSES COMMISSION

JAMES E. VITALI
CHAIRMAN

ERIN O'HARE, AICP
ENVIRONMENTAL AND NATURAL RESOURCES PLANNER

WALLINGFORD TOWN HALL
45 SOUTH MAIN STREET
WALLINGFORD, CT 06492
TELEPHONE (203) 294-2093
FAX (203) 294-2095

2D

RECEIVED
JUL - 6 2015
WALLINGFORD
PLANNING & ZONING

MEMORANDUM

To: Kacie Costello, Town Planner
From: Erin O'Hare, Environmental Planner
Date: July. 6, 2015
Subject: IWWC

Re: Report to PZC as per CGS Sec. 8-3(g) regarding applications and/or requests:

#410-15 - Special Permit (power generation) / Wallingford Energy, LLC / 115 Johns Street

IWWC #A15-6.2 / 115 Johns Street – Wallingford Energy II, LLC – (electric generating facility expansion)

This memorandum is to provide the PZC with a report from the IWWC in accordance with CGS Section 8-3(g), as amended, relative to the disposition of certain matters pending before the PZC.

At the Regular Meeting, July 1, 2015, the IWWC acted to approve IWWC #A15-6.2 / 115 Johns Street – Wallingford Energy II, LLC – (electric generating facility expansion) with one condition of approval, as follows:

1. Erosion control measures are in place and meet the approval of the Environmental Planner prior to any further work being conducted onsite.

Regulated activities proposed area as follows:

- **Section 2.1.z.2**. "*... the expansion of any surfaced area currently at or over 20,000 s.f. by a new surfaced area which totals 10,000 s.f. or more as a single or aggregate area on any property, likely to impact or affect wetlands or watercourses.*"

  Proposed net increase in surface area, 14,600 s.f.

  IMPACT: Increased flow volumes to existing detention basin

- **Section 2.1.z. 3**. *Activities within 50 feet of a wetland or watercourse, likely to impact or affect wetlands and watercourses, including, but not limited to, any clearing, grubbing, filling, grading, paving, excavating, constructing, erecting of a structure, depositing or removing of material or any indigenous vegetation, the planting of lawns or landscaping, the expansion of existing lawns or landscaping, or the discharging of storm water.*

  Proposed modification of basin outlet control structure

  IMPACT: no adverse impact

CC: James E. Vitali, Chairman, IWWC
Casey Carroll, Wallingford Energy, LLC

Town of Wallingford
Department of Public Utilities
Water & Sewer Divisions
Engineering Section
203-949-2672

2E

INTEROFFICE MEMORANDUM

TO: KACIE COSTELLO, TOWN PLANNER

FROM: ERIK KRUEGER, SENIOR ENGINEER EAK

SUBJECT: APPLICATION #410-15/WALLINGFORD ENERGY, LLC
SPECIAL PERMIT – POWER GENERATION
197 EAST STREET

DATE: JULY 10, 2015

cc: R.M.Dann; T Smith; R.C.Vanski; G.Adair; Public Utilities Commissioners; David Wilson, LS Power Development, LLC

The staff of the Water and Sewer Divisions have reviewed the plans as submitted for the subject application and this memo consolidates their comments and requirements.

There are a few water and sewer utility technical issues which need to be resolved; therefore we request that the following water and sewer utility items be made conditions of approval to be met by the applicant prior to the issuance of a building permit:

1. Submission of final water use, sewer use and "Needed Fire Flow" estimates including plumbing fixture counts and process water demands in accordance with Water and Sewer Division requirements. The size of the domestic water service and meter shall be determined by the Water Division based upon the final estimated peak water demand and/or plumbing fixture count submitted.

   The existing facility is subject to a Utility Service Agreement which limits the Town's obligation to supply water at 250 gallons per minute, 350,000 gallons per day, or 60,000,000 gallons per year. Wallingford Energy has indicated that they expect that the rate of flow specified in the Utility Service Agreement will be sufficient to provide for all needs of the expanded facility. The existing meter was sized for the flow stipulated in the Utility Service Agreement and if additional flow is required based upon the information supplied by the Owner, the Water Division will evaluate whether a larger meter or service pipe may be required.

   If the required fire flows increase due to the expansion of the facility then the Water Division may require upgrades to the fire service lines. Once the needed fire flows are submitted, the Water Division will determine if any upgrades may be required.

2. Submission of interior plumbing plans for the expansion and a "Wastewater Discharge Survey" for review by the Sewer Division and application for any

required CT-DEP Non-Domestic Wastewater Discharge Permit that may be required.

3. Submission of a revised site utility plan incorporating the following modifications and revisions subject to the final review and approval of the Water and Sewer Divisions prior to the start of construction:

    a. Eliminate the 90-degree bend at the connection to the existing 10-inch water main and use (2) 45-degree bends to make the connection. No bend larger than 45-degress shall be used. Pipe will be required to be restrained in accordance with the requirements of the Water Division. Valves shall be installed at locations to be determined by the Wallingford Water Division in order to facilitate testing of the new main.
    b. Location of the fire hydrant and fire department connection should be reviewed and approved by the Fire Marshall.
    c. The proposed "BOP Switchgear Building" must be relocated to maintain a minimum of 16 feet of separation to the municipal 24-inch sanitary sewer line in order to provide enough clearance for future maintenance and/or replacement.
    d. The clearance between the proposed gas compressor building addition and the existing private 10-inch DIP water main is shown as 5 feet at the outside of a 45 degree bend. The piping system consists of restrained joint pipe which relies to some degree on the earth surrounding it. Disturbance behind the bend by excavating for the addition could cause the pipe to pull apart. It is strongly recommended that this separation be increased to 10 feet by either moving the addition or relocating the water main.

    Note: All details and appurtenances of the water and sanitary sewer utility installations shall conform to the Technical Standards and Detail Sheets of the Town of Wallingford, Water and Sewer Divisions.

4. Posting of a Water and Sewer Utility Performance and Maintenance Bond in the amount of $10,000.00 with the Water and Sewer Divisions to cover the construction of the required realignment of the private on-site water main.

5. The Water and Sewer Divisions shall be provided emergency access through the proposed gate at the north end of the site.

Town of Wallingford, Connecticut

JAMES SEICHTER
CHAIRMAN-PLANNING & ZONING COMMISSION
KACIE A. COSTELLO, A.I.C.P.
TOWN PLANNER
WALLINGFORD TOWN HALL
45 SOUTH MAIN STREET
WALLINGFORD, CT 06492
TELEPHONE (203) 294-2090
FAX (203) 294-2095

2B

July 7, 2015

Wallingford Energy II, LLC
400 Chesterfield Center, Suite 110
St. Louis, MO 63017

RE: Special Permit Application #410-15
115 John Street, Wallingford, CT

Gentlemen:

The Wallingford Planning & Zoning Office offers the following comments on your recent submittal:

1. Please provide a full landscaping plan, showing existing and proposed landscaping and grass in the project area.
2. Is the proposed bituminous driveway one-way? It is not wide enough to be two-way. - Private Emergency Access
3. What will happen to the existing "gravel driveway" and wastewater tank through the proposed location of the new generators?
4. Is any re-grading proposed? - NO
5. What will happen to the material from the landscaped berm that is proposed to be removed? The submitted documentation seems to indicate that the berm will be modified and ~~relocated~~ – if so, please show on the plan.
6. Please provide this office with two (2) copies of the existing conditions survey.
7. Please note the adjacent property owners on the "overall site plan".
8. There appears to be an easement on the northeast side of the property, what is this for? Please label. - WTS
9. Do you have permission to do work in that area?
10. Please provide elevations and a detail with dimensions for the new generators and the other buildings/additions.
11. How high are the proposed natural gas compressor recycle coolers on the roof of the proposed building expansion?
12. How high will the new overhead utility lines be?
13. How high will the sound wall be?
14. Please provide FF elevations for the new building/additions.
15. Please see the attached comments from the Department of Engineering.
16. The Zoning Table indicates that the minimum side yard provided is 75 ft. Is this the distance to the wall, some other structure? Please show on plan. - to wall
17. How tall are the proposed generators? ~35 / 50 with
18. What is the landscaping proposed? There is a "proposed landscaped buffer", but there does not appear to be any additional information.
19. Do you have an access agreement with Allegheny Ludlum and the Town of Wallingford for the driveways? Do you have permission from Allegheny Ludlum for the new driveway connection?
20. You show an existing landscaped berm to be removed. Will new landscaping be installed to replace it? If no, please be prepared to explain the reasoning to the Commission.
21. Will all construction vehicles be entering/exiting via East Street?

Final

22. Please provide the name and phone number of the contact person for any E&S matters.
23. Where will lighting be located? All fixtures must be full cut-off.
24. The fencing shown on the plans (existing) does not appear to be consistent with what is actually in existence. - IS CORRECT - CHAIN LINK BEYOND IT.

Should you have questions in regards to these comments, please contact the Wallingford Planning office at 203-294-2090.

Regards,

Kacie A. Costello

Kacie A. Costello
Town Planner

KAC:ss
Attachment

Attachment L – Wallingford Division of Water and Sewer Letter

Town of Wallingford, Connecticut

ROGER M. DANN
GENERAL MANAGER

DEPARTMENT OF PUBLIC UTILITIES
WATER & SEWER DIVISIONS
377 SOUTH CHERRY STREET
WALLINGFORD, CONNECTICUT 06492
TELEPHONE (203) 949-2666

June 2, 2015

Wallingford Energy II, LLC
Attention: Casey Carroll

400 Chesterfield Center, Suite 110
St. Louis, MO 63017
Phone: 636-532-220 Fax: 636-532-2250

Re: Expansion at the Wallingford Energy Facility - 197 East Street

Dear Casey Carroll;

This letter is in response to your request of May 11, 2015 to determine if the Wallingford Water and Sewer Divisions has the ability to support the water and sewer demands for the subject project. Our initial review indicates that the demands for the two additional electrical generating units as indicated in your May 11, 2015 letter can be supported with our existing water system.

Although the average day use (10,000 gal/day) and expected annual average use (257,400 gal/year) are low, the maximum potential 24-hour use is significant. Since the maximum 24-hour use for the two new units will be approximately 200,000 gallons per day, I assume that with all seven units in place the total maximum 24-hour use for all of the units will be approximately 700,000 gallons per day. As discussed with David Wilson of your company, such a demand is unlikely and will only occur during extreme conditions. The water system should be adequate to handle this load in addition to existing loads assuming it will occur only infrequently.

Another water demand that may impact our ability to provide water service for the expansion is needed fire flow demand. If the expansion of the facility results in no change to the needed fire flow then there should not be an issue with providing service. If the expansion results in a significant increase in needed fire flow, we will need to evaluate that separately.

Sanitary sewer flows are anticipated to be minimal and will only amount to the sewerage generated by one additional worker at the facility. Therefore, we have no concerns regarding the existing sewer system capability to handle the expansion of the facility.

Please note that there is a private water main loop through the area of the proposed additional electric generating units. This main will need to be relocated in order for the construction of the new generating units as currently proposed. I believe there are also sanitary sewer lines in the area of the new generating units that may be required to be relocated. All of the utility relocation work will be the responsibility of the developer of the project and must be reviewed, approved and constructed in accordance with the requirements of the Wallingford Water & Sewer Division's Rules and Regulation and Technical Standards.

Please contact me directly if you have any questions regarding this matter.

Very Truly Yours,

Erik Krueger, P.E., Senior Engineer

CC: G. Adair, R. Dann, T. Smith, R. Vanski

M:\Documents\Wallingford Energy II - June 2015 Proposal.docx

Attachment M – Notice of Petition & Map of Abutters

Wallingford Energy II, LLC

c/o LS Power Development, LLC
400 Chesterfield Center, Suite 110
St. Louis, Missouri 63017
(636) 532-2200 · Fax (636) 532-2250

August 27, 2015

Via Certified Mail

Re: Notice of Petition by Wallingford Energy II, LLC for a Declaratory Ruling to Approve the Installation and Operation of Two 50 MW Peaking Units at an Existing Facility in Wallingford, Connecticut

To the Recipients on the Attached Service List:

Pursuant to Section 16-50j-40 of the Connecticut Siting Council's (the "Council's") regulations, this letter is to serve as notification that Wallingford Energy II, LLC ("WE II") intends to file on or shortly after August 28, 2015, a petition for declaratory ruling with the Council. The petition seeks approval for WE II's proposal to install and operate two additional electric generating units of approximately 50 megawatts each (the "Project") at the existing generating facility owned and operated by an affiliate, Wallingford Energy, LLC in Wallingford (the "Facility") at 115 John Street.

The Project is proposed primarily to help satisfy capacity and fast-start operating reserve needs in the State of Connecticut and New England. The "quick-start" nature of this peaking capacity is vital to the reliable operation of the power system by enabling it to recover from system contingencies, such as a sudden loss of generating capacity or transmission lines outages or unexpected swings in intermittent renewable generation.

The Project is eligible for approval by declaratory ruling pursuant to C.G.S. § 16-50k(a) because it is an electric generating facility that will be located at a site where an electric generating facility existed prior to July 1, 2004. Further, due to its location, configuration, emissions profile reductions, and limited operation as a peaking facility, the Project will not have substantial adverse environmental effects.

If you have any questions regarding the proposed Project, please contact any of the following:

Casey Carroll Wallingford Energy II, LLC 115 John Street Wallingford, CT 06492	Patricia L. Boye-Williams, Esq. Murtha Cullina LLP 185 Asylum Street Hartford, CT 06103	Connecticut Siting Council Ten Franklin Square New Britain, CT 06051
Tel: (636) 532-2200 Fax: (636) 532-2250 ccarroll@LSPower.com	Tel: (860) 240-6168 Fax: (860) 240-6150 pboyewilliams@murthalaw.com	Tel: (860) 827-2935 Fax: (860) 827-2950 siting.council@ct.gov

Best regards,

Casey Carroll
Project Manager

Enclosure

Attachment

Service List
Two 50 MW Peaking Units at an Existing Facility
115 John Street, Wallingford, CT

Municipal Official/Agency	*Name/Address*
Chief Executive Officer	William W. Dickinson, Jr., Mayor Wallingford Town Hall 45 South Main Street, Room #310 Wallingford, CT 06492
Inland Wetlands Commission	Erin O'Hare, Environmental and Natural Resources Planner Wallingford Town Hall 45 South Main Street Room #G-40 Wallingford, CT 06492
Conservation Commission	Erin O'Hare, Environmental and Natural Resources Planner Wallingford Town Hall 45 South Main Street Room #G-40 Wallingford, CT 06492
Planning & Zoning Commission	Kacie Costello, Town Planner Wallingford Town Hall 45 South Main Street Room #G-40 Wallingford, CT 06492
Regional Planning Agency	Carl J. Amento, Executive Director 127 Washington Avenue 4th Floor West North Haven, CT 06473
Town Engineer	Robert V. Baltramaitis, P.E. Engineering Department 45 South Main Street, Room #203 Wallingford, CT 06492
State Senator	Len Fasano, Senate District 34 7 Sycamore ln. North Haven, CT 06473-1283

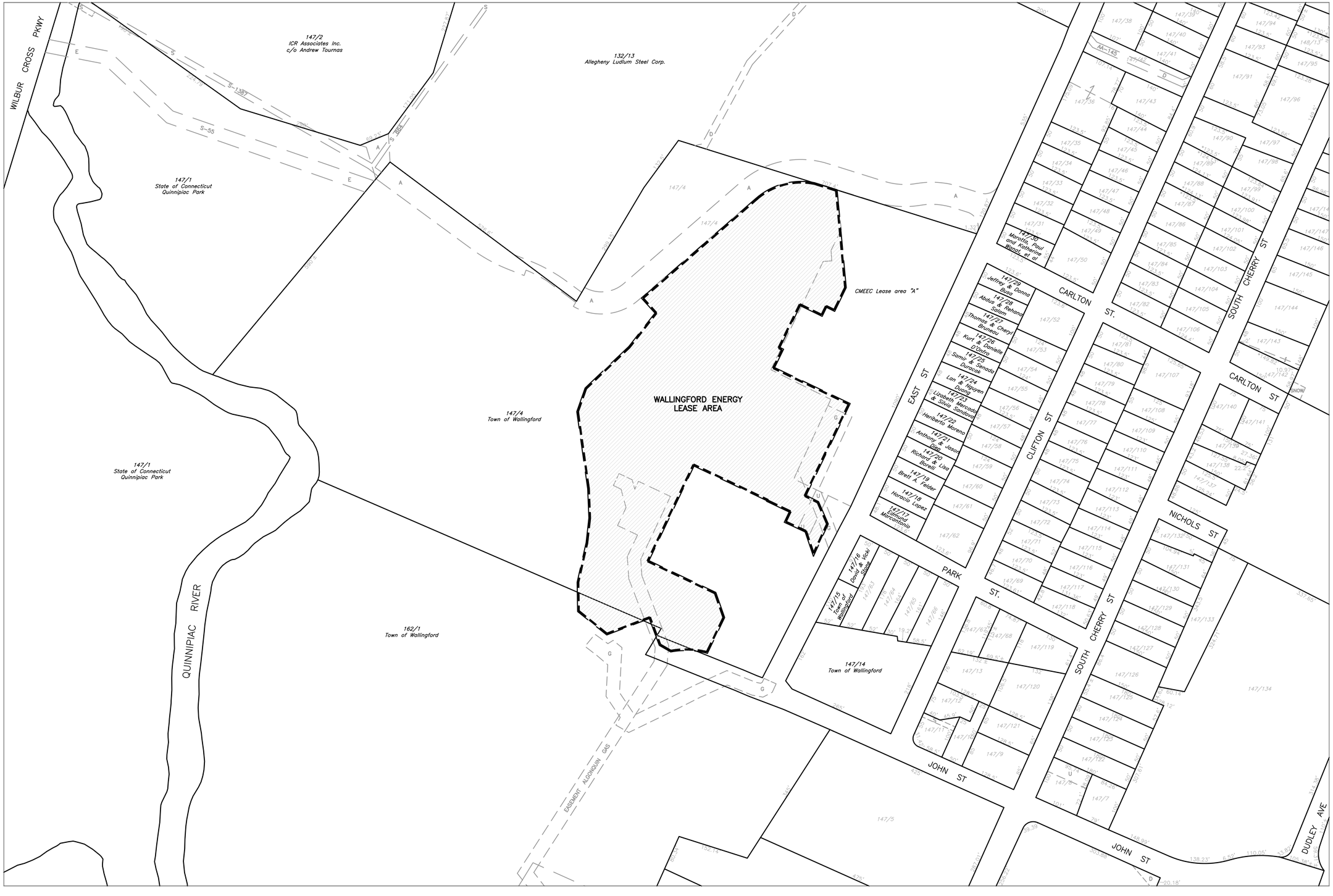
Municipal Official/Agency	*Name/Address*
State Representative	Mary Mushinsky, House District 85 188 S. Cherry St. Wallingford, CT 06492-4016
Connecticut Attorney General	George Jepsen, Attorney General Office of the Attorney General 55 Elm Street Hartford, CT 06106
State Department of Energy and Environmental Protection	Rob Klee, Commissioner Department of Energy and Environmental Protection 79 Elm Street Hartford, CT 06106
State Public Utilities Regulatory Authority	Arthur House, Chairman Public Utilities Regulatory Authority 10 Franklin Square New Britain, CT 06051
State Department of Public Health	Dr. Jewel Mullen, Commissioner Department of Public Health 410 Capitol Avenue P.O. Box 340308 Hartford, CT 06134
State Council on Environmental Quality	Susan D. Merrow, Chair Council on Environmental Quality 79 Elm Street Hartford, CT 06106
State Department of Agriculture	Steven K. Reviczky, Commissioner Department of Agriculture 165 Capitol Avenue Hartford, CT 06106
Office of Policy & Management	Benjamin Barnes, Secretary Office of Policy and Management 450 Capitol Avenue Hartford, CT 06106

Municipal Official/Agency	*Name/Address*
State Department of Economic & Community Development	Catherine Smith, Commissioner Department of Economic and Community Development 505 Hudson Street Hartford, CT 06106
State Department of Transportation	James P. Redeker, Commissioner Department of Transportation 2800 Berlin Turnpike Newington, CT 06111
Any Federal Agencies with Jurisdiction Over the Site	None

Abutter Property	*Abutter Name/Mailing Address*
Tax Map:147 Lot: 1	Quinnipiac River State Park c/o Sleeping Giant State Park 200 Mount Carmel Avenue Hamden, CT 06518 State of Connecticut – Quinnipiac Park 80 Washington Street Hartford, CT 06106
Tax Map: 147 Lot: 2	ICR Associates Inc. c/o Andrew Tournas 233 Carrington Road Bethany, CT 06524
Tax Map: 147 Lot: 14	Town of Wallingford Electric Division 100 John Street Wallingford, CT 06492
Tax Map:147 Lots: 4, 14, and 15 Tax Map: 162 Lot: 1	Town of Wallingford 45 South Main Street Wallingford, CT 06492
Tax Map: 147 Lot: 16	David K. Stone & Vicki Stone 9 Cornelia Drive Wallingford, CT 06492

Abutter Property	*Abutter Name/Mailing Address*
Tax Map: 147 Lot: 17	Edmund Marcantonio 226 East Street Wallingford, CT 06492
Tax Map: 147 Lot: 18	Horacio Lopez 222 East Street Wallingford, CT 06492
Tax Map: 147 Lot: 19	Brett A. Felder 216 East Street Wallingford, CT 06492
Tax Map: 147 Lot: 20	Richard A. Borelli & Lisa A. Borelli 210 East Street Wallingford, CT 06492
Tax Map: 147 Lot: 21	Anthony Diep & Jason T. Diep 204 East Street Wallingford, CT 06492
Tax Map: 147 Lot: 22	Heriberto Moreno PO Box 561 Aguada, PR 00602
Tax Map: 147 Lot: 23	Lizabeth Mercado & Silvia Sandoval 192 East Street Wallingford, CT 06492
Tax Map: 147 Lot: 24	Lan Duong & Nguyen Duong 190 East Street Wallingford, CT 06492
Tax Map: 147 Lot: 25	Samir Duracak & Senada Duracak 108 Wallace Row Wallingford, CT 06492
Tax Map: 147 Lot: 26	Kurt D'Onfro & Danielle D'Onfro 186 East Street Wallingford, CT 06492

Abutter Property	*Abutter Name/Mailing Address*
Tax Map: 147 Lot: 27	Thomas H. Bruneau& Cheryl K. Bruneau 184 East Street Wallingford, CT 06492
Tax Map: 147 Lot: 28	Abdus Salam & Rehana Salam 52 North Turnpike Road Wallingford, CT 06492
Tax Map: 147 Lot: 29	Jeffrey R. Busa & Donna L. Busa PO Box 216 Wallingford, CT 06492
Tax Map: 147 Lot: 30	Marotta, Paul and Katherine Wanat, et al 152 East Street Wallingford, CT 06492
Tax Map: 132 Lot: 13	Allegheny Ludlum Steel Corp. 100 River Road Brackenridge, PA 15014



MAP REFERENCE:

ALL INFORMATION SHOWN AND DEPICTED HEREON WAS OBTAINED FROM TOWN OF WALLINGFORD, CT ASSESSOR MAP 147 OF 233, PRINTED APRIL 2015 AND TOWN OF WALLINGFORD TAX ASSESSORS RECORDS.

GODFREY/HOFFMAN ASSOCIATES, LLC
PROFESSIONAL LAND SURVEYORS & CIVIL ENGINEERS
28 BROADWAY NORTH HAVEN, CT 06473
TEL: 203.239.4217 FAX: 203.234.2088 WWW.GODFREYHOFFMAN.COM

NOT VALID WITHOUT LIVE SIGNATURE AND SEAL

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

PROJECT:

FACILITY EXPANSION PROJECT

115 JOHN STREET
WALLINGFORD, CONNECTICUT

PREPARED FOR:

WALLINGFORD ENERGY II, LLC

400 CHESTERFIELD CENTER, SUITE 110
ST. LOUIS, MO 63017

WALLINGFORD TAX MAP #147 WITH ADJACENT OWNERS

DRAWN BY:	MP
CHECKED BY:	JR
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PROJECT:	15-011
DATE:	08.24.2015

TM-147

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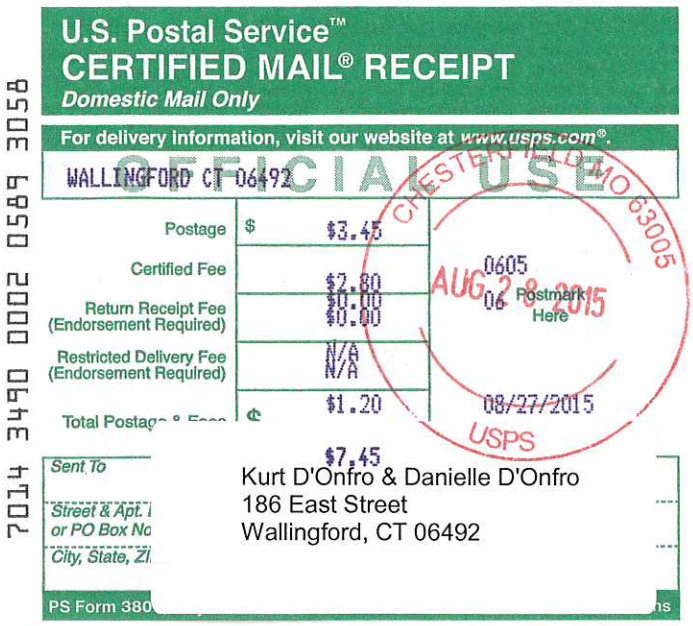

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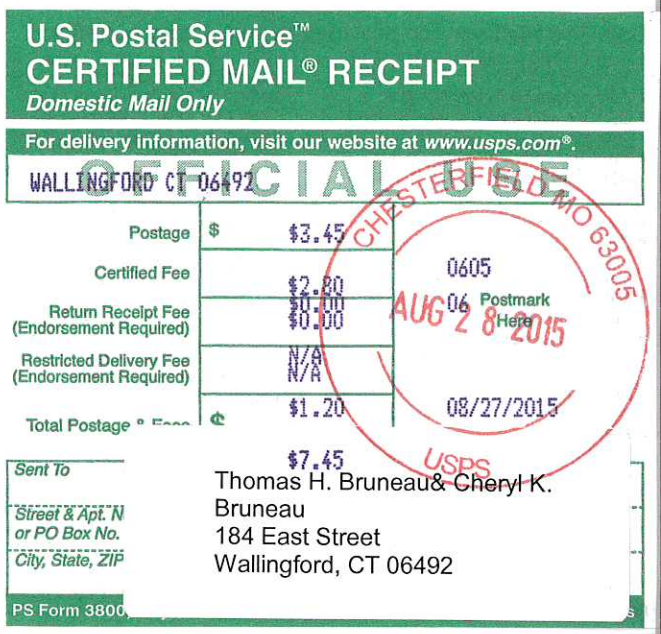

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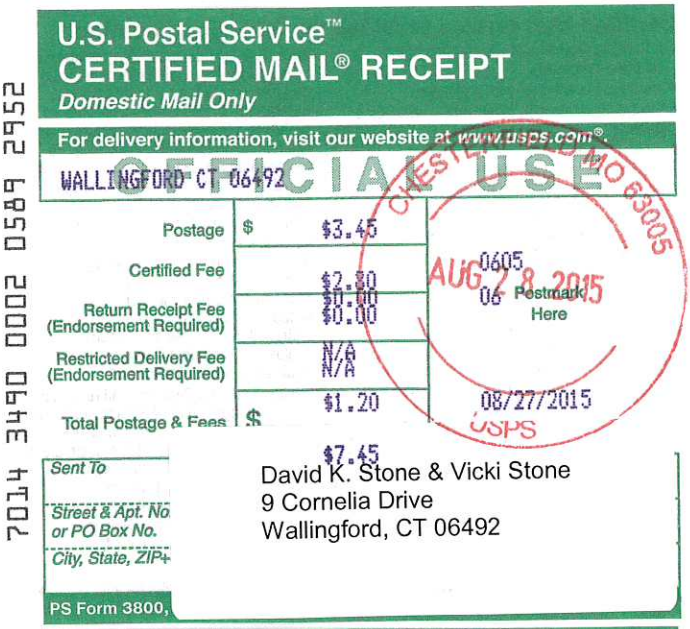

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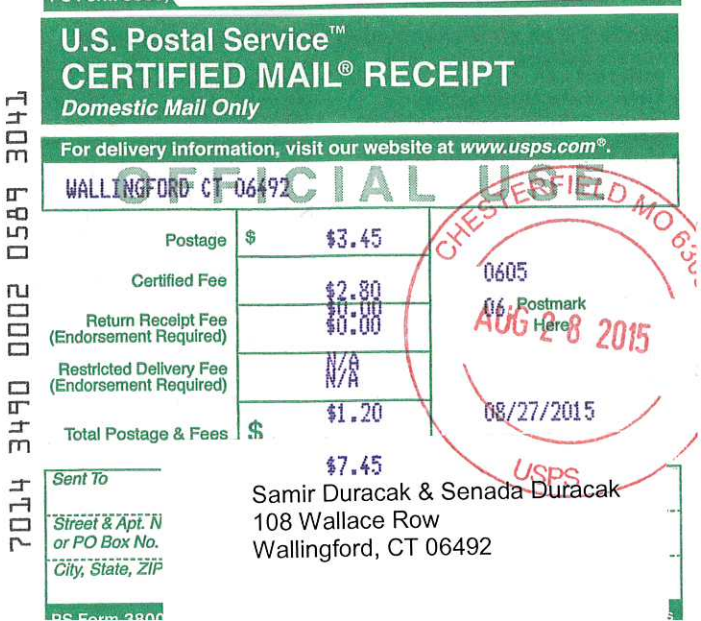

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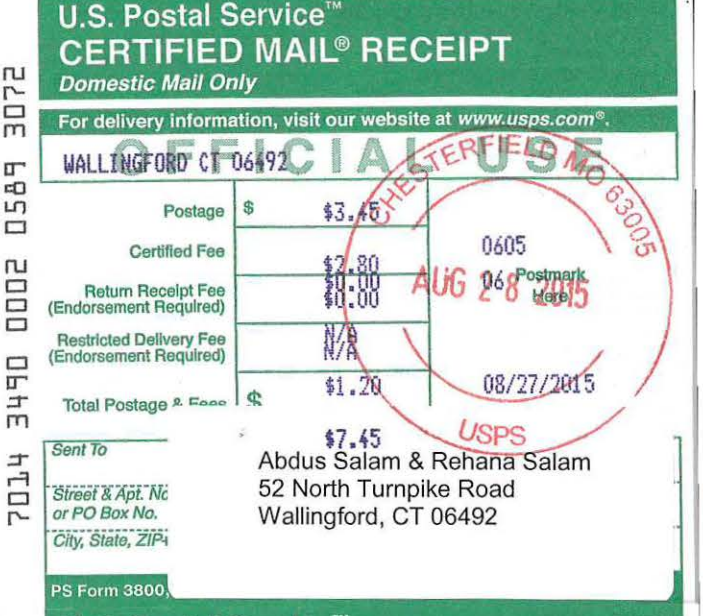

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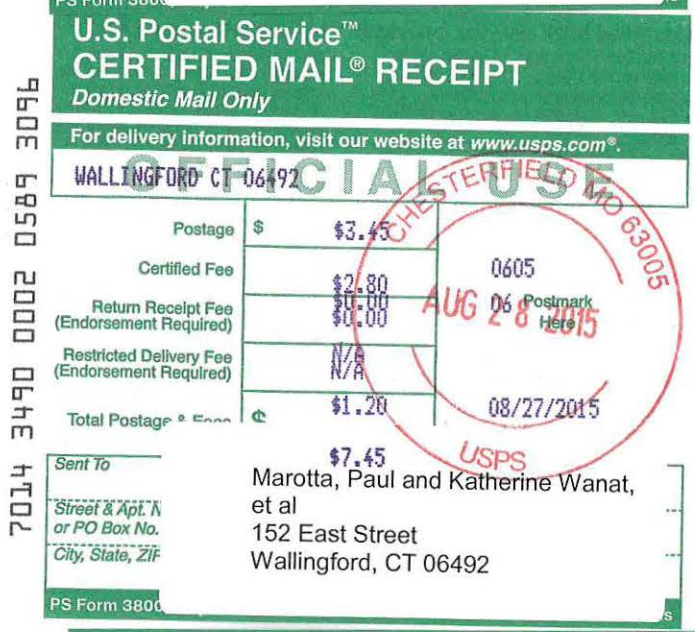

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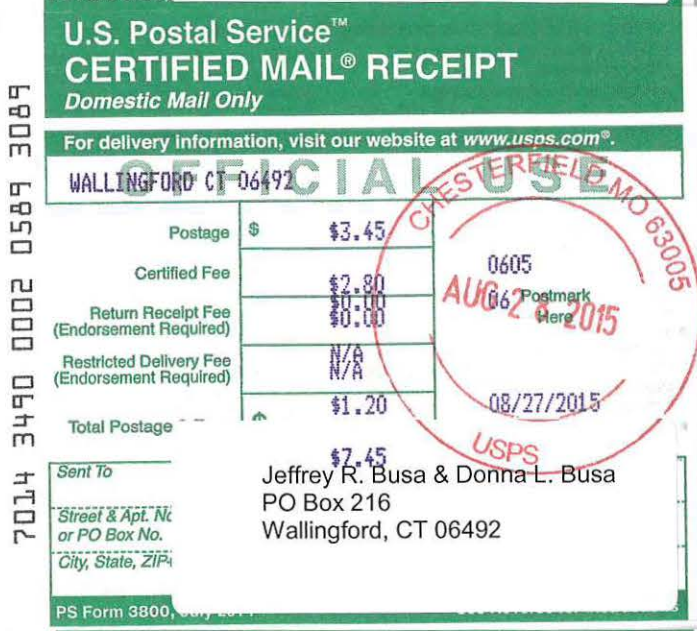

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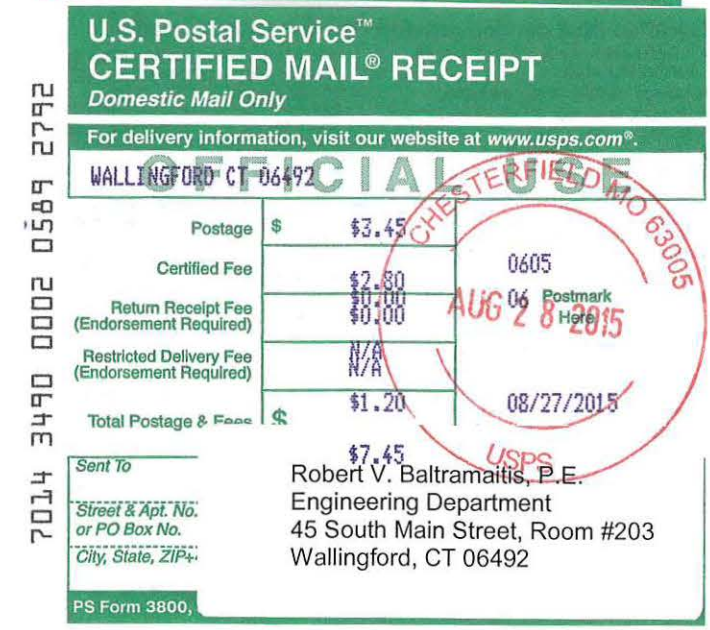

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Engineering Department
45 South Main Street, Room #203
Wallingford, CT 06492

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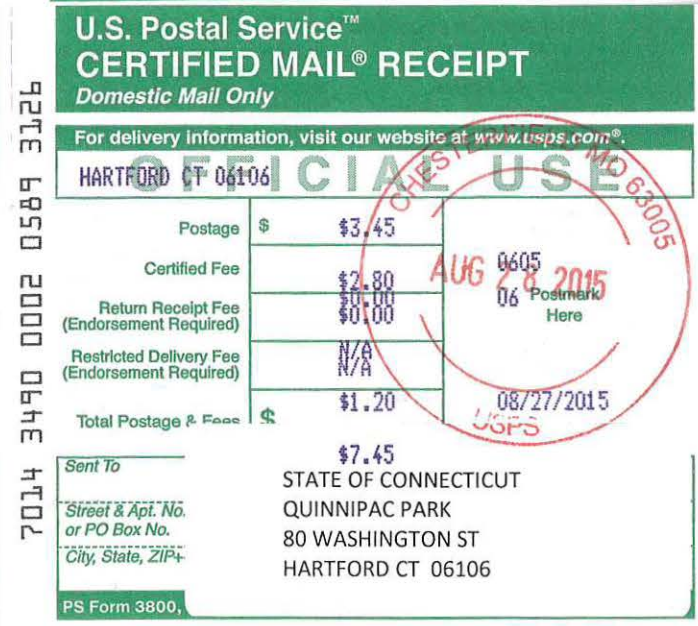

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Bethany, CT 06524

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Catherine Smith, Commissioner
Department of Economic and
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Rob Klee, Commissioner
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Dr. Jewel Mullen, Commissioner
Department of Public Health
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George Jepsen, Attorney General
Office of the Attorney General
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Hartford, CT 06106

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Erin O'Hare, Environmental and Natural Resources Planner
Wallingford Town Hall
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Wallingford, CT 06492

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Wallingford, CT 06492

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Wallingford Town Hall
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Wallingford, CT 06492

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Mary Mushinsky, House District 85
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Council on Environmental Quality
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Hamden, CT 06518

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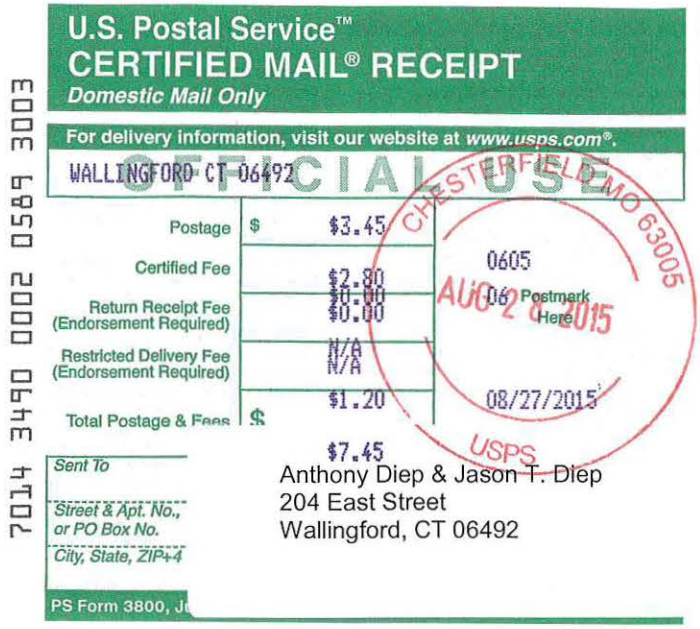

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210 East Street
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Wallingford, CT 06492

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